

Emergency Lighting – Central Power Systems



Powering Business Worldwide

Emergency Lighting – Central Power Systems

Supply and test systems from Eaton ensure a safe and dependable energy supply, in addition to monitoring the connected exit sign luminaires and escape luminaires.

EATON offers a wide range of emergency exit and safety luminaires. With their CEWA GUARD and STAR technology available as standard they offer the basis for minimized inspection and maintenance costs. Innovative lighting technology combined with highly efficient LEDs ensure up to 70% less power consumption and significantly lower maintenance costs with a service life up to 50,000 hours.

The high performance CGVision visualization software controls and monitors even large-scale safety lighting systems with maximum reliability. Up to 480 individual emergency lighting systems with over one million light points can be kept in view on a monitor in the control room. With larger buildings in particular such as airports, universities, museums, sports centres and industrial facilities, the software is the ideal partner for optimal and therefore also economical operation of the complete safety lighting.

A long history of expertise in the life safety industry with a commitment to deliver market-leading solutions that protect people and property.

Heritage of innovation.

CEAG
Cooper
Menvier
JSB
Luminox



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When it comes to protecting life and property, there's no room to compromise.

In a constantly changing world, owners and operators of commercial and industrial buildings must keep up-to-date with the changing nature of risk. Safe evacuation is becoming more challenging due to a number of external influences.

What are the risks businesses face today ?

The ongoing risk of fire

Over a third of businesses never resume operations after a major fire- losing orders, contracts, and key employees. This results in lost jobs and services to the community.

Non-traditional threats

Power outages, terrorism and domestic extremism are a rising cause for evacuation. These risks demand a different approach when planning for safe evacuation. High-profile terrorist attacks can shape regulation.

Each emergency lighting system is important, it protects life and health.

- Escape route marking during regular power supply: Evacuation of a building due to an accident, a bomb threat etc.
- During blackout: Light supply
 - Showing the directions out of the building
 - Illumination of the escape route to guarantee a safe evacuation

Our products meet your challenges

Innovation, tests and compliance for more reliability

- We constantly innovate for contemporary design and technologies
- Customers light engineering requirements are fully tested at an in-house lighting laboratory. We also expose newly developed products to extreme conditions and life cycle testing
- As a commitment to deliver high quality for all products and employees, Eaton's emergency lighting manufacturing facilities are certified ISO 9001
- Most of our products and complete systems are 3rd party certified

Eco-friendly luminaires all along their life cycle

Our manufacturing plants are ISO14001 & ISO 9001 certified. We are committed to favour the choice of recycled materials and reduce weight and volume of products and packaging. Our LED luminaires are low consumption, prevent from relamping operations as there life time goes up to 50.000 hours.

A large portfolio for a wide range of applications

- Exit sign, escape route, anti-panic luminaires
- Aesthetic solutions
- Indoor or outdoor
- High output
- Special Luminaire solutions: Explosion protected, high ingress protection, Low temperature, high light output, narrow-beam lenses for high bay installations, HACCP suitable
- Central Battery Systems: With AC/DC or AC/AC output
- Central Visualization



References

Main station, Berlin

The projects listed below are only a selection of the locations and applications where Eaton emergency lighting solutions are installed. A more detailed reference list is available on our website at www.ceag.de.

Hotels

- Radisson blu Hotel, Germany
- Ritz-Carlton Hotel, Germany
- Atlantic Sail City Hotel, Germany
- Ramada Resort Hotel, Hungary
- Atlantis the Palm Hotel, Dubai

Airports

- Frankfurt, Germany
- Cologne, Germany
- Schiphol, Netherlands
- Bangkok, Thailand
- Dubai, United Arab Emirates

High-rise buildings

- Tower 115, Slovakia
- Etisalat Tower, Abu Dhabi
- Capital Gate Tower, Abu Dhabi
- Burj Khalifa Tower, Dubai
- Burj Al Arab, Dubai

Industry

- Dr. Oetker, Germany
- EADS Airbus, Germany
- Bayer, Germany
- BP, Norway
- Dubai Cable Company, Abu Dhabi

Schools and universities

- Technical University Berlin, Germany
- RWTH Aachen, Germany
- University Hamburg, Germany
- University Zürich, Switzerland
- American University Sharjah, Sharjah

Sport venues

- Fritz-Walter-Stadium, Germany
- Stadium Borussia-Park, Germany
- Rhein-Neckar-Arena, Germany
- Karaiskakis Stadium, Greece
- National Aquatics Center, China

Commercial centres / retail

- CentrO, Germany
- Limbecker Platz, Germany
- Potsdamer Platz Arkaden, Germany
- Montedoro Freetime, Italy
- Dubai Mall, Dubai

Assembly halls / rooms

- German Bundestag, Germany
- Museums Island, Germany
- National Library Leipzig, Germany
- Town Hall Sydney, Australia
- National Convention Centre, Qatar

Emergency Lighting – Central Power Systems

Explanation of the Icons for product features

1

























In order to help you to find solutions you need, we created a set of icons presented on each product page of this catalogue. This way, you will be able to identify the main characteristics of the product in one quick look.

Please note that most of our emergency lighting luminaires are also available as self-contained luminaires.

Please, contact us for further information.

Explanation of the Icons for product features

| | | | | | | | |
|--|--|---|-------------------------------------|---|--|---|--|
|  | Viewing distance, here: 20 m |  | Protection class 2 |  | Suitable for outdoor use |  | With STAR+ technology |
|  | Light output, here: single-sided |  | According to DIN 4844 |  | Degree of protection, here: IP20 |  | With CGLine technology |
|  | LED light source |  | According to EN 1838 |  | Degree of mechanical impact resistance, here: IK10 |  | With CGLine+ technology |
|  | Compact fluorescent lamp, here: 10W/TC-DEL |  | For use in food processing industry |  | Luminaire with limited surface temperature |  | Suitable for use in low temperature down to -40 °C |
|  | Fluorescent lamp, here: 8W/T16 |  | Explosion protected |  | With Lithium-ion battery | | |
|  | Protection class 1 |  | ENEC certified |  | With STAR technology | | |

Emergency Lighting – Central Power Systems

Requirements to escape sign luminaires

1

In dangerous situations, CEAG escape sign luminaires reliably show the right way

The background in terms of standards for the optical requirements of escape sign luminaires is specified in Europe with EN 1838. For emergency operation, this standard defines the minimal requirement for brightness of 2 cd/m² in the green area of the symbol and specific uniformity and contrast within and between the luminous surfaces.

For mains operation the DIN 4844-1 standard applies. Here a luminance of 500 cd/m² for the white surface is stipulated.

The many times higher level of luminance is intended to enable good visibility of the emergency exits even with bright surroundings (with daylight, general lighting) and with the existence of other luminous signs for advertising or information, for example for routing systems in buildings.

After all, not all emergencies are connected with a power failure, for example in cases of evacuation of a building resulting from accidents or bomb threats.

Photometric requirements on the exit signs

DIN 4844-1 (2012-06):

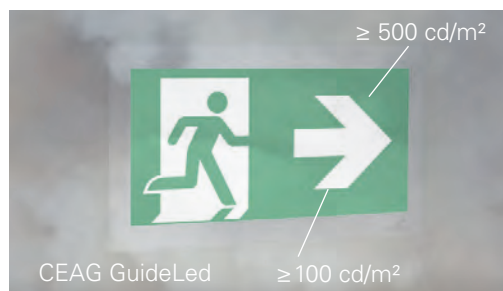
$L_m \geq 500 \text{ cd/m}^2$ (white surface)

for use in light surroundings.

ISO 30061 (2007):

$L_{min} = 10 \text{ cd/m}^2$ (green surface)

in case of smoke development. The luminaires should be suspended by at least 0.5 m.



Emergency Lighting – Central Power Systems

8 steps to compliance

1 Eight ways to ensure compliance with emergency lighting regulations

Emergency lighting can be a lifeline for people trying to find their way out of a building if main lighting fails. This is particularly important in the event of a blackout, fire, earthquake, flood, etc.

To ensure that emergency lighting is fit for purpose, European standards and local regulations bring all aspects of safety to save people. To ensure the quality, reliability and conformity of your installation we recommend that the emergency lighting used is covered by a third party certification. So how can you be sure your emergency lighting is compliant?



1. Carry out a risk assessment

If you have employees, workers or any public visitors in your building you may be required by law, under the European and local regulations, to carry out a safety risk assessment and keep a written record of the assessment. This legislation exists to ensure that the correct emergency lighting for the safety of people is installed to cover any identifiable risks and that it will correctly operate in the event of a failure of the main lighting supply. These regulations provide specifiers with information regarding areas that need emergency lighting such as: the minimum levels of illumination, duration, maximum brightness to prevent glare, and any points of emphasis which require particular consideration. Failure to comply with these stipulations not only puts lives at risk and raises the possibility of prosecution, but could also invalidate insurance policies.

Know what you are buying

2. Given that emergency lighting will never be used on an everyday basis, it can be tempting to opt for cheaper luminaires. These are often supplied from distant sources and will pass through numerous intermediaries before installation. This can lead to confusion over the precise specifications and the claims made by manufacturers and sellers, which may not be independently verified. Buying cheaply may also turn out to be a false economy since lower-quality components can shorten the lifespan of batteries and lamps; they may also have inferior optics, resulting in an increased number of fittings being required to meet the minimum emergency lighting levels. As this is a life safety product you do need to consider whether a cheaper option might be more vulnerable to failure.

Look for third-party certification

3. The most reliable way to ensure your emergency lighting is fit for purpose is to buy products approved by third-party certification schemes such as ENEC approved testing laboratories.

ENEC is the high quality European mark for electrical products that demonstrates compliance with European standards (EN). The ENEC approved testing laboratory governs the implementation of strict European standards on the design and manufacture of emergency luminaires under regulations including EN60598-1 and EN60598-2-22. If ENEC approved luminaires are installed, maintained and used according to the manufacturer's instructions, installation standards and good engineering practice such as the correct location, spacing data, etc, the emergency lighting system will meet the minimum emergency lighting levels for the safety of people.

However, this may need enhancement if specific risks are identified during the risk assessment. Upon meeting these conditions, the installation would then be considered sufficiently safe to protect users of the building and reduce the likelihood of any legal action relating to non-compliance with regulations.

4. Consider the long-term costs

Buying high-quality and industry approved emergency lighting may initially seem more costly, but consider the bigger picture. For example, good quality products may have a higher output and better spacing performance meaning fewer units are needed to achieve the required level of illumination, which may not only reduce the outlay on products but also the installation cost. LED based emergency luminaires, low consumption, long life components, automatic testing and monitoring devices significantly reduce the operating and maintenance costs of the installation to optimise the total cost of ownership (TCO). For example, LED-based emergency luminaires have a working life often up to 50,000 hours, which is up to 10 times longer than a conventional fluorescent lamp and 2 to 4 times lower energy consuming.

Using 10 years life time central battery systems will also significantly reduce maintenance costs in the long term.

Low voltage directive

All emergency lighting shall be compliant with the low voltage directive (2014/35/EU) who is referring to product standard such as EN60598-1 and EN60598-2-22. For a better and global understanding of the signage, Pictogram is normalised by the ISO7010.

These regulations apply to all safety signs including those which provide directional signage for escape routes.

Other regulations

Please refer to your local regulation because some places like theatres, cinema, stadiums, nursing houses, schools, hospitals, car parks, etc may required specific equipment and installation rules.

5. Location, location, location

The positioning of emergency lighting is crucial. Some of the key locations where emergency luminaires should be installed are: along escape routes, at every change in direction, adjacent to any step or trip hazard, over every flight of stairs so that each tread receives direct light, close to firefighting equipment, call points and first aid points, outside every final exit to a place of safety or any other location identified by the risk assessment. Please refer to your local regulation to choose the recommended Eaton emergency lighting product at the right location.

6. Pay attention to the exit

Emergency lighting shall be chosen in accordance with the application and environmental conditions to ensure a safe exit way. Eaton designs emergency lighting with waterproof, high bay, industrial, and various other solutions.

7. Think about maintenance and servicing

Minimum routine testing schedules are one of the requirements of the regulations and standards. The time this takes can become a significant demand on facilities managers and maintenance teams. One way to avoid the ongoing costs associated with maintenance, servicing, repairs and replacements is to specify quality emergency luminaires in the first place.

Another tip is to consider self-testing systems, which reduce the expense, time demands and disruption associated with manual testing regimes upon individual luminaires. With automatic test systems, results from an entire network are collected and fed back to a central point where the exact location of the fault can be pinpointed. The system will also identify the cause of the fault, so that the necessary spare part can be selected and taken to the location to speed up the repair process.

Using long life time LEDs will significantly reduce maintenance costs.

8. Don't ignore the signs

In addition to the emergency lighting, it's important to consider signage at the earliest stage. The obligation is to ensure that escape routes are clearly defined and identified with the correct exit signage.

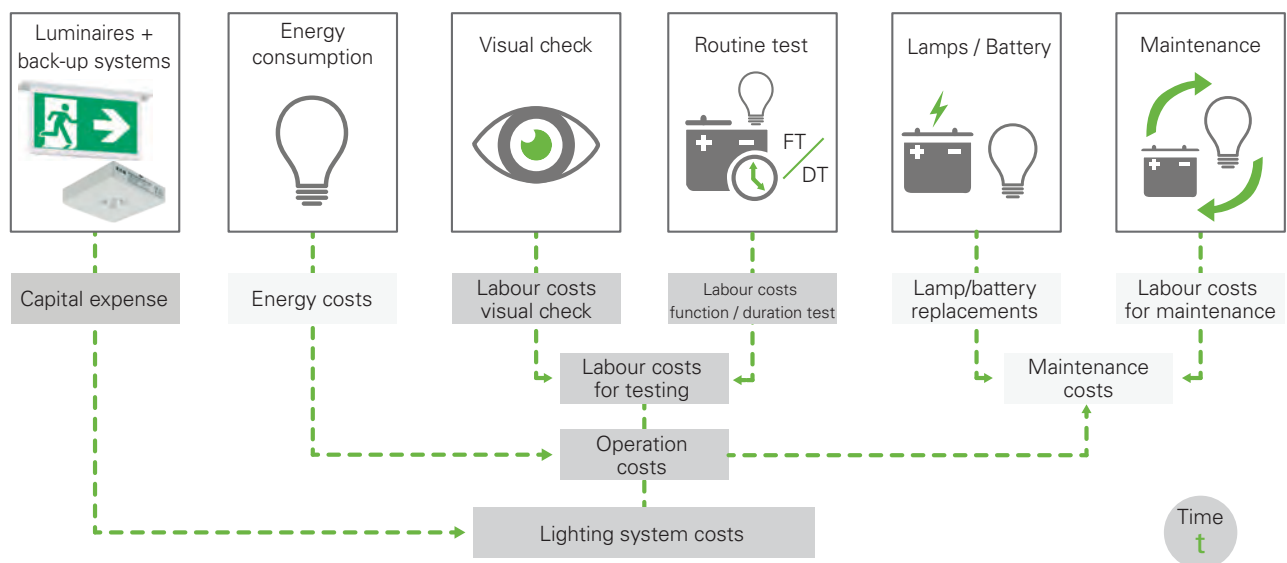
When selecting a product, be aware that the viewing distance for an internally illuminated exit sign is calculated by multiplying the height of the illuminated element by a factor of 200. This information will normally be available from reputable manufacturers. For externally illuminated signs, the multiplication factor is only 100.

Additionally, EN1838 states that under emergency lighting conditions the sign shall be sufficiently illuminated so that it is clearly visible. The safety colour must remain green and the contrast colour must remain white within the colour boundaries specified in ISO3864-4.

Also, pictogram are normalized by ISO7010 with the arrow and the running man.



Emergency lighting costs



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Emergency lighting design guide

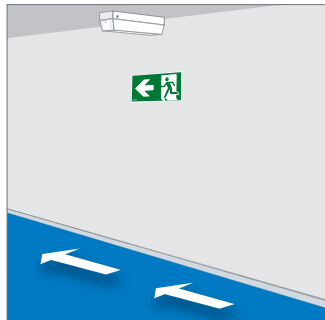
1 Locate luminaires at mandatory “Points of Emphasis”

Initial design is conducted by situating luminaires to reveal specific hazards and highlight safety equipment and signs, care should be taken to ensure the correct illumination level is achieved, in addition to providing illumination to assist safe travel along the escape route. This should be performed regardless of whether it is an emergency escape route or an open (anti-panic) area. Only when this is accomplished should the type of luminaire or its light output be considered. EN 1838: 2013 requires that the luminaires sited at points of emphasis must comply with EN 60598-2-22.

Specific locations where a luminaire must be provided are:



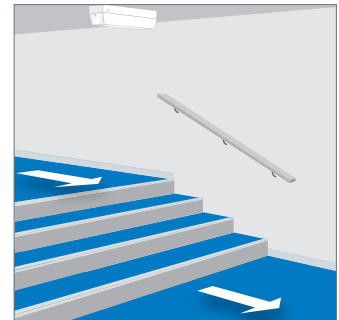
At each exit door



All safety exit signs



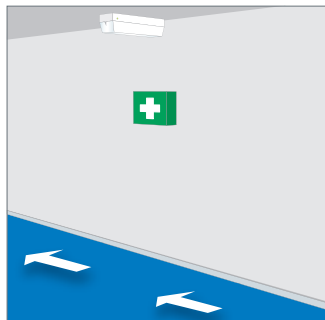
Outside the final exits and to a place of safety



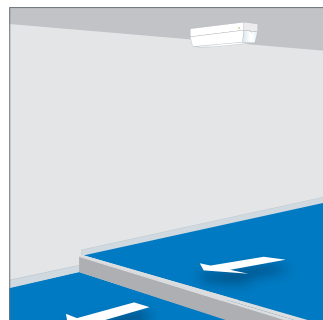
Near stairs so that each tread receives direct light



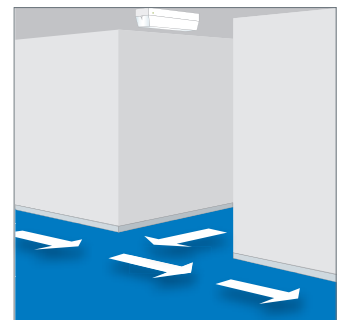
At each change of direction



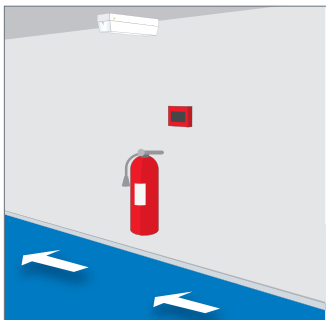
Near each first aid post (5lx, vertical)



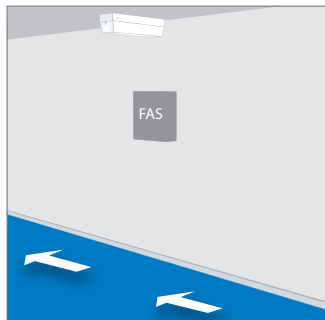
Near any other change of floor level



At each intersection of corridors



Near each piece of fire fighting equipment and call point (5lx, vertical)



Near (5 lx, vertical) every panel for fire alarm system



Near escape equipment for handicapped people



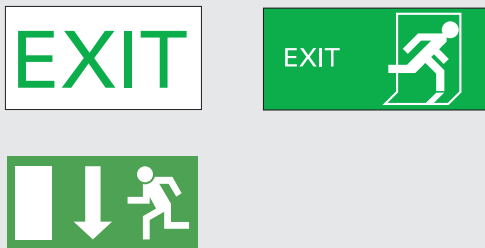
Near safe areas, for handicapped people and P.A. systems, Alarm devices in toilets for handicapped people

Ensure the exit signs are of correct format and size

Section 4.1 of EN 1838: 2013 states that “Signs which are provided at all exits intended to be used in an emergency and along escape routes shall be illuminated to indicate unambiguously the route of escape to a point of safety”. Where direct sight of an emergency exit is not possible, an illuminated directional sign (or series of signs) shall be provided to assist progression towards the emergency exit.

Sign formats should not be mixed

Example of old-style signs now obsolete:



European signs directive format

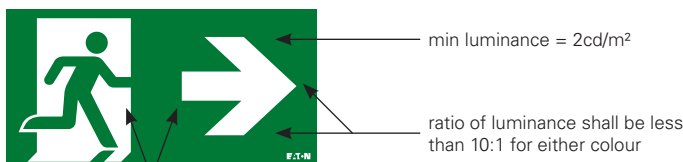


ISO 7010

Some years ago, it was decided by many of the National Standards bodies to consider adoption of a single pictogram format as detailed in ISO 7010.

Illumination Requirements

The sign must conform to the colours of ISO 3864, which defines that exit and first aid signs must be white with green as the contrast colour. The ratio of luminance of the white colour to the green colour must be between 5:1 and 15:1. The minimum luminance of any 10mm patch area on the sign must be greater than 2cd/m² and the ratio of maximum to minimum luminance shall be less than 10:1 for either colour.



Contrast of the colours must be between 5:1 and 15:1

Note:

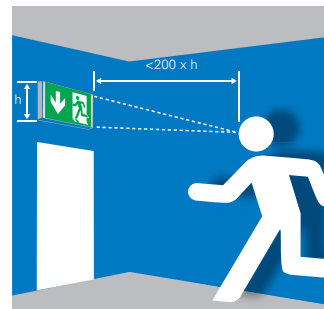
- According DIN 4844-1 the min. luminaire of the white colour must be > 5000 cd/m² in normal conditions
- Internally illuminated exit signs are pre-tested to ensure they meet these requirements, provided that they comply with EN 60598-2-22. If the sign is designed to be externally illuminated, considerable care must be taken by the system designer to see that these conditions are met.

Maximum viewing distances

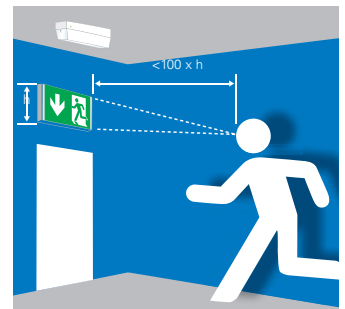
For all formats of safety signs, the maximum viewing distances and luminance conditions are given in EN 1838: 2013. Signs can be either internally illuminated, such as exit boxes or edge lit emergency luminaires with a screened sign that have a controlled illuminance, or painted signs.

Maximum viewing distances are:

Internally illuminated signs - 200 x the panel height



Externally illuminated signs - 100 x the panel height

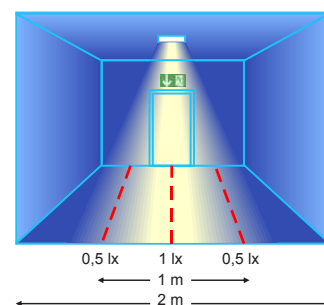


Escape Route Lighting

When the points of emphasis have been covered, it is essential to provide any additional luminaires to ensure that minimum illuminance levels are met to enable the routes to be used safely. In addition, every compartment on the escape route must have at least two luminaires, to provide some light in the event of luminaire failure.

• Lighting Level Requirements

EN 1838: 2013 4.2 calls for a minimum of 1 lux anywhere on the centre line of the escape route for normal risks. A uniformity ratio of 40:1 maximum to minimum must not be exceeded. This illuminance must be provided for the full duration and life of the system. 50% of the illuminance must be available within 5 seconds and the full value within 60 seconds of supply failure.



• Photometric Design

Emergency Escape Routes
The use of authenticated spacing tables or a suitable computer program provides the information to determine whether luminaires are needed in addition to those for the points of emphasis (see data section), to provide the minimum required level of illumination on the escape routes. To ensure that the design will meet the required levels at all times the data is de-rated, as required by the standard, to cover the following factors:

- Reduction in light as the battery voltage reduces during discharge
- Ageing of lamps in maintained circuits
- The effects of dirt





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Emergency lighting design guide

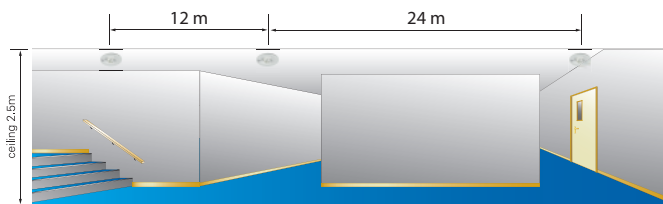
1

Planning assistance for GuideLed SL CG-S with asymmetric optics for E = 1.0 lx (0.5 lx)

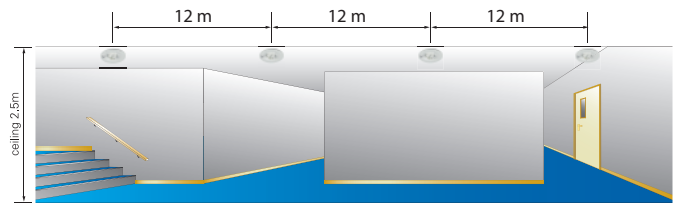
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1  | L2  | L3  | L4  |
|---------------------|------------------|--|--|--|---|
| 2.5 | Ceiling mounting | 2.3 (3.4) | 6.8 (8.3) | 6.4 (7.1) | 14.1 (15.6) |
| 3.0 | Escape route | 2.3 (3.2) | 6.4 (9.2) | 7.3 (8.1) | 16.1 (17.8) |
| 3.5 | centre | 2.3 (3.2) | 6.5 (9.7) | 8.1 (9.0) | 17.9 (19.9) |

Example - luminaire spacing along escape route

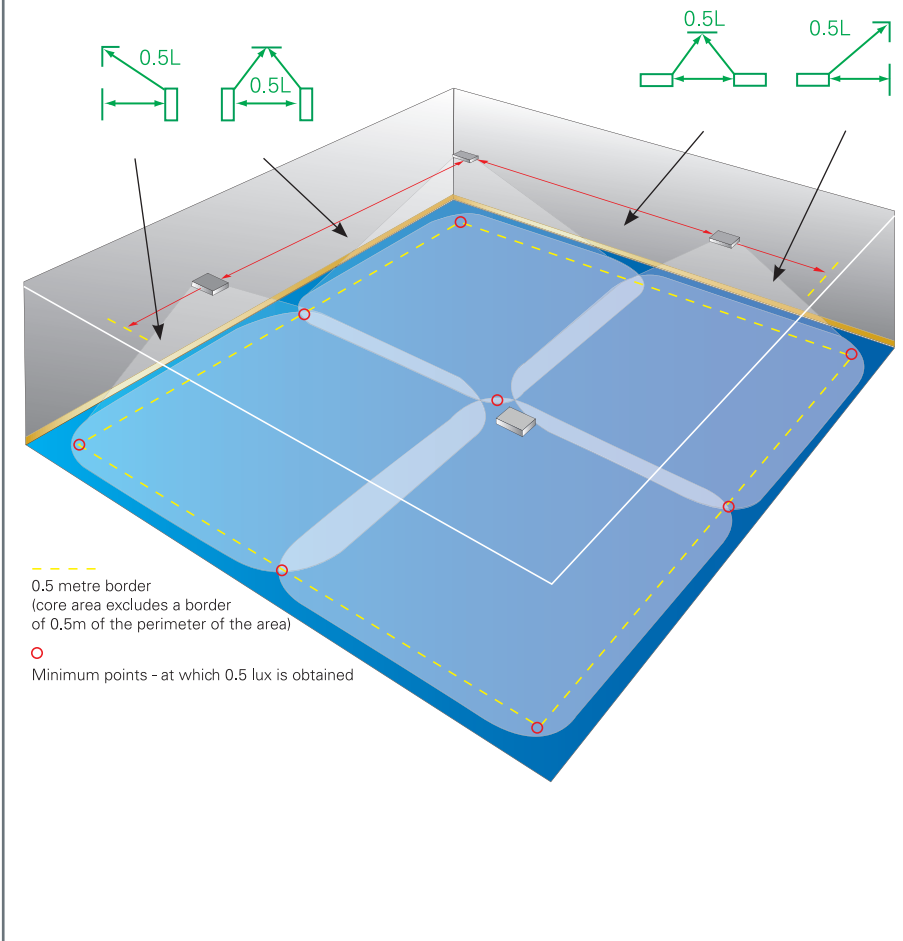


Locate luminaires at mandatory “Points of emphasis”



Add additional luminaire to achieve 1 lux minimum

Luminaire spacing in open (anti-panic) core areas



Open (anti-panic) core areas

Open areas with an escape route passing through them, or **hazards identified by the building risk assessment** all require emergency lighting. The current standard is easy to design for and to verify, promoting systems that provide good uniformity rather than ones that use a few large output luminaires.

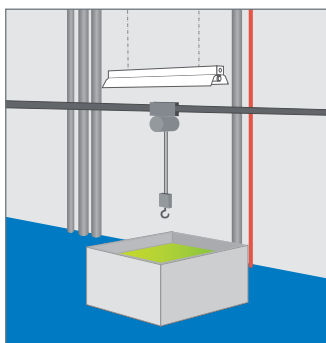
• Light level requirements

EN 1838:2013 - 4.3 calls for 0.5 lux minimum of the empty core area, which excludes a border of 0.5m of the perimeter of the area. Spacing tables or a suitable computer program provide simple and accurate data that can easily be used. The spacing tables for 0.5 lux are de-rated on the same basis as those for escape routes. They can also be used as a guide for initial selection of the location of luminaires when using a computer program.

• Spacing data

Specific data is available for dedicated emergency luminaires. This can be found on each of the individual product entries in this catalogue.

If using standard mains luminaires fitted with an emergency conversion kit, you should use one of the available computer programs to calculate the layout of converted luminaires. Using the actual distribution of the luminaire ensures that the correct emergency lumen value is used with the relevant depreciation factors.



High risk task area Lighting

The risk assessment carried out will have identified a number of locations needing special consideration. These may be areas in which plant and production lines are deemed to have a high risk or control rooms managing dangerous processes.

EN 1838: 2013 defines that in areas of high risk the maintained illuminance on the reference plane shall not be less than 10% of the required maintained illuminance for that task, however it shall not be less than 15 lux.

Key product standards

- **EN 60598-2-22:** Luminaires – Part 2-22: Particular requirements – Luminaires for emergency lighting
- **ISO 7010:** Registered safety signs
- **ISO 3864-1:** Design principles for safety signs and safety markings
- **DIN 4844-1:** Observation distances and colorimetric and photometric requirements
- **EN 50171:** Central power supply systems
- **DIN EN 50272-2:** Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries
- **EN 62034:** Automatic test systems for battery powered emergency lighting

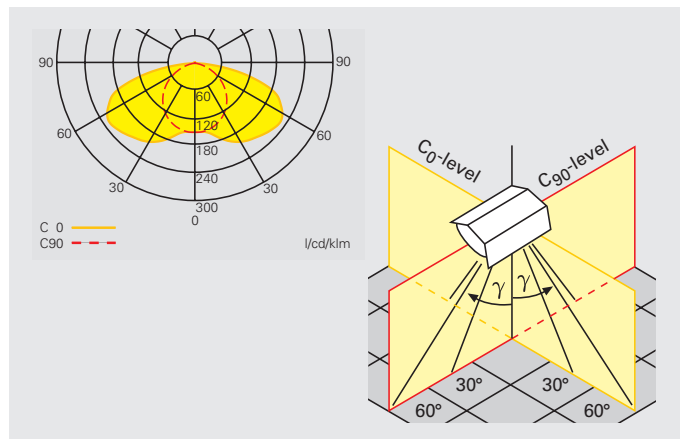
Key installation standards

- **EN 1838:** Lighting applications – Emergency Lighting
- **IEC 60364-5-56 / HD 60364-5-56:** Low-voltage electrical installations – Part 5-56: Selection and erection of electrical equipment – Safety services
- **EN 50172:** Emergency escape lighting systems
- **DIN V VDE V 0108-100:** Emergency escape lighting systems

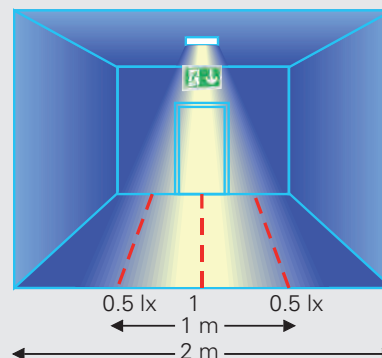
Planning example of escape routes and anti-panic lighting

1

DIN EN 1838 supplies detailed information about the planning and calculation of safety lighting systems:



Safety lighting for escape routes



Escape routes to 2 m width must be illuminated with 1 lx on the central axes and to 50% of the width to 0.5 lx. Measurement height max. 2 m. Wider escape routes can be considered as several 2 m strips or can be equipped with anti-panic lighting.

With the calculation of illuminance, no reflections are to be considered on the peripheral room surfaces. The illuminance can therefore be calculated with the point lighting formula.

$$E = \frac{I_{(\gamma)} \times \Phi_E}{h^2} \cos^3(\gamma)$$

The formula for the point to point method of calculation is as follows:

$I_{(\gamma)}$ = Light intensity at the given distribution angle taken from the light distribution curve in cd/klm

Φ_E = Luminous flux of the lamp in lm at the end of the rated duration

γ = Angle of distribution to the downward point of measurement

h = Mounting height of the luminaire above the measurement level in meters

H = Mounting height of the luminaire in meters above floor level

E = Illuminance in Lux

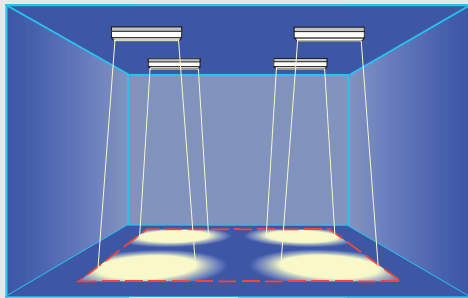
a = Distance in meters between the point of measurement and the foot of the luminaire

P = Point of measurement

The EN 1838 standard requires a minimum value for illuminance of 0.5 lx or 1 lx. Because a lighting installation grows old over the course of time and the light emitted becomes less as a result, the initial value must be greater, meaning that a maintenance factor must be applied for planning. A common value is MF = 0.8. This means that the lighting system is dimensioned so that the new value for illuminance is 1.25 times the nominal value.

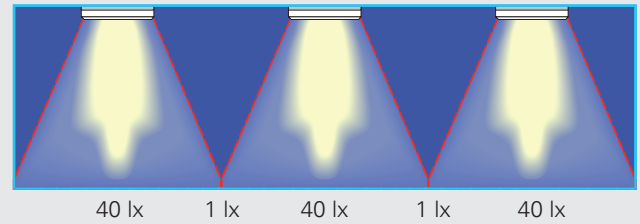
Other maintenance factors can also be considered according to light source, probability of soiling of room and luminaires and the planned maintenance intervals. The assumptions must be documented by the planner.

Anti-panic lighting



The horizontal illuminance must not fall below 0.5 lx on the free floor surfaces.

Safety lighting for escape routes



Due to the inertia of the eye, recognition of obstacles or the escape route path is impaired with excessive differences in brightness/darkness.

Uniformity < 40:1 ($E_{\max.} / E_{\min.}$)

Example:

Calculation of the number of luminaires required using the point to point method.

Given data

- The minimum illuminance is 1.0 lx
(Planning basis maintenance factor MF = 0.8)
- Escape route length = 38 m
- Mounting height of the luminaire above floor level = 3 m
- Luminous flux Φ_E at the end of the rated duration = 337 lm (450 lm x 75%)
- The measure level is 0.02 m above floor level
- Light distribution curve of the luminaires
- Position of luminaires is across the width of the escape route

Method:

- Calculation of illuminance at various points and calculation of the distances for
 $E = 0.625$ lx and $E = 1.25$ lx.

E directly underneath the luminaire:

light intensity I from the light distribution curve at $0^\circ = 145$ cd/klm.

$$E_{(0m)} = \frac{I_{(0^\circ)} \times \Phi_E}{h^2} \cos^3(0^\circ)$$

$$E_{(0m)} = \frac{145 \text{ cd/klm} \times 0.337 \text{ klm}}{(2.98 \text{ m})^2} \times 1$$

$$\underline{E_{(0m)} = 5.4 \text{ lx}}$$

E for example at 5.2 m distance

$$\tan \gamma = \frac{5.2 \text{ m}}{2.98 \text{ m}} = 1.73; \arctan(1.73) = 60^\circ$$

$$E_{(5.2m)} = \frac{270 \text{ cd/klm} \times 0.337 \text{ klm}}{(2.98 \text{ m})^2} \times \cos^3(60^\circ)$$

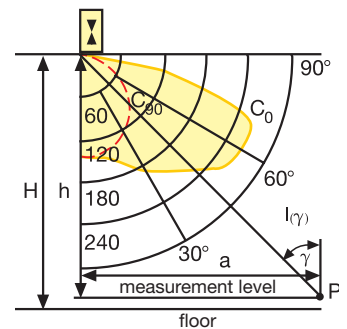
$$\underline{E_{(5.2m)} = 1.26 \text{ lx}}$$

E for example at 6.9 m distance

$$\tan \gamma = \frac{6.9 \text{ m}}{3 \text{ m}} = 2.3; \arctan(2.3) = 66.5^\circ$$

$$E_{(6.9m)} = \frac{270 \text{ cd/klm} \times 0.337 \text{ klm}}{(2.98 \text{ m})^2} \times \cos^3(66.5^\circ)$$

$$\underline{E_{(6.9m)} = 0.64 \text{ lx}}$$



Results:

The max. permissible luminaire spacing results from doubling the illuminance values of 0.64 lux (approx. 6.9 m) of adjacent luminaires at least 1.25 lux. According to the point-by-point method, for transverse arrangement of emergency luminaires a distance of approx. 13.8 m between the luminaires is required.

It should also be noted that, after this calculation, the luminaire spacing from the start or end of the escape route must not exceed 5.2 m. In order not to fall below the required illuminance (1.25 lux planning value), the illuminance for the illumination of the escape route of 38 m length 3 emergency luminaires required. The uniformity is approx. 1: 5.

Planning examples

1 Because calculation with the point lighting formula for everyday planning is complex, planning aids were drawn up in collaboration with the German Institute for Applied Lighting Technology (DIAL) in accordance with the conditions of EN 1838 and LBO (national building directives) enabling simple, rapid planning.

A maintenance factor of $MF = 0.8$ (or planning factor $P = 1.25$) is already integrated so that the luminaire distances to be planned can be read directly for the desired initial value of 1.25 lx or 0.625 lx (in brackets).

The ratio of reflective light was not considered in accordance with DIN EN 1838.

The tables differentiate between three applications:

1 Illumination of an escape route acc. to EN 1838 | ceiling mounting, escape route centre

Calculation basis:

1 lx for escape route centre, 0.5 lx on both sides, at distance of 0.5 m

2 Calculation for anti-panic lighting | Room illumination

Calculation basis:

1 lx (0.5 lx) minimum value on the complete surface, with consideration of a peripheral area of 0.5 m

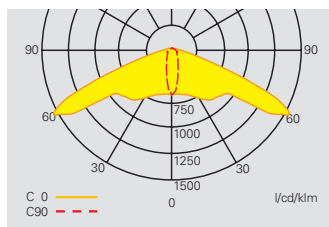
3 Illumination of an escape route acc. to EN 1838 | wall mounting

Calculation basis:

1 lx for escape route centre, 0.5 lx on both sides, at distance of 0.5 m, distance of wall to escape route centre 1 m



In addition the arrangement of the luminaires must be considered: Are these aligned longitudinally or laterally to the escape route or surface? Does it concern the first or last luminaire or a luminaire within a luminaire arrangement? And lastly, the distances of the first luminaire to the wall are always somewhat less, as this must achieve the illuminance level of 1 lx by itself, while luminaires within the luminaire arrangement are supported by the adjacent luminaire.

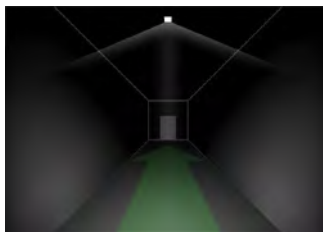
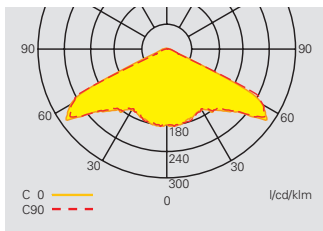


Escape route illumination with asymmetric optics

Planning assistance for GuideLed SL CG-S with asymmetric optics for $E = 1.0$ lx (0.5 lx)

Measuring height 0.02 m, maintenance factor $MF = 80\%$, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 | L4 |
|---------------------|------------------|-----------|-----------|-------------|-------------|
| 2.5 | Ceiling mounting | 2.3 (3.4) | 6.8 (8.3) | 6.4 (7.1) | 14.1 (15.6) |
| 3.0 | Escape route | 2.3 (3.2) | 6.4 (9.2) | 7.3 (8.1) | 16.1 (17.8) |
| 3.5 | centre | 2.3 (3.2) | 6.5 (9.7) | 8.1 (9.0) | 17.9 (19.9) |
| 4.0 | | 2.3 (3.3) | 6.5 (9.4) | 8.8 (9.9) | 19.7 (21.9) |
| 4.5 | | 2.3 (3.3) | 6.6 (9.1) | 9.5 (10.7) | 21.4 (23.7) |
| 5.0 | | 2.2 (3.3) | 6.6 (9.2) | 10.0 (11.5) | 23.0 (25.6) |
| 5.5 | | 2.1 (3.3) | 6.6 (9.2) | 10.4 (12.2) | 24.4 (27.4) |
| 6.0 | | 2.0 (3.3) | 6.5 (9.3) | 10.7 (12.9) | 25.8 (29.1) |
| 6.5 | | 1.9 (3.2) | 6.4 (9.4) | 7.9 (13.5) | 27.0 (30.8) |
| 7.0 | | 1.8 (3.1) | 6.2 (9.4) | 7.6 (14.0) | 26.0 (32.3) |
| 7.5 | | 1.7 (3.1) | 6.1 (9.3) | 7.3 (14.5) | 25.9 (33.7) |
| 8.0 | | 1.6 (2.9) | 5.8 (9.3) | 7.0 (14.8) | 26.2 (35.2) |
| 8.5 | | 1.4 (2.8) | 5.7 (9.3) | 6.7 (15.1) | 26.4 (36.6) |
| 9.0 | | 1.2 (2.8) | 5.5 (9.1) | 6.1 (14.9) | 26.1 (37.8) |
| 9.5 | | 1.0 (2.7) | 5.3 (9.0) | 4.7 (10.9) | 21.9 (37.6) |
| 10.0 | | 0.6 (2.5) | 5.0 (8.8) | 2.5 (10.7) | 21.4 (36.7) |



Escape route illumination
with symmetric optics



Room illumination
with symmetric optics

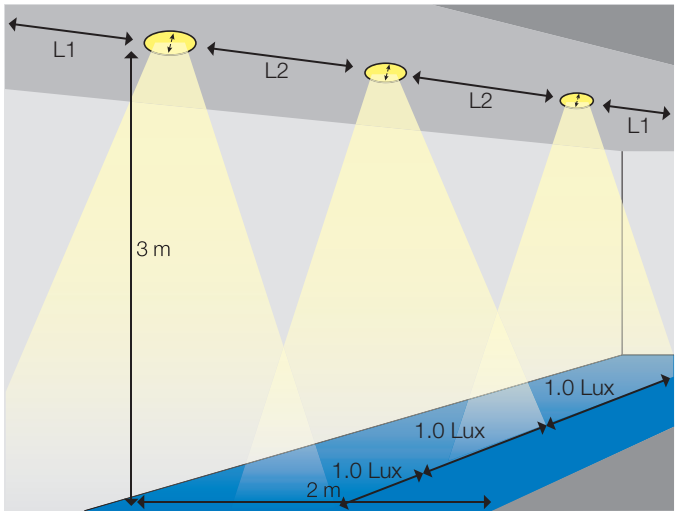
Planning assistance for GuidedLed SL CG-S with symmetric optics for $E = 1.0 \text{ lx}$ (0.5 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

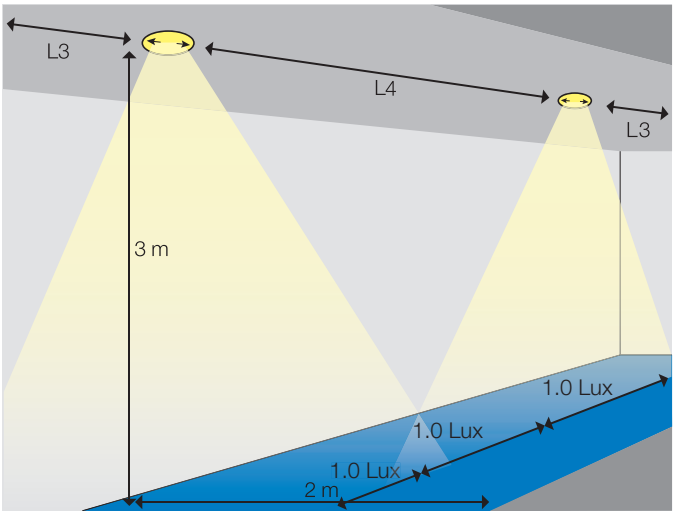
| Mounting height [m] | Type of mounting | L1 | L2 | L3 | L4 |
|------------------------|-------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.4 (5.0) | 9.9 (10.4) | 4.4 (4.9) | 9.8 (10.4) |
| 3.0 | Escape route | 4.6 (5.9) | 11.2 (12.3) | 4.6 (5.7) | 11.2 (12.1) |
| 3.5 | centre | 4.5 (6.2) | 12.3 (14.0) | 4.6 (6.2) | 12.3 (13.8) |
| 4.0 | | 3.5 (6.4) | 12.5 (15.2) | 3.8 (6.4) | 12.5 (15.2) |
| 4.5 | | 2.9 (6.6) | 13.0 (16.4) | 3.2 (6.6) | 12.7 (16.4) |
| 5.0 | | 2.4 (6.2) | 12.3 (17.4) | 2.4 (6.4) | 12.4 (17.4) |
| 5.5 | | 1.9 (5.3) | 10.6 (17.5) | 1.8 (5.5) | 11.0 (17.6) |
| 6.0 | | 0.7 (4.7) | 9.4 (17.8) | 0.9 (4.8) | 9.6 (17.9) |
| 2.5 | Ceiling mounting | 4.3 (4.4) | 9.8 (10.3) | 4.1 (4.3) | 9.5 (10.3) |
| 3.0 | Room illumination | 4.4 (5.2) | 11.1 (12.0) | 4.6 (5.2) | 11.0 (11.9) |
| 3.5 | | 4.7 (5.6) | 12.2 (13.6) | 5.0 (5.8) | 12.2 (13.5) |
| 4.0 | | 2.9 (5.9) | 12.1 (15.0) | 2.9 (6.3) | 12.4 (15.0) |
| 4.5 | | 2.7 (6.2) | 12.6 (16.3) | 2.5 (6.5) | 12.5 (16.3) |
| 5.0 | | 1.0 (6.4) | 12.2 (17.2) | 0.5 (6.8) | 12.5 (17.4) |
| 5.5 | | 0.5 (4.3) | 11.8 (17.2) | 0.7 (4.5) | 11.5 (17.6) |
| 6.0 | | 1.0 (3.5) | 11.7 (17.4) | 0.7 (3.7) | 11.4 (17.5) |
| 6.5 | | 0.5 (2.8) | 12.2 (17.8) | 0.5 (1.1) | 11.6 (18.0) |
| 7.0 | | 0.5 (1.1) | 12.1 (17.3) | 0.5 (0.7) | 11.2 (17.8) |
| 7.5 | | 0.5 (0.5) | 11.8 (14.5) | 0.5 (2.9) | 11.2 (20.5) |
| 8.0 | | 0.5 (2.4) | 11.0 (20.3) | 0.5 (0.5) | 10.9 (14.8) |
| 8.5 | | 0.7 (0.8) | 9.4 (21.7) | 0.7 (0.7) | 9.3 (13.7) |
| 9.0 | | 0.6 (0.5) | 8.4 (17.8) | 0.6 (0.5) | 8.3 (16.5) |

Planning examples

1 Example 1: Type of mounting: ceiling mounting / escape route



Luminaire optics installed cross to the escape route



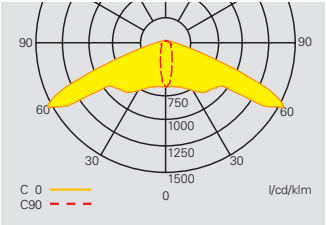
Luminaire optics installed lengthways to the escape route





Example calculation No. 1 – escape route illumination with LED safety luminaire:

Specification data:

Length of escape route 30 m, luminaires mounted directly above escape route, illumination according to EN 1838 with 1 lx on central axis, luminaires lateral to longitudinal axis, maintenance factor = 0.8, luminaire mounting height = 3.0 m
Selected luminaire type: GuideLed SL 13012.1 CG-S with asymmetric LED optic, 1 x 2 W LED

Planning assistance for GuideLed SL CG-S with asymmetric optics for E = 1.0 lx (0.5 lx)
Measuring height: 0.02 m, maintenance factor MF = 80 %, battery operation



| Mounting height (m) | Types of mounting | L1  | L2  | L3  | L4  |
|---------------------|---------------------|--|--|--|--|
| 2.5 | Ceiling mounting | 2.3 (3.4) | 6.8 (8.3) | 6.4 (7.1) | 14.1 (15.6) |
| 3.0 | Escape route centre | 2.3 (3.2) | 6.4 (9.2) | 7.3 (8.1) | 16.1 (17.8) |
| 3.5 | | 2.3 (3.2) | 6.5 (9.7) | 8.1 (9.0) | 17.9 (19.9) |
| 4.0 | | 2.3 (3.3) | 6.5 (9.4) | 8.8 (9.9) | 19.7 (21.9) |
| 4.5 | | 2.3 (3.3) | 6.6 (9.1) | 9.5 (10.7) | 21.4 (23.7) |

Result:

The planning aid shows that the first luminaire must be mounted at a distance of 7.4 m (L3) from the corridor end and the distance between the luminaires must be a maximum of (L4) 16.1 m in order to maintain the required illuminance of 1 lx.

$2 \times L3 + 1 \times L4 = 2 \times 7.3 \text{ m} + 1 \times 16.1 \text{ m} = 30.7 \text{ m}$ ✓

Therefore for this area only 2 GuideLed SL 13012.1 CG-S are required.

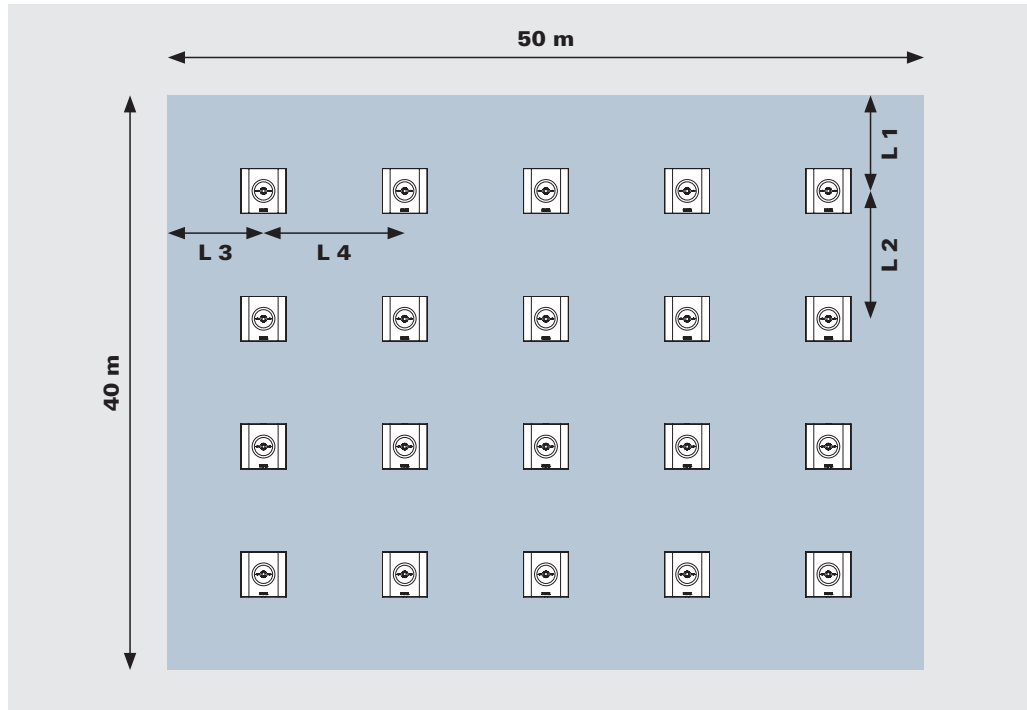
Example 2: Type of mounting: ceiling mounting / room illumination

Example calculation No. 2 – room illumination

Specification data:

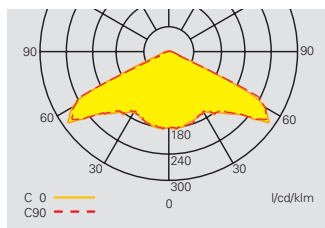
A sales area with 2000 m² surface area (50 m x 40 m), luminaires mounted to the ceiling, luminaires lateral to longitudinal axis, illumination according to EN 1838 with 1 lx on complete surface, maintenance factor = 0.8, luminaire mounting height = 4.0 m

Selected luminaire type: GuideLed SL 13022.1 CG-S, symmetric LED optic, 1 x 2 W LED



Planning help for GuideLed SL CG-S with symmetric optics for E = 1.0 lx (0.5 lx)

Measuring height: 0.02 m, maintenance factor MF = 80 %, battery operation



| Mounting height (m) | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|------------|-------------|
| 2.5 | Ceiling mounting | 4.3 (4.4) | 9.8 (10.3) | 4.1 (10.3) | 9.5 (10.3) |
| 3.0 | Room illumination | 4.4 (5.2) | 11.1 (12.0) | 4.6 (5.2) | 11.0 (11.9) |
| 3.5 | | 4.7 (5.6) | 12.2 (13.6) | 5.0 (5.8) | 12.2 (13.5) |
| 4.0 | | 2.9 (5.9) | 12.1 (15.0) | 2.9 (6.3) | 12.4 (15.0) |
| 4.5 | | 2.7 (6.2) | 12.6 (16.3) | 2.5 (6.5) | 12.5 (16.3) |
| 5.0 | | 1.0 (6.4) | 12.2 (17.2) | 0.5 (6.8) | 12.5 (17.4) |

Result:

The planning aid shows that the first luminaire in the x-direction must be mounted at a distance of 2.9 m (L3) from the wall. The distance between the luminaires must be a maximum of 12.4 m (L4) in order to achieve the required 1 lx.

$$2 \times L3 + 4 \times L4 = 2 \times 2.9 \text{ m} + 4 \times 12.4 \text{ m} = 55.4 \text{ m} \checkmark$$

Therefore 5 luminaires in the x-direction are required.

In the y-direction the first luminaire can be mounted up to 2.9 (L1) m from the wall.

The distance between the luminaires must be a maximum of 12.1 m (L2).

$$2 \times L1 + 3 \times L2 = 2 \times 2.9 \text{ m} + 3 \times 12.1 \text{ m} = 42.1 \text{ m} \checkmark$$

Therefore 4 luminaires in the y-direction are required.

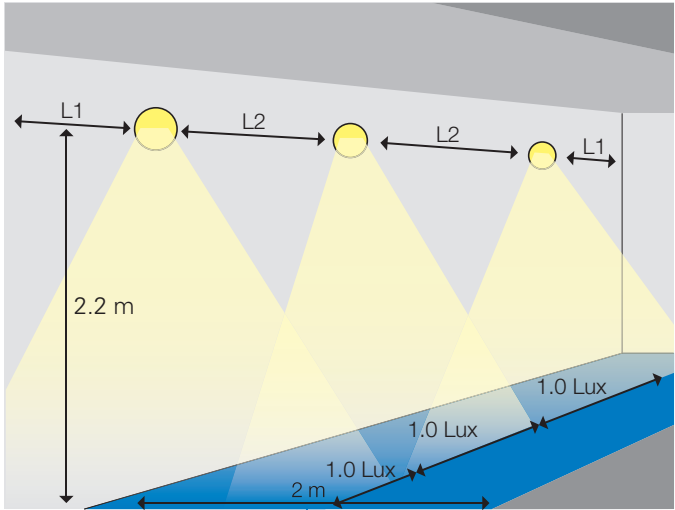
Planning examples

1 Example calculation No. 3 – escape route illumination with wall luminaires

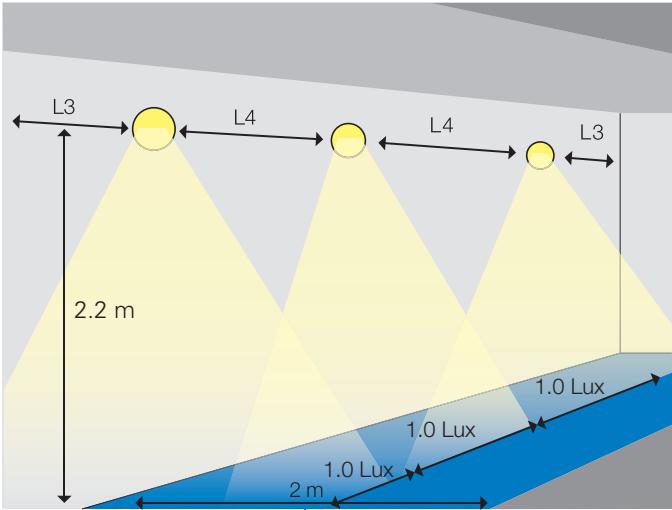
Specification data:

Length of escape route 30 m, luminaires mounted to the wall, illumination according to EN 1838 with 1 lx on central axis, maintenance factor = 0.8, luminaire mounting height = 2.5 m

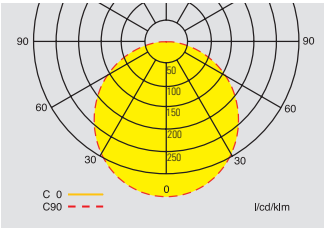
Selected luminaire type: 84022 LED CG-S



Luminaire arranged horizontally







Luminaires arranged vertically



Light distribution curve 84022 LED CG-S

Engineering help for 84022 LED CG-S for E = 1.0 Lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

| Mounting height [m] | Types of mounting | L1  | L2  | L3  | L4  |
|---------------------|---------------------|--|--|--|--|
| 2.5 | Ceiling mounting | 4.9 (6.0) | 11.9 (14.5) | 4.9 (6.0) | 11.9 (14.5) |
| 3.0 | Escape route centre | 5.2 (6.5) | 12.9 (15.7) | 5.2 (6.5) | 12.9 (15.7) |
| 3.5 | | 5.5 (6.9) | 13.8 (16.8) | 5.5 (6.9) | 13.8 (16.8) |
| 4.0 | | 5.7 (7.2) | 14.5 (17.8) | 5.7 (7.2) | 14.5 (17.8) |
| 4.5 | | 5.9 (7.6) | 15.1 (18.7) | 5.9 (7.6) | 15.1 (18.7) |
| 5.0 | | 6.1 (7.8) | 15.6 (19.5) | 6.1 (7.8) | 15.6 (19.5) |
| 5.5 | | 6.2 (8.1) | 16.1 (20.3) | 6.2 (8.1) | 16.1 (20.3) |
| 6.0 | | 6.2 (8.3) | 16.5 (20.9) | 6.2 (8.3) | 16.5 (20.9) |
| 6.5 | | 6.2 (8.4) | 16.8 (21.5) | 6.2 (8.4) | 16.8 (21.5) |
| 7.0 | | 6.2 (8.6) | 17.1 (22.1) | 6.2 (8.6) | 17.1 (22.1) |
| 2.2 | Wall mounting | 3.3 (6.0) | 8.5 (14.5) | 3.3 (6.0) | 8.5 (14.5) |
| 2.5 | | 3.3 (6.9) | 8.5 (16.8) | 3.3 (6.9) | 8.5 (16.8) |
| 3.0 | | 3.1 (7.6) | 8.4 (18.7) | 3.1 (7.6) | 8.4 (18.7) |

Result:

The planning aid shows that the first luminaire must be mounted at a distance of 3.3 m (L1 or L3) from the corridor end and the distance between the luminaires must be a maximum of (L2 or L4) 8.5 m in order to achieve the required 1 lx. The luminaire has a very symmetric light distribution.

This is why the values L1 and L3 or L2 and L4 are identical or differ only slightly.

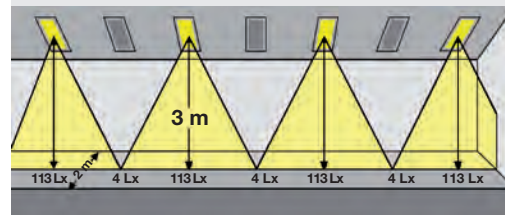
$2 \times L1 + 3 \times L2 = 2 \times 3.3 \text{ m} + 3 \times 8.5 \text{ m} = 32.1 \text{ m}$ ✓

Therefore this area requires a total of four SL 84022 LED CG-S luminaires.

Planning example – Lighting engineering instead of battery volume

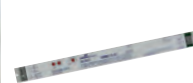
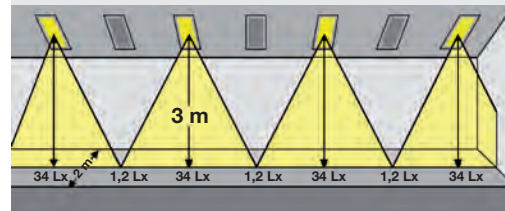
1

Standard EVG 58 W/100 % Luminous flux



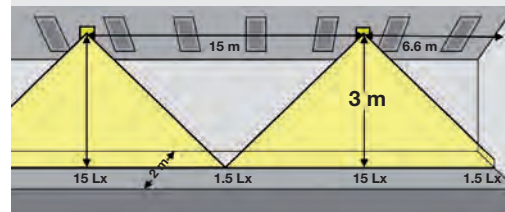
100 %

N-EVG 58 W/30 % Luminous flux



50 %

N-EVG 58 W/30 % Luminous flux



5 %

Planning an emergency lighting system should set out with the lighting engineering and not with the battery in order to ensure the efficient and most economical layout of the luminaires. A cost benefit combined with a high safety standard can only be achieved by safety luminaires featuring excellent lighting properties and the respective planning of the lighting.

Luminaires for general lighting are designed for illuminance values of e.g. 100 to 1000 lx. In addition, other requirements are valid here for uniformity and glare limitation. The light distributions and levels of luminous flux required for this are therefore not highly suitable for the demands of emergency lighting. The illuminance below the luminaires is many times greater than 1 lx. In order to fulfill the uniformity requirement of 1:40, the distance to the next luminaire cannot be too large despite the high light level. This would mean the minimum demand would in total be exceeded many times, leading in high energy demands for emergency lighting. This though can be reduced by up to 50% with the use of CEAG N ECGs, as these enable the reduction of luminous flux with battery operation.

CEAG safety luminaires have optics matched to lighting planning according to EN 1838. Light distribution and luminous flux are dimensioned so that the spacing is optimised while the values of current standards are adhered to. This means that energy consumption in emergency operation compared to use of general lighting is reduced by up to 94%, as shown by the case study below:

Exemplary calculation: Corridor with length 30 m, ceiling height 3 m

General lighting:

Illuminance according to EN 12464: 100 lx. Uniformity $g_1 = 0.7$, standard reflection factors for ceiling/walls/floor: 70 %/50 %/20 %
Lighting with recessed linear louvre luminaire with white louvre, 1 x 58 W. Required number of luminaires: 5

Emergency lighting:

Illuminance according to EN 1838: at least 1 lx, uniformity $g_2 > 1:40$
Reflection factors for ceiling/walls/floor: 0 %/0 %/0 %

| Version | Luminaire | Ballast | Emergency operation | | | E_{min} [lx] | E_{max} [lx] | $g_2 = \frac{E_{min}}{E_{max}}$ | Battery current input per luminaire in A | Total battery current input in A | Energy requirement |
|---------|---|-------------------|--------------------------------------|--|---------------|----------------|----------------|---------------------------------|--|----------------------------------|--------------------|
| | | | Number of luminaires mains operation | Number of luminaires emergency operation | Dimming level | | | | | | |
| No. 1 | Louvre luminaire, white, 1 x 58 W | EVG + CEAG V-CG-S | 5 | 3 | 100 % | 4 | 113 | 1:28 | 0.250 | 0.750 | 100 % |
| No. 2 | Louvre luminaire, white, 1 x 58 W | CEAG N-EVG | 5 | 3 | 30 % | 1.2 | 34 | 1:28 | 0.110 | 0.330 | 44.0 % |
| No. 3 | CEAG GuideLed SL with asymmetric optics | CEAG V-CG-SLS701 | 0 | 2 | 100 % | 1.5 | 15 | 1:10 | 0.020 | 0.040 | 5.3 % |

Pictogram summary

Summary of the standard pictograms according to ISO 7010 which can be ordered on request for our luminaires.

More special pictograms on request.

PR



PL 90°



PR 90°



PU 90°



PL



PU



Wheelchair PL



Rescue exit PL



Fire-extinguisher



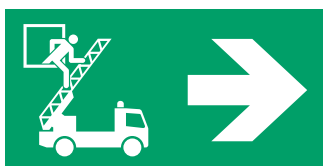
PO



Wheelchair PR



Rescue exit PR



Fire hose



PLU



Wheelchair PU



Rescue exit PU



Hydrant



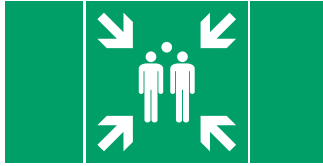
PRU



Emergency exit with escape ladder PL



Gathering place



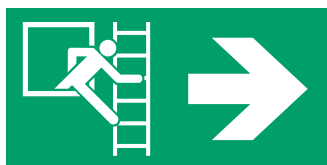
Information



PLO



Emergency exit with escape ladder PR



First aid



WC



PRO



Emergency exit with escape ladder PU














Exit Sign Panel luminaires

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Exit Sign Panel Luminaires

Overview

2

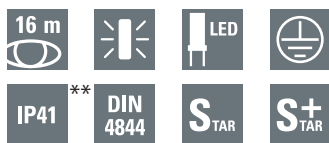
| | | | Aesthetic | One box solution | Low consumption / Eco-friendly | Protection Degree | Viewing distance | 24 V | 48 V | 110 V | 220 V DC | 230 V AC | Monitored CG-S | Monitored EC 1.5 |
|---------------------------|---|-------------|-----------------|------------------|--------------------------------|-------------------|------------------|---------|------|-------|----------|----------|----------------|------------------|
| | | Performance | Global Features | | | | | Voltage | | | | | Technology | |
| 2.1 Spirit LED |  | ★ ★ ★ | ● | | ● | 41 (20) | 16 28 | | | | ● | ● | ● | |
| 2.2 Brilliant LED |  | ★ ★ ★ | ● | | ● | 20 | 20 28 | | | | ● | ● | ● | |
| 2.3 1903 |  | ★ ★ ★ | ● | | ● | 20 | 22 | | | | ● | ● | ● | |
| 2.4 CrystalWay |  | ★ ★ ★ | ● | ● | ● | 42 | 20 30 | ● | ● | | ● | ● | ● | |
| 2.5 GuideLed |  | ★ ★ ★ | ● | | ● | 40 | 20 30 | | | | ● | ● | ● | |
| 2.6 Velos |  | ★ ★ | | | ● | 20 | 30 40 | | | | ● | ● | ● | |
| 2.7 Briteblade LED |  | ★ | | | ● | 20 | 24 | | | | ● | ● | ● | ● |

| | Wall | Ceiling | Recessed | Suspended | Healthcare | Hotels | Cinemas / Theaters | Commercial centers | Stadia / Arenas | Offices | Industrial | Warehouse |
|--|--------------|---------|----------|-----------|--------------|--------|--------------------|--------------------|-----------------|---------|------------|-----------|
| | Installation | | | | Applications | | | | | | | |
| | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | |
| | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | |
| | ● | ● | | | ● | ● | ● | ● | | ● | | |
| | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | |
| | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | |
| | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | |
| | | | ● | | ● | ● | ● | ● | | ● | | |

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

SpiritLED 16 CG-S

Exit Sign Panel Luminaires



SpiritLED 16 wire suspension with panel PL/PR



SpiritLED 16 ceiling surface mounting with panel PL/PR



SpiritLED 16 CG-S

- Exclusive Exit sign panel luminaire with LED technology
- Frameless design with pictogram integrated in acrylic glass
- Very good perceptibility via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1, and high uniformity $L_{min}/L_{max} > 0.5$
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|---|
| Viewing distance | 16 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Plastic |
| Weight | 1.0 kg |
| Housing colour | Silver |
| Type of mounting | Recessed and surface ceiling mounting (max. 0.7 m) |
| Connection terminals | Clamp terminal 2.5 mm ² reverse-polarity protected |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 7 mA |
| Power consumption mains operation (apparent power / effective power) | 3.8 VA / 1.7 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | LED batten |

Ordering details – fastening set

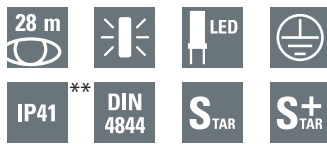
| Type | Scope of supply | Order No. |
|-------------------------------|--|-------------|
| Recessed ceiling mounting kit | with wire suspension, incl. LED supply | 40071352152 |
| Surface mounting kit | incl. LED supply, colour aluminium | 40071352072 |
| Surface mounting kit | with wire suspension, incl. LED supply, colour aluminium | 40071352073 |

Ordering details - LED pictograms

| Type | Scope of supply | Order No. |
|---------------------------|--|-------------|
| SpiritLED 16 PL/PR | LED panel with pictogram PL/PR and LED-module (fastening set required) acc. to ISO 7010 | 40071354600 |
| SpiritLED 16 PU/PU | LED panel with pictogram PU/PU and LED-module (fastening set required) acc. to ISO 7010 | 40071354601 |
| SpiritLED 16 PU/Blind | LED panel with pictogram PU/Blind and LED-module (fastening set required) acc. to ISO 7010 | 40071354602 |
| SpiritLED 16 PL/PR-R* 90° | LED panel with pictogram PL/PR and LED-module (fastening set required) acc. to ISO 7010 | 40071354603 |
| SpiritLED 16 PL/PR-W* 90° | LED panel with pictogram PL/PR and LED-module (mounting kit is required) acc. to ISO 7010 | 40071354604 |

* R = Arrow from mounting wall
W = Arrow to mounting wall

** Degree of protection recessed ceiling mounting kit IP20



SpiritLED 28 wire suspension
with panel PL/PR



SpiritLED 28 Wall mounting
with panel PL/PR-R



SpiritLED 28 CG-S

- Exclusive Exit sign panel luminaire with LED technology
- Frameless design with pictogram integrated in acrylic glass
- Very good perceptibility via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1, and high uniformity $L_{min}/L_{max} > 0.5$
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|---|
| Viewing distance | 28 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Plastic |
| Weight | 2.0 kg |
| Housing colour | Silver |
| Type of mounting | Recessed and surface ceiling mounting (max. 0.7 m) |
| Connection terminals | Clamp terminal 2.5 mm ² reverse-polarity protected |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 16 mA |
| Power consumption mains operation (apparent power / effective power) | 6.6 VA / 3.7 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | LED batten |

Ordering details – fastening set

| Type | Scope of supply | Order No. |
|-------------------------------|--|-------------|
| Recessed ceiling mounting kit | with wire suspension, incl. LED supply | 40071352007 |
| Surface mounting kit | incl. LED supply, colour aluminium | 40071352005 |
| Surface mounting kit | with wire suspension, incl. LED supply, colour aluminium | 40071352006 |

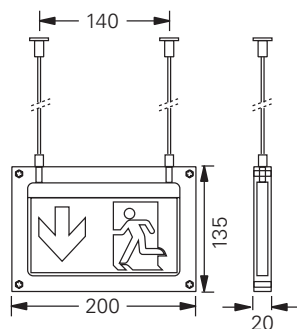
Ordering details - LED pictograms

| Type | Scope of supply | Order No. |
|---------------------------|--|-------------|
| SpiritLED 28 PL/PR | LED panel with pictogram PL/PR and LED-module (mounting kit is required) acc. to ISO 7010 | 40071354610 |
| SpiritLED 28 PU/PU | ED panel with pictogram PU/PU and LED-module (mounting kit is required) acc. to ISO 7010 | 40071354611 |
| SpiritLED 28 PU/Blind | LED panel with pictogram PU/Blind and LED-module (mounting kit is required) acc. to ISO 7010 | 40071354612 |
| SpiritLED 28 PL/PR-R* 90° | LED panel with pictogram PL/PR and LED-module (mounting kit is required) acc. to ISO 7010 | 40071354613 |
| SpiritLED 28 PL/PR-W* 90° | LED panel with pictogram PL/PR and LED-module (mounting kit is required) acc. to ISO 7010 | 40071354614 |

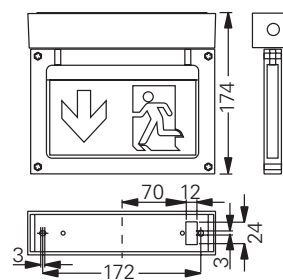
* R = Arrow from mounting wall
W = Arrow to mounting wall

** Degree of protection recessed ceiling mounting kit IP20

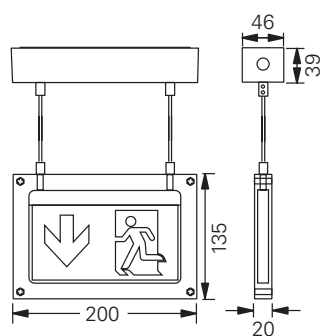
SpiritLED 16



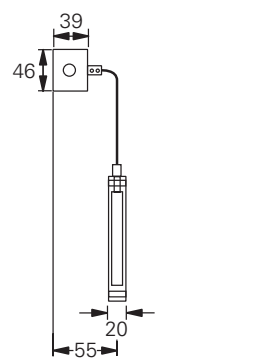
Recessed ceiling mounting
with wire suspension



Surface mounting

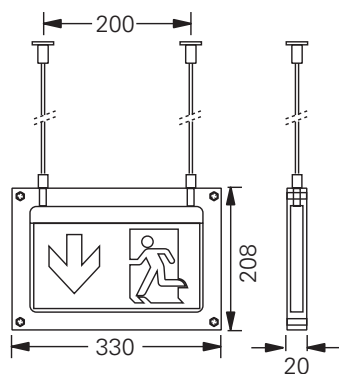


Surface mounting
with wire suspension

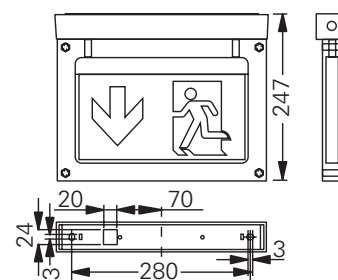


Wall parallel with wire suspension

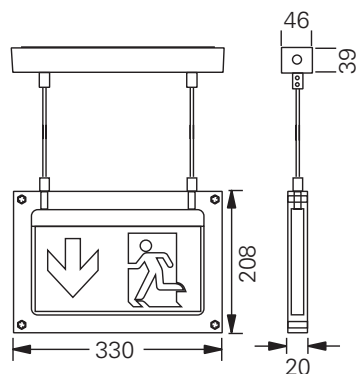
SpiritLED 28



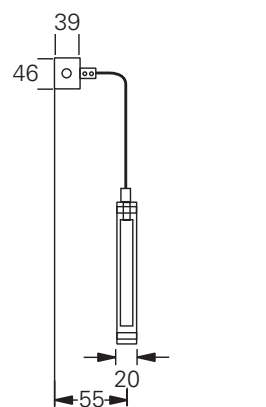
Recessed ceiling mounting
with wire suspension



Surface mounting



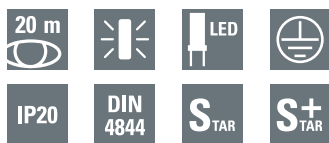
Surface mounting
with wire suspension



Wall parallel with wire suspension

Brillant 1503 ... 1803 LED CG-S

Exit Sign Panel Luminaires



Brillant 1503 ... 1803 LED CG-S

- Exit sign panel luminaire in LED technology
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

1503 LED CG-S



1603 LED CG-S



1703 LED CG-S



1803 LED CG-S



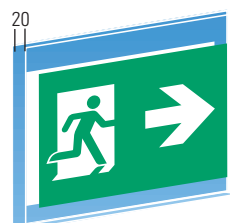
| | |
|--|---|
| Viewing distance | 20 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Aluminium, sheet steel |
| Weight incl. panel | 2.3 kg (1503 LED CG-S) 2.2 kg (1603 LED CG-S) 1.8 kg (1703 LED CG-S) 2.9 kg (1803 LED CG-S) |
| Housing colour | White |
| Type of mounting | Wall mounting (1503 LED CG-S, 1603 LED CG-S) Ceiling surface, suspended, chain mounting (1703 LED CG-S) Ceiling recessed mounting (1803 LED CG-S) |
| Connection terminals | Plug in terminals 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 12 mA |
| Power consumption mains operation (apparent power / effective power) | 5.5 VA / 2.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | LED batten |

Ordering details

| Type | Scope of supply | Order No. |
|---------------|---|-------------|
| 1503 LED CG-S | Panel luminaire with CEWA GUARD monitoring and 20 digit address switches; for parallel wall mounting, without panel; design: white, RAL 9010 | 40071350900 |
| 1603 LED CG-S | Panel luminaire with CEWA GUARD monitoring and 20 digit address switches; with wall bracket, without panel; design: white, RAL 9010 | 40071350901 |
| 1703 LED CG-S | Panel luminaires with CEWA GUARD monitoring and 20 digit address switches; for surface ceiling mounting, suitable for chain and pendant mounting (not included), without panel; design: white, RAL 9010 | 40071350902 |
| 1803 LED CG-S | Panel luminaires with CEWA GUARD monitoring and 20 digit address switches; for recessed ceiling mounting, with plastic shield RAL 9010, without panel | 40071352292 |

Attention: Phase out of the product end of 2018!

Panel PL/PR



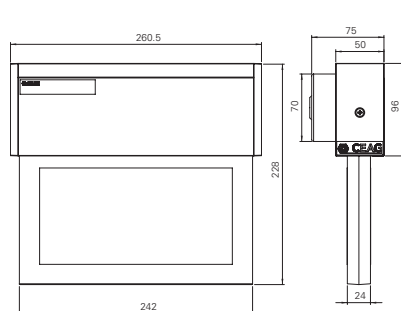
Ordering details

| Type | Scope of supply | Order No. |
|------------------------------|---------------------------|-------------|
| Panel PL/PR acc. to ISO 7010 | Two-sided pictogram panel | 40071354620 |
| Panel PU/PU acc. to ISO 7010 | Two-sided pictogram panel | 40071354621 |
| Panel PU/BL acc. to ISO 7010 | Two-sided pictogram panel | 40071354622 |

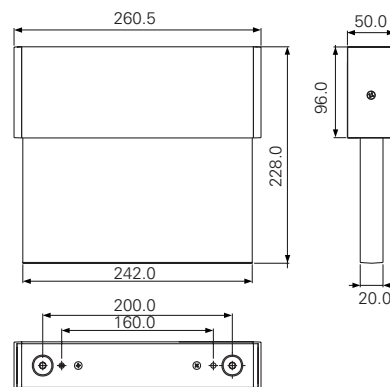
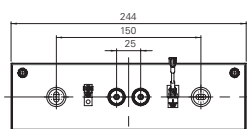
Ordering details

| Type | Order No. |
|------------------------------------|--|
| Bezel for 1803 | metal shield white, RAL 9010 |
| Concrete mounting box for 1803 ... | for installation in concrete ceilings |
| Mounting kit for 1803 ... | for installation in concrete recessing box |
| Suspension set 0.5 m | white canopy and aluminium pendulum tube |
| Suspension set 1.5 m | white canopy and aluminium pendulum tube |
| Chain suspension metal | Chain fastening for 1703 |

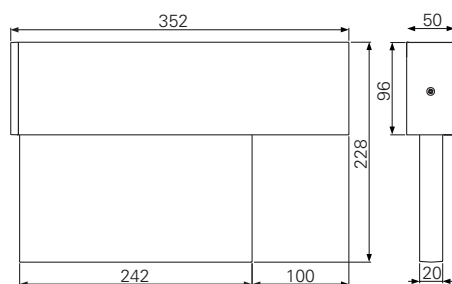
Attention: Phase out of the product end of 2018!



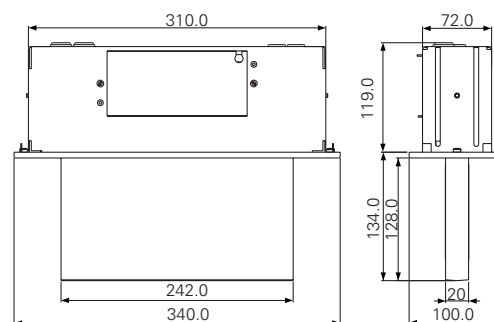
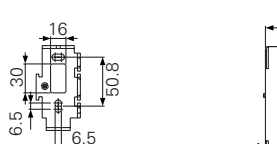
1503 LED CG-S



1703 LED CG-S



1603 LED CG-S



1803 LED CG-S

Ceiling cut-out
327^(+2.5) x 75^(+2.5)

Brillant 1504 ... 1804 LED CG-S

Exit Sign Panel Luminaires



Brillant 1504 ... 1804 LED CG-S

- Exit sign panel luminaire in LED technology
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

1504 LED CG-S



1604 LED CG-S



1704 LED CG-S



1804 LED CG-S



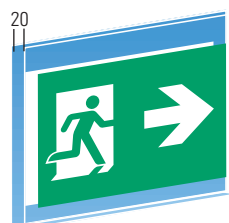
| | |
|--|---|
| Viewing distance | 28 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Aluminium, sheet steel |
| Weight incl. panel | 2.7 kg (1504 LED CG-S) 2.5 kg (1604 LED CG-S) 2.2 kg (1704 LED CG-S) 3.3 kg (1804 LED CG-S) |
| Housing colour | White |
| Type of mounting | Wall mounting (1504 LED CG-S, 1604 LED CG-S) Ceiling surface, suspended, chain mounting (1704 LED CG-S) Ceiling recessed mounting (1804 LED CG-S) |
| Connection terminals | Plug in terminals 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 17 mA |
| Power consumption mains operation (apparent power / effective power) | 7.1 VA / 4.1 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | LED batten |

Ordering details

| Type | Scope of supply | Order No. |
|---------------|---|-------------|
| 1504 LED CG-S | Panel luminaire with CEWA GUARD monitoring and 20 digit address switches; with wall bracket for parallel wall mounting, without panel; design: white, RAL 9010 | 40071350903 |
| 1604 LED CG-S | Panel luminaire with CEWA GUARD monitoring and 20 digit address switches; with wall bracket, without panel; design: white, RAL 9010 | 40071350904 |
| 1704 LED CG-S | Panel luminaires with CEWA GUARD monitoring and 20 digit address switches; for surface ceiling mounting, suitable for chain and pendant mounting (not included), without panel; design: white, RAL 9010 | 40071350905 |
| 1804 LED CG-S | Panel luminaires with CEWA GUARD monitoring and 20 digit address switches; for recessed ceiling mounting, without panel; design: plastic shield white, RAL 9010 | 40071350678 |

Attention: Phase out of the product end of 2018!

Panel PL/PR



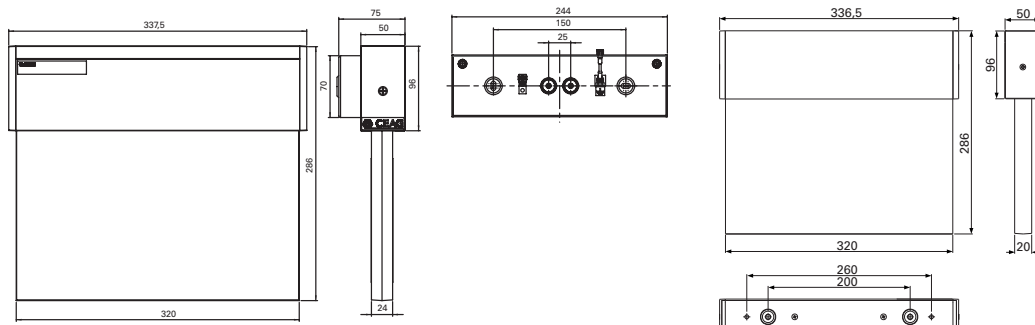
Ordering details

| Type | Scope of supply | Order No. |
|------------------------------|---------------------------|-------------|
| Panel PL/PR acc. to ISO 7010 | Two-sided pictogram panel | 40071354630 |
| Panel PU/PU acc. to ISO 7010 | Two-sided pictogram panel | 40071354631 |
| Panel PU/BL acc. to ISO 7010 | Two-sided pictogram panel | 40071354632 |

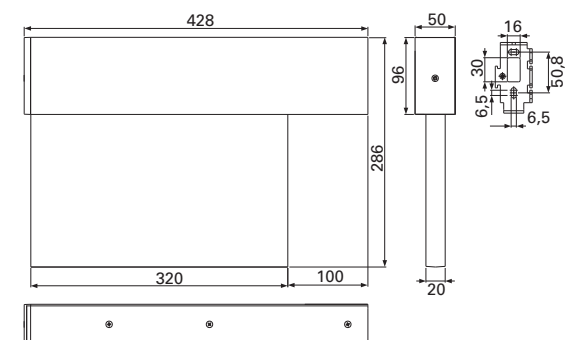
Ordering details

| Type | Order No. |
|------------------------------------|--|
| Bezel for 1804 | metal shield white, RAL 9010 |
| Concrete mounting box for 1804 ... | for installation in concrete ceilings |
| Mounting kit for 1804 ... | for installation in concrete recessing box |
| Suspension set 0.5 m | white canopy and aluminium pendulum tube |
| Suspension set 1.5 m | white canopy and aluminium pendulum tube |
| Chain suspension metal | Chain fastening for 1704 |

Attention: Phase out of the product end of 2018!

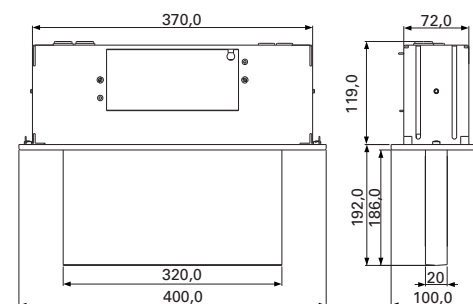


1504 LED CG-S



1604 LED CG-S

1704 LED CG-S

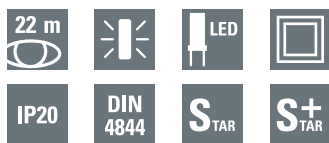


1804 LED CG-S

Ceiling cut-out
387^(+2.5) x 75^(+2.5)

1903 LED CG-S

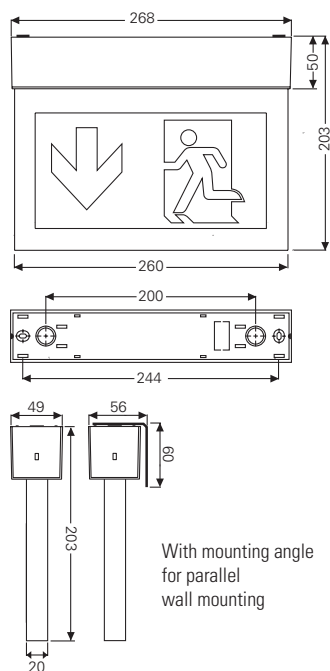
Exit Sign Panel Luminaires



1903 LED CG-S aluminium
with panel PL/PR



1903 LED CG-S white
with panel PL/PR W 90°



1903 LED CG-S

- LED Exit sign panel luminaire in surface-mounted design with minimised rectangular housing form
- Simple mounting of screenprinted pictogram panel via snap-fitting
- 90° wall mounting achieved via special pictogram panel rotated at 90°
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum maintenance effort via high LED service life (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Viewing distance | 22 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Plastic |
| Weight incl. panel | 1.28 kg |
| Housing colour | White / Aluminium |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | Clamp terminal 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 12 mA |
| Power consumption mains operation (apparent power / effective power) | 5.5 VA / 3.0 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | LED batten |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------------------------|--|-------------|
| 1903 LED CG-S white | Luminaire housing plastic, without panel, colour white, with CEWA GUARD monitoring and 20-digit address switch | 40071352230 |
| 1903 LED CG-S aluminium | Luminaire housing plastic, without panel, colour aluminium, with CEWA GUARD monitoring and 20-digit address switch | 40071352235 |
| Panel PL/PR acc. to ISO 7010 | Two-sided pictogram panel 22 m | 40071354660 |
| Panel PU/PU acc. to ISO 7010 | Two-sided pictogram panel 22 m | 40071354661 |
| Panel PU/BL acc. to ISO 7010 | Two-sided pictogram panel 22 m | 40071354662 |
| Panel PL/BL acc. to ISO 7010 | Two-sided pictogram panel 22 m | 40071354663 |
| Panel PR/BL acc. to ISO 7010 | Two-sided pictogram panel 22 m | 40071354664 |
| Panel PL/PR-R* 90° acc. to ISO 7010 | Two-sided pictogram panel 22 m, wall mounting | 40071354666 |
| Panel PL/PR-W* 90° acc. to ISO 7010 | Two-sided pictogram panel 22 m, wall mounting | 40071354665 |

Accessories

| Type | Order No. |
|----------------------|--|
| Mounting angle | for parallel wall mounting, white |
| Suspension set 0.5 m | white canopy and aluminium pendulum tube |
| Suspension set 0.5 m | aluminium canopy and pendulum tube |

Attention: Phase out of the product end of 2018!

* R = Arrow from mounting wall
W = Arrow to mounting wall

CrystalWay 19021 CG-S

Exit Sign Panel Luminaires



Wall-surface mounting



Ceiling-surface mounting



Wire suspension kit



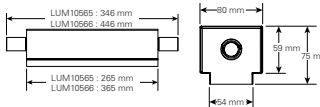
Recessed base



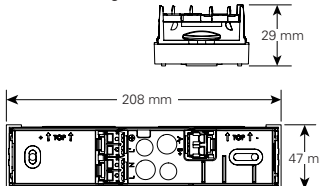
Add-on housing



Concrete box



Add-on housing



CrystalWay 19021 CG-S

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.6W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Shortened inspection effort due to CEWA GUARD Technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR Technology

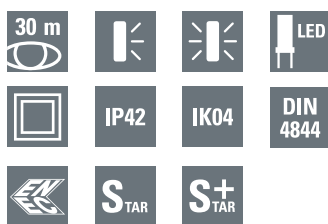
| | |
|--|--|
| Viewing distance | 20 m |
| Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time | 100 % |
| Housing material | Polycarbonat |
| Housing colour | RAL 9003 |
| Weight | 0.4 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power/effective power) | 3.5 VA / 1.6 W |
| Current consumption- battery operation (220 V) | 7 mA |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED strip |

Ordering details

| Type | Scope of supply | Order-No. |
|-----------------------|--|-------------|
| CrystalWay 19021 CG-S | including pictogram set (Arrow right, left, down, up, blank) | 40071354592 |

Ordering details - Accessories

| Type | | Order-No. |
|---|--|-----------|
| Wire suspension kit, 20 m + 30 m | | LUM10560 |
| Recessed base, for ceiling mounting, 20 m | | LUM10561 |
| Recessed base with cover, for ceiling mounting, 20 m | | LUM10563 |
| Concrete box (suitable for recessed base with cover), 20 m | | LUM10565 |
| Add-on housing for CrystalWay 20 m for expanded spatial conditions, for wiring and cable infeed | | LUM10567 |
| Pictogram PU, ISO 7010, 20 m | | LUM10573 |
| Pictogram PL, ISO 7010, 20 m | | LUM10574 |
| Pictogram PR, ISO 7010, 20 m | | LUM10575 |
| Pictogram PA, ISO 7010, 20 m | | LUM10577 |
| Pictogram PU vertical, ISO 7010, 20 m | | LUM10584 |
| Pictogram PL vertical, ISO 7010, 20 m | | LUM10585 |
| Pictogram PR vertical, ISO 7010, 20 m | | LUM10586 |



Wall-surface mounting



Ceiling-surface mounting



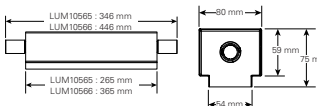
Wire suspension kit



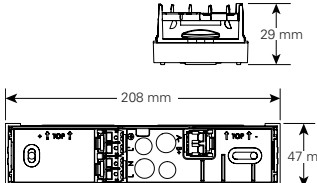
Recessed base



Concrete box



Add-on housing



CrystalWay 19022 CG-S

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 3.7W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Shortened inspection effort due to CEWA GUARD Technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR Technology

| | |
|--|--|
| Viewing distance | 30 m |
| Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time | 100 % |
| Housing material | Polycarbonat |
| Housing colour | RAL 9003 |
| Weight | 0.7 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power/effective power) | 6.5 VA / 3.7 W |
| Current consumption- battery operation (220 V) | 15 mA |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED strip |

Ordering details

| Type | Scope of supply | Order-No. |
|-----------------------|---|-------------|
| CrystalWay 19022 CG-S | including pictogram set (Arrow right, left, down, up, blank) | 40071354593 |

Ordering details - Accessories

| Type | Order-No. |
|--|-----------|
| Wire suspension kit, 20 m + 30 m | LUM10560 |
| Recessed base, for ceiling mounting, 30 m | LUM10562 |
| Recessed base with cover, for ceiling mounting, 30 m | LUM10564 |
| Concrete box (suitable for recessed base with cover), 30 m | LUM10566 |
| Pictogram PU, ISO 7010, 30 m | LUM10587 |
| Pictogram PL, ISO 7010, 30 m | LUM10588 |
| Pictogram PR, ISO 7010, 30 m | LUM10589 |
| Pictogram PA, ISO 7010, 30 m | LUM10591 |
| Pictogram PU vertical, ISO 7010, 30 m | LUM10592 |
| Pictogram PL vertical, ISO 7010, 30 m | LUM10593 |
| Pictogram PR vertical, ISO 7010, 30 m | LUM10594 |

CrystalWay 220/45 CG-S

Exit Sign Panel Luminaires



Wall-surface mounting



Ceiling-surface mounting



Wire suspension kit



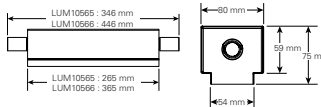
Recessed base



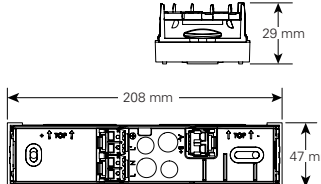
Add-on housing



Concrete box



Add-on housing



French market

CrystalWay 220/45 CG-S

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.6 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Shortened inspection effort due to CEWA GUARD Technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR Technology

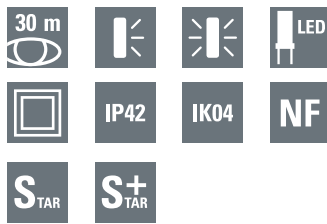
| | |
|--|--|
| Viewing distance | 20 m |
| Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time | 100 % |
| Housing material | Polycarbonat |
| Housing colour | RAL 9003 |
| Weight | 0.4 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power/effective power) | 3.5 VA / 1.6 W |
| Current consumption- battery operation (220 V) | 7 mA |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED strip |

Ordering details

| Type | Scope of supply | Order-No. |
|------------------------|--|-----------|
| CrystalWay 220/45 CG-S | including pictogram set (Arrow right, left, down, blank) | LUM22214 |
| CrystalWay 220/45 CG-S | including pictogram set (Arrow right, left, down, up, blank) | LUM22214U |

Ordering details - Accessories

| Type | Order-No. |
|---|-----------|
| Wire suspension kit, 20 m + 30 m | LUM10560 |
| Recessed base, for ceiling mounting, 20 m | LUM10561 |
| Recessed base with cover, for ceiling mounting, 20 m | LUM10563 |
| Concrete box (suitable for recessed base with cover), 20 m | LUM10565 |
| Add-on housing for CrystalWay 20 m for expanded spatial conditions, for wiring and cable infeed | LUM10567 |
| Pictogram PU, ISO 7010, 20 m | LUM10573 |
| Pictogram PL, ISO 7010, 20 m | LUM10574 |
| Pictogram PR, ISO 7010, 20 m | LUM10575 |
| Pictogram PA, ISO 7010, 20 m | LUM10577 |
| Pictogram PU vertical, ISO 7010, 20 m | LUM10584 |
| Pictogram PL vertical, ISO 7010, 20 m | LUM10585 |
| Pictogram PR vertical, ISO 7010, 20 m | LUM10586 |



Wall-surface mounting



Ceiling-surface mounting



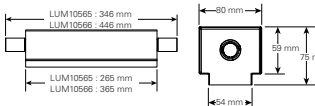
Wire suspension kit



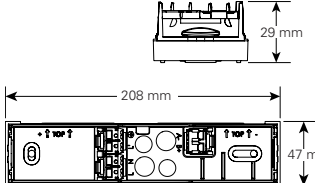
Recessed base



Concrete box



Add-on housing



French market

French Market / U: UK Market

CrystalWay 220/45 CG-S XL

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 3.7 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Shortened inspection effort due to CEWA GUARD Technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR Technology

| | |
|--|--|
| Viewing distance | 30 m |
| Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time | 100 % |
| Housing material | Polycarbonat |
| Housing colour | RAL 9003 |
| Weight | 0.7 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power/effective power) | 6.5 VA / 3.7 W |
| Current consumption- battery operation (220 V) | 15 mA |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED strip |

Ordering details

| Type | Scope of supply | Order-No. |
|---------------------------|--|-----------|
| CrystalWay 220/45 CG-S XL | including pictogram set (Arrow right, left, down, blank) | LUM22215 |
| CrystalWay 220/45 CG-S XL | including pictogram set (Arrow right, left, down, up, blank) | LUM22215U |

Ordering details - Accessories

| Type | | Order-No. |
|--|--|-----------|
| Wire suspension kit, 20 m + 30 m | | LUM10560 |
| Recessed base, for ceiling mounting, 30 m | | LUM10562 |
| Recessed base with cover, for ceiling mounting, 30 m | | LUM10564 |
| Concrete box (suitable for recessed base with cover), 30 m | | LUM10566 |
| Pictogram PU, ISO 7010, 30 m | | LUM10587 |
| Pictogram PL, ISO 7010, 30 m | | LUM10588 |
| Pictogram PR, ISO 7010, 30 m | | LUM10589 |
| Pictogram PA, ISO 7010, 30 m | | LUM10591 |
| Pictogram PU vertical, ISO 7010, 30 m | | LUM10592 |
| Pictogram PL vertical, ISO 7010, 30 m | | LUM10593 |
| Pictogram PR vertical, ISO 7010, 30 m | | LUM10594 |

CrystalWay 220/45, 220/45XL

Exit Sign Panel Luminaires



French Market / U: UK Market / Portuguese Market

CrystalWay 220/45, 220/45XL

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.8 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)

Wall-surface mounting



Ceiling-surface mounting



Wire suspension kit



Recessed base



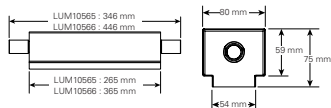
| | |
|--|-----------------------------|
| Viewing distance | 20 / 30 m (XL variant) |
| Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time | 100 % |
| Housing material | Polycarbonat |
| Housing colour | RAL 9003 |
| Weight | 0.4 / 0.7 kg (XL variant) |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 230 V AC, 50 Hz 220 V DC |
| Power consumption mains operation (apparent power/effective power) | 3 VA / 1.8 W |
| Permissible ambient temperature | 5 °C to +35 °C |
| Light source | LED strip |

Ordering details

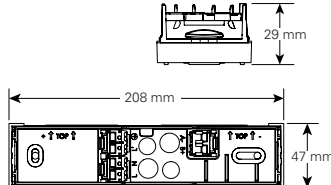
| Type | Scope of supply | Order-No. |
|----------------------|--|-----------|
| CrystalWay 220/45 | including pictogram set (Arrow right, left, down, blank) | LUM22212 |
| CrystalWay 220/45 | including pictogram set (Arrow right, left, down, up, blank) | LUM22212U |
| CrystalWay 220/45 XL | including pictogram set (Arrow right, left, down, blank) | LUM22213 |
| CrystalWay 220/45 XL | including pictogram set (Arrow right, left, down, up, blank) | LUM22213U |

Accessories

Concrete box



Add-on housing



| Product | | Reference CrystalWay 45 | Reference CrystalWay 45 XL |
|---|--|-------------------------|----------------------------|
| Signage plate suspension kit | | LUM10560 | LUM10560 |
| Mounting frame | | LUM10561 | LUM10562 |
| Mounting frame with surround | | LUM10563 | LUM10564 |
| Recess mounting box | | LUM10565 | LUM10566 |
| Extended base for increased wiring volume | | LUM10567 | |
| Horizontal Down Arrow label | | LUM10573 | LUM10587 |
| Horizontal Left Arrow label | | LUM10574 | LUM10588 |
| Horizontal Right Arrow label | | LUM10575 | LUM10589 |
| Horizontal Up Arrow label | | LUM10577 | LUM10591 |
| Vertical Down Arrow label | | LUM10584 | LUM10592 |
| Vertical Left Arrow label | | LUM10585 | LUM10593 |
| Vertical Right Arrow label | | LUM10586 | LUM10594 |



Wall-surface mounting



Ceiling-surface mounting



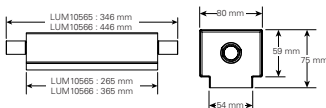
Wire suspension kit



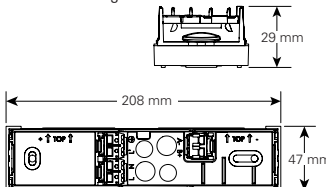
Recessed base



Concrete box



Add-on housing



Italian market

CrystalWay 220/45, 220/45XL

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.8W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)

| | |
|--|-----------------------------|
| Viewing distance | 20 / 30 m (XL variant) |
| Luminous flux Φ_e/Φ_{Nenn} at end of rated operating time | 100 % |
| Housing material | Polycarbonat |
| Housing colour | RAL 9003 |
| Weight | 0.4 / 0.7 kg (XL variant) |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 230 V AC, 50 Hz 220 V DC |
| Power consumption mains operation (apparent power/effective power) | 3 VA / 1.8 W |
| Permissible ambient temperature | 5 °C to +35 °C |
| Light source | LED strip |

Ordering details

| Type | Scope of supply | Order-No. |
|-------------------|--|-----------|
| CrystalWay 220/45 | including pictogram set (Arrow right, left, down, blank) | LUM22216 |
| CrystalWay 220/45 | including pictogram set (Arrow right, left, down, blank) | LUM22217 |

Accessories

| Product | | Reference CrystalWay 45 | Reference CrystalWay 45 XL |
|---|--|-------------------------|----------------------------|
| Signage plate suspension kit | | LUM10560 | LUM10560 |
| Mounting frame | | LUM10561 | LUM10562 |
| Mounting frame with surround | | LUM10563 | LUM10564 |
| Recess mounting box | | LUM10565 | LUM10566 |
| Extended base for increased wiring volume | | LUM10567 | |
| Horizontal Down Arrow label | | LUM10573 | LUM10587 |
| Horizontal Left Arrow label | | LUM10574 | LUM10588 |
| Horizontal Right Arrow label | | LUM10575 | LUM10589 |
| Horizontal Up Arrow label | | LUM10577 | LUM10591 |
| Vertical Down Arrow label | | LUM10584 | LUM10592 |
| Vertical Left Arrow label | | LUM10585 | LUM10593 |
| Vertical Right Arrow label | | LUM10586 | LUM10594 |

CrystalWay 24-48/45, 24-48/45XL

Exit Sign Panel Luminaires



NF

Wall-surface mounting



Ceiling-surface mounting



Wire suspension kit



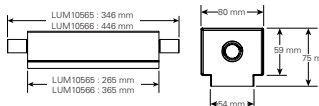
Recessed base



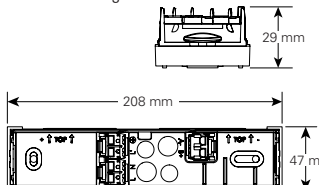
Add-on housing



Concrete box



Add-on housing



French Market

CrystalWay 24-48/45, 24-48/45XL

- Exclusive Exit sign panel luminaire with LED technology
- Concise design with highly transparent frame and replaceable inner screen-printed pictograms
- Includes set of pictograms (arrow right, left, down, up, blind) for the most common applications
- Only one order number for wall or ceiling mounting
- Expandable with extensive accessories, e.g. housing for ceiling recessing, wire suspension, pictograms for 90° wall mounting
- Unobtrusive, thin & slim electronic base (Height: only 22mm)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings), and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.5 W only.
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)

| | |
|--|------------------------------------|
| Viewing distance | 20 / 30 m (XL variant) |
| Luminous flux Φ_E/Φ_{Nenn} at end of rated operating time | 100 % |
| Housing material | Polycarbonat |
| Housing colour | RAL 9003 |
| Weight | 0.4 / 0.7 kg (XL variant) |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 24 – 48 V DC |
| Power consumption mains operation (apparent power/effective power) | LUM22210: 1.5 W LUM22211: 1.9 W |
| Permissible ambient temperature | 5 °C to +35 °C |
| Light source | LED strip |

Ordering details

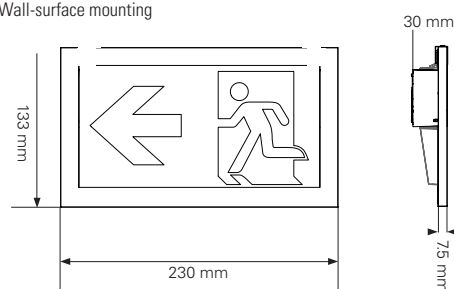
| Type | Scope of supply | Order-No. |
|------------------------|--|-----------|
| CrystalWay 24-48/45 | including pictogram set (Arrow right, left, down, blank) | LUM22210 |
| CrystalWay 24-48/45 XL | including pictogram set (Arrow right, left, down, blank) | LUM22211 |

Accessories

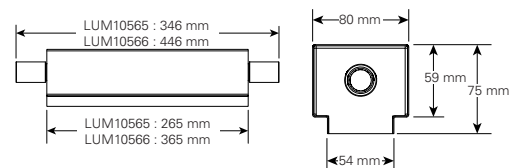
| Product | | Reference CrystalWay 45 | Reference CrystalWay 45 XL |
|---|--|-------------------------|----------------------------|
| Signage plate suspension kit | | LUM10560 | LUM10560 |
| Mounting frame | | LUM10561 | LUM10562 |
| Mounting frame with surround | | LUM10563 | LUM10564 |
| Recess mounting box | | LUM10565 | LUM10566 |
| Extended base for increased wiring volume | | LUM10567 | |
| Horizontal Down Arrow label | | LUM10573 | LUM10587 |
| Horizontal Left Arrow label | | LUM10574 | LUM10588 |
| Horizontal Right Arrow label | | LUM10575 | LUM10589 |
| Horizontal Up Arrow label | | LUM10577 | LUM10591 |
| Vertical Down Arrow label | | LUM10584 | LUM10592 |
| Vertical Left Arrow label | | LUM10585 | LUM10593 |
| Vertical Right Arrow label | | LUM10586 | LUM10594 |

Dimensions in mm, viewing distance 20 m

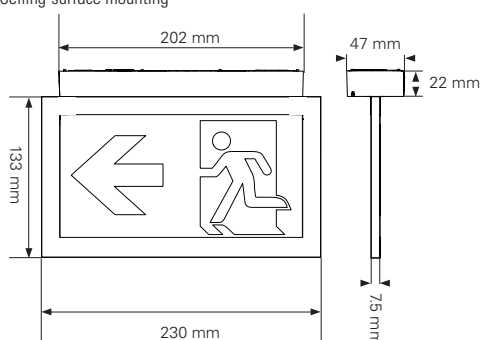
Wall-surface mounting



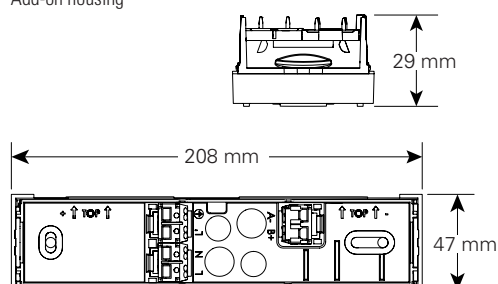
Concrete box



Ceiling-surface mounting

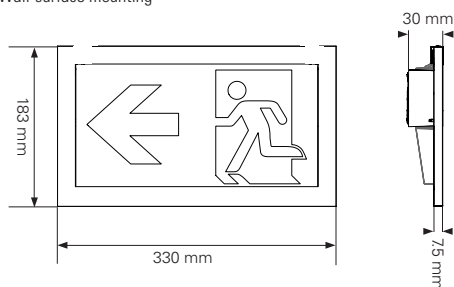


Add-on housing

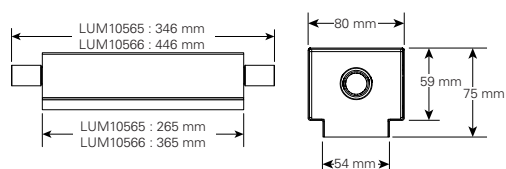


Dimensions in mm, viewing distance 30 m (XL)

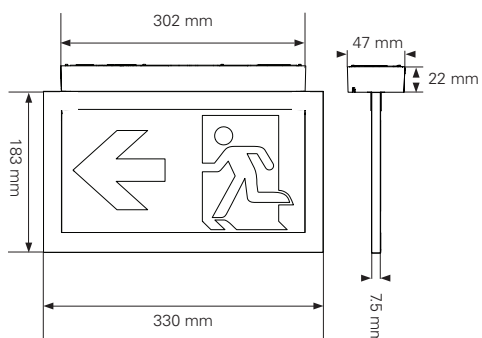
Wall-surface mounting



Concrete box



Ceiling-surface mounting







Linear design combined with high economy

The GuideLed LED luminaire family is a prime example of how the adherence to standards, diverse possibilities for mounting and a high level of economy is not at all contrary to outstanding design. With GuideLed, an escape sign luminaire was developed that completely fulfills the stipulations of ISO 3864-1 and DIN 4844-1, including the requirement for 500 cd/m² within the white surface.

The basis for these values is the highly developed Lightguide technology that transforms the high point-sourced luminance of an LED into an illuminated surface with absolutely homogeneous brightness. The LEDs used in this process ensure a high level of operational safety, and with a service life of 50,000 hours significantly reduce maintenance costs. And all of this with a power consumption that is up to 70 % below a comparable luminaire with fluorescent lamp.

The wide-ranging product portfolio makes GuideLed a real allrounder: escape sign luminaires with viewing distances of 20 m or 30 m, as single-sided or double-sided versions and with a total of six different mounting types make them the optimal solution for all room situations. All GuideLed escape sign luminaires impress with clear functionality, an especially flat construction design and without visible screw connections. Despite a compact construction and low connected loads, the new LED GuideLed safety luminaires definitely prove a match for the more watt-intensive fluorescent lamp luminaires when it comes to achievable spacing distances for standardised illumination in accordance with EN 1838. Optics especially developed for emergency lighting requirements guide the light either longitudinally along the escape route or else homogeneously over a very large area.

Features:

- Lightguide technology for perfect illumination in line with standards and for a special slender design
- High efficiency LEDs for a higher operational safety and especially low power consumption
- Up to 70% lower power costs compared to luminaires with fluorescent lamps
- Minimum service requirement due to high service life of the LEDs (50,000 h)
- Two viewing distances (20 m and 30 m) with versatile types of installation in a continuous design without visible screw fastenings
- The GuideLed safety luminaires guide the light of the LEDs with two special optics either longitudinally along the escape route or uniformly over a large area
- Available as recessed or surface mounting
- Safety luminaires with especially narrow beam optics and efficient highpower LEDs are suitable for mounting heights up to 30 m

LEDs for increased safety.

Longevity, immediate start, high efficiency and small shapes- due to of these properties LEDs are especially suited for use in emergency and safety lighting systems. However, it is only the precise harmonisation of low temperature and low operating current that guarantees a high light efficiency at maximum service life.

Lightguide technology for perfect illumination

The highly developed Lightguide technology converts the concentrated light density of the LED into an absolutely uniformly and bright surface with over 500 cd/m² luminance in the white area. In this way the exit sign always stays well visible even in case of bad visibility or light surroundings.

Despite the very good photometric values, the new Lightguide technology with its especially efficient LEDs uses up to 70 per cent



less energy compared to the previous escape sign luminaires using fluorescent lamps.

Photometric requirements on the exit signs

DIN 4844-1 (2005-05) und ISO 3864-1 (2002):

$L_m \geq 500 \text{ cd/m}^2$ (white surface)

for use in light surroundings.

ISO 30061 (2007):

$L_{min} = 10 \text{ cd/m}^2$ (green surface)

in case of smoke development. The luminaires should be suspended by at least 0.5 m.

EN 1838 (1999):

$L_{min} = 2 \text{ cd/m}^2$ (green surface)

Emergency operation





Design – GuideLed CG-S

Exit Sign Panel Luminaires

2

The versatile types of installation turn the GuideLed into an all-rounder.

With its extensive range of products and a large choice of pictograms, GuideLed offers the perfect solution for every room situation. GuideLed is supplied in an unobtrusive light-grey colour as a standard.

Upon request other colours as well as individual special pictograms can be supplied harmonised to the respective architecture.



All variants are available in two viewing distances



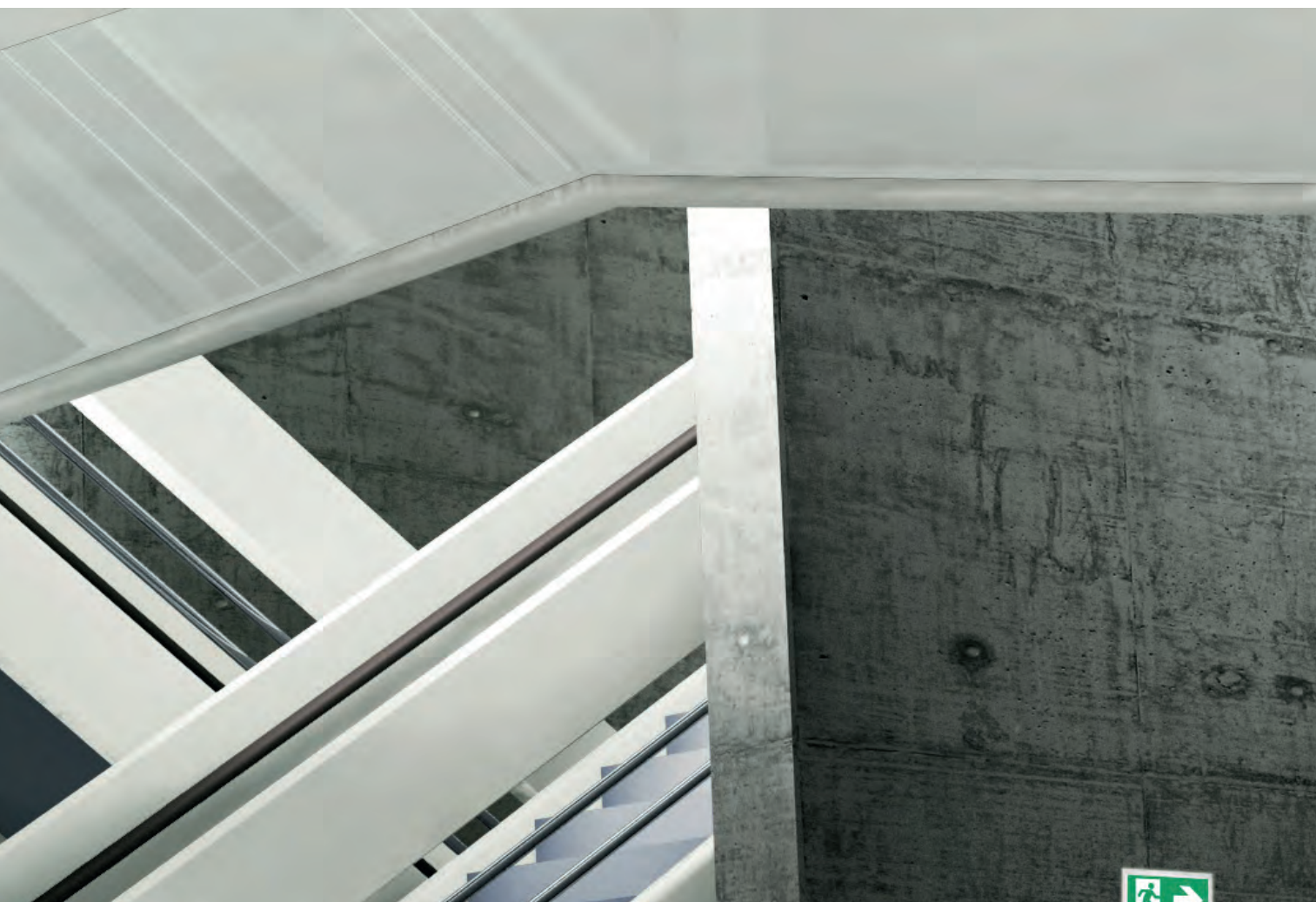
Wall mounting with recessed installation of the LED supply



Wall surface mounting



Ceiling mounting



Exemplary design based on revolutionary technology.

Exit signs have to be well visible in order to provide orientation in case of an emergency. And, they have to be unobtrusively enough to match the architecture.

Irrespective of whether the luminaire is installed to the wall or is suspended freely, both GuideLed variants stand out for their clear functionality without visible screw connections and their unsurpassed flat design.



The wall mounting appears especially unobtrusive with a mounting height of only 14 mm.



Cable suspension



Pendant mounting



Recessed mounting

Application – GuideLed CG-S

Exit Sign Panel Luminaires

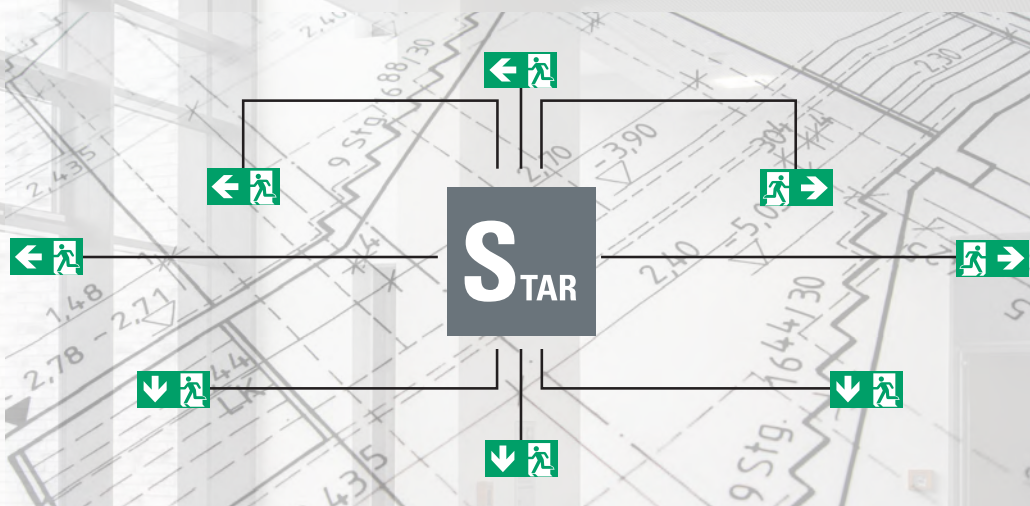
2



Standard STAR technology

CEAG STAR technology permits freely programmable mixed operation of the switching modes (maintained light, switched maintained light and non-maintained light) in one electricity circuit without additional data lines. This ensures shorter cable lengths, reduces the installation costs and decreases potential fire load.

Of course, allocation of all modes of operation is also possible subsequently- without intervention in the luminaire installation- which thus permits easy planning without having to define the modes of operation. The automatic CEWA GUARD function monitoring system for up to twenty luminaires for each electricity circuit reduces the inspection outlay.



Modular design and simple installation

The modular construction and snap-on connections reduce the installation work considerably. A work process in two steps has proved expedient :

First install the mounting set, connect the mains cable and set the address. When the building dust has settled down, connect the pictogram with the clamp terminals and simply snap on the mounting set- that's all.



Efficiency – GuideLed CG-S

Exit Sign Panel Luminaires

Not only our pictograms are green.

The power consumption for a GuideLed escape sign luminaire is about 70 per cent below the consumption of previous luminaires with fluorescent lamps. Thus the consumption of the exit signs in operation is only about as high as the consumption of many electronic devices in stand-by operation.

This is our contribution to environmental protection and economical use of valuable resources.



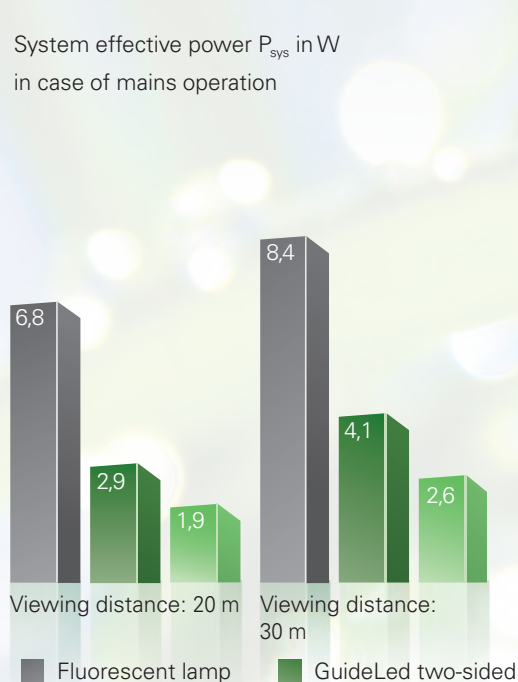
Servicing costs definitely saved

Fluorescent lamps used for safety lighting have typical service lives which results in the lamp having to be changed at least once a year depending on the operating times.

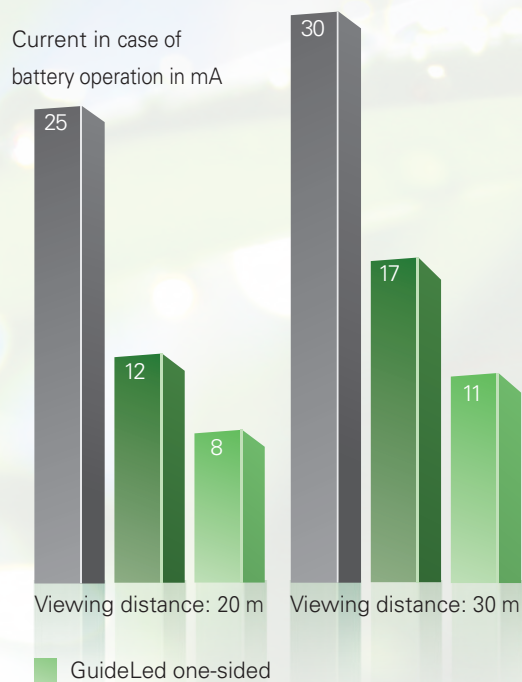
The service requirement is reduced considerably due to high service life of the LEDs (up to 50,000 hours).



System effective power P_{sys} in W
in case of mains operation



Current in case of
battery operation in mA



Exemplary calculation – power consumption cost savings

| Daily operating time | 8W lamp $P_{\text{sys}} = 8.4 \text{ W}$ | GuideLed 30m one-sided $P_{\text{sys}} = 2.6 \text{ W}$ | GuideLed 30m two-sided $P_{\text{sys}} = 4.1 \text{ W}$ |
|----------------------|---|--|--|
|----------------------|---|--|--|

Annual consumption and costs* per luminaire

| | 8W lamp | GuideLed 30m one-sided | GuideLed 30m two-sided |
|------|-------------------|------------------------|------------------------|
| 16 h | 49 kWh 7.36 € | 15 kWh 2.28 € | 24 kWh 3.59 € |
| 24 h | 74 kWh 11.04 € | 28 kWh 3.42 € | 36 kWh 5.39 € |

Annual costs* of an example project

| | 120 luminaires | 84 GuideLeds** | 36 GuideLeds** |
|------|----------------|----------------|----------------|
| 16 h | 883 € | 191 € | 129 € |
| 24 h | 1.325 € | 287 € | 194 € |

Annual Savings average saving per GuideLed

| | |
|-------|--------|
| 562 € | 4.69 € |
| 844 € | 7.03 € |

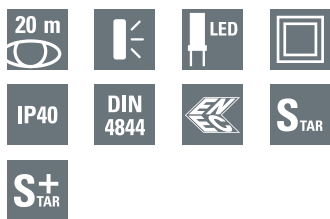
* in case of an electricity 0.15 €/kWh

** Assumption: Project with 120 escape sign luminaires, thereof 70 per cent one-sided and 30 per cent two-sided.

+ the lamp replacement costs (material, working hours, travelling time) saved

GuideLed 10011, 10012, 10013 CG-S

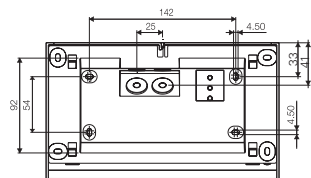
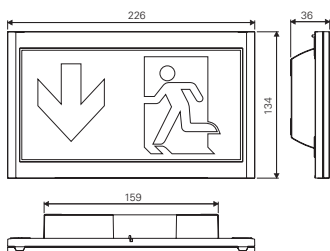
Exit Sign Panel Luminaires



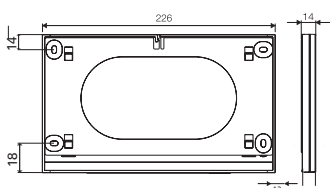
GuideLed 10011 CG-S



Dimensions in mm



10011 CG-S



10012/10013 CG-S

Please observe a distance of 10 mm above for mounting!

GuideLed 10011, 10012, 10013 CG-S

- Exit sign luminaire in LED technology for wall mounting
- Slender design with mounting heights of 14 mm or 36 mm only
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity $L_{min}/L_{max} > 0.8$
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 1.9W only
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Installation of the LED pictogram without tools on the mounting set

| | |
|--|---|
| Viewing distance | 20 m |
| Luminous Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | PC, PMMA |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.47 kg (10011 LED CG-S) 0.41 kg (10012, 10013 LED CG-S) |
| Type of mounting | Wall mounting |
| Connection terminal | Clamp terminal 2.5 mm ² reverse-polarity protected |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 V – 275 V DC |
| Current consumption - battery operation (220 V) | 8 mA |
| Power consumption mains operation (apparent power / effective power) | 4.0 VA / 1.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED batten |

Ordering details - fastening set

| LED pictograms must ordered separte | Order No. |
|--|-------------|
| Wall mounting set for GuideLed 10011 CG-S and 11011 CG-S, surface-mounted installation incl. LED supply and CG-S technology (20 addresses), without LED pictograms | 40071353641 |
| Wall mounting set for GuideLed 10012 CG-S and 11012 CG-S, flush-mounted installation of the V-CG-SLS28* (angular) and CG-S technology (20 addresses) | 40071353642 |
| Wall mounting set for GuideLed 10013 CG-S and 11013 CG-S, flush-mounted installation of the V-CG-SLR28* (round) and CG-S technology (20 addresses) | 40071353644 |

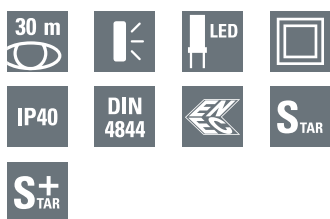
Ordering details - LED pictograms (fastening set required)

| Scope of supply | Order No. |
|--|-------------|
| LED pictogram PL for GuideLed 10011/10012/10013 CG-S, ISO 7010, 20 m | 40071354500 |
| LED pictogram PR for GuideLed 10011/10012/10013 CG-S, ISO 7010, 20 m | 40071354501 |
| LED pictogram PU for GuideLed 10011/10012/10013 CG-S, ISO 7010, 20 m | 40071354502 |

Ordering details - accessories

| Scope of supply | Order No. |
|---|-------------|
| Feed-through wiring set for GuideLed 10011/11011 CG-S | 40071353643 |

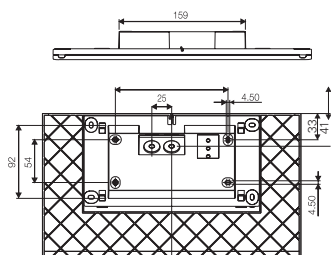
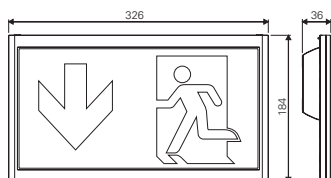
* Installation of the LED supply in a not included device, for further information about the LED supply see module SLS28 und SLR28.



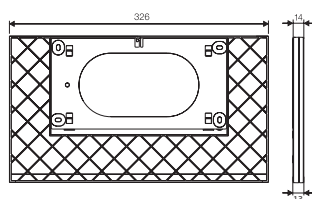
GuideLed 11011 CG-S



Dimensions in mm



11011 CG-S



11012/11013 CG-S

Please observe a distance of 10 mm above for mounting!

GuideLed 11011, 11012, 11013 CG-S

- Exit sign luminaire in LED technology for wall mounting
- Slender design with mounting heights of 14 mm or 36 mm only
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity $L_{min}/L_{max} > 0.8$
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 2.6W only
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Installation of the LED pictogram without tools on the mounting set

| | |
|--|---|
| Viewing distance | 30 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | PC, PMMA |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.60 kg (11011 LED CG-S) 0.56 kg (11012/11013 LED CG-S) |
| Type of mounting | Wall mounting |
| Connection terminal | Clamp terminal 2.5 mm ² reverse-polarity protected |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 V – 275 V DC |
| Current consumption - battery operation (220 V) | 11 mA |
| Power consumption mains operation (apparent power / effective power) | 5.0 VA / 2.6 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED batten |

Ordering details - fastening set

| LED pictograms must ordered seperate | Order No. |
|---|-------------|
| Wall mounting set for GuideLed 10011 CG-S and 11011 CG-S, surface-mounted installation incl. LED supply and CG-S technology (20 addresses) | 40071353641 |
| Wall mounting set for GuideLed 10012 CG-S and 11012 CG-S, flush-mounted installation of the included V-CG-SLS28* (angular) and CG-S technology (20 addresses) | 40071353642 |
| Wall mounting set for GuideLed 10013 CG-S and 11013 CG-S, flush-mounted installation of the included V-CG-SLR28* (round) and CG-S technology (20 addresses) | 40071353644 |

Ordering details - LED pictograms (fastening set required)

| Scope of supply | Order No. |
|--|-------------|
| LED pictogram PL for GuideLed 11011/11012/11013 CG-S, ISO 7010, 30 m | 40071354530 |
| LED pictogram PR for GuideLed 11011/11012/11013 CG-S, ISO 7010, 30 m | 40071354531 |
| LED pictogram PU for GuideLed 11011/11012/11013 CG-S, ISO 7010, 30 m | 40071354532 |

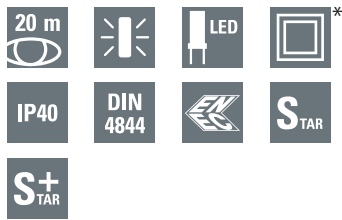
Ordering details - accessories

| Scope of supply | Order No. |
|---|-------------|
| Feed-through wiring set for GuideLed 10011/11011 CG-S | 40071353643 |

* Installation of the LED supply in a not included device, for further information about the LED supply see module SLS28 and SLR28.

GuideLed 10021, 10022, 10023, 10024 CG-S

Exit Sign Panel Luminaires



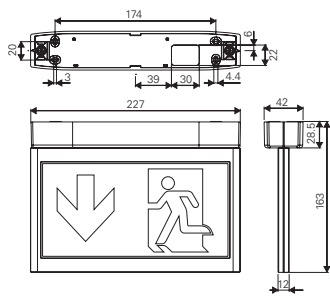
GuideLed 10021, 10022, 10023, 10024 CG-S

- Exit sign panel luminaire in LED technology for ceiling installation
- Slender design with pictogram width of only 12 mm
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity $L_{min}/L_{max} > 0.8$
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 2.9 W only (1.9 W one-sided)
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

GuideLed 10021 CG-S



Dimensions in mm

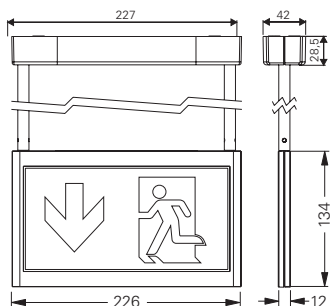


| | |
|--|--|
| Viewing distance | 20 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | PC, PMMA |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.39 kg (10021 LED CG-S) 0.49 kg (10022 LED CG-S) 0.54 kg (10023 LED CG-S) 0.70 kg (10024 LED CG-S) |
| Type of mounting | Ceiling, suspended, recessed installation |
| Connection terminal | Clamp terminal 2.5 mm ² reverse-polarity protected |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 V – 275 V DC |
| Current consumption - battery operation (220 V) | one-sided 8 mA – two-sided 12 mA |
| Power consumption mains operation (apparent power / effective power) | one-sided 4.0 VA / 1.9 W two-sided 5.5 VA / 2.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED batten |

GuideLed 10022 CG-S



Dimensions in mm



Ordering details - fastening set

LED pictograms must ordered separate

| | Order No. |
|--|-------------|
| Ceiling installation set for GuideLed 10021 CG-S with canopy incl. LED supply and CG-S technology (20 addresses) | 40071353610 |
| Ceiling installation set for GuideLed 10022 CG-S with canopy and tube suspension 0.5 m incl. LED supply and CG-S technology (20 addresses) | 40071353611 |
| Ceiling installation set for GuideLed 10023 CG-S with canopy and tube suspension 1.5 m incl. LED supply and CG-S technology (20 addresses) | 40071353612 |
| Ceiling installation set for GuideLed 10024 CG-S incl. recessed installation housing incl. LED supply and CG-S technology (20 addresses)* | 40071353613 |

Ordering details - accessories

Scope of supply

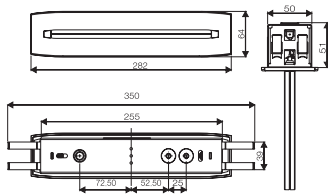
| | Order No. |
|--|-------------|
| Chain fastening for 10021 CG-S | 40071353645 |
| Concrete installation GuideLed 10024 CG-S, 20 m* | 40071352892 |

* Ceiling mounting set for GuideLed 10024 and concrete installation box corresponding to protection class I

GuideLed 10024 CG-S



Dimensions in mm



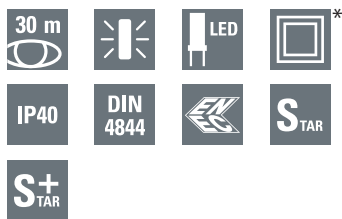
Ordering details - LED pictograms*

| Scope of supply | | Order No. |
|--|--|-------------|
| LED pictogram PL/PR, for GuideLed 10021/10022/10023/10024 CG-S, ISO 7010, 20 m | | 40071354503 |
| LED pictogram PU/PU, for GuideLed 10021/10022/10023/10024 CG-S, ISO 7010, 20 m | | 40071354504 |
| LED pictogram PL/BL, for GuideLed 10021/10022/10023/10024 CG-S, ISO 7010, 20 m | | 40071354505 |
| LED pictogram PR/BL, for GuideLed 10021/10022/10023/10024 CG-S, ISO 7010, 20 m | | 40071354506 |
| LED pictogram PU/BL, for GuideLed 10021/10022/10023/10024 CG-S, ISO 7010, 20 m | | 40071354507 |
| LED pictogram PL/PR-R**, for GuideLed 10021/10022/10023/10024 CG-S, ISO 7010, 20 m | | 40071354508 |
| LED pictogram PL/PR-W**, for GuideLed 10021/10022/10023/10024 CG-S, ISO 7010, 20 m | | 40071354509 |

** R = Arrow from mounting wall
W = Arrow to mounting wall

GuideLed 11021, 11022, 11023, 11024 CG-S

Exit Sign Panel Luminaires



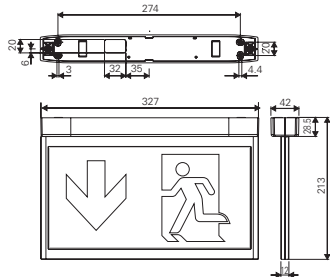
GuideLed 11021, 11022, 11023, 11024 CG-S

- Exit sign panel luminaire in LED technology for ceiling installation
- Slender design with pictogram width of only 12 mm
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity $L_{\min}/L_{\max} > 0.8$
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 4.1 W only (2.6 W one-sided, radiating)
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

GuideLed 11021 CG-S



Dimensions in mm

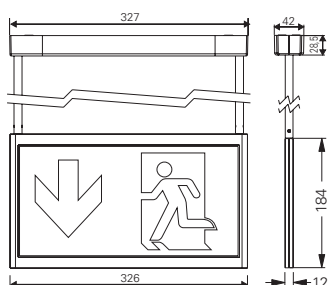


| | |
|--|--|
| Viewing distance | 30 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | PC, PMMA |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.79 kg (11021 LED CG-S) 0.94 kg (11022 LED CG-S) 0.99 kg (11023 LED CG-S) 1.22 kg (11024 LED CG-S) |
| Type of mounting | Ceiling, suspended, recessed installation |
| Connection terminal | Clamp terminal 2.5 mm ² reverse-polarity protected |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | one-sided 11 mA – two-sided 17 mA |
| Power consumption mains operation (apparent power / effective power) | one-sided 5.0 VA / 2.6 W two-sided 7.1 VA / 4.1 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED batten |

GuideLed 11022 / 11023 CG-S



Dimensions in mm



Ordering details - fastening set

LED pictograms must ordered separate

| | Order No. |
|---|-------------|
| Ceiling installation set for GuideLed 11021 CG-S with canopy incl. LED supply and CG-S technology (20 addresses) | 40071353620 |
| Ceiling installation set for GuideLed 11022 CG-S with canopy and tube suspension 0.5 m, incl. LED supply and CG-S technology (20 addresses) | 40071353621 |
| Ceiling installation set for GuideLed 11023 CG-S with canopy and tube suspension 1.5 m, incl. LED supply and CG-S technology (20 addresses) | 40071353622 |
| Ceiling installation set for GuideLed 11024 CG-S incl. recessed installation housing incl. LED supply and CG-S technology (20 addresses)* | 40071353623 |

Ordering details - accessories

Scope of supply

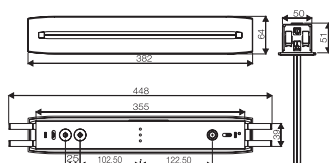
| | Order No. |
|--|-------------|
| Chain fastening for 11021 CG-S | 40071353646 |
| Concrete installation box for GuideLed 11024 CG-S, 30 m* | 40071352893 |

* Ceiling mounting set for GuideLed 11024 and concrete installation box corresponding to class of protection I

GuideLed 11024 CG-S



Dimensions in mm



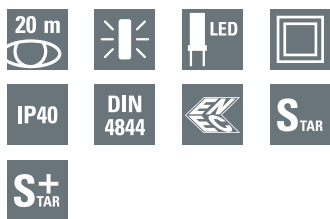
Ordering details - LED pictograms*

| Scope of supply | | Order No. |
|--|--|-------------|
| LED pictogram PL/PR, for GuideLed 11021/11022/11023/11024 CG-S, ISO 7010, 30 m | | 40071354533 |
| LED pictogram PU/PU, for GuideLed 11021/11022/11023/11024 CG-S, ISO 7010, 30 m | | 40071354534 |
| LED pictogram PL/BL, for GuideLed 11021/11022/11023/11024 CG-S, ISO 7010, 30 m | | 40071354535 |
| LED pictogram PR/BL, for GuideLed 11021/11022/11023/11024 CG-S, ISO 7010, 30 m | | 40071354536 |
| LED pictogram PU/BL, for GuideLed 11021/11022/11023/11024 CG-S, ISO 7010, 30 m | | 40071354537 |
| LED pictogram PL/PR-R**, for GuideLed 11021/11022/11023/11024 CG-S, ISO 7010, 30 m | | 40071354538 |
| LED pictogram PL/PR-W**, for GuideLed 11021/11022/11023/11024 CG-S, ISO 7010, 30 m | | 40071354539 |

** R = Arrow from mounting wall
W = Arrow to mounting wall

GuideLed 10025, 10026 CG-S

Exit Sign Panel Luminaires



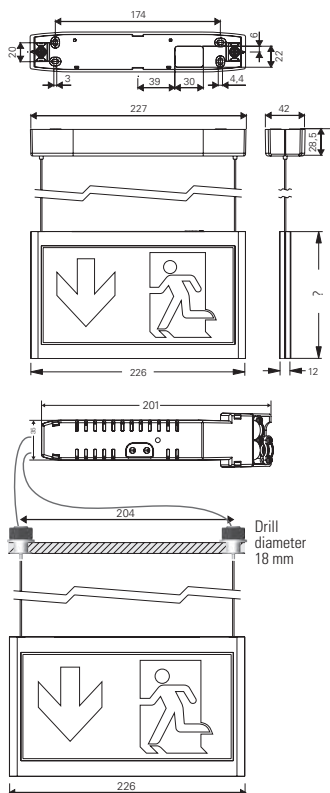
GuideLed 10025, 10026 CG-S

- Exit sign panel luminaire in LED technology for ceiling installation
- Slender design with pictogram width of only 12 mm
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity $L_{\min}/L_{\max} > 0.8$
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 2.9 W only (1.9 W one-sided)
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

GuideLed 10025 CG-S



Dimensions in mm



GuideLed 10026 CG-S

| | |
|--|--|
| Viewing distance | 20 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | PC, PMMA |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.40 kg (10025 LED CG-S) 0.52 kg (10026 LED CG-S) |
| Type of mounting | Suspended installation (max. 1.5 m) |
| Connection terminal | Clamp terminal 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | one-sided 8 mA – two-sided 12 mA |
| Power consumption mains operation (apparent power / effective power) | one-sided 4.0 VA / 1.9 W two-sided 5.5 VA / 2.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED batten |

Ordering details - fastening set

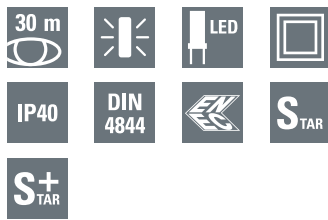
LED pictograms must ordered separate

| | Order No. |
|---|-------------|
| Cable installation set for GuideLed 10025 CG-S with LED supply and CG-S technology (20 addresses) integrated in the canopy | 40071353609 |
| Cable installation set for GuideLed 10026/11026 CG-S with ceiling cable holder LED supply and CG-S technology (20 addresses) integrated in a housing with strain relief | 40071353640 |

Ordering details - LED pictograms (fastening set required)

Scope of supply

| | Order No. |
|--|-------------|
| LED pictogram PL/PR for GuideLed 10025/10026 CG-S (cable installation), ISO 7010, 20 m | 40071354510 |
| LED pictogram PU/PU for GuideLed 10025/10026 CG-S (cable installation), ISO 7010, 20 m | 40071354511 |
| LED pictogram PL/BL for GuideLed 10025/10026 CG-S (cable installation), ISO 7010, 20 m | 40071354512 |
| LED pictogram PR/BL for GuideLed 10025/10026 CG-S (cable installation), ISO 7010, 20 m | 40071354513 |
| LED pictogram PU/BL for GuideLed 10025/10026 CG-S (cable installation), ISO 7010, 20 m | 40071354514 |



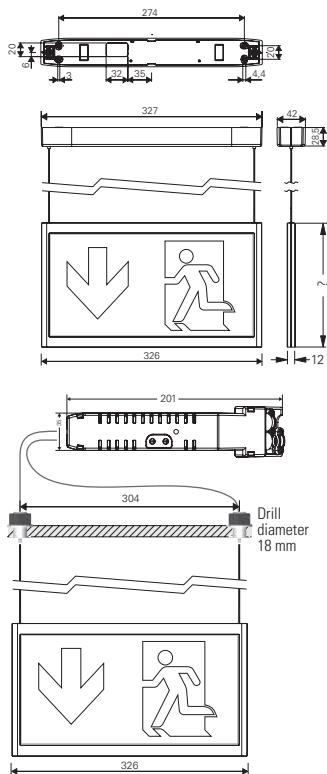
GuideLed 11025, 11026 CG-S

- Exit sign panel luminaire in LED technology for ceiling installation
- Slender design with pictogram width of only 12 mm
- Very good perceptibility due to of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity $L_{min}/L_{max} > 0.8$
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 2.9W only (1.9W one-sided, radiating)
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

GuideLed 11025 CG-S



Dimensions in mm



GuideLed 11026 CG-S

| | |
|--|--|
| Viewing distance | 30 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | PC, PMMA |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.81 kg (11025 LED CG-S) 0.93 kg (11026 LED CG-S) |
| Type of mounting | Suspended installation (max. 1.5 m) |
| Connection terminal | Clamp terminal 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | one-sided 11 mA – two-sided 17 mA |
| Power consumption mains operation (apparent power / effective power) | one-sided 5.0 VA / 2.6 W two-sided 7.1 VA / 4.1 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED batten |

Ordering details - fastening set

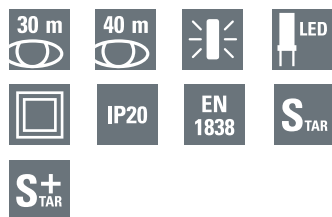
| LED pictograms must ordered separete | Order No. |
|--|-------------|
| Cable installation set for 11025 CG-S with LED supply and CG-S technology (20 addresses) integrated in the canopy | 40071353619 |
| Cable installation set for GuideLed 10026/11026 CG-S with ceiling cable holder, LED supply and CG-S technology (20 addresses) integrated in a housing with strain relief | 40071353640 |

Ordering details - LED pictograms

| Scope of supply | Order No. |
|--|-------------|
| LED pictogram PL/PR for GuideLed 11025/11026 CG-S (cable installation), ISO 7010, 30 m | 40071354540 |
| LED pictogram PU/PU for GuideLed 11025/11026 CG-S (cable installation), ISO 7010, 30 m | 40071354541 |
| LED pictogram PL/BL for GuideLed 11025/11026 CG-S (cable installation), ISO 7010, 30 m | 40071354542 |
| LED pictogram PR/BL for GuideLed 11025/11026 CG-S (cable installation), ISO 7010, 30 m | 40071354543 |
| LED pictogram PU/BL for GuideLed 11025/11026 CG-S (cable installation), ISO 7010, 30 m | 40071354544 |

Velos LED CG-S

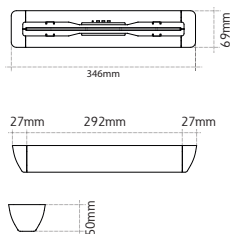
Exit Sign Panel Luminaires



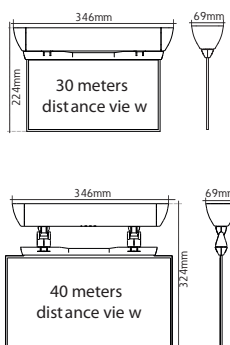
Velos LED CG-S



Dimensions in mm
dimensions - PSUs



dimensions - Emergency sign



Velos LED CG-S

- Velos range of Exit sign panel luminaires are low profile with LED technology, designed and equipped with technical solutions and accessories for both ceiling and wall applications
- Slender design with pictogram width of only 6 mm
- simple mounting of screenprinted pictogram panel via snap-fitting
- 90° wall mounting achieved via special pictogram panel roated at 90°
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|---|---|
| Viewing distance | 30 m and 40 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | White RAL 9016 |
| Weight | PSU O-ES-CG-S 0.35 kg Exit sign O-ESP-xxx (30 m) 0.55 kg Exit sign O-ESP40-xxx (40 m) 0.87 kg |
| Type of mounting | Wall and Ceiling mounting |
| Connection terminals | 2 x 2 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 20 mA |
| Power consumption mains operation (apparent power / effective power) | 7.5 VA / 4.5 W |
| Permissible temperature range | 0 °C bis +40 °C |
| Light source | 24 LED strip |

Ordering details

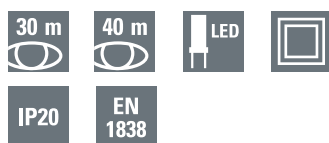
| Type | Scope of supply | Order No |
|----------------|---|-----------|
| Velos LED CG-S | Power Supply Unit, mounting set for Velos incl. LED supply and CG-S technology (20 adresses), without panel | O-ES-CG-S |

Ordering details - Panel

| Type | | Order No |
|-------------------------|--|-------------|
| ISO7010 Left/Right 30m | | O-ESP-ILR |
| ISO7010 Down/Blank 30m | | O-ESP-ID |
| ISO7010 Down/Down 30m | | O-ESP-IDD |
| ISO7010 Up/Blank 30m | | O-ESP-IU |
| ISO7010 Up/Up 30m | | O-ESP-IUU |
| ISO7010 Lateral to Room | | O-ESP-I2R |
| ISO7010 Lateral to Wall | | O-ESP-I2W |
| ISO7010 Left/Right 40m | | O-ESP40-ILR |
| ISO7010 Down/Down 40m | | O-ESP40-IDD |
| ISO7010 Up/Blank 40m | | O-ESP40-IU |
| ISO7010 Up/Up 40m | | O-ESP40-IUU |
| ISO7010 Down/Blank 40m | | O-ESP40-ID |

Accessories

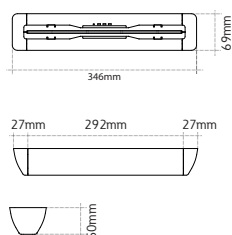
| Type | Order No |
|-----------------------------------|------------|
| Recessed Base | O-ESA-RB |
| Wall FLEXI Joint | O-ESA-FLEX |
| Rope Suspension Adjustable 150 cm | O-ESA-RSA |
| Pipe Suspension 48 cm | O-ESA-PS30 |
| Lateral Mounting Base | O-ESA-LMB |
| Back Mounting Base | O-ESA-BMB |



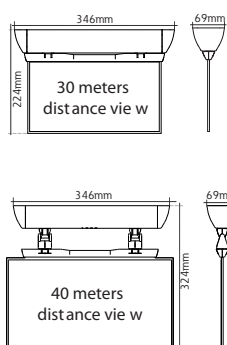
Velos LED



Dimensions in mm
dimensions - PSUs



dimensions - Emergency sign



Velos LED

- Velos range of Exit sign panel luminaires are low profile with LED technology, designed and equipped with technical solutions and accessories for both ceiling and wall applications
- Slender design with pictogram width of only 6 mm
- simple mounting of screenprinted pictogram panel via snap-fitting
- 90° wall mounting achieved via special pictogram panel roated at 90°
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)

| | |
|---|--|
| Viewing distance | 30 m and 40 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | White RAL 9016 |
| Weight | PSU O-ES-MAINS 0.37 kg Exit sign O-ESP-xxx (30 m) 0.55 kg Exit sign O-ESP40-xxx (40 m) 0.87 kg |
| Type of mounting | Wall and Ceiling mounting |
| Connection terminals | 2 x 2 x 2,5 mm ² |
| Connection voltage | 230 V AC, 50/60 Hz |
| Power consumption mains operation (apparent power / effective power) | 6.5 VA / 3.6 W |
| Permissible temperature range | 0 °C bis + 40 °C |
| Light source | 24 LED strip |

Ordering details

| Type | Scope of supply | Order No |
|--------------------|--|------------|
| Velos LED 230 V AC | Power supply unit, mounting set for Velos incl. LED supply, without panel | O-ES-MAINS |

Ordering details - Panel

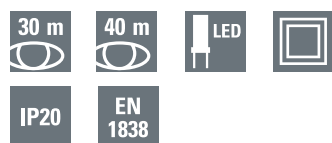
| Type | | Order No |
|-------------------------|--|-------------|
| ISO7010 Left/Right 30m | | O-ESP-ILR |
| ISO7010 Down/Blank 30m | | O-ESP-ID |
| ISO7010 Down/Down 30m | | O-ESP-IDD |
| ISO7010 Up/Blank 30m | | O-ESP-IU |
| ISO7010 Up/Up 30m | | O-ESP-IUU |
| ISO7010 Lateral to Room | | O-ESP-I2R |
| ISO7010 Lateral to Wall | | O-ESP-I2W |
| ISO7010 Left/Right 40m | | O-ESP40-ILR |
| ISO7010 Down/Down 40m | | O-ESP40-IDD |
| ISO7010 Up/Blank 40m | | O-ESP40-IU |
| ISO7010 Up/Up 40m | | O-ESP40-IUU |
| ISO7010 Down/Blank 40m | | O-ESP40-ID |

Accessories

| Type | Order No |
|-----------------------------------|------------|
| Recessed Base | O-ESA-RB |
| Wall FLEXI Joint | O-ESA-FLEX |
| Rope Suspension Adjustable 150 cm | O-ESA-RSA |
| Pipe Suspension 48 cm | O-ESA-PS30 |
| Lateral Mounting Base | O-ESA-LMB |
| Back Mounting Base | O-ESA-BMB |

Velos LED EC 1.5

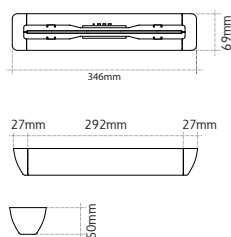
Exit Sign Panel Luminaires



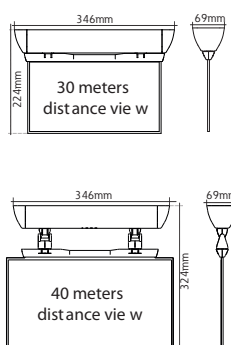
Velos LED EC 1.5



Dimensions in mm
dimensions - PSUs



dimensions - Emergency sign



Velos LED EC 1.5

- Velos range of Exit sign panel luminaires are low profile with LED technology, designed and equipped with technical solutions and accessories for both ceiling and wall applications
- Slender design with pictogram width of only 6 mm
- simple mounting of screenprinted pictogram panel via snap-fitting
- 90° wall mounting achieved via special pictogram panel roated at 90°
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50,000 hours)

| | |
|---|-----------------------------|
| Viewing distance | 30 m and 40 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | White RAL 9016 |
| Weight | 0.45 kg |
| Type of mounting | Wall and Ceiling mounting |
| Connection terminals | 2 x 2 x 2,5 mm ² |
| Connection voltage | 230 V AC, 50/60 Hz |
| Power consumption mains operation (apparent power / effective power) | 6.5 VA / 3.6 W |
| Permissible temperature range | 0 °C bis + 40 °C |
| Light source | 24 LED strip |

Ordering details

| Type | Scope of supply | Order No |
|------------------|--|------------|
| Velos LED EC 1.5 | Power supply unit, mounting set for Velos incl. LED supply, without panel | OES-EX0363 |

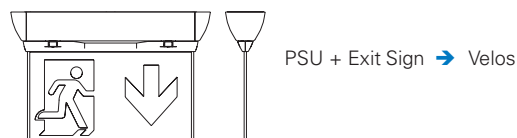
Ordering details - Panel

| Type | | Order No |
|-------------------------|--|-------------|
| ISO7010 Left/Right 30m | | O-ESP-ILR |
| ISO7010 Down/Blank 30m | | O-ESP-ID |
| ISO7010 Down/Down 30m | | O-ESP-IDD |
| ISO7010 Up/Blank 30m | | O-ESP-IU |
| ISO7010 Up/Up 30m | | O-ESP-IUU |
| ISO7010 Lateral to Room | | O-ESP-I2R |
| ISO7010 Lateral to Wall | | O-ESP-I2W |
| ISO7010 Left/Right 40m | | O-ESP40-ILR |
| ISO7010 Down/Down 40m | | O-ESP40-IDD |
| ISO7010 Up/Blank 40m | | O-ESP40-IU |
| ISO7010 Up/Up 40m | | O-ESP40-IUU |
| ISO7010 Down/Blank 40m | | O-ESP40-ID |

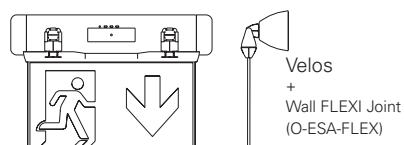
Accessories

| Type | Order No |
|-----------------------------------|------------|
| Recessed Base | O-ESA-RB |
| Wall FLEXI Joint | O-ESA-FLEX |
| Rope Suspension Adjustable 150 cm | O-ESA-RSA |
| Pipe Suspension 48 cm | O-ESA-PS30 |
| Lateral Mounting Base | O-ESA-LMB |
| Back Mounting Base | O-ESA-BMB |

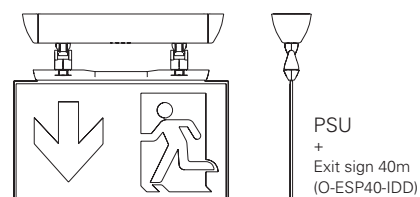
Ceiling mount



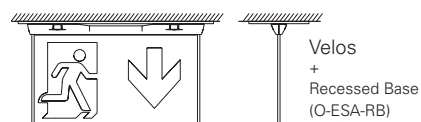
Wall mount



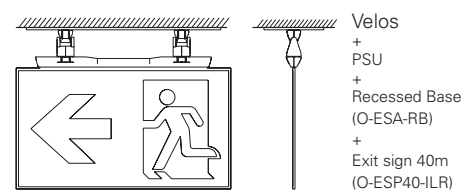
Ceiling mount (40m)



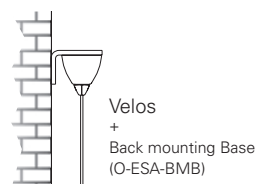
Recessed (30m)



Recessed (40m)



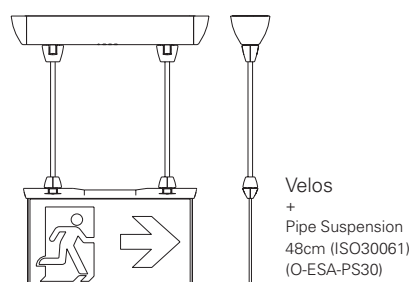
Back wall mount



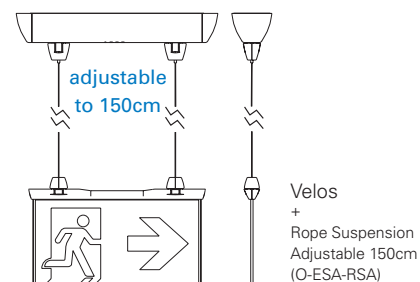
Lateral mount



Suspended with metal pipes

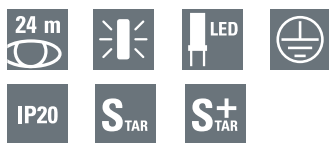


Suspended with adjustable rope



Briteblade LED CG-S

Exit Sign Panel Luminaires



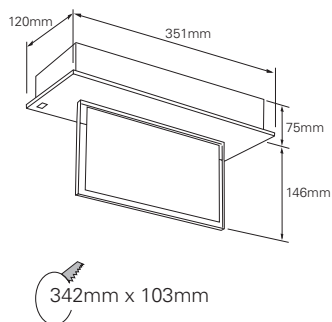
Briteblade LED CG-S

- Fully meets EN 1838 for uniformity of legend appearance
- Metal body construction
- Long life 50,000 hour LED version
- Suitable for single or doubled-sided use
- Suitable for solid or suspended ceilings

Briteblade



Drawings

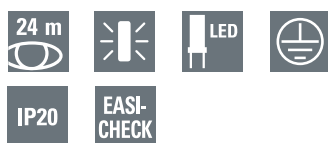


| | |
|--|---|
| Viewing distance | 24 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Body- Steel powder coated Trim- Steel powder coated Legend- Acrylic |
| Weight incl. panel | 1.7 kg |
| Housing colour | Trim: white or silver |
| Type of mounting | Recessed mounting |
| Connection terminals | Clamp terminal 1.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 20 mA |
| Power consumption mains operation (apparent power / effective power) | 8.1 VA / 4.6 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 3 W LED strip |

Ordering details

| Type | Scope of supply | Order No. |
|---------------------|-------------------|-----------|
| Briteblade LED CG-S | White Trim Plate | BBL230CG |
| Briteblade LED CG-S | Silver Trim Plate | BBL230CGS |

| Legend Panel | ISO Pictogram | Cat No |
|--|---------------|------------|
| Single sided panel. Up arrow | | LUCAS-ISO |
| Single sided panel. Down arrow | | LUCADS-ISO |
| Double sided panel. Left and right arrow | | LUCALR-ISO |
| Double sided panel. Up arrow | | LUCAU-ISO |
| Double sided panel. Down arrow | | LUCAD-ISO |



Briteblade LED EC 1.5

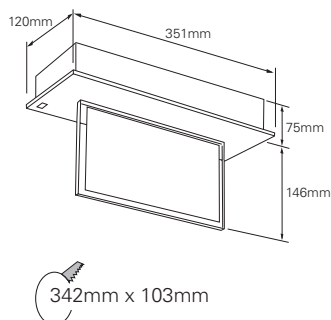
- Fully meets EN 1838 for uniformity of legend appearance
- Metal body construction
- Long life 50,000 hour LED version
- Suitable for single or doubled-sided use
- Suitable for solid or suspended ceilings

2

Briteblade



Drawings



| | |
|--|---|
| Viewing distance | 24 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Body- Steel powder coated Trim- Steel powder coated Legend- Acrylic |
| Weight incl. panel | 1.7 kg |
| Housing colour | Trim: white or silver |
| Type of mounting | Recessed mounting |
| Connection terminals | Clamp terminal 1.5 mm ² |
| Connection voltage | 230 V AC, 50/60 Hz |
| Power consumption mains operation (apparent power / effective power) | 4.5 VA / 3.2W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 3W LED strip |

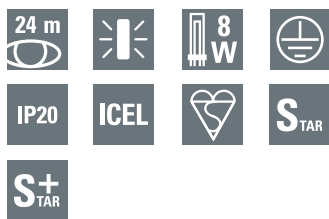
Ordering details

| Type | Scope of supply | Order No. |
|-----------------------|-------------------|-----------|
| Briteblade LED EC 1.5 | White Trim Plate | BBL230EC |
| Briteblade LED EC 1.5 | Silver Trim Plate | BBL230ECS |
| Briteblade LED 230 V | White Trim Plate | BBL230 |
| Briteblade LED 230 V | Silver Trim Plate | BBL230S |
| Briteblade LED 230 V | Gold Trim Plate | BBL230G |

| Legend Panel | ISO Pictogram | Cat No |
|--|---------------|------------|
| Single sided panel. Up arrow | | LUCAUS-ISO |
| Single sided panel. Down arrow | | LUCADS-ISO |
| Double sided panel. Left and right arrow | | LUCALR-ISO |
| Double sided panel. Up arrow | | LUCAU-ISO |
| Double sided panel. Down arrow | | LUCAD-ISO |

Briteblade CG-S

Exit Sign Panel Luminaires



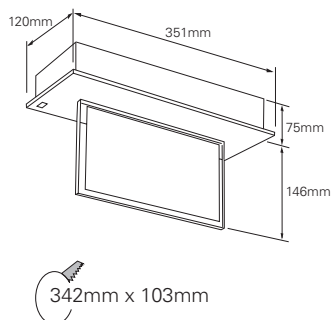
Briteblade CG-S

- BSI kitemarked for peace of mind
- ICEL registered with verified luminaire performance
- Fully meets EN 1838 for uniformity of legend appearance
- Metal body construction
- Suitable for single or doubled-sided use
- Suitable for solid or suspended ceilings

Briteblade



Drawings



| | |
|--|---|
| Viewing distance | 24 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 75 % |
| Housing material | Body- Steel powder coated Trim- Steel powder coated Legend- Acrylic |
| Weight incl. panel | 1.6 kg |
| Housing colour | Trim: white or silver |
| Type of mounting | Recessed mounting |
| Connection terminals | Clamp terminal 1.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 30 mA (CG-S version) |
| Power consumption mains operation (apparent power / effective power) | 16 VA / 9.6 W |
| Inrush current | 3 A |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 8W T5 fluorescent, G5 cap |

Ordering details

| Type | White Trim Plate | Silver Trim Plate |
|-----------------|------------------|-------------------|
| Briteblade CG-S | BB230CG | BB230CGS |

| Legend Panel | ISO Pictogram | Cat No |
|--|---------------|------------|
| Single sided panel. Up arrow | | LUCAS-ISO |
| Single sided panel. Down arrow | | LUCADS-ISO |
| Double sided panel. Left and right arrow | | LUCALR-ISO |
| Double sided panel. Up arrow | | LUCAU-ISO |
| Double sided panel. Down arrow | | LUCAD-ISO |



Briteblade / Briteblade EC 1.5

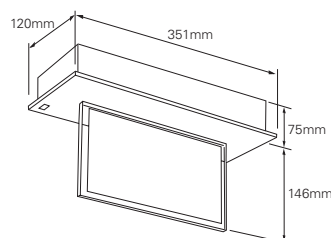
- BSI kitemarked for peace of mind
- ICEL registered with verified luminaire performance
- Fully meets EN 1838 for uniformity of legend appearance
- Metal body construction
- Suitable for single or doubled-sided use
- Suitable for solid or suspended ceilings

2

Briteblade



Drawings



| | |
|--|---|
| Viewing distance | 24 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 75 % |
| Housing material | Body- Steel powder coated Trim- Steel powder coated Legend- Acrylic |
| Weight incl. panel | 1.6 kg |
| Housing colour | Trim: white or silver |
| Type of mounting | Recessed mounting |
| Connection terminals | Clamp terminal 1.5 mm ² |
| Connection voltage | 230 V AC, 50/60 Hz |
| Power consumption mains operation (apparent power / effective power) | 9.2 VA / 8.8 W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 8W T5 fluorescent, G5 cap |

Ordering details

| Type | White Trim Plate | Silver Trim Plate |
|---------------------|------------------|-------------------|
| Briteblade EC 1.5 | BB230EC | BB230ECS |
| Briteblade 230 V AC | BB230 | BB230S |

| Legend Panel | ISO Pictogram | Cat No |
|--|---------------|------------|
| Single sided panel. Up arrow | | LUCAUS-ISO |
| Single sided panel. Down arrow | | LUCADS-ISO |
| Double sided panel. Left and right arrow | | LUCALR-ISO |
| Double sided panel. Up arrow | | LUCAU-ISO |
| Double sided panel. Down arrow | | LUCAD-ISO |









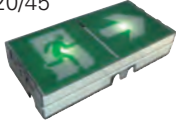
Exit Sign Luminaires

| | |
|---|----|
| Exit Cube 33022 LED CG-S | 76 |
| Exit Cube 33042 LED CG-S | 77 |
| Britesign 2 CG-S / Britesign 2 EC 1.5 / Britesign 2 | 78 |
| 70011 ... 70021 LED CG-S | 80 |
| 71011 ... 71021 LED CG-S | 82 |
| Exit SE CG-S | 84 |
| Exit SE / EXIT SE EC 1.5 | 85 |
| Exit SE 50 V / 110 V | 86 |
| Planète 220/45 CG-S | 87 |

Exit Sign Luminaires

Overview

3

| | | Aesthetic | One box solution * | Low consumption / Eco-friendly | Protection Degree | Viewing distance | 24 V | 48 V | 110 V | 220 V DC | 230 V AC | Monitored CG-S | Monitored EC 1.5 |
|--------------------|---|-----------------|--------------------|--------------------------------|-------------------|------------------|---------|------|-------|----------|----------|----------------|------------------|
| | Performance | Global Features | | | | | Voltage | | | | | Technology | |
| 3.1 Exit cube |  ★ ★ ★ | | ● | ● | 40 | 20 40 | | | | ● | ● | ● | |
| 3.2 Britesign 2 |  ★ ★ | ● | | ● | 33 | 20 | | | | ● | ● | ● | ● |
| 3.3 Alu LED |  ★ ★ | | | ● | 40 | 20 32 | | | | ● | ● | ● | |
| 3.4 EXIT SE |  ★ | | | | 20 | 41 | | ● | ● | ● | ● | ● | ● |
| 3.5 Planete 220/45 |  ★ | | ● | ● | 43 | 45 lm | | | | ● | ● | ● | |

| | Wall | Ceiling | Recessed | Suspended | Healthcare | Hotels | Cinemas / Theaters | Commercial centers | Stadia / Arenas | Offices | Industrial | Warehouse |
|--|--------------|---------|----------|-----------|--------------|--------|--------------------|--------------------|-----------------|---------|------------|-----------|
| | Installation | | | | Applications | | | | | | | |
| | | ● | | ● | | | | ● | ● | | ● | ● |
| | ● | | | | ● | ● | | ● | ● | ● | | ● |
| | ● | ● | | ● | ● | | | ● | ● | | ● | ● |
| | ● | | | | | | | | ● | | ● | ● |
| | ● | ● | | | | | | ● | | ● | ● | ● |

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

Exit Cube 33022 LED CG-S

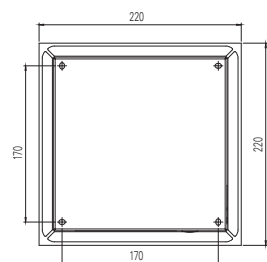
Exit Sign Luminaires



Exit Cube 33022 LED CG-S



Dimensions in mm



Wall bracket



Chain mounting kit



Cable mounting kit



Replacement Exit sign cube



Exit Cube 33022 LED CG-S

- Exit sign cube with LED Technology for large, wide areas, e.g. warehouses or retail areas
- Robust design with impact-resistance of IK07
- Low operating costs via low connected load
- Minimum maintenance effort via use of LEDs with high service life (up to 50,000 hours)
- Modular design of the polycarbonate cube enables simple and safe mounting by just sliding cube onto installed luminaire
- Easy and flexible mounting options with space to land cables- Ceiling, wall, cable and chain.
- Optimal perceptibility due to high luminance of the white contrasting colour ($> 500 \text{ cd/m}^2$) acc. DIN 4844-1 / ISO 3864-1 (for bright environments) and high uniformity $L_{\min}/L_{\max} > 0,4$ (in mains operation)
- Reduced operating costs due to of especially low power consumption
- Shorten inspection effort due to CEWA GUARD technology
- Automatic function monitoring for up to 20 luminaires per circuit
- Reduced installation cost with STAR Technology
- Freely programmable mixed operation, allowing the switching of luminaire modes within one circuit

| | |
|--|--|
| Viewing Distance | 20 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Cube: polycarbonate; enclosure: coated steel sheet |
| Housing colour | White RAL 9010 |
| Weight | Luminaire 1.1 kg Cube: 0.6 kg |
| Type of mounting | Ceiling or wall mounting (bracket required) |
| Connection terminals | Loop terminals 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption with battery operating | 25 mA |
| Power consumption mains operation (apparent power / effective power) | 9.5 VA / 5.9 W |
| Inrush current | 1.5 A |
| Permissible temperature range | -20 °C to +40 °C |
| Light source | HighPower LEDs 4 x 1 W |

Ordering details

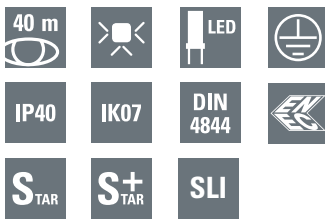
| Type | Scope of supply | Order No. |
|--------------------------|--|-------------|
| Exit Cube 33022 LED CG-S | Enclosure and exit sign cube, for 20 m viewing distance with LED Supply and CG-S Technology (20 addresses), silkscreened pictograms (arrow left, right, down) acc. to ISO 7010 | 40071353421 |



Ordering details accessories

| Type | Scope of supply | Order No. |
|--|--|-------------|
| Wall bracket | incl. attachments | 40071353444 |
| Chain mounting kit | with 4 eyelets (chain not included) | 40071353457 |
| Cable mounting kit | with 4 fasteners and cables, adjustable hanging height (max 1.5 m) | 40071353443 |
| Replacement Exit sign cube (20 m viewing distance) | silkscreened pictograms (arrow left, right, down) acc. to ISO 7010 | 40071354450 |

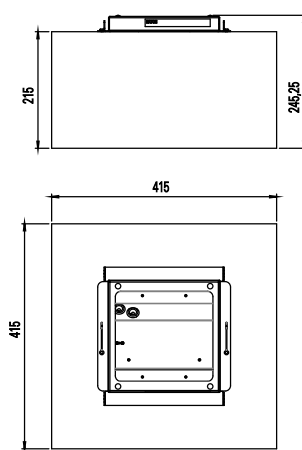




Exit Cube 33042 LED CG-S



Dimensions in mm



Replacement Exit sign cube



Exit Cube 33042 LED CG-S

- Exit sign cube with LED Technology for large, wide areas, e.g. warehouses or retail areas
- Robust design with impact-resistance of IK07
- Low operating costs via low connected load
- Minimum maintenance effort via use of LEDs with high service life (up to 50,000 hours)
- Modular design of the polycarbonate cube enables simple and safe mounting by just sliding cube onto installed luminaire
- Easy and flexible mounting options with space to ceiling or chain (four mounting eyes existing).
- Optimal perceptibility due to high luminance of the white contrasting colour ($> 500 \text{ cd/m}^2$) acc. DIN 4844-1 / ISO 3864-1 (for bright environments) and high uniformity $L_{\text{min}}/L_{\text{max}} > 0,4$ (in mains operation)
- Reduced operating costs due to of especially low power consumption
- Shorten inspection effort due to CEWA GUARD technology
- Automatic function monitoring for up to 20 luminaires per circuit
- Reduced installation cost with STAR Technology
- Freely programmable mixed operation, allowing the switching of luminaire modes within one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

| | |
|--|--|
| Viewing Distance | 40 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Cube: PMMA; enclosure: coated steel sheet |
| Housing colour | White RAL 9010 |
| Weight | Luminaire 1.6 kg Cube: 3,1 kg |
| Type of mounting | Ceiling mounting |
| Connection terminals | Loop terminals $3 \times 2.5 \text{ mm}^2$ |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption with battery operating | 46 mA |
| Power consumption mains operation (apparent power / effective power) | 17.6 VA / 10.6 W |
| Inrush current | 3 A |
| Permissible temperature range | -20 °C to +40 °C |
| Light source | HighPower LEDs $8 \times 1 \text{ W}$ |

Ordering details

| Type | Scope of supply | Order No. |
|--------------------------|--|-------------|
| Exit Cube 33042 LED CG-S | Enclosure and exit sign cube, for 40 m viewing distance with LED Supply and CG-S Technology (20 addresses), silkscreened pictograms (arrow left, right, down) acc. to ISO 7010 | 40071353422 |



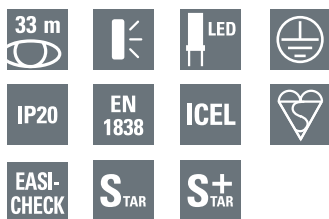
Ordering details accessories

| Type | Scope of supply | Order No. |
|--|--|-------------|
| Replacement Exit sign cube (40 m viewing distance) | silkscreened pictograms (arrow left, right, down) acc. to ISO 7010 | 40071354451 |



Britesign 2 CG-S / Britesign 2 EC 1.5 / Britesign 2

Exit Sign Luminaires



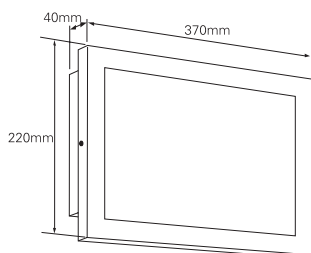
Britesign 2

- ICEL registered with verified luminaire performance
- Ultra low profile design
- 50,000 hour LED source for minimum maintenance
- EN1838 compliant legend panel
- Bezel colour options on request
- First fix body with rear BESA entry and 20mm conduit entry on top face

Britesign 2



Dimensions in mm



| | |
|--|--|
| Viewing distance | 33 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Housing: steel, powder coated Bexel: die cast aluminium or powder coated in RAL 9016 finish Legend panel: clear acrylic with screen print legend |
| Housing colour | White RAL 9016 |
| Weight | CG-S / 230 V AC: 1.25 kg EC 1.5: 1.3 kg |
| Type of mounting | Wall mounting |
| Connection terminals | 2 x 2.5 mm ² Clamp terminals |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC (only for CG-S version) |
| Current consumption- battery operation (220 V) | 20 mA (only for CG-S version) |
| Power consumption mains operation (apparent power / effective power) | CG-S Version: 8.1 VA / 4.6 W EC 1.5 and 230 V AC Version: 4.5 VA / 3.2 W |
| Inrush current | 1.5 A (only for CG-S Version) |
| Permissible temperature range | +5 °C bis +40 °C |
| Light source | LED strip |

Ordering details

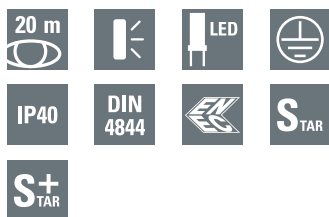
| Type | White Finish | Aluminium Finish |
|---------------------|--------------|------------------|
| Britesign 2 CG-S | BS2S230CG | BS2SA230CG |
| Britesign 2 230V AC | BS2S230 | BS2SA230 |
| Britesign 2 EC 1.5 | BS2S230EC | BS2SA230EC |

Accessories

| Type | Scope of supply | | Order No. |
|-------------|------------------|--|-----------|
| Arrow up | acc. to ISO 7010 | | BSAU-ISO |
| Arrow down | acc. to ISO 7010 | | BSAD-ISO |
| Arrow left | acc. to ISO 7010 | | BSAL-ISO |
| Arrow right | acc. to ISO 7010 | | BSAR-ISO |

70011 ... 70021 LED CG-S

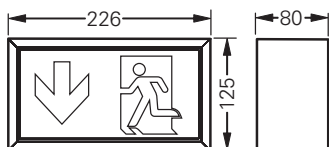
Exit Sign Luminaires



70011 LED CG-S



Dimensions in mm



70011 ... 70021 LED CG-S

- Enclosure made of slim aluminium profile, anodised, with silk-screened pictogram cover
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Low operating costs with low effective connected load of only 3.1 W (2.0 W with single sided emission)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Viewing distance | 20 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Aluminium |
| Weight incl. panel | 1.20 kg (70011 LED CG-S) 1.25 kg (70021 LED CG-S) |
| Housing colour | Aluminium, anodised |
| Type of mounting | Wall mounting (70011 LED CG-S) Wall, ceiling and pendant mounting (70021 LED CG-S) |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 8.7 mA (70011 LED CG-S) 14.0 mA (70021 LED CG-S) |
| Power consumption mains operation (apparent power / effective power) | 4.36 VA/2.0 W (70011 LED CG-S) 5.80 VA/3.1 W (70021 LED CG-S) |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | HighPower LEDs 1 x 1.1 W LED (70011 LED CG-S) HighPower LEDs 2 x 1.1 W LED (70021 LED CG-S) |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------|--|-------------|
| 70011 LED CG-S | Luminaire with CEWA GUARD monitoring and 20-digit address switch, without cover | 40071351270 |
| 70021 LED CG-S WM | Luminaire with CEWA GUARD monitoring for wall mounting, with 20-digit address switch, without covers* | 40071351271 |
| 70021 LED CG-S DM | Luminaire with CEWA GUARD monitoring for ceiling mounting, with 20-digit address switch, without covers* | 40071351272 |
| 70021 LED CG-S PM | Luminaire with CEWA GUARD monitoring for pendant mounting, with 20-digit address switch, without covers* | 40071351273 |
| Cover PL | Cover with pictogram acc. to ISO 7010 | 40071354220 |
| Cover PR | Cover with pictogram acc. to ISO 7010 | 40071354221 |
| Cover PU | Cover with pictogram acc. to ISO 7010 | 40071354222 |
| Blind cover | | 40071351196 |

* Each luminaire requires 2 covers.

Installation material is not included in the scope of delivery of the luminaire. Please order installation material separately depending on the type of mounting (see accessories).

WM = Wall mounting, DM = Ceiling mounting, PM = Pendant mounting

70021 LED CG-S DM
with wall/ceiling mounting kit

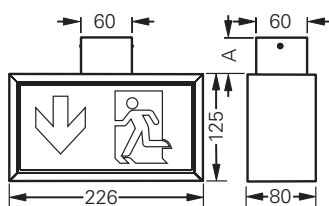


Accessories

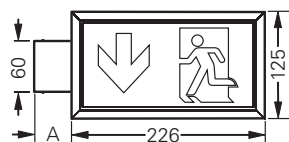
| Type | | Order No. |
|---------------------------|-------------------------|-------------|
| Wall/ceiling mounting kit | for WM / DM, A = 42 mm | 40071351011 |
| Wall/ceiling mounting kit | for WM / DM, A = 100 mm | 40071351497 |
| Single suspension | for PM | 40071351157 |

3

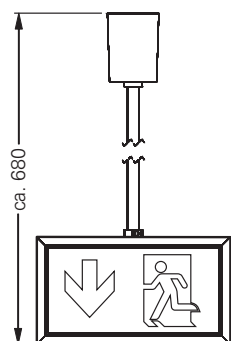
Dimensions in mm



70021 LED CG-S DM



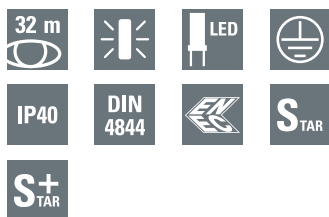
70021 LED CG-S WM



70021 LED CG-S PM

71011 ... 71021 LED CG-S

Exit Sign Luminaires



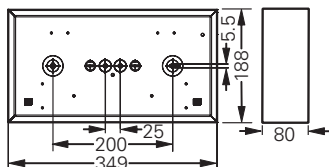
71011 ... 71021 LED CG-S

- Enclosure made of slim aluminium profile, anodised, with silk-screened pictogram cover
- Special LED converter, with integrated monitoring module for single luminaire monitoring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Low operating costs with low connected load of only 5.8 W (3.1 W with single sided emission)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

71011 LED CG-S



Dimensions in mm



| | |
|--|--|
| Viewing distance | 32 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Aluminium |
| Weight incl. panel | 1.75 kg (71011 LED CG-S) 1.50 kg (71021 LED CG-S) |
| Housing colour | Aluminium, anodised |
| Type of mounting | Wall mounting (71011 LED CG-S) Wall, ceiling and pendant mounting (71021 LED CG-S) |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 14 mA (71011 LED CG-S) 25 mA (71021 LED CG-S) |
| Power consumption mains operation (apparent power / effective power) | 5.8 VA/3.1 W (71011 LED CG-S) 9.5 VA/5.8 W (71021 LED CG-S) |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | HighPower LEDs 2 x 1.1 W LED (71011 LED CG-S) HighPower LEDs 4 x 1.1 W LED (71021 LED CG-S) |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------|--|-------------|
| 71011 LED CG-S | Luminaire with CEWA GUARD monitoring and 20-digit address switch, without cover | 40071351280 |
| 71021 LED CG-S WM | Luminaire with CEWA GUARD monitoring for wall mounting, with 20-digit address switch, without covers* | 40071351281 |
| 71021 LED CG-S DM | Luminaire with CEWA GUARD monitoring for ceiling mounting, with 20-digit address switch, without covers* | 40071351282 |
| 71021 LED CG-S PM | Luminaire with CEWA GUARD monitoring for pendant mounting, with 20-digit address switch, without covers* | 40071351283 |
| Cover PL | Cover with pictogram acc. to ISO 7010 | 40071354240 |
| Cover PR | Cover with pictogram acc. to ISO 7010 | 40071354241 |
| Cover PU | Cover with pictogram acc. to ISO 7010 | 40071354242 |
| Blind cover | | 40071351197 |

* Each luminaire requires 2 covers.

Installation material is not included in the scope of delivery of the luminaire. Please order installation material separately depending on the type of mounting (see accessories).

WM = Wall mounting, DM = Ceiling mounting, PM = Pendant mounting

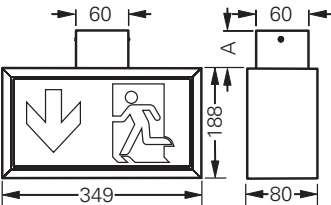
71021 LED CG-S WM
with wall/ceiling mounting kit



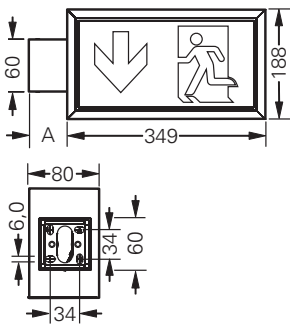
Accessories

| Type | | Order No. |
|---------------------------|--|-------------|
| Wire guard | for 71011 LED CG-S | 40071348370 |
| Wall/ceiling mounting kit | for WM / DM, A = 42 mm | 40071351011 |
| Wall/ceiling mounting kit | for WM / DM, A = 100 mm | 40071351497 |
| Suspension set 0.5 m | with canopy, silver, square form, for PM | 40071344599 |
| Suspension set 1.0 m | with canopy, silver, square form, for PM | 40071350775 |
| Suspension set 1.5 m | with canopy, silver, square form, for PM | 40071350776 |
| Chain fastening | Ring eyelets, for PM | 40071351158 |

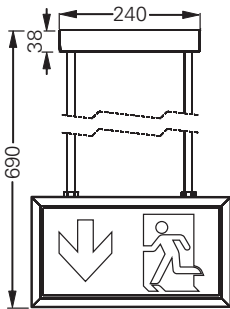
Dimensions in mm



71021 LED CG-S DM



71021 LED CG-S WM



71021 LED CG-S PM

Exit SE CG-S

Exit Sign Luminaires



IP20



3

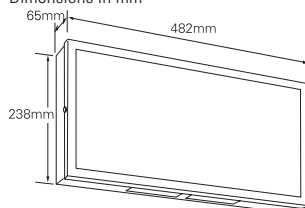
Exit SE CG-S

- Large format, ideal for open plan areas
- Robust construction
- Good threshold illumination via large opal downlight panel, offering improved indication of escape routes

Exit SE CG-S



Dimensions in mm



| | |
|--|---|
| Viewing distance | 41 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Body and geartray: steel, powder coated Legend panel: clear acrylic with rear screen printing Downlight panel: opal polycarbonate |
| Weight incl. panel | 2.1 kg |
| Housing colour | White RAL9016 |
| Type of mounting | Wall mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 39 mA |
| Power consumption mains operation | 9.2 VA / 8.8 W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 8W T5 Fluorescent G5 cap |

Ordering details

| Type | Scope of supply | Order No. |
|--------------|---|-----------|
| Exit SE CG-S | Exit sign luminaire, single sided, incl. lamp and CG-S technology (20 addresses), without pictogram | SE8230CG |

Accessories

| Type | Scope of supply | | Order No. |
|-------------------|------------------|--|-----------|
| Panel arrow up | acc. to ISO 7010 | | SEAU-ISO |
| Panel arrow down | acc. to ISO 7010 | | SEAD-ISO |
| Panel arrow left | acc. to ISO 7010 | | SEAL-ISO |
| Panel arrow right | acc. to ISO 7010 | | SEAR-ISO |



41 m



IP20

**Exit SE / EXIT SE EC 1.5**

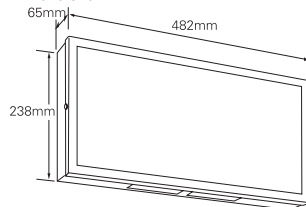
- Large format, ideal for open plan areas
- Robust construction
- Good threshold illumination via large opal downlight panel, offering improved indication of escape routes

3

Exit SE CG-S



Dimensions in mm



| | |
|--|---|
| Viewing distance | 41 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Body and geartray: steel, powder coated Legend panel: clear acrylic with rear screen printing Downlight panel: opal polycarbonate |
| Weight incl. panel | 2.1 kg |
| Housing colour | White RAL9016 |
| Type of mounting | Wall mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 230 V, 50 Hz |
| Power consumption mains operation | 9.2 VA / 8.8 W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 8W T5 Fluorescent G5 cap |

Ordering details

| Type | Scope of supply | Order No. |
|------------------|--|-----------|
| Exit SE EC 1.5 | Exit sign luminaire, single sided, incl. lamp, 230 V AC EasiCheck 1.5, without pictogram | SE8230EC |
| Exit SE 230 V AC | Exit sign luminaire, single sided, incl. lamp, 230V AC, without pictogram | SE8230 |

Accessories

| Type | Scope of supply | | Order No. |
|-------------------|------------------|--|-----------|
| Panel arrow up | acc. to ISO 7010 | | SEAU-ISO |
| Panel arrow down | acc. to ISO 7010 | | SEAD-ISO |
| Panel arrow left | acc. to ISO 7010 | | SEAL-ISO |
| Panel arrow right | acc. to ISO 7010 | | SEAR-ISO |

Exit SE 50 V / 110 V

Exit Sign Luminaires



IP20

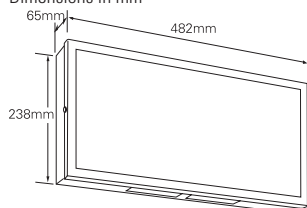
Exit SE

- Large format, ideal for open plan areas
- Robust construction
- Good threshold illumination via large opal downlight panel, offering improved indication of escape routes

Exit SE



Dimensions in mm



| | |
|--|---|
| Viewing distance | 41 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Body and geartray: steel, powder coated Legend panel: clear acrylic with rear screen printing Downlight panel: opal polycarbonate |
| Weight incl. panel | 2.1 kg |
| Housing colour | White RAL9016 |
| Type of mounting | Wall mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 50 V AC/DC, 50 Hz 110 V AC/DC, 50 Hz |
| Power consumption mains operation | 9.2 VA / 8.8 W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 8W T5 Fluorescent G5 cap |

Ordering details

| Type | Scope of supply | Order No. |
|--------------------|--|-----------|
| Exit SE 50V AC/DC | Exit sign luminaire, single sided, incl. lamp, 50V AC/DC, without pictogram | SE850 |
| Exit SE 110V AC/DC | Exit sign luminaire, single sided, incl. lamp, 110V AC/DC, without pictogram | SE8110 |

Accessories

| Type | Scope of supply | | Order No. |
|-------------------|------------------|--|-----------|
| Panel arrow up | acc. to ISO 7010 | | SEAU-ISO |
| Panel arrow down | acc. to ISO 7010 | | SEAD-ISO |
| Panel arrow left | acc. to ISO 7010 | | SEAL-ISO |
| Panel arrow right | acc. to ISO 7010 | | SEAR-ISO |



French market

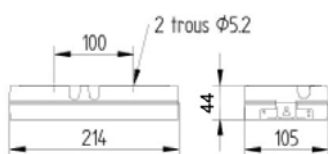
Planète 220/45 CG-S

- Certified to NF EN 60598.2.22/NFC 71802
- Low energy consumption.
- Express installation
- Screwless terminal connection
- Clear surface mount honeycomb base for universal mounting and ad hoc covering of existing drill holes.
- Supplied with configurable signage labels, unattached.
- Discreet, low-profile housing
- Mounting frame.

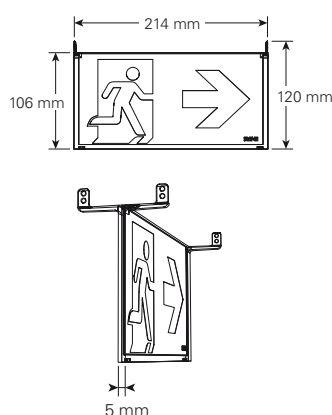
Planète 220/45 CG-S



Dimensions in mm



Dimensions in mm



| | |
|--|---|
| Luminous flux | 45 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | White, similar RAL 9010 |
| Weight | 0.5 kg |
| Type of mounting | Wall mounting, ceiling edge mounting (optional) |
| Connection terminals | 3 x 2 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 8 mA |
| Power consumption mains operation (apparent power / effective power) | 3.7 VA / 1.7 W |
| Permissible ambient temperature | 5 °C to +40 °C |
| Light source | 2 white LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|---------------------|---|-----------|
| Planète 220/45 CG-S | Single sided Exit sign luminaire, incl. LED supply, CG-S technology (20 addresses) and pictograms | LUM22126 |

Accessories

| Type | Scope of supply | Order No. |
|--|-----------------|-----------|
| Edge lighting set, Double sided cover for ceiling mounting | | LUM10540 |
| Wire guard | | LUM10418 |













Safety and Exit Sign Luminaires with the same design

| | |
|--|-----|
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Safety and Exit Sign Luminaires with the same design

Overview

4

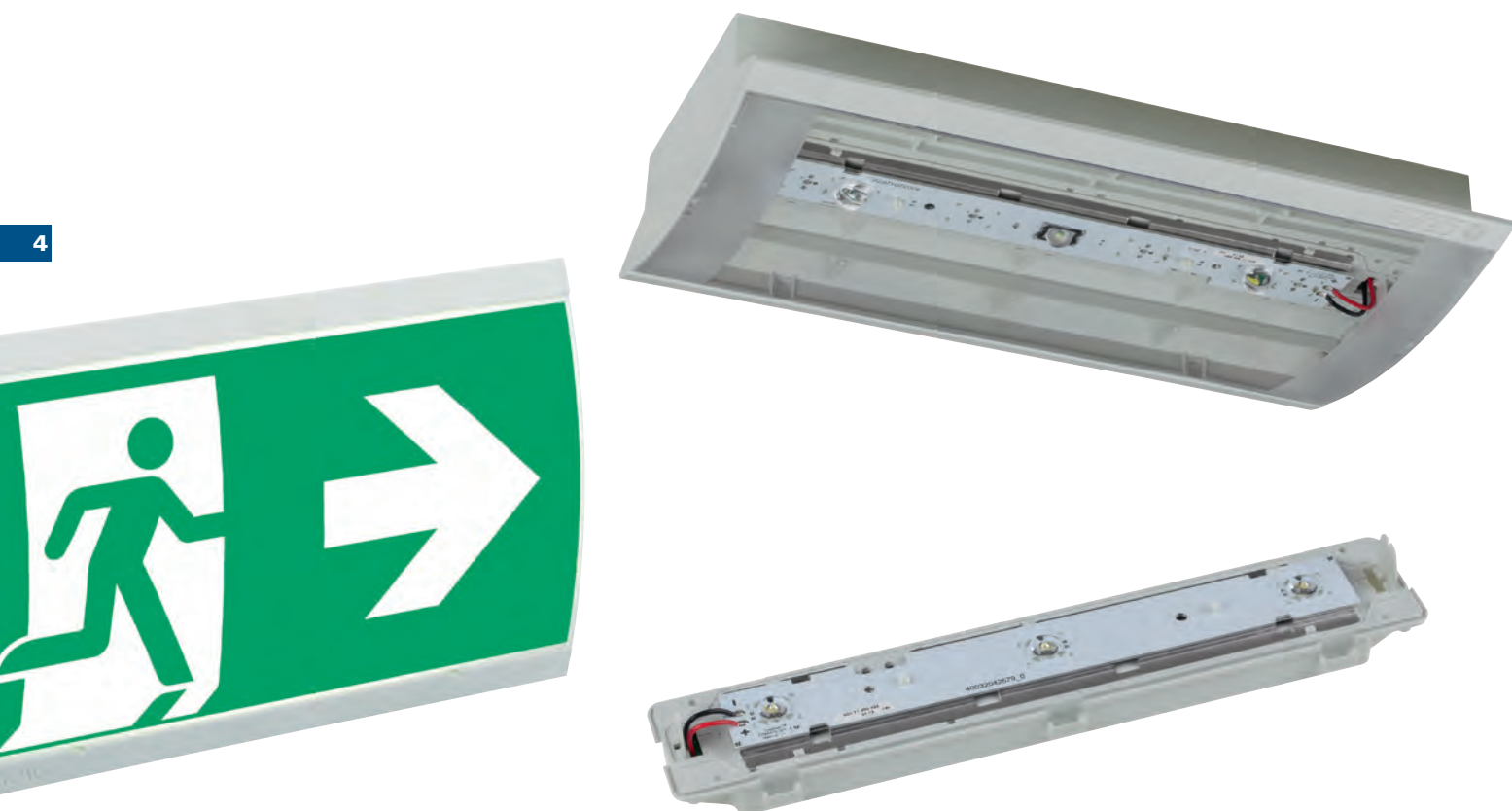
| | | | One box solution | Low consumption / Eco-friendly | Protection Degree | Viewing distance | Luminous flux | 24 V | 48 V | 110 V | 220 V DC | 230 V AC | Monitored CG-S | Monitored EC 1.5 |
|-------------------------------|---|-------------|------------------|--------------------------------|-------------------|------------------|----------------------------|---------|------|-------|----------|----------|----------------|------------------|
| | | Performance | | | | | | Voltage | | | | | Technology | |
| 4.1 Style LED 21011 |  | ★ ★ ★ | | ● | 54 | | 305 lm 410 lm | | | | ● | ● | ● | |
| 4.2 Style LED 22011/22021 |  | ★ ★ ★ | ● | ● | 41 54 | 32 | 320 lm | | | | ● | ● | ● | |
| 4.3 23011 |  | ★ ★ ★ | | ● | 41 54 | | 320 lm | | | | ● | ● | ● | |
| 4.4 Style LED 51011/51021 |  | ★ ★ ★ | | ● | 41 | 17 | 390 lm | | | | ● | ● | ● | |
| 4.5 Style Variant 29011/29021 |  | ★ ★ ★ | | ● | 41 | 32 | | | | | ● | ● | ● | |
| 4.6 NexiTech LED |  | ★ ★ | | ● | 40 65 | 20 30* | 250 lm 500 lm | | | | ● | ● | ● | |
| 4.7 Sirios LED |  | ★ ★ | ● | ● | 42 65 | 30 | 119 lm 130 lm | | | | ● | ● | ● | |
| 4.8 Sirios |  | ★ | | | 42 65 | 30 | 324 lm 471 lm 771 lm | | | | ● | ● | ● | |

| Wall | Ceiling | Recessed | Suspended | Healthcare | Hotels | Cinemas / Theaters | Commercial centers | Stadia / Arenas | Offices | Industrial | Warehouse |
|--------------|---------|----------|-----------|--------------|--------|--------------------|--------------------|-----------------|---------|------------|-----------|
| Installation | | | | Applications | | | | | | | |
| ● | ● | | | | | | | ● | | ● | ● |
| ● | ● | | ● | ● | ● | | ● | | ● | | ● |
| | | ● | | ● | ● | | ● | | ● | | |
| ● | ● | | | ● | ● | | ● | | ● | | ● |
| ● | ● | | | ● | ● | | ● | | ● | | ● |
| ● | ● | ● | | ● | ● | | ● | | ● | | ● |
| ● | ● | ● | | ● | ● | | ● | | ● | | ● |
| ● | ● | ● | | ● | ● | | ● | | ● | | ● |

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

Introduction

Safety and Exit Sign Luminaires with the same design



Diverse applications thanks to flexible mounting system

Precisely matched modular elements form the basis of our STYLE system luminaire series. Diverse combinations made possible with various accessory parts, for a wide variety of applications.

Using the optional IP54 module the luminaires may also be operated under challenging environmental conditions.

Furthermore, the quick-mounting set facilitates the installation of most types of luminaires, containing the required fixing elements and mains terminals. The unit can be mounted prior to completion of construction work. Only the selected enclosures need to be snapped to the base, ready for use.

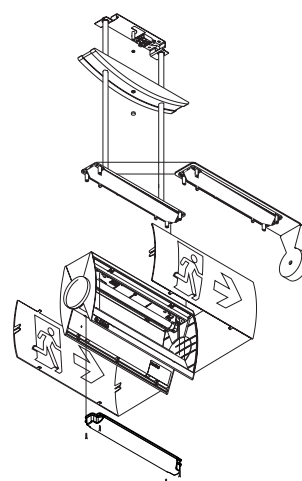
Mounting of the pictogram covers is also quick and easy thanks to snap mounting.

The STYLE escape sign luminaires with LED technology minimise energy consumption considerably. In addition, maintenance effort for the LEDs is reduced to a minimum thanks to their high service life.

CEAG's proven electronic ballasts with new 20 digit address switch together with CEWA GUARD monitoring system and connecting option to all CEAG emergency lighting systems. Connecting the luminaires to a suitable emergency lighting system makes it possible to select individual switching modes (non-maintained, maintained or switched maintained) for each luminaire within one final circuit.

Features:

- Versatile types of application via matched modular elements
- IP54 optionally available
- Luminaires with quick-mounting sets facilitate and fasten the installation
- Highly efficient LED technology with especially low current consumption and low maintenance effort with a long service life
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures thanks to STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

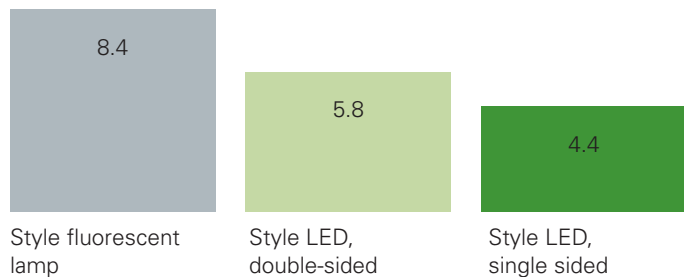




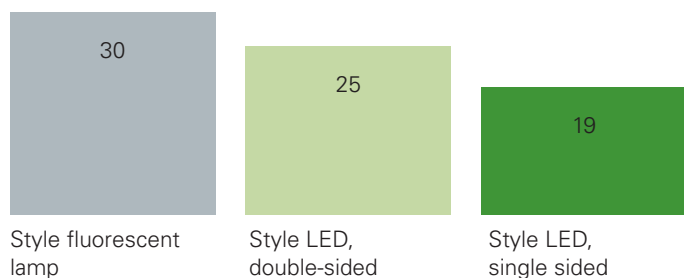
Up to 48% energy savings with efficient LED technology

With the introduction of new LED components, the proven and reliable Style CG-S series, not only becomes more durable but is also more efficient. Power consumption and thus energy costs with a double-sided luminaire for example are cut by 31% compared to fluorescent tube luminaires, and the consumption for single sided luminaires is reduced by 48% – a positive factor for your next electricity bill.

System effective power P_{sys} in W in case of mains operation

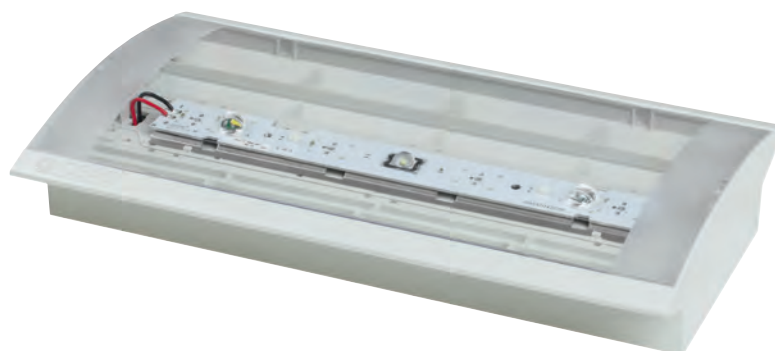


Current in case of battery operation in mA



A direct comparison of both luminaire types:

Above the Style 22011 CG-S with fluorescent tube, and below with efficient LED technology. Energy savings using the LED luminaire as compared to the fluorescent tube model: 48%.



LED upgrading guarantees safe operation and perfect illumination

Three LED upgrade kits have been developed to replace the existing fluorescent tube as light source, thus already installed Style fluorescent luminaires can benefit from efficient LED technology (includes ballast). The result is that fluorescent luminaires are transformed into complete LED luminaires with matched components, ensuring safe and reliable operation.



The modular design of the Style luminaires is once again a distinct advantage, as the quick mounting set with mains connection remains attached to the ceiling or wall. This in turn means no additional effort is needed for electrical installation or decorating. Assembly and disassembly of the single sided luminaires is achieved almost completely with snap fasteners so that replacement requires only a few twists of the wrist.

In terms of light distribution, the new Style LED escape luminaires are just as impressive as their fluorescent predecessors. The optical components are designed so that the same values as the previous fluorescent luminaires are achieved with existing light point distances. This guarantees standard-compliant illumination for the future as well, and replanning is not required.

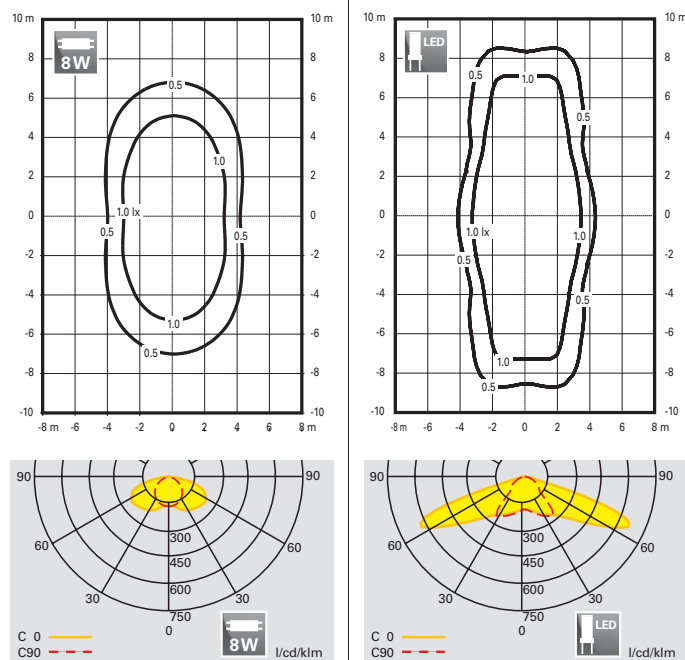
Pictogram covers can continue to be used according to their condition and age, however the time is ideal to upgrade pictograms in accordance with the new German workplace regulations. The new edition of the A1.3 workplace regulation was published in March 2013, and this specifies exit signs according to the international standard ISO 7010, so that sign in accordance with DIN 4844-2 is no longer valid.



**22011 CG-S
(transparent cover)**

**22011 LED SL CG-S
(transparent cover)**

Luminaire mounting height: 3 m, emergency light operation



A comparison of light distribution patterns makes it clear: the LED optics (right), here with the Style 22011, achieve improved illumination compared to the same luminaire with a fluorescent tube (left). New planning when upgrading to LED is thus not required for continued standard-compliant illumination.

An economical long-runner

Costs for an emergency light system consist of investment and operation costs. In addition to overheads for electricity and manual tests with non-automated systems, maintenance costs are a major part of the operating costs.

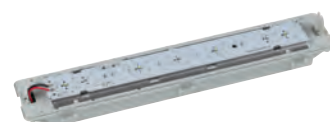
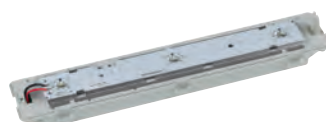
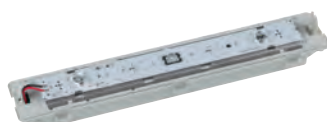
With the use of LED technology, the regular re-lamping of fluorescent tubes is no longer necessary as the service life and operating duration of Style LED surpass 50,000 hours. This significantly cuts maintenance costs and therefore operating costs as well.

It is now no longer necessary to replace the lamps up to once yearly. This of course is especially advantageous with luminaires that are difficult to get to, or even when production has to be halted in an industrial environment to access escape luminaires on the hall ceiling. This means that upgrading to efficient LED technology becomes profitable immediately.

Another benefit is that exit sign and escape luminaires contribute to emergency lighting systems being operated even more safely and reliably, because of their longer service life.



Overview of suitable upgrade kits according to existing luminaire model



| Luminaire | Application | Style LED Upgrade Kit SL CG-S Order No. 40071350150 | Style LED Upgrade Kit 1 CG-S Order No. 40071350151 | Style LED Upgrade Kit 2 CG-S Order No. 40071350152 |
|----------------------|------------------------|--|---|---|
| 55011, 57011 CG-S | Escape luminaire | X | | |
| | Exit sign luminaire | | X | |
| 55021, 57021 CG-S | Exit sign luminaire | | | X |
| 22011 CG-S | Escape luminaire | X | | |
| | Exit sign luminaire *) | | X | |
| 22021 CG-S | Exit sign luminaire *) | | | X |
| 23011 CG-S | Escape luminaire | X | | |
| 21011 CG-S | Escape luminaire | X | | optional for symmetric illumination |
| 51011 CG-S | Escape luminaire | | | X |
| | Exit sign luminaire | | | X |
| 51021 CG-S | Exit sign luminaire | | | new 40071350172 luminaire recommended |
| 40011 CG-S | Escape luminaire | X | | |
| | Exit sign luminaire | | X | |

For luminaires with IP54 assembly set and for 21011 CG-S luminaires, a new IP54 assembly set for LEDs is mandatory. Only in this way is improved illumination (with exit sign luminaires) and long LED service life achieved.

*) Screenprinted pictograms must be used for illumination in accordance with DIN EN 4844-1.

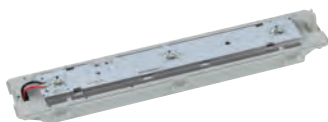
LED Upgrade Kits

For style luminaires with T5-lamps

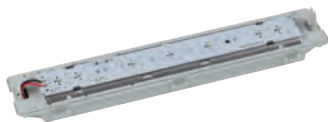


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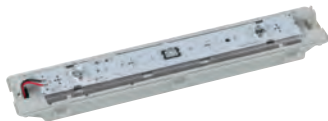
Style LED Upgrade Kit 1 CG-S



Style LED Upgrade Kit 2 CG-S



Style LED Upgrade Kit SL CG-S



Style Upgrade Kits

- Upgrade Kit for converting CEAG Style CG-S Luminaires from T5-Lamps to LED technology
- Suitable for all luminaires with Style quick-mounting sets
- Minimum maintenance required due to high service life of the LEDs (over 50,000 hours)
- Up to 48% energy savings, reducing operating cost
- Available in three variants:
 - Upgrade Kit 1: For single sided exit signs
 - Upgrade Kit 2: For double sided exit signs and luminaires 51011/51021
 - Upgrade SL: For escape route lighting with specialized LED-optics
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards (silk-screened pictograms)
- Dismounting and mounting via snaps (single sided luminaire and 51011/21), double sided luminaires with screw connections
- Includes specialized LED-converter with V-CG-S-technology

| | |
|--|---|
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.21 kg |
| Type of mounting | for refitting of Style CG-S luminaires |
| Connection terminal | 2 x 3 x 2.5 mm ² |
| Voltage ranges | 220 – 240 V AC, 50/60 Hz, 176 V – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | Upgrade Kit 1 + Kit SL: 7.6 VA / 4.4 W Upgrade Kit 2: 9.5 VA / 5.8 W |
| Permissible temperature range | -20 °C to +40 °C |
| Inrush current | 1.5 A |
| Current consumption - battery operation (220 V) | Upgrade Kit1 + Kit SL: 19 mA Upgrade Kit 2: 25 mA |
| Light source | Upgrade Kit1 + Kit SL: 3 x 1 W LED Upgrade Kit 2: 4 x 1 W LED |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------------------|---|-------------|
| Style LED Upgrade Kit 1 CG-S | Style LED Upgrade Kit 1 CG-S, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for replacing single sided exit sign luminaires | 40071350151 |
| Style LED Upgrade Kit 2 CG-S | Style LED Upgrade Kit 2 CG-S, including LED-supply with CG-S technology and LED-circuit board 4 x 1 W, for replacing double-sided exit sign luminaires and Style 51011 or 51021 | 40071350152 |
| Style LED Upgrade Kit SL CG-S | Style LED Upgrade Kit SL CG-S, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for replacing safety luminaires for escape route lighting | 40071350150 |
| IP54* LED Upgrade | Style IP54 cover (silicone), optimized for LED, incl. replacement gasket with foamed, sulphur-free sealing for quick mounting set, required for upgrading existing style luminaires with IP54 set | 40071350598 |

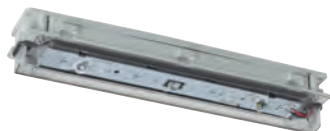
Style 21011 LED CG-S

Safety and Exit Sign Luminaires with the same design

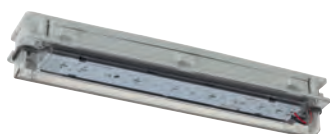


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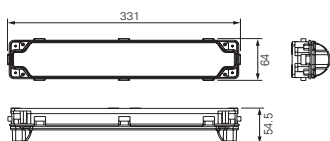
Style 21011 LED SL R CG-S



Style 21011 LED SL O CG-S



Dimensions in mm



Style 21011 LED CG-S

- Compact safety luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series permits combination with various fixing modules
- Available in two different optical variants:
 - Asymmetric light distribution for exit route illumination up to 6 m mounting height
 - Symmetrical light distribution for mounting heights up to 9 m
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Simple mounting via quick mounting set (can be pre-assembled) with integrated terminal block for through-wiring
- Also suitable for use refitting existing installations with Style quick mounting set
- Ingress protection IP54 for increased sealing requirements both indoor and in protected outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Luminous flux Φ_N | 21011 SL R: 305 lm 21011 SL O: 410 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.39 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 21011 SL R: 19 mA 21011 SL O: 25 mA |
| Power consumption mains operation (apparent power / effective power) | 21011 SL R: 7.6 VA / 4.4 W 21011 SL O: 9.5 VA / 5.8 W |
| Inrush current | 1.5 A |
| Permissible temperature range | -20 °C to +40 °C |
| Light source | 21011 SL R: 3 x 1 W LED 21011 SL O: 4 x 1 W LED |

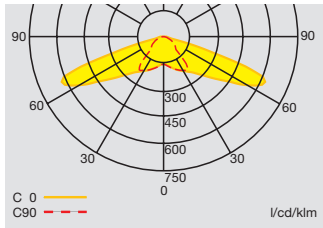
Ordering details

| Type | Scope of supply | Order No. |
|---------------------------|---|-------------|
| Style 21011 LED SL R CG-S | Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, with asymmetric light distribution and quick mounting set | 40071350155 |
| Style 21011 LED SL O CG-S | Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, with symmetric light distribution and quick mounting set | 40071350156 |

*) IP54 for electronic and lamp. For increased ingress protection requirements indoors or in protected outdoor areas.

Planning help for 21011 LED SL R CG-S CG-S for E = 1.0 lx (0.5 lx) with transparent cover

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

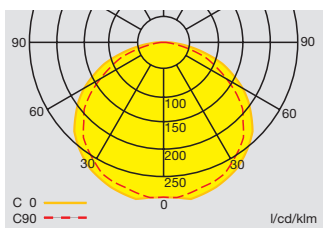


Light distribution curve 21011 LED SL R CG-S

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|------------|-------------|
| 2.5 | Ceiling mounting | 2.9 (3.7) | 7.4 (9.1) | 6.5 (7.3) | 14.6 (16.1) |
| 3.0 | Exit route centre | 3.0 (3.9) | 7.9 (9.8) | 7.1 (8.3) | 16.7 (18.3) |
| 3.5 | | 3.2 (4.1) | 8.2 (10.5) | 7.4 (9.2) | 18.3 (20.6) |
| 4.0 | | 3.6 (4.2) | 8.3 (11.0) | 7.3 (9.9) | 19.7 (22.6) |
| 4.5 | | 3.8 (4.3) | 8.6 (11.3) | 6.6 (10.3) | 20.5 (24.5) |
| 5.0 | | 4.0 (4.6) | 9.3 (11.6) | 5.8 (10.5) | 20.9 (26.1) |
| 5.5 | | 4.0 (4.9) | 9.9 (11.7) | 4.6 (10.4) | 20.7 (27.5) |
| 6.0 | | 3.4 (5.2) | 10.5 (11.9) | 3.6 (10.0) | 19.9 (28.5) |
| 6.5 | | - (5.5) | 10.9 (12.4) | - (9.2) | 18.3 (29.2) |
| 2.0 | Wall mounting | 1.9 (2.5) | 5.0 (6.5) | 1.8 (2.8) | 5.6 (7.1) |
| 2.5 | | 1.7 (2.4) | 4.8 (6.4) | 1.2 (2.3) | 4.6 (6.7) |
| 3.0 | | 1.6 (2.3) | 4.6 (6.1) | - (1.8) | 3.7 (6.1) |
| 2.5 | Ceiling mounting | 2.6 (3.3) | 5.8 (7.0) | 3.3 (3.9) | 14.7 (14.9) |
| 3.0 | Room illumination | 2.8 (3.3) | 6.5 (7.5) | 3.7 (8.2) | 16.7 (18.0) |
| 3.5 | | 2.3 (3.5) | 7.0 (8.2) | 6.6 (4.5) | 18.5 (20.6) |
| 4.0 | | 1.5 (3.8) | 7.3 (8.8) | 5.3 (10.4) | 19.9 (22.7) |
| 4.5 | | 1.0 (3.6) | 7.5 (9.5) | 5.4 (5.6) | 20.9 (24.7) |
| 5.0 | | 2.1 (3.1) | 8.9 (10.0) | 3.5 (6.3) | 19.5 (26.3) |
| 5.5 | | 1.3 (2.2) | 9.4 (10.3) | 3.2 (7.0) | 20.1 (27.8) |
| 6.0 | | 0.7 (1.3) | 8.8 (10.4) | 4.7 (7.6) | 21.0 (29.1) |
| 6.5 | | 0.5 (1.9) | 8.4 (11.0) | 4.0 (6.9) | 21.0 (28.9) |
| 7.0 | | 0.9 (2.9) | 9.6 (12.5) | 3.1 (4.8) | 17.6 (27.5) |
| 7.5 | | 0.6 (2.3) | 9.9 (13.4) | 1.2 (3.3) | 16.4 (27.6) |

Planning help for 21011 LED SL O CG-S CG-S for E = 1.0 lx (0.5 lx) with transparent cover

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

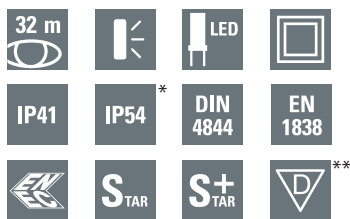


Light distribution curve
21011 LED SL O CG-S

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.2 (5.1) | 10.3 (12.5) | 4.5 (5.6) | 11.1 (13.7) |
| 3.0 | Exit route centre | 4.5 (5.6) | 11.1 (13.5) | 4.8 (6.0) | 12.0 (14.8) |
| 3.5 | | 4.7 (5.9) | 11.8 (14.5) | 5.0 (6.3) | 12.7 (15.7) |
| 4.0 | | 4.9 (6.2) | 12.4 (15.3) | 5.1 (6.6) | 13.3 (16.6) |
| 5.0 | | 5.0 (6.7) | 13.4 (16.8) | 5.2 (7.1) | 14.1 (18.0) |
| 6.0 | | 4.9 (7.0) | 13.9 (17.9) | 5.1 (7.3) | 14.6 (19.1) |
| 7.0 | | 4.5 (7.0) | 14.0 (18.8) | 4.8 (7.4) | 14.8 (19.9) |
| 8.0 | | 3.9 (7.0) | 14.0 (19.5) | 4.2 (7.4) | 14.7 (20.4) |
| 9.0 | | 2.7 (6.8) | 13.6 (19.8) | 3.1 (7.1) | 14.2 (20.8) |
| 2.0 | Wall mounting | 3.0 (3.8) | 7.6 (9.2) | 3.1 (4.0) | 8.0 (9.8) |
| 2.5 | | 2.9 (3.8) | 7.7 (9.5) | 3.0 (4.0) | 8.0 (10.0) |
| 3.0 | | 2.7 (3.7) | 7.5 (9.7) | 2.7 (3.8) | 7.7 (10.1) |
| 2.5 | Ceiling mounting | 3.1 (4) | 8.9 (10.9) | 3.6 (4.2) | 10.1 (12) |
| 3.0 | Room illumination | 3.6 (4.3) | 10.1 (12) | 3.5 (4.4) | 10.5 (12.9) |
| 3.5 | | 3.4 (3.8) | 10.5 (12.2) | 3.9 (5.2) | 11.6 (14.6) |
| 4.0 | | 4 (4.8) | 11.7 (13.8) | 3.5 (4.8) | 11.6 (14.6) |
| 5.0 | | 4 (4.8) | 12.8 (15.1) | 3.5 (5.2) | 12.7 (16.3) |
| 6.0 | | 3.9 (4.6) | 13.6 (16.1) | 3.3 (5.6) | 13.5 (17.8) |
| 7.0 | | 3.6 (5.1) | 14.2 (17.7) | 2.8 (5.2) | 14.1 (18.3) |
| 8.0 | | 3.1 (5.3) | 14.5 (18.9) | 2.5 (4.5) | 14.5 (18.8) |
| 9.0 | | 1.5 (5.2) | 14.2 (19.5) | 2.7 (4.3) | 15.3 (19.5) |

Style 22011 LED CG-S

Safety and Exit Sign Luminaires with the same design



Style 22011 LED CG-S

- Single sided exit sign luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series permits combination with various fixing modules
- Large selection of screenprinted pictogram covers with simple snap mounting
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards (silk-screened pictograms)
- Special LED optical arrangement for efficient illumination of exit routes, suitable for mounting heights up to 6 m, maximum distance from luminaire to luminaire: > 16 m from 3 m mounting height and > 20 m from 4.5 m mounting height
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Simple mounting via quick mounting set (can be pre-assembled) with integrated terminal block for through-wiring
- Also suitable for use refitting existing installations with Style quick mounting set
- Optionally available IP54 set (for electronic and light source) for increased sealing requirements for indoor rooms or for canopied outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

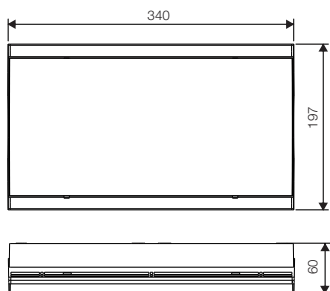
22011 LED SL CG-S with transparent cover



22011 LED CG-S with cover PR



Dimensions in mm



| | |
|--|---|
| Viewing distance | 32 m |
| Luminous flux Φ_N 22011 LED SL CG-S | 320 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.79 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 7.6 VA / 4.4 W |
| Inrush current | 1.5 A |
| Permissible temperature range | - 20 °C to + 40 °C |
| Current consumption - battery operation (220 V) | 19 mA |
| Light source | 3 x 1 W LED |

Ordering details

| Type | Scope of supply | Order No. |
|---------------------------|---|-------------|
| Style 22011 LED SL CG-S | Luminaire housing IP41, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for exit route lighting, without cover, without quick mounting set | 40071350160 |
| Style 22011 LED CG-S | Luminaire housing IP41, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for exit signage, without cover, without quick mounting set | 40071350161 |
| Cover PL acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354130 |
| Cover PR acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354131 |
| Cover PU acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354132 |
| Cover SL | Transparent cover | 40071345985 |
| Quick-mounting set | With terminals and optional distance plates | 40071345980 |
| IP54 set* | Incl. quick-mounting set and mounting accessories | 40071345975 |

*) IP54 for electronic and lamp. For increased tightness requirements indoors or in canopied outdoor areas.

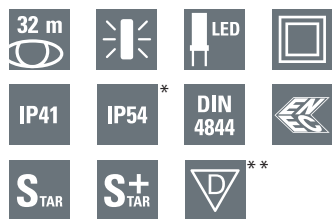
**) In combination with IP54 set: limited surface temperature acc. to DIN EN 60598-2-24

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Light distribution curve 22011 LED CG-S
with transparent cover

Style 22021 LED CG-S

Safety and Exit Sign Luminaires with the same design

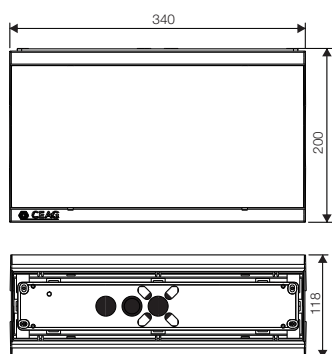


4

22021 LED CG-S with cover PR



Dimensions in mm



Style 22021 LED CG-S

- Double-sided exit sign luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series permits combination with various fixing modules
- Large selection of screenprinted pictogram covers with simple snap mounting
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards (silk-screened pictograms)
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Simple mounting via quick mounting set (can be pre-assembled) with integrated terminal block for through-wiring
- Also suitable for use refitting existing installations with Style quick mounting set
- Optionally available IP54 set (for electronic and light source) for increased sealing requirements for indoor rooms or for canopied outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Viewing distance | 32 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey RAL 7035 |
| Weight | 1.14 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 9.5 VA / 5.8 W |
| Inrush current | 1.5 A |
| Permissible temperature range | -20 °C to +40 °C |
| Current consumption - battery operation (220 V) | 25 mA |
| Light source | 4 x 1 W LED |

Ordering details

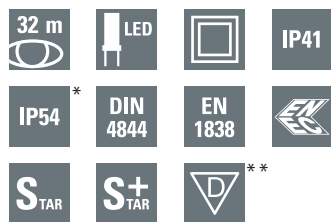
| Type | Scope of supply | Order No. |
|---------------------------|--|-------------|
| Style 22021 LED CG-S | Luminaire housing IP41, including LED-supply with CG-S technology and LED-circuit board 4 x 1 W, for exit signage, without cover, without quick mounting set | 40071350162 |
| Cover PL acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354130 |
| Cover PR acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354131 |
| Cover PU acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354132 |
| Cover SL | Transparent cover | 40071345985 |
| Quick-mounting set | With terminals and optional distance plates | 40071345980 |
| IP54 set* | Incl. quick-mounting set and mounting accessories | 40071345975 |

*) IP54 for electronic and lamp. For increased tightness requirements indoors or in canopied outdoor areas.

**) In combination with IP54 set: limited surface temperature acc. to DIN EN 60598-2-24

Style 22011, 22021 LED CG-S, SET luminaires

Safety and Exit Sign Luminaires with the same design



4

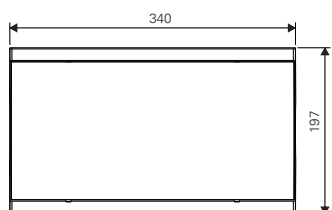
22011 LED SL CG-S with transparent cover



22011 LED CG-S with cover PR



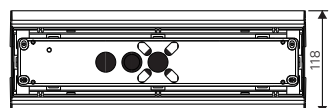
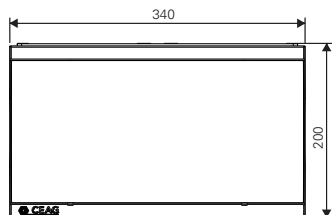
Dimensions in mm



22021 LED CG-S with cover PR



Dimensions in mm



Style 22011, 22021 LED CG-S, set luminaires

- Exit sign luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series allowing combination with various fixing modules
- Exit signs with high luminance of $> 500 \text{ cd/m}^2$ (white area) and good uniformity, in accordance with standards (silk-screened pictograms)
- Special LED optical arrangement for efficient illumination of exit routes, suitable for mounting heights up to 7m, maximum distance from luminaire to luminaire: $> 16\text{m}$ from 3m mounting height and $> 20\text{m}$ from 4.5 m mounting height
- Minimum maintenance required due to high service life of the LEDs (over 50,000 hours)
- Simple mounting via quick mounting set (pre-assembly possible) with integrated terminal block for through-wiring
- Optionally available IP54 set (for electronic and light source) for increased sealing requirements both indoor and in protected outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|---|
| Viewing distance | 32 m |
| Luminous flux Φ_N | 320 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.79 kg |
| Type of mounting | Wall and ceiling mounting |
| Terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power/effective power) | 7.6 VA / 4.4 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | - 20 °C to + 40 °C |
| Current consumption - battery operation (220 V) | 19 mA |
| Light source | 3 x 1 W LED |

Ordering details

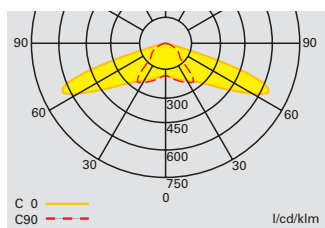
| Type | Scope of supply | Order No. |
|-----------------------------|---|-------------|
| Style 22011 LED SL CG-S SET | Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for exit route lighting, with quick mounting set, with transparent cover | 40071350652 |
| Style 22011 LED CG-S SET | Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for exit signage, with opaque cap and pictogram set (arrow left, right, down acc. to ISO 7010) and quick mounting set | 40071350653 |
| Style 22021 LED CG-S SET | Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 4 x 1 W, for exit signage, with opaque cap and pictogram set (arrow left, right, down acc. to ISO 7010) and quick mounting set | 40071350654 |
| IP54 set* | Incl. quick mounting set and mounting accessories | 40071345975 |

*) IP54 for electronic and lamp. For increased ingress protection requirements indoors or in protected outdoor areas.

**) In combination with IP54 set: limited surface temperature acc. to DIN EN 60598-2-24

Style 22011, 22021 LED CG-S, SET luminaires

Safety and Exit Sign Luminaires with the same design



Light distribution curve 22011 LED CG-S with transparent cover

Planning help for 22011 LED SL CG-S with transparent cover for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Mounting height (m) | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|------------|-------------|
| 2.5 | Ceiling mounting | 3.1 (3.9) | 7.9 (9.6) | 6.5 (7.3) | 14.6 (15.9) |
| 3.0 | Exit route centre | 3.2 (4.2) | 8.4 (10.4) | 7.1 (8.3) | 16.6 (18.4) |
| 3.5 | | 3.3 (4.4) | 8.8 (11.1) | 7.5 (9.1) | 18.3 (20.6) |
| 4.0 | | 3.6 (4.5) | 9.0 (11.7) | 7.5 (9.9) | 19.7 (22.6) |
| 4.5 | | 3.9 (4.6) | 9.1 (12.1) | 7.1 (10.3) | 20.6 (24.5) |
| 5.0 | | 4.2 (4.8) | 9.5 (12.4) | 6.3 (10.6) | 21.2 (26.0) |
| 5.5 | | 4.4 (5.1) | 10.1 (12.6) | 5.3 (10.7) | 21.3 (27.4) |
| 6.0 | | 4.4 (5.4) | 10.7 (12.8) | 4.3 (10.4) | 20.8 (28.5) |
| 6.5 | | 3.7 (5.7) | 11.3 (13.0) | 3.4 (9.8) | 19.6 (29.4) |
| 2.0 | Wall mounting | 1.6 (2.2) | 4.4 (5.7) | 1.5 (2.2) | 4.4 (5.7) |
| 2.5 | | 1.3 (1.9) | 3.8 (5.2) | - (1.8) | 3.7 (5.2) |
| 3.0 | | - (1.6) | 3.2 (4.6) | - (-) | - (4.6) |
| 2.5 | Ceiling mounting | 2.7 (3.5) | 5.9 (7.1) | 6.7 (6.3) | 14.6 (14.5) |
| 3.0 | Room illumination | 2.7 (3.5) | 6.6 (7.7) | 3.7 (8.0) | 16.7 (17.7) |
| 3.5 | | 2.4 (3.6) | 7.1 (8.4) | 6.5 (4.6) | 18.4 (20.4) |
| 4.0 | | 1.8 (3.8) | 7.4 (9.0) | 5.4 (9.7) | 19.9 (22.7) |
| 4.5 | | 1.2 (3.6) | 7.5 (9.7) | 5.8 (5.2) | 21.0 (24.4) |
| 5.0 | | 2.2 (3.1) | 9.0 (10.1) | 3.7 (9.0) | 19.7 (26.2) |
| 5.5 | | 1.5 (2.5) | 9.6 (10.4) | 3.4 (7.4) | 20.3 (27.7) |
| 6.0 | | 0.8 (1.7) | 9.1 (10.5) | 4.7 (7.9) | 21.3 (29.1) |
| 6.5 | | 0.6 (3.4) | 8.6 (11.8) | 4.7 (6.1) | 21.6 (27.3) |
| 7.0 | | 0.7 (3.1) | 9.4 (12.7) | 3.9 (5.0) | 19.1 (27.6) |

*) IP54 for electronic and lamp. For increased ingress protection requirements indoors or in protected outdoor areas.

Style 23011 LED CG-S

Safety and Exit Sign Luminaires with the same design

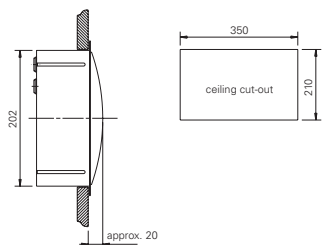
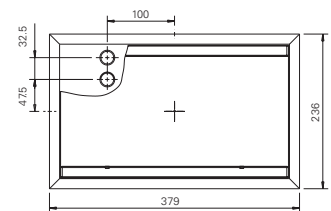
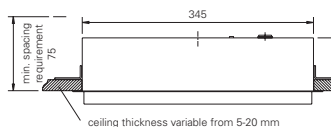


4

23011 LED SL CG-S with transparent cover



Dimensions in mm



Style 23011 LED CG-S

- Safety luminaire for recessed ceiling mounting
- Special LED optical arrangement for efficient illumination of escape routes, suitable for mounting heights up to 7m, maximum distance from luminaire to luminaire: > 16m from 3m mounting height and > 20 m from 4.5 m mounting height
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

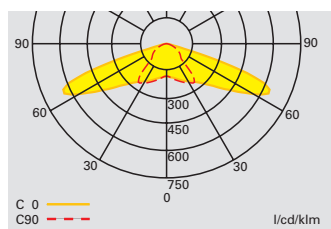
| | |
|--|--|
| Luminous flux Φ_N | 320 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey RAL 7035 |
| Weight | 1.99 kg |
| Type of mounting | Ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 7.6 VA / 4.4 W |
| Permissible temperature range | -20 °C to +40 °C |
| Inrush current | 1.5 A |
| Current consumption - battery operation (220 V) | 19 mA |
| Light source | 3 x 1 W LED |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------------|---|-------------|
| Style 23011 LED SL CG-S | Housing for recessed mounting, including LED-supply with CG-S technology and LED-circuit board 3 x 1 W, for escape route lighting and transparent cover | 40071350165 |

Planning help for 23011 LED SL CG-S with transparent cover for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

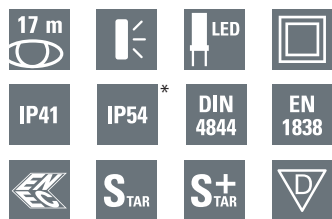


Light distribution curve 23011 LED CG-S

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|------------|-------------|
| 2.5 | Ceiling mounting | 3.1 (3.9) | 7.9 (9.6) | 6.5 (7.3) | 14.6 (15.9) |
| 3.0 | Escape route centre | 3.2 (4.2) | 8.4 (10.4) | 7.1 (8.3) | 16.6 (18.4) |
| 4.0 | | 3.6 (4.5) | 9.0 (11.7) | 7.5 (9.9) | 19.7 (22.6) |
| 5.0 | | 4.2 (4.8) | 9.5 (12.4) | 6.3 (10.6) | 21.2 (26.0) |
| 6.0 | | 4.4 (5.4) | 10.7 (12.8) | 4.3 (10.4) | 20.8 (28.5) |
| 6.5 | | 3.7 (5.7) | 11.3 (13.0) | 3.4 (9.8) | 19.6 (29.4) |
| 2.0 | Wall mounting | 1.6 (2.2) | 4.4 (5.7) | 1.5 (2.2) | 4.4 (5.7) |
| 2.5 | | 1.3 (1.9) | 3.8 (5.2) | - (1.8) | 3.7 (5.2) |
| 3.0 | | - (1.6) | 3.2 (4.6) | - (-) | - (4.6) |
| 2.5 | Ceiling mounting | 2.7 (3.5) | 5.9 (7.1) | 6.7 (6.3) | 14.6 (14.5) |
| 3.0 | Room illumination | 2.7 (3.5) | 6.6 (7.7) | 3.7 (8.0) | 16.7 (17.7) |
| 4.0 | | 1.8 (3.8) | 7.4 (9.0) | 5.4 (9.7) | 19.9 (22.7) |
| 5.0 | | 2.2 (3.1) | 9.0 (10.1) | 3.7 (9.0) | 19.7 (26.2) |
| 6.0 | | 0.8 (1.7) | 9.1 (10.5) | 4.7 (7.9) | 21.3 (29.1) |
| 7.0 | | 0.7 (3.1) | 9.4 (12.7) | 3.9 (5.0) | 19.1 (27.6) |

Style 51011 LED CG-S

Safety and Exit Sign Luminaires with the same design



4

51011 LED CG-S



51011 LED CG-S with pictogram foil PR



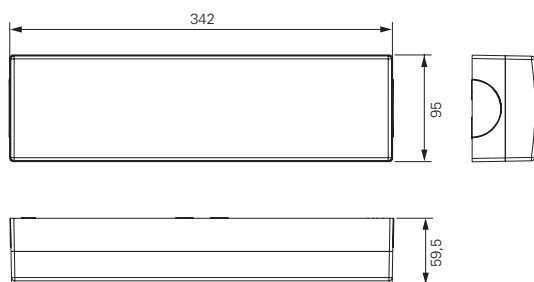
Style 51011 LED CG-S

- Compact exit sign or safety luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series permits combination with various fixing modules
- Includes transparent cap with simple snap mounting and pictogram foil set
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Simple mounting via quick mounting set (can be pre-assembled) with integrated terminal block for through-wiring
- Also suitable for use refitting existing installations with Style quick mounting set
- Optionally available IP54 set (for electronic and light source) for increased sealing requirements both indoor and in protected outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Luminous flux Φ_N | 390 lm (without pictogram foil) |
| Viewing distance | 17 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.58 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 9.5 VA / 5.8 W |
| Permissible temperature range | -20 °C to +40 °C |
| Inrush current | 1.5 A |
| Current consumption - battery operation (220 V) | 25 mA |
| Light source | 4 x 1 W LED |

Ordering details

| Type | Scope of supply | Order No. |
|----------------------|---|-------------|
| Style 51011 LED CG-S | Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 4 x 1 W, with opaque cap and pictogram set (arrow left, right, down), without quick mounting set | 40071350171 |
| Quick-mounting set | With terminals and optional distance plates | 40071345980 |
| IP54 set* | Incl. quick-mounting set and mounting accessories | 40071345975 |



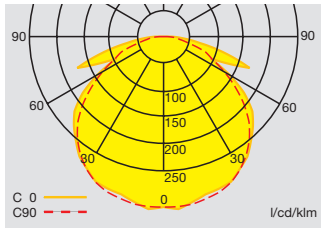
Dimensions in mm

*) IP54 for electronic and lamp. For increased tightness requirements indoors or in canopied outdoor areas.

**) In combination with IP54 set: limited surface temperature acc. to DIN EN 60598-2-24

Planning help for 51011 LED CG-S CG-S for E = 1.0 lx (0.5 lx) with transparent cover

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

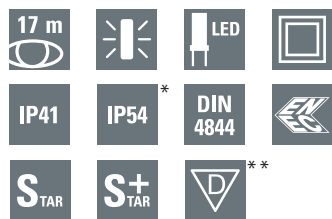


Light distribution curve 51011 LED CG-S with transparent cover

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.0 (5.0) | 9.9 (12.1) | 4.1 (5.0) | 9.9 (14.8) |
| 3.0 | Exit route centre | 4.3 (5.4) | 10.7 (13.0) | 4.5 (5.5) | 10.9 (12.8) |
| 3.5 | | 4.6 (5.7) | 11.4 (13.9) | 4.8 (5.9) | 11.7 (13.9) |
| 4.0 | | 4.8 (6.0) | 12.0 (14.8) | 5.0 (6.2) | 12.4 (14.9) |
| 4.5 | | 4.9 (6.3) | 12.6 (15.5) | 5.1 (6.5) | 13.0 (15.8) |
| 5.0 | | 5.0 (6.5) | 13.0 (16.2) | 5.1 (6.8) | 13.5 (16.6) |
| 5.5 | | 5.0 (6.7) | 13.4 (16.8) | 5.1 (7.0) | 13.9 (17.4) |
| 6.0 | | 4.9 (6.8) | 13.6 (17.4) | 5.0 (7.1) | 14.2 (18.0) |
| 6.5 | | 4.8 (6.9) | 13.8 (17.9) | 4.9 (7.2) | 14.3 (18.6) |
| 7.0 | | 4.6 (7.0) | 14.0 (18.3) | 4.6 (7.2) | 14.3 (19.0) |
| 7.5 | | 4.4 (7.0) | 14.0 (18.7) | 4.3 (7.1) | 14.2 (19.4) |
| 8.0 | | 4.0 (7.0) | 13.9 (19.0) | 4.0 (7.1) | 14.1 (19.7) |
| 8.5 | | 3.6 (6.9) | 13.8 (19.3) | 3.5 (7.0) | 14.0 (20.0) |
| 9.0 | | 2.9 (6.8) | 13.6 (19.5) | 2.7 (6.9) | 13.7 (20.1) |
| 9.5 | | 2.0 (6.7) | 13.3 (19.6) | 1.8 (6.8) | 13.5 (20.2) |
| 10.0 | | - (6.5) | 12.9 (19.8) | - (6.5) | 13.0 (20.2) |
| 2.0 | Wall mounting | 3.1 (3.9) | 7.9 (9.6) | 3.5 (4.4) | 8.8 (10.5) |
| 2.5 | | 3.2 (4.2) | 8.4 (10.4) | 3.5 (4.5) | 9.0 (10.9) |
| 3.0 | | 3.2 (4.2) | 8.5 (10.9) | 3.3 (4.4) | 8.9 (11.2) |
| 2.5 | Ceiling mounting | 1.2 (0.8) | 7.9 (8.8) | 3.7 (4.7) | 10.1 (15.4) |
| 3.0 | Room illumination | 3.4 (1.2) | 9.3 (10.2) | 3.5 (4.8) | 9.5 (15.1) |
| 3.5 | | 3.7 (1.2) | 10.1 (11.2) | 3.6 (5.0) | 10.0 (14.3) |
| 4.0 | | 3.8 (4.4) | 10.7 (12.8) | 3.7 (4.7) | 10.7 (13.1) |
| 4.5 | | 3.9 (4.9) | 11.3 (13.7) | 3.8 (4.8) | 11.3 (13.6) |
| 5.0 | | 3.9 (5.0) | 11.8 (14.4) | 3.8 (4.9) | 11.8 (14.3) |
| 5.5 | | 3.9 (5.1) | 12.3 (15.0) | 3.7 (5.0) | 12.2 (15.0) |
| 6.0 | | 3.9 (5.2) | 12.7 (15.6) | 3.7 (5.1) | 12.6 (15.6) |
| 6.5 | | 3.7 (5.3) | 13.0 (16.2) | 3.6 (5.1) | 13.0 (16.1) |
| 7.0 | | 3.6 (5.4) | 13.3 (16.7) | 3.4 (5.1) | 13.3 (16.6) |
| 7.5 | | 3.3 (5.3) | 13.5 (17.1) | 3.2 (5.1) | 13.6 (17.1) |
| 8.0 | | 3.2 (5.1) | 13.8 (17.3) | 2.7 (5.3) | 13.7 (17.8) |
| 8.5 | | 2.9 (5.3) | 13.9 (17.9) | 2.5 (5.1) | 13.9 (17.9) |
| 9.0 | | 2.7 (4.8) | 14.0 (18.0) | 2.2 (5.2) | 14.0 (18.6) |
| 9.5 | | 2.2 (4.9) | 14.1 (18.5) | 1.8 (4.9) | 14.1 (18.7) |
| 10.0 | | 1.8 (4.9) | 14.2 (18.9) | 1.4 (4.6) | 14.1 (18.8) |

Style 51021 LED CG-S

Safety and Exit Sign Luminaires with the same design



4

51021 LED CG-S with pictogram foil PR



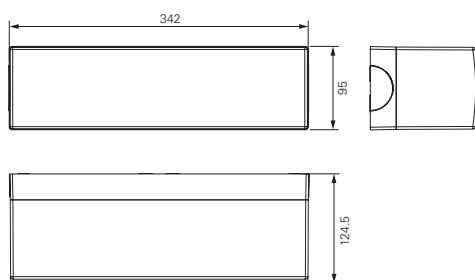
Style 51021 LED CG-S

- Compact exit sign or safety luminaire from high quality, UV-resistant, halogen-free plastic with LED-technology
- Modular constructed luminaire series permits combination with various fixing modules
- Includes opaque cap with simple snap mounting and pictogram foil set
- Exit signs with high luminance of > 500 cd/m² (white area) and good uniformity, in accordance with standards
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Simple mounting via quick mounting set (can be pre-assembled) with integrated terminal block for through-wiring
- Also suitable for use refitting existing installations with Style quick mounting set
- Optionally available IP54 set (for electronic and light source) for increased sealing requirements both indoor and in protected outdoor areas
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Viewing distance | 17 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.75 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 9.5 VA / 5.8 W |
| Permissible temperature range | -20 °C to +40 °C |
| Inrush current | 1.5 A |
| Current consumption - battery operation (220 V) | 25 mA |
| Light source | 4 x 1 W LED |

Ordering details

| Type | Scope of supply | Order No. |
|----------------------|---|-------------|
| Style 51021 LED CG-S | Luminaire housing, including LED-supply with CG-S technology and LED-circuit board 4 x 1 W, with opaque cap and pictogram set (arrow left, right, down), without quick mounting set | 40071350172 |
| Quick-mounting set | With terminals and optional distance plates | 40071345980 |
| IP54 set* | Incl. quick-mounting set and mounting accessories | 40071345975 |



Dimensions in mm

*) IP54 for electronic and lamp. For increased tightness requirements indoors or in canopied outdoor areas.

**) In combination with IP54 set: limited surface temperature acc. to DIN EN 60598-2-24

Accessories Style CG-S

Safety and Exit Sign Luminaires with the same design

Suspension set



Suspension set with 90° angle



Wall bracket



Chain fastening



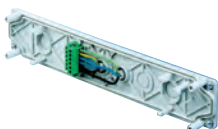
Luminaire with IP54 cover



Wire guard



Quick-mounting set



Ordering details

| Type | Order No. |
|--|-------------|
| Suspension set 0.5 m incl. quick-mounting set | 40071345972 |
| Suspension set 0.5 m IP54 incl. quick-mounting set and IP54 supplement | 40071345944 |
| Suspension set 1.5 m incl. quick-mounting set | 40071348210 |
| Suspension set 1.5 m IP54 incl. quick-mounting set and IP54 supplement | 40071348556 |
| Suspension set 0.5 m incl. quick-mounting set and 90° angle | 40071348665 |

| Type | Order No. |
|---------------------------------------|-------------|
| Wall bracket incl. quick-mounting set | 40071345974 |

| Type | Order No. |
|--|-------------|
| Chain fastening bracket incl. quick-mounting set | 40071352205 |

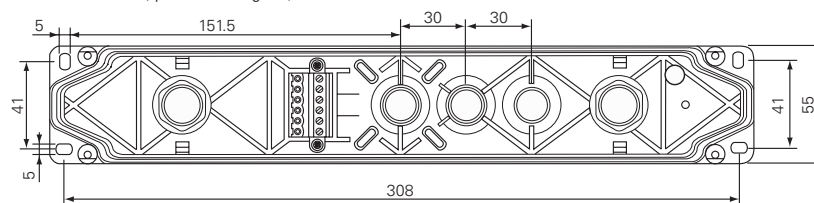
| Type | Order No. |
|--|-------------|
| IP54 supplement* incl. IP54 cover and quick mounting set with foamed, sulphur-free sealing each and mounting accessories, suitable for LED and fluorescent lamps | 40071345975 |

*) IP54 for electronic and lamp. For increased tightness requirements indoors or in canopied outdoor areas

| Type | Order No. |
|----------------------------------|-------------|
| Wire guard incl. mounting clamps | 40071348370 |

| Type | Order No. |
|--|-------------|
| Quick-mounting set with terminals and optional distance plates | 40071345980 |

Dimensions in mm (quick-mounting set)



Suspension set with 90° angle
and Style 51011 LED CG-S



Suspension set with 90° angle
and Style 22011 LED CG-S



Suspension set with
51021 LED CG-S



Wire guard with Style 22011 LED CG-S

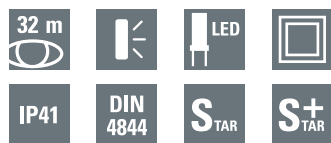


Ordering details special pictograms

| Type | Piktogramm | Viewing distance | Order No. |
|--------------|------------|------------------|-------------|
| Style series | | 32 m | 40071354138 |
| | | 32 m | 40071354134 |
| | | 32 m | 40071354135 |
| | | 32 m | 40071354136 |
| | | 32 m | 40071354137 |
| | | 32 m | 40071348010 |
| | | 32 m | 40071348017 |
| | | 32 m | 40071348018 |
| | | 32 m | 40071348019 |
| | | 32 m | 40071348029 |
| | | 32 m | 40071348030 |
| | | 32 m | 40071348031 |
| | | 32 m | 40071348021 |
| | | 32 m | 40071349349 |
| | | 32 m | 40071349350 |
| | | 32 m | 40071349351 |
| | | 32 m | 40071349352 |
| | | 32 m | 40071349335 |
| | | 32 m | 40071349342 |
| | | 32 m | 40071349343 |
| | | 32 m | 40071349358 |
| | | 32 m | 40071348674 |
| | | 32 m | 40071349368 |
| | | 32 m | 40071349369 |
| | | 32 m | 40071349370 |
| | | 32 m | 40071352387 |

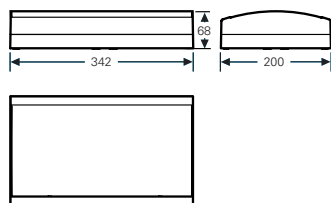
Style Variant 29011 LED CG-S

Safety and Exit Sign Luminaires with the same design



4

29011 LED with cover PR



Style Variant 29011 LED CG-S

- Single sided LED exit sign luminaire of high quality, UV-resistant, halogen-free plastic
- Large selection of screenprinted pictogram covers with simple snap mounting
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Viewing distance | 32 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate (850 °C glow wire resistant) |
| Weight incl. cover | 1.1 kg |
| Housing colour | Grey |
| Type of mounting | Wall mounting |
| Connection terminals | Clamp terminal 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz, 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 19 mA |
| Power consumption mains operation (apparent power / effective power) | 7.6 VA / 4.4 W |
| Inrush current | 1.5 A |
| Permissible temperature range | -10 °C ... +40 °C |
| Light source | HighPower LEDs 3 x 1.1 W |

Ordering details

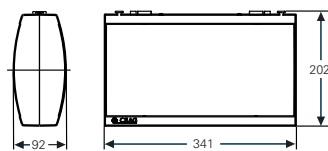
| Type | Scope of supply | Order No. |
|---------------------------|---|-------------|
| 29011 LED CG-S | Luminaire housing without cover, with CEWA GUARD monitoring and 20-digit address switch | 40071350551 |
| Cover PL acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354130 |
| Cover PR acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354131 |
| Cover PU acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354132 |

Accessories

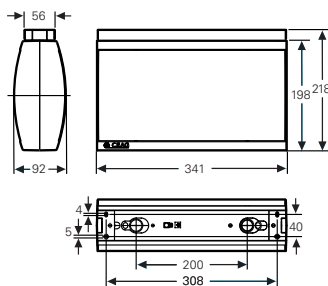
| Scope of supply | Order No. |
|-----------------|-------------|
| Wire guard | 40071348370 |



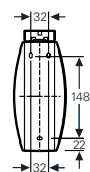
29021 LED with cover PR



29021



29021 with ceiling mounting



29021 with wall bracket



Ceiling mounting



Chain fastening



Wall bracket

Style Variant 29021 LED CG-S

- Double-sided LED exit sign luminaire of high quality, UV-resistant, halogen-free plastic
- Large selection of screenprinted pictogram covers with simple snap mounting
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Viewing distance | 32 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate (850 °C glow wire resistant) |
| Weight incl. cover | 1.2 kg |
| Housing colour | Grey |
| Type of mounting | Ceiling mounting |
| Connection terminals | Clamp terminal 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz, 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 25 mA |
| Power consumption mains operation (apparent power / effective power) | 9.5 VA / 5.8 W |
| Inrush current | 1.5 A |
| Permissible temperature range | -10 °C ... +40 °C |
| Light source | HighPower LEDs 4 x 1.1 W |

Ordering details

| Type | Scope of supply | Order No. |
|---------------------------|--|-------------|
| 29021 LED CG-S | Luminaire housing without covers, with CEWA GUARD monitoring and 20-digit address switch | 40071350550 |
| Cover PL acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354130 |
| Cover PR acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354131 |
| Cover PU acc. to ISO 7010 | Cover with silkscreened pictogram | 40071354132 |
| Blind cover | Blind cover | 40071345987 |

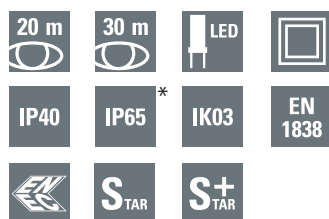
Accessories

| Type | Scope of supply | Order No. |
|-------------------------------|--|-------------|
| Ceiling mounting | for ceiling mounting and chain fastening with chain link diameter < 5 mm | 40071350432 |
| Suspension set 0.5 m | with canopy, curved | 40071350394 |
| Chain fastening ¹⁾ | ring-eyelet | 40071351158 |
| Wall bracket | | 40071350418 |

¹⁾ for chain link diameter from 5 to 12 mm ceiling mounting 40071350432 required

NexiTech LED CG-S

Safety and Exit Sign Luminaires with the same design



NexiTech LED CG-S

- Safety or exit sign luminaire with LED technology
- Combined version "Door" specific for emergency exits's illumination
- Numerous knock-outs for cable entries and double terminal for through-wiring
- Minimum service requirement due to high service life of the LEDs (50.000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

NexiTech LED CG-S Standard indoor version IP40



NexiTech LED CG-S with IP65 protection kit



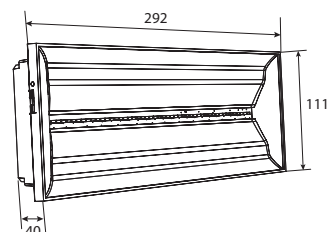
NexiTech LED CG-S with double side panel



Single side glue-less pictogram
Order No. NEXI-PICTO-x



Dimensions in mm



| | |
|--|--|
| Viewing distance | 20 m (single sided), 30 m (double-sided) |
| Luminous flux Φ_{NOM} | 250 lm, 500lm , 250+30 lm (Versione Door) |
| Luminous flux $\Phi_{\text{E}}/\Phi_{\text{NOM}}$ at the end of rated operating time | 100% |
| Housing material | Polycarbonate (850° glow wire resistant) |
| Housing colour | White |
| Weight | 0.45 kg |
| Type of mounting | Wall and ceiling mounting, surface or recessed installation in false ceiling and bricks wall |
| Connection terminals | Quick plug in terminals up to 2.5 mm ² for rigid and flexible cable |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 250lm: 25,5 mA 500lm: 49,5 mA Door: 32 mA |
| Power consumption mains operation (apparent power / effective power) | 250lm: 7.6 VA / 4.2 W 500lm: 12.9 VA / 7.7 W Door: 9 VA / 5.5 W |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | 29 LED (250lm), 60 LED (500lm), 29+2 LED (Door) |

Ordering details

| Type | Order No. |
|--|-------------|
| Universal application luminaire for safety and exit route panel luminaire with 250lm of luminous flux, including LED-supply with CG-S technology and 20-digit address switch | NEXI250-CGS |
| Universal application luminaire for safety and exit route panel luminaire with 500lm of luminous flux, including LED-supply with CG-S technology and 20-digit address switch | NEXI500-CGS |
| Combined luminaire specific for emergency exits's illumination, including LED-supply with CG-S technology and 20-digit address switch, without pictograms | NEXI-D-CGS |

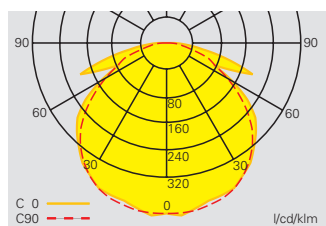
Ordering details - Double side panels and single side pictograms

| Type | Order No. |
|--|---------------|
| Double sided panels with 30 m viewing distance | |
| Double sided panels with silkscreened pictograms DOWN/DOWN, ISO7010 | NEXI-PLEXL-DD |
| Double sided panels with silkscreened pictograms LEFT/RIGHT, ISO7010 | NEXI-PLEXL-LR |
| Double sided panels with silkscreened pictograms DOWN/BLIND, ISO7010 | NEXI-PLEXL-DB |
| Single sided pictograms with 20 m viewing distance | |
| Single sided glue-less pictogram DOWN, ISO7010 | NEXI-PICTO-D |
| Single sided glue-less pictogram LEFT, ISO7010 | NEXI-PICTO-L |
| Single sided glue-less pictogram RIGHT, ISO7010 | NEXI-PICTO-R |
| Single sided glue-less pictogram UP, ISO7010 | NEXI-PICTO-U |

Accessories

| Type | Order No. |
|--|-----------|
| IP65 Protection kit | NEXI-IP |
| Bricks wall recessed base (cut-out 277x100 mm) | NEXI-RB |
| False ceiling adapter (cut-out 272x95 mm) | NEXI-FC |

* With accessory protection kit IP65 (NEXI-IP)



Light distribution curve NexiTech LED CG-S

False ceiling adapter
Order No. NEXI-FC



Recessed base for bricks wall
Order No. NEXI-RB



IP65 protection kit - 308x125x53 mm



NexiTech LED DOOR CG-S
Detail of additional LEDs



Planning assistance for NEXI250-CGS for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF= 80%, battery operation

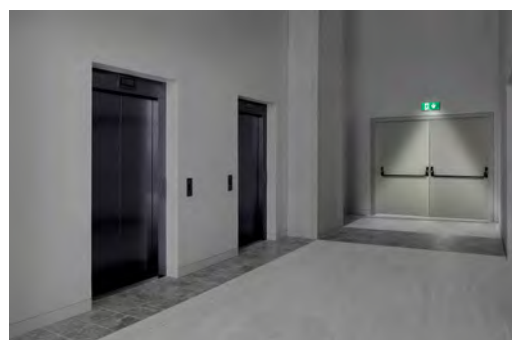
| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|----------|------------|----------|------------|
| 2,5 | Room illumination | 3,4(4,0) | 7,8(9,4) | 3,4(4,0) | 7,8(9,4) |
| 2,8 | | 3,5(4,2) | 8,3(9,9) | 3,5(4,2) | 8,3(9,9) |
| 3,0 | | 3,5(4,3) | 8,6(10,3) | 3,5(4,3) | 8,6(10,3) |
| 4,0 | | 3,8(4,7) | 9,6(11,8) | 3,8(4,7) | 9,6(11,8) |
| 5,0 | | 3,7(4,8) | 10,1(12,7) | 3,7(4,8) | 10,1(12,7) |
| 6,0 | | 3,5(4,9) | 10,8(13,6) | 3,5(4,9) | 10,8(13,6) |
| 7,0 | | 3,0(4,9) | 11,3(14,4) | 3,0(4,9) | 11,3(14,4) |

Planning assistance for NEXI500-CGS for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF= 80%, battery operation

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|-----------|-------------|
| 2,5 | Room illumination | 3,8 (4,6) | 8,9 (10,6) | 3,8 (4,6) | 8,9 (10,6) |
| 2,8 | | 3,9 (4,7) | 9,5 (11,2) | 3,9 (4,7) | 9,5 (11,2) |
| 3,0 | | 4,0 (4,9) | 9,8 (11,6) | 4,0 (4,9) | 9,8 (11,6) |
| 4,0 | | 4,4 (5,4) | 11,1 (14,3) | 4,4 (5,4) | 11,1 (14,3) |
| 5,0 | | 4,6 (5,8) | 12,2 (15,1) | 4,6 (5,8) | 12,2 (15,1) |
| 6,0 | | 4,6 (6,1) | 13,1 (16,1) | 4,6 (6,1) | 13,1 (16,1) |
| 7,0 | | 4,6 (6,2) | 13,8 (17,2) | 4,6 (6,2) | 13,8 (17,2) |

NexiTech LED CG-S - Version DOOR

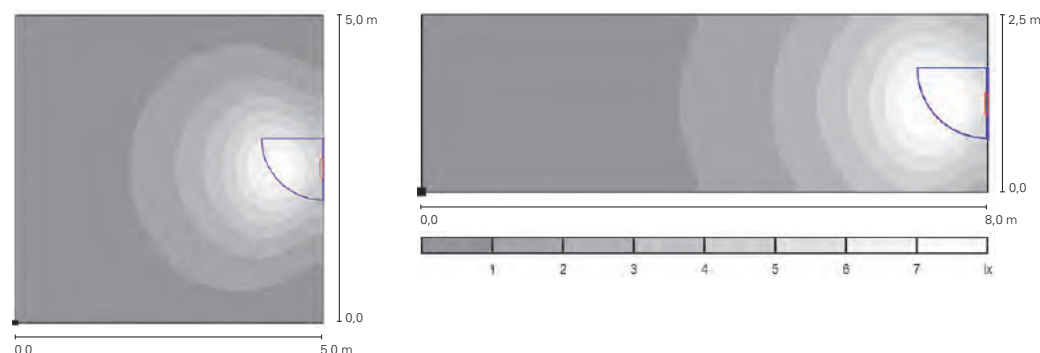


The combined version "Door" of NexiTech LED CG-S allows to get two functions in one luminaire: single-side exit sign with 20 m viewing distance and safety lighting for emergency door as requested by standard EN1838.

In addition to the main LEDs used for backlighting of the pictogram, NexiTech LED Door CG-S has 2 additional LEDs on the bottom of the luminaire for the lighting of emergency exit in accordance with the regulatory requirements.

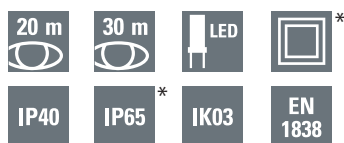
Illuminance values NexiTech LED Door CG-S

Workplane H 1m. Luminaire installation height H 2,3m, environment height 3m



NexiTech LED

Safety and Exit Sign Luminaires with the same design



NexiTech LED

- Safety or exit sign luminaire with LED technology
- Combined version "Door" specific for emergency exits's illumination
- Numerous knock-outs for cable entries and double terminal for through-wiring
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

NexiTech LED CG-S Standard indoor version IP40



NexiTech LED CG-S with IP65 protection kit



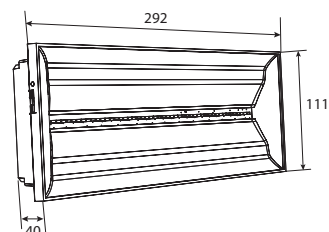
NexiTech LED CG-S with double side panel



Single side glue-less pictogram
Order No. NEXI-PICTO-x



Dimensions in mm



| | |
|--|--|
| Viewing distance | 20 m (single sided), 30 m (double-sided) |
| Luminous flux Φ_{NOM} | 250 lm, 500lm , 250+30 lm (Versione Door) |
| Luminous flux $\Phi_{\text{E}}/\Phi_{\text{NOM}}$ at the end of rated operating time | 100% |
| Housing material | Polycarbonate (850° glow wire resistant) |
| Housing colour | White |
| Weight | 0.45 kg |
| Type of mounting | Wall and ceiling mounting, surface of recessed installation in false ceiling and bricks wall |
| Connection terminals | Quick plug in terminals up to 2.5 mm ² for rigid and flexible cable |
| Connection voltage | 110 – 240 V AC, 50/60 Hz 110 – 240 V DC |
| Power consumption mains operation | 250lm: 3.45 W 500lm: 6.9 W Door: 3.45 W |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | 29 LED (250lm), 60 LED (500lm), 29+2 LED (Door) |

Ordering details

| Type | Order No. |
|---|-------------|
| Universal application luminaire for safety and exit route panel luminaire with 250lm of luminous flux, including LED-supply | NEXI250-230 |
| Universal application luminaire for safety and exit route panel luminaire with 500lm of luminous flux, including LED-supply | NEXI500-230 |
| Combined luminaire specific for emergency exits's illumination, including LED-supply, without pictograms | NEXI-D-230 |

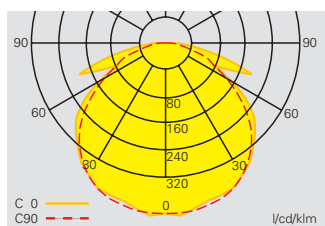
Ordering details - Double side panels and single side pictograms

| Type | Order No. |
|--|---------------|
| Double sided panels with 30 m viewing distance | |
| Double sided panels with silkscreened pictograms DOWN/DOWN, ISO7010 | NEXI-PLEXL-DD |
| Double sided panels with silkscreened pictograms LEFT/RIGHT, ISO7010 | NEXI-PLEXL-LR |
| Double sided panels with silkscreened pictograms DOWN/BLIND, ISO7010 | NEXI-PLEXL-DB |
| Single sided pictograms with 20 m viewing distance | |
| Single sided glue-less pictogram DOWN, ISO7010 | NEXI-PICTO-D |
| Single sided glue-less pictogram LEFT, ISO7010 | NEXI-PICTO-L |
| Single sided glue-less pictogram RIGHT, ISO7010 | NEXI-PICTO-R |
| Single sided glue-less pictogram UP, ISO7010 | NEXI-PICTO-U |

Accessories

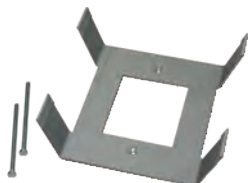
| Type | Order No. |
|--|-----------|
| IP65 Protection kit | NEXI-IP |
| Bricks wall recessed base (cut-out 277x100 mm) | NEXI-RB |
| False ceiling adapter (cut-out 272x95 mm) | NEXI-FC |

* With accessory protection kit IP65 (NEXI-IP)



Light distribution curve NexiTech LED CG-S

False ceiling adapter
Order No. NEXI-FC



Recessed base for bricks wall
Order No. NEXI-RB



IP65 protection kit - 308x125x53 mm



NexiTech LED DOOR CG-S
Detail of additional LEDs



Planning assistance for NEXI250-CGS for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF= 80%, battery operation

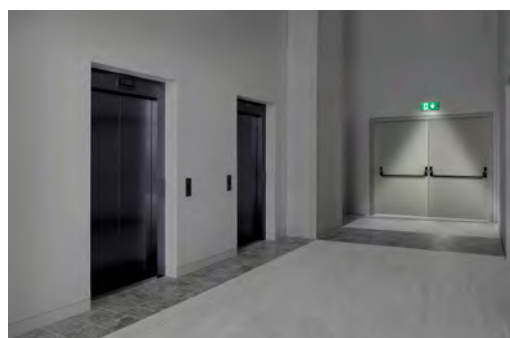
| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|----------|------------|----------|------------|
| 2,5 | Room illumination | 3,4(4,0) | 7,8(9,4) | 3,4(4,0) | 7,8(9,4) |
| 2,8 | | 3,5(4,2) | 8,3(9,9) | 3,5(4,2) | 8,3(9,9) |
| 3,0 | | 3,5(4,3) | 8,6(10,3) | 3,5(4,3) | 8,6(10,3) |
| 4,0 | | 3,8(4,7) | 9,6(11,8) | 3,8(4,7) | 9,6(11,8) |
| 5,0 | | 3,7(4,8) | 10,1(12,7) | 3,7(4,8) | 10,1(12,7) |
| 6,0 | | 3,5(4,9) | 10,8(13,6) | 3,5(4,9) | 10,8(13,6) |
| 7,0 | | 3,0(4,9) | 11,3(14,4) | 3,0(4,9) | 11,3(14,4) |

Planning assistance for NEXI500-CGS for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF= 80%, battery operation

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|-----------|-------------|
| 2,5 | Room illumination | 3,8 (4,6) | 8,9 (10,6) | 3,8 (4,6) | 8,9 (10,6) |
| 2,8 | | 3,9 (4,7) | 9,5 (11,2) | 3,9 (4,7) | 9,5 (11,2) |
| 3,0 | | 4,0 (4,9) | 9,8 (11,6) | 4,0 (4,9) | 9,8 (11,6) |
| 4,0 | | 4,4 (5,4) | 11,1 (14,3) | 4,4 (5,4) | 11,1 (14,3) |
| 5,0 | | 4,6 (5,8) | 12,2 (15,1) | 4,6 (5,8) | 12,2 (15,1) |
| 6,0 | | 4,6 (6,1) | 13,1 (16,1) | 4,6 (6,1) | 13,1 (16,1) |
| 7,0 | | 4,6 (6,2) | 13,8 (17,2) | 4,6 (6,2) | 13,8 (17,2) |

NexiTech LED CG-S - Version DOOR

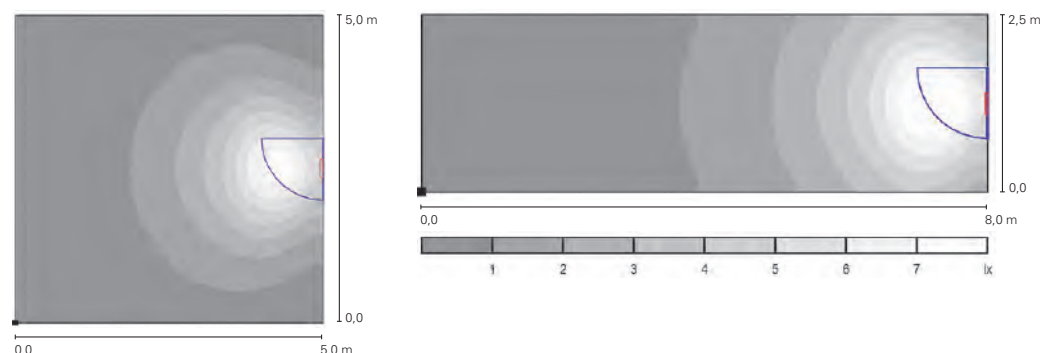


The combined version "Door" of NexiTech LED CG-S allows to get two functions in one luminaire: single-side exit sign with 20 m viewing distance and safety lighting for emergency door as requested by standard EN1838.

In addition to the main LEDs used for backlighting of the pictogram, NexiTech LED Door CG-S has 2 additional LEDs on the bottom of the luminaire for the lighting of emergency exit in accordance with the regulatory requirements.

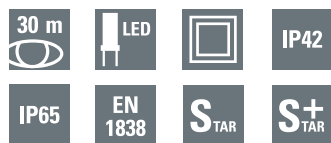
Illuminance values NexiTech LED Door CG-S

Workplane H 1m. Luminaire installation height H 2,3m, environment height 3m



Sirios LED CG-S / Sirios LED

Safety and Exit Sign Luminaires with the same design

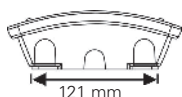
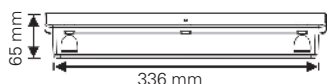
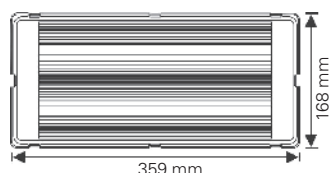


4

Sirios LED CG-S



Dimensions in mm



Recessed mounting set



IP65 set



Wall quick mounting set



Sirios LED CG-S / Sirios LED

- Sirios range of emergency luminaires are low profile, designed and equipped with technical solutions and accessories for a wide range of applications
- Adjustable LED arrays enable antipanic and exit sign illumination, as well as escape route lighting
- The range of accessories includes a base for recessed installation in walls and false ceilings. as well as an IP65 weatherproof kit
- Minimum service requirement due to high service life of the LEDs (50.000 hours)

only CG-S version

- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

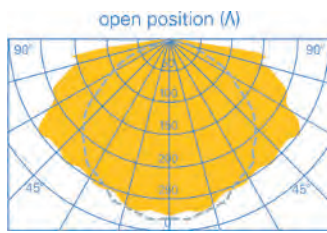
| | |
|--|---|
| Viewing distance | 30 m |
| Luminous flux Φ_N | Led position „open“ 130 lm Led position „closed“ 119 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 0.77 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | plug-in terminal 2.5 mm ² |
| Connection voltage | O-SLED-CG-S: 220 – 240 V AC, 50/60 Hz; 176 – 275 V DC O-SLED-MAINS: 230 V AC, 50/60 Hz; 186 – 275 V DC |
| Power consumption mains operation | O-SLED-CG-S: 7.5 VA / 4.3 W |
| Current consumption- battery operation (220 V) | O-SLED-CG-S: 18 mA |
| Permissible temperature range | 0 °C bis +40 °C |
| Light source | 24 white LEDs 1.5 W |

Accessories

| Type | Scope of supply | Order No |
|-----------------|---|--------------|
| Sirios LED CG-S | Luminaire housing including pictogram set (arrow left, right, down) with CG-S technology and 20-digital address switch | O-SLED-CG-S |
| Sirios LED | Luminaire housing including pictogram set (arrow left, right, down) | O-SLED-MAINS |

Accessories

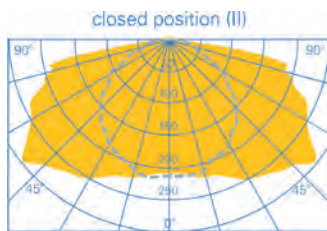
| Type | Order No |
|--|----------|
| Sirios IP65 set | O-S-IP |
| Sirios pictogram panel (down/down) for ceiling mounting | O-S-PSD |
| Sirios pictogram panel (left/right) for ceiling mounting | O-S-PSLR |
| Sirios recessed mounting set for cavity wall or ceiling mounting with frontal brackets | O-S-RB |
| Sirios recessed mounting set for cavity ceiling or recessed mounting with side-springs | O-S-RB2 |
| Sirios wall quick mounting set | O-S-WB |



Light distribution curve Sirios LED CG-S



Open position (A)
for Antipanic and Exit Sign







Light distribution curve Sirios LED CG-S



Closed position (II)
for Escape Route





Engineering help for Sirios LED CG-S (open position) for E = 1.0 Lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Mounting height [m] | Types of mounting | L1  | L2  | L3  | L4  |
|---------------------|---------------------|--|--|--|--|
| 2.5 | Ceiling mounting | 2.6 (3.4) | 6.7 (8.4) | 3.1 (4.2) | 8.3 (10.8) |
| 3.0 | Escape route centre | 2.6 (3.6) | 7.2 (8.9) | 3 (4.4) | 8.9 (11.2) |
| 3.5 | | 2.5 (3.7) | 7.4 (9.5) | 2.9 (4.5) | 8.9 (11.8) |
| 4.0 | | 2.4 (3.8) | 7.5 (10.0) | 2.5 (4.3) | 8.6 (12.3) |
| 4.5 | | 2.0 (3.7) | 7.4 (10.3) | 2.1 (4.2) | 8.4 (12.7) |
| 5.0 | | 1.5 (3.6) | 7.2 (10.5) | 1.4 (4.0) | 8.0 (12.6) |
| 2.5 | Wall mounting | 2.2 (1.9) | 6.7 (7.4) | 1.5 (3.9) | 7.6 (10.4) |
| 3.0 | Room illumination | 1.7 (3.2) | 6.7 (9.1) | 2.3 (1.5) | 8.6 (9.7) |
| 3.5 | | 1.5 (2.8) | 6.9 (9.4) | 2.3 (2.1) | 9.0 (10.8) |
| 4.0 | | 1.3 (2.5) | 7.2 (9.5) | 2.1 (2.9) | 9.0 (11.7) |
| 4.5 | | 0.7 (2.2) | 7.1 (9.6) | 2.1 (3.1) | 9.2 (12.4) |
| 5.0 | | 1.1 (2.2) | 7.5 (10.1) | 1.6 (2.6) | 8.7 (12.4) |
| 5.5 | | 0.8 (2.0) | 7.6 (10.3) | 1.3 (2.6) | 8.4 (12.5) |
| 6.0 | | 0.7 (1.2) | 7.8 (10.1) | 0.9 (2.9) | 7.8 (12.9) |

Engineering help for Sirios LED CG-S (closed position) for E = 1.0 Lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Mounting height [m] | Types of mounting | L1  | L2  | L3  | L4  |
|---------------------|---------------------|--|--|--|--|
| 2.5 | Ceiling mounting | 2.2 (3.0) | 6.0 (7.8) | 3.2 (4.2) | 8.4 (11.0) |
| 3.0 | Escape route centre | 2.1 (3.2) | 6.4 (8.2) | 3.1 (4.4) | 8.8 (11.6) |
| 3.5 | | 2.0 (3.2) | 6.3 (8.5) | 2.8 (4.6) | 9.1 (11.9) |
| 4.0 | | 1.5 (3.1) | 6.2 (8.8) | 2.3 (4.6) | 9.1 (12.3) |
| 4.5 | | 0.5 (2.9) | 5.8 (9.0) | 0.4 (4.3) | 8.5 (12.6) |
| 5.0 | | 1.5 (3.6) | 7.2 (10.5) | 1.4 (4.0) | 8.0 (12.6) |
| 2.5 | Wall mounting | 1.7 (2.4) | 6.2 (7.7) | 2.6 (3.6) | 8.1 (10.2) |
| 3.0 | Room illumination | 1.6 (2.5) | 6.6 (8.4) | 1.0 (3.8) | 8.7 (10.6) |
| 3.5 | | 1.2 (2.0) | 6.7 (8.6) | 0.6 (3.9) | 9.4 (11.6) |
| 4.0 | | 0.7 (2.2) | 6.6 (9.2) | 0.7 (2.0) | 9.9 (12.0) |
| 4.5 | | 0.7 (2.1) | 6.5 (9.5) | 0.7 (0.6) | 9.9 (12.6) |
| 5.0 | | 0.5 (1.2) | 6.1 (9.4) | 1.0 (0.8) | 9.9 (13.5) |
| 5.5 | | 0.5 (1.0) | 5.6 (9.4) | 0.5 (0.6) | 9.3 (13.9) |
| 6.0 | | 0.5 (0.5) | 6.7 (9.3) | 0.5 (0.7) | 6.7 (14.1) |

| Application \ LED position | Exit Sign | Antipanic | Escape Route |
|----------------------------|-----------|-----------|--------------|
| Open (A) | Best* | Best** | Good |
| Closed (II) | Good | Good | Best*** |

* Better uniformity on exit sign

** Larger illuminated area

*** Longer distance at lower heights, more concentrated illuminance along the escape route

Sirios 8W CG-S

Safety and Exit Sign Luminaires with the same design

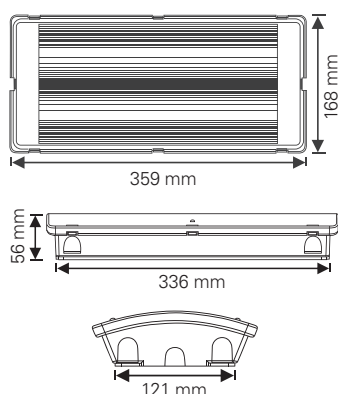


4

Sirios 8W CG-S



Dimensions in mm



Recessed mounting set



IP65 set



Wall quick mounting set






Sirios 8W CG-S

- Sirios range of emergency luminaires are low profile, designed and equipped with technical solutions and accessories for a wide range of applications
- The range of accessories includes a base for recessed installation in walls and false ceilings. As well as an IP65 weatherproof kit
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

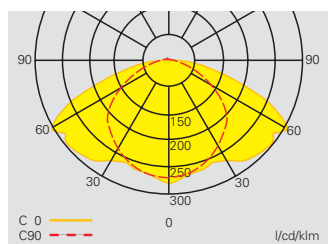
| | |
|--|--|
| Viewing distance | 30 m |
| Luminous flux Φ_N | 324 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 75 % |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 0.69 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | plug-in terminal 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation | 16 VA / 9.6 W |
| Current consumption- battery operation (220 V) | 30 mA |
| Inrush current | 3 A |
| Permissible temperature range | 0 °C bis +25 °C |
| Light source | 8W / T16 |

Order No.

| Type | Scope of supply | Order No |
|----------------|---|----------|
| Sirios 8W CG-S | Luminaire housing including pictogram set (arrow left, right, down)    with CG-S technology and 20-digital address switch | O-S8-CGS |

Accessories

| Type | Order No |
|--|----------|
| Sirios IP65 set | O-S-IP |
| Sirios pictogram panel (down/down) for ceiling mounting | O-S-PSD |
| Sirios pictogram panel (left/right) for ceiling mounting | O-S-PSLR |
| Sirios recessed mounting set for cavity wall or ceiling mounting with frontal brackets | O-S-RB |
| Sirios recessed mounting set for cavity ceiling or recessed mounting with side-springs | O-S-RB2 |
| Sirios wall quick mounting set | O-S-WB |



Light distribution curve Sirios 8W CG-S

Engineering help for Sirios 8W CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 3.7 (4.5) | 9.0 (10.7) | 5.0 (6.1) | 12.2 (14.5) |
| 3.0 | Escape route centre | 3.9 (4.9) | 9.7 (11.8) | 5.3 (6.6) | 13.2 (15.9) |
| 3.5 | | 4.0 (5.2) | 10.3 (12.6) | 5.3 (7.0) | 14.0 (17.2) |
| 4.0 | | 4.1 (5.4) | 10.8 (13.4) | 5.3 (7.4) | 14.7 (18.2) |
| 4.5 | | 4.1 (5.6) | 11.2 (14.1) | 5.2 (7.5) | 15.0 (19.1) |
| 5.0 | | 4.0 (5.7) | 11.5 (14.7) | 5.1 (7.5) | 14.9 (19.9) |
| 5.5 | | 3.8 (5.8) | 11.7 (15.2) | 4.8 (7.4) | 14.9 (20.6) |
| 6.0 | | 3.6 (5.9) | 11.7 (15.6) | 4.5 (7.5) | 14.9 (21.1) |
| 6.5 | | 3.3 (5.8) | 11.6 (15.9) | 3.7 (7.4) | 14.8 (21.3) |
| 7.0 | | 2.9 (5.7) | 11.4 (16.2) | 2.9 (7.2) | 14.4 (21.1) |
| 7.5 | | 2.3 (5.5) | 11.1 (16.4) | 2.2 (7.0) | 14.0 (21.0) |
| 8.0 | | 1.4 (5.3) | 10.7 (16.5) | 1.0 (6.7) | 13.4 (21.1) |
| 8.5 | | - (5.1) | 10.2 (16.6) | - (6.3) | 12.3 (21.1) |
| 9.0 | | - (4.8) | 9.6 (16.5) | - (5.5) | 11.1 (21.0) |
| 9.5 | | - (4.5) | 8.9 (16.3) | - (4.7) | 9.5 (20.7) |
| 10.0 | | - (4.0) | 8.0 (16.0) | - (4.0) | 7.9 (20.3) |

Engineering help for Sirios 8W CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 3.2 (3.8) | 8.8 (10.4) | 1.2 (4.9) | 10.7 (12.7) |
| 3.0 | Room illumination | 3.0 (4.1) | 9.3 (11.5) | 1.6 (2.0) | 12.1 (13.9) |
| 3.5 | | 2.7 (4.3) | 9.7 (12.4) | 1.8 (1.5) | 13.3 (15.1) |
| 4.0 | | 2.4 (4.2) | 9.8 (13.0) | 2.4 (1.8) | 14.4 (16.4) |
| 4.5 | | 2.4 (4.0) | 10.2 (13.4) | 2.2 (2.2) | 14.8 (17.7) |
| 5.0 | | 1.9 (3.5) | 10.4 (13.6) | 2.3 (2.6) | 15.3 (19.1) |
| 5.5 | | 0.6 (3.1) | 10.0 (13.8) | 3.0 (3.1) | 16.3 (20.2) |
| 6.0 | | 1.7 (3.5) | 10.7 (14.4) | 2.4 (2.7) | 15.6 (20.3) |
| 6.5 | | 1.0 (3.3) | 10.7 (14.6) | 2.5 (2.8) | 16.0 (20.9) |
| 7.0 | | 0.8 (2.4) | 10.7 (14.5) | 2.5 (3.3) | 16.1 (21.8) |
| 7.5 | | 0.5 (1.5) | 10.6 (14.5) | 2.5 (3.5) | 16.1 (22.5) |
| 8.0 | | 0.6 (2.7) | 10.3 (15.2) | 2.7 (3.0) | 15.9 (21.5) |
| 8.5 | | 0.6 (2.1) | 10.5 (15.1) | 2.4 (3.2) | 15.3 (22.2) |
| 9.0 | | 0.5 (1.3) | 10.6 (15.1) | 2.2 (3.3) | 14.7 (22.6) |
| 9.5 | | 0.6 (0.6) | 11.1 (15.0) | 1.7 (3.4) | 13.3 (23.0) |
| 10.0 | | 0.5 (0.6) | 11.2 (15.1) | 1.6 (3.3) | 12.0 (22.9) |

Sirios 11W CG-S

Safety and Exit Sign Luminaires with the same design



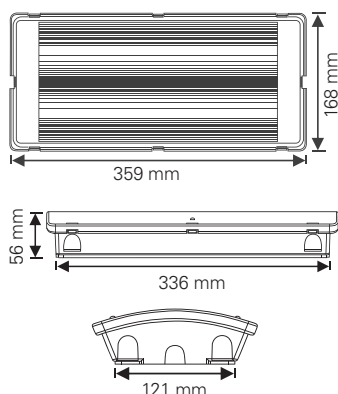
Sirios 11W CG-S

- Sirios range of emergency luminaires are low profile, designed and equipped with technical solutions and accessories for a wide range of applications
- The range of accessories includes a base for recessed installation in walls and false ceilings. As well as an IP65 weatherproof kit
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Sirios 11W CG-S



Dimensions in mm



| | |
|--|--|
| Viewing distance | 30 m |
| Luminous flux Φ_N | 471 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 75 % |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 0.70 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | plug-in terminal 2.5 mm ² |
| Connection voltage | 220 – 240 V AC. 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation | 18 VA / 10.8 W |
| Current consumption- battery operation (220 V) | 40 mA |
| Inrush current | 3 A |
| Permissible temperature range | 0 °C bis +25 °C |
| Light source | FL11W2G7 |

Order No.

| Type | Scope of supply | Order No |
|-----------------|---|-------------|
| Sirios 11W CG-S | Luminaire housing including pictogram set (arrow left, right, down) with CG-S technology and 20-digital address switch | O-S11W-CG-S |

Accessories

| Type | Order No |
|--|----------|
| Sirios IP65 set | O-S-IP |
| Sirios pictogram panel (down/down) for ceiling mounting | O-S-PSD |
| Sirios pictogram panel (left/right) for ceiling mounting | O-S-PSLR |
| Sirios recessed mounting set for cavity wall or ceiling mounting with frontal brackets | O-S-RB |
| Sirios recessed mounting set for cavity ceiling or recessed mounting with side-springs | O-S-RB2 |
| Sirios wall quick mounting set | O-S-WB |

Recessed mounting set

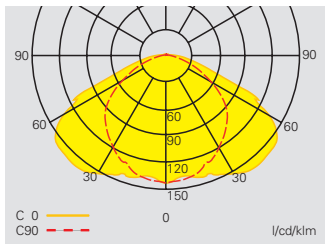


IP65 set



Wall quick mounting set





Light distribution curve Sirios 11W CG-S

Engineering help for Sirios 11W CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 3,7 (4,5) | 9,0 (10,9) | 4,7 (5,7) | 11,4 (13,1) |
| 3.0 | Escape route centre | 4,0 (4,9) | 9,8 (11,8) | 5,1 (6,4) | 12,7 (14,5) |
| 3.5 | | 4,2 (5,3) | 10,5 (12,7) | 5,4 (6,7) | 13,4 (16,0) |
| 4.0 | | 4,3 (5,5) | 11,0 (13,5) | 5,6 (7,1) | 14,2 (17,4) |
| 4.5 | | 4,3 (5,7) | 11,5 (14,3) | 5,7 (7,4) | 14,9 (18,4) |
| 5.0 | | 4,2 (5,9) | 11,8 (14,9) | 5,6 (7,7) | 15,4 (19,0) |
| 5.5 | | 4,1 (6,0) | 12,0 (15,5) | 5,5 (7,9) | 15,7 (19,8) |
| 6.0 | | 3,9 (6,1) | 12,1 (15,9) | 5,3 (8,0) | 16,0 (20,6) |
| 6.5 | | | 12,1 (16,3) | 5,1 (8,0) | 16,0 (21,2) |
| 7.0 | | 3,4 (6,0) | 11,9 (16,7) | 4,6 (8,0) | 15,9 (21,7) |
| 7.5 | | 2,9 (5,9) | 11,7 (16,9) | 3,9 (7,8) | 15,7 (22,1) |
| 8.0 | | 2,3 (5,7) | 11,5 (17,1) | 2,8 (7,7) | 15,4 (22,4) |
| 8.5 | | 1,4 (5,5) | 11,1 (17,1) | 1,0 (7,5) | 15,0 (22,6) |

Engineering help for Sirios 11W CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 3,5 (4,3) | 9,1 (11,0) | 1,0 (1,0) | 9,8 (11,0) |
| 3.0 | Room illumination | 3,0 (4,7) | 9,3 (12,0) | 4,2 (0,9) | 11,6 (12,5) |
| 3.5 | | 3,0 (4,7) | 10,1 (12,8) | 4,2 (1,2) | 12,5 (13,9) |
| 4.0 | | 3,0 (4,2) | 10,4 (12,9) | 4,6 (5,6) | 13,3 (15,8) |
| 4.5 | | 3,3 (4,8) | 11,0 (14,3) | 1,8 (1,4) | 13,7 (16,1) |
| 5.0 | | 3,3 (4,1) | 11,4 (14,4) | 1,6 (5,8) | 14,3 (17,7) |
| 5.5 | | 2,9 (4,1) | 11,6 (14,6) | 1,6 (6,2) | 15,1 (18,6) |
| 6.0 | | 2,4 (4,6) | 11,7 (15,4) | 1,7 (2,2) | 15,9 (18,8) |
| 6.5 | | 1,9 (4,6) | 11,8 (15,8) | 1,7 (2,1) | 16,5 (19,4) |
| 7.0 | | 1,1 (4,4) | 11,8 (16,1) | 1,6 (2,1) | 17,1 (20,2) |
| 7.5 | | 0,5 (4,1) | 11,8 (16,3) | 1,5 (2,1) | 17,4 (21,0) |
| 8.0 | | 0,7 (3,8) | 11,8 (16,5) | 1,4 (2,1) | 17,3 (21,7) |
| 8.5 | | 0,6 (3,2) | 11,7 (16,6) | 1,4 (2,1) | 17,3 (22,5) |
| 9.0 | | 0,5 (2,6) | 11,6 (16,7) | 1,2 (2,1) | 17,2 (23,2) |
| 9.5 | | 0,7 (1,9) | 11,5 (16,7) | 0,9 (2,1) | 16,9 (23,8) |
| 10.0 | | 0,5 (1,2) | 11,3 (16,7) | 0,7 (2,1) | 16,7 (24,3) |

Sirios 18W CG-S

Safety and Exit Sign Luminaires with the same design

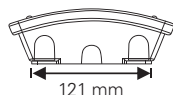
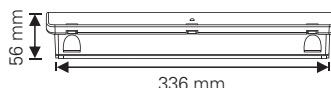
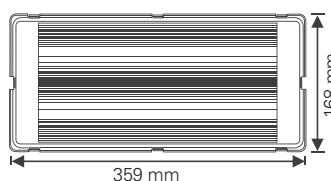


4

Sirios 18W CG-S



Dimensions in mm



Recessed mounting set



IP65 set



Wall quick mounting set




Sirios 18W CG-S

- Sirios range of emergency luminaires are low profile, designed and equipped with technical solutions and accessories for a wide range of applications
- The range of accessories includes a base for recessed installation in walls and false ceilings. As well as an IP65 weatherproof kit
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

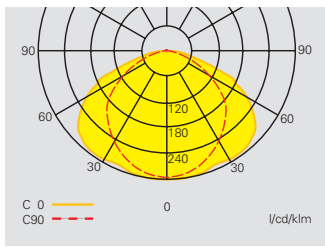
| | |
|--|--|
| Viewing distance | 30 m |
| Luminous flux Φ_N | 771 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 75 % |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 0.74 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | plug-in terminal 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation | 30 VA / 18 W |
| Current consumption- battery operation (220 V) | 70 mA |
| Inrush current | 8 A |
| Permissible temperature range | 0 °C bis +25 °C |
| Light source | FL18W2G11 |

Order No.

| Type | Scope of supply | Order No |
|-----------------|---|-----------|
| Sirios 18W CG-S | Luminaire housing including pictogram set (arrow left, right, down)  with CG-S technology and 20-digital address switch | O-S18-CGS |

Accessories

| Type | Order No |
|--|----------|
| Sirios IP65 set | O-S-IP |
| Sirios pictogram panel (down/down) for ceiling mounting | O-S-PSD |
| Sirios pictogram panel (left/right) for ceiling mounting | O-S-PSLR |
| Sirios recessed mounting set for cavity wall or ceiling mounting with frontal brackets | O-S-RB |
| Sirios recessed mounting set for cavity ceiling or recessed mounting with side-springs | O-S-RB2 |
| Sirios wall quick mounting set | O-S-WB |



Light distribution curve Sirios 18W CG-S

Engineering help for Sirios 18W CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|------------|-------------|
| 2.5 | Ceiling mounting | 4.8 (5.7) | 11.3 (13.3) | 5.9 (6.9) | 13.7 (16.1) |
| 3.0 | Escape route centre | 5.2 (6.2) | 12.4 (14.7) | 6.3 (7.6) | 15.2 (17.8) |
| 3.5 | | 5.5 (6.7) | 13.4 (15.9) | 6.7 (8.3) | 16.5 (19.3) |
| 4.0 | | 5.8 (7.1) | 14.2 (17.1) | 7.0 (8.6) | 17.3 (20.8) |
| 4.5 | | 6.1 (7.5) | 15.0 (18.1) | 7.3 (9.1) | 18.1 (22.3) |
| 5.0 | | 6.3 (7.8) | 15.7 (19.0) | 7.5 (9.5) | 18.9 (23.4) |
| 5.5 | | 6.4 (8.1) | 16.3 (19.9) | 7.7 (9.8) | 19.6 (24.2) |
| 6.0 | | 6.5 (8.4) | 16.8 (20.7) | 7.8 (10.1) | 20.2 (25.0) |
| 6.5 | | 6.6 (8.6) | 17.3 (21.4) | 7.9 (10.3) | 20.7 (25.9) |
| 7.0 | | 6.5 (8.8) | 17.7 (22.1) | 7.9 (10.6) | 21.1 (26.7) |
| 7.5 | | 6.5 (9.0) | 18.0 (22.7) | 7.9 (10.7) | 21.5 (27.4) |
| 8.0 | | 6.4 (9.1) | 18.3 (23.2) | 7.8 (10.9) | 21.8 (28.0) |
| 8.5 | | 6.3 (9.2) | 18.4 (23.8) | 7.7 (11.0) | 22.0 (28.6) |
| 9.0 | | 6.1 (9.3) | 18.5 (24.2) | 7.5 (11.1) | 22.2 (29.1) |
| 9.5 | | 5.9 (9.3) | 18.5 (24.7) | 7.2 (11.2) | 22.4 (29.5) |
| 10.0 | | 5.7 (9.2) | 18.5 (25.1) | 6.9 (11.2) | 22.4 (29.9) |

Engineering help for Sirios 18W CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.2 (4.7) | 11 (12.8) | 3.9 (4.7) | 11.5 (13.8) |
| 3.0 | Room illumination | 3.9 (5.1) | 11.4 (14.1) | 4.7 (5.1) | 13.5 (15.2) |
| 3.5 | | 4.1 (5.3) | 12.2 (15) | 5.1 (5.7) | 14.7 (16.8) |
| 4.0 | | 4.3 (5.6) | 13.0 (16.0) | 5.3 (6.1) | 15.5 (18.1) |
| 4.5 | | 4.4 (5.3) | 13.6 (16.3) | 5.6 (6.9) | 16.3 (20.1) |
| 5.0 | | 4.6 (5.8) | 14.4 (17.6) | 5.7 (6.8) | 16.9 (20.6) |
| 5.5 | | 4.7 (5.8) | 15.1 (18.2) | 5.6 (7.2) | 17.5 (21.7) |
| 6.0 | | 4.7 (5.4) | 15.6 (18.3) | 5.5 (7.9) | 18.2 (23.1) |
| 6.5 | | 4.7 (6.2) | 16.1 (19.6) | 5.3 (7.7) | 18.8 (23.1) |
| 7.0 | | 5.2 (6.3) | 17.2 (20.3) | 2.8 (7.8) | 18.6 (23.8) |
| 7.5 | | 4.7 (6.6) | 17.0 (21.2) | 4.4 (7.6) | 19.8 (24.2) |
| 8.0 | | 5.2 (6.8) | 18.0 (22.0) | 2.3 (7.1) | 19.6 (24.6) |
| 8.5 | | 5.2 (6.8) | 18.5 (22.5) | 2.0 (6.9) | 19.9 (25.3) |
| 9.0 | | 4.5 (6.9) | 18.2 (23.1) | 2.6 (6.4) | 21.0 (25.8) |
| 9.5 | | 4.5 (6.4) | 18.6 (23.0) | 2.4 (7.1) | 21.2 (27.0) |
| 10.0 | | 3.7 (6.9) | 18.3 (24.0) | 2.9 (5.3) | 22.1 (26.9) |
















Safety and Exit Sign Luminaies with High Ingress Protection

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Safety and Exit Sign Luminaies with High Ingress Protection

Overview

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| | | | Aesthetic | Low consumption / Eco-friendly | Protection Degree | Viewing distance | Luminous flux | 24 V | 48 V | 110 V | 220 V DC | 230 V AC | Monitored CG-S | Monitored EC 1.5 |
|-------------|-----------------------|---|-----------------|-----------------------------------|-------------------|------------------|---------------------------------|---------|------|-------|----------|----------|----------------|------------------|
| | | Performance | Global Features | | | | | Voltage | | | | | Technology | |
| 5.1 | Atlantic LED |  ★★★ | ● | ● | 65 | 24 | 220/ 225 lm HB: 340 lm | | | | ● | ● | ● | |
| 5.2 | Atlantic Outdoor Wall |  ★★★ | ● | ● | 65 | | 225 lm | | | | ● | ● | ● | |
| 5.3 | 46011 LED |  ★★★ | | ● | 65 | 60 | | | | | ● | ● | ● | |
| 5.4 | i-P65+ |  ★★★ | | ● | 65 | | 770 lm 590 lm | | | | ● | ● | ● | ● |
| 5.5 | i-P65 |  ★★ | | ● | 65 | 18/ 20 | 225 lm | | | ● | ● | ● | ● | ● |
| 5.6 | 83022 / 84022 LED |  ★★ | | | 65 | 20* | 600 620 lm | | | | ● | ● | ● | |
| 5.8 | Tufflite LED |  ★★ | | | 66 | | 2500 lm | | | | ● | ● | | |
| 5.7 | Planete Tube |  ★★ | | | 66/ 68 | 70 | 400 lm | ● | ● | | ● | ● | ● | |
| 5.9 | Planete 220/400 ES |  ★★ | | | 66 | | 400 lm | ● | ● | | ● | ● | ● | |
| 5.10 | Planete 220/45 ES |  ★ | | | 66 | | 45 lm | | | | ● | ● | ● | |
| 5.11 | Atlantic 8W |  ★ | | | 65 | 27 | 240 lm | | ● | ● | ● | ● | ● | ● |

*only optional for 83022

Safety and Exit Sign Luminaies with High Ingress Protection

Overview

5

| | Outdoor | Low Temperature | High Bay | HACCP | Wall | Ceiling | Recessed | Suspended | Healthcare | Hotels | Cinemas / Theaters | Commercial centers | Stadia / Arenas | Offices | Industrial | Warehouse |
|--|------------------|-----------------|----------|-------|--------------|---------|----------|-----------|--------------|--------|--------------------|--------------------|-----------------|---------|------------|-----------|
| | Special Features | | | | Installation | | | | Applications | | | | | | | |
| | ● | ● | ● | ● | ● | ● | | | | | | | ● | | ● | ● |
| | ● | | | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | | ● | ● | | | | | | | | ● | | ● | ● |
| | | | ● | ● | | ● | | | | | | | | | ● | ● |
| | | | | | ● | ● | | | | | | | ● | | ● | ● |
| | ● | | | | ● | | | | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | | | ● | | | | | | | ● | | ● | ● |
| | | | | | ● | ● | | | | ● | ● | ● | ● | ● | ● | ● |
| | | | | | ● | ● | | | | | ● | | | | ● | ● |
| | | | | | ● | ● | | | | | ● | | | | ● | ● |
| | | | | | ● | ● | | | | | | | ● | | ● | ● |

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.



Eaton's Low Temperature-Series is specialized for low temperature environments down to -40°C



When working in an environment with extremely low temperatures, a rapid, uninhibited evacuation when faced with an emergency situation is vital. At this moment, the emergency lighting system is needed to kick into action. Centrally powered safety luminaires illuminate the escape route out of the building through the exits clearly marked by bright escape signs. Regardless of the

application, workplaces in low temperature environments have the same safety requirements as workplaces with normal temperature.

Cold store facilities are constructed with heavy insulating doors and without windows in order to ensure effective cooling. This constitutes a particularly challenging environment for emergency scenarios. Without direct sunlight, the cold storage facility is cast into complete darkness in the event of a power cut. Therefore, the importance of the provision of light for all those inside the cold store cannot be understated, ensuring all personnel are able to exit the building to safety.

Eaton's LT-Series of central battery-supplied luminaires, specialized for environments down to -40°C , alleviates difficulty in the planning of escape routes for low temperature facilities. Distribution networks and supply chains of foodstuffs can be streamlined for cost-effectiveness by installing specialized LT-Series emergency luminaires that will keep performing where other luminaires fail or reduce in output.

Escape routes are required to continue even outside of the building to lead people to a point of safety. This makes emergency luminaires necessary on external areas at the exits of buildings. In locations with vast seasonal differences in temperature, a tough challenge is posed for external escape route illumination. Eaton's LT-Series combines both certified IP65 enclosures and specialized electronics that will not fail during the freezing winter temperatures.

Low Temperature Concept

To cater for vastly varying choices of tastes from all corners of the world and in all seasons, there is a growing number of foodstuffs available that are transported to supermarkets from large and small distribution centres. This requires continuously cooling or freezing without interruption.

High temperatures are well-known to cause functional problems for the electronics in luminaires. However sub-zero temperatures adversely put luminaire electronics under strain and can lead to malfunction if the components are not suitable for such a harsh environment. The LT-Series is built on specialized electronics with specific components capable of functioning in extremely cold environments.

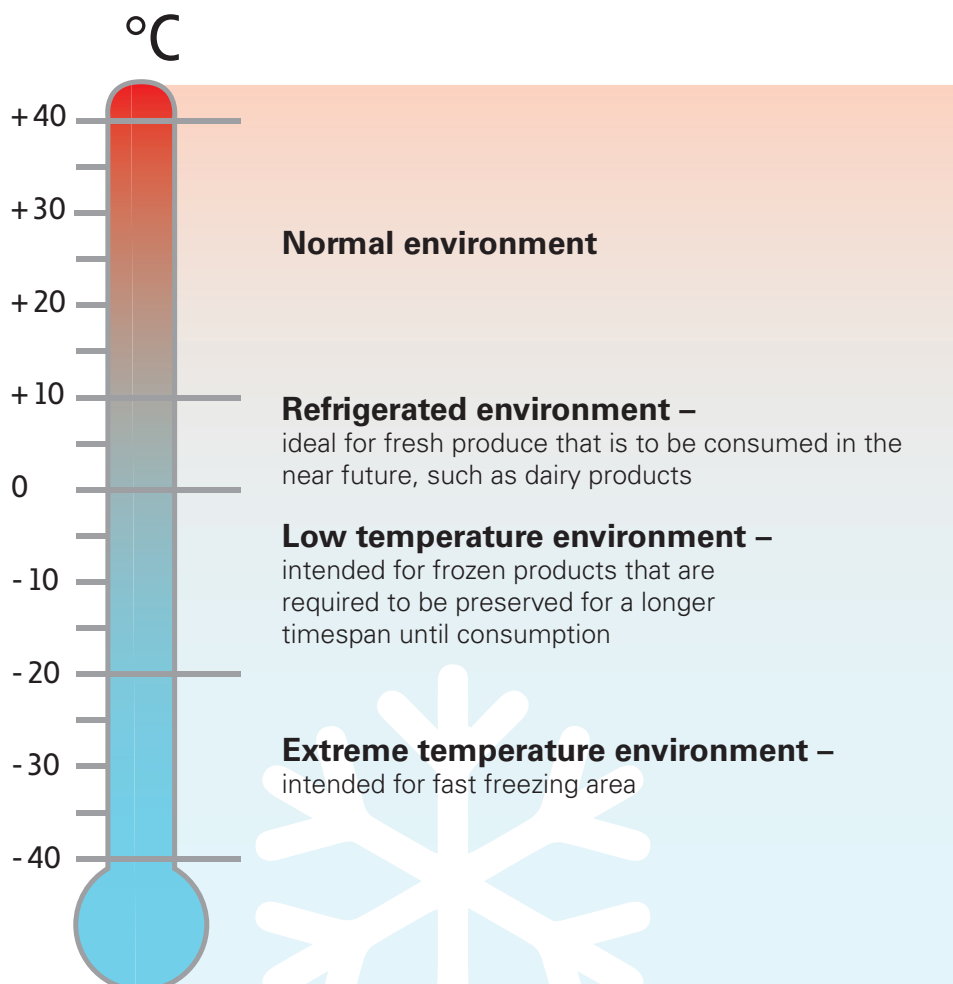
Additionally low temperatures also pose a challenge for conventional lamps. For this reason, the LT-Series utilizes LED technology, allowing a life expectancy of 50,000 hours that reduces maintenance costs and minimizes running costs through lower power input.



The Series contains the ideal mix of escape signs for large zones and smaller, more contained areas, as well as safety luminaires for both high and low mounting heights. The LT-Series is therefore optimal for all applications with low temperatures, regardless of the size of the installation.

Facilities in the supply chain of both refrigerated and frozen products can achieve norm-conformity, enhanced safety and become more cost-effective with Eaton's LT-Series of emergency luminaires.

Eaton's LT-Series guarantees reliable performance across a wide temperature range.





Eaton's LT-Series: Performing where others freeze

Robust housings – Enclosures with IP65 and IK08 to IK10 ratings are required to protect the LEDs and electronics inside, enabling the luminaires to be operated under challenging cold environmental conditions.

Sophisticated illumination – High quality LEDs in combination with specialized optics technology ensure a consistent, uniform illumination of the escape sign pictograms. With 500 cd/m² light density in the white area, the escape sign remains clearly visible, despite poor conditions or bright ambient lighting. Likewise for safety luminaires, superior illumination of escape routes and wide areas is guaranteed by high power LEDs and associated specialized optics, allowing for larger spacings between luminaires as well as high mounting heights. Cold temperature not only increases the life of consumable foodstuffs, it also increases the service life of the LEDs, therefore a service life much longer than normal can be expected from the LT-Series, making certain that escape routes and emergency exits are illuminated when you need them most.

Electronics with high performance – For applications down to -40°C, the specialized electronic module in the LT-Series has carefully selected components to guarantee function without disruption or malfunction in harsh conditions. Integrated in every LT-Module is Eaton's proven STAR-Technology, that enables the free programmability of the switching modes (non-maintained, maintained or switch maintained) of every luminaire in a circuit without an additional dataline, and CG-Technology for automatic monitoring of every luminaire. Furthermore a disruption to a single LED can be detected with Eaton's integrated SLI-Technology (Single LED monitoring Intelligence).

Flexible applications – Cold stores are often parts of large facilities with complex layouts, therefore a wide variety of emergency lighting solutions are required. Eaton's LT-Series of emergency luminaires contains a complete set of escape signs for small and large viewing distances and safety luminaires for both low and high mounting heights, flexible to your facility's requirements. This includes large open facilities with high ceilings, as well as smaller areas with lower ceilings.

Regulation for Foodstuffs – Being fully HACCP certified, the LT-Series is suitable for use in areas of food storage and preparation. This ensures that hygiene levels are maintained.



HACCP certifies that the luminaires of the LT-Series comply with the requirements of food-law, namely EC No 853/2004 (HACCP annex II chapter I paragraph 2a, b chapter II paragraph 1c in the field of ceiling lights).*

| | Viewing Distance of Escape Signs luminaires | | Mounting height of Escape Route luminaires | |
|----------------------------|---|--|--|---|
| Large warehouses: | Up to 60m | 46011 LED LT CG-S | ~ 10m | Atlantic LED O HB LT CG-S: Symmetrical Atlantic LED R HB LT CG-S: Asymmetrical |
| Smaller warehouses: | ~ 24m | Atlantic LED S LT CG-S: Single sided Atlantic LED D LT CG-S: Double sided | ~ 4m | Atlantic LED O LT CG-S: Symmetrical Atlantic LED R LT CG-S: Asymmetrical |

*Please note: The luminaire range 'Atlantic LT CG-S' is certified for all three hygienic areas below. The luminaire '46011 LED LT CG-S' is only certified for the hygienic area 'dry, non-humid and without dust'.

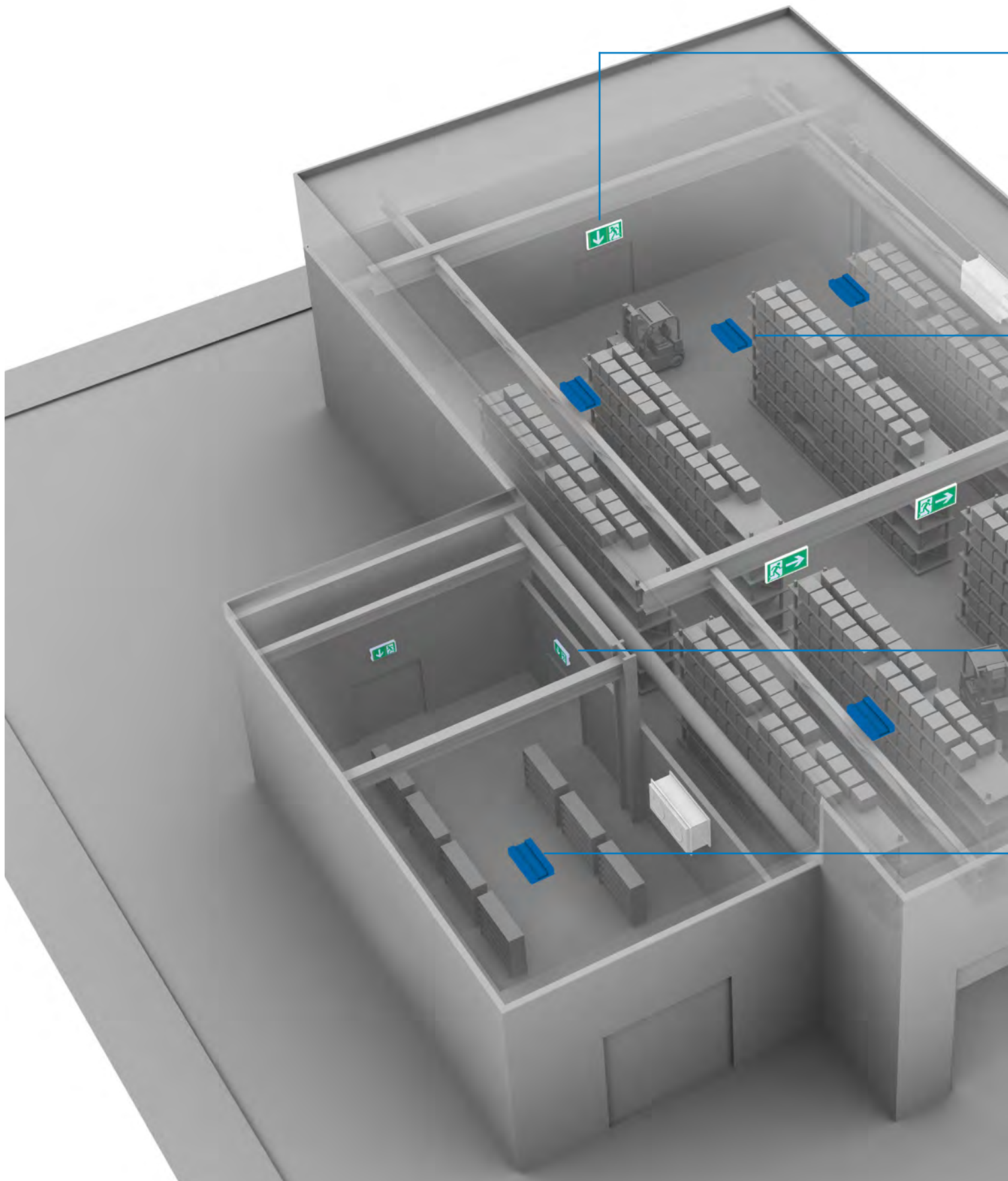
There are principally three hygienic applications to differentiate:

1. Dry, non-humid and without dust (for example, cold storage facility)
2. Dry and potentially dusty (for example, bakery)
3. Humid hygienic areas (for example, fish or meat processing)

Low temperature luminaires – Overview of Cold storage facility

Safety and Exit Sign Luminaires with High Ingress Protection

5



Low temperature luminaires – Overview of Cold storage facility

Safety and Exit Sign Luminaires with High Ingress Protection

5



46011 LED LT CG-S

IP65 Escape Sign luminaire with
60m viewing distance



Atlantic LED HB LT CG-S

IP65 safety luminaires for high
mounting heights of up to 30 m



Atlantic LED LT CG-S

IP65 Escape Sign luminaires
with 24m viewing distance



Atlantic LED LT CG-S

IP65 safety luminaires for
mounting heights of up to 8m



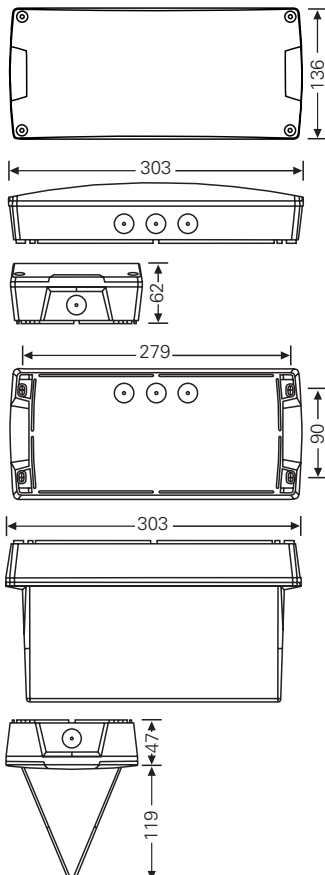
Atlantic LED S LT CG-S



Atlantic LED D LT CG-S



Dimensions in mm



Atlantic LED LT CG-S

- LED escape sign luminaire with high protection class (IP65) for indoor and outdoor use
- Specialized electronics with components for reliable operation down to -40 °C
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. HACCP suitable for use in food processing industry
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Excellent perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard DIN 4844-1 and high uniformity L_{min}/L_{max} > 0.8
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
Service life is increased at -20 °C ambient temperature
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation cost by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

| | |
|--|---|
| Viewing distance | 24 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Enclosure: Aluminium diecast Cover: Polycarbonate (850 °C glow wire resistant) |
| Housing colour | Grey / similar RAL 7001 |
| Weight | Atlantic LED S LT 1.4 kg Atlantic LED D LT 1.6 kg |
| Type of mounting | Wall- and ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 20.5 mA |
| Power consumption mains operation (apparent power / effective power) | 6.1 VA / 4.65 W |
| Power Factor | 0.77 |
| Inrush current | 3 A |
| Permissible ambient temperature | -40 °C to +40 °C |
| Light source | 2 x 1.5 W High Power LED |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|---|-------------|
| Atlantic LED S LT CG-S | Escape sign luminaire for low temperature (up to -40°C) applications, single sided, incl. LED supply and CG-S technology (20 addresses), without pictogram, incl. M20 cable gland | 40071354864 |
| Atlantic LED D LT CG-S | Escape sign luminaire for low temperature (up to -40°C) applications, double sided, incl. LED supply and CG-S technology (20 addresses), without pictogram, incl. M20 cable gland | 40071354865 |

Accessories

| Type | Scope of supply | Order No. |
|--|-------------------|-------------|
| Pictograms for Atlantic S | | |
| PR acc. ISO 7010 | pictogram | 155-000-011 |
| PL acc. ISO 7010 | pictogram | 155-000-012 |
| PU acc. ISO 7010 | pictogram | 155-000-013 |
| PO acc. ISO 7010 | pictogram | 40071350277 |
| Pictograms for Atlantic D (2 x required) | | |
| PR acc. ISO 7010 | pictogram | 155-000-211 |
| PL acc. ISO 7010 | pictogram | 155-000-212 |
| PU acc. ISO 7010 | pictogram | 155-000-213 |
| PO acc. ISO 7010 | pictogram | 40071350287 |
| BL | Transparent cover | 155-000-209 |

Atlantic LED HB LT CG-S

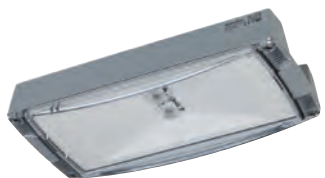
Safety and Exit Sign Luminaies with High Ingress Protection



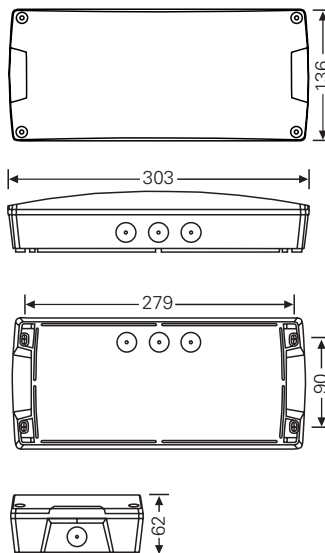
Atlantic LED R HB LT CG-S



Atlantic LED O HB LT CG-S



Dimensions in mm



Atlantic LED HB LT CG-S

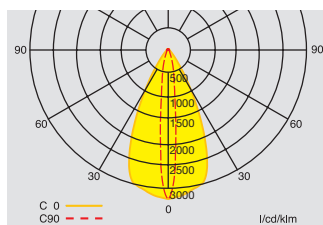
- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Specialized electronics with components for reliable operation down to -40 °C
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. HACCP suitable for use in food processing industry
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries
- Suitable for mounting heights up to 28 m by narrow beam optics and exceptionally efficient High Power LEDs
- Spacing up to 25 m from luminaire to luminaire with optics for escape route illumination
- Up to 14 m from luminaire to luminaire with optics for open area illumination.
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours) Service life is increased at -20°C ambient temperature
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation cost by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

| | |
|--|---|
| Luminous flux | 340 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Enclosure: Aluminium diecast Cover: Polycarbonate (850 °C glow wire resistant) |
| Housing colour | Grey / similar RAL 7001 |
| Weight | Atlantic LED R HB LT CG-S 1.4 kg Atlantic LED O HB LT CG-S 1.4 kg |
| Type of mounting | Ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 20.5 mA |
| Power consumption mains operation (apparent power / effective power) | 6.1 VA / 4.65 W |
| Power Factor | 0.77 |
| Inrush current | 3 A |
| Permissible ambient temperature | -40 °C to +40 °C |
| Light source | 2 x 1.5 W High Power LED |

Ordering details

| Type | Scope of supply | Order No. |
|---------------------------|--|-------------|
| Atlantic LED R HB LT CG-S | Safety luminaire for low temperature (up to -40 °C) applications with asymmetric narrow beam optics, for escape route illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland | 40071354868 |
| Atlantic LED O HB LT CG-S | Safety luminaire for low temperature (up to -40 °C) applications with symmetric narrow beam optics for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland | 40071354869 |

Atlantic LED R HB LT CG-S



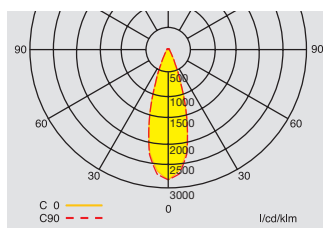
Atlantic LED R HB LT CG-S
with asymmetric optics

Planning data for Atlantic LED R HB LT – Asymmetric optics for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|------------|-------------|-----------|------------|
| 8 | Ceiling mounting | 5.8 (6.7) | 13.3 (15.2) | 2.7 (3.4) | 6.8 (9.3) |
| 10 | Escape route centre | 6.7 (7.6) | 15.2 (17.4) | 2.9 (3.6) | 7.3 (9.6) |
| 12 | | 7.4 (8.5) | 17.0 (19.5) | 2.9 (4.0) | 8.0 (9.7) |
| 14 | | 7.9 (9.4) | 18.7 (21.4) | 2.7 (4.1) | 8.2 (10.2) |
| 16 | | 8.4 (10.1) | 20.1 (23.1) | 2.6 (4.1) | 8.2 (11.0) |
| 18 | | 8.7 (10.7) | 21.4 (25.0) | 2.5 (4.0) | 8.0 (11.5) |
| 20 | | 9.0 (11.3) | 22.5 (26.6) | 2.4 (3.8) | 7.7 (11.5) |
| 22 | | 9.0 (11.7) | 23.4 (28.0) | 2.2 (3.7) | 7.4 (11.6) |
| 24 | | 8.9 (12.1) | 24.2 (29.3) | 2.1 (3.6) | 7.2 (11.5) |
| 26 | | 8.4 (12.4) | 24.8 (30.5) | 1.8 (3.5) | 7.0 (11.2) |
| 28 | | 6.5 (12.6) | 25.2 (31.6) | 1.4 (3.4) | 6.8 (10.9) |
| 30 | | 2.9 (12.7) | 25.4 (32.6) | 0.8 (3.2) | 6.5 (10.6) |

Atlantic LED O HB LT CG-S



Atlantic LED O HB LT CG-S
with symmetric optics

Planning data for Atlantic LED O HB LT – Symmetric optics for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|-----------|-------------|
| 8 | Ceiling mounting | 3.9 (4.6) | 9.2 (11.2) | 3.9 (4.8) | 9.6 (11.6) |
| 10 | Escape route centre | 4.3 (5.2) | 10.3 (12.3) | 4.3 (5.3) | 10.5 (12.8) |
| 12 | | 4.8 (5.7) | 11.4 (13.5) | 4.6 (5.6) | 11.2 (13.9) |
| 14 | | 5.1 (6.2) | 12.3 (14.5) | 5.0 (6.0) | 12.0 (14.8) |
| 16 | | 5.2 (6.5) | 13.0 (15.5) | 5.2 (6.4) | 12.8 (15.5) |
| 18 | | 5.3 (6.9) | 13.7 (16.5) | 5.2 (6.8) | 13.5 (16.2) |
| 20 | | 5.2 (7.2) | 14.3 (17.4) | 5.1 (7.1) | 14.1 (17.1) |
| 22 | | 4.9 (7.3) | 14.6 (18.2) | 4.8 (7.3) | 14.5 (17.8) |
| 24 | | 4.3 (7.4) | 14.8 (18.9) | 4.3 (7.4) | 14.6 (18.6) |
| 26 | | 3.0 (7.4) | 14.8 (19.6) | 3.3 (7.4) | 14.6 (19.3) |
| 28 | | 0.2 (7.4) | 14.6 (20.1) | 0.5 (7.3) | 14.4 (19.8) |
| 30 | | - (7.1) | 12.9 (20.5) | - (7.0) | 12.3 (20.3) |
| 8 | Ceiling mounting | 3.0 (3.1) | 7.8 (9.4) | 2.8 (3.6) | 8.0 (10.4) |
| 10 | Room illumination | 3.1 (3.9) | 8.2 (10.7) | 3.4 (3.5) | 9.1 (10.6) |
| 12 | | 3.4 (4.2) | 8.9 (11.4) | 3.6 (3.9) | 9.8 (11.4) |
| 14 | | 3.4 (4.5) | 9.2 (12.0) | 4.1 (4.2) | 10.9 (12.3) |
| 16 | | 3.5 (4.7) | 9.7 (12.6) | 4.4 (4.6) | 11.7 (13.1) |
| 18 | | 4.0 (4.4) | 10.7 (12.3) | 4.3 (5.5) | 11.8 (14.9) |
| 20 | | 3.5 (4.9) | 10.7 (13.4) | 4.8 (5.5) | 13.1 (15.1) |
| 22 | | 4.1 (5.0) | 11.9 (13.8) | 4.2 (5.8) | 12.8 (16.0) |
| 24 | | 3.6 (5.0) | 12.1 (14.3) | 4.3 (6.1) | 13.7 (16.8) |
| 26 | | 3.4 (5.5) | 12.6 (15.3) | 4.0 (5.9) | 14.0 (16.9) |
| 28 | | 2.6 (4.8) | 12.8 (15.1) | 3.8 (6.5) | 14.6 (18.4) |
| 30 | | 1.9 (4.9) | 13.5 (15.7) | 2.3 (6.5) | 14.4 (18.8) |

Atlantic LED LT CG-S

Safety and Exit Sign Luminaies with High Ingress Protection



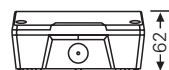
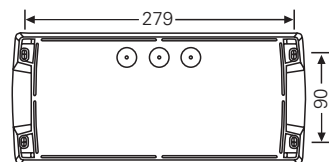
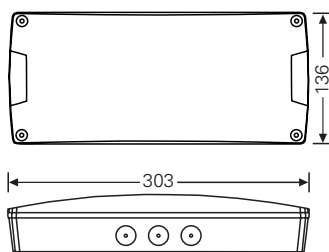
Atlantic LED R LT CG-S



Atlantic LED O LT CG-S



Dimensions in mm



Atlantic LED LT CG-S

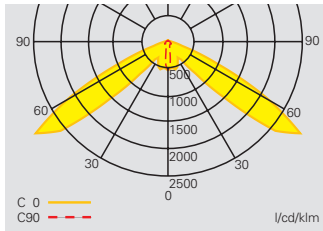
- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Specialized electronics with components for reliable operation down to -40 °C
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. HACCP suitable for use in food processing industry
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries
- High spacing by double optics technology and highly efficient HighPower LEDs
- Up to 24 m from luminaire to luminaire with optics for escape route illumination
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
Service life is increased at -20°C ambient temperature
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation cost by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

| | |
|--|---|
| Luminous flux | Atlantic LED R LT: 225 lm Atlantic LED O LT: 220 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Enclosure: Aluminium diecast Cover: Polycarbonate (850 °C glow wire resistant) |
| Housing colour | Grey / similar RAL 7001 |
| Weight | Atlantic LED R LT CG-S: 1.4 kg Atlantic LED O LT CG-S: 1.4 kg |
| Type of mounting | Ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 20.5 mA |
| Power consumption mains operation (apparent power / effective power) | 6.1 VA / 4.65 W |
| Power Factor | 0.77 |
| Inrush current | 3 A |
| Permissible ambient temperature | -40 °C to +40 °C |
| Light source | 2 x 1.5 W High Power LED |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|--|-------------|
| Atlantic LED R LT CG-S | Low temperature safety luminaire with asymmetric optics for escape route illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland | 40071354866 |
| Atlantic LED O LT CG-S | Low temperature safety luminaire with symmetric optics for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses), incl. M20 cable gland | 40071354867 |

Atlantic LED R LT CG-S



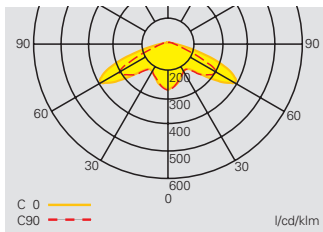
Atlantic LED R LT CG-S
with asymmetric optics

Planning data for Atlantic LED R LT – Asymmetric optics for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-------------|-------------|-----------|-----------|
| 2.5 | Ceiling mounting | 6.0 (6.5) | 13.0 (14.2) | 2.0 (3.0) | 6.1 (7.3) |
| 3.0 | Escape route centre | 6.8 (7.5) | 15.0 (16.2) | 1.7 (3.2) | 6.1 (8.0) |
| 3.5 | | 7.5 (8.4) | 16.8 (18.3) | 1.4 (2.8) | 5.6 (8.5) |
| 4.0 | | 8.3 (9.2) | 18.5 (20.3) | 1.2 (2.5) | 5.0 (8.7) |
| 4.5 | | 9.0 (10.0) | 20.0 (22.2) | 1.1 (2.2) | 4.4 (8.6) |
| 5.0 | | 9.6 (10.7) | 21.5 (24) | 1.1 (1.9) | 3.9 (7.9) |
| 5.5 | | 10.3 (11.5) | 23.0 (25.7) | 1.1 (1.8) | 3.6 (7.2) |
| 6.0 | | 10.8 (12.2) | 24.4 (27.2) | 1.0 (1.6) | 3.3 (6.6) |
| 6.5 | | 3.6 (12.9) | 24.2 (28.8) | 1.0 (1.6) | 3.3 (6.0) |
| 7.0 | | 3.5 (13.6) | 21.9 (30.2) | 1.0 (1.6) | 3.3 (5.5) |
| 7.5 | | 3.4 (14.2) | 21.8 (31.7) | 1.0 (1.6) | 3.2 (5.2) |
| 8.0 | | 3.3 (14.8) | 22.0 (33.2) | 0.9 (1.5) | 3.1 (4.9) |
| 8.5 | | 3.1 (15.3) | 22.5 (34.6) | 0.8 (1.5) | 3.0 (4.6) |

Atlantic LED O LT CG-S



Atlantic LED O LT CG-S
with symmetric optics

Planning data for Atlantic LED O LT – Symmetric optics for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.5 (5.4) | 10.7 (12.4) | 3.8 (4.5) | 8.9 (10.0) |
| 3.0 | Escape route centre | 4.7 (5.9) | 11.7 (13.8) | 4.1 (5.0) | 9.9 (11.4) |
| 3.5 | | 4.9 (6.3) | 12.5 (15.1) | 4.1 (5.4) | 10.8 (12.5) |
| 4.0 | | 4.3 (6.6) | 13.2 (16.1) | 4.1 (5.8) | 11.4 (13.6) |
| 4.5 | | 2.3 (6.8) | 13.6 (17.0) | 2.1 (5.8) | 11.2 (14.5) |
| 5.0 | | 1.9 (6.8) | 13.1 (17.8) | 1.9 (5.8) | 10.4 (15.3) |
| 5.5 | | 1.6 (6.5) | 12.5 (18.5) | 1.5 (5.8) | 9.6 (16.0) |
| 2.5 | Ceiling mounting | 3.9 (4.3) | 9.6 (10.6) | 2.9 (3.6) | 7.2 (8.5) |
| 3.0 | Room illumination | 3.4 (4.6) | 10.6 (11.6) | 3.1 (4.1) | 8.1 (9.8) |
| 3.5 | | 3.4 (5.1) | 11.6 (13.2) | 3.1 (4.2) | 8.8 (10.4) |
| 4.0 | | 3.4 (5.6) | 12.5 (14.6) | 2.8 (4.1) | 9.4 (11) |
| 4.5 | | 2.4 (5.9) | 13.0 (15.6) | 1.8 (4.1) | 10.2 (11.8) |
| 5.0 | | 1.9 (6.2) | 12.1 (16.8) | 0.8 (3.8) | 11.1 (12.3) |

Atlantic LED CG-S

Safety and Exit Sign Luminaies with High Ingress Protection



Atlantic LED CG-S

- LED exit sign luminaire with high protection class (IP65) for indoor and outdoor use
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. IFS and HACCP suitable for use in food processing industry
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries and double terminal for through-wiring
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

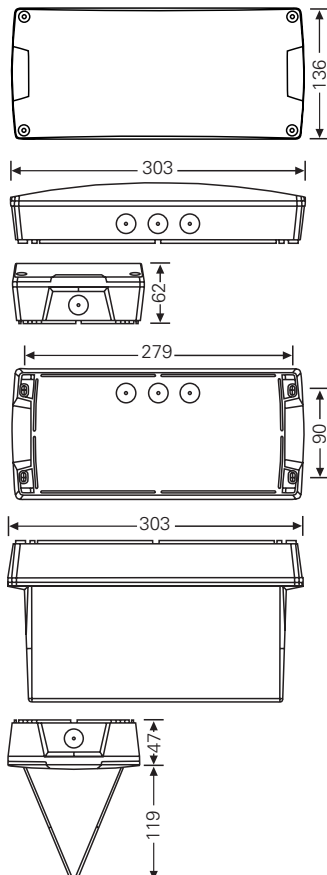
Atlantic LED S CG-S



Atlantic LED D CG-S



Dimensions in mm



| | |
|--|---|
| Viewing distance | 24 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Aluminium diecast, Polycarbonate (850 °C glow wire resistant) |
| Housing colour | Grey / similar RAL 7001 |
| Weight | Atlantic LED S 1.4 kg Atlantic LED D 1.6 kg |
| Type of mounting | Wall- and ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 21.5 mA |
| Power consumption mains operation (apparent power / effective power) | 8.5 VA / 5.0 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | HighPower LEDs 2 x 1.5 W |

Ordering details

| Type | Scope of supply | Order No. |
|---|---|-------------|
| Exit sign luminaire Atlantic LED S CG-S | single sided, incl. LED supply and CG-S technology (20 addresses), without pictogram | 40071354890 |
| Exit sign luminaire Atlantic LED D CG-S | double sided, incl. LED supply and CG-S technology (20 addresses), without pictograms | 40071354891 |

Accessories

| Type | | Order No. |
|--|--|-------------|
| Pictograms for Atlantic S | | |
| PR ISO | | 155-000-011 |
| PL ISO | | 155-000-012 |
| PU ISO | | 155-000-013 |
| Pictograms for Atlantic D (2 x required) | | |
| PR ISO | | 155-000-211 |
| PL ISO | | 155-000-212 |
| PU ISO | | 155-000-213 |
| BL | | 155-000-209 |

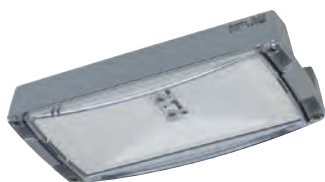
Atlantic LED HB CG-S

Safety and Exit Sign Luminaies with High Ingress Protection



5

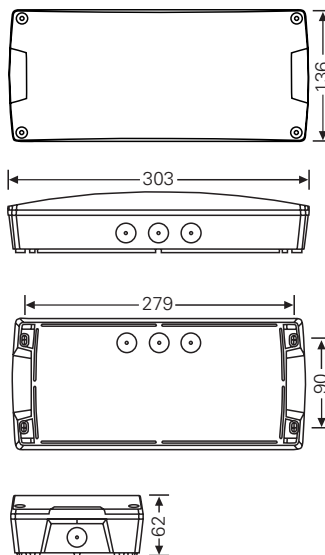
Atlantic LED R HB CG-S



Atlantic LED O HB CG-S



Dimensions in mm



Atlantic LED HB CG-S

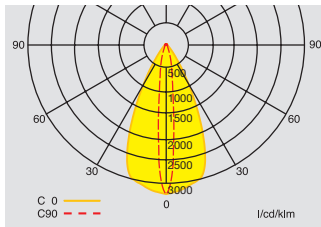
- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. IFS and HACCP suitable for use in food processing industry
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries and double terminal for through-wiring
- Suitable for mounting heights up to 28 m by narrow beam optics and exceptionally efficient High Power LEDs
- Spacing up to 25 m from luminaire to luminaire with optics for exit route illumination
- Up to 14 m from luminaire to luminaire with optics for open area illumination.
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|---|
| Luminous flux | 340 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Aluminium diecast, Polycarbonate (850 °C glow wire resistant) |
| Housing colour | Grey / similar RAL 7001 |
| Weight | 1.4 kg |
| Type of mounting | Ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 21.5 mA |
| Power consumption mains operation (apparent power / effective power) | 8.5 VA / 5.0 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | HighPower LEDs 2 x 1.5 W |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|--|-------------|
| Atlantic LED R HB CG-S | Safety luminaire with asymmetric narrow beam optics, for exit route illumination, incl. LED supply and CG-S technology (20 addresses), including a M20 cable gland | 40071354991 |
| Atlantic LED O HB CG-S | Safety luminaire with symmetric narrow beam optics for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses), including a M20 cable gland | 40071354990 |

Atlantic LED R HB CG-S



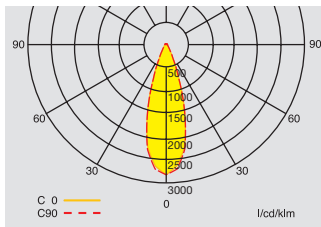
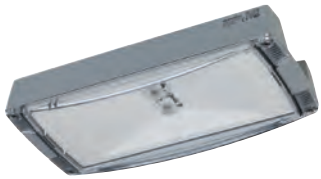
Atlantic R HB CG-S
with asymmetric optics

Planning help for Atlantic LED R HB – Asymmetric optics for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|------------|-------------|-----------|------------|
| 8 | Ceiling mounting | 5.8 (6.7) | 13.3 (15.2) | 2.7 (3.4) | 6.8 (9.3) |
| 10 | Exit route centre | 6.7 (7.6) | 15.2 (17.4) | 2.9 (3.6) | 7.3 (9.6) |
| 12 | | 7.4 (8.5) | 17.0 (19.5) | 2.9 (4.0) | 8.0 (9.7) |
| 14 | | 7.9 (9.4) | 18.7 (21.4) | 2.7 (4.1) | 8.2 (10.2) |
| 16 | | 8.4 (10.1) | 20.1 (23.1) | 2.6 (4.1) | 8.2 (11.0) |
| 18 | | 8.7 (10.7) | 21.4 (25.0) | 2.5 (4.0) | 8.0 (11.5) |
| 20 | | 9.0 (11.3) | 22.5 (26.6) | 2.4 (3.8) | 7.7 (11.5) |
| 22 | | 9.0 (11.7) | 23.4 (28.0) | 2.2 (3.7) | 7.4 (11.6) |
| 24 | | 8.9 (12.1) | 24.2 (29.3) | 2.1 (3.6) | 7.2 (11.5) |
| 26 | | 8.4 (12.4) | 24.8 (30.5) | 1.8 (3.5) | 7.0 (11.2) |
| 28 | | 6.5 (12.6) | 25.2 (31.6) | 1.4 (3.4) | 6.8 (10.9) |
| 30 | | 2.9 (12.7) | 25.4 (32.6) | 0.8 (3.2) | 6.5 (10.6) |

Atlantic LED O HB CG-S



Atlantic O HB CG-S
with symmetric optics

Planning help for Atlantic LED O HB – Symmetric optics for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|-----------|-------------|
| 8 | Ceiling mounting | 3.9 (4.6) | 9.2 (11.2) | 3.9 (4.8) | 9.6 (11.6) |
| 10 | Exit route centre | 4.3 (5.2) | 10.3 (12.3) | 4.3 (5.3) | 10.5 (12.8) |
| 12 | | 4.8 (5.7) | 11.4 (13.5) | 4.6 (5.6) | 11.2 (13.9) |
| 14 | | 5.1 (6.2) | 12.3 (14.5) | 5.0 (6.0) | 12.0 (14.8) |
| 16 | | 5.2 (6.5) | 13.0 (15.5) | 5.2 (6.4) | 12.8 (15.5) |
| 18 | | 5.3 (6.9) | 13.7 (16.5) | 5.2 (6.8) | 13.5 (16.2) |
| 20 | | 5.2 (7.2) | 14.3 (17.4) | 5.1 (7.1) | 14.1 (17.1) |
| 22 | | 4.9 (7.3) | 14.6 (18.2) | 4.8 (7.3) | 14.5 (17.8) |
| 24 | | 4.3 (7.4) | 14.8 (18.9) | 4.3 (7.4) | 14.6 (18.6) |
| 26 | | 3.0 (7.4) | 14.8 (19.6) | 3.3 (7.4) | 14.6 (19.3) |
| 28 | | 0.2 (7.4) | 14.6 (20.1) | 0.5 (7.3) | 14.4 (19.8) |
| 30 | | - (7.1) | 12.9 (20.5) | - (7.0) | 12.3 (20.3) |
| 8 | Ceiling mounting | 3.0 (3.1) | 7.8 (9.4) | 2.8 (3.6) | 8.0 (10.4) |
| 10 | Room illumination | 3.1 (3.9) | 8.2 (10.7) | 3.4 (3.5) | 9.1 (10.6) |
| 12 | | 3.4 (4.2) | 8.9 (11.4) | 3.6 (3.9) | 9.8 (11.4) |
| 14 | | 3.4 (4.5) | 9.2 (12.0) | 4.1 (4.2) | 10.9 (12.3) |
| 16 | | 3.5 (4.7) | 9.7 (12.6) | 4.4 (4.6) | 11.7 (13.1) |
| 18 | | 4.0 (4.4) | 10.7 (12.3) | 4.3 (5.5) | 11.8 (14.9) |
| 20 | | 3.5 (4.9) | 10.7 (13.4) | 4.8 (5.5) | 13.1 (15.1) |
| 22 | | 4.1 (5.0) | 11.9 (13.8) | 4.2 (5.8) | 12.8 (16.0) |
| 24 | | 3.6 (5.0) | 12.1 (14.3) | 4.3 (6.1) | 13.7 (16.8) |
| 26 | | 3.4 (5.5) | 12.6 (15.3) | 4.0 (5.9) | 14.0 (16.9) |
| 28 | | 2.6 (4.8) | 12.8 (15.1) | 3.8 (6.5) | 14.6 (18.4) |
| 30 | | 1.9 (4.9) | 13.5 (15.7) | 2.3 (6.5) | 14.4 (18.8) |

Atlantic LED, Outdoor Wall CG-S

Safety and Exit Sign Luminaies with High Ingress Protection



Atlantic LED, Outdoor Wall CG-S

- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Luminaire with limited surface temperatures for use in operating areas with fire hazard
- Acc. IFS and HACCP suitable for use in food processing industry (Type R and O)
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Numerous knock-outs for cable entries and double terminal for through-wiring (outdoor wall only one cable entry)
- High spacing by double optics technology and highly efficient HighPower LEDs
- Up to 29 m from luminaire to luminaire with optics for exit route illumination
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

Atlantic LED R CG-S



Atlantic LED O CG-S



Outdoor Wall CG-S

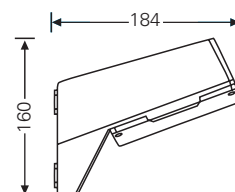
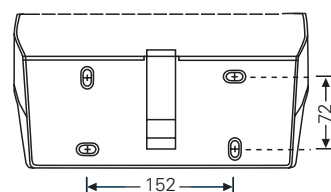
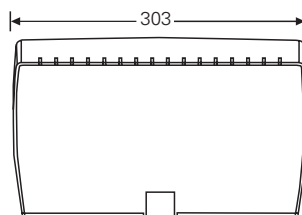
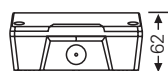
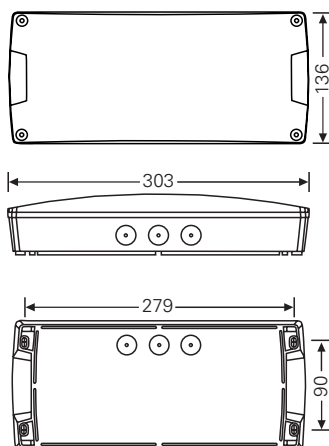


| | |
|--|--|
| Luminous flux | Atlantic LED R, Outdoor Wall: 225 lm Atlantic LED O: 220 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Aluminium diecast, Polycarbonate (850 °C glow wire resistant) |
| Housing colour | Grey / similar RAL 7001 |
| Weight | Atlantic LED 1.4 kg Outdoor Wall 2.8 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 21.5 mA |
| Power consumption mains operation (apparent power / effective power) | 8.5 VA / 5.0 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | HighPower LEDs 2 x 1.5 W |

Ordering details

| Type | Scope of supply | Order No. |
|---------------------|---|-------------|
| Atlantic LED R CG-S | Safety luminaire with asymmetric optics for exit route illumination, incl. LED supply and CG-S technology (20 addresses) | 40071354892 |
| Atlantic LED O CG-S | Safety luminaire with symmetric optics for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses) | 40071354893 |
| Outdoor Wall CG-S | Safety luminaire with asymmetric optics for exit route illumination, incl. LED supply and CG-S technology (20 addresses) | 40071354894 |

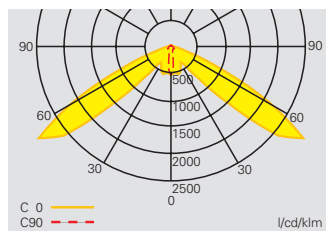
Dimensions in mm

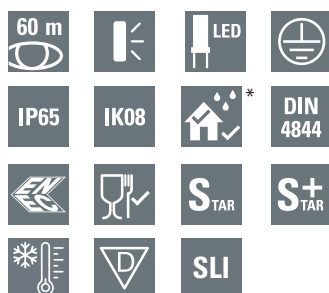


Atlantic LED, Outdoor Wall CG-S

Safety and Exit Sign Luminaies with High Ingress Protection

Atlantic LED R CG-S

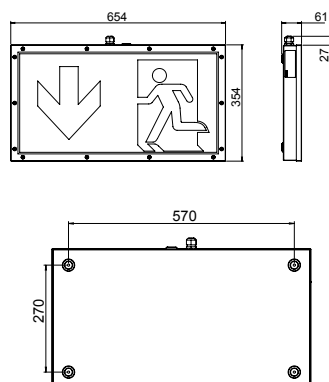




46011 LED LT CG-S



Dimensions in mm

**46011 LED LT CG-S**

- LED escape sign luminaire with high protection class (IP65) and high viewing distance of 60m
- Suitable for use outside by using a screw gland with a ventilation membrane (see accessoires)
- Suitable for operation in food preparation facilities (dry, non-humid and without dust – for example a cold store) with requirements acc. HACCP
- Specialized electronics with components for reliable operation down to -40 °C
- Silk-screened pictogram on a robust panel (polycarbonate)
- Excellent perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard DIN 4844-1 and high uniformity Lmin/Lmax > 0.8
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours) Service life is increased at -20 °C ambient temperature
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation cost by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

| | |
|--|--|
| Viewing distance | 60m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Enclosure: Coated sheet metal; Panel: PC |
| Housing colour | White, similar RAL 9010 |
| Weight | 5.5 kg |
| Type of mounting | Wall mounting |
| Connection terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 50 mA |
| Power consumption mains operation (apparent power / effective power) | 11.0 VA / 10.5 W |
| Power Factor | 0.9 |
| Inrush current | 3 A |
| Permissible ambient temperature | -40 °C to +40 °C |
| Light source | 8 x 1 W High Power LED |

Ordering details

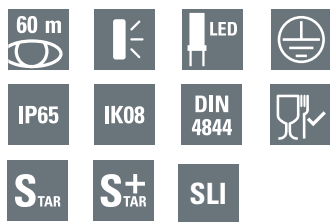
| Type | Scope of supply | Order No. |
|-------------------|---|-------------|
| 46011 LED LT CG-S | Safety luminaire for low temperature (to -40 °C) applications, single sided, incl. LED supply and CG-S technology (20 addresses), without pictogram | 40071351579 |

Accessories

| Type | Scope of supply | Order No. |
|-----------------------------------|---|-------------|
| Cover with silkscreened pictogram | | |
| Cover PR acc. ISO 7010 | Cover with silkscreened pictogram | 40071351588 |
| Cover PL acc. ISO 7010 | Cover with silkscreened pictogram | 40071351587 |
| Cover PU acc. ISO 7010 | Cover with silkscreened pictogram | 40071351589 |
| Cover PO acc. ISO 7010 | Cover with silkscreened pictogram | 40071354210 |
| Cable gland | Cable gland with ventilation membrane for outdoor areas | 40071350005 |

46011 LED HYG CG-S

Safety and Exit Sign Luminaies with High Ingress Protection



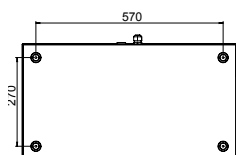
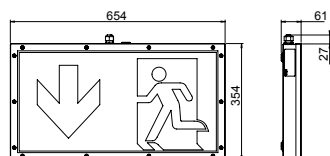
46011 LED HYG CG-S

- LED escape sign luminaire with high protection class (IP65) and high viewing distance of 60m
- Suitable for operation in food preparation facilities (for dry areas with the presence of dust) with requirements acc. HACCP and IFS
- Silk-screened pictogram on a robust panel (polycarbonate)
- Excellent perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard DIN 4844-1 and high uniformity $L_{min}/L_{max} > 0.8$
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

46011 LED HYG CG-S



Dimensions in mm



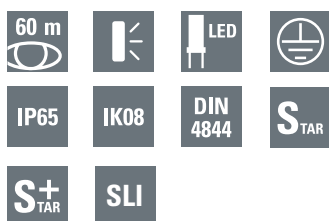
| | |
|--|--|
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Coated sheet metal, PC |
| Housing colour | White, similar RAL 9010 |
| Weight | 5.6 kg |
| Type of mounting | Wall mounting |
| Connection terminals | 3 x 2 x 2.5 mm² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 47 mA |
| Power consumption mains operation (apparent power / effective power) | 17.1 VA / 10.3 W |
| Inrush current | 3 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | HighPower LEDs 8 x 1W |

Ordering details

| Type | Scope of supply | Order No. |
|--------------------|--|-------------|
| 46011 LED HYG CG-S | Escape sign luminaire for dusty, dry hygienic applications, single sided, incl. LED supply and CG-S technology (20 addresses), without pictogram | 40071351578 |

Accessories

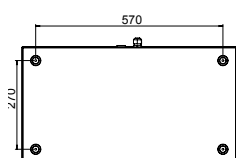
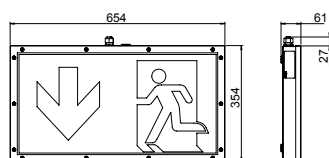
| Type | Scope of supply | Order No. |
|------------------------|-----------------------------------|-------------|
| Cover PL gem. ISO 7010 | Cover with silkscreened pictogram | 40071351587 |
| Cover PR gem. ISO 7010 | Cover with silkscreened pictogram | 40071351588 |
| Cover PU gem. ISO 7010 | Cover with silkscreened pictogram | 40071351589 |



46011 LED CG-S



Dimensions in mm

**46011 LED CG-S**

- LED escape sign luminaire with high protection class (IP65) and high viewing distance of 60m
- Suitable for use outside by using a screw gland with a ventilation membrane (see accessories)
- Silk-screened pictogram on a robust panel (polycarbonate)
- Excellent perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard DIN 4844-1 and high uniformity L_{min}/L_{max} > 0.8
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Increased safety through SLI-technology, monitoring of up to 8 individual LEDs in series connection

| | |
|--|--|
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Coated sheet metal, PC |
| Housing colour | White, similar RAL 9010 |
| Weight | 5.5 kg |
| Type of mounting | Wall mounting |
| Connection terminals | 3 x 2 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 47 mA |
| Power consumption mains operation (apparent power / effective power) | 17.1 VA / 10.3 W |
| Inrush current | 3 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | HighPower LEDs 8 x 1W |

Ordering details

| Type | Scope of supply | Order No. |
|----------------|---|-------------|
| 46011 LED CG-S | Escape sign luminaire, single sided, incl. LED supply and CG-S technology (20 addresses), without pictogram | 40071351580 |

Accessories

| Type | Scope of supply | Order No. |
|------------------------|---|-------------|
| Cover PL gem. ISO 7010 | Cover with silkscreened pictogram | 40071351587 |
| Cover PR gem. ISO 7010 | Cover with silkscreened pictogram | 40071351588 |
| Cover PU gem. ISO 7010 | Cover with silkscreened pictogram | 40071351589 |
| Cable gland | Cable gland with ventilation membrane for outdoor areas | 40071350005 |

Safety and Exit Sign Luminaies with High Ingress Protection



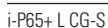
- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from aluminium die-cast and impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 22 m for $E = 1 \text{ lx}$ and up to 31 m for $E = 0.5 \text{ lx}$) and mounting heights up to 18 m
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for exit route lighting with high spacing up to 30 m and mounting heights up to 26 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- Minimum maintenance effort and increased safety via use of LEDs with high service life (up to 60,000 h)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring for up to 20 luminaires per circuit
- Reduced installation cost through STAR Technology
- Freely programmable mixed operation, allowing the switching of luminaire modes within one circuit

| | |
|---|--|
| Luminous flux Φ_N | i-P65+ L: 770 lm i-P65+ H: 590 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | Aluminium, Polycarbonat (cover) |
| Housing colour | White |
| Weight | 1,85 kg |
| Type of mounting | Ceiling mounting |
| Terminals | 3 x 2 x 2,5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation | 40 mA |
| Power consumption mains operation (apparent power / effective power) | 15.6 VA / 9.3 W |
| Inrush current | 3 A |
| Permissible ambient temperature | -20°C to +40°C |
| Light source | COB LED 6.4 W |

| Type | Scope of supply | Bestell-Nr. |
|---------------------------------------|--|-------------|
| i-P65+ L CG-S, Aluminium enclosure | Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply with CG-S technology (20 addresses) | IP65PLACGS |
| i-P65+ H CG-S, Aluminium enclosure | Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply with CG-S technology (20 addresses) | IP65PHACGS |

1 x M20-cable gland included.

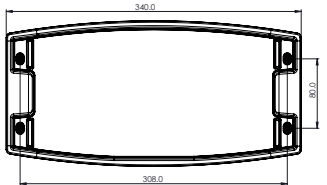
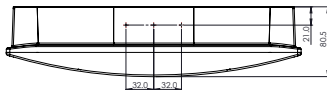
| Type | Bestell-Nr. |
|--|-------------|
| Mounting bracket for chain suspension or for mounting at trunking systems or similar | IP65PSUSPB |



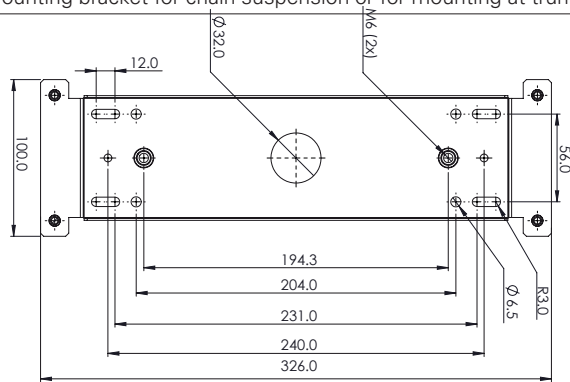
i-P65+ H CG-S



Dimensions in mm



Mounting bracket



i-P65+ CG-S Polycarbonate enclosure

Safety and Exit Sign Luminaies with High Ingress Protection



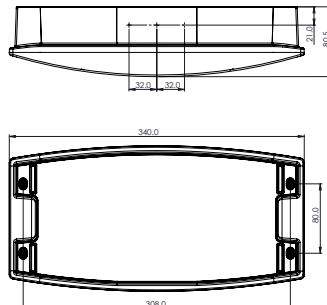
i-P65+ L CG-S



i-P65+ H CG-S



Dimensions in mm



Mounting bracket



i-P65+ CG-S Polycarbonate enclosure

- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 22 m for $E = 1\text{ lx}$ and up to 31 m for $E = 0.5\text{ lx}$) and mounting heights up to 18 m
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for exit route lighting with high spacing up to 30 m and mounting heights up to 26 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- Minimum maintenance effort and increased safety via use of LEDs with high service life (up to 60,000 h)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring for up to 20 luminaires per circuit
- Reduced installation cost through STAR Technology
- Freely programmable mixed operation, allowing the switching of luminaire modes within one circuit

| | |
|---|--|
| Luminous flux Φ_N | i-P65+ L: 770 lm i-P65+ H: 590 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 1,75 kg |
| Type of mounting | Ceiling mounting |
| Terminals | 3 x 2 x 2,5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation | 40 mA |
| Power consumption mains operation (apparent power / effective power) | 15.6 VA / 9.3 W |
| Inrush current | 3 A |
| Permissible ambient temperature | -20°C to +30°C |
| Light source | COB LED 6.4 W |

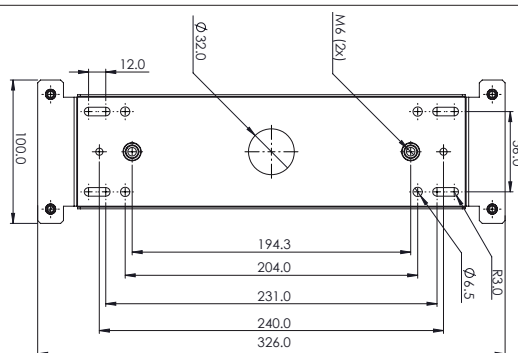
Ordering details

| Type | | Bestell-Nr. |
|---|--|-------------|
| i-P65+ L CG-S, Polycarbonate enclosure | Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply with CG-S technology (20 addresses) | IP65PLPCGS |
| i-P65+ H CG-S, Polycarbonate enclosure | Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply with CG-S technology (20 addresses) | IP65PHPCGS |

1 x M20-cable gland included.

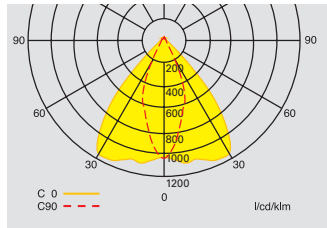
Ordering details - Accessories

| Type | Bestell-Nr. |
|--|-------------|
| Mounting bracket for chain suspension or for mounting at trunking systems or similar | IP65SUSPB |



i-P65+ CG-S

Safety and Exit Sign Luminaies with High Ingress Protection

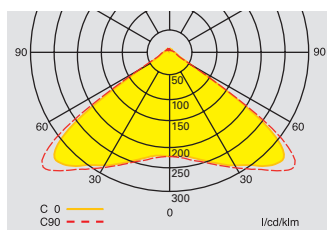


Light distribution curve
i-P65+ H CG-S
with asymmetric optics

Planning assistance for i-P65+ H CG-S - Asymmetric optics for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 | L4 |
|------------------------|-------------------|-------------|-------------|-----------|-------------|
| 3 | Ceiling mounting | 3.2 (3.5) | 7.0 (8.1) | 2.3 (2.9) | 5.8 (7.5) |
| 4 | Exit route center | 4.2 (4.4) | 8.7 (9.6) | 2.6 (3.2) | 6.5 (8.1) |
| 5 | | 5.1 (5.3) | 10.6 (11.2) | 3.0 (3.4) | 6.9 (8.7) |
| 6 | | 6.0 (6.2) | 12.4 (13.0) | 3.4 (3.7) | 7.5 (9.3) |
| 7 | | 6.8 (7.1) | 14.3 (14.9) | 3.8 (4.2) | 8.4 (9.7) |
| 8 | | 7.5 (8.0) | 16.0 (16.7) | 4.2 (4.6) | 9.2 (10.3) |
| 9 | | 8.2 (8.9) | 17.7 (18.5) | 4.5 (5.0) | 10.1 (11.1) |
| 10 | | 8.9 (9.7) | 19.3 (20.3) | 4.8 (5.4) | 10.9 (11.9) |
| 11 | | 9.5 (10.4) | 20.8 (22.1) | 5.0 (5.8) | 11.6 (12.8) |
| 12 | | 10.0 (11.1) | 22.2 (23.8) | 5.2 (6.2) | 12.3 (13.7) |
| 13 | | 10.4 (11.8) | 23.6 (25.5) | 5.3 (6.5) | 13.0 (14.5) |
| 14 | | 10.7 (12.5) | 24.9 (27.1) | 5.3 (6.8) | 13.5 (15.3) |
| 15 | | 10.9 (13.1) | 26.2 (28.6) | 5.2 (7.0) | 14.0 (16.1) |
| 16 | | 11.0 (13.6) | 27.2 (30.1) | 4.7 (7.2) | 14.4 (16.8) |
| 17 | | 11.1 (14.1) | 28.2 (31.5) | 4.2 (7.4) | 14.7 (17.5) |
| 18 | | 11.0 (14.5) | 29.0 (32.9) | 3.8 (7.5) | 14.6 (18.1) |
| 19 | | 10.7 (14.9) | 29.7 (34.2) | 3.2 (7.5) | 14.5 (18.7) |
| 20 | | 9.7 (15.1) | 30.2 (35.5) | 2.7 (7.5) | 14.4 (19.3) |
| 21 | | 8.0 (15.3) | 30.7 (36.7) | 1.9 (7.4) | 14.1 (19.7) |
| 22 | | 4.9 (15.5) | 29.0 (37.9) | 0.7 (7.1) | 13.8 (20.2) |
| 3 | Ceiling mounting | 1.7 (2.2) | 5.6 (7.1) | 2.5 (2.5) | 5.6 (7.0) |
| 4 | Room illumination | 2.7 (2.1) | 7.5 (7.7) | 2.9 (3.2) | 5.7 (7.8) |
| 5 | | 3.4 (3.1) | 9.4 (9.3) | 3.1 (3.6) | 6.2 (7.9) |
| 6 | | 3.9 (3.9) | 11.1 (11.4) | 3.4 (3.9) | 7.1 (8.1) |
| 7 | | 5.9 (4.6) | 12.7 (13.3) | 3.7 (4.1) | 7.9 (8.7) |
| 8 | | 4.8 (5.1) | 14.2 (14.9) | 4.0 (4.5) | 8.8 (9.6) |
| 9 | | 5.2 (5.6) | 15.6 (16.5) | 4.2 (4.8) | 9.6 (10.5) |
| 10 | | 6.6 (6.1) | 17.1 (18.1) | 4.3 (5.1) | 10.2 (11.3) |
| 11 | | 7.1 (6.4) | 18.5 (19.6) | 4.4 (5.3) | 10.8 (12.2) |
| 12 | | 7.5 (6.9) | 19.8 (21.1) | 4.5 (5.6) | 11.4 (13.0) |
| 13 | | 7.9 (8.4) | 21.2 (22.6) | 4.4 (5.7) | 11.9 (13.7) |
| 14 | | 7.8 (8.8) | 22.3 (23.9) | 4.4 (5.9) | 12.5 (14.4) |
| 15 | | 8.0 (9.8) | 23.6 (25.5) | 4.2 (5.9) | 12.9 (14.9) |
| 16 | | 7.5 (9.9) | 24.6 (26.7) | 4.1 (6.1) | 13.4 (15.6) |
| 17 | | 7.8 (10.2) | 25.9 (28.0) | 3.6 (6.2) | 13.6 (16.2) |
| 18 | | 8.0 (10.7) | 27.2 (29.4) | 3.1 (6.1) | 13.6 (16.7) |
| 19 | | 8.1 (11.0) | 28.4 (30.7) | 2.5 (6.0) | 13.5 (17.2) |
| 20 | | 8.0 (10.8) | 29.6 (31.8) | 1.8 (6.0) | 13.4 (17.8) |
| 21 | | 7.5 (10.6) | 30.5 (32.9) | 1.4 (6.0) | 13.3 (18.3) |
| 22 | | 6.7 (10.1) | 31.7 (34.0) | 0.5 (5.8) | 12.9 (18.8) |
| 23 | | 4.0 (10.4) | 29.8 (35.2) | 0.5 (5.5) | 13.0 (19.1) |
| 24 | | 3.7 (10.7) | 30.6 (36.5) | 0.5 (5.0) | 12.1 (19.3) |
| 25 | | 4.1 (11.1) | 31.7 (38.0) | 0.5 (4.3) | 11.2 (19.2) |
| 26 | | 4.7 (10.8) | 33.1 (38.7) | 0.5 (4.2) | 10.2 (19.4) |



Light distribution curve
i-P65+ L CG-S
with symmetric optics

Planning assistance for i-P65+ L CG-S - Symmetric optics for E = 1,0 lx (0,5 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 | L4 |
|------------------------|-------------------|------------|-------------|------------|-------------|
| 3 | Ceiling mounting | 4.5 (4.7) | 9.4 (10) | 4.5 (4.8) | 9.6 (10.3) |
| 4 | Exit route center | 5.8 (6.1) | 12.1 (12.6) | 5.8 (6.1) | 12.2 (12.9) |
| 5 | | 7.0 (7.4) | 14.8 (15.4) | 6.9 (7.4) | 14.8 (15.6) |
| 6 | | 8.0 (8.6) | 17.3 (18.1) | 7.8 (8.6) | 17.2 (18.2) |
| 7 | | 8.7 (9.8) | 19.6 (20.7) | 8.5 (9.7) | 19.4 (20.7) |
| 8 | | 9.1 (10.9) | 21.7 (23.3) | 8.7 (10.7) | 21.3 (23.2) |
| 9 | | 8.8 (11.7) | 23.4 (25.7) | 8.4 (11.4) | 22.8 (25.4) |
| 10 | | 7.6 (12.4) | 24.0 (28.0) | 7.2 (12.0) | 23.4 (27.6) |
| 11 | | 5.7 (12.8) | 23.9 (30.1) | 5.6 (12.3) | 23.3 (29.6) |
| 12 | | - (12.8) | 20.7 (31.9) | - (12.2) | 19.5 (31.2) |
| 3 | Ceiling mounting | 4.2 (4.0) | 8.4 (9.4) | 4.2 (3.9) | 8.4 (9.3) |
| 4 | Room illumination | 5.3 (5.5) | 10.8 (11.4) | 5.3 (5.5) | 10.8 (11.4) |
| 5 | | 6.3 (6.7) | 13.2 (13.7) | 6.2 (6.7) | 13.1 (13.7) |
| 6 | | 7.1 (7.7) | 15.4 (16.1) | 7.1 (7.7) | 15.4 (16.1) |
| 7 | | 7.6 (8.7) | 17.6 (18.5) | 7.5 (8.6) | 17.6 (18.4) |
| 8 | | 8.1 (9.5) | 19.6 (20.8) | 8.0 (9.4) | 19.6 (20.7) |
| 9 | | 8.3 (10.2) | 21.5 (23.0) | 8.3 (10.0) | 21.5 (22.9) |
| 10 | | 6.0 (10.6) | 22.6 (25.1) | 6.3 (10.5) | 22.5 (25.1) |
| 11 | | 4.3 (10.9) | 22.4 (27.1) | 4.4 (11.0) | 22.4 (27.2) |
| 12 | | 0.8 (11.6) | 21.5 (29.1) | 0.7 (11.4) | 21.5 (29.0) |
| 13 | | 0.5 (11.5) | 19.0 (30.9) | 0.5 (11.5) | 19.0 (30.9) |
| 14 | | 0.5 (8.2) | 19.2 (32.1) | 0.5 (8.8) | 19.2 (31.9) |
| 15 | | 0.5 (6.4) | 19.4 (31.8) | 0.5 (6.8) | 19.4 (31.8) |
| 16 | | 0.5 (6.0) | 19.6 (31.5) | 0.5 (5.5) | 19.6 (31.2) |
| 17 | | 0.5 (0.7) | 19.6 (29.8) | 0.5 (0.5) | 19.6 (29.1) |
| 18 | | 0.5 (0.6) | 19.4 (27.1) | 0.5 (0.5) | 19.3 (27.0) |

Safety and Exit Sign Luminaies with High Ingress Protection



- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from aluminium die-cast and impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 22 m for E= 1lx and up to 31 m for E = 0.5 lx) and mounting heights up to 12 m (18 m for 0.5 lx)
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for escape route lighting with high spacing up to 30 m and mounting heights up to 12 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- High service life of LEDs (60,000 hours) minimize service requirements
- For EasiCheck 1.5 addressable test system

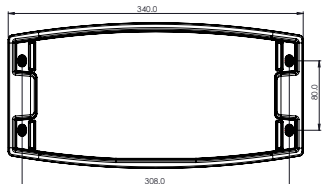
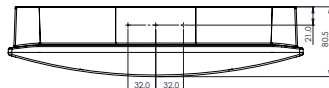
i-P65+ | FC 1.5



i-P65+ H FC 1.5



Dimensions in mm



| | |
|---|--|
| Luminous flux Φ_N | i-P65+ L: 900 lm i-P65+ H: 690 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | Aluminium (cover) |
| Housing colour | White |
| Weight | 1.75 kg |
| Type of mounting | Ceiling mounting |
| Terminals | 3 x 2 x 2,5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 21.7 VA / 10.7 W |
| Permissible ambient temperature | -20°C to +40°C |
| Light source | COB LED 6.4 W |

Ordering details

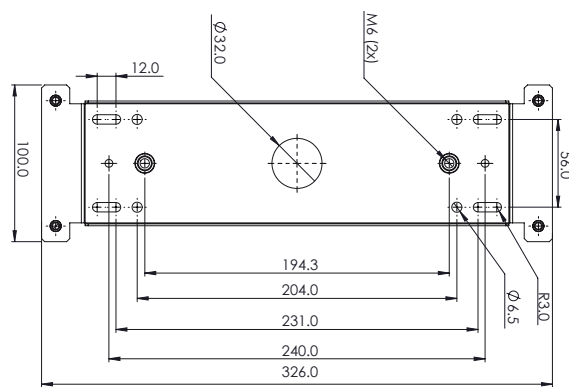
| Type | Scope of supply | Bestell-Nr. |
|---|---|--------------|
| i-P65+ L EC 1.5, Aluminium enclosure | Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply and Easichck 1.5 interface | IP65PLA230EC |
| i-P65+ H EC 1.5, Aluminium enclosure | Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply and Easichck 1.5 interface | IP65PHA230EC |

1 x M20-cable gland included.

Ordering details - Accessories

| Type | Bestell-Nr. |
|--|-------------|
| Mounting bracket for chain suspension or for mounting at trunking systems or similar | IP65PSUSPB |

Mounting bracket



i-P65+ with Aluminium enclosure

Safety and Exit Sign Luminaies with High Ingress Protection



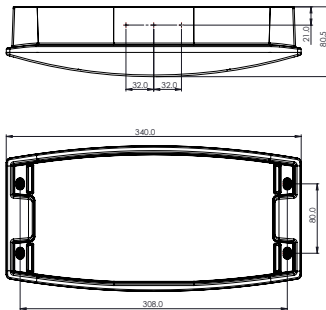
i-P65+ L



i-P65+ H



Dimensions in mm



Mounting bracket



i-P65+ with Aluminium enclosure

- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 24 m for E= 1lx and up to 31 m for E = 0.5 lx) and mounting heights up to 12 m (18 m for 0.5 lx)
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for escape route lighting with high spacing up to 33m and mounting heights up to 28 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- Minimum maintenance effort and increased safety via use of LEDs with high service life (up to 60,000 h)

| | |
|--|--|
| Luminous flux Φ_N | i-P65+ L: 900 lm i-P65+ H: 690 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | Aluminium, Polycarbonat (cover) |
| Housing colour | White |
| Weight | 1.85 kg |
| Type of mounting | Ceiling mounting |
| Terminals | 3 x 2 x 2,5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation | 49 mA |
| Power consumption mains operation (apparent power / effective power) | 21.7 VA / 10.7 W |
| Permissible ambient temperature | -20°C bis +40°C |
| Light source | COB LED 6.5 W |

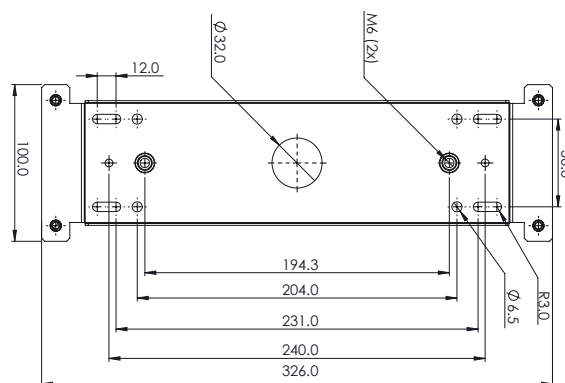
Ordering details

| Type | Scope of supply | Bestell-Nr. |
|-------------------------------|---|-------------|
| i-P65+ L, Aluminium enclosure | Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply with CG-S technology | IP65PLA230 |
| i-P65+ H, Aluminium enclosure | Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply with CG-S technology | IP65PHA230 |

1 x M20-cable gland included.

Ordering details - Accessories

| Type | Bestell-Nr. |
|--|-------------|
| Mounting bracket for chain suspension or for mounting at trunking systems or similar | IP65PSUSPB |



i-P65+ EC 1.5 with Polycarbonate enclosure

Safety and Exit Sign Luminaies with High Ingress Protection



i-P65+ EC 1.5 with Polycarbonate enclosure

- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from aluminium die-cast and impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 22 m for E= 1lx and up to 31 m for E = 0.5 lx) and mounting heights up to 12 m (18 m for 0.5 lx)
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for escape route lighting with high spacing up to 30 m and mounting heights up to 12 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- High service life of LEDs (60,000 hours) minimize service requirements
- For EasiCheck 1.5 addressable test system

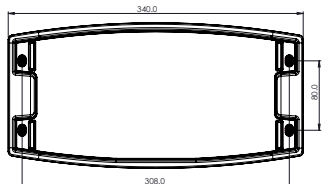
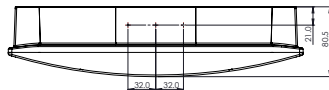
5 i-P65+ L EC 1.5



i-P65+ H EC 1.5



Dimensions in mm



| | |
|---|--|
| Luminous flux Φ_N | i-P65+ L: 900 lm i-P65+ H: 690 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | Polycarbonat (cover) |
| Housing colour | White |
| Weight | 1.75 kg |
| Type of mounting | Ceiling mounting |
| Terminals | 3 x 2 x 2,5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 21.7 VA / 10.7 W |
| Permissible ambient temperature | -20°C to +40°C |
| Light source | COB LED 6.4 W |

Ordering details

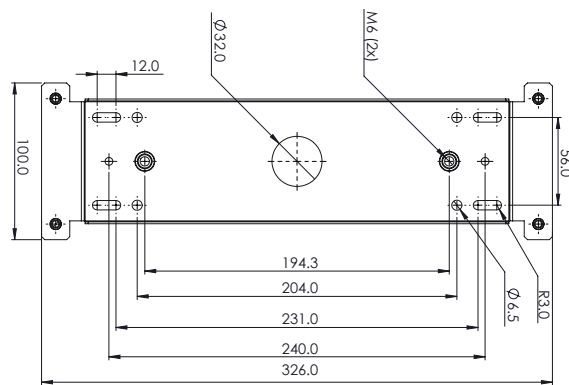
| Type | Scope of supply | Bestell-Nr. |
|---|---|--------------|
| i-P65+ L EC 1.5, Polycarbonate enclosure | Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply and Easichck 1.5 interface | IP65PLP230EC |
| i-P65+ H EC 1.5, Polycarbonate enclosure | Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply and Easichck 1.5 interface | IP65PHP230EC |

1 x M20-cable gland included.

Ordering details - Accessories

| Type | Bestell-Nr. |
|--|-------------|
| Mounting bracket for chain suspension or for mounting at trunking systems or similar | IP65PSUSPB |

Mounting bracket



i-P65+ with Polycarbonate enclosure

Safety and Exit Sign Luminaies with High Ingress Protection



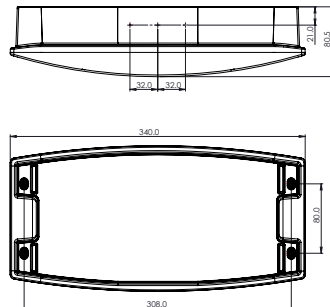
i-P65+ L



i-P65+ H



Dimensions in mm



Mounting bracket



i-P65+ with Polycarbonate enclosure

- LED safety luminaire with high ingress protection class (IP65) for both indoor and outdoor use
- Robust design (IK08) made from impact-resistant polycarbonate
- With wide-beam symmetrical lens with a near-square light distribution, i-P65+ L variant is suitable for illuminating large areas (Spacing in both direction up to 24 m for E= 1lx and up to 31 m for E = 0.5 lx) and mounting heights up to 12 m (18 m for 0.5 lx)
- With narrow-beam reflector technology, the i-P65+ H variant is especially suitable for escape route lighting with high spacing up to 33m and mounting heights up to 28 m
- High lumen output ensures suitability for increased illumination levels such as min 15 lx for high risk task areas or applications with 10.8 lx acc. NFPA 101
- With provisions for M20 cable entries on enclosure sides (3 x lateral and 1 x at each end side) and BESA entry on rear
- Minimum maintenance effort and increased safety via use of LEDs with high service life (up to 60,000 h)

| | |
|--|--|
| Luminous flux Φ_N | i-P65+ L: 900 lm i-P65+ H: 690 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 1.75 kg |
| Type of mounting | Ceiling mounting |
| Terminals | 3 x 2 x 2,5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation | 49 mA |
| Power consumption mains operation (apparent power / effective power) | 21.7 VA / 10.7 W |
| Permissible ambient temperature | -20°C bis +40°C |
| Light source | COB LED 6.5 W |

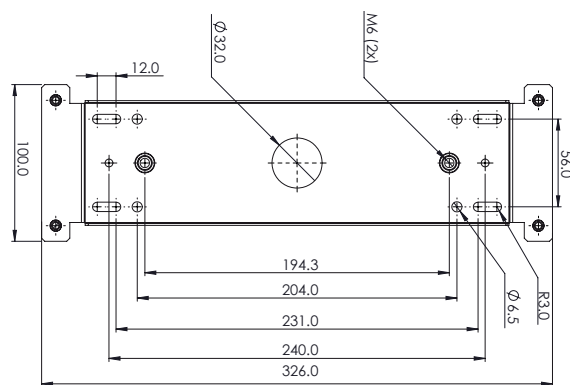
Ordering details

| Type | Scope of supply | Bestell-Nr. |
|--------------------------------------|--|-------------|
| i-P65+ L, Polycarbonate enclosure | Safety luminaire, with wide-beam, symmetrical lenses for anti-panic/open area illumination, incl. LED supply | IP65PLP230 |
| i-P65+ H, Polycarbonate enclosure | Safety luminaire, with narrow-beam lenses for emergency lighting, incl. LED supply | IP65PHP230 |

1 x M20-cable gland included.

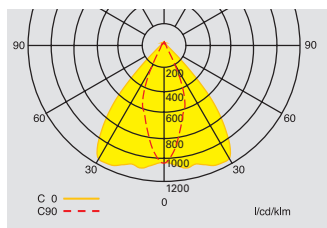
Ordering details - Accessories

| Type | Bestell-Nr. |
|--|-------------|
| Mounting bracket for chain suspension or for mounting at trunking systems or similar | IP65PSUSPB |



i-P65+ and i-P65+ EC 1.5

Safety and Exit Sign Luminaies with High Ingress Protection

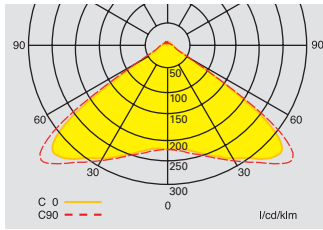


Light distribution curve
i-P65+ H
with asymmetric optics

Planning assistance for i-P65+ H - Asymmetric optics for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m. maintenance factor MF = 80 %. battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 | L4 |
|------------------------|---------------------|-------------|-------------|-----------|-------------|
| 3 | Ceiling mounting | 3.3 (3.6) | 7.2 (8.4) | 2.4 (3.1) | 6.2 (7.9) |
| 4 | Escape route center | 4.2 (4.4) | 8.8 (9.9) | 2.7 (3.4) | 6.8 (8.6) |
| 5 | | 5.1 (5.3) | 10.7 (11.4) | 3.0 (3.6) | 7.3 (9.1) |
| 6 | | 6 (6.3) | 12.6 (13.2) | 3.5 (3.9) | 7.7 (9.8) |
| 7 | | 6.9 (7.2) | 14.4 (15.0) | 3.9 (4.3) | 8.6 (10.3) |
| 8 | | 7.7 (8.1) | 16.2 (16.9) | 4.3 (4.7) | 9.4 (10.7) |
| 9 | | 8.4 (9) | 17.9 (18.7) | 4.7 (5.2) | 10.3 (11.4) |
| 10 | | 9.1 (9.8) | 19.6 (20.5) | 5.0 (5.6) | 11.1 (12.2) |
| 11 | | 9.7 (10.6) | 21.2 (22.3) | 5.3 (6.0) | 11.9 (13.1) |
| 12 | | 10.3 (11.3) | 22.6 (24.1) | 5.5 (6.3) | 12.7 (13.9) |
| 13 | | 10.8 (12) | 24.1 (25.8) | 5.6 (6.7) | 13.4 (14.8) |
| 14 | | 11.2 (12.7) | 25.4 (27.5) | 5.7 (7.0) | 14.0 (15.6) |
| 15 | | 11.5 (13.4) | 26.8 (29.1) | 5.7 (7.3) | 14.6 (16.4) |
| 16 | | 11.7 (14) | 28 (30.6) | 5.6 (7.5) | 15.1 (17.2) |
| 17 | | 11.9 (14.6) | 29.1 (32.1) | 5.3 (7.7) | 15.5 (17.9) |
| 18 | | 12 (15.1) | 30.2 (33.5) | 4.7 (7.9) | 15.8 (18.6) |
| 19 | | 12 (15.5) | 31 (34.9) | 4.3 (8.1) | 15.8 (19.3) |
| 20 | | 11.8 (15.9) | 31.8 (36.3) | 3.8 (8.1) | 15.7 (19.9) |
| 21 | | 11.2 (16.2) | 32.4 (37.6) | 3.3 (8.1) | 15.6 (20.5) |
| 22 | | 10 (16.4) | 32.9 (38.9) | 2.6 (8.1) | 15.4 (21.0) |
| 23 | | 7.6 (16.6) | 33.3 (40.1) | 1.8 (7.9) | 15.2 (21.5) |
| 24 | | - (16.8) | 31.1 (41.2) | - (7.5) | 14.8 (21.9) |
| 3 | Ceiling mounting | 1.9 (2.2) | 6.0 (7.5) | 2.5 (2.5) | 5.8 (7.4) |
| 4 | Room illumination | 2.6 (2.4) | 7.4 (8.2) | 2.9 (3.2) | 6.1 (8.1) |
| 5 | | 3.5 (3.1) | 9.6 (9.6) | 3.1 (3.7) | 6.3 (8.3) |
| 6 | | 4.0 (3.8) | 11.2 (11.3) | 3.5 (4.1) | 7.2 (8.6) |
| 7 | | 4.4 (4.7) | 12.8 (13.4) | 3.8 (4.2) | 8.1 (8.9) |
| 8 | | 4.8 (5.3) | 14.3 (15.2) | 4.1 (4.5) | 9.0 (9.7) |
| 9 | | 5.3 (5.7) | 15.8 (16.7) | 4.4 (4.9) | 9.8 (10.7) |
| 10 | | 7.1 (6.1) | 17.5 (18.3) | 4.4 (5.2) | 10.4 (11.6) |
| 11 | | 7.7 (6.6) | 19.0 (19.9) | 4.5 (5.5) | 11.0 (12.4) |
| 12 | | 7.9 (7.0) | 20.2 (21.3) | 4.7 (5.8) | 11.7 (13.3) |
| 13 | | 8.4 (7.4) | 21.7 (22.8) | 4.6 (6.0) | 12.2 (14.1) |
| 14 | | 8.6 (8.8) | 22.9 (24.3) | 4.7 (6.2) | 12.8 (14.8) |
| 15 | | 8.8 (9.2) | 24.2 (25.6) | 4.6 (6.4) | 13.3 (15.5) |
| 16 | | 8.5 (10.7) | 25.2 (27.4) | 4.6 (6.2) | 13.9 (15.9) |
| 17 | | 8.0 (10.8) | 26.2 (28.6) | 4.5 (6.4) | 14.4 (16.6) |
| 18 | | 8.1 (11.5) | 27.4 (30.1) | 4.1 (6.4) | 14.7 (17.1) |
| 19 | | 8.3 (11.4) | 28.7 (31.2) | 3.6 (6.6) | 14.8 (17.8) |
| 20 | | 8.8 (11.5) | 30.2 (32.4) | 2.8 (6.6) | 14.6 (18.4) |
| 21 | | 8.8 (10.9) | 31.4 (33.3) | 2.2 (6.8) | 14.5 (19.1) |
| 22 | | 8.6 (11.7) | 32.5 (34.9) | 1.6 (6.4) | 14.4 (19.4) |
| 23 | | 8.0 (11.5) | 33.3 (36.0) | 1.2 (6.3) | 14.3 (19.9) |
| 24 | | 7.9 (11.0) | 34.5 (37.0) | 0.5 (6.2) | 13.6 (20.4) |
| 25 | | 4.3 (11.2) | 32.3 (38.2) | 0.5 (5.8) | 13.9 (20.7) |
| 26 | | 4.0 (11.4) | 33.2 (39.5) | 0.5 (5.4) | 13.0 (20.9) |
| 27 | | 3.7 (11.9) | 34.0 (41.0) | 0.5 (4.7) | 12.2 (20.8) |
| 28 | | 4.7 (11.8) | 35.5 (41.9) | 0.5 (4.4) | 11.2 (20.9) |



Light distribution curve
i-P65+ L
with symmetric optics

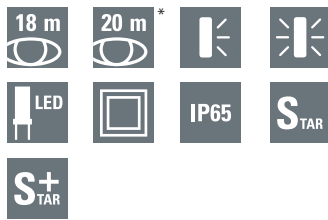
Planning assistance for i-P65+ L - Symmetric optics for E = 1,0 lx (0,5 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|------------|-------------|------------|-------------|
| 3 | Ceiling mounting | 4,6 (4,7) | 9,5 (10,3) | 4,6 (4,9) | 9,7 (10,6) |
| 4 | Escape route center | 5,9 (6,1) | 12,2 (12,7) | 5,9 (6,2) | 12,4 (13,1) |
| 5 | | 7,1 (7,5) | 14,9 (15,5) | 7,0 (7,5) | 15,0 (15,8) |
| 6 | | 8,2 (8,7) | 17,5 (18,3) | 8,0 (8,7) | 17,4 (18,4) |
| 7 | | 9,1 (10,0) | 19,9 (20,9) | 8,8 (9,9) | 19,7 (21,0) |
| 8 | | 9,6 (11,1) | 22,1 (23,5) | 9,3 (10,9) | 21,8 (23,5) |
| 9 | | 9,8 (12,1) | 24,1 (26,0) | 9,4 (11,8) | 23,6 (25,9) |
| 10 | | 9,2 (12,9) | 25,5 (28,4) | 8,8 (12,5) | 24,9 (28,1) |
| 11 | | 7,9 (13,5) | 25,9 (30,7) | 7,5 (13,1) | 25,3 (30,2) |
| 12 | | 5,9 (13,9) | 25,8 (32,7) | 5,7 (13,3) | 25,1 (32,1) |
| 3 | Ceiling mounting | 4,3 (3,9) | 8,6 (9,7) | 4,2 (3,8) | 8,5 (9,6) |
| 4 | Room illumination | 5,4 (5,4) | 10,9 (11,6) | 5,4 (5,4) | 10,9 (11,6) |
| 5 | | 6,4 (6,7) | 13,3 (13,9) | 6,4 (6,7) | 13,2 (13,8) |
| 6 | | 7,3 (7,8) | 15,6 (16,3) | 7,2 (7,8) | 15,5 (16,2) |
| 7 | | 7,9 (8,8) | 17,8 (18,6) | 7,9 (8,8) | 17,8 (18,6) |
| 8 | | 8,4 (9,7) | 19,9 (21,0) | 8,3 (9,6) | 19,9 (20,9) |
| 9 | | 9,0 (10,4) | 21,9 (23,2) | 8,7 (10,4) | 21,8 (23,2) |
| 10 | | 8,4 (11,0) | 23,7 (25,4) | 8,9 (11,0) | 23,8 (25,4) |
| 11 | | 6,2 (11,5) | 24,4 (27,6) | 6,3 (11,3) | 24,3 (27,5) |
| 12 | | 4,6 (12,0) | 24,1 (29,6) | 4,7 (11,8) | 24,1 (29,5) |
| 13 | | 0,7 (12,4) | 23,6 (31,5) | 0,5 (12,3) | 22,1 (31,5) |
| 14 | | 0,5 (12,2) | 20,7 (33,3) | 0,5 (12,5) | 20,7 (33,4) |
| 15 | | 0,5 (8,6) | 21,0 (34,8) | 0,5 (9,4) | 21,0 (34,6) |
| 16 | | 0,5 (7,4) | 21,0 (34,4) | 0,5 (7,7) | 21,0 (34,4) |
| 17 | | 0,5 (6,3) | 21,0 (34,1) | 0,5 (6,4) | 21,0 (34,1) |
| 18 | | 0,5 (4,4) | 20,9 (33,6) | 0,5 (3,9) | 20,9 (33,6) |

i-P65 CG-S

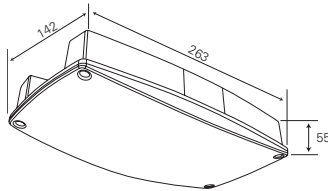
Safety and Exit Sign Luminaies with High Ingress Protection



i-P65 S CG-S



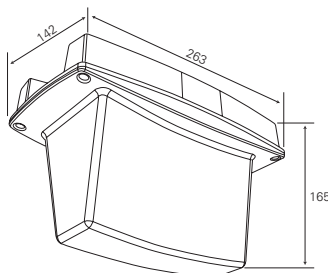
Dimensions in mm



i-P65 D CG-S *



Dimensions in mm



i-P65 CG-S

- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Robust construction made of polycarbonate with numerous knock-outs for cable entries
- Low operating cost due to low power consumption
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Viewing distance | 20 m single sided / 18 m double sided |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey |
| Weight | single sided 0.54 kg double sided 0.74 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 230 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 16 mA |
| Power consumption mains operation (apparent power / effective power) | 7.0 VA / 3.6 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -15 °C to +40 °C |
| Light source | HighPower LEDs 2 x 1.0 W |

Ordering details

| Type | Scope of supply | Order No. |
|----------------------------------|--|----------------|
| Exit sign luminaire i-P65 S CG-S | Single sided, incl. LED supply and CG-S technology (20 addresses), without pictogram-kit | IP65LEDO230CG |
| Exit sign luminaire i-P65 D CG-S | Double sided, incl. LED supply and CG-S technology (20 addresses), without pictogram-kit | IP65LEDEX230CG |

M20 gland is not included in delivery

Accessories

| Type | Order No. |
|--|----------------|
| Pictogram kit for i-P65 S, single sided, ISO 7010* | IP65LEG7010 |
| Pictogram kit for i-P65 D, double sided, ISO 7010 | IP65DBLLEG7010 |

* Viewing distance 20 m; only single sided version

i-P65 CG-S

Safety and Exit Sign Luminaies with High Ingress Protection



i-P65 CG-S

- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Robust construction made of polycarbonate with numerous knock-outs for cable entries
- High spacing by special optics technology and highly efficient HighPower LEDs
- Low operating cost due to low power consumption
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

5

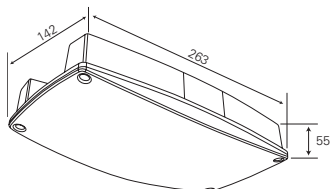
i-P65 E CG-S



i-P65 O CG-S



Dimensions in mm



| | |
|--|--|
| Luminous flux | 225 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey |
| Weight | 0.54 kg |
| Type of mounting | Ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 16 mA |
| Power consumption mains operation (apparent power / effective power) | 7.0 VA / 3.6 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -15 °C to +40 °C |
| Light source | HighPower LEDs 2 x 1.0 W |

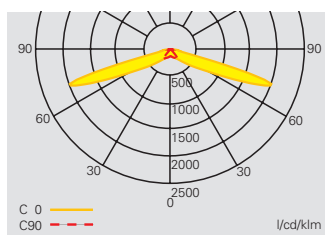
Ordering details

| Type | Scope of supply | Order No. |
|-------------------------------|--|---------------|
| Safety luminaire i-P65 E CG-S | With asymmetric optics for exit route illumination, incl. LED supply and CG-S technology (20 addresses) | IP65LEDE230CG |
| Safety luminaire i-P65 O CG-S | With symmetric optics for anti-panic / open area illumination, incl. LED supply and CG-S technology (20 addresses) | IP65LEDO230CG |

M20 gland is not included in delivery.

Planning help for i-P65 E CG-S – Asymmetric optics for E = 1.0 lx (0.5 lx)

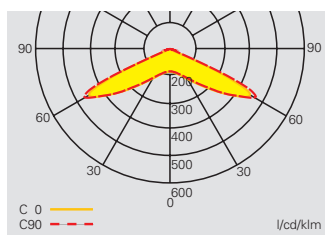
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

i-P65 E CG-S
with asymmetric optics

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-------------|-------------|-----------|-----------|
| 2.5 | Ceiling mounting | 8.2 (8.9) | 17.7 (18.7) | 2.3 (2.4) | 4.8 (5.1) |
| 3.0 | Exit route centre | 9.3 (10.3) | 20.5 (21.8) | 2.6 (2.8) | 5.6 (5.9) |
| 3.5 | | 10.2 (11.6) | 23.1 (24.9) | 3.0 (3.2) | 6.4 (6.7) |
| 4.0 | | 10.3 (12.7) | 25.4 (27.7) | 3.2 (3.5) | 7.1 (7.5) |
| 4.5 | | 7.1 (13.7) | 27.3 (30.4) | 3.2 (3.9) | 7.8 (8.3) |
| 2.5 | Ceiling mounting | 4.0 (8.5) | 16.6 (17.7) | 1.7 (1.9) | 4.1 (4.5) |
| 3.0 | Room illumination | 8.3 (9.6) | 19.1 (20.7) | 1.8 (2.0) | 4.6 (5.1) |
| 3.5 | | 8.8 (10.5) | 21.5 (23.4) | 1.8 (2.2) | 5.0 (5.7) |
| 4.0 | | 5.9 (5.9) | 23.4 (25.8) | 1.6 (2.4) | 5.4 (6.3) |
| 4.5 | | 6.3 (6.5) | 23.7 (28.2) | 1.4 (2.5) | 5.6 (6.8) |
| 5.0 | | 0.5 (12.1) | 19.4 (30.5) | 2.7 (2.4) | 7.0 (7.2) |

Planning help for i-P65 O CG-S – Symmetric optics for E = 1.0 lx (0.5 lx)

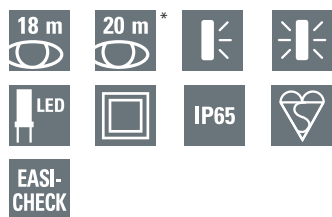
Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

i-P65 O CG-S
with symmetric optics

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.8 (5.3) | 10.7 (11.2) | 4.7 (5.3) | 10.6 (11.3) |
| 3.0 | Exit route centre | 4.8 (6.1) | 12.2 (13.1) | 4.8 (6.0) | 12.0 (13.2) |
| 3.5 | | 4.1 (6.7) | 12.7 (15.0) | 4.0 (6.6) | 12.6 (14.9) |
| 2.5 | Ceiling mounting | 5.0 (5.7) | 10.4 (10.9) | 4.9 (5.7) | 10.4 (11.0) |
| 3.0 | Room illumination | 3.9 (6.3) | 11.9 (12.9) | 4.0 (4.1) | 11.9 (12.9) |
| 3.5 | | 3.1 (4.7) | 12.1 (14.6) | 2.8 (6.8) | 11.9 (14.7) |
| 4.0 | | 0.9 (4.7) | 10.1 (16.3) | 5.6 (4.7) | 10.1 (16.3) |

i-P65 / i-P65 EC 1.5

Safety and Exit Sign Luminaies with High Ingress Protection



i-P65

- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Robust construction made of polycarbonate with numerous knock-outs for cable entries
- High spacing by special optics technology and highly efficient HighPower LEDs
- Low operating cost due to low power consumption
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- BESA box entry on rear
- Ease of installation, reducing installation time and cost

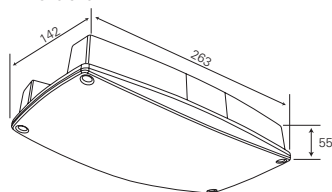
i-P65



Single sided exit sign



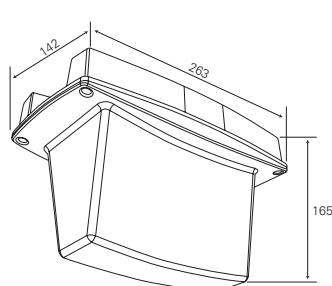
Dimensions in mm



Double sided exit sign



Dimensions in mm



| | |
|--|--|
| Viewing distance | Single sided: 20 m Double sided: 18 m |
| Luminous flux | 225 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey |
| Weight | Single sided: 0.54 kg Double sided: 0.74 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 230 V AC, 50 Hz |
| Power consumption mains operation (apparent power / effective power) | 4.3 VA / 3.0W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | HighPower LEDs 2 x 1.0W |

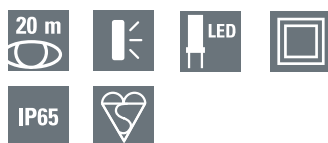
Ordering details

| Type | Scope of supply | Order No. |
|----------------|--|----------------|
| i-P65 E | Safety Luminaire with asymmetric optics for exit route illumination, incl. LED supply for 230V AC connection | IP65LEDE230 |
| i-P65 O | Safety Lum. with symmetric optics for ant-panic/open area illumination, incl. LED supply for 230V AC connection | IP65LEDO230 |
| i-P65 EX | Double side exit sign luminaire, incl. LED supply for 230V AC connection. Without pictogram-kit | IP65LEDEX230 |
| i-P65 E EC 1.5 | Safety Luminaire with asymmetric optics for exit route illumination, incl. LED supply for 230V AC connection and Easichck 1.5 interface | IP65LEDE230EC |
| i-P65 O EC 1.5 | Safety Luminaire with symmetric optics for ant-panic/open area illumination, incl. LED supply for 230V AC connection with Easichck 1.5 interface | IP65LEDO230EC |
| i-P65 EX 1.5 | Double side exit sign luminaire and incl. LED supply for 230V AC connection and Easichck 1.5 interface. Without pictogram-kit | IP65LEDEX230EC |

Accessories

| Type | | Order No. |
|---------------------------------|---|----------------|
| ISO7010 single side legend kit* | Pictogram insert kit acc. to ISO7010 format for i-P65 O | IP65LEG7010 |
| ISO7010 double side legend kit | Pictogram insert kit acc. to ISO 7010 format for i-P65 EX | IP65DBLLEG7010 |

* Viewing distance 20 m; only single sided version

**i-P65**

- LED safety luminaire with high protection class (IP65) for indoor and outdoor use
- Robust construction made of polycarbonate with numerous knock-outs for cable entries
- High spacing by special optics technology and highly efficient HighPower LEDs
- Low operating cost due to low power consumption
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- BESA box entry on rear
- Ease of installation, reducing installation time and cost

5

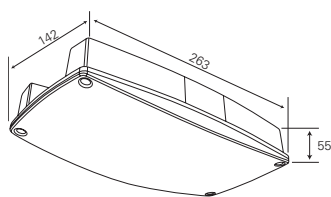
i-P65



Single sided exit sign



Dimensions in mm



| | |
|--|--|
| Viewing distance | Single sided: 20 m |
| Luminous flux | 225 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | Light grey |
| Weight | Single sided: 0.54 kg Double sided: 0.74 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 110 V AC |
| Power consumption mains operation (apparent power / effective power) | 4.3 VA / 3.0W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | HighPower LEDs 2 x 1.0W |

Ordering details

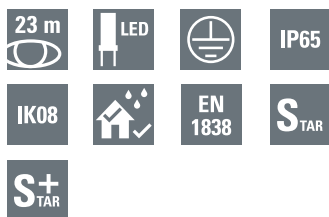
| Type | Scope of supply | Order No. |
|---------------|--|-------------|
| i-P65 E 110 V | Safety Luminaire with asymmetric optics for exit route illumination, incl. LED supply for 230V AC Supply for for 110V AC connection | IP65LEDE110 |
| i-P65 O 110V | Safety Luminaire with symmetric optics for ant-panic/open area illumination, incl. LED supply for 110V AC connection | IP65LEDO110 |

Accessories

| Type | | Order No. |
|--------------------------------|--|-------------|
| ISO7010 single side legend kit | Pictogram insert kit acc. to ISO7010 format for IP65 LED O | IP65LEG7010 |

83022 LED CG-S

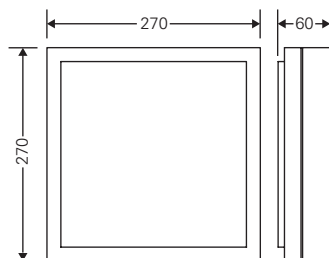
Safety and Exit Sign Luminaies with High Ingress Protection



83022 LED CG-S



Dimensions in mm




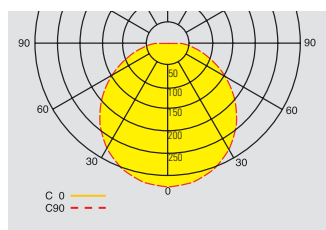
83022 LED CG-S

- Square safety and escape route luminaire with LED technology with high protection class (IP65) for indoor and outdoor use
- Robust construction from aluminium diecast with powder coating (UV stabilised)
- High impact resistant (IK08) diffuser made of UV stabilised polycarbonate
- Two waterproof cable infeeds (IP65) and double terminal for through-wiring
- Up to 17 m from luminaire to luminaire for escape route and wide area illumination
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Luminous flux Φ_N | 620 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Aluminium diecast, PC |
| Housing colour | White sim. RAL 9010 |
| Weight | 2.20 kg |
| Type of mounting | Wall and ceiling mounting |
| Terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power/effective power) | 16.9 VA / 9.6 W |
| Current consumption- battery operating (220 V) | 47 mA |
| Inrush current | 3 A |
| Permissible temperature range | -20 °C bis +40 °C |
| Light source | LowPower LEDs 42 x 180 mW, 4000 K |

Ordering details

| Type | Scope of supply | Order No |
|--|---|-------------|
| 83022 LED CG-S | Square safety and escape route luminaire, including LED Supply and CG-S technology (20 addresses) | 40071351530 |
| Pictogram-set for 83022 acc. to ISO 7010 | arrow left, right, down  | 40071351924 |



Light distribution curve 83022 LED CG-S

Engineering help for 83022 LED CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.9 (6.0) | 12.1 (14.7) | 4.9 (6.0) | 12.1 (14.8) |
| 3.0 | Escape route centre | 5.2 (6.5) | 13.0 (15.9) | 5.3 (6.5) | 13.0 (15.9) |
| 3.5 | | 5.5 (6.9) | 13.8 (17.0) | 5.5 (6.9) | 13.8 (17.0) |
| 4.0 | | 5.7 (7.3) | 14.5 (18.0) | 5.8 (7.3) | 14.5 (18.0) |
| 4.5 | | 5.9 (7.6) | 15.1 (18.8) | 5.9 (7.6) | 15.2 (18.9) |
| 5.0 | | 6.1 (7.8) | 15.6 (19.6) | 6.1 (7.8) | 15.7 (19.7) |
| 5.5 | | 6.2 (8.1) | 16.1 (20.3) | 6.2 (8.1) | 16.1 (20.4) |
| 6.0 | | 6.2 (8.3) | 16.5 (21.0) | 6.2 (8.3) | 16.5 (21.0) |
| 6.5 | | 6.2 (8.4) | 16.8 (21.5) | 6.2 (8.4) | 16.9 (21.6) |
| 7.0 | | 6.2 (8.6) | 17.1 (22.1) | 6.2 (8.6) | 17.1 (22.1) |
| 7.5 | | 6.1 (8.7) | 17.3 (22.5) | 6.2 (8.7) | 17.3 (22.6) |
| 8.0 | | 6.0 (8.7) | 17.4 (23.0) | 6.0 (8.7) | 17.5 (23.0) |
| 8.5 | | 5.9 (8.8) | 17.5 (23.3) | 5.9 (8.8) | 17.6 (23.4) |
| 9.0 | | 5.7 (8.8) | 17.6 (23.7) | 5.7 (8.8) | 17.6 (23.7) |
| 9.5 | | 5.5 (8.8) | 17.6 (24.0) | 5.5 (8.8) | 17.6 (24.0) |
| 10.0 | | 5.1 (8.8) | 17.5 (24.2) | 5.2 (8.8) | 17.6 (24.3) |
| 2.2 | Wall mounting | 3.6 (6.0) | 9.2 (14.7) | 3.6 (6.0) | 9.2 (14.8) |
| 2.5 | | 3.6 (6.5) | 9.3 (15.9) | 3.6 (6.5) | 9.3 (15.9) |
| 3.0 | | 3.5 (7.6) | 9.4 (18.8) | 3.5 (7.6) | 9.4 (18.9) |
| 3.5 | | 3.2 (8.3) | 9.3 (21.0) | 3.2 (8.3) | 9.3 (21.0) |
| 4.0 | | 3.0 (8.6) | 9.1 (22.1) | 3.0 (8.6) | 9.1 (22.1) |
| 2.5 | Ceiling mounting | 3.7 (4.4) | 10.4 (12.7) | 3.7 (4.4) | 10.4 (12.7) |
| 3.0 | Room illumination | 3.9 (4.7) | 11.3 (13.8) | 3.8 (4.6) | 11.2 (13.7) |
| 3.5 | | 4.1 (5.0) | 12.0 (14.7) | 4.1 (4.9) | 12.0 (14.6) |
| 4.0 | | 4.2 (5.2) | 12.7 (15.5) | 4.2 (5.2) | 12.7 (15.5) |
| 4.5 | | 4.3 (5.4) | 13.3 (16.3) | 4.3 (5.4) | 13.3 (16.3) |
| 5.0 | | 4.4 (5.6) | 13.9 (17.1) | 4.3 (5.5) | 13.8 (17.0) |
| 5.5 | | 4.5 (5.8) | 14.4 (17.8) | 4.4 (5.7) | 14.3 (17.7) |
| 6.0 | | 4.5 (5.8) | 14.8 (18.4) | 4.5 (5.8) | 14.8 (18.4) |
| 6.5 | | 4.5 (6.0) | 15.2 (19.0) | 4.5 (5.9) | 15.2 (18.9) |
| 7.0 | | 4.5 (6.0) | 15.6 (19.5) | 4.4 (6.0) | 15.6 (19.6) |
| 7.5 | | 4.5 (6.1) | 15.9 (20.1) | 4.4 (6.0) | 15.9 (20.0) |
| 8.0 | | 4.4 (6.1) | 16.2 (20.5) | 4.3 (6.1) | 16.2 (20.5) |
| 8.5 | | 4.2 (6.2) | 16.5 (21.0) | 4.2 (6.1) | 16.5 (20.9) |
| 9.0 | | 4.1 (6.1) | 16.8 (21.4) | 4.0 (6.1) | 16.7 (21.4) |
| 9.5 | | 4.0 (6.2) | 17.0 (21.8) | 3.9 (6.1) | 16.9 (21.7) |
| 10.0 | | 3.8 (6.1) | 17.1 (22.2) | 3.8 (6.0) | 17.1 (22.1) |

84022 LED CG-S

Safety and Exit Sign Luminaies with High Ingress Protection



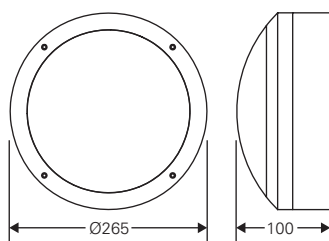
84022 LED CG-S

- Round safety luminaire with LED technology with high protection class (IP65) for indoor and outdoor use
- Robust construction from aluminium diecast with powder coating (UV stabilised)
- High impact resistant (IK08) diffuser made of UV stabilised polycarbonate
- Two waterproof cable infeeds (IP65) and double terminal for through-wiring
- Up to 17 m from luminaire to luminaire for escape route and wide area illumination
- Minimum service requirement due to high service life of the LEDs (50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

84022 LED CG-S



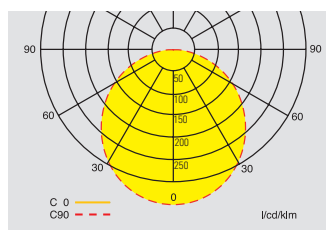
Dimensions in mm



| | |
|--|--|
| Luminous flux Φ_N | 600 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Aluminium diecast, PC |
| Housing colour | White sim. RAL 9010 |
| Weight | 1.85 kg |
| Type of mounting | Wall and ceiling mounting |
| Terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power/effective power) | 16.9 VA / 9.6 W |
| Current consumption- battery operating (220 V) | 47 mA |
| Inrush current | 3 A |
| Permissible temperature range | -20 °C bis +40 °C |
| Light source | LowPower LEDs 42 x 180 mW, 4000 K |

Ordering details

| Type | Scope of supply | Order No |
|----------------|---|-------------|
| 84022 LED CG-S | Round safety luminaire, including LED Supply and CG-S technology (20 addresses) | 40071351531 |



Light distribution curve 84022 LED CG-S

Engineering help for 84022 LED CG-S for E = 1.0 Lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.9 (6.0) | 11.9 (14.5) | 4.9 (6.0) | 11.9 (14.5) |
| 3.0 | Escape route centre | 5.2 (6.5) | 12.9 (15.7) | 5.2 (6.5) | 12.9 (15.7) |
| 3.5 | | 5.5 (6.9) | 13.8 (16.8) | 5.5 (6.9) | 13.8 (16.8) |
| 4.0 | | 5.7 (7.2) | 14.5 (17.8) | 5.7 (7.2) | 14.5 (17.8) |
| 4.5 | | 5.9 (7.6) | 15.1 (18.7) | 5.9 (7.6) | 15.1 (18.7) |
| 5.0 | | 6.1 (7.8) | 15.6 (19.5) | 6.1 (7.8) | 15.6 (19.5) |
| 5.5 | | 6.2 (8.1) | 16.1 (20.3) | 6.2 (8.1) | 16.1 (20.3) |
| 6.0 | | 6.2 (8.3) | 16.5 (20.9) | 6.2 (8.3) | 16.5 (20.9) |
| 6.5 | | 6.2 (8.4) | 16.8 (21.5) | 6.2 (8.4) | 16.8 (21.5) |
| 7.0 | | 6.2 (8.6) | 17.1 (22.1) | 6.2 (8.6) | 17.1 (22.1) |
| 7.5 | | 6.2 (8.7) | 17.3 (22.5) | 6.2 (8.7) | 17.3 (22.5) |
| 8.0 | | 6.1 (8.7) | 17.5 (23.0) | 6.1 (8.7) | 17.5 (23.0) |
| 8.5 | | 5.9 (8.8) | 17.6 (23.4) | 5.9 (8.8) | 17.6 (23.4) |
| 9.0 | | 5.7 (8.8) | 17.6 (23.7) | 5.7 (8.8) | 17.6 (23.7) |
| 9.5 | | 5.5 (8.8) | 17.6 (24.0) | 5.5 (8.8) | 17.6 (24.0) |
| 10.0 | | 5.2 (8.8) | 17.5 (24.2) | 5.2 (8.8) | 17.5 (24.2) |
| 2.2 | Wall mounting | 3.3 (6.0) | 8.5 (14.5) | 3.3 (6.0) | 8.5 (14.5) |
| 2.5 | | 3.3 (6.9) | 8.5 (16.8) | 3.3 (6.9) | 8.5 (16.8) |
| 3.0 | | 3.1 (7.6) | 8.4 (18.7) | 3.1 (7.6) | 8.4 (18.7) |
| 3.5 | | 2.8 (8.3) | 8.1 (20.9) | 2.8 (8.3) | 8.1 (20.9) |
| 4.0 | | 2.4 (8.6) | 7.7 (22.1) | 2.4 (8.6) | 7.7 (22.1) |
| 2.5 | Ceiling mounting | 3.7 (4.4) | 10.2 (12.3) | 3.7 (4.4) | 10.2 (12.2) |
| 3.0 | Room illumination | 3.9 (4.8) | 11.1 (13.4) | 3.9 (4.7) | 11.1 (13.3) |
| 3.5 | | 4.1 (5.0) | 11.9 (14.4) | 4.1 (5.0) | 11.8 (14.3) |
| 4.0 | | 4.2 (5.2) | 12.6 (15.3) | 4.2 (5.2) | 12.6 (15.3) |
| 4.5 | | 4.3 (5.4) | 13.2 (16.1) | 4.3 (5.4) | 13.2 (16.1) |
| 5.0 | | 4.4 (5.6) | 13.8 (16.9) | 4.4 (5.6) | 13.8 (16.9) |
| 5.5 | | 4.4 (5.7) | 14.3 (17.6) | 4.4 (5.7) | 14.3 (17.6) |
| 6.0 | | 4.5 (5.9) | 14.8 (18.3) | 4.4 (5.8) | 14.7 (18.2) |
| 6.5 | | 4.4 (6.0) | 15.2 (18.9) | 4.4 (5.9) | 15.2 (18.8) |
| 7.0 | | 4.5 (6.0) | 15.6 (19.5) | 4.4 (6.0) | 15.5 (19.4) |
| 7.5 | | 4.4 (6.1) | 15.9 (20.0) | 4.4 (6.0) | 15.9 (19.9) |
| 8.0 | | 4.3 (6.2) | 16.2 (20.5) | 4.3 (6.1) | 16.2 (20.4) |
| 8.5 | | 4.2 (6.1) | 16.5 (20.9) | 4.2 (6.1) | 16.5 (20.9) |
| 9.0 | | 4.1 (6.1) | 16.7 (21.4) | 4.1 (6.1) | 16.7 (21.3) |
| 9.5 | | 4.0 (6.1) | 16.9 (21.8) | 4.0 (6.0) | 16.9 (21.7) |
| 10.0 | | 3.8 (6.1) | 17.1 (22.1) | 3.8 (6.1) | 17.1 (22.1) |



French market

Tufflite LED

- Ideal for both new and retro fit applications
- Impact and heat resistant opal polycarbonate diffuser and GRP base housing construction, IK08 rated, and secured with anti-tamper diffuser clips
- Deep poured continuous polyurethane gasket to maintain IP66 rating
- Class leading LED luminaire performance and efficacy with lumen packages to match and exceed traditional fluorescent technology with reduced energy consumption
- Fast fix stainless steel mounting clips for rapid installation. (No need to drill the housing avoiding a potential ingress path)

Tufflite LED



Dimensions in mm



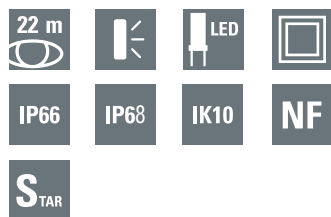
| | |
|--|--|
| Luminous flux | 2500 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Body: GRP (glass reinforced polymer) Diffuser: UV stabilized fire retardant polycarbonate Gear tray: sheet steel |
| Housing colour | Grey RAL 7035 |
| Weight | 3.1 kg |
| Type of mounting | Ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 176 – 280 AC/DC |
| Power consumption mains operation (apparent power / effective power) | 22.5 VA / 20.1 W |
| Permissible ambient temperature | -25 °C to +25 °C |
| Light source | 2 x 54 LEDs |

Ordering details

| Type | Scope of supply | Bestell-Nr. |
|--------------|---|-------------|
| Tufflite LED | Safety luminaire Tufflite LED, IP66 rated with GRP base and reeded opal polycarbonate luminaire controller , secured by tamper resistant hinged latches and removable geartray retained by tool free clips. | LUM22144 |

Planète Tube 220/45 CG-S

Safety and Exit Sign Luminaies with High Ingress Protection



French market

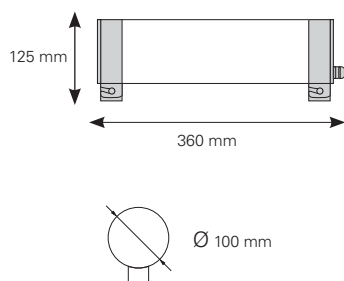
Planète Tube 220/45 CG-S

- Certified to NF EN 60598.2.22/NFC 71802
- Diameter 100 mm – exit route and anti-panic are identical in appearance
- Clean lines and simple design
- Perforated hose clamps for rapid tightening
- 360° adjustable.
- Screwless terminal connection
- Supplied with metal cable gland
- Supplied with exit route pictograms

Planète 220/45 Tube



Dimensions in mm



| | |
|--|---|
| Luminous flux | 70 lm |
| Viewing distance | 22 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Tube: polycarbonate Flanges, clamps and clamping screws: stainless steel |
| Housing colour | Stainless steel |
| Weight | 1.8 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | 2 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 13 VA / 6.8 W |
| Permissible ambient temperature | +5 °C to +40 °C |
| Light source | 32 x LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|--------------------------|---|-----------|
| Planète 220/45 Tube CG-S | Single sided exit sign luminaire, incl. LED supply, CG-S technology (20 addresses) and pictograms (down, left, right) | LUM22250 |

Planète Tube 220/45 and Planète Tube 24-48/45

Safety and Exit Sign Luminaies with High Ingress Protection



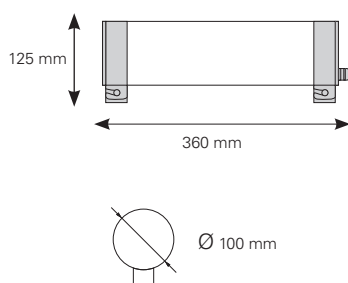
IP66



Planète Tube 220/45 and
Planète Tube 24-48/45



Dimensions in mm



French market

Planète Tube 220/45 and Planète Tube 24-48/45

- Certified to NF EN 60598.2.22/NFC 71802
- Diameter 100 mm – exit route and anti-panic are identical in appearance
- Clean lines and simple design
- Perforated hose clamps for rapid tightening
- 360° adjustable.
- Screwless terminal connection
- Supplied with metal cable gland
- Supplied with exit route pictograms

| | |
|--|---|
| Luminous flux | 70 lm |
| Viewing distance | 22 m |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Tube: polycarbonate Flanges, clamps and clamping screws: stainless steel |
| Housing colour | Stainless steel |
| Weight | 1.8 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | 2 x 2.5 mm ² |
| Connection voltage | LUM22150: 230 V, 50/60 Hz / 220 V DC LUM22152: 24-48 V DC |
| Power consumption mains operation (apparent power / effective power) | LUM22150: 9.9 VA / 6.4 W LUM22152: 6W |
| Permissible ambient temperature | +5 °C to +40 °C |
| Light source | 32 x LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|-----------------------|---|-----------|
| Planète 220/45 Tube | Single sided exit sign luminaire, incl. LED supply and LUM22150 pictograms (down, left, right), 230V AC | |
| Planète 24-48/45 Tube | Single sided exit sign luminaire, incl. LED supply and LUM22152 pictograms (down, left, right), 24-48V DC | |

Planète Tube 220/400 CG-S

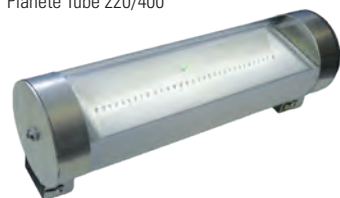
Safety and Exit Sign Luminaies with High Ingress Protection



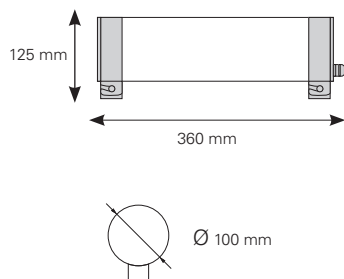
French market

Planète Tube 220/400 CG-S

- Certified to NF EN 60598.2.22/NFC 71802
- Diameter 100 mm – exit route and anti-panic are identical in appearance
- Clean lines and simple design.
- Strip of LEDs for reduced glare
- Perforated hose clamps for rapid tightening.
- 360° adjustable.
- Screwless terminal connection
- Supplied with metal cable gland.



Dimensions in mm



| | |
|--|---|
| Luminous flux | 400 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Tube: polycarbonate Flanges, clamps and clamping screws: stainless steel |
| Housing colour | Stainless steel |
| Weight | 1.8 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 2 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 13 VA / 6.8 W |
| Permissible ambient temperature | +5 °C to +40 °C |
| Light source | 32 x LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|---------------------------|--|-----------|
| Planète 220/400 Tube CG-S | Safety luminaire Planete Tube, incl. LED supply and CG-S technology (20 addresses) | LUM22251 |

Planète Tube 220/400 and Planète Tube 24-48/400

Safety and Exit Sign Luminaies with High Ingress Protection



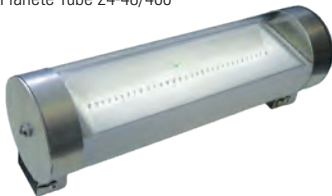
IP66

IP68

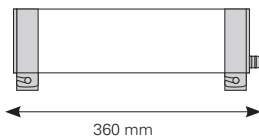
IP68

NF

Planète Tube 220/400 and
Planète Tube 24-48/400



Dimensions in mm



French market

Planète Tube 220/400 and Planète Tube 24-48/400

- Certified to NF EN 60598.2.22/NFC 71802
- Diameter 100 mm – exit route and anti-panic are identical in appearance
- Clean lines and simple design
- Perforated hose clamps for rapid tightening
- 360° adjustable.
- Screwless terminal connection
- Supplied with metal cable gland
- Supplied with exit route pictograms

| | |
|--|---|
| Viewing distance | 400 lm |
| Luminous flux Φ_e/Φ_N at the end of rated operating time | 100 % |
| Housing material | Tube: polycarbonate Flanges, clamps and clamping screws: stainless steel |
| Housing colour | Stainless steel |
| Weight | 1.8 kg |
| Type of mounting | Wall or ceiling mounting |
| Connection terminals | 2 x 2.5 mm ² |
| Connection voltage | LUM22151: 230 V, 50/60 Hz, 220 V DC LUM22153: 24 – 48 V DC |
| Power consumption mains operation (apparent power / effective power) | LUM22151: 9.9 VA / 6.4 W LUM22153: 6 W |
| Permissible ambient temperature | +5 °C to +40 °C |
| Light source | 32 x LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|--|-----------|
| Planète 220/400 Tube | Safety luminaire Planete Tube, incl. LED supply, 230V AC | LUM22151 |
| Planète 24-48/400 Tube | Safety luminaire Planete Tube, incl. LED supply, 24-48V DC | LUM22153 |

Planete 220/400 ES CG-S

Safety and Exit Sign Luminaies with High Ingress Protection



IP66

IK08

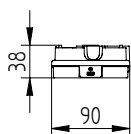
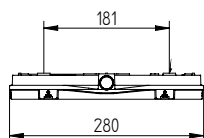
NF

S_{TAR}

Planete 220/400 ES CG-S



Dimensions in mm



French market

Planete 220/400 ES CG-S

- Certified to NF EN 60598.2.22/NFC 71802
- Low energy consumption (HQE luminaire)
- Express installation
- Screwless terminal connection
- Translucent base unit
- Supplied with cable gland
- Discreet, low-profile housing
- Seamless integration
- Strip of LEDs for reduced glare
- Identical appearance to IP42 version

| | |
|--|---|
| Luminous flux | 400 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 0.6 kg |
| Type of mounting | Surface |
| Connection terminals | 2 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 13.0 VA / 6.8 W |
| Permissible ambient temperature | +5 °C to +40 °C |
| Light source | 32 LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------------|--|-----------|
| Planète 220/400 ES CG-S | Safety luminaire Planete 400 lm and IP66/IK08, incl. LED supply and CG-S technology (20 addresses) | LUM22135 |

Accessories

| Type | | Order No. |
|------------|---|-----------|
| Wire guard |  | LUM10419 |

Planete 220/400 ES / 24-48/400 ES

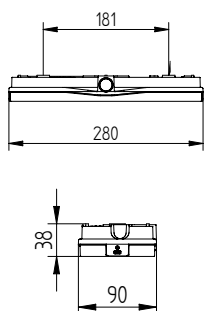
Safety and Exit Sign Luminaies with High Ingress Protection



Planete 220/400 ES / 24-48/400 ES



Dimensions in mm



French market

Planete 220/400 ES / 24-48/400 ES

- Certified to NF EN 60598.2.22/NFC 71802
- Low energy consumption (HQE luminaire)
- Express installation
- Screwless terminal connection
- Translucent base unit
- Supplied with cable gland
- Discreet, low-profile housing
- Seamless integration
- Strip of LEDs for reduced glare
- Identical appearance to IP42 version

| | |
|--|--|
| Luminous flux | 400 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 0.6 kg |
| Type of mounting | Surface |
| Connection terminals | 1.5 x 2.5 mm ² |
| Connection voltage | LUM 22131: 230 V, 50/60 Hz / 220 V DC LUM 22130: 24 – 48 V DC |
| Power consumption mains operation (apparent power / effective power) | LUM 22131: 9.9 VA / 6.4 W LUM 22130: 6 W |
| Permissible ambient temperature | +5 °C to +40 °C |
| Light source | 32 LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|----------------------|--|-----------|
| Planète 220/400 ES | Water resistant safety luminaire Planete 400 lm | LUM22131 |
| Planète 24-48/400 ES | Water resistant safety luminaire Planete 400 lm, 24-48VDC supply | LUM22130 |

Accessories

| Type | | Order No. |
|------------|--|-----------|
| Wire guard | | LUM10419 |

Planete 220/45 ES CG-S

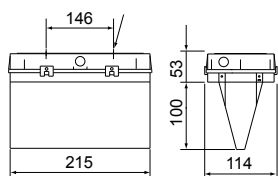
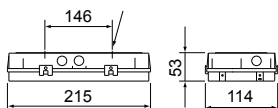
Safety and Exit Sign Luminaies with High Ingress Protection



Planete 220/45 ES CG-S



Dimensions in mm



Mounting with accessory (LUM10533)

French market

Planete 220/45 ES CG-S

- Certified to NF EN 60598.2.22/NFC 71802
- Low energy consumption
- Express installation
- Screwless terminal connection
- Clear surface mount honeycomb base for universal mounting and ad hoc covering of existing drill holes
- Supplied with configurable signage labels, unattached
- Supplied with cable gland
- Discreet, low-profile housing
- Identical appearance to IP43 version

| | |
|--|---|
| Luminous flux | 45 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 0.5 kg |
| Type of mounting | Wall mounting, ceiling edge mounting (optional) |
| Connection terminals | 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 3.7 VA / 1.7 W |
| Permissible ambient temperature | +5°C to +40 °C |
| Light source | 2 white LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|---|-----------|
| Planète 220/45 ES CG-S | Water resistant single sided exit sign luminaire, incl. LED supply, CG-S technology (20 addresses) and pictograms | LUM22127 |

Accessories

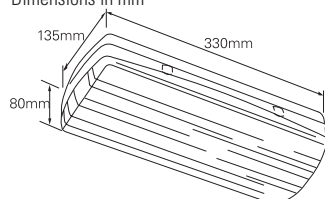
| Type | | Order No. |
|--|--|-----------|
| Edge lighting set | | LUM10540 |
| Double sided cover | | |
| Protective grille for ceiling mounting | | LUM10418 |
| Wire guard | | |



Atlantic



Dimensions in mm

**Atlantic 8W**

- BSI Kitemark
- ICEL registered with verified luminaire performance
- Weatherproof IP65 and vandal resistant
- Time saving first fix base and plug-in geartray
- Optional large format legend kit
- BESA entry on rear, conduit entries on ends and side

| | |
|--|---|
| Viewing distance | 27 m |
| Luminous flux | 240 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Body and gear tray: Polycarbonate Diffuser: Opal Polycarbonate |
| Housing colour | White RAL 9016 |
| Weight | 1.5 kg |
| Type of mounting | Wall and ceiling mounting |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | CG-S: 220-240 V, 50/60 Hz EC 1.5: 230 V AC 230V: 230 V AC 110V: 110 V AC/DC 50V: 50 V AC/DC |
| Current consumption - battery operation (220 V) | CG-S: 30 mA |
| Power consumption mains operation (apparent power / effective power) | CG-S: 9.2 VA / 8.8 W |
| Inrush current | 3 A (only for CG-S version) |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 8W T5 fluorescent, G5 cap |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|--|-----------|
| Atlantic 8W CG-S | Safety luminaire Atlantic, CG-S technology (20 addresses), lamp included | AT230CG |
| Atlantic 8W EC 1.5 | Safety luminaire Atlantic, 230V AC EasiCheck 1.5 technology, lamp included | ATS230EC |
| Atlantic 8W 230V AC | Safety luminaire Atlantic, 230V AC, lamp included | ATS230 |
| Atlantic 8W 110V AC/DC | Safety luminaire Atlantic, 110V AC/DC, lamp included | AT110 |
| Atlantic 8W 50V AC/DC | Safety luminaire Atlantic, 50V AC/DC, lamp included | AT50 |

Accessories

| Type | Order No. |
|---|-------------|
| ISO7010 Format self-adhesive legend kit | LEXSABL-ISO |

Photometric Data

| Mode | Mounting height (m) | Lux level directly under | Exit route 2m wide 1 Lux min | | | | Open (anit-panic) area 0.5 Lux min | | | |
|-------|---------------------|--------------------------|---------------------------------|------|-----|-----|---------------------------------------|------|-----|-----|
| | | | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| AC/DC | 2.5 | 3.05 | 3.5 | 10.4 | 5.9 | 2.0 | 3.6 | 10.7 | 6.7 | 2.0 |
| | 4.0 | 1.19 | 1.3 | 9.9 | 5.6 | 1.1 | 3.1 | 13.5 | 7.7 | 2.0 |
| | 6.0 | 0.53 | - | - | - | - | 1.1 | 12.0 | 7.9 | 0.7 |
| AC/AC | 2.5 | 4.40 | 4.3 | 11.4 | 6.6 | 2.4 | 4.0 | 10.6 | 7.0 | 1.7 |
| | 4.0 | 1.70 | 2.7 | 12.0 | 6.6 | 2.0 | 4.2 | 13.7 | 8.5 | 1.7 |
| | 6.0 | 0.80 | 0 | 6.2 | 5.4 | - | 2.2 | 15.3 | 9.5 | 1.4 |





Safety and Exit Sign Luminaires - Explosion protected

| | |
|--------------------------|-----|
| EXIT LED V-CG-S..... | 188 |
| eLLK 92 LED V-CG-S | 190 |
| eLLK 92 | 196 |
| dKLK 23 V-CG-S | 200 |

Safety and Exit sign Luminaires - Explosion protected

Overview

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| | | Aesthetic | Low consumption / Eco-friendly | Protection Degree | Viewing distance | Luminous flux | 24 V | 48 V | 110 V | 220 V DC | 230 V AC | Monitored CG-S | Monitored EC 1.5 |
|---|-------------|-----------------|-----------------------------------|-------------------|------------------|---------------|------|------|-------|----------|------------|----------------|------------------|
| | Performance | Global Features | | | | Voltage | | | | | Technology | | |
| 5.1 EXIT LED  | ★ ★ | | ● | 66 | 25 | | | | | ● | ● | ● | |
| 5.2 eLLK 92 LED  | ★ ★ | | ● | 66 | | | | | | ● | ● | ● | |
| 5.3 eLLK 92  | ★ | | | 66 | | | | | | ● | ● | ● | |
| 5.4 dKLK23  | ★ | | | 65 | 20 | | | | | ● | ● | ● | |

Safety and Exit sign Luminaires - Explosion protected

Overview

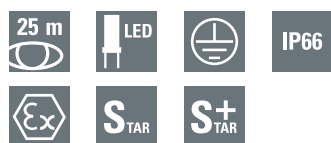
| Wall | Ceiling | Recessed | Suspended | Healthcare | Hotels | Cinemas / Theaters | Commercial centers | Stadia / Arenas | Offices | Industrial | Warehouse |
|--------------|---------|----------|-----------|--------------|--------|--------------------|--------------------|-----------------|---------|------------|-----------|
| Installation | | | | Applications | | | | | | | |
| ● | | | | | | | | | | ● | ● |
| | ● | | | | | | | | | ● | ● |
| | ● | | | | | | | | | ● | ● |
| | ● | | | | | | | | | ● | ● |

6

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

EXIT LED V-CG-S

Safety and Exit Sign Luminaires - Explosion protected



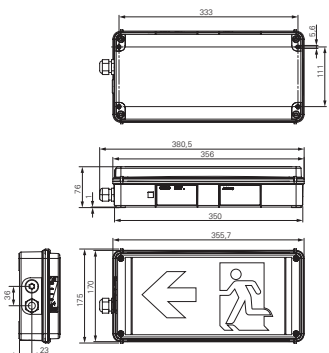
EXIT LED V-CG-S



EXIT LED V-CG-S without pictogram



Dimensions in mm



EXIT LED V-CG-S/EXIT LED 2 V-CG-S

- Explosion protected safety luminaire with white high power LEDs
- Minimum maintenance effort with high LED service life via optimised power output control of LED regulation
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|---|--|
| Viewing distance | 25 m (gem. DIN EN 1838) |
| Marking acc. to 2014/34/EU | II 2 G Ex e ib mb IIC Gb T5/T6 II 2 D Ex tb IIIC T80 °C Db IP66 |
| EC-type examination certificate | BVS 09 ATEX E029 |
| IECEx-inspection certificate | IECEx BVS 13.2017 |
| Marking acc. to IECEx | Ex e ib mb IIC T6/T5 Gb Ex tb IIC T80 °C Db |
| Housing material | Polycarbonate (850 °C glow wire resistant) |
| Housing colour | Grey, RAL 7035 |
| Protective cover | Polycarbonate |
| Rated voltage EXIT CG-S admissible tolerances acc. to EN 60079-0 | AC: 220 – 254 V, 50/60 Hz DC: 195 – 250 V |
| Current consumption - battery operation (220 V) | 25 mA |
| Rated power | approx. 6 VA |
| Permissible temperature range | – 20 °C to + 40/50 °C (T6/T5) |
| Cable infeeds | 1 x Ex e-cable entry M20 x 1.5 (Plastic) 1 x Ex e-blanking plug M20 x 1.5 |
| Connection terminals | 3 x Loop terminals 2.5 mm ² |
| Type of mounting | Wall mounting |
| w source | High-power LEDs, white |

Ordering details

| Type | Scope of supply | | Order No. |
|-------------------|--|--|-------------|
| EXIT LED V-CG-S | including cover with silkscreened pictogram PR | | 12191020021 |
| | including cover with silkscreened pictogram PL | | 12191020022 |
| | including cover with silkscreened pictogram PU | | 12191020023 |
| | including cover, clear, without pictogram | | 12191020004 |
| EXIT LED 2 V-CG-S | including cover with silk-screen pictogram PR | | 12193020021 |
| for Zone 2 | including cover with silk-screen pictogram PL | | 12193020022 |
| for Zone 22 | including cover with silk-screen pictogram PU | | 12193020023 |
| | including cover, clear, without pictogram | | 12193020004 |

Other pictograms on request

eLLK 92 LED V-CG-S

Safety and Exit Sign Luminaires - Explosion protected



eLLK 92 LED 400 V-CG-S (2 x 13 W)



eLLK 92 LED 800 V-CG-S (2 x 26 W)



eLLK 92 LED V-CG-S

- Completely monitored explosion-protected LED luminaire
 - Await live of the LED module from 75.000 hours
 - Different luminous colours available – 4000 K / 5600 K
 - Single lamp operation during DC power supply (emergency operation)
 - Enclosure made of reinforced polyester
 - Double ended through-wiring with Ex-e cable infeeds for double-ended cable connection
 - Shortened inspection effort due to CEWA GUARD technology
 - Automatic function monitoring of up to 20 luminaires per circuit
 - Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|---------------------------------|--|
| Marking acc. to 94/9/EG | II 2G Ex de mb II T4 Gb II 2D Ex tb IIIC T80 °C Db IP66 |
| EC-Type Examination Certificate | BVS 09 ATEX E 034 |
| IECEx-inspection certificate | IECEx BVS 09.0033 |
| Marking acc. to IECEx | Ex de mb IIC T4 Gb Ex tb IIIC T80 °C Db |
| Housing material | Glass fibre reinforced polyester |
| Protective bowl | Polycarbonate |
| Rated voltage | AC: 220 – 254 V DC: 195 – 250 V |
| Circuit | EVG / CG-S |
| Rated current | 0.15 A / 0.08 A (emerg. operation), (eLLK 92 LED 400 V-CG-S) 0.25 A / 0.13 A (emerg. operation), (eLLK 92 LED 800 V-CG-S) |
| Power factor cos φ | ≥ 0.95 |
| Permissible ambient temperature | –25 °C up to + 45 °C |
| Cable infeeds | Ex-e-cable glands M25 x 1.5 (plastic) for cables Ø 8- 17 mm, Option: M20 x 1.5 metal thread |
| Connection terminals | L1, L2, L3, L, N, PE; max. 2 x 6 mm ² per terminal |
| Light source | LED module 400 - 2 x 13 W (eLLK 92 LED 400 V-CG-S) LED module 800- 2 x 26 W (eLLK 92 LED 800 V-CG-S) |
| Weight | 7.4 kg (eLLK 92 LED 400 V-CG-S) 11.1 kg (eLLK 92 LED 800 V-CG-S) |

*With dust cover by unlocked entering/metal thread

Ordering details

| Type | Luminous colour | Circuit | open-circuit operation AC | open-circuit operation ¹⁾ DC | Cos φ | Order-No. |
|--|-----------------|----------|---------------------------|---|-------|-------------|
| eLLK 92 LED 400 V-CG-S 2 x M25, plastic gland | 4000 K | EVG/CG-S | 0.15 A | 0.08 A | 0.95 | 12265510103 |
| eLLK 92 LED 400 V-CG-S 4 x M20, metal thread | 4000 K | EVG/CG-S | 0.15 A | 0.08 A | 0.95 | 12265510111 |
| eLLK 92 LED 800 V-CG-S 2 x M25, plastic gland | 4000 K | EVG/CG-S | 0.25 A | 0.13 A | 0.95 | 12266510103 |
| eLLK 92 LED 800 V-CG-S 4 x M20, metal thread | 4000 K | EVG/CG-S | 0.25 A | 0.13 A | 0.95 | 12266510111 |
| eLLK 92 LED 400 V-CG-S 2 x M25, plastic gland | 5600 K | EVG/CG-S | 0.15 A | 0.08 A | 0.95 | 12265512103 |
| eLLK 92 LED 400 V-CG-S 4 x M20, metal thread | 5600 K | EVG/CG-S | 0.15 A | 0.08 A | 0.95 | 12265512111 |
| eLLK 92 LED 800 V-CG-S 2 x M25, plastic gland | 5600 K | EVG/CG-S | 0.25 A | 0.13 A | 0.95 | 12266512103 |
| eLLK 92 LED 800 V-CG-S 4 x M20, metal thread | 5600 K | EVG/CG-S | 0.25 A | 0.13 A | 0.95 | 12266512111 |

¹⁾ Only 1 light source active during DC-operation
Delivery without mounting accessories!

Permissible number of luminaires per output circuit

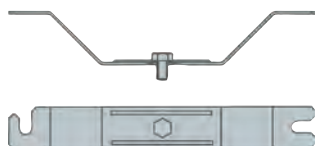
| Connection with | eLLK 92 LED 400 CG-S | eLLK 92 LED 800 CG-S |
|-----------------------------|----------------------|----------------------|
| SKU 4 x 1 A | 6 | 4 |
| SKU 2 x 3 A, SKU CG 2 x 3 A | 12 | 12 |
| SKU CG-S 2 x 3 A | 19 | 12 |
| SKU 1 x 6 A, SKU CG 1 x 6 A | 18 | 18 |
| SKU CG-S 1 x 6 A | 20 | 20 |
| SKU CG-S 4 x 1.5 A | 6 | 6 |

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Ordering details fixing materials eLLK 92

| Type/ code | Corrosion protection | Qty. per light fitting | Order No. |
|--|-------------------------|---------------------------|-------------|
| Eye bolt A2 | galvanized | 2 | 22480002000 |
| Hexagon screw S4 | stainless steel | 2 | 22480054000 |
| Ceiling mounting bracket D92 incl. screws and washer | stainless steel | 2 | 22480092000 |

Ceiling mounting bracket

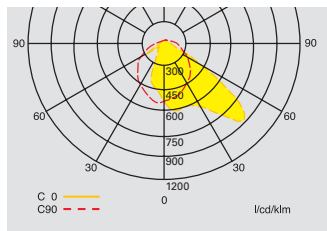


Ordering details fixing materials

| Type/ code | Corrosion protection | for pipes DIN | Outer Ø D (mm) | Qty. per light fitting | Order No. |
|---|-------------------------|------------------|-------------------|---------------------------|-------------|
| Pipe clamp R12 | hot galvanized | 1 1/4" | 38- 42 | 2 | 22480462000 |
| Pipe clamp R14 | CrNi | 1 1/4" | 38- 42 | 2 | 22480464000 |
| Pipe clamp R22 | hot galvanized | 1 1/2" | 47- 51 | 2 | 22480472000 |
| Pipe clamp R24 | CrNi | 1 1/2" | 47- 51 | 2 | 22480474000 |
| Pipe clamp R32 | hot galvanized | 2" | 56- 60 | 2 | 22480482000 |
| Pipe clamp R34 | CrNi | 2" | 56- 60 | 2 | 22480484000 |
| Wall bracket W27 | hot galvanized | | 42.4 | 1 | 22480027000 |
| Luminaire wall suspension 30° incl. screws and washer | hot galvanized | | | 2 | 22480000122 |

eLLK 92 LED V-CG-S

Safety and Exit Sign Luminaires - Explosion protected

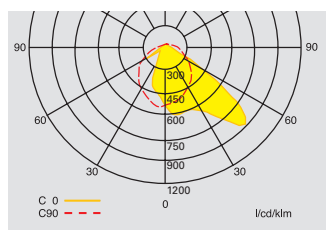


Light distribution curve
eLLK 92 LED 400 V-CG-S (2 x 13 W)

Planning help for eLLK 92 LED 400 (4000K) V-CG-S

Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|------------|-------------|-------------|-------------|
| 2.5 | Ceiling mounting | () | () | () | () |
| 3.0 | Exit route centre | 5.9 (7) | 13.5 (16) | 5.3 (5.6) | 10.1 (10.8) |
| 3.5 | | 6.4 (7.7) | 14.5 (17.5) | 5.9 (6.5) | 11.6 (12) |
| 4.0 | | 6.8 (8.2) | 15.6 (18.7) | 6.6 (7.1) | 13.0 (13.6) |
| 4.5 | | 7.1 (8.7) | 16.6 (20.1) | 7.2 (7.8) | 12.5 (14.9) |
| 5.0 | | 7.4 (9.1) | 17.2 (21) | 7.8 (8.5) | 13.0 (16.2) |
| 5.5 | | 7.6 (9.5) | 18.0 (22.2) | 8.44 (9.1) | 13.6 (17.5) |
| 6.0 | | 7.9 (9.9) | 18.6 (22.9) | 9.0 (9.8) | 14.1 (17.2) |
| 6.5 | | 8.0 (10.2) | 19.3 (23.7) | 9.5 (10.4) | 15.0 (17.5) |
| 7.0 | | 8.1 (10.5) | 19.8 (24.6) | 10.0 (11) | 15.6 (18.1) |
| 7.5 | | 8.2 (10.7) | 20.5 (25.4) | 10.5 (11.6) | 16.5 (18.9) |
| 8.0 | | 8.3 (11) | 20.8 (26.1) | 11.0 (12.2) | 17.1 (19.3) |
| 8.5 | | 8.3 (11.2) | 21.1 (26.6) | 11.4 (12.7) | 17.7 (20) |
| 9.0 | | 8.3 (11.3) | 21.4 (27.2) | 11.9 (13.3) | 18.5 (20.7) |
| 9.5 | | 8.3 (11.5) | 21.7 (27.7) | 12.2 (13.8) | 19.1 (21.5) |
| 10.0 | | 8.3 (11.6) | 21.9 (28.3) | 12.6 (14.3) | 19.6 (22.3) |
| 2.5 | Ceiling mounting | 4.4 (5.4) | 10.6 (12.9) | 1.9 (2.1) | 7.2 (7.7) |
| 3.0 | Room illumination | 4.2 (6) | 11.6 (14.3) | 1.9 (2.1) | 8.4 (8.6) |
| 3.5 | | 4.3 (6.1) | 12.4 (15.1) | 2.1 (2.3) | 9.3 (10) |
| 4.0 | | 4.6 (5.7) | 13.4 (15.9) | 2.1 (2.5) | 10.0 (11.5) |
| 4.5 | | 5 (5.9) | 14.4 (17) | 2.1 (2.5) | 10.6 (12.2) |
| 5.0 | | 5.1 (6) | 15.1 (17.7) | 2.1 (2.7) | 11.5 (13.2) |
| 5.5 | | 5.9 (6.2) | 16.5 (18.6) | 1.9 (2.8) | 11.8 (14) |
| 6.0 | | 6.3 (6.8) | 17.4 (19.9) | 1.7 (2.7) | 12.4 (14.4) |
| 6.5 | | 6.5 (6.8) | 18.1 (20.4) | 1.7 (2.8) | 13.1 (15.4) |
| 7.0 | | 6.6 (7.2) | 18.8 (21.5) | 1.6 (2.7) | 13.8 (16) |
| 7.5 | | 7.7 (7.8) | 20.7 (22.8) | 0.6 (2.5) | 13.6 (16.4) |
| 8.0 | | 7.8 (8.1) | 21.2 (23.6) | 0.6 (2.5) | 14.3 (17.1) |
| 8.5 | | 7.8 (8.9) | 21.5 (24.9) | 0.6 (2.1) | 15.1 (17.4) |
| 9.0 | | 7.8 (9.1) | 21.9 (25.6) | 0.5 (2.1) | 15.8 (18.1) |
| 9.5 | | 7.5 (8.7) | 22.0 (25.6) | 0.6 (2.4) | 16.7 (19.3) |
| 10.0 | | 7.5 (9.2) | 22.3 (26.7) | 0.5 (2.1) | 17.4 (19.7) |
| 16.0 | | 8.0 (12.2) | 24.3 (28.5) | 2.2 (6.0) | 11.6 (15.5) |
| 17.0 | | 6.2 (12.4) | 24.8 (29.7) | 1.5 (5.9) | 11.4 (15.9) |
| 18.0 | | - (12.5) | 21.8 (30.8) | - (5.5) | 11.0 (16.4) |



Light distribution curve
eLLK 92 LED 400 V-CG-S (2 x 13 W)

Planning help for eLLK 92 LED 400 (5600K) V-CG-S

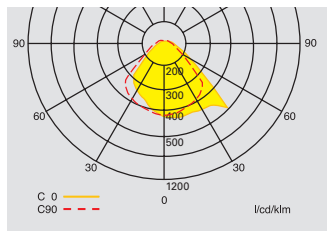
Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m] Types of mounting

| | | L1 | L2 | L3 | L4 |
|------|-------------------|------------|-------------|-------------|-------------|
| 2.5 | Ceiling mounting | () | () | () | () |
| 3 | Exit route centre | () | () | () | () |
| 3.5 | | 6.6 (7.9) | 15.3 (18.1) | 6.0 (6.5) | 11.6 (12.6) |
| 4.0 | | 7.0 (8.5) | 16.4 (19.5) | 6.7 (7.2) | 13.0 (13.9) |
| 4.5 | | 7.4 (9) | 17.3 (20.7) | 7.3 (7.9) | 13.3 (15.2) |
| 5.0 | | 7.7 (9.4) | 18.1 (21.8) | 7.9 (8.6) | 13.5 (16.5) |
| 5.5 | | 8.0 (9.9) | 18.7 (22.9) | 8.6 (9.3) | 14.0 (17.9) |
| 6.0 | | 8.2 (10.2) | 19.5 (23.9) | 9.1 (9.9) | 14.7 (19.1) |
| 6.5 | | 8.4 (10.6) | 20.1 (24.7) | 9.7 (10.5) | 15.5 (18.2) |
| 7.0 | | 8.5 (10.9) | 20.8 (25.6) | 10.2 (11.2) | 16.1 (18.7) |
| 7.5 | | 8.7 (11.2) | 21.3 (26.4) | 10.7 (11.8) | 16.8 (19.4) |
| 8.0 | | 8.7 (11.4) | 21.9 (27.1) | 11.2 (12.3) | 17.6 (20.2) |
| 8.5 | | 8.8 (11.7) | 22.2 (27.7) | 11.7 (13) | 18.3 (20.9) |
| 9.0 | | 8.8 (11.9) | 22.5 (28.4) | 12.1 (13.5) | 18.8 (21.5) |
| 9.5 | | 8.9 (12.1) | 22.8 (28.9) | 12.6 (14.1) | 19.5 (22.2) |
| 10.0 | | 8.9 (12.2) | 23.2 (29.7) | 13.0 (14.6) | 20.2 (23) |
| 2.5 | Ceiling mounting | 4.7 (5.5) | 11.0 (13.4) | 1.9 (2.1) | 7.2 (7.8) |
| 3.0 | Room illumination | 4.4 (6.2) | 11.8 (14.5) | 2.1 (2.3) | 8.7 (8.9) |
| 3.5 | | 4.6 (6.4) | 12.9 (15.2) | 2.1 (2.8) | 9.4 (10.3) |
| 4.0 | | 4.6 (5.8) | 13.6 (15.4) | 2.2 (3.6) | 10.4 (12.4) |
| 4.5 | | 5.1 (6.1) | 14.8 (17.5) | 2.2 (2.6) | 10.9 (12.6) |
| 5.0 | | 5.3 (6.2) | 15.6 (18.3) | 2.2 (2.8) | 11.7 (13.5) |
| 5.5 | | 5.8 (6.3) | 16.8 (19.1) | 2.1 (2.9) | 12.2 (14.4) |
| 6.0 | | 6.4 (6.7) | 17.9 (20.2) | 1.9 (2.9) | 12.7 (15) |
| 6.5 | | 6.5 (7.1) | 18.5 (21.2) | 1.9 (2.9) | 13.5 (15.6) |
| 7.0 | | 7.1 (7.4) | 19.6 (22) | 1.6 (2.9) | 13.9 (16.4) |
| 7.5 | | 7.2 (7.8) | 20.3 (23.1) | 1.5 (2.8) | 14.6 (17) |
| 8.0 | | 8.1 (8.1) | 21.9 (24.1) | 0.7 (2.7) | 14.6 (17.6) |
| 8.5 | | 8.4 (8.7) | 22.7 (25.2) | 0.5 (2.5) | 15.1 (18.1) |
| 9.0 | | 8.3 (9.1) | 23.0 (26.1) | 0.5 (2.4) | 15.9 (18.7) |
| 9.5 | | 8.1 (9.3) | 23.1 (26.8) | 0.6 (2.4) | 16.8 (19.4) |
| 10.0 | | 8.1 (9.2) | 23.5 (27.2) | 0.5 (2.5) | 17.5 (20.3) |
| 16.0 | | 8.0 (12.2) | 24.3 (28.5) | 2.2 (6.0) | 11.6 (15.5) |
| 17.0 | | 6.2 (12.4) | 24.8 (29.7) | 1.5 (5.9) | 11.4 (15.9) |
| 18.0 | | - (12.5) | 21.8 (30.8) | - (5.5) | 11.0 (16.4) |

eLLK 92 LED V-CG-S

Safety and Exit Sign Luminaires - Explosion protected



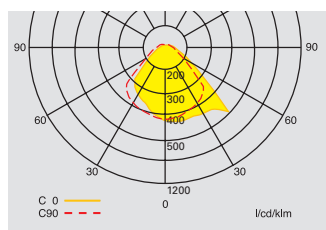
Light distribution curve
eLLK 92 LED 800 V-CG-S (2 x 26 W)

Planning help for eLLK 92 LED 800 (4000K) V-CG-S

Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m] Types of mounting

| | | L1 | L2 | L3 | L4 |
|------|-------------------|-------------|-------------|-------------|-------------|
| 2.5 | Ceiling mounting | () | () | () | () |
| 3.0 | Exit route centre | () | () | () | () |
| 3.5 | | () | () | () | () |
| 4.0 | | 8.1 (9.6) | 18.5 (22) | 7.0 (7.6) | 13.5 (14.4) |
| 4.5 | | 8.5 (10.2) | 19.8 (23.3) | 7.7 (8.3) | 14.9 (15.9) |
| 5.0 | | 10.8 (8.9) | 20.8 (24.7) | 8.4 (9) | 16.2 (17.2) |
| 5.5 | | 9.3 (11.3) | 21.6 (25.9) | 9.1 (9.8) | 16.7 (18.6) |
| 6.0 | | 9.6 (11.8) | 22.6 (27.2) | 9.7 (10.5) | 16.7 (20.1) |
| 6.5 | | 9.9 (12.2) | 23.4 (28.1) | 10.3 (11.1) | 17.2 (21.5) |
| 7.0 | | 10.2 (12.6) | 24.1 (29.1) | 10.9 (11.8) | 17.9 (22.8) |
| 7.5 | | 10.4 (13) | 24.9 (30.1) | 11.5 (12.5) | 18.6 (24.1) |
| 8.0 | | 10.6 (13.4) | 25.3 (30.6) | 12.0 (13.1) | 19.2 (23.2) |
| 8.5 | | 13.7 (10.8) | 26.2 (32) | 12.6 (13.7) | 20.1 (23.4) |
| 9.0 | | 11.0 (14) | 26.8 (32.6) | 13.1 (14.3) | 20.8 (23.9) |
| 9.5 | | 11.1 (14.3) | 27.2 (33.5) | 13.6 (14.9) | 21.3 (24.7) |
| 10.0 | | 11.1 (14.5) | 27.6 (34.3) | 14.1 (15.5) | 22.2 (25.4) |
| 2.5 | Deckenmontage | 5.4 (6.4) | 12.8 (15.5) | 5.5 (5.5) | 7.5 (8) |
| 3.0 | Room illumination | 6.4 (6.4) | 13.7 (16.4) | 5.5 (6.5) | 8.7 (9.6) |
| 3.5 | | 6.4 (6.4) | 13.7 (18.1) | 6.5 (7.5) | 10.8 (10.5) |
| 4.0 | | 6.4 (8.4) | 15.7 (19) | 7.5 (7.5) | 11.3 (11.7) |
| 4.5 | | 7.4 (9.4) | 16.6 (19.7) | 7.5 (7.5) | 12.1 (13.1) |
| 5.0 | | 7.4 (9.4) | 17.2 (19.6) | 8.5 (8.5) | 13.1 (15.4) |
| 5.5 | | 8.4 (9.4) | 18.3 (21.7) | 8.5 (9.5) | 13.7 (15.8) |
| 6.0 | | 8.4 (10.4) | 19.3 (20.5) | 9.5 (9.5) | 14.3 (18.4) |
| 6.5 | | 8.4 (10.4) | 20.3 (23.6) | 9.5 (10.5) | 15.0 (17.4) |
| 7.0 | | 9.4 (10.4) | 21.2 (24.3) | 9.5 (11.5) | 15.7 (18.4) |
| 7.5 | | 9.4 (11.4) | 22.3 (25.3) | 10.5 (11.5) | 16.2 (19.1) |
| 8.0 | | 10.1 (11.4) | 23.5 (26.3) | 10.0 (11.5) | 16.6 (19.7) |
| 8.5 | | 9.4 (11.4) | 24.2 (27.3) | 11.5 (12.5) | 17.3 (20.3) |
| 9.0 | | 10.4 (12.4) | 24.9 (28) | 11.5 (12.5) | 18.0 (21.2) |
| 9.5 | | 10.4 (12.4) | 26.0 (29.5) | 11.5 (13.5) | 18.4 (21.5) |
| 10.0 | | 10.4 (13.4) | 27.5 (30.4) | 12.5 (13.5) | 18.5 (22.2) |
| 16.0 | | 8.0 (12.2) | 24.3 (28.5) | 2.2 (6.0) | 11.6 (15.5) |
| 17.0 | | 6.2 (12.4) | 24.8 (29.7) | 1.5 (5.9) | 11.4 (15.9) |
| 18.0 | | - (12.5) | 21.8 (30.8) | - (5.5) | 11.0 (16.4) |



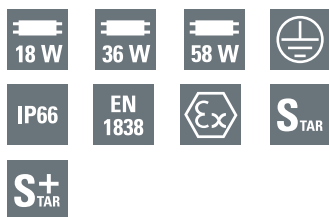
Light distribution curve
eLLK 92 LED 800 V-CG-S (2 x 26 W)

Planning help for eLLK 92 LED 800 (5600K) V-CG-S

Measuring level: 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

Mounting height [m] Types of mounting

| | | L1 | L2 | L3 | L4 |
|------|-------------------|-------------|-------------|-------------|-------------|
| 2.5 | Ceiling mounting | () | () | () | () |
| 3.0 | Exit route centre | () | () | () | () |
| 3.5 | | () | () | () | () |
| 4.0 | | () | () | () | () |
| 4.5 | | 8.8 (10.6) | 20.5 (24.2) | 7.8 (8.4) | 15.1 (15.9) |
| 5.0 | | 9.3 (11.2) | 21.4 (25.5) | 8.5 (9.2) | 16.4 (17.4) |
| 5.5 | | 9.7 (11.7) | 22.5 (26.8) | 9.2 (9.8) | 17.7 (18.9) |
| 6.0 | | 10.0 (12.2) | 23.5 (28.1) | 9.8 (10.6) | 18.0 (20.3) |
| 6.5 | | 10.4 (12.7) | 24.3 (29.1) | 10.4 (11.3) | 18.2 (21.8) |
| 7.0 | | 10.7 (13.1) | 25.2 (30.3) | 11.1 (12) | 18.4 (23.1) |
| 7.5 | | 10.9 (13.5) | 26.0 (31.3) | 11.7 (12.7) | 19.2 (24.4) |
| 8.0 | | 11.2 (13.9) | 26.7 (32.3) | 12.3 (13.3) | 19.9 (25.8) |
| 8.5 | | 11.4 (14.3) | 27.1 (33.2) | 12.8 (14) | 20.6 (24.8) |
| 9.0 | | 11.6 (14.6) | 27.8 (34.2) | 13.4 (14.6) | 21.3 (24.9) |
| 9.5 | | 11.7 (14.9) | 28.4 (35) | 13.9 (15.2) | 22.0 (25.6) |
| 10.0 | | 11.9 (15.2) | 29.0 (35.7) | 14.4 (15.8) | 22.9 (26.1) |
| 2.5 | | 5.4 (6.4) | 13.1 (15.6) | 5.5 (5.5) | 7.8 (8.4) |
| 3.0 | Room illumination | 5.4 (6.4) | 14.5 (17.2) | 6.5 (6.5) | 8.7 (9.6) |
| 3.5 | | 6.4 (8.4) | 15.1 (18.4) | 6.5 (6.5) | 10.2 (11) |
| 4.0 | | 6.4 (8.4) | 15.7 (19.8) | 7.5 (7.5) | 11.9 (11.9) |
| 4.5 | | 7.4 (8.4) | 17.3 (20.6) | 7.5 (8.5) | 12.4 (13.2) |
| 5.0 | | 7.4 (8.4) | 18.1 (21.6) | 8.5 (9.5) | 13.3 (14.5) |
| 5.5 | | 8.4 (9.4) | 19.0 (20.5) | 8.5 (9.5) | 14.1 (17.6) |
| 6.0 | | 8.4 (9.4) | 19.8 (23.6) | 9.5 (10.5) | 14.9 (17.1) |
| 6.5 | | 9.4 (10.4) | 20.8 (24.7) | 9.5 (10.5) | 15.5 (17.8) |
| 7.0 | | 9.4 (10.4) | 21.9 (25.5) | 10.5 (11.5) | 16.1 (18.7) |
| 7.5 | | 10.0 (11.4) | 23.1 (26.3) | 9.9 (11.5) | 16.6 (19.6) |
| 8.0 | | 10.4 (11.4) | 23.8 (26.9) | 10.5 (12.5) | 17.4 (20.6) |
| 8.5 | | 10.4 (12.4) | 25.0 (27.9) | 11.5 (12.5) | 17.8 (21.2) |
| 9.0 | | 11.0 (12.4) | 26.0 (29.3) | 11.0 (13.5) | 18.3 (21.5) |
| 9.5 | | 10.4 (13.4) | 26.4 (30.1) | 12.5 (13.5) | 19.2 (22.3) |
| 10.0 | | 11.3 (13.4) | 27.8 (31.1) | 11.8 (13.5) | 19.4 (23) |
| 16.0 | | 8.0 (12.2) | 24.3 (28.5) | 2.2 (6.0) | 11.6 (15.5) |
| 17.0 | | 6.2 (12.4) | 24.8 (29.7) | 1.5 (5.9) | 11.4 (15.9) |
| 18.0 | | - (12.5) | 21.8 (30.8) | - (5.5) | 11.0 (16.4) |



eLLK92

- Completely monitored explosion-protected luminaire fittings
- Single lamp operation during DC power supply (emergency operation)
- Enclosure made of reinforced polyester
- Double ended through-wiring with Ex-e cable infeeds for double-ended cable connection
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

eLLK 92018/18 V-CG-S (2 x 18 W)



eLLK 92036/36 V-CG-S (2 x 36 W)



eLLK 92058/58 V-CG-S (2 x 58 W)



| | |
|---------------------------------|--|
| Marking to 2014/34/EU | Ex II 2G Ex de mb IIC T4 Gb Ex II 2D Ex tb IIIC T80 °C Db IP66 |
| EC-Type Examination Certificate | BVS 09 ATEX E 034 |
| IECEx-inspection certificate | IECEx BVS 09.0033 |
| Marking acc. to IECEx | Ex de mb IIC T4 Gb Ex tb IIIC T80 °C Db |
| Housing material | glass-fibre reinforced polyester |
| Protective bowl | Polycarbonate |
| Rated voltage | AC: 220 – 254 V 50/60 Hz DC: 195 – 250 V |
| Circuit | EVG / CG-S |
| Rated current | 0.19 A (eLLK 92018/18) 0.35 A (eLLK 92036/36) 0.54 A (eLLK 92058/58) |
| Power factor cos φ | ≥ 0.95 |
| Permissible ambient temperature | –25 °C to + 55 °C (eLLK 92018/18 and eLLK 92036/36) –25 °C to + 40 °C (eLLK 92058/58) |
| Cable infeeds | Ex e-cable infeeds M25 x 1.5 (Plastic) for cables Ø 8-17 mm |
| Connection terminals | L1, L2, L3, L, N, PE; max. 2 x 6 mm² per terminal |
| Light source | Bi-pin lamp: 18W, 36W, 58W Socket G13 |
| Weight | approx. 5.6 kg (eLLK 92018/18) approx. 7.7 kg (eLLK 92036/36) approx. 9.6 kg (eLLK 92058/58) |

Ordering details

| Type | Light source | Circuit | open-circuit operation AC | open-circuit operation ¹⁾ DC | Cos φ | Order No. |
|-------------------------------|--------------|----------|---------------------------------|---|----------|-------------|
| eLLK 92018/18 V-CG-S 2/6-2 | 2 x 18 W | EVG/CG-S | 0.19 A | 0.1 A | 0.95 | 12265881103 |
| eLLK 92036/36 V-CG-S 2/6-2 | 2 x 36 W | EVG/CG-S | 0.35 A | 0.17 A | 0.95 | 12266881103 |
| eLLK 92058/58 V-CG-S 2/6-2 | 2 x 58 W | EVG/CG-S | 0.54 A | 0.27 A | 0.95 | 12267881103 |

2/6-2 double sided through-wiring
2 cable infeeds M25 x 1.5 with dust screen
2 Ex-blind plugs M25 x 1.5

¹⁾ Only 1 light source active during DC-operation

Delivery without light source and mounting accessories

Permissible number of luminaires per output circuit

| Connection with | eLLK 92018/18 V-CG-S 2/6-2 | eLLK 92036/36 V-CG-S 2/6-2 | eLLK 92058/58 V-CG-S 2/6-2 |
|-----------------------------|-------------------------------|-------------------------------|-------------------------------|
| SKU 4 x 1 A/4 x 1 A CG | 5 | 3 | 2 |
| SKU 2 x 3 A, 2 x 3 A CG | 12 | 9 | 6 |
| SKU 2 x 3 A CG-S | 16 | 9 | 6 |
| SKU 1 x 6 A.1, 1 x 6 A.1 CG | 18 | 17 | 11 |
| SKU 1 x 6 A.1 CG-S | 20 | 17 | 11 |

6

Ordering details fixing materials eLLK 92

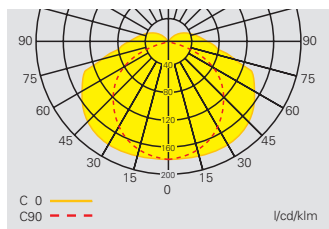
| Type/ code | Corrosion protection | Qty. per light fitting | Order No. |
|--|-------------------------|---------------------------|-------------|
| Eye bolt A2 | galvanized | 2 | 22480002000 |
| Hexagon screw S4 | stainless steel | 2 | 22480054000 |
| Ceiling mounting bracket D92 incl. screws and washer | stainless steel | 2 | 22480092000 |

Ordering details fixing materials





| Type/ code | Corrosion protectiong | for pipes DIN | Outer Ø D (mm) | Qty. per light fitting | Order No. |
|---|--------------------------|------------------|-------------------|---------------------------|-------------|
| Pipe clamp R12 | hot galvanized | 1 1/4" | 38- 42 | 2 | 22480462000 |
| Pipe clamp R14 | CrNi | 1 1/4" | 38- 42 | 2 | 22480464000 |
| Pipe clamp R22 | hot galvanized | 1 1/2" | 47- 51 | 2 | 22480472000 |
| Pipe clamp R24 | CrNi | 1 1/2" | 47- 51 | 2 | 22480474000 |
| Pipe clamp R32 | hot galvanized | 2" | 56- 60 | 2 | 22480482000 |
| Pipe clamp R34 | CrNi | 2" | 56- 60 | 2 | 22480484000 |
| Wall bracket W27 | hot galvanized | | 42.4 | 1 | 22480027000 |
| Luminaire wall suspension 30° incl. screws and washer | hot galvanized | | | 2 | 22480000122 |

Planning help for eLLK 92018/18 V-CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

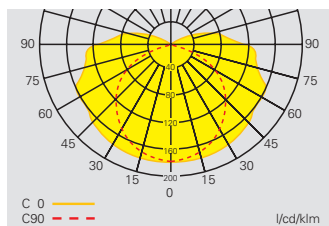


Light distribution curve
eLLK 92018/18 V-CG-S





| Mounting height [m] | Types of mounting | L1  | L2  | L3  | L4  |
|---------------------|-------------------|--|--|--|--|
| 4.0 | Ceiling mounting | 5.7 (7.0) | 14.0 (16.8) | 7.3 (9.6) | 19.0 (23.8) |
| 5.0 | Exit route centre | 6.1 (7.7) | 15.4 (18.6) | 7.7 (10.2) | 20.2 (26.0) |
| 6.0 | | 6.4 (8.2) | 16.4 (20.2) | 8.0 (10.5) | 21.0 (27.6) |
| 7.0 | | 6.5 (8.6) | 17.2 (21.6) | 8.1 (10.9) | 21.6 (28.6) |
| 8.0 | | 6.4 (8.9) | 17.8 (22.8) | 8.0 (11.2) | 22.2 (29.2) |
| 10.0 | | 5.9 (9.2) | 18.2 (24.4) | 7.2 (11.4) | 22.4 (30.8) |
| 2.0 | Wall mounting | 3.9 (4.7) | 9.4 (11.0) | 5.0 (6.5) | 13.0 (16.4) |
| 2.5 | | 4.2 (5.1) | 10.0 (12.0) | 5.2 (6.9) | 13.6 (17.6) |
| 3.0 | | 4.4 (5.4) | 10.8 (12.8) | 5.4 (7.2) | 14.2 (18.4) |
| 4.0 | Ceiling mounting | 5.4 (5.4) | 13.4 (16.6) | 5.5 (8.5) | 17.6 (21.6) |
| 5.0 | Room illumination | 4.4 (5.4) | 14.4 (18.2) | 7.5 (9.5) | 19.2 (23.8) |
| 6.0 | | 5.4 (7.4) | 15.6 (19.4) | 6.5 (7.5) | 19.6 (25.8) |
| 7.0 | | 5.4 (6.4) | 16.4 (21.0) | 6.5 (9.5) | 20.4 (26.4) |
| 8.0 | | 4.4 (7.4) | 17.4 (21.8) | 7.5 (8.5) | 20.8 (27.4) |
| 10.0 | | 4.5 (7.4) | 18.2 (24.0) | 5.4 (8.5) | 22.0 (28.2) |

Planning help for eLLK 92036/36 V-CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

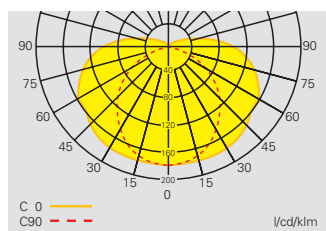


Light distribution curve
eLLK 92036/36 V-CG-S

| Mounting height [m] | Types of mounting | L1  | L2  | L3  | L4  |
|---------------------|-------------------|--|--|--|--|
| 5.0 | Ceiling mounting | 8.4 (10.1) | 20.2 (24.0) | 11.3 (14.1) | 28.0 (34.4) |
| 6.0 | Exit route centre | 9.0 (11.0) | 22.0 (26.4) | 11.8 (15.1) | 30.0 (37.2) |
| 7.0 | | 9.5 (11.8) | 23.6 (28.6) | 12.1 (15.9) | 31.6 (39.6) |
| 8.0 | | 9.9 (12.5) | 24.8 (30.4) | 12.5 (16.5) | 32.6 (41.6) |
| 10.0 | | 10.3 (13.5) | 27.0 (33.6) | 12.9 (17.2) | 34.2 (45.0) |
| 12.0 | | 10.4 (14.2) | 28.4 (36.0) | 12.9 (17.9) | 35.4 (46.8) |
| 2.0 | Wall mounting | 5.1 (6.1) | 12.2 (14.4) | 7.0 (8.9) | 17.8 (22.2) |
| 2.5 | | 5.5 (6.6) | 13.2 (15.6) | 7.5 (9.5) | 18.8 (23.8) |
| 3.0 | | 5.8 (7.0) | 14.0 (16.8) | 7.8 (10.0) | 19.8 (25.0) |
| 5.0 | Ceiling mounting | 7.4 (8.4) | 19.8 (24.6) | 8.5 (11.5) | 25.2 (30.2) |
| 6.0 | Room illumination | 7.4 (9.4) | 20.8 (26.2) | 9.5 (11.5) | 28.0 (33.4) |
| 7.0 | | 8.4 (9.4) | 22.6 (28.4) | 8.5 (12.5) | 29.2 (35.2) |
| 8.0 | | 7.4 (9.4) | 23.6 (29.6) | 10.5 (13.5) | 30.6 (37.8) |
| 10.0 | | 8.4 (10.4) | 25.6 (31.8) | 9.5 (13.5) | 31.8 (42.0) |
| 12.0 | | 8.4 (10.0) | 27.2 (33.8) | 9.5 (14.5) | 33.4 (44.0) |

Planning help for eLLK 92058/58 V-CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m



Light distribution curve
eLLK 92058/58 V-CG-S

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-------------|-------------|-------------|-------------|
| 5.0 | Ceiling mounting | 9.5 (11.4) | 22.8 (26.8) | 13.1 (16.1) | 32.0 (39.2) |
| 6.0 | Exit route centre | 10.3 (12.5) | 24.8 (29.6) | 14.0 (17.4) | 34.6 (42.4) |
| 7.0 | | 11.0 (13.4) | 26.8 (32.2) | 14.6 (18.5) | 36.8 (45.4) |
| 8.0 | | 11.6 (14.3) | 28.4 (34.4) | 14.9 (19.4) | 38.6 (48.0) |
| 10.0 | | 12.4 (15.6) | 31.2 (38.2) | 15.7 (20.6) | 41.0 (52.4) |
| 12.0 | | 12.9 (16.7) | 33.4 (41.4) | 16.1 (21.4) | 42.4 (55.8) |
| 14.0 | | 13.1 (17.5) | 35.0 (44.0) | 16.2 (22.1) | 44.0 (57.8) |
| 2.0 | Wall mounting | 5.7 (6.8) | 13.6 (16.0) | 8.2 (10.4) | 20.6 (25.8) |
| 2.5 | | 6.2 (7.4) | 14.6 (17.6) | 8.8 (11.1) | 22.0 (27.6) |
| 3.0 | | 6.6 (7.9) | 15.8 (19.0) | 9.2 (11.7) | 23.2 (29.2) |
| 5.0 | Ceiling mounting | 8.4 (9.4) | 22.4 (26.8) | 9.5 (13.5) | 29.0 (35.8) |
| 6.0 | Room illumination | 9.4 (11.4) | 24.6 (29.8) | 9.5 (12.5) | 31.0 (38.0) |
| 7.0 | | 9.4 (10.4) | 25.4 (32.2) | 10.5 (15.5) | 34.2 (40.4) |
| 8.0 | | 9.4 (10.4) | 27.4 (34.0) | 11.5 (16.5) | 35.4 (43.0) |
| 10.0 | | 9.4 (12.4) | 29.8 (37.4) | 12.5 (15.5) | 38.2 (47.2) |
| 12.0 | | 10.4 (14.4) | 31.6 (39.2) | 11.5 (14.5) | 39.6 (52.2) |
| 14.0 | | 10.4 (14.4) | 33.2 (41.6) | 11.5 (15.5) | 41.4 (54.6) |

dKLK 23 V-CG-S

Safety and Exit Sign Luminaires - Explosion protected



dKLK 23 V-CG-S with eXLink



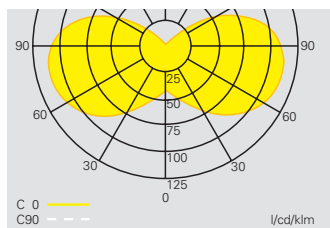
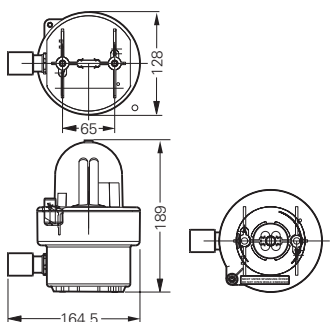
dKLK 23 V-CG-S



Exit sign cube for dKLK 23 V-CG-S



Dimensions in mm



Light distribution curve
dKLK 23 V-CG-S

dKLK 23 V-CG-S

- Explosion protected safety and exit sign luminaire
- For operation with compact-fluorescent lamps with integrated ECG
- Enclosure made of reinforced polyester
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Viewing distance | 20 m (with cube 40071352757) |
| Marking acc. to RL 2014/34/EU | II 2G Ex d IIC T6 Gb II 2D Ex tb IIIC T80°C Db IP66 |
| EU-type inspection certificate | BVS 10 ATEX E003 |
| Housing material | glass-fibre reinforced polyester |
| Protective cover | Polycarbonate (850 °C glow wire resistant) |
| Rated voltage | AC: 230 V +/- 10 %, 50-60 Hz DC: 220 V + 25 %/- 20 % |
| Rated current | max. 25 mA |
| Permissible ambient temperature | -20 °C to +45 °C (depends on lamp wattage and mounting position) |
| Power connection | pressure-resistant connector plug eXLink, 3pole Ex d cable entry M20 x 1.5 for cables Ø 7-12 mm |
| Coupler (enclosed) (type: eXLink) | 2 + PE cage clamp terminal for power Ø 8-11 mm and max. 1.5 mm² (rigid) |
| Connection terminals (Ex-d-Verschluss) | L, N, PE, max. 2.5 mm² terminals |
| Light source | Compact fluorescent lamp with integrated EVG, socket E27, power 5-8 W, suitable for DC-operation Brand: e.g. Philips Master PL-E |
| Weight | approx. 1.7 kg |

Ordering details

| Type | Scope of supply | Order No. |
|--------------------------------|---|-----------------|
| dKLK 23 V-CG-S with eXLink | Luminaire with CG monitoring and 20-digit address switch, without light source, with eXLink | GHG8712001R0001 |
| dKLK 23 V-CG-S with Ex d screw | Luminaire with CG monitoring and 20-digit address switch, without light source, with pressure-resistant cable entry | GHG8712001R0101 |

Accessories

| Type | Order No. |
|---|-------------|
| Cube Exit sign (242 x 227 x 242) Viewing distance 20 m acc. to ISO 7010 | 40071354680 |

Planning help for dKLK V-CG-S for E = 1.0 lx (0.5 lx) - Light source 7 W/400 lm

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

| Mounting height [m] | Types of mounting | L1 | L3 |
|---------------------|-------------------|-----------|-------------|
| 2.5 | Ceiling mounting | 3.5 (5.0) | 10.0 (13.2) |
| 3.0 | Exit route centre | 3.4 (5.1) | 10.1 (13.7) |
| 3.5 | | 2.9 (5.1) | 10.1 (14.1) |
| 4.0 | | — (4.9) | 9.8 (14.3) |
| 4.5 | | — (4.6) | 9.2 (14.3) |
| 2.5 | Ceiling mounting | 3.0 (4.0) | 9.4 (12.0) |
| 3.0 | Room illumination | 2.4 (4.4) | 9.6 (12.6) |
| 3.5 | | 2.4 (4.4) | 10.0 (13.2) |
| 4.0 | | — (3.4) | 10.0 (13.4) |
| 4.5 | | — (3.4) | 8.2 (13.8) |










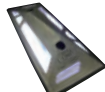








Safety Luminaires for Escape Route Lighting

| | |
|--|-----|
| GuideLed SL 13011.1, 13021.1 CG-S | 208 |
| GuideLed SL 13012.1, 13022.1 CG-S | 209 |
| GuideLed SL 13011.1, 13021.1, 13012.1, 13022.1 CG-S | 210 |
| GuideLed SL 13031, 13041 CG-S | 211 |
| GuideLed SL 13032, 13042 CG-S | 212 |
| GuideLed SL 13031, 13032, 13041, 13042 CG-S | 213 |
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Safety Luminaires for Escape Route Lighting

Overview

| 7 | | Performance | Aesthetic | Low consumption / Eco-friendly | Protection Degree | Luminous flux | 24 V | 48 V | 110 V | 220 V DC | 230 V AC | Monitored CG-S | Monitored EC 1.5 |
|------|---|-------------|-----------|-----------------------------------|-------------------|----------------------------|------|------|-------|----------|----------|----------------|------------------|
| | | | | | | | | | | | | | |
| 7.1 | GuideLed SL  | ★ ★ ★ | ● | ● | 20 41 | 250 lm 288 lm 335 lm | | | | ● | ● | ● | |
| 7.2 | Micropoint 2  | ★ ★ ★ | ● | ● | 20 44 | 142 lm 290 lm | | | | ● | ● | ● | ● |
| 7.3 | 3503.1 ... 3604.1 LED  | ★ ★ ★ | ● | | 20 | 260 lm 315 lm | | | | ● | ● | ● | |
| 7.4 | 3514 LED  | ★ ★ ★ | | | 20 | 512 lm | | | | ● | ● | ● | |
| 7.5 | Planete 400 Disc  | ★ ★ ★ | ● | ● | 41 | 360 lm 400 lm | ● | ● | | ● | ● | ● | |
| 7.6 | HandRail  | ★ ★ ★ | ● | ● | 66 | 118 lm 164 lm 235 lm | | | | ● | ● | ● | |
| 7.7 | Step Light  | ★ ★ ★ | | | 65 | 33 lm | | | | ● | ● | | |
| 7.8 | BXP NF ground Light  | ★ ★ ★ | ● | ● | 66 | 45 lm | ● | ● | | ● | ● | | |
| 7.9 | Planete 220/400  | ★ ★ | | | 42 | 400 lm | ● | ● | | ● | ● | ● | |
| 7.10 | Crompack LED  | ★ ★ | | | 20 | 2500 lm | | | | ● | ● | | |
| 7.11 | RC 18 W / RC 36 W  | ★ | | | 20 | see data sheet | ● | ● | ● | ● | ● | ● | |
| 7.12 | RCE 18 W / RCE 36 W  | ★ | | | 55 | see data sheet | ● | ● | ● | ● | ● | ● | |
| 7.13 | GuideLed FSL  | ★ | ● | | 40 | 125 lm | | | | ● | ● | ● | |
| 7.14 | Sintralite  | ★ | ● | | 20 | 275 lm | | ● | ● | ● | ● | ● | ● |

Safety Luminaires for Escape Route Lighting

Overview

7

| Wall | Ceiling surface | Ceiling recessed | Ceiling Suspended | Healthcare | Hotels | Cinemas /Theaters | Commercial centers | Stadia / Arenas | Offices | Industrial | Warehouse |
|--------------|-----------------|------------------|-------------------|--------------|--------|-------------------|--------------------|-----------------|---------|------------|-----------|
| Installation | | | | Applications | | | | | | | |
| | ● | ● | | ● | ● | ● | ● | | ● | | |
| | ● | ● | | ● | ● | ● | ● | | ● | | |
| | | ● | | ● | ● | ● | ● | | ● | | |
| | ● | | | ● | ● | ● | ● | | ● | | |
| ● | ● | ● | | ● | ● | ● | ● | | ● | | |
| | | | | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | | | | | | | | |
| ● | ● | ● | | | | | ● | | ● | | ● |
| | ● | | | | | | ● | ● | | ● | ● |
| | ● | | | | | | ● | | | ● | ● |
| | ● | | | | | | ● | | | ● | ● |
| | ● | ● | | ● | ● | ● | ● | | ● | | |
| | | ● | | ● | ● | ● | ● | | ● | | |

The information given in this brochure is accurate at the time of compilation (errors and omissions excepted), however due to Eaton philosophy of constant product development we reserve the right to change specifications without prior notice.

Safety luminaires

Safety Luminaires for Escape Route Lighting

7



Three design variants

There are three safety luminaires suitable for the design concept of the GuideLed exit luminaires:

With its 1.5 mm high frame, the GuideLed built-in variant is almost flush with the ceiling.

On account to the radii oriented to the main direction, the surface mounted variant GuideLed SL is inconspicuous with its 32 mm in height.

Both the recessed and the surface mounted version are available with especially narrow beam optics. They allow mounting heights of up to 30 m.

The extremely flat GuideLed FSL stands out for its lightguide technology, highly precise micro-prism optics and an especially uniform anti-glare shielded light exit surface.

Special refractive optics

GuideLed SL comes in two light distributions harmonised precisely to the requirements of safety illumination. The refractive optics guide the light either longitudinally along the escape route or uniformly across the surface.

High optical power

Despite their small structural shapes, the CEAG LED safety luminaires are on one level with the fluorescent lamps with a much higher wattage. At a mounting height of 3 m, luminaire spacings of up to 16 m and/or maximum mounting heights up to 10 m can be realised.



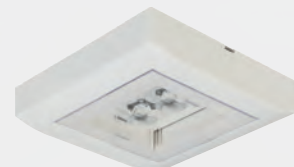
GuideLed SL 13021.1 CG-S



GuideLed SL 13031 CG-S



GuideLed SL 13012.1 CG-S

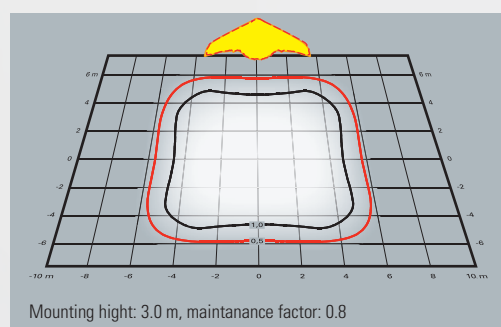


GuideLed SL 13032 CG-S

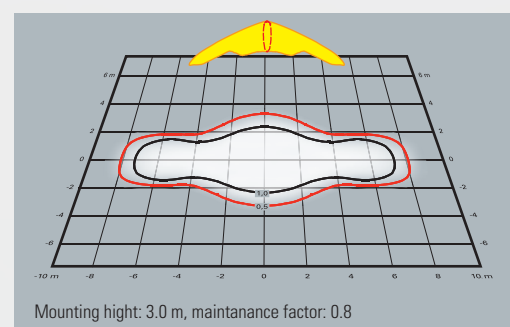


GuideLed FSL CG-S

Light distribution for open area illumination



Light distribution for escape route illumination

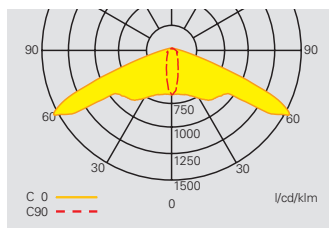


GuideLed SL 13011.1, 13021.1 CG-S

Safety Luminaires for Escape Route Lighting

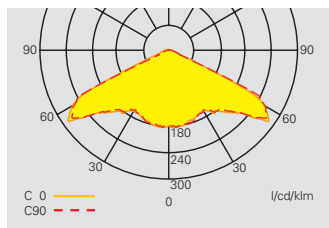


GuideLed SL 13011.1 CG-S



Light distribution curve
GuideLed SL 13011.1 CG-S recessed
with asymmetric optics

GuideLed SL 13021.1 CG-S



Light distribution curve
GuideLed SL 13021.1 CG-S recessed
with symmetric optics

Square bezel for
GuideLed SL 130x1.1 CG-S



GuideLed SL 13011.1, 13021.1 CG-S

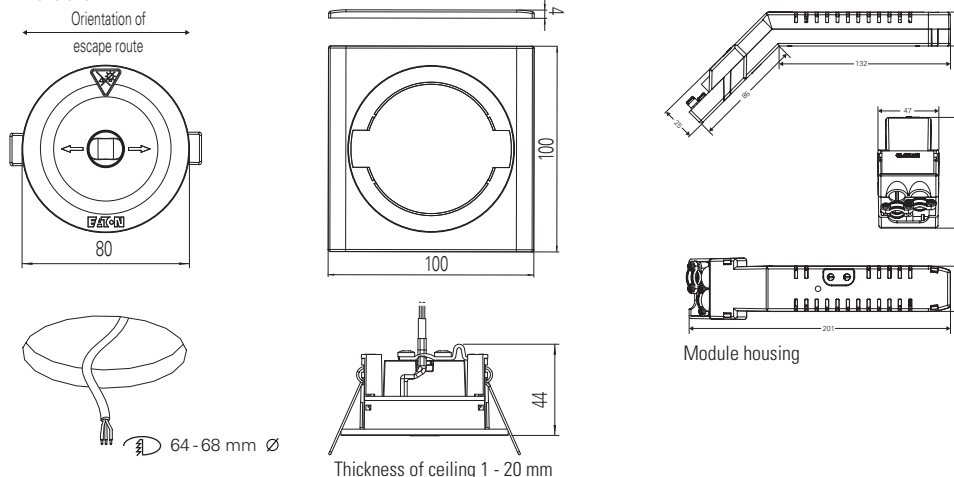
- Safety luminaire with LED technology for recessed mounting
- Unobtrusive, discrete appearance with round design and low installation depth of only 40 mm
- Conversion to square design with optional bezel to fit to the ceiling plan if necessary
- Special LED optics ensure especially efficient escape route illumination or uniform anti-panic illumination
- High Spacing by exact light direction and highly-efficient HighPowerLEDs
- Up to 27 m from luminaire to luminaire with optics for escape route illumination
- Up to 12 m from luminaire to luminaire with optics for antipanic illumination
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

| | |
|---|---|
| Luminous flux Φ_N | Asymmetric optics 250 lm Symmetric optics 250 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating timer | 100% |
| Housing material | PC, aluminium |
| Housing colour | White RAL 9016 |
| Weight | 0.25 kg |
| Type of mounting | Recessed mounting |
| Terminals | Clamp terminal 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 20 mA |
| Power consumption mains operation (apparent power/effective power) | 8.0 VA / 3.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20°C bis +40°C |
| Light source | HighPower LED 1 x 2 W |

Ordering details

| Type | Scope of supply | Order No. |
|--------------------------|---|-------------|
| GuideLed SL 13011.1 CG-S | GuideLed SL 13011.1 CG-S, recessed mounting with asymmetric optics for escape route illumination, LED supply and CG-S technology (20 addresses) in housing* with strain relief | 40071354480 |
| GuideLed SL 13021.1 CG-S | GuideLed SL 13021.1 CG-S, recessed mounting with symmetric optics for anti-panic or open space illumination, LED supply and CG-S technology (20 addresses) in housing* with strain relief | 40071354481 |
| Square bezel | Square bezel GuideLed SL 130x1.1 CG-S | 40071354488 |
| Plastic enclosure | Plastic enclosure for installation in concrete (suitable from 160 mm ceiling depth), for GuideLed SL 130x1.1 CG-S | 40071353169 |

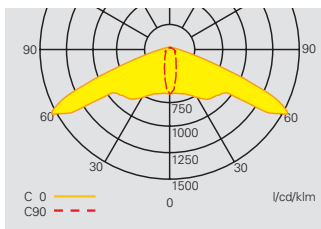
Dimensions in mm



* Degree of protection of the luminaire: IP41
Degree of protection of module enclosure: IP20

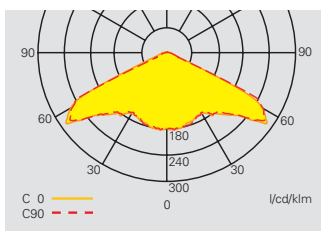


GuideLed SL 13012.1 CG-S



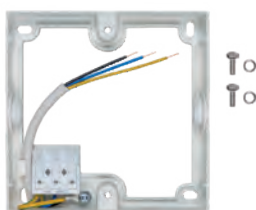
Light distribution curve
GuideLed SL 13012.1 CG-S surface
with asymmetric optics

GuideLed SL 13022.1 CG-S



Light distribution curve
GuideLed SL 13022.1 CG-S surface
with symmetric optics

Additional enclosure



GuideLed SL 13012.1, 13022.1 CG-S

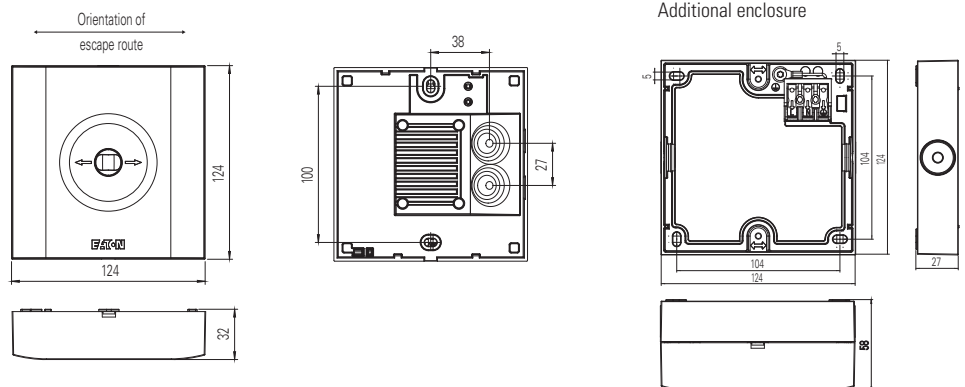
- Safety luminaire with LED technology for surface mounting
- Slender, discrete design with low height of 32 mm
- Special LED optics ensure especially efficient escape route illumination or uniform anti-panic illumination
- High spacing by exact light direction and highly-efficient HighPowerLEDs
- Up to 27 m from luminaire to luminaire with optics for escape route illumination
- Up to 12 m from luminaire to luminaire with optics for antipanic illumination
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

| | |
|---|---|
| Luminous flux Φ_N | Asymmetric optics 250 lm Symmetric optics 250 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | PC, Aluminium |
| Housing colour | White RAL 9016 |
| Weight | 0.33 kg |
| Type of mounting | Surface mounting |
| Terminals | 2 x 3 x 2,5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 20 mA |
| Power consumption mains operation (apparent power/effective power) | 8.0 VA / 3.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20°C bis +40°C |
| Light source | HighPower LED 1 x 2 W |

Ordering details

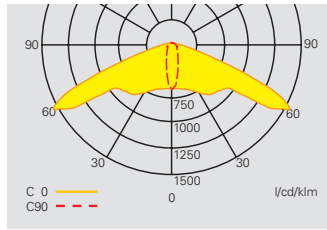
| | Scope of supply | Order No. |
|---|--|-------------|
| GuideLed SL 13012.1 CG-S | GuideLed SL 13012.1 CG-S surface mounting with asymmetric optics for escape route illumination, LED supply and CG-S technology (20 addresses) | 40071354482 |
| GuideLed SL 13022.1 CG-S | GuideLed SL 13022.1 CG-S surface mounting with symmetric optics for anti-panic or open space illumination, LED supply and CG-S technology (20 addresses) | 40071354483 |
| Additional enclosure for GuideLed SL 130x2.1 | Additional enclosure for GuideLed SL 130x2.1, for more space for wiring and cable entry, including through-wiring terminal and connection cable to luminaire | 40071354489 |

Dimensions in mm



GuideLed SL 13011.1, 13021.1, 13012.1, 13022.1 CG-S

Safety Luminaires for Escape Route Lighting

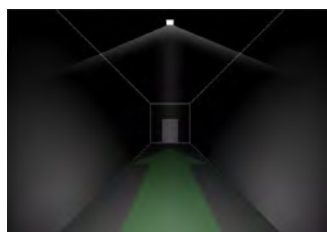
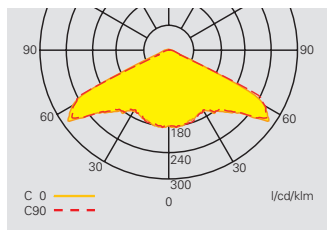


Escape route illumination with asymmetric optics

Planning assistance for GuideLed SL CG-S with asymmetric optics for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 | L4 |
|---------------------|------------------|-----------|-----------|-------------|-------------|
| 2.5 | Ceiling mounting | 2.3 (3.4) | 6.8 (8.3) | 6.4 (7.1) | 14.1 (15.6) |
| 3.0 | Escape route | 2.3 (3.2) | 6.4 (9.2) | 7.3 (8.1) | 16.1 (17.8) |
| 3.5 | centre | 2.3 (3.2) | 6.5 (9.7) | 8.1 (9.0) | 17.9 (19.9) |
| 4.0 | | 2.3 (3.3) | 6.5 (9.4) | 8.8 (9.9) | 19.7 (21.9) |
| 4.5 | | 2.3 (3.3) | 6.6 (9.1) | 9.5 (10.7) | 21.4 (23.7) |
| 5.0 | | 2.2 (3.3) | 6.6 (9.2) | 10.0 (11.5) | 23.0 (25.6) |
| 5.5 | | 2.1 (3.3) | 6.6 (9.2) | 10.4 (12.2) | 24.4 (27.4) |
| 6.0 | | 2.0 (3.3) | 6.5 (9.3) | 10.7 (12.9) | 25.8 (29.1) |
| 6.5 | | 1.9 (3.2) | 6.4 (9.4) | 7.9 (13.5) | 27.0 (30.8) |
| 7.0 | | 1.8 (3.1) | 6.2 (9.4) | 7.6 (14.0) | 26.0 (32.3) |
| 7.5 | | 1.7 (3.1) | 6.1 (9.3) | 7.3 (14.5) | 25.9 (33.7) |
| 8.0 | | 1.6 (2.9) | 5.8 (9.3) | 7.0 (14.8) | 26.2 (35.2) |
| 8.5 | | 1.4 (2.8) | 5.7 (9.3) | 6.7 (15.1) | 26.4 (36.6) |
| 9.0 | | 1.2 (2.8) | 5.5 (9.1) | 6.1 (14.9) | 26.1 (37.8) |
| 9.5 | | 1.0 (2.7) | 5.3 (9.0) | 4.7 (10.9) | 21.9 (37.6) |
| 10.0 | | 0.6 (2.5) | 5.0 (8.8) | 2.5 (10.7) | 21.4 (36.7) |



Escape route illumination with symmetric optics

Planning assistance for GuideLed SL CG-S with symmetric optics for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|------------|-------------|
| 2.5 | Ceiling mounting | 4.4 (5.0) | 9.9 (10.4) | 4.4 (4.9) | 9.8 (10.4) |
| 3.0 | Escape route | 4.6 (5.9) | 11.2 (12.3) | 4.6 (5.7) | 11.2 (12.1) |
| 3.5 | centre | 4.5 (6.2) | 12.3 (14.0) | 4.6 (6.2) | 12.3 (13.8) |
| 4.0 | | 3.5 (6.4) | 12.5 (15.2) | 3.8 (6.4) | 12.5 (15.2) |
| 4.5 | | 2.9 (6.6) | 13.0 (16.4) | 3.2 (6.6) | 12.7 (16.4) |
| 5.0 | | 2.4 (6.2) | 12.3 (17.4) | 2.4 (6.4) | 12.4 (17.4) |
| 5.5 | | 1.9 (5.3) | 10.6 (17.5) | 1.8 (5.5) | 11.0 (17.6) |
| 6.0 | | 0.7 (4.7) | 9.4 (17.8) | 0.9 (4.8) | 9.6 (17.9) |
| 2.5 | Ceiling mounting | 4.3 (4.4) | 9.8 (10.3) | 4.1 (10.3) | 9.5 (10.3) |
| 3.0 | Room illumination | 4.4 (5.2) | 11.1 (12.0) | 4.6 (5.2) | 11.0 (11.9) |
| 3.5 | | 4.7 (5.6) | 12.2 (13.6) | 5.0 (5.8) | 12.2 (13.5) |
| 4.0 | | 2.9 (5.9) | 12.1 (15.0) | 2.9 (6.3) | 12.4 (15.0) |
| 4.5 | | 2.7 (6.2) | 12.6 (16.3) | 2.5 (6.5) | 12.5 (16.3) |
| 5.0 | | 1.0 (6.4) | 12.2 (17.2) | 0.5 (6.8) | 12.5 (17.4) |
| 5.5 | | 0.5 (4.3) | 11.8 (17.2) | 0.7 (4.5) | 11.5 (17.6) |
| 6.0 | | 1.0 (3.5) | 11.7 (17.4) | 0.7 (3.7) | 11.4 (17.5) |
| 6.5 | | 0.5 (2.8) | 12.2 (17.8) | 0.5 (1.1) | 11.6 (18.0) |
| 7.0 | | 0.5 (1.1) | 12.1 (17.3) | 0.5 (0.7) | 11.2 (17.8) |
| 7.5 | | 0.5 (0.5) | 11.8 (14.5) | 0.5 (2.9) | 11.2 (20.5) |
| 8.0 | | 0.5 (2.4) | 11.0 (20.3) | 0.5 (0.5) | 10.9 (14.8) |
| 8.5 | | 0.7 (0.8) | 9.4 (21.7) | 0.7 (0.7) | 9.3 (13.7) |
| 9.0 | | 0.6 (0.5) | 8.4 (17.8) | 0.6 (0.5) | 8.3 (16.5) |



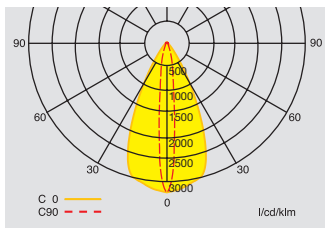
Room illumination with symmetric optics



GuideLed SL 13031, 13041 CG-S

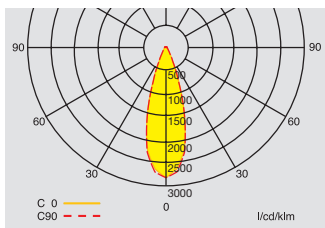
- Safety luminaire in LED technology for recessed mounting
- Low installation depth of only 38 mm
- Almost flush appearance on the ceiling ensured by optics integrated in the luminaire
- Suitable for mounting heights up to 28 m by narrow beam optics and exceptionally efficient HighPower LEDs
- Spacing up to 24 m from luminaire to luminaire with optics for escape route illumination
- Up to 14 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

GuideLed SL 13031 CG-S



Light distribution curve
GuideLed SL 13031 CG-S surface
mounting with asymmetric optics

GuideLed SL 13041 CG-S



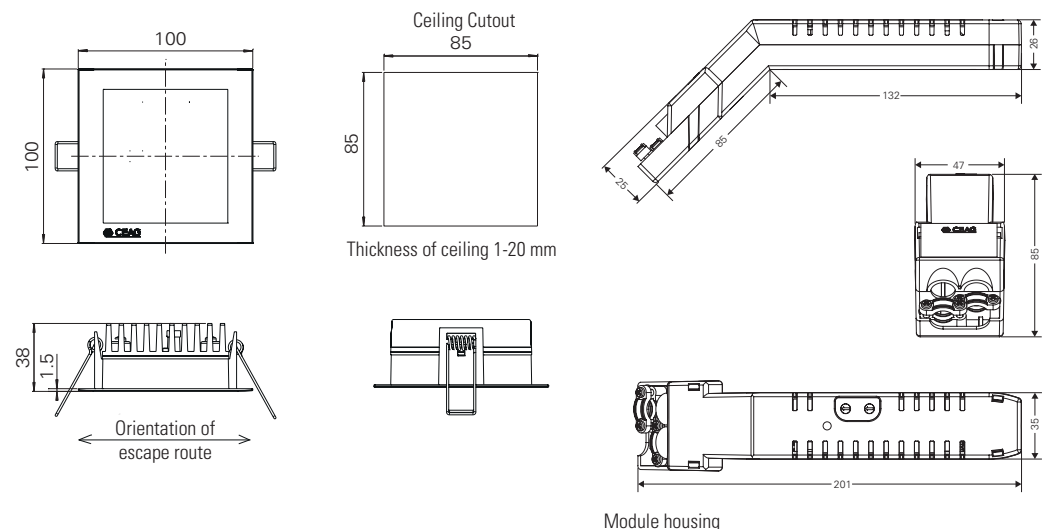
Light distribution curve
GuideLed SL 13041 CG-S surface
mounting with symmetric optics

| | |
|--|--|
| Luminous flux Φ_N | 335 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% |
| Housing material | PC, aluminium |
| Housing colour | White RAL 9010 |
| Weight | 0.44 kg |
| Type of mounting | Recessed mounting |
| Connection terminal | Clamp terminal 2.5 mm ² |
| Voltage ranges | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 21.5 mA |
| Power consumption mains operation (apparent power / effective power) | 8.5 VA / 5.0 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | HighPower LEDs 2 x 1.5 W |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|--|-------------|
| GuideLed SL 13031 CG-S | GuideLed SL 13031 CG-S recessed mounting with asymmetric narrow beam optics for escape route illumination, LED supply and CG-S technology (20 addresses) in housing* with strain relief | 40071353481 |
| GuideLed SL 13041 CG-S | GuideLed SL 13041 CG-S recessed mounting with symmetric narrow beam optics for anti-panic / open area illumination, LED supply and CG-S technology (20 addresses) in housing* with strain relief | 40071353480 |

Dimensions in mm



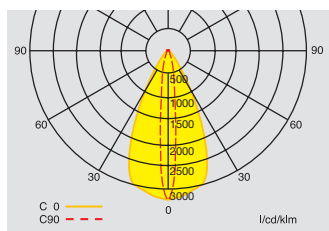
* Degree of protection of the luminaire: IP41
Degree of protection of the module housing: IP20

GuideLed SL 13032, 13042 CG-S

Safety Luminaires for Escape Route Lighting

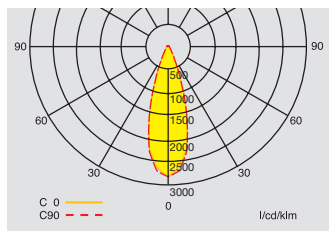


GuideLed SL 13032 CG-S



Light distribution curve
GuideLed SL 13032 CG-S surface
mounting with asymmetric optics

GuideLed SL 13042 CG-S



Light distribution curve
GuideLed SL 13042 CG-S surface
mounting with symmetric optics

GuideLed SL 13032, 13042 CG-S

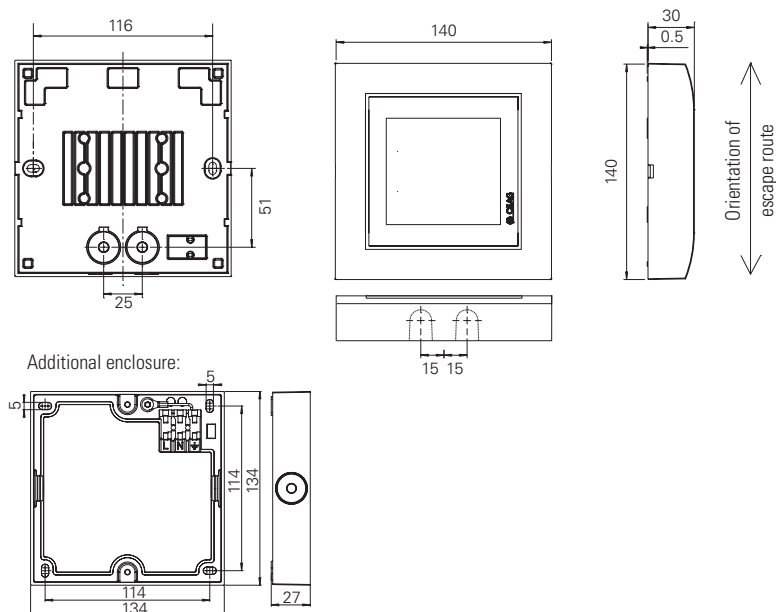
- Safety luminaire in LED technology for surface mounting
- Low profile of only 30 mm
- Unobtrusive appearance ensured by optics integrated in the luminaire
- Suitable for mounting heights up to 30 m by narrow beam optics and exceptionally efficient HighPower LEDs
- Spacing up to 24 m from luminaire to luminaire with optics for escape route illumination
- Up to 14 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

| | |
|--|--|
| Luminous flux Φ_N | 335 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% |
| Housing material | PC, aluminium |
| Housing colour | White RAL 9010 |
| Weight | 0.43 kg |
| Type of mounting | Surface mounting |
| Connection terminal | 2 x 3 x 2.5 mm ² |
| Voltage ranges | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 21.5 mA |
| Power consumption mains operation (apparent power / effective power) | 8.5 VA / 5.0 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | HighPower LEDs 2 x 1.5 W |

Ordering details

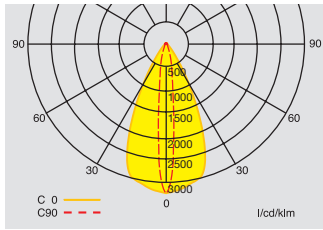
| Scope of supply | Order No. |
|---|-------------|
| GuideLed SL 13032 CG-S surface mounting with asymmetric narrow beam optics for escape route illumination incl. LED supply and CG-S technology (20 addresses) | 40071353483 |
| GuideLed SL 13042 CG-S surface mounting with symmetric narrow beam optics for anti-panic / open area illumination incl. LED supply and CG-S technology (20 addresses) | 40071353482 |
| Additional enclosure for more space for wiring and cable entry, very large opening from above, two-sided cable entry for surface-mounted wiring incl. through-wiring terminal and connection cable to luminaire, degree of protection: IP31 | 40071353585 |

Dimensions in mm



GuideLed SL 13031, 13032, 13041, 13042 CG-S

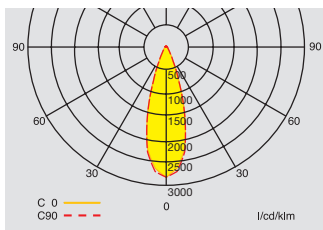
Safety Luminaires for Escape Route Lighting



Planning assistance for GuideLed SL CG-S with asymmetric optics for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF = 80%, battery operation

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|------------|------------|-------------|
| 8 | Ceiling mounting | 2.6 (3.2) | 6.7 (9.1) | 5.7 (6.5) | 13.2 (15.0) |
| 10 | Escape route centre | 2.8 (3.4) | 7.2 (9.4) | 6.6 (7.4) | 15.1 (17.2) |
| 12 | | 2.7 (3.7) | 7.8 (9.4) | 7.2 (8.2) | 16.8 (19.2) |
| 14 | | 2.5 (3.8) | 8.0 (9.9) | 7.7 (9.1) | 18.5 (21.1) |
| 16 | | 2.4 (3.7) | 8.0 (10.6) | 8.2 (9.7) | 19.9 (22.7) |
| 18 | | 2.3 (3.6) | 7.8 (11.1) | 8.5 (10.3) | 21.2 (24.6) |
| 20 | | 2.1 (3.4) | 7.4 (11.1) | 8.7 (10.9) | 22.2 (26.2) |
| 22 | | 1.9 (3.2) | 7.1 (11.1) | 8.7 (11.2) | 23.1 (27.5) |
| 24 | | 1.7 (3.1) | 6.8 (11.0) | 8.5 (11.6) | 23.8 (28.8) |
| 26 | | 1.4 (2.9) | 6.6 (10.6) | 8.0 (11.8) | 24.4 (29.9) |
| 28 | | 0.9 (2.7) | 6.3 (10.2) | 6.0 (11.9) | 24.7 (30.9) |
| 30 | | 0.3 (2.5) | 6.0 (9.9) | 2.4 (12.0) | 24.9 (31.9) |



Planning assistance for GuideLed SL CG-S with symmetric optics for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF = 80%, battery operation

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|-----------|-------------|
| 8 | Ceiling mounting | 3.8 (4.8) | 9.5 (11.5) | 3.8 (4.6) | 9.2 (11.1) |
| 10 | Escape route centre | 4.2 (5.2) | 10.4 (12.6) | 4.3 (5.2) | 10.3 (12.2) |
| 12 | | 4.6 (5.6) | 11.1 (13.7) | 4.7 (5.7) | 11.3 (13.4) |
| 14 | | 4.9 (6.0) | 11.9 (14.7) | 5.0 (6.1) | 12.2 (14.4) |
| 16 | | 5.1 (6.4) | 12.7 (15.3) | 5.2 (6.5) | 12.9 (15.4) |
| 18 | | 5.1 (6.7) | 13.4 (16.1) | 5.2 (6.8) | 13.6 (16.4) |
| 20 | | 5.0 (7.0) | 14.0 (16.9) | 5.1 (7.1) | 14.1 (17.3) |
| 22 | | 4.6 (7.2) | 14.3 (17.7) | 4.8 (7.2) | 14.4 (18.1) |
| 24 | | 4.1 (7.3) | 14.5 (18.5) | 4.0 (7.3) | 14.6 (18.8) |
| 26 | | 2.9 (7.2) | 14.4 (19.1) | 2.6 (7.3) | 14.6 (19.4) |
| 28 | | - (7.1) | 14.2 (19.7) | - (7.2) | 14.4 (19.9) |
| 30 | | - (6.8) | 13.6 (20.1) | - (6.9) | 13.8 (20.2) |
| 8 | Ceiling mounting | 3.5 (4.5) | 7.8 (9.6) | 3.4 (3.4) | 7.8 (9.8) |
| 10 | Room illumination | 3.5 (5.5) | 8.6 (10.6) | 3.4 (3.4) | 8.4 (10.4) |
| 12 | | 4.5 (4.5) | 10.2 (11.2) | 3.4 (4.4) | 8.4 (11.4) |
| 14 | | 4.5 (5.5) | 10.2 (12.0) | 3.4 (4.4) | 9.6 (12.0) |
| 16 | | 5.5 (5.5) | 11.4 (12.6) | 3.4 (4.4) | 9.8 (12.8) |
| 18 | | 5.5 (5.5) | 12.2 (13.6) | 3.4 (5.4) | 10.2 (13.2) |
| 19 | | 5.5 (5.5) | 12.4 (14.6) | 3.4 (5.4) | 10.6 (13.0) |
| 20 | | 3.9 (5.5) | 13.0 (14.8) | 4.0 (5.4) | 10.6 (13.4) |
| 22 | | 4.5 (5.5) | 13.4 (16.0) | 3.4 (5.4) | 11.2 (13.6) |
| 24 | | 3.5 (5.4) | 13.8 (16.4) | 3.4 (5.5) | 11.8 (14.4) |
| 26 | | 3.5 (5.4) | 14.2 (17.2) | 2.4 (5.5) | 12.2 (14.8) |
| 28 | | 0.7 (5.5) | 13.6 (18.0) | 0.7 (5.4) | 13.4 (15.2) |
| 30 | | 0.7 (5.5) | 14.4 (19.0) | 0.7 (5.4) | 13.2 (15.2) |

Requirements of EN 1838: illuminance of 5 lx for safety equipment

7

The aim of emergency lighting is to enable people to exit a room or building safely. It must also ensure that fire fighting and safety equipment can be easily found and operated when needed. This equipment includes (but not exclusively):

- First aid stations
- All fire fighting equipment and all alarm devices

Lighting is required near each first aid kit, near each alarm and piece of fire fighting equipment, as well as each sign indicating a fire alarm system. In accordance with EN 1838, „near“ generally means a distance of no greater than 2 metres, measured horizontally (this corresponds with distance a in the diagram below).

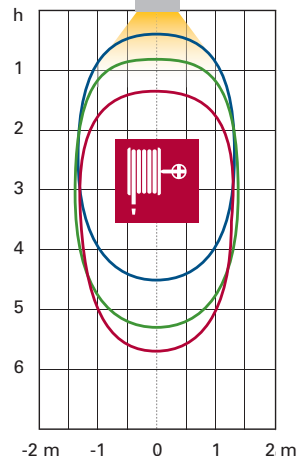
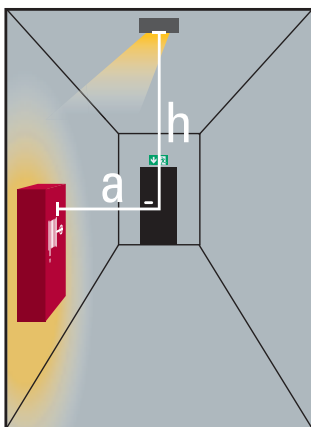
The required level of illuminance on the equipment is 5 lx measured vertically – i.e. perpendicular to the usual horizontal illuminance measurements on one level.

In comparison to the escape route requirement for 1 lx horizontally, different requirements apply in this situation for the light distribution from the safety luminaires, due to the flatter light angle of incidence.

GuideLed SL 13051.1 und 13052.1 CG-S meet the specific requirements of EN 1838

In order to meet the requirements of EN 1838, the new GuideLed SL 13051.1 and 13052.1 CG-S have special optics to guarantee the required illuminance of 5 lx vertically over a wide area. Hence mounting at heights of up to 5.6 m, and a breadth of illumination of up to 2.8 metres, are possible.

Engineering help, GuideLed SL 13051.1 and 13052.1 CG-S



Area in which a minimum illuminance of 5 lx (maintenance factor 0.8) is achieved, depending on distance a and the rated operating time:

$a = 1.0$ m

$a = 1.5$ m

$a = 2.0$ m

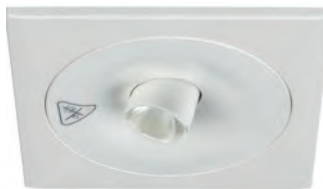




*3 GuideLed SL 13051.1, 13052.1 CG-S

- Safety luminaire in LED technology for recessed and ceiling surface-mounting
- Unobtrusive design through optics integrated in the luminaire
- Special asymmetric optics for illumination of 5 lx vertically for first aid stations, fire fighting equipment and safety equipment acc. to EN 1838
- Suitable for mounting heights up to 5.6 m above the illuminated equipment
- The illuminated area has a width of up to 2.8 m.
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

GuideLed SL 13051.1 CG-S



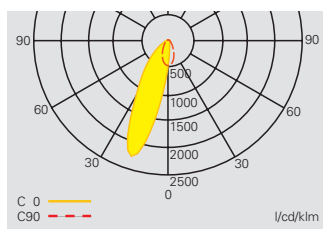
with optional square bezel

| | |
|--|---|
| Luminous flux Φ_N | 288 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | Polycarbonate, aluminium |
| Housing colour | White, similar to RAL 9010 |
| Weight | 0.43 kg |
| Type of mounting | Ceiling recessing, ceiling surface-mounting |
| Terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 20 mA |
| Power consumption mains operation (apparent power/effective power) | 8.0 VA / 3.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | HighPower LEDs 1 x 2.2 W |

Ordering details

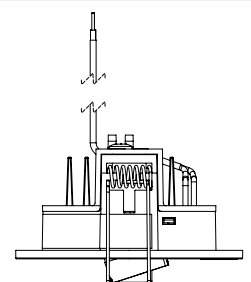
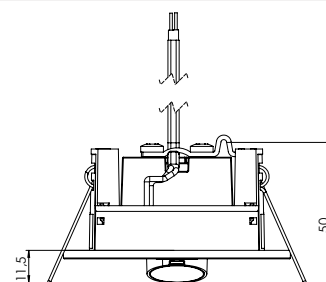
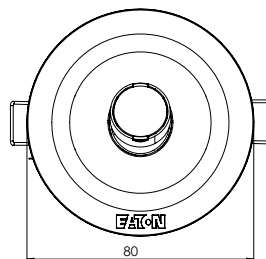
| Type | Scope of supply | Order No. |
|--------------------------|--|-------------|
| GuideLed SL 13051.1 CG-S | GuideLed SL 13051.1 CG-S, recessed mounting with 40071354477 asymmetric optics for illuminance of 5 lx vertically, incl. LED supply and CG-S Technology (20 addresses) | |
| GuideLed SL 13052.1 CG-S | GuideLed SL 13052.1 CG-S, surface mounting with 40071354478 asymmetric optics for illuminance of 5 lx vertically, incl. LED supply and CG-S Technology (20 addresses) | |
| Square bezel | Square bezel GuideLed SL | 40071654488 |

GuideLed SL 13052.1 CG-S

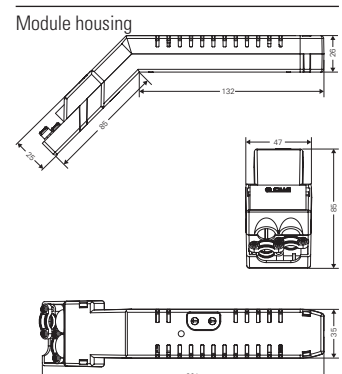
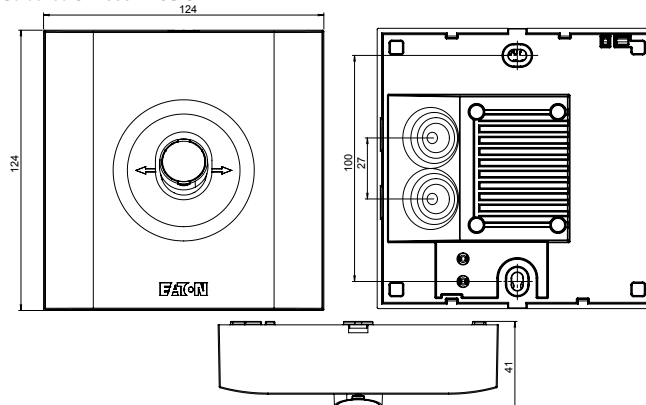


Light distribution curve
GuideLed SL 13051.1, 13052.1

GuideLed SL 13051.1 CG-S



GuideLed SL 13052.1 CG-S



*1 GuideLed SL 13052.1 CG-S

*2 GuideLed SL 13051.1 CG-S

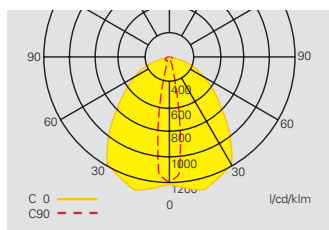
*3 GuideLed SL 13051.1 CG-S:
Degree of protection of the luminaire: IP41
Degree of protection of the module housing: IP20

GuideLed SL 13091.1 CG-S

Safety Luminaires for Escape Route Lighting



GuideLed SL 13091.1 CG-S



Light distribution curve
GuideLed SL 13091.1 CG-S

Square bezel for
GuideLed SL 130x1.1 CG-S



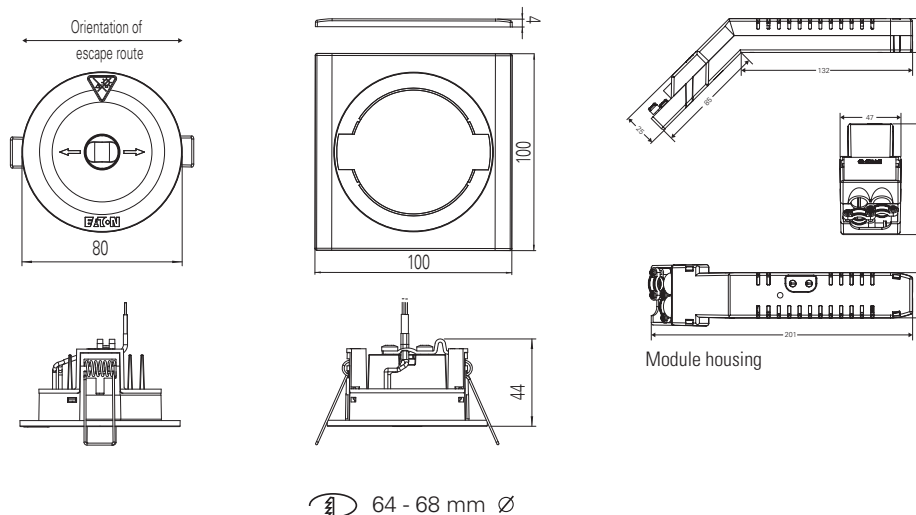
GuideLed SL 13091.1 CG-S

- Safety luminaire with LED technology for recessed mounting
- Unobtrusive, discrete appearance with round design and low installation depth of only 40 mm
- Conversion to square design with optional bezel to fit to the ceiling plan if necessary
- Special LED optics ensure especially efficient escape route illumination of 1 lx for mounting heights of up to 15 m or for applications with increased illuminance requirements e.g. according to NFPA 101 with 10.8 lx
- Suitable for illumination of 5 lx vertically for 'points of emphasis' acc. EN 1838
- Minimum service requirement due to high service life of the LEDs (50,000 hours)

| | |
|---|--|
| Luminous flux Φ_N | 250 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | PC, Aluminium |
| Housing colour | White RAL 9016 |
| Weight | 0.25 kg |
| Type of mounting | Recessed mounting |
| Terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 20 mA |
| Power consumption mains operation (apparent power / effective power) | 8.0 VA / 3.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20°C bis +40°C |
| Light source | HighPower LED 1 x 2 W |

Ordering details

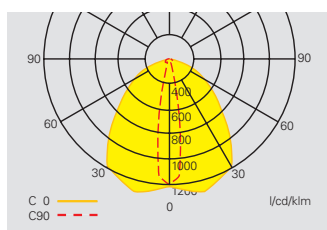
| Type | Scope of supply | Order No. |
|--------------------------|--|-------------|
| GuideLed SL 13091.1 CG-S | GuideLed SL 13091.1 CG-S, recessed mounting with 40071354484 asymmetric optics for escape route illumination of 1 lx for mounting heights up to 15 m and increased illuminance requirements e.g. acc. to NFPA 101 with 10.8 lx. Incl. LED supply and CG-S technology (20 addresses) in housing* with strain relief | |
| Square bezel | Square bezel GuideLed SL 130x1.1 CG-S | 40071354488 |
| Plastic enclosure | Plastic enclosure for installation in concrete (suitable from 160 mm ceiling depth), for GuideLed SL 130x1.1 CG-S | 40071353169 |



* Degree of protection of the luminaire: IP41
Degree of protection of the module enclosure: IP20



GuideLed SL 13092.1 CG-S



Light distribution curve
GuideLed SL GuideLed SL 13092.1

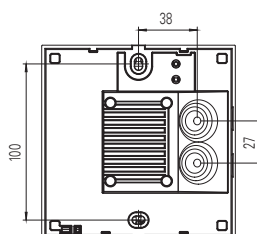
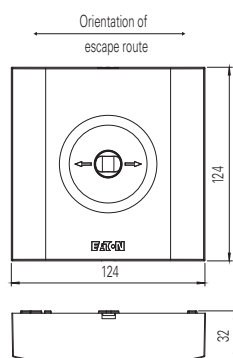
GuideLed SL 13092.1 CG-S

- Safety luminaire with LED technology for surface mounting
- Slender, discrete design with low height of 32 mm
- Special LED optics ensure especially efficient escape route illumination of 1 lx for mounting heights of up to 15 m or for applications with increased illuminance requirements e.g. acc. NFPA 101 with 10.8 lx
- Suitable for illumination of 5 lx vertically for 'points of emphasis' acc. EN 1838
- Minimum service requirement due to high service life of the LEDs (50,000 hours)

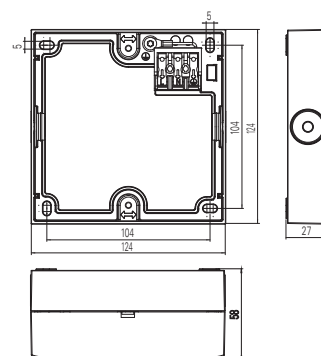
| | |
|---|--|
| Luminous flux Φ_N | 250 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | PC, Aluminium |
| Housing colour | White RAL 9016 |
| Weight | 0.33 kg |
| Type of mounting | Surface mounting |
| Terminals | 2 x 3 x 2,5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 20 mA |
| Power consumption mains operation (apparent power / effective power) | 8.0 VA / 3.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20°C bis +40°C |
| Light source | HighPower LED 1 x 2 W |

Ordering details

| Type | Scope of supply | Order-No. |
|--|---|-------------|
| GuideLed SL 13092.1 CG-S | GuideLed SL 13092.1 CG-S, surface mounting with asymmetric optics for escape route illumination of 1 lx for mounting heights up to 15 m and increased illuminance requirements e.g. acc. to NFPA 101 with 10.8 lx, incl. LED supply and CG-S technology (20 addresses) in housing* with strain relief | 40071354485 |
| Additional enclosure for GuideLed SL 130x2.1 | Additional enclosure for GuideLed SL 130x2.1, for more space for wiring and cable entry, including thorough-wiring terminal and connection cable to luminaire | 40071354489 |



Additional enclosure







Safety Luminaires for Escape Route Lighting



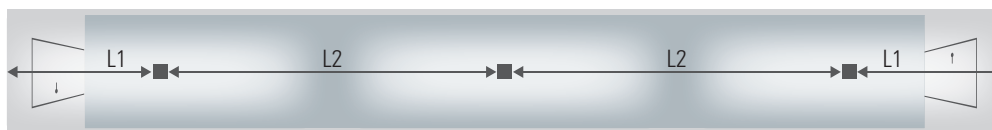
Escape route illumination with asymmetric optics



Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1  | L2  | L3  | L4  |
|------------------------|---------------------|--|--|---|--|
| 3.0 | Ceiling mounting | 1.1 (2.7) | 5.4 (8.1) | 5.3 (6.4) | 12.9 (15.2) |
| 4.0 | Escape route centre | 1.3 (1.6) | 3.2 (7.9) | 5.9 (7.3) | 14.6 (17.7) |
| 5.0 | | 1.4 (1.7) | 3.4 (6.5) | 6.4 (8.0) | 15.9 (19.6) |
| 6.0 | | 1.6 (1.9) | 3.8 (4.3) | 6.8 (8.5) | 17.1 (21.1) |
| 7.0 | | 1.7 (2.0) | 4.1 (4.8) | 7.0 (9.0) | 18.1 (22.5) |
| 8.0 | | 1.8 (2.1) | 4.2 (5.2) | 7.3 (9.4) | 18.9 (23.6) |
| 9.0 | | 1.9 (2.3) | 4.6 (5.5) | 7.4 (9.7) | 19.5 (24.7) |
| 10.0 | | 1.9 (2.4) | 4.9 (5.7) | 7.5 (10.0) | 19.9 (25.7) |
| 11.0 | | 1.8 (2.5) | 5.1 (5.9) | 7.4 (10.2) | 20.5 (26.5) |
| 12.0 | | 1.8 (2.6) | 5.2 (6.2) | 7.2 (10.4) | 20.8 (27.1) |
| 13.0 | | 1.7 (2.6) | 5.3 (6.6) | 6.7 (10.5) | 21.0 (27.7) |
| 14.0 | | 1.5 (2.6) | 5.3 (6.8) | 5.7 (10.5) | 21.1 (28.1) |
| 15.0 | | 1.2 (2.6) | 5.2 (7.1) | 4.6 (10.5) | 21.0 (28.7) |

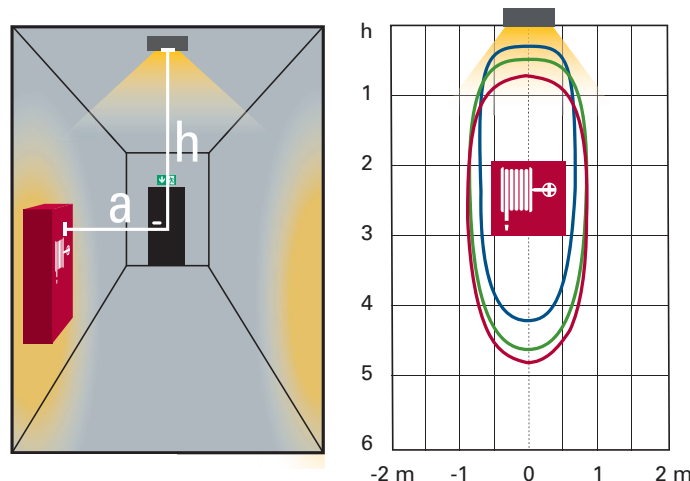
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

Escape route width 2 m, reflectance ceiling/wall/floor: 70 % / 50 % / 20 %, ceiling height = mounting height




| Mounting height [m] | Type of mounting | L1  | L2  | E _m | E _{min} | E _{max} |
|------------------------|------------------|--|--|----------------|------------------|------------------|
| 3.0 | Ceiling mounting | 3.2 | 8.2 | 11.0 | 2.9 | 30 |
| 4.0 | | 2.7 | 7.2 | 11.0 | 4.9 | 18 |
| 5.0 | | 1 | 6.1 | 10.9 | 5.5 | 13 |

Maintenance factor MF = 80 %, battery operation



Area in which a minimum illuminance of 5 lx (maintenance factor 0.8) is achieved, depending on distance a and the rated operating time:

- $a = 1.0 \text{ m}$
- $a = 1.5 \text{ m}$
- $a = 2.0 \text{ m}$ 

Micropoint 2 CG-S

Safety Luminaires for Escape Route Lighting



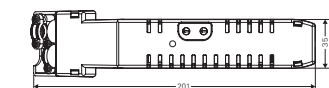
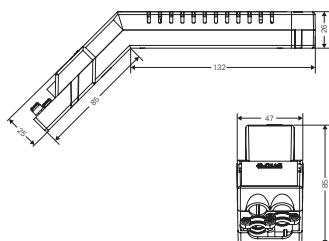
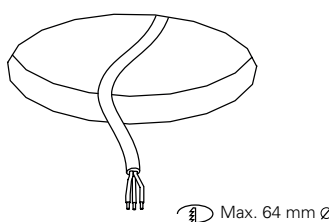
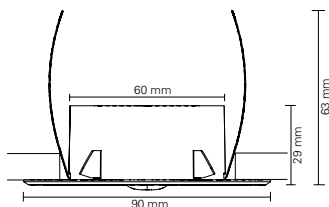
Micropoint 2 E CG-S recessed installation with asymmetric optics



Micropoint 2 O CG-S recessed installation with symmetric optics



Dimensions in mm



Deckeneinbaugehäuse

Micropoint 2 CG-S

- Safety luminaire in LED technology for recessed mounting
- High spacing by special optics and highly efficient HighPower LED
- Up to 20 m from luminaire to luminaire with optics for escape route illumination
- Up to 10 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LED (50 000 hours)

| | |
|--|--|
| Luminous flux | 142 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% |
| Housing material | Polycarbonate |
| Housing colour | White RAL 9016 |
| Weight | 0.24 kg |
| Type of mounting | Recessed mounting |
| Connection terminals | 3 x 2 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 13 mA |
| Power consumption mains operation (apparent power / effective power) | 6.1 VA / 2.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -15°C to +40°C |
| Light source | HighPower LED 1 x 1.6 W |

Ordering details

| Type | Scope of supply | Order No. |
|---|--|-------------|
| Micropoint 2 E CG-S | Recessed mounting with asymmetric optics for escape route illumination, LED supply and CG-S technology (20 addresses) in housing with strain relief | 40071352191 |
| Micropoint 2 O CG-S | Recessed mounting with symmetric optics for anti-panic / open area illumination, LED supply and CG-S technology (20 addresses) in housing with strain relief | 40071352192 |
| Plastic enclosure for installation in concrete for GuideLed SL 130x1.1 CG-S | suitable from 160 mm ceiling depth | 40071353169 |

* Degree of protection of the luminaire: IP44
Degree of protection of the module housing: IP20



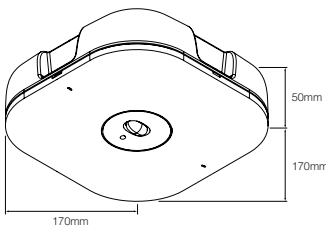
Micropoint 2 CG-S Surface

- First fix base for ease of installation
- Safety luminaire in LED technology for recessed mounting
- High spacing by special optics and highly efficient HighPower LED
- Up to 20 m from luminaire to luminaire with optics for escape route illumination
- Up to 10 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LED (50 000 hours)
- 20 mm conduit entry on all four sides
- BESA box entry on base

Micropoint 2 CG-S Surface



Dimensions in mm



| | |
|--|--|
| Luminous flux | 142 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% |
| Housing material | Polycarbonate |
| Housing color | White RAL 9016 |
| Weight | 0.25 kg |
| Type of mounting | Surface mounting |
| Connection terminals | 2 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 13 mA |
| Power consumption mains operation (apparent power / effective power) | 6.1 VA / 2.9 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -15 °C to +40 °C |
| Light source | HighPower LED 1 x 1.6 W |

7

Ordering details

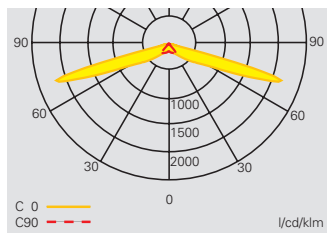
| Type | Scope of supply | Order No. |
|----------------------|---|--------------|
| Micropoint 2 SO CG-S | Surface mounting with symmetric optics for anti-panic / open area illumination, LED supply and CG-S technology (20 addresses) in housing with strain relief | MP2SOS230CGS |
| Micropoint 2 SE CG-S | Surface mounting with asymmetric optics for escape route illumination, LED supply and CG-S technology (20 addresses) in housing with strain relief | MP2SES230CGS |

Micropoint 2 CG-S

Safety Luminaires for Escape Route Lighting

Engineering help for Micropoint 2 E CG-S – Asymmetric optics for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

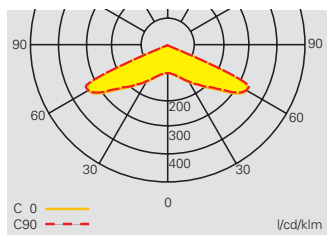


Light distribution curve
Micropoint 2 E CG-S
with asymmetric optics

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-----------|------------|-------------|
| 2.5 | Ceiling mounting | 2.2 (2.4) | 4.8 (4.9) | 7.7 (8.8) | 17.6 (18.7) |
| 3.0 | Escape route centre | 2.5 (2.8) | 5.6 (5.8) | 7.9 (10.1) | 19.8 (21.8) |
| 3.5 | | 2.6 (3.2) | 6.3 (6.7) | 5.0 (11.1) | 19.3 (24.8) |
| 2.5 | Ceiling mounting | 1.5 (1.8) | 3.8 (4.2) | 7.0 (8.3) | 16.3 (17.7) |
| 3.0 | Room illumination | 1.2 (2.0) | 4.2 (4.9) | 6.3 (9.0) | 18.6 (20.4) |
| 3.5 | | 1.4 (2.0) | 4.6 (5.4) | 5.1 (9.6) | 18.4 (22.8) |
| 4.0 | | 1.9 (1.8) | 5.7 (5.8) | 0.5 (10.0) | 16.1 (25.2) |

Engineering help for Micropoint 2 O CG-S – Symmetric optics for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m



Light distribution curve
Micropoint 2 O CG-S
with symmetric optics

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 3.6 (5.1) | 10.0 (11.3) | 3.6 (5.0) | 9.9 (11.2) |
| 3.0 | Escape route centre | 2.8 (5.2) | 10.5 (13) | 2.9 (5.2) | 10.4 (12.8) |
| 3.5 | | - (5.1) | 8.7 (14.1) | - (5.2) | 8.2 (13.9) |
| 4.0 | | - (4.2) | 8.5 (14.7) | - (4.5) | 6.8 (14.7) |
| 2.5 | Ceiling mounting | 3.5 (4.6) | 9.0 (9.6) | 3.5 (4.6) | 8.9 (9.6) |
| 3.0 | Room illumination | 2.6 (5.1) | 10.0 (11.2) | 2.3 (5.1) | 10 (11.1) |
| 3.5 | | 0.9 (4.7) | 9.4 (12.6) | 0.9 (4.9) | 9.5 (12.6) |
| 4.0 | | 0.8 (3.5) | 7.9 (13.7) | 0.8 (3.7) | 7.9 (14.1) |



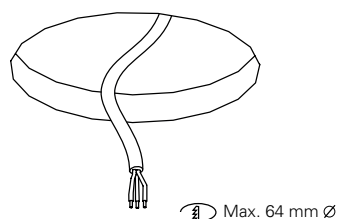
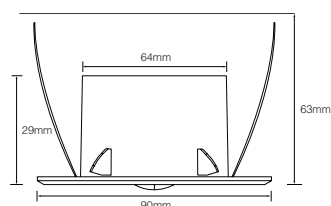
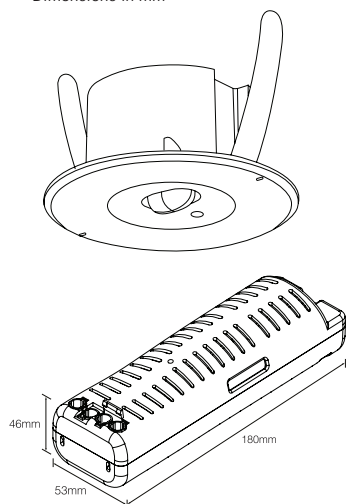
Micropoint 2 Recessed

- Safety luminaire in LED technology for recessed mounting
- High spacing by special optics and highly efficient HighPower LED
- Up to 20 m from luminaire to luminaire with optics for escape route illumination
- Up to 10 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LED (50 000 hours)

Micropoint 2 Recessed



Dimensions in mm



| | |
|--|-----------------------------|
| Luminous flux | 142 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% |
| Housing material | Polycarbonate |
| Housing colour | White RAL 9016 |
| Weight | 0.25 kg |
| Type of mounting | Recessed mounting |
| Connection terminals | 3 x 2 x 2.5 mm ² |
| Connection voltage | 230V, 50Hz |
| Power consumption mains operation (apparent power / effective power) | 4.5 VA / 3.2 W |
| Permissible ambient temperature | 0°C to +40°C |
| Light source | HighPower LED 1 x 1.6 W |

Ordering details

| Type | Scope of supply | Order No. |
|-----------------------|--|------------|
| Micropoint 2 O | Recessed mounting with symmetric optics for anti-panic / open area illumination, LED supply un-monitored in housing with strain relief | MP2OS230 |
| Micropoint 2 E | Recessed mounting with asymmetric optics for escape route illumination, LED supply un-monitored in housing with strain relief | MP2ES230 |
| Micropoint 2 O EC 1.5 | Recessed mounting with symmetric optics for anti-panic / open illumination, LED supply and EasiCheck 1.5 in housing with strain relief | MP2OS230EC |
| Micropoint 2 E EC 1.5 | Recessed mounting with asymmetric optics for escape route illumination, LED supply and EasiCheck 1.5 in housing with strain relief | MP2ES230EC |

* Degree of protection of the luminaire: IP44
Degree of protection of the module housing: IP20

Micropoint 2 / Micropoint 2 EC 1.5 Surface

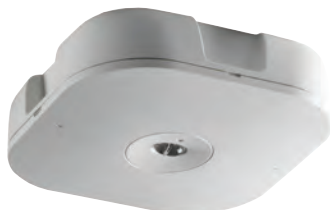
Safety Luminaires for Escape Route Lighting



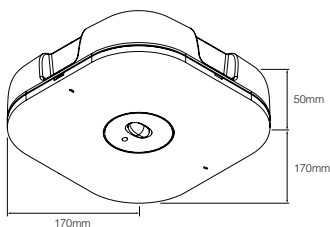
Micropoint 2

- First fix base for ease of installation
- Safety luminaire in LED technology for recessed mounting
- High spacing by special optics and highly efficient HighPower LED
- Up to 20 m from luminaire to luminaire with optics for escape route illumination
- Up to 10 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LED (50 000 hours)
- 20 mm conduit entry on all four sides
- BESA box entry on base

Micropoint 2 Surface



Dimensions in mm



| | |
|--|-------------------------|
| Luminous flux | 142 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% |
| Housing material | Polycarbonate |
| Housing color | White RAL 9016 |
| Weight | 0.25 kg |
| Type of mounting | Surface mounting |
| Connection terminals | 2 x 2.5 mm ² |
| Connection voltage | 230V, 50Hz |
| Current consumption - battery operation (220 V) | 13 mA |
| Power consumption mains operation (apparent power / effective power) | 4.5 VA / 3.2 W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | HighPower LED 1 x 1.6 W |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|--|-------------|
| Micropoint 2 SO | Surface mounting with symmetric optics for anti-panic / open area illumination, LED supply un-monitored 230VAC | MP2SOS230 |
| Micropoint 2 SE | Surface mounting with asymmetric optics for escape route illumination, LED supply un-monitored 230VAC | MP2SES230 |
| Micropoint 2 SO EC 1.5 | Surface mounting with symmetric optics for anti-panic / open area illumination, LED supply EasiCheck 1.5 | MP2SOS230EC |
| Micropoint 2 SE EC 1.5 | Surface mounting with asymmetric optics for escape route illumination, LED supply EasiCheck 1.5 | MP2SES230EC |

Micropoint 2 CG-S High Output

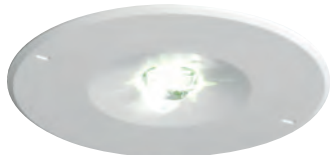
Safety Luminaires for Escape Route Lighting



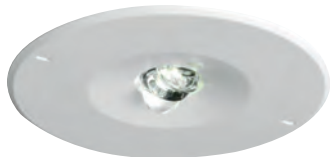
Micropoint 2 CG-S High Output

- Versatile multi-functional use (high ceiling, NFPA 101 escape route and specific locations as stated within BS 5266-1:2011)
- Low power consumption reducing cost of ownership
- Excellent spacing reducing the quantity of fittings required
- 50,000 hour life LED for reduced maintenance

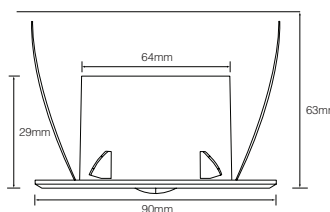
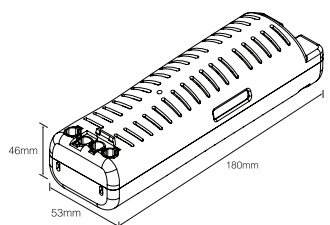
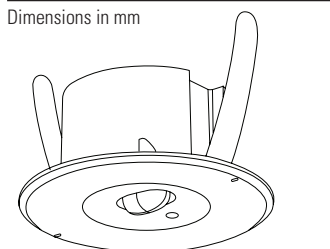
Micropoint 2 High Output



Micropoint 2 High Output



Dimensions in mm



| | |
|--|--|
| Luminous flux | 290 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% |
| Housing material | Polycarbonate |
| Housing color | White RAL 9016 |
| Weight | 0.24 kg |
| Type of mounting | Recessed mounting |
| Connection terminals | 2 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power / effective power) | 7.6 VA / 4.4 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -15 °C to +40 °C |
| Light source | 1 x High power LED |

Ordering details

| Type | Scope of supply | Order No. |
|----------------------------------|---|-------------|
| Micropoint 2 High Output CG-S | Recessed mounting with high output for escape route illumination, LED supply and CG-S technology (20 addresses) | MP2HI230CGS |

Photometric Data

| Mode | Mounting height (m) | Lux level directly under | Escape route 2m wide 1 Lux min | |
|-------|---------------------|--------------------------|-----------------------------------|------|
| | | | ↔ | ↔ |
| Slave | 15.5 | 1 | 4.1 | 22.7 |
| | 14.0 | 1.3 | 6.4 | 22.7 |
| | 12.0 | 1.7 | 7.9 | 22.1 |
| | 10.0 | 2.5 | 8.0 | 21.0 |
| | 8.0 | 4.4 | 7.7 | 19.7 |
| | 6.0 | 7.0 | 7.0 | 18.0 |

Micropoint 2 High Output / Micropoint 2 High Output EC 1.5

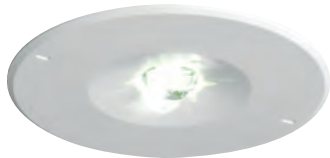
Safety Luminaires for Escape Route Lighting



Micropoint 2 High Output / Micropoint 2 High Output EC 1.5

- Versatile multi-functional use (high ceiling, NFPA 101 escape route and specific locations as stated within BS 5266-1:2011)
- Low power consumption reducing cost of ownership
- Excellent spacing reducing the quantity of fittings required
- 50,000 hour life LED for reduced maintenance

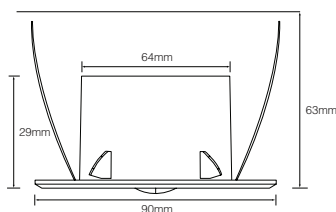
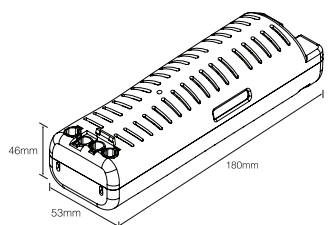
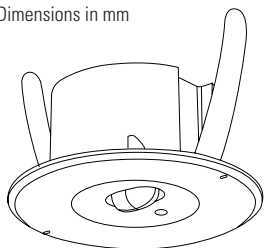
Micropoint 2 High Output



Micropoint 2 High Output



Dimensions in mm



| | |
|--|-------------------------|
| Luminous flux | 290 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% |
| Housing material | Polycarbonate |
| Housing color | White RAL 9016 |
| Weight | 0.24 kg |
| Type of mounting | Recessed mounting |
| Connection terminals | 2 x 2.5 mm ² |
| Connection voltage | 230 V, 50Hz |
| Power consumption mains operation (apparent power / effective power) | 7.6 VA / 4.4 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 1 x High power LED |

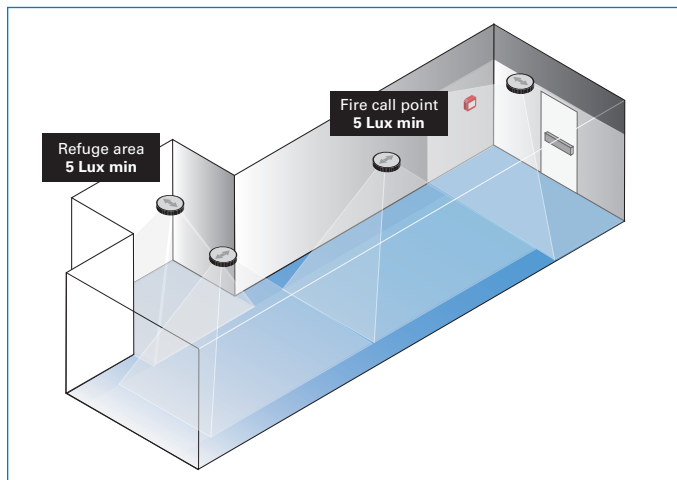
Ordering details

| Type | Scope of supply | Order No. |
|---------------------------------|--|------------|
| Micropoint 2 High Output | Recessed mounting with high output for escape route illumination, LED supply un-monitored 230VAC | MP2HI230 |
| Micropoint 2 High Output EC 1.5 | Recessed mounting with high output for escape route illumination, LED supply and EasiCheck 1.5 | MP2HI230EC |

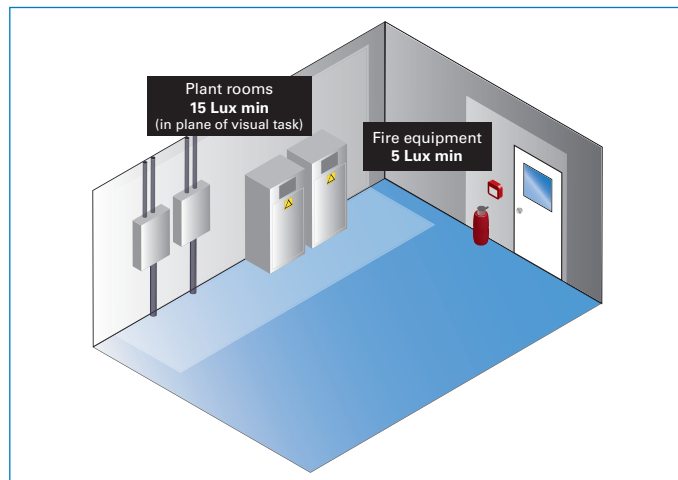
Photometric Data

| Mode | Mounting height (m) | Lux level directly under | Escape route 2m wide 1 Lux min | |
|-------|---------------------|--------------------------|-----------------------------------|------|
| | | | ↔ | ↔ |
| Slave | 15.5 | 1 | 4.1 | 22.7 |
| | 14.0 | 1.3 | 6.4 | 22.7 |
| | 12.0 | 1.7 | 7.9 | 22.1 |
| | 10.0 | 2.5 | 8.0 | 21.0 |
| | 8.0 | 4.4 | 7.7 | 19.7 |
| | 6.0 | 7.0 | 7.0 | 18.0 |

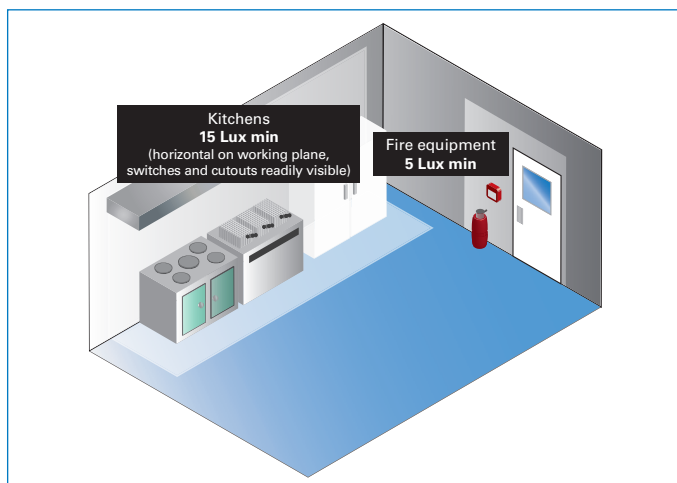
Corridor and refuge area



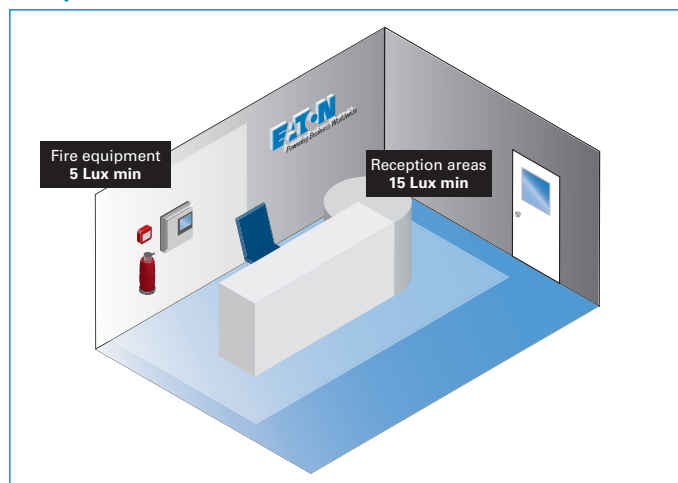
Plant room



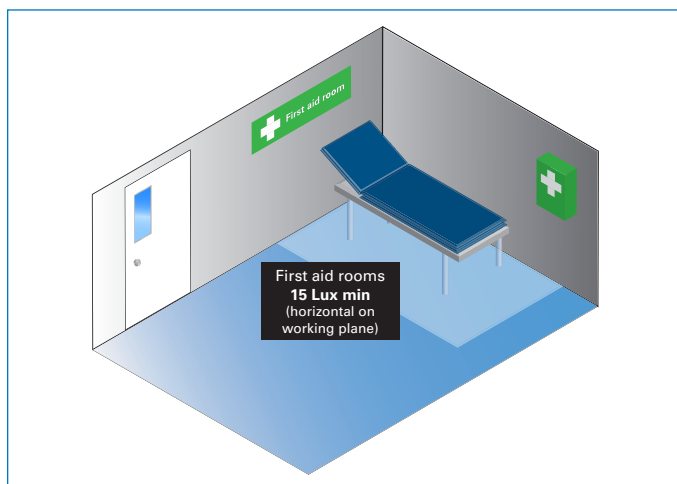
Kitchen



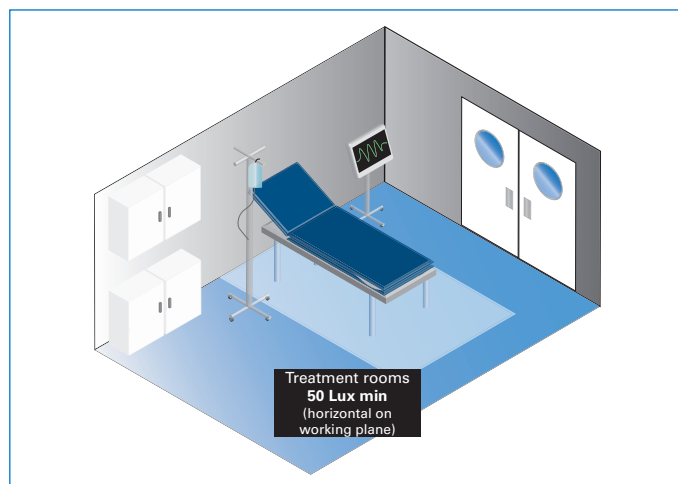
Reception areas (UK)



First aid rooms (UK)



Treatment rooms (UK)



3503.1 ... 3604.1 LED CG-S

Safety Luminaires for Escape Route Lighting



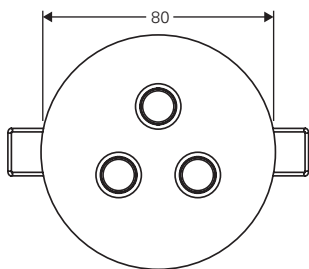
3503.1 LED CG-S stainless steel



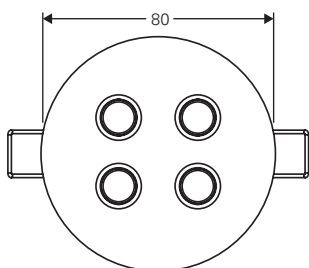
3503.1 LED CG-S white



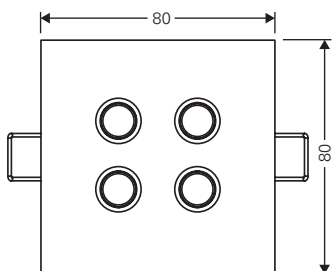
Dimensions in mm



3503.1 LED CG-S



3504.1 LED CG-S



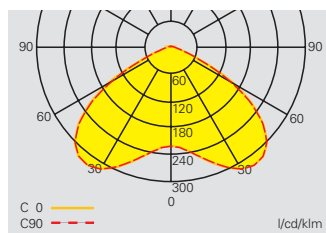
3503.1 ... 3604.1 LED CG-S

- Safety luminaire with LED technology for recessed mounting with round or quadratic bezel
- Typical ceiling cut-out diameter of 68 mm and low profile of only 30 mm
- Compact housing for LED supply (required height for entering the ceiling only 100 mm) including through-wiring clamp and strain relief
- Wide light point spacing due to wide light distribution optics and high power LEDs
- Up to 14 m from luminaire to luminaire for escape route illumination and wide area illumination
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)

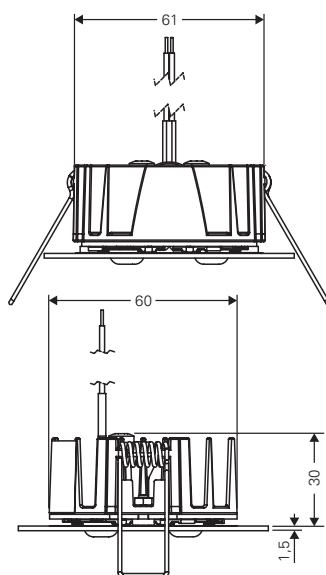
| | | |
|--|--|--|
| Luminous flux | 3503.1: 260 lm 3x04.1: 315 lm | |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% | |
| Housing material | Bezel | Stainless steel brushed / sheet steel, white (sim. RAL 9010) |
| | Module | Polycarbonate |
| Weight | Luminaire | 0.13 kg |
| | Module | 0.12 kg (incl. enclosure) |
| Type of mounting | Recessed ceiling mounting | |
| Connection terminals | Loop terminals 3 x 2.5 mm ² | |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 V – 275 V DC | |
| Current consumption - battery operation (220 V) | 3503.1: 19 mA 3x04.1: 25 mA | |
| Power consumption mains operation (apparent power / effective power) | 3503.1: 7.6 VA / 4.4 W 3x04.1: 9.5 VA / 5.8 W | |
| Inrush current | 1.5 A | |
| Permissible ambient temperature | -10 °C to +40 °C | |
| Light source | 3503.1: HighPower LEDs 3 x 1.1 W 3x04.1: HighPower LEDs 4 x 1.1 W | |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|--|-------------|
| 3503.1 stainless steel | Round LED recessed luminaire with wide beam optics, 3 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel stainless steel brushed | 40071352900 |
| 3503.1 white | Round LED recessed luminaire with wide beam optics, 3 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel white | 40071352901 |
| 3504.1 stainless steel | Round LED recessed luminaire with wide beam optics, 4 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel stainless steel brushed | 40071352904 |
| 3504.1 white | Round LED recessed luminaire with wide beam optics, 4 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel white | 40071352905 |
| 3604.1 stainless steel | Quadratic LED recessed luminaire with wide beam optics, 4 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel stainless steel brushed | 40071352908 |
| 3604.1 white | Quadratic LED recessed luminaire with wide beam optics, 4 x HighPowerLED, incl. LED supply and CG-S technology (20 addresses) in housing with strain relief, bezel white | 40071352909 |
| | Plastic enclosure for installation in concrete (suitable from 160 mm ceiling depth), for GuideLed SL 130x1.1 CG-S | 40071353169 |



Dimensions in mm



Ceiling cut out: D = 68 mm
Slab thickness 1-20 mm

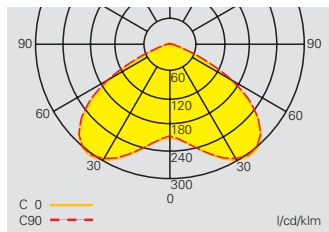
Planning help for 3503.1 LED CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Montagehöhe in Meter | Montagearten | L1 | L2 | L3 | L4 |
|-------------------------|---------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.3 (4.9) | 9.7 (10.9) | 4.3 (4.9) | 9.9 (11.0) |
| 3.0 | Escape route centre | 4.7 (5.5) | 10.9 (12.3) | 4.8 (5.6) | 11.1 (12.5) |
| 3.5 | | 5.1 (6.0) | 12.0 (13.7) | 5.1 (6.1) | 12.2 (13.9) |
| 4.0 | | 5.4 (6.5) | 12.9 (14.9) | 5.4 (6.6) | 13.1 (15.1) |
| 4.5 | | 5.6 (6.9) | 13.8 (16.1) | 5.7 (7.0) | 13.9 (16.3) |
| 5.0 | | 5.8 (7.3) | 14.5 (17.1) | 5.8 (7.3) | 14.6 (17.4) |
| 5.5 | | 5.9 (7.6) | 15.1 (18.0) | 5.9 (7.6) | 15.2 (18.3) |
| 6.0 | | 5.9 (7.8) | 15.6 (18.9) | 6.0 (7.8) | 15.7 (19.1) |
| 6.5 | | 5.9 (8.0) | 16.0 (19.7) | 5.9 (8.1) | 16.1 (19.9) |
| 7.0 | | 5.7 (8.2) | 16.4 (20.4) | 5.8 (8.2) | 16.4 (20.6) |
| 7.5 | | 5.5 (8.3) | 16.5 (21.1) | 5.5 (8.3) | 16.6 (21.2) |
| 8.0 | | 5.0 (8.3) | 16.7 (21.6) | 5.0 (8.4) | 16.8 (21.7) |
| 8.5 | | 4.1 (8.4) | 16.7 (22.1) | 4.2 (8.4) | 16.8 (22.2) |
| 9.0 | | - (8.3) | 16.6 (22.5) | - (8.3) | 14.9 (22.6) |
| 9.5 | | - (8.2) | 14.9 (22.9) | - (8.2) | 12.7 (23.0) |
| 10.0 | | - (8.0) | 13.5 (23.2) | - (8.1) | 11.3 (23.3) |
| 2.5 | Ceiling mounting | 3.5 (3.8) | 7.7 (8.6) | 3.4 (3.8) | 7.6 (8.6) |
| 3.0 | Escape route centre | 3.8 (4.3) | 8.7 (9.8) | 3.8 (4.2) | 8.7 (9.7) |
| 3.5 | | 4.1 (4.8) | 9.7 (10.8) | 4.0 (4.7) | 9.6 (10.7) |
| 4.0 | | 4.3 (5.1) | 10.6 (11.8) | 4.2 (5.0) | 10.5 (11.8) |
| 4.5 | | 4.5 (5.4) | 11.4 (12.8) | 4.3 (5.3) | 11.3 (12.8) |
| 5.0 | | 4.5 (5.7) | 12.1 (13.8) | 4.5 (5.5) | 12.1 (13.7) |
| 5.5 | | 4.7 (5.8) | 12.8 (14.7) | 4.5 (5.7) | 12.7 (14.6) |
| 6.0 | | 4.7 (6.0) | 13.4 (15.5) | 4.5 (5.9) | 13.3 (15.5) |
| 6.5 | | 4.6 (5.8) | 13.9 (15.9) | 4.5 (6.3) | 13.9 (16.7) |
| 7.0 | | 4.5 (6.2) | 14.5 (17.0) | 4.3 (6.1) | 14.4 (17.0) |
| 7.5 | | 4.3 (6.3) | 14.9 (17.7) | 4.2 (6.2) | 14.9 (17.7) |
| 8.0 | | 4.1 (6.4) | 15.2 (18.3) | 4.1 (6.2) | 15.3 (18.3) |
| 8.5 | | 3.8 (6.3) | 15.6 (18.9) | 3.7 (6.2) | 15.6 (18.9) |
| 9.0 | | 3.2 (6.3) | 15.8 (19.5) | 3.4 (6.1) | 16.1 (19.5) |
| 9.5 | | 0.8 (6.2) | 17.8 (20.0) | 0.5 (6.1) | 14.0 (20.0) |
| 10.0 | | 0.5 (6.1) | 12.3 (20.6) | 1.0 (5.9) | 18.6 (20.5) |

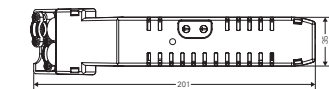
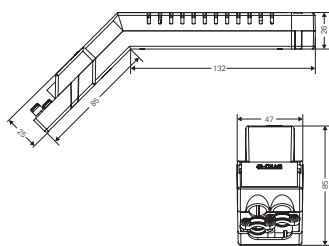
3503.1 ... 3604.1 LED CG-S

Safety Luminaires for Escape Route Lighting



7




Dimensions in mm



Module housing

Planning help for 3504.1/3604.1 LED CG-S for E = 1.0 lx (0.5 lx)

Measuring level 0.02 m. maintenance factor MF = 80 %. battery operation. distances in m

| Montagehöhe in Meter | Montagearten | L1  | L2  | L3  | L4 |
|-------------------------|-------------------|--|---|--|-------------|
| 2.5 | Ceiling mounting | 4.6 (5.3) | 10.6 (12.0) | 4.6 (5.3) | 10.6 (11.9) |
| 3.0 | Room illumination | 5.1 (5.9) | 11.9 (13.5) | 5.1 (5.9) | 11.9 (13.5) |
| 3.5 | | 5.5 (6.5) | 13.0 (14.9) | 5.6 (6.5) | 13.0 (14.9) |
| 4.0 | | 5.9 (7.0) | 14.1 (16.2) | 5.9 (7.0) | 14.1 (16.2) |
| 4.5 | | 6.1 (7.5) | 14.9 (17.4) | 6.2 (7.5) | 15.0 (17.4) |
| 5.0 | | 6.4 (7.9) | 15.7 (18.6) | 6.4 (7.9) | 15.8 (18.6) |
| 5.5 | | 6.5 (8.2) | 16.4 (19.6) | 6.6 (8.2) | 16.5 (19.6) |
| 6.0 | | 6.6 (8.5) | 17.0 (20.5) | 6.6 (8.6) | 17.1 (20.6) |
| 6.5 | | 6.6 (8.8) | 17.5 (21.4) | 6.7 (8.8) | 17.6 (21.4) |
| 7.0 | | 6.6 (9.0) | 17.9 (22.1) | 6.7 (9.0) | 18.0 (22.2) |
| 7.5 | | 6.5 (9.1) | 18.3 (22.8) | 6.6 (9.2) | 18.4 (22.9) |
| 8.0 | | 6.3 (9.3) | 18.5 (23.5) | 6.4 (9.3) | 18.6 (23.6) |
| 8.5 | | 6.0 (9.3) | 18.7 (24.1) | 6.1 (9.4) | 18.8 (24.2) |
| 9.0 | | 5.5 (9.4) | 18.8 (24.6) | 5.6 (9.4) | 18.9 (24.7) |
| 9.5 | | - (9.4) | 18.8 (25.0) | - (9.5) | 18.9 (25.1) |
| 10.0 | | - (9.3) | 18.6 (25.4) | - (9.4) | 16.7 (25.5) |
| 2.5 | Ceiling mounting | 3.7 (4.2) | 8.5 (9.4) | 3.6 (4.2) | 8.4 (9.4) |
| 3.0 | Room illumination | 4.0 (4.6) | 9.6 (10.7) | 4.0 (4.6) | 9.5 (10.7) |
| 3.5 | | 4.3 (4.9) | 10.5 (11.9) | 4.4 (5.0) | 10.5 (11.9) |
| 4.0 | | 4.6 (5.3) | 11.5 (13.0) | 4.6 (5.3) | 11.4 (13.0) |
| 4.5 | | 4.8 (5.7) | 12.4 (14.1) | 4.7 (5.6) | 12.3 (14.0) |
| 5.0 | | 4.9 (6.0) | 13.2 (15.0) | 4.8 (6.0) | 13.1 (15.0) |
| 5.5 | | 4.9 (6.2) | 13.9 (16.0) | 4.9 (6.2) | 13.9 (15.9) |
| 6.0 | | 5.0 (6.4) | 14.6 (16.9) | 4.9 (6.4) | 14.5 (16.8) |
| 6.5 | | 5.0 (6.5) | 15.2 (17.7) | 4.9 (6.5) | 15.1 (17.7) |
| 7.0 | | 4.9 (6.6) | 15.7 (18.5) | 4.9 (6.6) | 15.7 (18.5) |
| 7.5 | | 4.8 (6.7) | 16.2 (19.3) | 4.8 (6.7) | 16.2 (19.2) |
| 8.0 | | 4.7 (6.8) | 16.7 (20.0) | 4.6 (6.8) | 16.6 (19.9) |
| 8.5 | | 4.5 (6.8) | 17.1 (20.7) | 4.4 (6.8) | 17.0 (20.6) |
| 9.0 | | 4.2 (6.8) | 17.4 (21.3) | 4.2 (6.8) | 17.4 (21.2) |
| 9.5 | | 4.0 (6.7) | 17.7 (21.8) | 3.9 (6.8) | 17.7 (21.8) |
| 10.0 | | 3.7 (6.7) | 18.0 (22.3) | 3.5 (6.7) | 17.9 (22.3) |

3514 LED CG-S

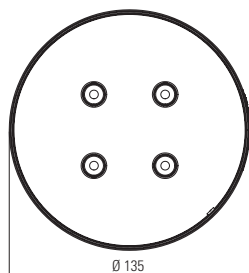
Safety Luminaires for Escape Route Lighting



3514 LED CG-S



Dimensions in mm



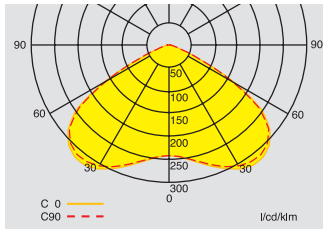
3514 LED CG-S

- Safety luminaire with LED technology for surface mounting with round enclosure
- A screw-less design and special snapping mechanism allows the Luminaire to be opened and closed easily and safely
- Unobtrusive appearance with 135 mm diameter and low profile of only 38 mm
- Up to 18 m from luminaire to luminaire for escape route and wide area illumination
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Luminous flux Φ_N | 512 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | Bezel: Sheet steel |
| Housing colour | White sim. RAL 9016 |
| Weight | 0.45 kg |
| Type of mounting | Surface ceiling mounting |
| Connection terminals | Loop terminals 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption with battery operating | 25 mA |
| Power consumption mains operation (apparent power / effective power) | 9.5 VA / 5.8 W |
| Inrush current | 1.5 A |
| Permissible temperature range | -10 °C to +40 °C |
| Light source | HighPower LEDs 4 x 1 W |

Ordering details

| Type | Scope of supply | Order No |
|---------------|--|-------------|
| 3514 LED CG-S | Round LED surface ceiling-mounted luminaire with 4 x HighPower LEDs, including LED Supply and CG-S technology (20 addresses) in enclosure with stainless steel bezel | 40071350381 |



Light distribution curve 3514 LED CG-S

Engineering help for 3514 LED CG-S for E = 1.0 Lx (0.5 lx)

Measuring level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.6 (5.3) | 10.6 (12.1) | 4.6 (5.3) | 10.6 (12.1) |
| 3.0 | Escape route centre | 5.1 (6.0) | 11.9 (13.6) | 5.2 (6.0) | 11.9 (13.6) |
| 3.5 | | 5.5 (6.5) | 13.0 (14.9) | 5.6 (6.5) | 13.0 (14.9) |
| 4.0 | | 5.9 (7.0) | 14.0 (16.2) | 5.9 (7.1) | 14.1 (16.2) |
| 4.5 | | 6.1 (7.5) | 14.9 (17.4) | 6.1 (7.5) | 14.9 (17.4) |
| 5.0 | | 6.3 (7.9) | 15.7 (18.5) | 6.3 (7.9) | 15.7 (18.5) |
| 5.5 | | 6.4 (8.2) | 16.3 (19.5) | 6.5 (8.2) | 16.4 (19.6) |
| 6.0 | | 6.5 (8.5) | 16.9 (20.5) | 6.5 (8.5) | 17.0 (20.5) |
| 6.5 | | 6.5 (8.7) | 17.3 (21.3) | 6.5 (8.7) | 17.4 (21.3) |
| 7.0 | | 6.4 (8.9) | 17.7 (22.0) | 6.5 (8.9) | 17.8 (22.1) |
| 7.5 | | 6.4 (9.0) | 18.0 (22.7) | 6.4 (9.1) | 18.1 (22.8) |
| 8.0 | | 6.2 (9.1) | 18.1 (23.4) | 6.2 (9.1) | 18.2 (23.5) |
| 8.5 | | 5.9 (9.1) | 18.2 (23.9) | 5.9 (9.2) | 18.3 (24.0) |
| 9.0 | | 5.5 (9.2) | 18.3 (24.3) | 5.5 (9.2) | 18.3 (24.4) |
| 9.5 | | 4.9 (9.1) | 18.2 (24.7) | 4.9 (9.2) | 18.3 (24.8) |
| 10.0 | | 3.9 (9.1) | 18.1 (25.1) | 3.9 (9.1) | 18.1 (25.2) |
| 2.5 | Ceiling mounting | 3.6 (4.2) | 8.5 (9.5) | 3.6 (4.2) | 8.5 (9.5) |
| 3.0 | Room illumination | 4.0 (4.5) | 9.6 (10.8) | 3.9 (4.5) | 9.5 (10.8) |
| 3.5 | | 4.3 (4.9) | 10.5 (12.0) | 4.3 (4.8) | 10.5 (11.9) |
| 4.0 | | 4.6 (5.3) | 11.4 (13.1) | 4.6 (5.2) | 11.4 (13.0) |
| 4.5 | | 4.7 (5.7) | 12.3 (14.0) | 4.7 (5.6) | 12.3 (14.0) |
| 5.0 | | 4.8 (5.9) | 13.1 (14.9) | 4.8 (6.0) | 13.1 (15.0) |
| 5.5 | | 4.9 (6.2) | 13.8 (15.9) | 4.9 (6.2) | 13.8 (15.9) |
| 6.0 | | 5.0 (6.4) | 14.5 (16.8) | 4.9 (6.3) | 14.5 (16.8) |
| 6.5 | | 4.9 (6.5) | 15.1 (17.6) | 4.8 (6.5) | 15.1 (17.7) |
| 7.0 | | 4.9 (6.6) | 15.7 (18.4) | 4.7 (6.6) | 15.6 (18.4) |
| 7.5 | | 4.7 (6.8) | 16.2 (19.2) | 4.5 (6.6) | 16.1 (19.1) |
| 8.0 | | 4.5 (6.8) | 16.6 (19.9) | 4.4 (6.7) | 16.6 (19.8) |
| 8.5 | | 4.2 (6.8) | 17.0 (20.6) | 4.1 (6.7) | 17.0 (20.5) |
| 9.0 | | 4.0 (6.8) | 17.4 (21.1) | 3.7 (6.7) | 17.3 (21.1) |
| 9.5 | | 3.6 (6.7) | 17.7 (21.7) | 3.4 (6.6) | 17.6 (21.7) |
| 10.0 | | 3.0 (6.6) | 17.9 (22.2) | 3.0 (6.5) | 17.9 (22.2) |

Planet 400 Disc CG-S

Safety Luminaires for Escape Route Lighting



IP41

IK07

EN 1838

S_{TAR}

S⁺_{TAR}

Planet 400 Disc CG-S



7

Planet 400 Disc CG-S

- Round LED safety luminaire for ceiling and wall mounting
- Light guide technology for slender design with only 25 mm depth and high uniformity of the light output area
- The LEDs are covered and not visible therefore glare is highly reduced
- Light output of 360 lm with fully symmetrical light distribution enables the universal use in several applications with high efficiency
- Suitable for up to 10 m mounting height (ceiling mounting)
- Also suitable for illuminance with 5 lx vertically for mounting heights up to 2.5 m above 'Points of emphasis' acc. EN 1838
- Minimum service requirement due to high service life of the LEDs (50,000 hours)

| | |
|--|---|
| Luminous flux Φ_N | 360 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | PC, Aluminium |
| Housing colour | White RAL 9010, Aluminium |
| Weight | 0.45 kg |
| Type of mounting | Ceiling and wall surface or recessed mounting |
| Connection terminals | 2 x 2 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 24 mA |
| Power consumption mains operation (apparent power / effective power) | 8.0 VA / 5 W |
| Permissible ambient temperature | -20°C bis +40°C |
| Light source | LED 8 x 0.5 W |

Recessing kit

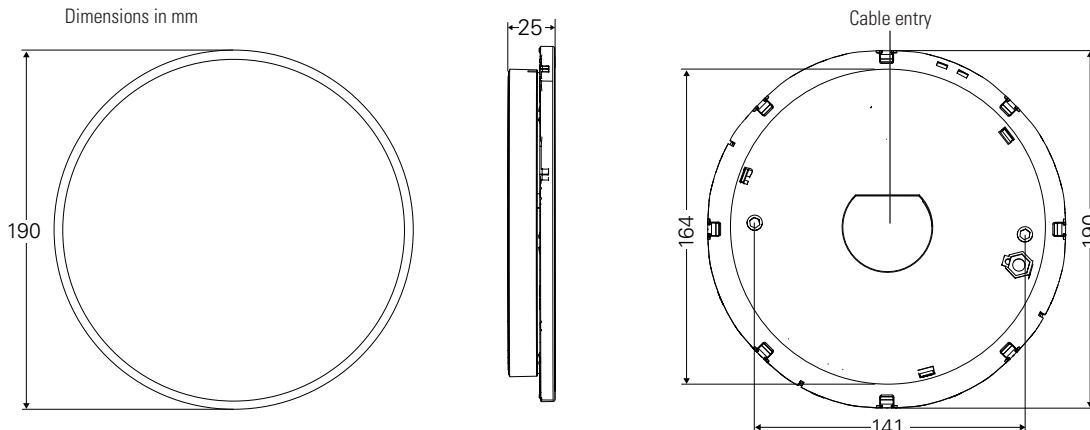
for Planet 400 Disc CG-S

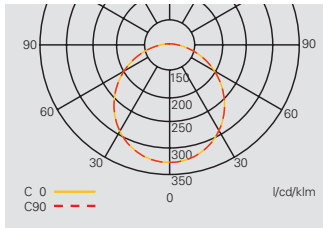


Ordering details

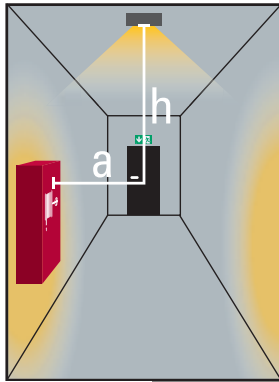
| Type | Scope of supply | Order No. |
|----------------------|--|-----------|
| Planet 400 Disc CG-S | Planet 400 Disc CG-S, for wall and ceiling mounting, including LED-supply and CG-S technology (20 addresses) | LUM22136 |
| Recessing kit | Recessing kit for Planet 400 Disc CG-S, for false walls or ceilings with up to 55 mm wall thickness, Recessing depth: 45 mm + wall thickness, Cut-out \varnothing = 200 mm | LUM10541 |

Dimensions in mm



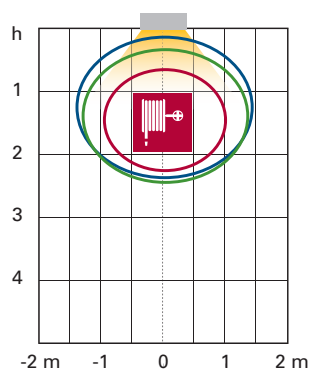


Light distribution curve
Planet 400 Disc CG-S



Area in which a minimum illuminance of 5 lx (maintenance factor 0.8) is achieved, depending on distance a and the rated operating time:

a = 1.0 m ———
a = 1.5 m ———
a = 2.0 m ———



Planning assistance for Planet 400 Disc CG-S for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 4.1 (5.1) | 10.2 (12.4) | 4.2 (5.1) | 10.2 (12.4) |
| 3.0 | Escape route centre | 4.4 (5.5) | 11.0 (13.5) | 4.4 (5.5) | 11.0 (13.5) |
| 3.5 | | 4.6 (5.8) | 11.7 (14.4) | 4.6 (5.9) | 11.7 (14.4) |
| 4.0 | | 4.8 (6.1) | 12.2 (15.2) | 4.8 (6.1) | 12.2 (15.2) |
| 4.5 | | 4.8 (6.3) | 12.7 (16.0) | 4.8 (6.4) | 12.7 (16.0) |
| 5.0 | | 4.9 (6.5) | 13.1 (16.6) | 4.9 (6.5) | 13.1 (16.6) |
| 5.5 | | 4.9 (6.7) | 13.4 (17.1) | 4.9 (6.7) | 13.3 (17.1) |
| 6.0 | | 4.8 (6.8) | 13.6 (17.6) | 4.8 (6.8) | 13.6 (17.6) |
| 6.5 | | 4.7 (6.9) | 13.7 (18.1) | 4.7 (6.9) | 13.7 (18.1) |
| 7.0 | | 4.6 (6.9) | 13.8 (18.4) | 4.5 (6.9) | 13.8 (18.4) |
| 7.5 | | 4.3 (6.9) | 13.8 (18.7) | 4.3 (6.9) | 13.8 (18.7) |
| 8.0 | | 4.0 (6.9) | 13.7 (19.0) | 4.0 (6.9) | 13.7 (19.0) |
| 8.5 | | 3.6 (6.8) | 13.6 (19.2) | 3.6 (6.8) | 13.6 (19.2) |
| 9.0 | | 3.1 (6.7) | 13.4 (19.3) | 3.1 (6.7) | 13.4 (19.3) |
| 9.5 | | 2.4 (6.6) | 13.1 (19.5) | 2.4 (6.6) | 13.1 (19.4) |
| 10.0 | | 1.2 (6.4) | 12.8 (19.5) | 1.1 (6.4) | 12.7 (19.5) |

Planning assistance for Planet 400 Disc CG-S for E = 1.0 lx (0.5 lx)

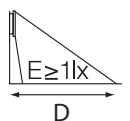
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 | L4 |
|---------------------|-------------------|-----------|-------------|-----------|-------------|
| 2.5 | Ceiling mounting | 3.4 (4.4) | 8.8 (10.6) | 3.5 (4.5) | 8.7 (10.5) |
| 3.0 | Room illumination | 3.4 (4.4) | 9.6 (11.5) | 4.5 (4.5) | 9.5 (11.5) |
| 3.5 | | 3.4 (4.4) | 10.2 (12.4) | 4.5 (5.5) | 10.2 (12.3) |
| 4.0 | | 3.4 (4.4) | 10.8 (13.2) | 4.5 (5.5) | 10.7 (13.1) |
| 4.5 | | 3.4 (5.0) | 11.3 (13.9) | 4.5 (4.9) | 11.2 (13.8) |
| 5.0 | | 3.4 (5.4) | 11.7 (14.5) | 4.5 (5.5) | 11.7 (14.5) |
| 5.5 | | 3.4 (5.4) | 12.1 (15.3) | 4.5 (5.5) | 12.1 (14.9) |
| 6.0 | | 3.4 (5.4) | 12.5 (15.6) | 4.5 (5.5) | 12.4 (15.6) |
| 6.5 | | 3.4 (5.4) | 12.8 (16.1) | 4.5 (5.5) | 12.7 (16.1) |
| 7.0 | | 3.4 (5.4) | 13.0 (16.6) | 4.5 (5.5) | 13.0 (16.5) |
| 7.5 | | 3.4 (5.4) | 13.3 (17.0) | 4.5 (5.5) | 13.2 (16.9) |
| 8.0 | | 3.4 (5.4) | 13.4 (17.3) | 3.5 (5.5) | 13.4 (17.3) |
| 8.5 | | 3.4 (5.4) | 13.6 (17.7) | 3.5 (5.5) | 13.5 (17.6) |
| 9.0 | | 2.4 (5.4) | 13.7 (18.0) | 3.5 (5.5) | 13.6 (17.9) |
| 9.5 | | 2.4 (5.4) | 13.8 (18.2) | 2.5 (5.5) | 13.7 (18.2) |
| 10.0 | | 1.3 (5.0) | 13.8 (18.5) | 1.3 (5.0) | 13.7 (18.4) |

Planning assistance for Planet 400 Disc CG-S for E = 1.0 lx (0.5 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | D |
|---------------------|---------------------------|-----|-----|-----|
| 2.2 | Wall mounting | 2.4 | 6.0 | 4.9 |
| 2.4 | Escape route illumination | 2.3 | 6.2 | 5.0 |
| 2.6 | | 2.2 | 6.0 | 5.3 |
| 2.8 | | 2.1 | 5.9 | 5.4 |
| 3.0 | | 1.8 | 5.7 | 5.7 |



Planète 24-48/400 Disc and Planète 220/400 Disc

Safety Luminaires for Escape Route Lighting



Planète 24-48/400 Disc and
Planète 220/400 Disc



7

Planète 24-48/400 Disc and Planète 220/400 Disc

- NF EN 60598.2.22/NFC 71802 certified
- Round LED safety luminaire for ceiling and wall mounting
- Light guide technology for slender design with only 25 mm depth and high uniformity of the light output area
- The LEDs are covered and not visible therefore glare is highly reduced
- Light output of 400 lm with fully symmetrical light distribution enables the universal use in several applications with high efficiency
- Suitable for up to 10 m mounting height (ceiling mounting)
- Also suitable for illuminance with 5 lx vertically for mounting heights up to 2.5 m above 'Points of emphasis' acc. EN 1838
- Minimum service requirement due to high service life of the LEDs (50,000 hours)

| | |
|--|---|
| Luminous flux | 400 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100 % |
| Housing material | PC, Aluminium |
| Housing colour | White frame RAL 9010, Aluminium |
| Weight | 0.45 kg |
| Type of mounting | Ceiling and wall surface or recessed mounting |
| Terminals | 2 x 2 x 2.5 mm ² |
| Connection voltage | LUM22132: 24 – 48VDC LUM22133: 230 V AC, 50 Hz, 220 V DC |
| Power consumption mains operation (apparent power/effective power) | LUM22132: 6W LUM22133: 14VA / 6.5 W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | LED 8 x 0.5W |

Ordering details

| Type | Scope of supply | Order No. |
|--------------------------|---|-----------|
| Planète 24-48 / 400 Disc | Planet 400 Disc, for wall and ceiling mounting, including LED-supply, 24 – 48 V DC | LUM22132 |
| Planète 220/400 Disc | Planet 400 Disc, for wall and ceiling mounting, including LED-supply, 230V AC / 220V DC | LUM22133 |

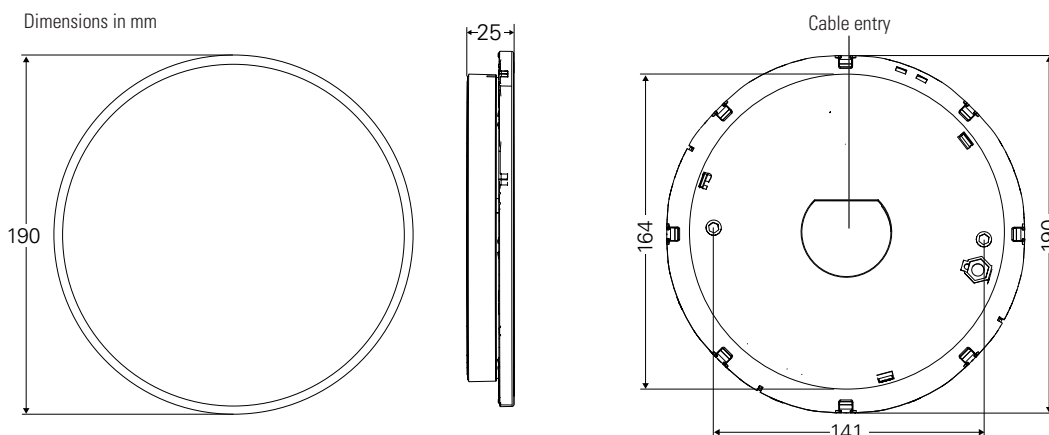
Accessories

| Type | Scope of supply | Order No. |
|---------------|--|-----------|
| Recessing kit | Recessing kit for Planet 400 Disc CG-S, for false walls or ceilings with up to 55 mm wall thickness, Recessing depth: 45 mm + wall thickness, Cut-out \varnothing = 200 mm | LUM10541 |

Recessing kit



Dimensions in mm



HandRail 930XX LED

Safety Luminaires for Escape Route Lighting

7



When confronted with emergency lighting applications where a ceiling or post top mounting is not possible, Eaton offer a broad innovative low power hand rail mounted emergency luminaire. The hand rail luminaire has an outstanding performance with superior photometric and spacing.

The flexible hand rail luminaire mounts within a tube, options for 42mm or 51mm (outer diameter) to provide a compact, slim and unobtrusive design with smooth edging to eliminate finger trap hazards.

Available with a fully monitored CG-S solution or suitable for use with third party drivers as a un-monitored solution.

It is ideally suited as a compensation measure for escape route/safe egress lighting and architectural decorative lighting.

Features

- Selection of special optics for a variety of applications
- Selection of drivers to optimise performance requirements minimising energy consumption
- Monitored and un-monitored options for design flexibility
- High IP and IK rating for indoor and outdoor applications



HandRail 93011 LED



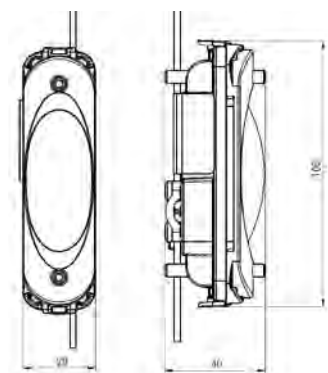
HandRail 93012 LED



HandRail 93015 LED



Dimensions in mm



HandRail 930XX LED

- Safety luminaire in LED technology for mounting into handrail
- Can be mounted in stainless steel, galvanized steel or plastic handrail
- Discrete mounting for improved aesthetics
- Superior spacing due to optics technology and highly efficient HighPower LEDs
- Suitable for indoor and outdoor applications
- Up to 11 m from luminaire to luminaire with optics for open area illumination
- Minimum service requirement due to high service life of the LEDs (50,000 hours)

| | |
|---|---|
| Luminous flux Φ_N | 350 mA: 118 lm 490 mA: 164 lm 700 mA: 235 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100% |
| Housing material | Polycarbonate, Aluminium |
| Housing colour | Aluminium |
| Weight | 0.068 kg |
| Type of mounting | Recessed mounting into handrail |
| Power supply | approx. 3V DC, max 700 mA (constant current) |
| Permissible ambient temperature | -20°C to +50°C |
| Light source | 1 x High Power LED ($U_F = 2.8 \text{ V} \dots 3.15 \text{ V}$) |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|--|-------------|
| HandRail LED 93011 LED | HandRail LED 93011 LED handrail mounting with 70° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 42mm diameter handrail (Does not include driver) | 40071355046 |
| HandRail LED 93012 LED | HandRail LED 93012 LED handrail mounting with 45° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 42mm diameter handrail (Does not include driver) | 40071355051 |
| HandRail LED 93015 LED | HandRail LED 93015 LED handrail mounting for escape route illumination with opal lens, indoor applications only, for installation into 42mm diameter handrail (Does not include driver) | 40071355049 |
| HandRail LED 93021 LED | HandRail LED 93021 LED handrail mounting with 70° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 51mm diameter handrail (Does not include driver) | 40071355050 |
| HandRail LED 93022 LED | HandRail LED 93022 LED handrail mounting with 45° asymmetric optics for escape route illumination, indoor and outdoor applications, for installation into 51mm diameter handrail (Does not include driver) | 40071355047 |
| HandRail LED 93025 LED | HandRail LED 93025 LED handrail mounting for escape route illumination with opal lens, indoor applications only, for installation into 51mm diameter handrail (Does not include driver) | 40071355048 |



* Degree of protection of the luminaire: IP66
Degree of protection of the Eaton driver housing: IP20

** Only with Eaton Emergency Lighting LED driver

HandRail 930XX LED

Safety Luminaires for Escape Route Lighting

V-CG-SLS xxx



V-CG-SLU xxx



Ordering details modules

| LED Driver* | Constant current | Number of HandRail Luminaires | | Order No. |
|--------------|------------------|-------------------------------|---------|-------------|
| | | Minimum | Maximum | |
| V-CG-SLS 701 | 700 mA | 1 | 1 | 40071352399 |
| V-CG-SLS 501 | 500 mA | 1 | 1 | 40071352369 |
| V-CG-SLS 500 | 500 mA | 2 | 2 | 40071352418 |
| V-CG-SLS 350 | 350 mA | 2 | 4 | 40071352417 |
| V-CG-SLR 350 | 350 mA | 2 | 4 | 40071352420 |
| V-CG-SLU 700 | 700 mA | 2 | 4 | 40071352917 |
| V-CG-SLU 490 | 490 mA | 2 | 4 | 40071352916 |
| V-CG-SLU 350 | 350 mA | 2 | 4 | 40071352915 |

Optional

| | |
|---|-------------|
| IP66 rated installation box suitable for 2 x V-CG-SLU xxx | 40071355090 |
|---|-------------|

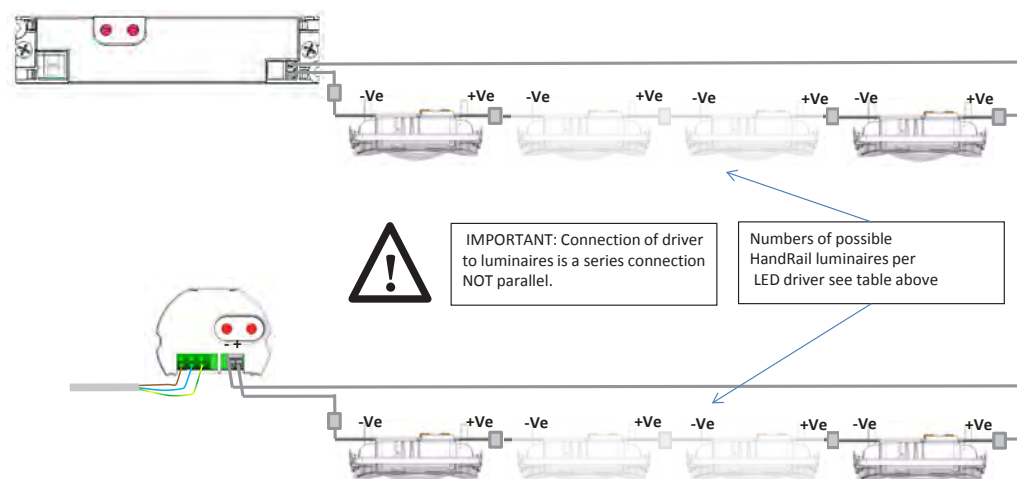
* Detailed LED driven data- see catalogue pages „Monitoring and Lamp Control Gear Modules“

Attention: V-CG-SLI is not suitable

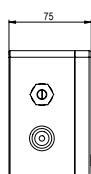
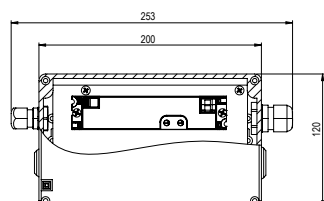
V-CG-SLR 350



Schematic drawing of driver and luminaire/s

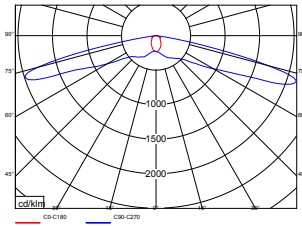


Installations Box, Dimensions in mm



| Type | Suitable HandRail/ Pipe diameter | Optic | Recommended application |
|-----------|-------------------------------------|-------------------------|--|
| 93011 LED | 42.4 x 2.0 | 70° Lens | Trackside and walkways handrails (level surface) |
| 93012 LED | 42.4 x 2.0 | 45° Lens | Walkways and stair handrails |
| 93015 LED | 42.4 x 2.0 | No optic, Opal diffuser | Walkways and stair handrails (low glare) |
| 93021 LED | 51.0 x 3.8 | 70° Lens | Trackside and walkways handrails (level surface) |
| 93022 LED | 51.0 x 3.8 | 45° Lens | Walkways and stair handrails |
| 93025 LED | 51.0 x 3.8 | No optic, Opal diffuser | Walkways and stair handrails (low glare) |

LED driver 700 mA

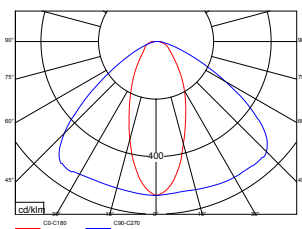


Light distribution curve
HandRail 930x1 LED

Planning assistance for HandRail 930x1 LED (70°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 |
|---------------------|---------------------|-----------|------------|-----------|
| 0.8 | Handrail mounting | 4.2 (1.6) | 9.2 (5.6) | 0.5 (0.5) |
| 0.9 | Escape route center | 4.6 (1.9) | 10.1 (7.1) | 0.5 (0.5) |
| 1 | | 5.0 (2.6) | 11.0 (8.1) | 0.5 (0.5) |

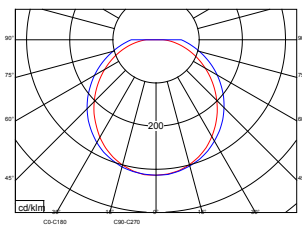
7



Light distribution curve
HandRail 930x2 LED

Planning assistance for HandRail 930x2 LED (45°) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

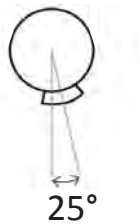
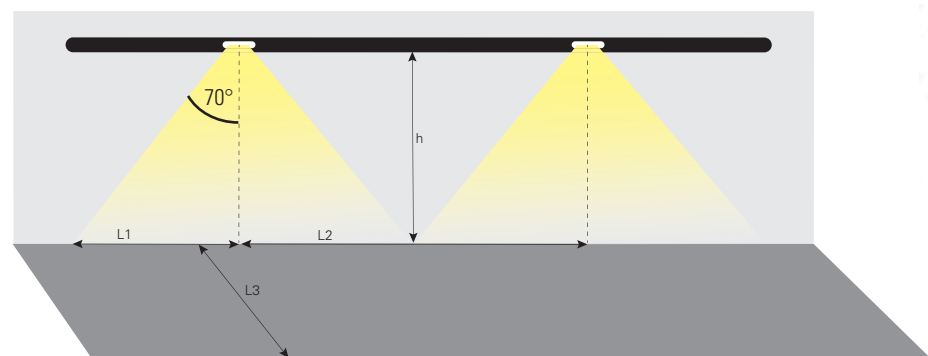
| Mounting height [m] | Type of mounting | L1 | L2 | L3 |
|---------------------|---------------------|-------------|------------|-----------|
| 0.8 | Handrail mounting | 2.35 (1.75) | 5.05 (3.6) | 0.5 (0.5) |
| 0.9 | Escape route center | 2.5 (1.85) | 5.4 (3.85) | 0.5 (0.5) |
| 1 | | 2.6 (1.95) | 5.7 (4.1) | 0.5 (0.5) |



Light distribution curve
HandRail 930x5 LED

Planning assistance for HandRail 930x5 LED (opal) for E = 1.0 lx (10.8 lx)
Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

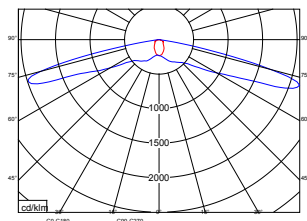
| Mounting height [m] | Type of mounting | L1 | L2 | L3 |
|---------------------|---------------------|-----------|-------------|-----------|
| 0.8 | Handrail mounting | 2.4 (1.7) | 6.0 (4.25) | 0.5 (0.5) |
| 0.9 | Escape route center | 2.5 (1.8) | 6.3 (4.45) | 0.5 (0.5) |
| 1 | | 2.6 (1.8) | 6.55 (4.65) | 0.5 (0.5) |



HandRail 930XX LED

Safety Luminaires for Escape Route Lighting

LED driver 490 mA / 500 mA

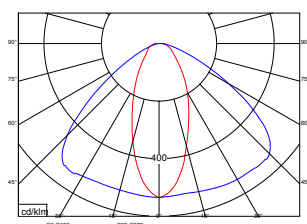


Light distribution curve
HandRail 930x1 LED

Planning assistance for HandRail 930x1 LED (70°) for E = 1.0 lx (10.8 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 |
|---------------------|---------------------|------------|-------------|-----------|
| 0.8 | Handrail mounting | 4.05 (1.4) | 8.9 (3.3) | 0.5 (0.5) |
| 0.9 | Escape route center | 4.4 (1.6) | 9.75 (6.0) | 0.5 (0.5) |
| 1 | | 4.75 (1.8) | 10.55 (6.9) | 0.5 (0.5) |

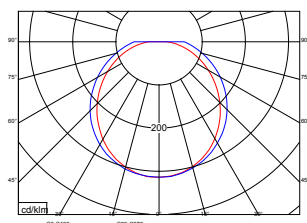


Light distribution curve
HandRail 930x2 LED

Planning assistance for HandRail 930x2 LED (45°) for E = 1.0 lx (10.8 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 |
|---------------------|---------------------|------------|------------|-----------|
| 0.8 | Handrail mounting | 2.2 (1.6) | 4.7 (3.3) | 0.5 (0.5) |
| 0.9 | Escape route center | 2.3 (1.7) | 5.0 (3.6) | 0.5 (0.5) |
| 1 | | 2.45 (1.8) | 5.25 (3.8) | 0.5 (0.5) |

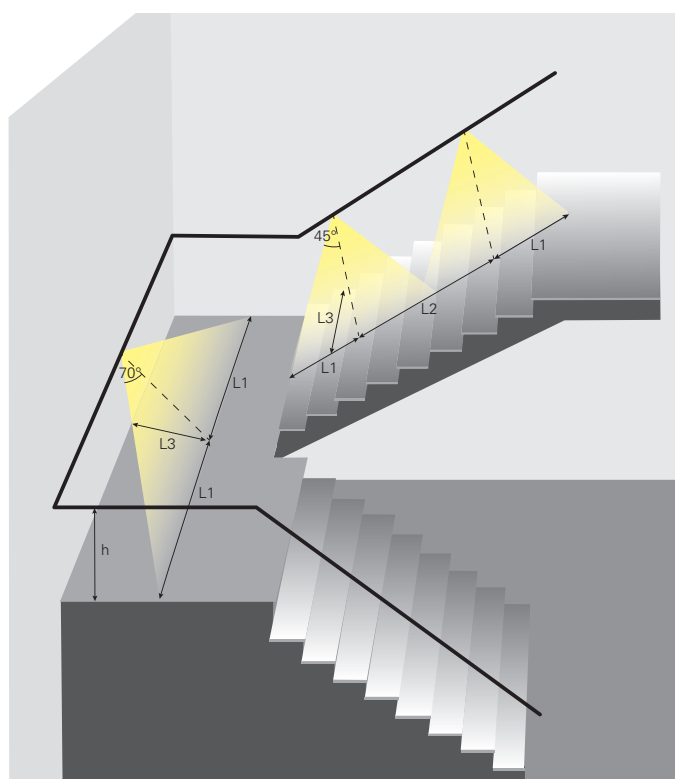


Light distribution curve
HandRail 930x5 LED

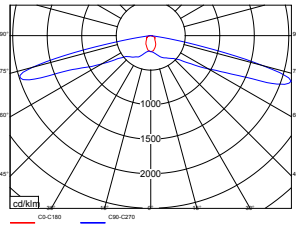
Planning assistance for HandRail 930x5 LED (opal) for E = 1.0 lx (10.8 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 |
|---------------------|---------------------|-------------|------------|-----------|
| 0.8 | Handrail mounting | 2.15 (1.4) | 5.4 (3.7) | 0.5 (0.5) |
| 0.9 | Escape route center | 2.25 (1.5) | 5.6 (3.9) | 0.5 (0.5) |
| 1 | | 2.35 (1.55) | 5.85 (4.1) | 0.5 (0.5) |



LED driver 350 mA

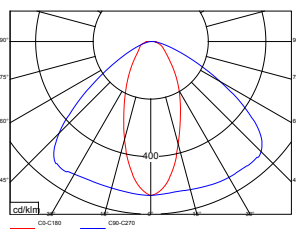


Light distribution curve
HandRail 930x1 LED

Planning assistance for HandRail 930x1 LED (70°) for E = 1.0 lx (10.8 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 |
|---------------------|---------------------|------|------|-----------|
| 0.8 | Handrail mounting | 3.9 | 8.55 | 0.5 (0.5) |
| 0.9 | Escape route center | 4.2 | 9.35 | 0.5 (0.5) |
| 1 | | 4.55 | 10.1 | 0.5 (0.5) |

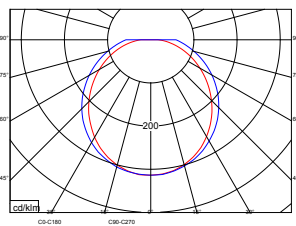


Light distribution curve
HandRail 930x2 LED

Planning assistance for HandRail 930x2 LED (45°) for E = 1.0 lx (10.8 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 |
|---------------------|---------------------|------|------|-----------|
| 0.8 | Handrail mounting | 2.05 | 4.53 | 0.5 (0.5) |
| 0.9 | Escape route center | 2.15 | 4.65 | 0.5 (0.5) |
| 1 | | 2.3 | 4.9 | 0.5 (0.5) |

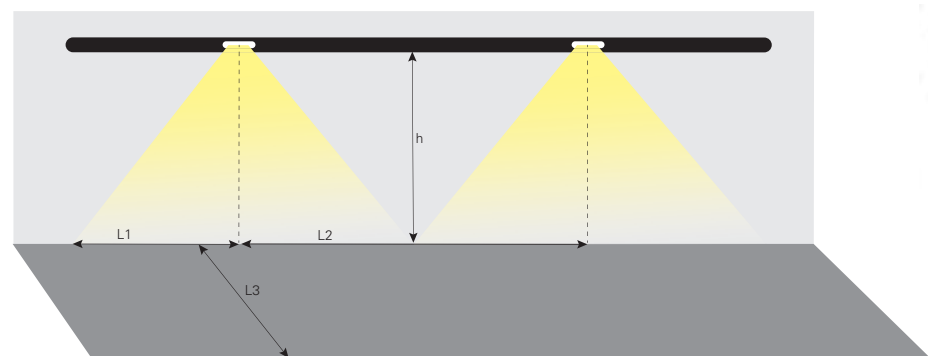


Light distribution curve
HandRail 930x5 LED

Planning assistance for HandRail 930x5 LED (opal) for E = 1.0 lx (10.8 lx)

Measuring height 0.02 m, maintenance factor MF = 80 %, battery operation

| Mounting height [m] | Type of mounting | L1 | L2 | L3 |
|---------------------|---------------------|------|------|-----------|
| 0.8 | Handrail mounting | 1.95 | 4.85 | 0.5 (0.5) |
| 0.9 | Escape route center | 2.0 | 5.05 | 0.5 (0.5) |
| 1 | | 2.1 | 5.25 | 0.5 (0.5) |



HandRail 930XX LED

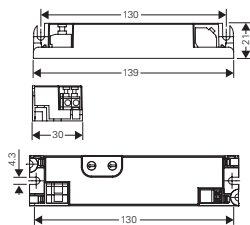
Safety Luminaires for Escape Route Lighting



V-CG-SLU 700



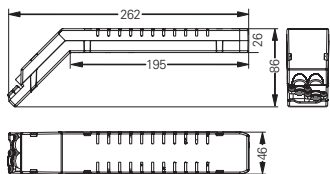
Dimensions in mm



Module housing



Dimensions in mm



V-CG-SLU 700

- Low operating costs due to decreased standby losses < 0.7 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sideways upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S⁺-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side

| | |
|----------------------|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.7 W (230 V / 50 Hz) |
| Current consumption | 93 mA (230 V AC) / 56 mA (220 V DC) |
| Power input | 21.4 VA (230 V AC) |
| Power factor λ | 0.52...0.61 |
| Inrush current | ≤ 3.0 A |
| Operating frequency | 25-130 kHz |
| EEL | A2 |
| Connection terminals | Clamp terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|---|
| Output current | 700 mA (constant current) |
| Output voltage | 14 V DC (open-circuit operation) |
| Lamp load | 1-4 LEDs (rated current 700 mA, UF = 2.85 ... 3.5 V), series connection |
| Output power (max.) | 9.8 W |
| Connection terminals | Clamp terminals 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 1 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | t _a = –20 °C to +50 °C |
| Maximal permissible test point temperature | t _c = 70 °C |
| Dimensions in mm (H x L x B) | 21 x 139 x 30 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.061 kg |
| Luminous flux Φ _E /Φ _N at the end of rated operating time | 100 % |

Ordering details

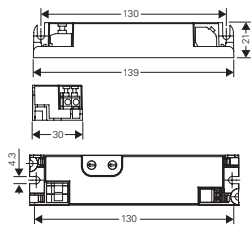
| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLU 700 | 40071352917 | 40071352947 |
| Module housing with strain relief | | 40071352765 |



V-CG-SLU 490



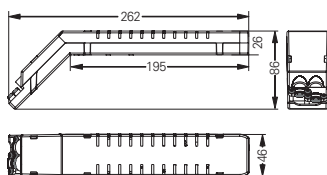
Dimensions in mm



Module housing



Dimensions in mm



V-CG-SLU 490

- Low operating costs due to decreased standby losses < 0.7 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sideways upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal.
- Shortened inspection effort due to the CEWA GUARD- and S⁺-Technology:
Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side

| | |
|----------------------|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.7 W (230 V / 50 Hz) |
| Current consumption | 67 mA (230 V AC) / 41 mA (220 V DC) |
| Power input | 15.4 VA (230 V AC) |
| Power factor λ | 0.45...0.59 |
| Inrush current | ≤ 3.0 A |
| Operating frequency | 25-130 kHz |
| EEI | A2 |
| Connection terminals | Clamp terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|---|
| Output current | 490 mA (constant current) |
| Output voltage | 14 V DC (open-circuit operation) |
| Lamp load | 1-4 LEDs (rated current 490 mA, UF = 2.85 ... 3.5 V), series connection |
| Output power (max.) | 6.9 W |
| Connection terminals | Clamp terminals 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 1 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | t _a = -20 °C to +50 °C |
| Maximal permissible test point temperature | t _c = 70 °C |
| Dimensions in mm (H x L x B) | 21 x 139 x 30 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.061 kg |
| Luminous flux Φ _E /Φ _N at the end of rated operating time | 100 % |

Ordering details

| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLU 490 | 40071352916 | 40071352946 |
| Module housing with strain relief | | 40071352765 |

HandRail 930XX LED

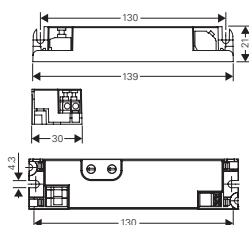
Safety Luminaires for Escape Route Lighting



V-CG-SLU 350



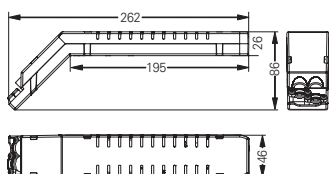
Dimensions in mm



Module housing



Dimensions in mm



V-CG-SLU 350

- Low operating costs due to decreased standby losses < 0.7 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S⁺-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side

| | |
|----------------------|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.7 W (230 V / 50 Hz) |
| Current consumption | 91 mA (230 V AC) / 54 mA (220 V DC) |
| Power input | 20.9 VA (230 V AC) |
| Power factor λ | 0.44...0.61 |
| Inrush current | ≤ 3.0 A |
| Operating frequency | 25-130 kHz |
| EEL | A2 |
| Connection terminals | Clamp terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

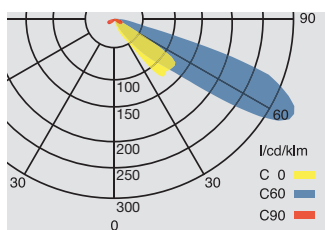
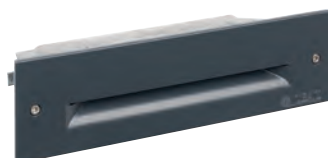
| | |
|---|---|
| Output current | 350 mA (constant current) |
| Output voltage | 28 V DC (open-circuit operation) |
| Lamp load | 1-8 LEDs (rated current 350 mA, UF = 2.85 ... 3.5 V), series connection |
| Output power (max.) | 9.8 W |
| Connection terminals | Clamp terminals 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 1 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | t _a = –20 °C to +50 °C |
| Maximal permissible test point temperature | t _c = 70 °C |
| Dimensions in mm (H x L x B) | 21 x 139 x 30 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.061 kg |
| Luminous flux Φ _E /Φ _N at the end of rated operating time | 100 % |

Ordering details

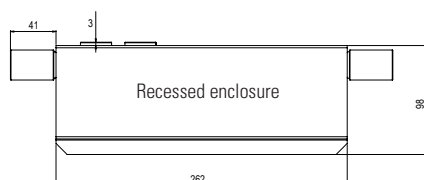
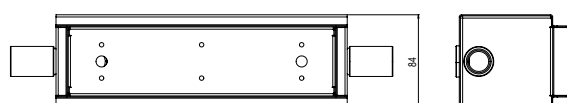
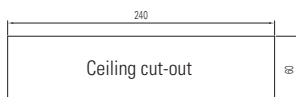
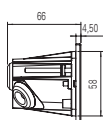
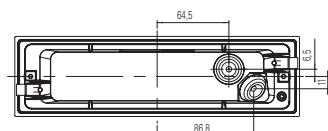
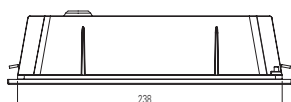
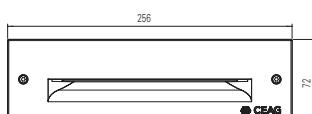
| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLU 350 | 40071352915 | 40071352945 |
| Module housing with strain relief | | 40071352765 |



91011 LED CG-S



Dimensions in mm



91011 LED CG-S

- Aluminum LED Step light for safety lighting, suitable for recessed mounting
- High IP65 protection class
- Optimised step illumination achieved through integrated lens optic in the cover
- Developed for applications where people are situated in deeper positions for example lecture halls. A special optical arrangement avoids blinding those facing the audience.
- Four adjustable levels of brightness (100%, 80%, 60%, 40%) to adapt to the ambient brightness
- Side mounting claw-fastening for easy installation in hollow walls or wooden steps (clamping range 3-30 mm)
- Shortened inspection effort due to CEWA GUARD technology
- Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology
- Freely programmable mixed operation of the switching modes per luminaire in one circuit

| | |
|--|--|
| Luminous flux | 33 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100 % |
| Housing material | Aluminium diecast |
| Housing colour | Anthracite RAL 7016 (Bezel) |
| Weight | 0.57 kg |
| Type of mounting | Wall or step recessed |
| Terminals | Clamp terminal 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power/effective power) | 4.6 VA / 2.1 W |
| Inrush current | 1.5 A |
| Permissible ambient temperature | -20 °C to +40 °C |
| Current consumption, battery operation (220 V) | 10 mA |
| Light source | 7 x 0.2 W LED / 4000 K |

Ordering details

| Type | Scope of supply | Order No. |
|----------------|---|-------------|
| 91011 LED CG-S | Step light IP65 with LED supply, CG-S technology and LED PCB (4000 K), including fixing claw-fastening for installation in hollow walls | 40071352091 |

Accessories

| Type | Order No. |
|---|-------------|
| Recessed enclosure for Luminaire 91011 LED CG-S, for plastering or for installation in concrete | 40071354961 |

BXP NF ground luminaire

Safety Luminaires for Escape Route Lighting



IP66

IP67*

IK10

NF

French market

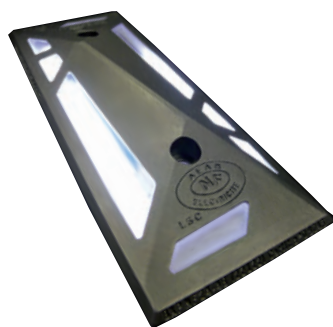
BXP NF ground luminaire

- Certified to NF EN 60598.2.22/NF EN60598.2.13/NFC 71802.
- The very first NF approved LED ground luminaire
- Innovative, ultra-flat design blends in effortlessly
- Eligible for NF AES (safe electricity supply) mark
- Installation every 15 meters
- No risk of contact with dangerous voltages
- BXP NF ground luminaire 230 V AC model with SELV supply (48 V DC) via separate converter
- High pull-out strength
- Very wide fixing spacing (128 mm) for enhanced drive-over strength
- Height less than 21 mm
- Setting in slabs

| | |
|--|---|
| Luminous flux | 45 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100 % |
| Housing material | stainless steel body, polycarbonate sandblast tile |
| Housing colour | Stainless steel |
| Weight | 1.50 kg |
| Type of mounting | Ground mounting on a rigid support such as concrete or slab |
| Terminals | 2.5 mm ² screwless terminal |
| Connection voltage | LUM22122: 24 – 48 V DC LUM22123: 220 V DC or 230 V AC |
| Power consumption mains operation (apparent power/effective power) | LUM22122: 2.5 W LUM22123: 7 VA / 3.5 W |
| Permissible ambient temperature | -5 °C to +60 °C |
| Light source | White LEDs |

7

BXP NF ground light



- Escape Route Lighting for column-free car parks.

BXP NF 24-48



BXP NF 220



Ordering details

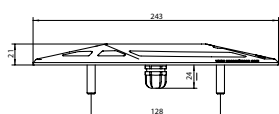
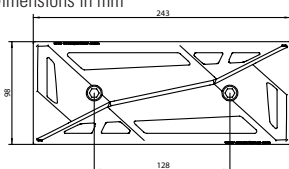
| Type | Scope of supply | Order No. |
|--------------|--|-----------|
| BXP NF 24-48 | BXP ground mounting emergency luminaire, 3rd party NF certified, 45lm light output, in IK10 and IP66/IP67 (30 minutes immersion) aluminum housing supplied with 1.5m cable, 24-48 V DC, Class III | LUM22122 |
| BXP NF 220 | BXP ground mounting emergency luminaire, 3rd party NF certified, 45lm light output, in IK10 and IP66/IP67 (30 minutes immersion) aluminum housing supplied with 1.5m cable, 220 V DC / 230 V AC, Class I | LUM22123 |

Converter dimensions (220 V model): Length/Width/Depth = 130 x 80 x 60 mm

Accessories

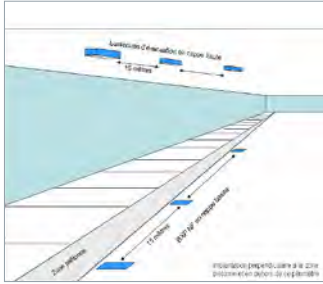
| Type | Scope of supply | Order No. |
|-----------|---|-----------|
| M8 screws | Set of 10 M8 stainless steel screws and anchor pins | LUM11077 |

Dimensions in mm



* 30 minutes immersion

NF model:
spaced 15 metres apart



Drilling
Centring template available on request



Sealing



CAP859610



CAP710129



CAP309195



French market

Regulations

- BXP NF ground lights have been designed with a bevelled 21 mm low profile to minimise any potential obstructions in the event of an evacuation.
- Strict compliance with the requirements of the UTEC 71 802 standard confirmed by NF AEAS approval and the 45 lumen rating allow for spacing of over 10 metres between emergency light sources split into upper and lower layers, as stipulated by the regulations (see Article PS22).
- Spacing of BXP NF ground luminaires for installation: 15 m.
- BXP NF 220 ground luminaires are approved for use with their supply unit. The use of any other converter on the market is not permitted.

Safety

- BXP NF 230 V AC ground luminaires have a safety extra-low voltage (SELV) supply (48 V DC) via a separate converter (230 V AC- 48 V DC converter, see picture BXP NF 220). As a result, if an electrical fault occurs on the luminaire body, there is no risk of contact with dangerous voltages.

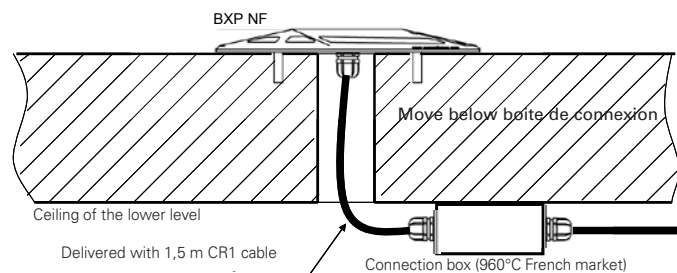
Installation

- Particular care should be taken when installing products. This is essential for the correct functioning and durability of the equipment.
- Avoid installing fixtures on soft surfaces, e.g. tarred or asphalted areas.
- BXP NF ground luminaires are designed to withstand light vehicles driving over them. Areas with high levels of traffic should be avoided as far as possible.
- BXP NF ground luminaires are set in the ground using 2 M8 screws and chemical anchors. These items are not supplied with the equipment (please see options below).
- A centring template can be provided to help the installer.

Connection and installation in paved surfaces

With our CAPRI range of accessories, we can offer quick and simple ways to set fixtures in concrete slabs (please contact us).

| Reference | Description | Qty |
|-----------|--|-----|
| CAP859610 | Extherm – Cut-to-size root mounting sleeve for setting in concrete | 1 |
| CAP710129 | J17 – Lower cover cap | 100 |
| CAP309195 | Automatic connectors for soft wire and hard wire | 100 |



- Products are connected on the ceiling of the level below, either onto the separate converter for 220 V DC/AC models or into an additional connection box (960°C for French market)
- For the lowest level of the car park, a sealed connection method (e.g. box) must be used; this item is not supplied with the luminaire.

Planète 220/400 CG-S

Safety Luminaires for Escape Route Lighting



IP42

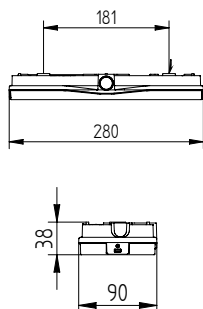
IK08



Planète 220/400 CG-S



Dimensions in mm



French market

Planète 220/400 CG-S

- Certified to NF EN 60598.2.22/NFC 71802
- Low energy consumption
- Strip of LEDs for reduced glare
- Express installation
- Clear surface mount honeycomb base for universal mounting and ad hoc covering of existing drill holes
- Screwless terminals: automatic connectors
- Discreet, low-profile housing
- Seamless integration
- Mounting frame for a flush fit
- Identical appearance to IP66 version

| | |
|--|--|
| Luminous flux | 400 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 0.6 kg |
| Type of mounting | Ceiling mounting |
| Terminals | Clamp terminal 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power/effective power) | 13.0 VA / 6.8 W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 32 LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|----------------------|---|-----------|
| Planète 220/400 CG-S | Safety luminaire Planete 400lm and IP42/IK08, incl. LED supply and CG-S technology (20 addresses) | LUM22134 |

Accessories

| Type | Scope of supply | Order No. |
|----------------|-----------------|-----------|
| Wire guard | | LUM10419 |
| Mounting frame | | LUM10538 |

Planète 220/400 and Planète 24-48/400

Safety Luminaires for Escape Route Lighting



French market

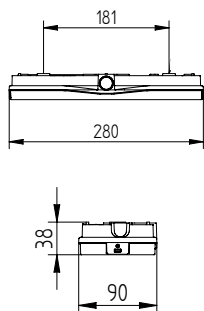
Planète 220/400 and Planète 24-48/400

- Certified to NF EN 60598.2.22/NFC 71802
- Low energy consumption
- Strip of LEDs for reduced glare
- Express installation
- Clear surface mount honeycomb base for universal mounting and ad hoc covering of existing drill holes
- Screwless terminals: automatic connectors
- Discreet, low-profile housing
- Seamless integration
- Mounting frame for a flush fit
- Identical appearance to IP66 version

Planète 220/400 and Planète 24-48/400



Dimensions in mm



| | |
|--|---|
| Luminous flux | 400 lm |
| Luminous flux Φ_e/Φ_N at end of rated operating time | 100 % |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | 0.6 kg |
| Type of mounting | Ceiling mounting |
| Terminals | Clamp terminal 2 x 3 x 2.5 mm ² |
| Connection voltage | LUM 22129: 230V AC, 50 Hz, 220 V DC LUM 22128: 24 – 48V DC |
| Power consumption mains operation (apparent power/effective power) | LUM 22129: 9.9 VA / 6.4 W LUM 22128: 6 W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 32 LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------|--|-----------|
| Planète 220/400 | Safety luminaire Planete 400lm and IP42 / IK08, incl. LUM22129 LED supply, 230V AC | |
| Planète 24-48/400 | Safety luminaire Planete 400lm and IP42 / IK08, incl. LUM22128 LED supply, 24-48V DC | |

Accessories

| Type | Scope of supply | Order No. |
|----------------|-----------------|-----------|
| Wire guard | | LUM10419 |
| Mounting frame | | LUM10538 |

Crompack LED

Safety Luminares for Escape Route Lighting



IK07

IP20

NF

Crompack LED

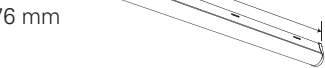


Dimensions in mm

W: 62

H: 76 mm

L: 1200



French market

Crompack LED 220/2500

- Certified to NF EN 60598.2.22 / NFC 71802
- Excellent light transmission and LED source obscurity from the reeded opal diffuser
- High efficiency LED strip technology and driver combinations, with purpose designed optics and thermal management, maximise the LED and control gear life and performance
- Long LED life and no lamps to change particularly in 24/7 operations and inaccessible areas
- First fix base and plug and socket housing connection for rapid installation

| | |
|--|---|
| Luminous flux | 2500 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100 % |
| Housing material | Powder coated steel with ABS end caps |
| Housing colour | White RAL 9016 |
| Weight | 1.9 kg |
| Type of mounting | Ceiling Surface |
| Terminals | 2 x 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V AC, 50 Hz 176 – 275 V DC |
| Power consumption mains operation (apparent power/effective power) | 22.5 VA / 20.1 W |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | 2 x 54 LEDs |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------------|--|-----------|
| Crompack LED 220 / 2500 | Safety Luminaire with high Lumen output (2500 lm), 230 V AC / 220 V DC | LUM22143 |

Accessories

| Type | Scope of supply | Order No. |
|-----------|---|-----------|
| WireGuard |  | LUM21404 |

RC ADR 18 W CG-S and 36 W CG-S

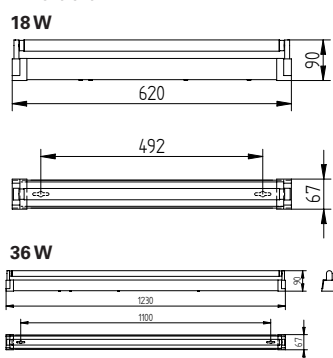
Safety Luminaires for Escape Route Lighting



RC ADR 18 W CG-S and 36 W CG-S



Dimensions in mm



French market

RC ADR 18 W CG-S and 36 W CG-S



- Certified NF EN 60598.2.22 / NFC 71802
- Lamp included in delivery

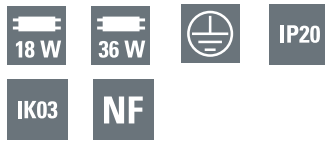
| | |
|--|--|
| Luminous flux | RC ADR 18 CG-S: 720 lm RC ADR 36 CG-S: 2000 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 75 % |
| Housing material | Metal |
| Housing colour | White |
| Weight | RC ADR 18 CG-S: 1.0 kg RC ADR 36 CG-S: 1.7 kg |
| Type of mounting | Ceiling mounting |
| Terminals | 3 x 2.5 mm ² |
| Connection voltage | 230 V AC, 50 Hz 176 – 275 V DC |
| Current consumption, battery operation (220 V) | RC ADR 18 CG-S: 70 mA RC ADR 36 CG-S: 173 mA |
| Power consumption mains operation (apparent power/effective power) | RC ADR 18 CG-S: 30 VA / 20 W RC ADR 36 CG-S: 39.1 VA / 38 W |
| Inrush current | 10 A (RC ADR 36 CG-S) |
| Permissible ambient temperature | +5 °C to +40 °C |
| Light source | 18 W fluorescent (G13 cap) 36 W fluorescent (G13 cap) |

Ordering details

| Type | Scope of supply | Order No. |
|----------------|--|-----------|
| RC ADR 18 CG-S | Safety luminaire RC with high lumen output (720lm), incl. lamp and CG-S technology (20 addresses) | LUM21316 |
| RC ADR 36 CG-S | Safety luminaire RC with high lumen output (2000lm), incl. lamp and CG-S technology (20 addresses) | LUM21317 |

Accessories

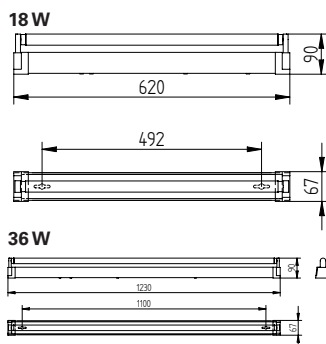
| Type | Scope of supply | Order No. |
|------------------------|---|-----------|
| Wire guard for RC 18 W |  | LUM21403 |
| Wire guard for RC 36 W |  | LUM21404 |



RC 18 W and 36 W



Dimensions in mm



French market

RC 18 W and 36 W

- Certified NF EN 60598.2.22 / NFC 71802
- Lamp included in delivery

| | |
|--|---|
| Luminous flux | See luminaire scope of supply |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100 % |
| Housing material | Metal |
| Housing colour | White |
| Weight | RC 18: 1.0 kg RC 36: 1.7 kg |
| Type of mounting | Ceiling mounting |
| Terminals | 3 x 2.5 mm ² |
| Connection voltage | 24 V DC 48 V DC 110 V DC 230 V AC / 220 V DC |
| Power consumption mains operation (apparent power/effective power) | 24/18: 24 W 48/18: 26 W 110/18: 24 W 220/18: 23 VA / 21 W 24/36: 39 W 48/36: 44 W 110/36: 42 W 220/36: 37 VA/ 35 W |
| Permissible ambient temperature | +5 °C to +40 °C |
| Light source | 18 W fluorescent (G13 cap) 36 W fluorescent (G13 cap) |

Ordering details

| Type | Scope of supply | Order No. |
|-----------|---|-----------|
| RC 24/18 | Safety luminaire RC with high lumen output (1000lm), incl. lamp 24 V DC | LUM21046 |
| RC 48/18 | Safety luminaire RC with high lumen output (1000lm), incl. lamp 48 V DC | LUM21047 |
| RC 110/18 | Safety luminaire RC with high lumen output (1000lm), incl. lamp 110 V DC | LUM21048 |
| RC 220/18 | Safety luminaire RC with high lumen output (1000lm), incl. lamp 230 V AC/DC | LUM21049 |
| RC 24/36 | Safety luminaire RC with high lumen output (1600lm), incl. lamp 24 V DC | LUM21054 |
| RC 48/36 | Safety luminaire RC with high lumen output (2000lm), incl. lamp 48 V DC | LUM21055 |
| RC 110/36 | Safety luminaire RC with high lumen output (2000lm), incl. lamp 110 V DC | LUM21056 |
| RC 220/36 | Safety luminaire RC with high lumen output (2200lm), incl. lamp 230 V AC/DC | LUM21057 |

Accessories

| Type | Scope of supply | Order No. |
|------------------------|-----------------|-----------|
| Wire guard for RC 18 W | | LUM21403 |
| Wire guard for RC 36 W | | LUM21404 |

RCE ADR 18 W CG-S and 36 W CG-S

Safety Luminaires for Escape Route Lighting

18 W

36 W



IP55

IK07

NF

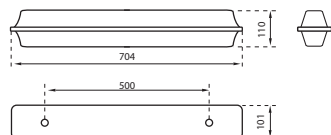
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RCE ADR 18 W CG-S and 36 W CG-S

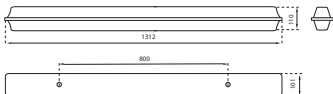


Dimensions in mm

18 W



36 W



French market

RCE ADR 18 W CG-S and 36 W CG-S



- Certified NF EN 60598.2.22 / NFC 71802
- High ingress protection (IP55)
- Lamp included in delivery

| | |
|--|--|
| Luminous flux | RCE ADR 18 CG-S: 580 lm RCE ADR 36 CG-S: 1400 lm |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 75 % |
| Housing material | Plastic |
| Housing colour | Grey |
| Weight | RCE ADR 18 CG-S: 1.4 kg RCE ADR 36 CG-S: 2.4 kg |
| Type of mounting | Ceiling mounting |
| Terminals | 3 x 2.5 mm ² |
| Connection voltage | 230V AC, 50 Hz 176 – 275V DC |
| Current consumption, battery operation (220 V) | RCE ADR 18W: 70 mA RCE ADR 36W: 173 mA |
| Power consumption mains operation (apparent power/effective power) | RCE ADR 18 CG-S: 30 VA / 20 W RCE ADR 36 CG-S: 39.1 VA / 38 W |
| Inrush current | RCE ADR 18 CG-S: 8 A RCE ADR 36 CG-S: 10 A |
| Permissible ambient temperature | +5 °C to +40 °C |
| Light source | 18W fluorescent (G13 cap) 36W fluorescent (G13 cap) |

Ordering details

| Type | Scope of supply | Order No. |
|-----------------|---|-----------|
| RCE ADR 18 CG-S | Safety luminaire RCE with high lumen output (580lm), incl. lamp and CG-S technology (20 addresses) | LUM21318 |
| RCE ADR 36 CG-S | Safety luminaire RCE with high lumen output (1400lm), incl. lamp and CG-S technology (20 addresses) | LUM21319 |

Accessories

| Type | Scope of supply | Order No. |
|------------------------|---|-----------|
| Wire guard for RC 18 W |  | LUM21403 |
| Wire guard for RC 36 W |  | LUM21404 |



French market

RCE ADR 18 W and 36 W

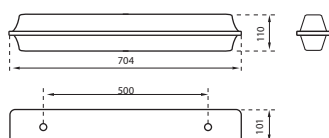
- Certified NF EN 60598.2.22 / NFC 71802
- High ingress protection (IP55)
- Lamp included in delivery

RCE ADR 18 W and 36 W

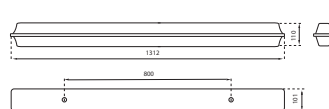


Dimensions in mm

18 W



36 W



| | |
|--|--|
| Luminous flux | See luminaire scope of supply |
| Luminous flux Φ_E/Φ_N at end of rated operating time | 100 % |
| Housing material | Plastic |
| Housing colour | Grey |
| Weight | RCE ADR 18: 1.4 kg RCE ADR 36: 2.4 kg |
| Type of mounting | Ceiling mounting |
| Terminals | 3 x 2.5 mm ² |
| Connection voltage | 24 V DC 48 V DC 110 V DC 230 V AC / 220 V DC |
| Power consumption mains operation (apparent power/effective power) | 24/18: 24 W 48/18: 26 W 110/18: 24 W 220/18: 21 VA / 19 W 24/36: 39 W 48/36: 44 W 110/36: 42 W 220/36: 37 VA / 35 W |
| Permissible ambient temperature | +5°C to +40 °C |
| Light source | 18 W fluorescent (G13 cap) 36 W fluorescent (G13 cap) |

Ordering details

| Type | Scope of supply | Order No. |
|------------|---|-----------|
| RCE 24/18 | Safety luminaire RCE with high lumen output (800 lm), incl. lamp, 24VDC | LUM21050 |
| RCE 48/18 | Safety luminaire RCE with high lumen output (800 lm), incl. lamp, 48VDC | LUM21051 |
| RCE 110/18 | Safety luminaire RCE with high lumen output (800 lm), incl. lamp, 110VDC | LUM21052 |
| RCE 220/18 | Safety luminaire RCE with high lumen output (800 lm), incl. lamp, 230V AC / 220 V DC | LUM21053 |
| RCE 24/36 | Safety luminaire RCE with high lumen output (1150 lm), incl. lamp, 24V DC | LUM21058 |
| RCE 48/36 | Safety luminaire RCE with high lumen output (1600 lm), incl. lamp, 48VDC | LUM21059 |
| RCE 110/36 | Safety luminaire RCE with high lumen output (1600 lm), incl. lamp, 110VDC | LUM21060 |
| RCE 220/36 | Safety luminaire RCE with high lumen output (1800 lm), incl. lamp, 230V AC / 220 V DC | LUM21061 |

Accessories

| Type | Scope of supply | Order No. |
|------------------------|-----------------|-----------|
| Wire guard for RC 18 W | | LUM21403 |
| Wire guard for RC 36 W | | LUM21404 |

GuideLed FSL 10011, 10012, 10013 CG-S

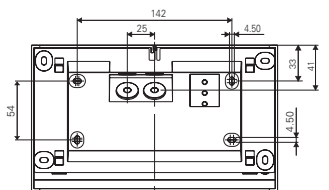
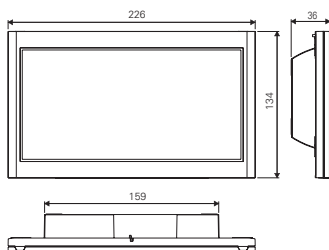
Safety Luminaires for Escape Route Lighting



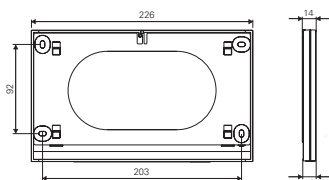
GuideLed FSL CG-S



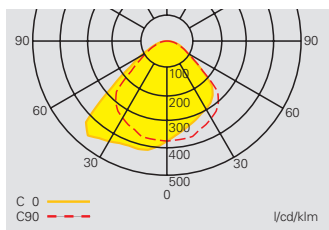
Dimensions in mm



FSL 10011 CG-S



FSL 10012/10013 CG-S



Light distribution curve
GuideLed FSL CG-S

GuideLed FSL 10011, 10012, 10013 CG-S

- Safety luminaire in LED technology for surface mounting or semi-recessed mounting
- Low height of only 36 mm or 14 mm
- Anti-glare illumination ensured by precise micro-prism optics
- Reduced battery costs due to of especially low power consumption
- Low operating costs due to of low effective power of 4 W only
- Suitable for mounting height of up to 5.5 m
- Minimum service requirement due to high service life of the LEDs (up to 50,000 hours)
- Installation of safety luminaire without the use of tools at the mounting set

| | |
|--|---|
| Luminous flux Φ_N | 125 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% |
| Housing material | PC, PMMA |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.49 kg (10011 FSL CG-S) 0.45 kg (10012, 10013 FSL CG-S) |
| Type of mounting | Ceiling installation / semi-recessed installation |
| Connection terminal | Clamp terminal 2.5 mm ² |
| Voltage ranges | 220 – 240 V AC, 50/60 Hz 176 – 275 V DC |
| Current consumption - battery operation (220 V) | 18 mA |
| Power consumption mains operation (apparent power / effective power) | 7.2 VA / 4.0 W |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED batten |

Ordering details fastening set and safety luminaire module

| Type | Scope of supply | Order No. |
|---------------------------------|--|-------------|
| GuideLed FSL 10011 CG-S | Mounting set for GuideLed FSL 10011 CG-S, surface installation, incl. LED supply and CG-S technology (20 addresses) | 40071353641 |
| GuideLed FSL 10012 CG-S | Mounting set for GuideLed FSL 10012 CG-S, recessed installation of the V-CG-SLS28 supply provided and CG-S technology (20 addresses) * | 40071353642 |
| GuideLed FSL 10013 CG-S | Mounting set for GuideLed FSL 10013 CG-S, recessed installation of the V-CG-SLR28 supply provided and CG-S technology (20 addresses) * | 40071353644 |
| GuideLed FSL 10011 / 10012 CG-S | LED safety luminaire GuideLed FSL 10011 / 10012 CG-S with special micro-prism optics (without mounting set) | 40071353590 |

Planning assistance for GuideLed FSL

Measuring height 0.02 m, maintenance factor MF = 80%, battery operation

| Mounting height [m] | Types of mounting | L1 | L2 | L3 | L4 |
|---------------------|---------------------|-------------|--------------|-------------|--------------|
| 2.50 | Ceiling mounting | 2.70 (3.20) | 6.40 (7.60) | 2.80 (3.40) | 6.60 (8.00) |
| 3.00 | Escape route centre | 2.90 (3.50) | 6.90 (8.30) | 3.10 (3.70) | 7.40 (8.70) |
| 3.50 | | 3.00 (3.80) | 7.60 (9.00) | 3.30 (4.00) | 8.00 (9.40) |
| 4.00 | | 2.90 (4.10) | 8.10 (9.60) | 3.20 (4.30) | 8.60 (10.10) |
| 5.00 | | 2.30 (4.20) | 8.30 (10.80) | 2.40 (4.70) | 9.30 (11.40) |
| 2.50 | Ceiling mounting | 2.30 (3.30) | 5.40 (6.40) | 2.40 (3.40) | 5.40 (6.60) |
| 3.00 | Room illumination | 2.30 (3.30) | 6.00 (7.00) | 3.40 (3.40) | 5.80 (7.20) |
| 3.50 | | 2.30 (3.30) | 6.40 (7.80) | 3.40 (3.40) | 6.40 (7.60) |
| 4.00 | | 2.30 (3.40) | 6.80 (8.20) | 3.40 (3.30) | 6.80 (8.20) |
| 5.00 | | 1.30 (3.30) | 7.80 (9.20) | 3.40 (4.40) | 7.60 (9.20) |

* Installation of the LED supply in a not included device, for further information about the LED supply please visit www.ceag.de.



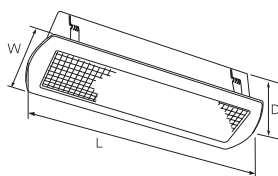
Sintralite CG-S

- Attractive flush mount design
- Choice of chrome or white finish
- Sprung ceiling clips speeds installation
- Supplied with lamp

Sintralite



Dimensions in mm



| L (mm) | W (mm) | D (mm) | Cut out (mm) |
|--------|--------|--------|--------------|
| 389 | 126 | 80 | 340 x 90 |

| | |
|--|--|
| Luminous flux Φ_N | 275 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 75% |
| Housing material | Body: Flame retardant ABS Diffuser: Clear Polycarbonate Gear tray/reflector: Polycarbonate |
| Weight incl. panel | 1.0 kg |
| Housing colour | White or chrome |
| Type of mounting | Recessed ceiling mounting |
| Ceiling cut-out (mm) | 340 x 90 |
| Max. recess depth (mm) | 80 |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 220 – 240 V, 50/60 Hz 176 – 275 V DC |
| Current consumption- battery operation (220 V) | 30 mA |
| Power consumption mains operation | 16 VA |
| Inrush current | 3 A |
| Permissible ambient temperature | -10 °C to +40 °C |
| Light source | 8W T5 Fluorescent |

Ordering details

| Type | Scope of supply | White Finish Order No. | Chrome Finish Order No. |
|-----------------|--|------------------------|-------------------------|
| Sintralite CG-S | Recessed safety luminaire with CG-S technology (20 addresses), available in white or chrome finish, incl. lamp | SN230CG | SN230CGCH |

Photometric Data

| Mode | Mounting height (m) | Escape route 2m wide 1 Lux min | | | | Open (anit-panic) area 0.5 Lux min | | | |
|-------|---------------------|-----------------------------------|-----|-----|-----|---------------------------------------|------|-----|-----|
| | | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| AC/DC | 2.5 | 2.8 | 7.5 | 6.3 | 2.3 | 2.5 | 8.0 | 6.8 | 2.1 |
| | 4.0 | 2.1 | 8.0 | 6.4 | 1.9 | 2.8 | 9.5 | 8.2 | 2.2 |
| | 6.0 | - | - | - | - | 1.8 | 10.8 | 9.1 | 1.8 |

Sintralite / Sintralite EC 1.5

Safety Luminaires for Escape Route Lighting

8 W



IP20



EASI-CHECK

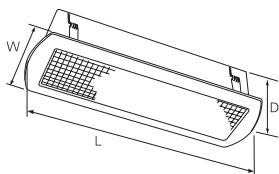
Sintralite

- Attractive flush mount design
- Choice of chrome or white finish
- Sprung ceiling clips speeds installation

Sintralite



Dimensions in mm



| L (mm) | W (mm) | D (mm) | Cut out (mm) |
|--------|--------|--------|--------------|
| 389 | 126 | 80 | 340 x 90 |

| | |
|--|--|
| Luminous flux Φ_N | 275 lm |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100% |
| Housing material | Body: Flame retardant ABS Diffuser: Clear Polycarbonate Gear tray/reflector: Polycarbonate |
| Weight incl. panel | 1.1 kg |
| Housing colour | White or chrome |
| Type of mounting | Recessed ceiling mounting |
| Ceiling cut-out (mm) | 340 x 90 |
| Max. recess depth (mm) | 80 |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 230 V, 50 Hz |
| Power consumption mains operation | 9.2 VA / 8.8 W |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 8W T5 Fluorescent |

Ordering details

| Type | Scope of supply | White Finish Order No. | Chrome Finish Order No. |
|---------------------|--|------------------------|-------------------------|
| Sintralite 230 V AC | Recessed Safety luminaire, available in white or chrome finish, incl. lamp, 230 V AC | SN230 | SN230CH |
| Sintralite EC 1.5 | Recessed Safety luminaire with EasiCheck 1.5 technology, available in white or chrome finish, incl. lamp, 230 V AC | SN230EC | SN230CHEC |

Photometric Data

| Mode | Mounting height (m) | Escape route 2m wide 1 Lux min | | | | Open (anit-panic) area 0.5 Lux min | | | |
|-------|---------------------|-----------------------------------|------|-----|-----|---------------------------------------|------|-----|-----|
| | | | | | | | | | |
| AC/AC | 2.5 | 3.3 | 8.4 | 6.0 | 2.3 | 2.9 | 8.1 | 6.7 | 1.5 |
| | 4.0 | 3.8 | 10.2 | 6.2 | 1.8 | 3.6 | 10.2 | 8.0 | 1.6 |
| | 6.0 | - | 10.8 | 4.6 | - | 3.8 | 12.6 | 8.7 | 1.2 |

Sintralite 50 V / Sintralite 110 V AC/DC

Safety Luminaires for Escape Route Lighting



IP20

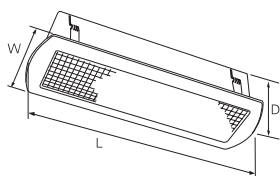
Sintralite 50 V / 110 V AC/DC

- Attractive flush mount design
- Choice of chrome or white finish
- Sprung ceiling clips speeds installation
- Supplied with lamp

Sintralite



Dimensions in mm



| L (mm) | W (mm) | D (mm) | Cut out (mm) |
|--------|--------|--------|--------------|
| 389 | 126 | 80 | 340 x 90 |

| | |
|---------------------------------|--|
| Luminous flux Φ_N | 275 lm |
| Housing material | Body: Flame retardant ABS Diffuser: Clear Polycarbonate Gear tray/reflector: Polycarbonate |
| Weight incl. panel | 1.0 kg |
| Housing colour | White or chrome |
| Type of mounting | Recessed ceiling mounting |
| Ceiling cut-out (mm) | 340 x 90 |
| Max. recess depth (mm) | 80 |
| Connection terminals | 3 x 2.5 mm ² |
| Connection voltage | 50 V AC/DC 110 V AC/DC |
| Permissible ambient temperature | 0 °C to +40 °C |
| Light source | 8W T5 Fluorescent |

Ordering details

| Type | Scope of supply | White Finish Order No. | Chrome Finish Order No. |
|---------------------------|---|---------------------------|----------------------------|
| 50V AC/DC Central System | Recessed Safety luminaire, available in white or chrome finish, incl. lamp, 50 V AC/DC | SN50 | SN50CH |
| 110V AC/DC Central System | Recessed Safety luminaire, available in white or chrome finish, incl. lamp, 110 V AC/DC | SN110 | SN110CH |



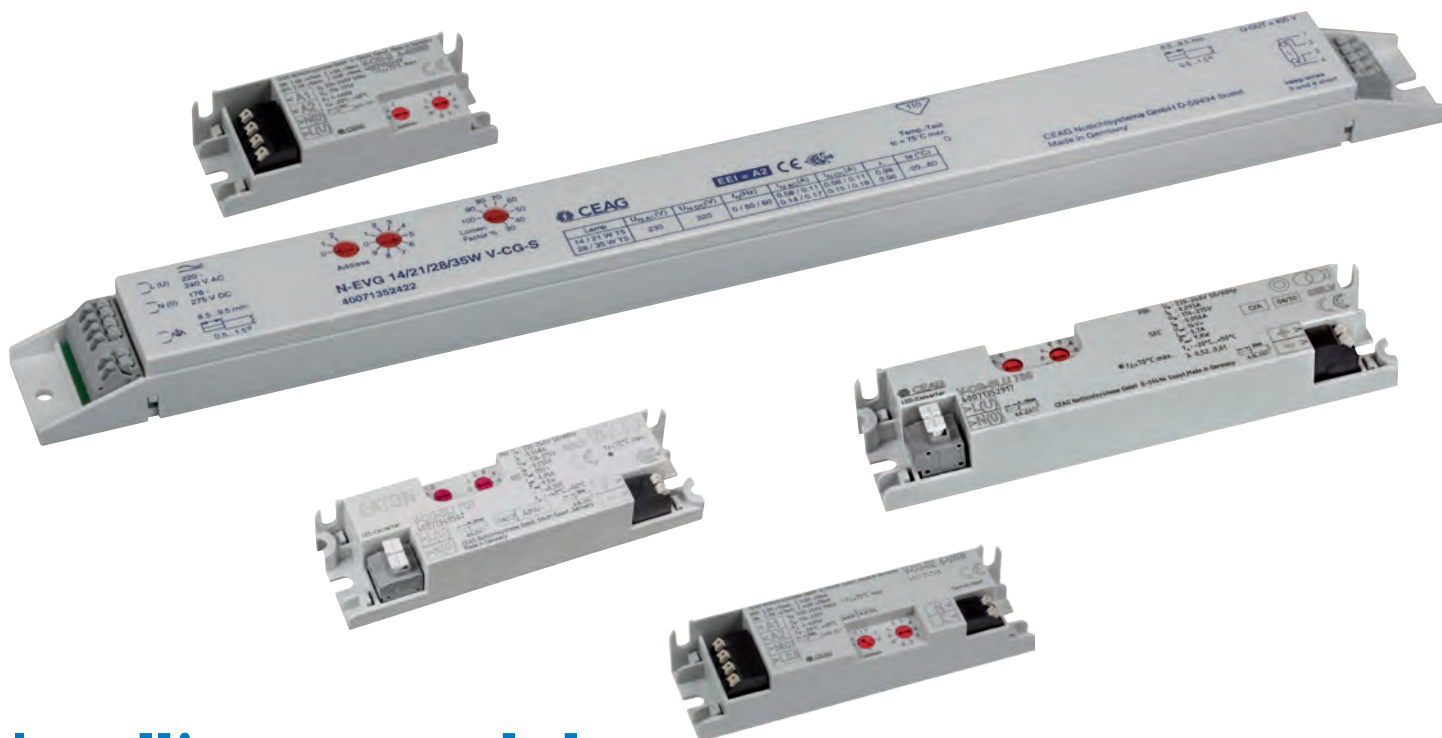


Monitoring and Lamp control gear modules

| | |
|---|-----|
| N-EVG ... V-CG-S | 268 |
| EVG 13.3 V-CG-S, EVG 18V-CG-S, EVG 18C V-CG-S | 270 |
| V-CG-S 4-400 W | 272 |
| V-CG-S2 1,5-30 W | 273 |
| V-CG-SE 4-400 W | 274 |
| V-CG-SB.1 | 275 |
| V-CG-SUW | 276 |
| CG-K 4-400 W | 277 |
| V-CG-SLI 350 | 278 |
| V-CG-SLI 500 | 279 |
| V-CG-SLI 700 | 280 |
| V-CG-SLI 1000..... | 281 |
| V-CG-SLS 28 | 282 |
| V-CG-SLS 350 | 283 |
| V-CG-SLS 500 | 284 |
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Monitoring and Lamp control gear modules

Intelligent modules ensure greater safety



Intelligent modules ensure greater safety

With CEAG monitoring modules, electronic ballasts or LED supply modules, luminaires for general lighting systems from any manufacturer can be connected to central battery systems and thus integrated into the building emergency lighting concept.

The modules matched to the requirements of central battery systems installations make it possible to monitor and control up to 20 luminaires in only one circuit. Using the ballasts, luminaires on one circuit can be operated in different switching modes such as maintained light, non-maintained light or switched maintained light. Here in the case of the N-EVGs (electronic ballasts), the emergency lighting level of each lamp can be individually set for battery operation from 30 to 100 % of the nominal luminous flux.

Addressing and adjustment of the luminous flux is performed, as usual, via easy to access coding switches.

Please observe our electronic control gear requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: <http://www.ceag.de/en/products/centrally-supplied-luminaires/interfaces-ballasts>.

Features:

- Reduced battery capacity / costs due to settable luminous flux ratio
- Low operating costs due to decreased standby losses
- Shortened inspection effort due to CEWA GUARD technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditure with STAR technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Increased safety through SLI technology: Monitoring of up to 8 individual LEDs in series connection
- Avoidance of installation failures due to mains connection being protected against polarity reversal
- Minimised dimensions
- Greater ambient temperature ranges
- With ENEC symbol, certified by independent test centre

Monitoring modules, electronic ballasts, LED supply modules



Shortened inspection effort due to CEWA GUARD technology. Automatic function monitoring of up to 20 luminaires per circuit.

When an emergency lighting system is put into operation, it is in perfect condition. What, however, counts more, is its reliable functioning in case of emergency, regardless of whether this happens after 4 weeks or 5 years.

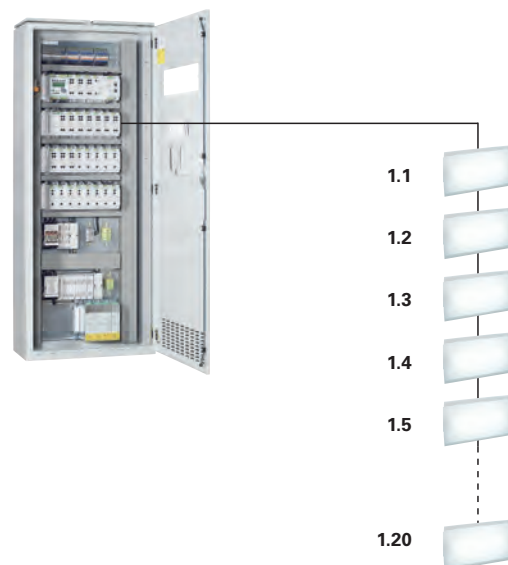
Maintenance, service and inspection are the prerequisite for such reliability. Apart from regular visual checks, all luminaires must be submitted to function and duration tests. Test data and system-related information must be documented in a log book.

CEAG emergency lighting systems with CEWA GUARD functions considerably simplify inspection effort and thereby provide for a distinct reduction of costs and reliable inspection.

CEWA GUARD is an automatic testing and monitoring system that inspects the functioning of the connected luminaires at individually set periods, saving the results to an electronic log book and also forwarding these to a higherlevel display system.

In order to design this system as efficiently as possible and to keep installation costs to a minimum, only one cable for power supply and data transfer is required for the CG technology. As such, no additional shielded data cables to the luminaires are needed for operating the system.

A polarity reversal-protected mains connection to the monitoring modules makes installation simpler and prevents annoying installation errors.



Reduced installation expenditures by STAR technology. Freely programmable mixed operation of the switching modes per luminaire in one circuit.



The **STAR Technology** allows different switching modes to be implemented in one and the same circuit, and the switching mode of each individual luminaire can be re-programmed at any time.

The number of outgoing circuits needed can be sharply reduced, since maintained, non-maintained and switched maintained light can be realised in one common circuit. This allows the use of shorter cable distances, reduces installation costs and minimises the effects of burning materials. Any mode of operation can be assigned at a later date – without encroachment in the lighting installation. This enables simple project planning without having to take all possible types of operation into account.

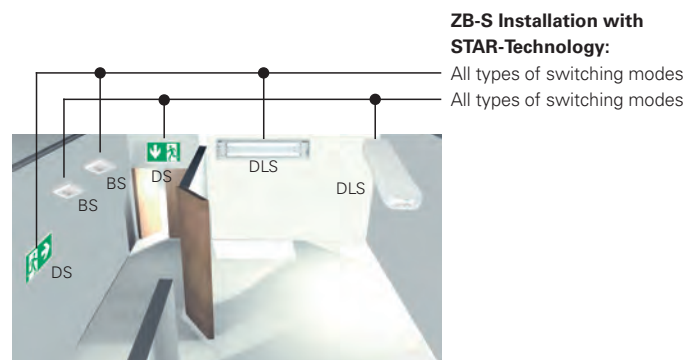
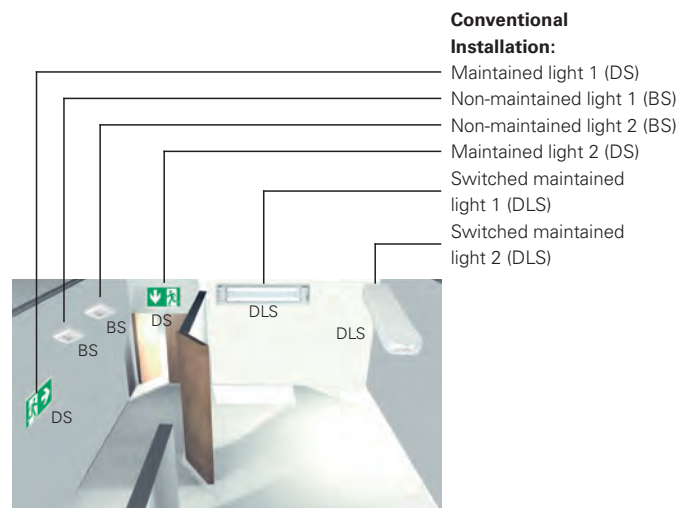
As a result, this technology offers not just the proven CEWA GUARD safety when it comes to operating an emergency lighting system, it also gives planners the confidence of knowing that the system can respond and adapt at any time to any changes that are made to a building and its use.

As with CEWA GUARD technology, the patented STAR technology requires no additional data cable to the luminaires.

S+-Technologie



Automatic function monitoring of up to 20 luminaires, freely programmable mixed operation of switching modes per luminaire in one circuit also **for AC safety power sources**.



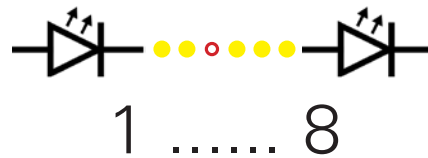
Monitoring and Lamp control gear modules

Monitoring modules, electronic ballasts, LED supply modules

Increased safety through intelligent individual LED monitoring

SLI

The new SLI technology (Single LED monitoring Intelligence) enables a safe error message even if a single LED fails. Up to 8 LEDs in series connection can thus be individually monitored. Combined with an automatic function test, this signals a reduced luminaire luminous flux emission due to a defective LED and necessary repair work can be initiated immediately by the operating personnel. Maintaining building security by complying with the required lighting parameters for safety lighting is significantly improved by this procedure.



Safe fault identification even if only one LED fails

Module V-CG-SLI

- SLI-Technology: reliable fault identification down to a single LED
- Suitable for operation at extreme ambient conditions down to -40°C
- Free switching mode programming and automatic function monitoring of up to 20 luminaires per circuit



Use even under extreme temperature conditions

In addition, the new SLI LED power supply modules can be used under extreme temperature conditions in the range of -40°C to $+50^{\circ}\text{C}$. The possible applications of these new power supply modules thus cover a huge applications.

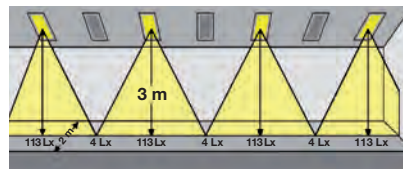
Reduced battery capacity costs with settable luminous flux ratio.

CEAG offers a wide range of special ballasts for emergency lighting for installation into existing light fittings. The ballasts include a monitoring module which signals the luminaire's current status to the central emergency lighting system.

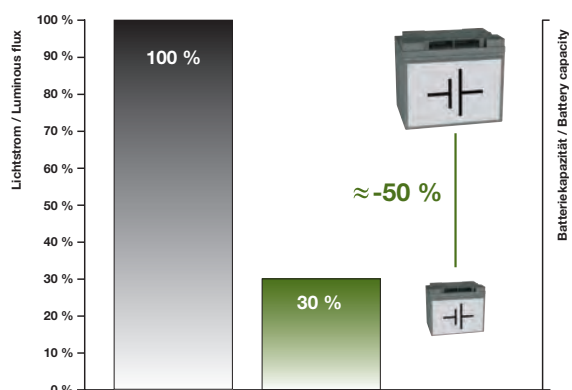
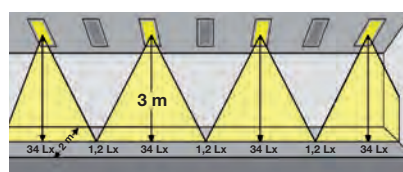
This means that only one ballast must be installed into the luminaire, safe operation in the DC voltage range of 186- 275 V is ensured, and the danger of specifying the wrong ballast is minimised.

By the use of efficient electronic ballasts with automatically reduced luminous flux in battery operation, a considerable reduction of energy is achieved. This saves costs and adds to environmental protection since it provides equal safety with smaller batteries.

Standard EVG 58 W/100 % luminous flux



N-EVG 58 W/30 % luminous flux



Monitoring and Lamp control gear modules

Monitoring modules, electronic ballasts, LED supply modules



ENEC symbol, certified by an independent test centre.

The ENEC symbol (European Norms Electrical Certification) is a European examination symbol created by CENELEC (European Committee for Electrical Standardisation) which confirms that the device on which this symbol is fixed to automatically complies with all requirements of the European testing laboratory.

All CEAG modules must be subjected to these stringent tests and are then allowed to display this symbol.

N-EVG ... V-CG-S

Electronic ballasts



N-EVG 24/39 W V-CG-S



8

N-EVG ... V-CG-S

- Reduced battery capacity /-costs by adjustable luminous flux of 30 – 100% in DC-operation
- Minimized dimensions of conventional T5 ECG cross section (H x W: 21 x 30 mm)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to CEWA GUARD and S+-Technology:
Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
Freely programmable mixed operation of switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaire is needed
- With automatic lamp wattage detection and optimal operation of the lamp acc. to IEC-standard
- Safety by automatic switchoff at lamp failures or at end of lamp life
- Automatic re-engagement after lamp exchanging

| | |
|--|--|
| Rated voltage ranges | 220 – 240V, 50/60 Hz / 176 – 275 V DC |
| Energy-Efficiency-Index | EEI = A2 |
| Lamp start | < 1 s with optimum pre-heating |
| Standby power loss | ≤ 1 W (230V / 50 Hz) |
| Lamp load | See table on next page |
| Maximum line length | 1 m (ECG – lamp) |
| Type of mounting | To be mounted in luminaires with protection category I or II Attention: Functional earth necessary! |
| Degree of protection | IP20 |
| Permissible temperature range | t _a = -20 °C to +60 °C |
| Maximal permissible test point temperature | t _c = 75 °C |
| Connection terminals | Plug in terminals 1.5 mm ² / reverse-polarity protected |
| Dimensions in mm (H x L x W) | 21 x 360 x 30 |
| Housing material / colour | Flame retardant polycarbonate / grey |
| Weight | 35/39/36 W = 0.166 kg 49 W = 0.174 kg 54/58/80 W = 0.185 kg |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | In DC-operation acc. setting 30- 100 % (10 %-steps) |

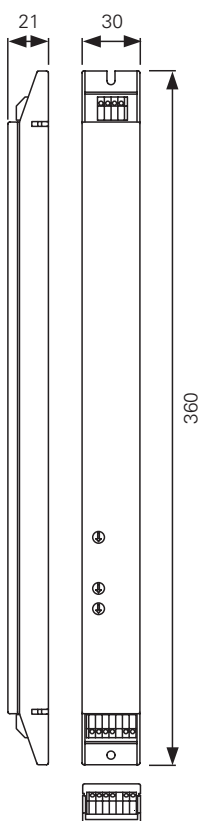
Depending on the luminous flux (30% ... 100%) the correspondend battery current has to be projected.

Dim operation permitted by 30% up to 10°C, 60% up to 0°C only.
For outdoor use set 100 % only!

Ordering details

| Type | Without individual packaging | Individual packaging |
|---------------------------|------------------------------|----------------------|
| | Order No. | Order No. |
| T5 / G5 lamp cap | | |
| N-EVG 14/21/28/35W V-CG-S | 40071352422 | 40071352452 |
| N-EVG 24/39W V-CG-S | 40071352423 | 40071352453 |
| N-EVG 49W V-CG-S | 40071352424 | 40071352454 |
| N-EVG 54W V-CG-S | 40071352425 | 40071352455 |
| N-EVG 80W V-CG-S | 40071352426 | 40071352456 |
| T8 / G13 lamp cap | | |
| N-EVG 36W V-CG-S | 40071352427 | 40071352457 |
| N-EVG 58W V-CG-S | 40071352428 | 40071352458 |

Dimensions in mm



N-EVG 54 W V-CG-S



Rated value N-EVG ... V-CG-S for mains and battery operation

| Term | | | | | | |
|--|---------------------|---------------------|---------------------|---------------------|---------|---------|
| Lamp cap | T5 | T5 | T5 | T5 | T5 | T5 |
| | G5 | G5 | G5 | G5 | G5 | G5 |
| Type N-EVG ... V-CG-S | 14 / 21 / 28 / 35 W | 14 / 21 / 28 / 35 W | 14 / 21 / 28 / 35 W | 14 / 21 / 28 / 35 W | 24/39 W | 24/39 W |
| Lamp load [W] | 14 | 21 | 28 | 35 | 24 | 39 |
| Current consumption [A] at 220 V battery operation, setting (Luminous flux Φ_E/Φ_N in %) | | | | | | |
| 100 % | 0.08 | 0.11 | 0.15 | 0.18 | 0.13 | 0.19 |
| 90 % | 0.07 | 0.10 | 0.13 | 0.16 | 0.12 | 0.17 |
| 80 % | 0.064 | 0.09 | 0.12 | 0.14 | 0.10 | 0.15 |
| 70 % | 0.057 | 0.08 | 0.11 | 0.13 | 0.09 | 0.13 |
| 60 % | 0.051 | 0.07 | 0.10 | 0.11 | 0.08 | 0.12 |
| 50 % | 0.045 | 0.062 | 0.09 | 0.10 | 0.07 | 0.11 |
| 40 % | 0.040 | 0.055 | 0.08 | 0.09 | 0.066 | 0.10 |
| 30 % | 0.036 | 0.050 | 0.07 | 0.08 | 0.059 | 0.09 |
| Power consumption [A] at 230 V mains operation | 0.08 | 0.11 | 0.14 | 0.17 | 0.12 | 0.18 |
| Power factor λ | 0.94 | 0.94 | 0.98 | 0.98 | 0.95 | 0.98 |
| Inrush current [A] | 10 | | | | | |
| System power lamp + ECG acc. to EN 50294 [W] | 16 | 23 | 30 | 37 | 25 | 41 |

N-EVG 58 W V-CG-S



| Term | | | | | |
|--|------|------|------|------|------|
| Lamp cap | T5 | T5 | T5 | T8 | T8 |
| | G5 | G5 | G5 | G13 | G13 |
| Type N-EVG ... V-CG-S | 49W | 54W | 80W | 36W | 58W |
| Lamp load [W] | 49 | 54 | 80 | 36 | 58 |
| Current consumption [A] at 220 V battery operation, setting (Luminous flux Φ_E/Φ_N in %) | | | | | |
| 100 % | 0.24 | 0.26 | 0.38 | 0.17 | 0.25 |
| 90 % | 0.21 | 0.23 | 0.34 | 0.15 | 0.22 |
| 80 % | 0.19 | 0.21 | 0.30 | 0.14 | 0.20 |
| 70 % | 0.17 | 0.18 | 0.27 | 0.12 | 0.18 |
| 60 % | 0.15 | 0.16 | 0.24 | 0.11 | 0.16 |
| 50 % | 0.14 | 0.15 | 0.21 | 0.10 | 0.14 |
| 40 % | 0.12 | 0.13 | 0.19 | 0.09 | 0.13 |
| 30 % | 0.11 | 0.12 | 0.17 | 0.08 | 0.11 |
| Power consumption [A] at 230 V mains operation | 0.24 | 0.25 | 0.37 | 0.16 | 0.24 |
| Power factor λ | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Inrush current [A] | 10 | 10 | 12 | 10 | 10 |
| System power lamp + ECG acc. to EN 50294 [W] | 52 | 57 | 84 | 34 | 53 |

EVG 13.3 V-CG-S, EVG 18V-CG-S, EVG 18C V-CG-S

Electronic ballasts



EVG 13.3 V-CG-S



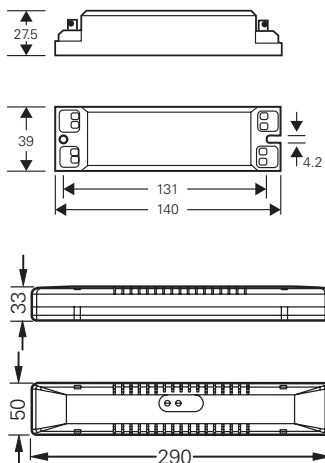
EVG 18 V-CG-S



EVG 18C V-CG-S



Dimensions in mm



EVG 13.3 V-CG-S, EVG 18V-CG-S, EVG 18C V-CG-S

- Low operating costs due to decreased standby losses < 0.5 W
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD and S⁺-Technology:
Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Enlarged ambient temperature range

| | |
|--|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176- 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Lamp load | EVG 13.3 13W (see schedule n. page) EVG 18 18W (see schedule n. page) |
| Maximum line length | 1 m (ECG- lamp) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible temperature range | ta = -20 °C to +60 °C |
| Maximal permissible test point temperature | tc = 75 °C |
| Connection terminals | Plug-in terminals 2.5 mm ² / reverse-polarity protected |
| Dimensions in mm (H x L x W) | 27.5 x 140 x 39 |
| Housing material / colour | Flame retardant polycarbonate / grey |
| Weight | 0.07 kg |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 75 % |

Ordering details

Scope of supply

| | Without individual packaging | Individual packaging |
|----------------------------|------------------------------|----------------------|
| Order No. | Order No. | |
| EVG 13.3 V-CG-S | 40071352401 | 40071352431 |
| EVG 18 V-CG-S | 40071352402 | 40071352432 |
| EVG 18C V-CG-S | 40071352403 | 40071352433 |
| Housing with strain relief | | 40071352851 |

EVG 13.3 V-CG-S, EVG 18V-CG-S, EVG 18C V-CG-S

Electronic ballasts

Rated value of EVG 13.3 V-CG-S, EVG 18 V-CG-S and EVG 18C V-CG-S for mains and battery operation

EVG 13.3 V-CG-S



EVG 18 V-CG-S



EVG 18C V-CG-S



| International term | Lamp cap | EVG-type EVG... | Lamp load in [W] | Power consumption at battery operation [A] ¹ | Power consumption in [VA] | Inrush current [A] | power factor λ |
|--------------------|-----------|-----------------|------------------|---|---------------------------|--------------------|------------------------|
| T16 / T5 | G 5 | 13.3 V-CG-S | 4 | 0.020 | 8 | 3 | 0.6 |
| | | 13.3 V-CG-S | 6 | 0.025 | 12 | 3 | 0.6 |
| | | 13.3 V-CG-S | 8 | 0.030 | 16 | 3 | 0.6 |
| | | 13.3 V-CG-S | 13 | 0.050 | 23 | 3 | 0.6 |
| TC-SEL | 2 G 7 | 13.3 V-CG-S | 5 | 0.020 | 10 | 3 | 0.6 |
| | | 13.3 V-CG-S | 7 | 0.025 | 13 | 3 | 0.6 |
| | | 13.3 V-CG-S | 9 | 0.030 | 16 | 3 | 0.6 |
| | | 13.3 V-CG-S | 11 | 0.040 | 18 | 3 | 0.6 |
| TC-DEL | G 24 q-1 | 13.3 V-CG-S | 10 | 0.035 | 16 | 3 | 0.6 |
| | | 13.3 V-CG-S | 13 | 0.050 | 23 | 3 | 0.6 |
| | G 24 q-2 | 18C V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| | | 18C V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| TC-TEL | GX 24 q-1 | 13.3 V-CG-S | 13 | 0.050 | 23 | 3 | 0.6 |
| | | 18C V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| | GX 24 q-2 | 13.3 V-CG-S | 13 | 0.050 | 23 | 3 | 0.6 |
| | | 18C V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| T 26 / T8 | G 13 | 18 V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| | | 18 V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| TC-F | 2 G 10 | 18 V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| | | 18 V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| TC-L | 2 G 11 | 18 V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| | | 18 V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |

¹⁾ Luminous flux $\Phi_E/\Phi_N = 75\%$

V-CG-S 4-400 W

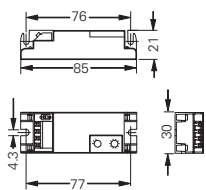
Monitoring module



V-CG-S 4-400 W



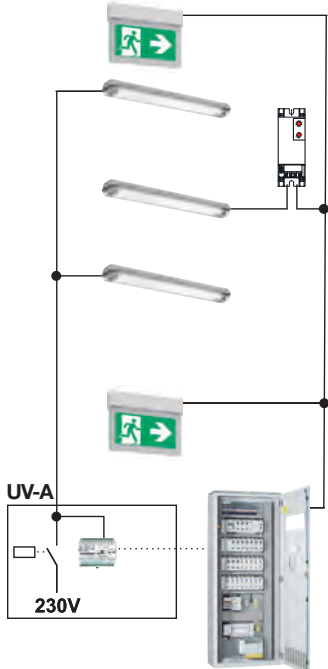
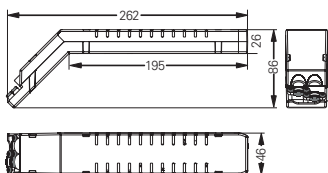
Dimensions in mm



Module housing



Dimensions in mm



V-CG-S 4-400 W

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring module for loads 4 – 400 W
- Shortened inspection effort due to the CEWA GUARD and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Enlarged ambient temperature range

| | |
|--|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176- 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Power input | 4 W - 400 W |
| Max. permitted inrush current | 30 A |
| Maximum line length | 50 m (module- luminaire) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible temperature range | ta = -20 °C to +60 °C |
| Maximal permissible test point temperature | tc = 75 °C |
| Connection terminals | Plug in terminals 1.5 mm ² / reverse-polarity protected |
| Dimensions in mm (H x L x W) | 21 x 85 x 30 |
| Housing material / colour | Flame retardant polycarbonate / grey |
| Weight | 0.035 kg |

Ordering details

| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-S 4-400 W | 40071352409 | 40071352439 |
| Module housing with strain relief | | 40071352765 |

Attention! The following parameter must be observed.

| slidingswitch | I _{OK} | I _{n,OK} * |
|---------------|-----------------|---------------------|
| ON | > 47 mA | < 28 mA |
| OFF | > 16 mA | < 10 mA |

* If the lamp is faulty the charging rate of the control gear must be smaller than I_{n,OK}.

For the use of standard control gears make sure that a correct function of the control gear is guaranteed as well in the voltage range of 186 to 275 V. We recommend to obtain a corresponding certificate of the manufacturer.

The disconnection of the control gears in case of lamp failure must occur within 1.6 seconds.

The current consumption of the ballast must be sinusoidal for AT-S+-systems.

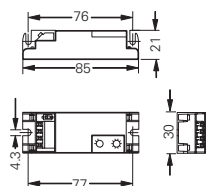
Please observe our electronic control unit requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: <http://www.ceag.de/de/produkte/systemleuchten/module-und-vorschaltgeraete>.



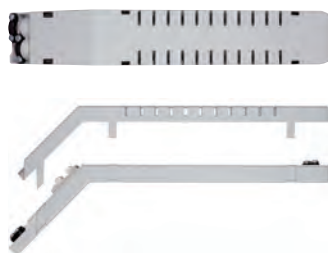
V-CG-S2 1.5-30 W



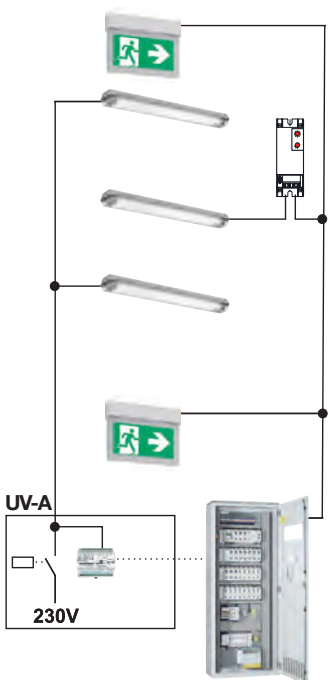
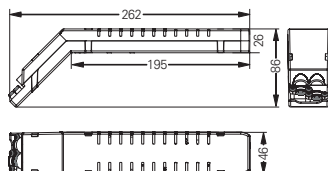
Dimensions in mm



Module housing



Dimensions in mm



V-CG-S2 1,5-30 W

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sideways upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring module for loads 1.5 – 30 W
- Shortened inspection effort due to the CEWA GUARD and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaire is needed
- Enlarged ambient temperature range

| | |
|--|--|
| Connection voltage | 220 - 240 V, 50/60 Hz / 176- 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Power input | 1.5 W- 30 W |
| Maximum inrush current | 30 A |
| Maximum line length | 50 m (module- luminaire) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible temperature range | ta = -20 °C to +60 °C |
| Maximum permissible test point temperature | tc = 75 °C |
| Connection terminals | Plug in terminals 1.5 mm ² / reverse-polarity protected |
| Dimensions in mm (H x L x W) | 21 x 85 x 30 |
| Housing material / colour | flame retardant polycarbonate / grey |
| Weight | 0.035 kg |

Ordering details

| | Without individual packaging | Individual packaging |
|------------------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-S2 1.5-30 W | 40071352410 | 40071352440 |
| Module enclosure with cable relief | | 40071352765 |

Attention! The following parameter must be observed.

| slidingswitch | I _{OK} | I _{n,OK} * |
|---------------|-----------------|---------------------|
| ON | > 12.7 mA | < 7.9 mA |
| OFF | > 9.4 mA | < 5.8 mA |

* If the lamp is faulty the charging rate of the control gear must be smaller than I_{n,OK}.

For the use of standard control gears make sure that a correct function of the control gear is guaranteed as well in the voltage range of 186 to 275 V. We recommend to obtain a corresponding certificate of the manufacturer.

The disconnection of the control gears in case of lamp failure must occur within 1.6 seconds.

The current consumption of the ballast must be sinusoidal for AT-S+-systems.

Please observe our electronic control unit requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: <http://www.ceag.de/de/produkte/systemleuchten/module-und-vorschaltgeraete>.

V-CG-SE 4-400 W

Monitoring module with control input

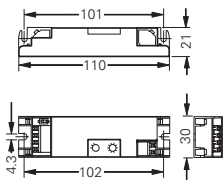


V-CG-SE 4-400 W



8

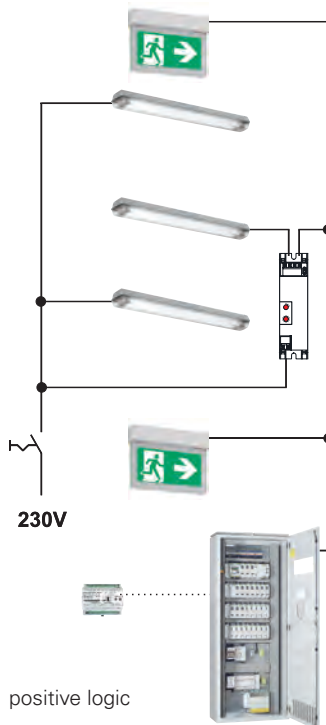
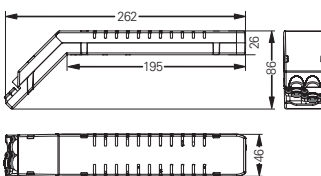
Dimensions in mm



Module housing



Dimensions in mm



V-CG-SE 4-400 W

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sideways upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring modules for loads 4 – 400 W
- Shortened inspection effort due to the CEWA GUARD and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Enlarged ambient temperature range
- Separate control input for a parallel switching on-site with positive or inverted logic

| | |
|--|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Power input | 4 W - 400 W |
| Max. permitted inrush current | 30 A |
| Maximum line length | 50 m (module – luminaires) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible temperature range | ta = -20 °C to +60 °C |
| Maximal permissible test point temperature | tc = 75 °C |
| Connection terminals | Plug in terminals 1.5 mm ² / reverse-polarity protected |
| Dimensions in mm (H x L x W) | 21 x 110 x 30 |
| Housing material / colour | Flame retardant polycarbonate / grey |
| Weight | 0.040 kg |
| Control input | 220 - 240 V, 50 Hz (switching threshold acc. EN 60598-2-22) |

Ordering details

| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SE 4-400 W | 40071352528 | 40071352526 |
| Module housing with strain relief | | 40071352765 |

Function A = L'N (positive logic)

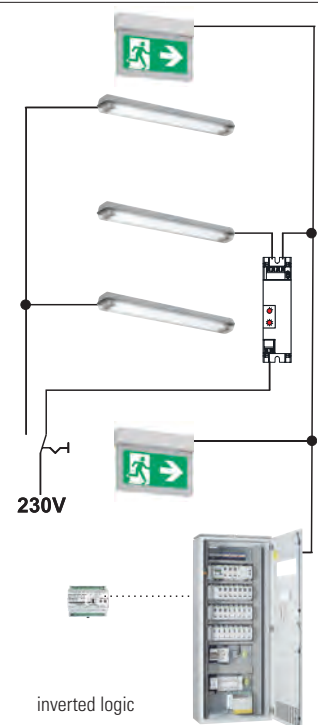
| L(U) / N(0) | Address | STAR command | L' / N | A1 / A2 |
|-------------|---------|----------------|--------------|----------|
| 0 V | 1- 20 | - | 0 / 230V AC | 0 V |
| 230 V AC | 1- 20 | OFF | 0 V | 0 V |
| 230 V AC | 1- 20 | OFF | 230 V AC | 230 V AC |
| 230 V AC | 1- 20 | ON | 0 / 230 V AC | 230 V AC |
| 230 V AC | 1- 20 | Emergency mode | 0 / 230 V AC | 230 V AC |
| 220 V DC | 0- 20 | - | 0 / 230 V AC | 220 V DC |

Function A ≠ L'N (inverted logic)

| L(U) / N(0) | Address | STAR command | L' / N | A1 / A2 |
|-------------|---------|----------------|--------------|----------|
| 0 V | 1- 20 | - | 0 / 230V AC | 0 V |
| 230 V AC | 1- 20 | OFF | 0 V | 230 V AC |
| 230 V AC | 1- 20 | OFF | 230 V AC | 0 V |
| 230 V AC | 1- 20 | ON | 0 / 230 V AC | 230 V AC |
| 230 V AC | 1- 20 | Emergency mode | 0 / 230 V AC | 230 V AC |
| 220 V DC | 0- 20 | - | 0 / 230 V AC | 220 V DC |

The module may only be used for final circuits with STAR- or STAR+ technology.

For more information see V-CG-S monitoring module.

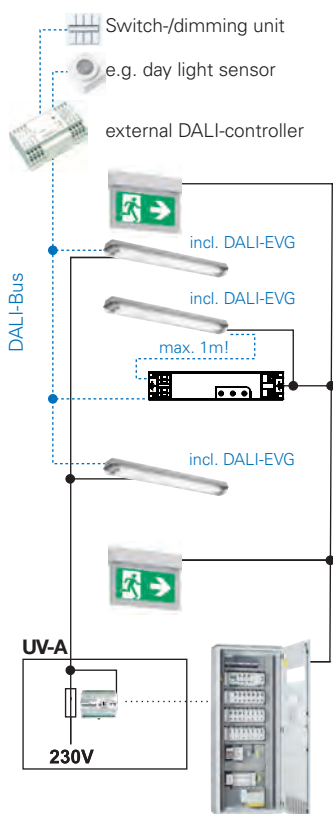
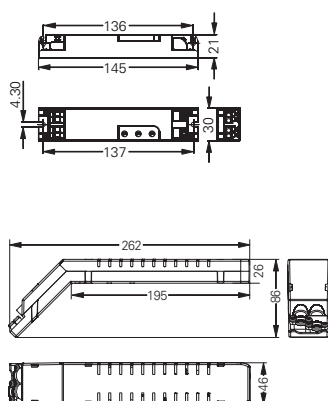




V-CG-SB.1



Dimensions in mm

**V-CG-SB.1**

- Low operating costs due to decreased standby losses < 1 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring module for all single lamp DALI electronic control gears
- Shortened inspection effort due to the CEWA GUARD and S⁺-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Enlarged ambient temperature range
- Safe galvanic isolation of the bus systems (emergency lighting / mains lighting during emergency operation)
- Adjustable luminous flux relation in DC mode in steps between 10 % and 100 %

| | |
|--|--|
| Rated voltage ranges | 220- 240 V, 50/60 Hz / 176- 275 V DC |
| Standby power loss | < 1 W (230 V / 50 Hz) |
| Connection | DALI electronic control gear for max. one single lamp |
| Maximum distance | 1 m (module- DALI-ECG / LED driver) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible temperature range | ta = -20 °C to +60 °C |
| Maximal permissible test point temperature | tc = 65 °C |
| Connection terminals mains | Plug in terminals 2.5 mm ² / reserve-polarity protected |
| Connection terminals DALI-BUS | Plug in terminals 1.5 mm ² / reserve-polarity protected |
| Dimensions in mm (H x L x W) | 21 x 145 x 30 |
| Enclosure material / colour | Flame retardant polycarbonate / grey |
| Weight | 0.047 kg |
| Adjustable luminous flux relation in DC mode | 10 % - 100 % (in 10 % steps) |

Ordering details

| Scope of supply | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| | Order No. | Order No. |
| V-CG-SB.1 | 40071352008 | 40071355259 |
| Module housing with strain relief | | 40071352765 |

Attention! The following parameter must be observed.

For the use of DALI control gears make sure that a correct function of the control gear is guaranteed as well in the DC voltage range of 186 V to 275 V. We recommend to obtain a corresponding certificate of the manufacturer.

The disconnection of the control gear in case of lamp failure after the switch to emergency mode (DC) must occur within 1.6 seconds.

The module may only be used for final circuits with STAR- or STAR⁺ technology.
The functional earth must be connected without fail.

Please observe our electronic control unit requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: <http://www.ceag.de/de/produkte/systemleuchten/module-und-vorschaltgeraete>.

V-CG-SUW

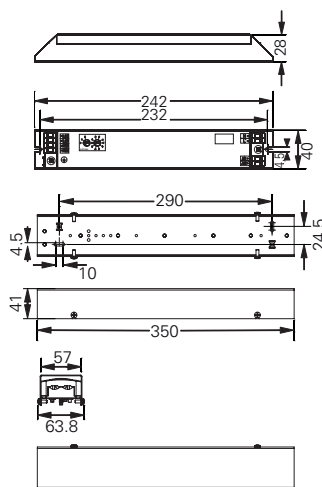
Monitoring module with change over unit



V-CG-SUW



8 Dimensions in mm



V-CG-SUW

- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring modules for loads 13 – 400 W
- Shortened inspection effort due to the CEWA GUARD and S+-Technology:
Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed
- Enlarged ambient temperature range
- Integrated change over unit for parallel connection of an external power source

| | |
|--|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.8 W (230 V / 50 Hz) |
| Power input | 13 W - 400 W |
| Max. inrush current | 80 A/ms |
| Maximum line length | 50 m (module – luminaires) |
| Type of mounting | To be mounted in luminaires with protection category I |
| Degree of protection | IP20 |
| Permissible temperature range | ta = -20 °C to +60 °C |
| Maximal permissible test point temperature | tc = 75 °C |
| Connection terminals | Plug-in terminals 2.5 mm ² / reverse-polarity protected |
| Dimensions in mm (H x L x W) | 28 x 242 x 40 |
| Housing material / colour | Sheet steel / white |
| Weight | 0.14 kg |
| Control input | 0 - 240 V, 50 Hz |

Ordering details

| Scope of supply | Without individual packaging | Individual packaging |
|--|------------------------------|----------------------|
| | Order No. | Order No. |
| V-CG-SUW | 40071352413 | 40071352443 |
| Module housing with strain relief, sheet steel | | 40071349514 |

Function

| L(U) / N(0) | Adress | STAR command | L' / N | A1 / A2 |
|-------------|--------|----------------------|-------------|------------|
| 0 V | 0 - 20 | - | 0 / 240V AC | wie L' / N |
| 230 V AC | 0 - 20 | - | 0 / 240V AC | 230 V AC |
| 230 V AC | 1 - 20 | AUS / OFF | 0 / 240V AC | wie L' / N |
| 230 V AC | 1 - 20 | EIN / ON | 0 / 240V AC | 230 V AC |
| 230 V AC | 1 - 20 | Notbetrieb/Emergency | 0 / 240V AC | 230 V AC |
| 220 V DC | 0 - 20 | - | 0 / 240V AC | 220 V DC |

STAR command:

STAR command of the system to a V-CG-SUW with a defined address

Achtung! Folgende technische Parameter müssen eingehalten werden.

| I _{OK} | I _{n,OK} * |
|-----------------|---------------------|
| > 47 mA | < 28 mA |

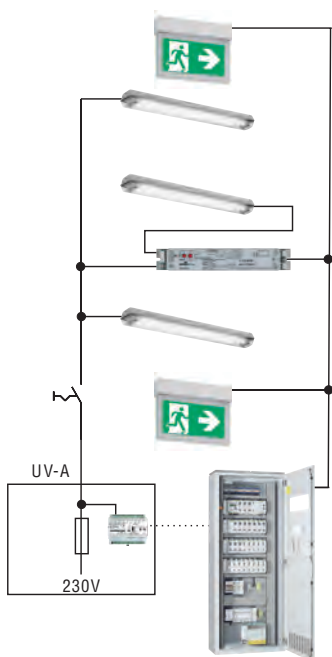
* If the lamp is faulty the charging rate of the control gear must be smaller than I_{n,OK}.*

For the use of standard control gears make sure that a correct function of the control gear is guaranteed as well in the voltage range of 186 to 275 V. We recommend to obtain a corresponding certificate of the manufacturer.

The disconnection of the control gears in case of lamp failure must occur within 1.6 seconds.

The current consumption of the ballast must be sinusoidal for AT-S+-systems.

Please observe our electronic control unit requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: <http://www.ceag.de/de/produkte/systemleuchten/module-und-vorschaltgeraete>.

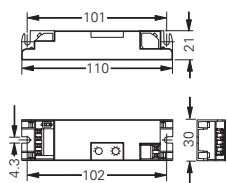




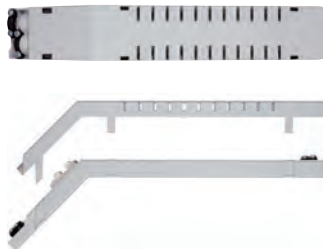
CG-K 4-400 W



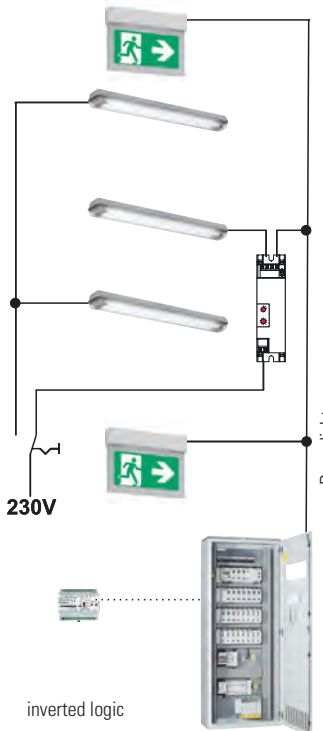
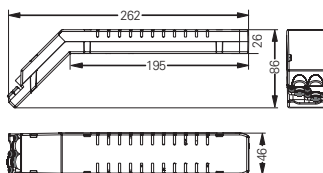
Dimensions in mm



Modulgehäuse



Dimensions in mm



CG-K 4-400 W

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sideways upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Universal monitoring modules for loads 4 – 400 W
- Shortened inspection effort due to the CEWA GUARD technology: Automatic function monitoring of up to 20 luminaires per circuit
- Enlarged ambient temperature range
- Separate control input for a parallel switching on-site with inverted logic

| | |
|--|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Power input | 4 W - 400 W |
| Max. permitted inrush current | 30 A |
| Maximum line length | 50 m (module – luminaires) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible temperature range | ta = -20 °C to +60 °C |
| Maximal permissible test point temperature | tc = 75 °C |
| Connection terminals | Plug-in terminals 1.5 mm ² / reverse-polarity protected |
| Dimensions in mm (H x L x W) | 21 x 110 x 30 |
| Housing material / colour | Flame retardant polycarbonate / grey |
| Weight | 0.040 kg |
| Control input | 220 - 240 V, 50 Hz (switching threshold acc. EN 60598-2-22) |

Ordering details

| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| CG-K 4-400 W | 40071352529 | 40071352527 |
| Module housing with strain relief | | 40071352765 |

Function A ≠ L'N (inverted logic)

| L(U) / N(0) | Address | L' / N | A1 / A2 |
|-------------|---------|--------------|----------|
| 0 V | 1- 20 | 0 / 230V AC | 0 V |
| 230 V AC | 1- 20 | 0 V | 230 V AC |
| 230 V AC | 1- 20 | 230 V AC | 0 V |
| 220 V DC | 0- 20 | 0 / 230 V AC | 220 V DC |

For the use of standard control gears make sure that a correct function of the control gear is guaranteed as well in the voltage range of 186 to 275 V. We recommend to obtain a corresponding certificate of the manufacturer.

The disconnection of the control gears in case of lamp failure must occur within 1.6 seconds.

The module may not be used for final circuits with STAR or STAR+ technology.

Please observe our electronic control unit requirements for monitoring third-party luminaires. Currently valid requirements can be viewed at: <http://www.ceag.de/de/produkte/systemleuchten/module-und-vorschaltgeraete>.

V-CG-SLI 350

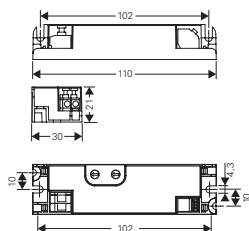
LED supply- and monitoring module



V-CG-SLI 350



Dimensions in mm



V-CG-SLI 350

- Safe fault identification even if one LED fails (SLI-Technology*)
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilities
- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side (data valid for full load with 8 LEDs)

| | |
|------------------------------|--|
| Rated voltage ranges | 220- 240 V, 50/60 Hz / 176- 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption 220 V DC | 43 mA |
| Power input | 11.6 VA / 10.7 W |
| Power factor λ | 0.9 |
| Inrush current | ≤ 3.0 A |
| Operating frequency | 30 kHz- 450 kHz |
| Connection terminals | Clamp terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|---|
| Output current | 350 mA +/- 10% |
| Output voltage | 30 V DC (open-circuit operation) +/- 10% |
| Output voltage in operation | 25 V +/- 10% (8 LEDs) |
| Lamp load | 1-8 LEDs (rated current 350 mA), series connection (UF = 2.85 ... 3.12 V) |
| Output power (max.) | 8.75 W |
| Connection terminals | 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 0.5 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | $t_a = -40$ °C to +50 °C |
| Maximal permissible test point temperature | $t_c = 70$ °C |
| Dimensions in mm (L x H x W) | 110 x 30 x 21 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.042 kg |
| Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF) | 100 % |

Ordering details

| | Without individual packaging | Individual packaging |
|-----------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLI 350 | 40071349560 | 40071355260 |

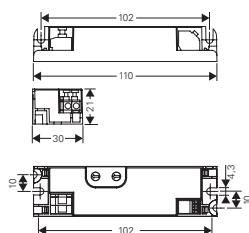
*SLI-Technology = Single LED monitoring Intelligence



V-CG-SLI 500



Dimensions in mm



V-CG-SLI 500

- Safe fault identification even if one LED fails (SLI-Technology*)
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilities Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sideways upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side (data valid for full load with 5 LEDs)

| | |
|------------------------------|--|
| Rated voltage ranges | 220- 240 V, 50/60 Hz / 176- 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption 220 V DC | 43 mA |
| Power input | 11,5 VA / 11,3 W |
| Power factor λ | 0.9 |
| Inrush current | ≤ 3.0 A |
| Operating frequency | 30 kHz- 450 kHz |
| Connection terminals | Clamp terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|--|
| Output current | 500 mA +/- 10% |
| Output voltage | 30 V DC (open-circuit operation) +/- 10% |
| Output voltage in operation | 16,5 V +/- 10% (5 LEDs) |
| Lamp load | 1-5 LEDs (rated current 500 mA), series connection (UF = 2.85 ... 3.3 V) |
| Output power (max.) | 8.5 W |
| Connection terminals | 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 0.5 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | $t_a = -40$ °C to +50 °C |
| Maximal permissible test point temperature | $t_c = 70$ °C |
| Dimensions in mm (L x H x W) | 110 x 30 x 21 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.042 kg |
| Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF) | 100 % |

Ordering details

| | Without individual packaging | Individual packaging |
|-----------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLI 500 | 40071349561 | 40071355261 |

*SLI-Technology = **S**ingle **L**ED monitoring **I**ntelligence

V-CG-SLI 700

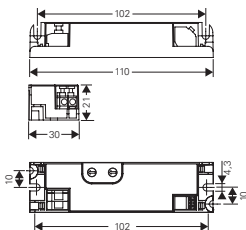
LED supply- and monitoring module



V-CG-SLI 700



Dimensions in mm



V-CG-SLI 700

- Safe fault identification even if one LED fails (SLI-Technology*)
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilities
- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side (data valid for full load with 3 LEDs)

| | |
|------------------------------|--|
| Rated voltage ranges | 220- 240 V, 50/60 Hz / 176- 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption 220 V DC | 43 mA |
| Power input | 10.9 VA / 9.5 W |
| Power factor λ | 0.88 |
| Inrush current | ≤ 3.0 A |
| Operating frequency | 30 kHz- 450 kHz |
| Connection terminals | Clamp terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|---|
| Output current | 700 mA +/- 10% |
| Output voltage | 30 V DC (open-circuit operation) +/- 10% |
| Output voltage in operation | 11.0 V +/- 10% (3 LEDs) |
| Lamp load | 1-3 LEDs (rated current 700 mA), series connection (UF = 2.85 ... 3.67 V) |
| Output power (max.) | 8.05 W |
| Connection terminals | 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 0.5 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | $t_a = -40$ °C to +50 °C |
| Maximal permissible test point temperature | $t_c = 70$ °C |
| Dimensions in mm (L x H x W) | 110 x 30 x 21 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.042 kg |
| Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF) | 100 % |

Ordering details

| | Without individual packaging | Individual packaging |
|-----------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLI 700 | 40071349562 | 40071355262 |

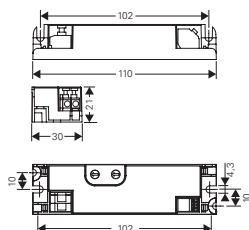
*SLI-Technology = Single LED monitoring Intelligence



V-CG-SLI 1000



Dimensions in mm



V-CG-SLI 1000

- Safe fault identification even if one LED fails (SLI-Technology*)
- Suitable for operation at cold ambient conditions down to -40°C, e.g. in cold storage facilities
- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and STAR+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side (data valid for full load with 2 LEDs)

| | |
|------------------------------|--|
| Rated voltage ranges | 220- 240 V, 50/60 Hz / 176- 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption 220 V DC | 38 mA |
| Power input | 9.5 VA / 7.8 W |
| Power factor λ | 0.8 |
| Inrush current | ≤ 3.0 A |
| Operating frequency | 30 kHz- 450 kHz |
| Connection terminals | Clamp terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|---|
| Output current | 1000 mA (1 LED) / 880 mA (2 LEDs) +/- 10% |
| Output voltage | 30 V DC (open-circuit operation) +/- 10% |
| Output voltage in operation | 8 V +/- 10% (2 LEDs) |
| Lamp load | 1-2 LEDs (rated current 1000 mA), series connection (UF = 2.85 ... 4.0 V) |
| Output power (max.) | 7.04 W |
| Connection terminals | 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 0.5 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | $t_a = -40$ °C to +50 °C |
| Maximal permissible test point temperature | $t_c = 70$ °C |
| Dimensions in mm (L x H x W) | 110 x 30 x 21 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.042 kg |
| Luminous flux Φ_E/Φ_N at the end of rated operating time (EBLF) | 100 % |

Ordering details

| | Without individual packaging | Individual packaging |
|-----------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLI 1000 | 40071349563 | 40071355263 |

*SLI-Technology = Single LED monitoring Intelligence

V-CG-SLS 28

LED supply- and monitoring module



V-CG-SLS 28



V-CG-SLS 28

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 LCG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sideways upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side

| | |
|----------------------|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption | 35 mA (230 V AC) / 20 mA (220 V DC) |
| Power input | 8.1 VA (230 V AC) |
| Power factor λ | 0.45 ... 0.60 |
| Inrush current | ≤ 1.5 A |
| Operating frequency | 132 kHz |
| EEL | A2 |
| Connection terminals | Plug-in terminals 2.5 mm ² / reverse-polarity protected |

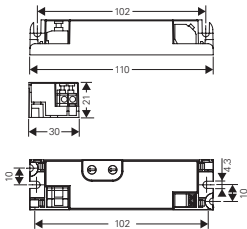
Secondary side

| | |
|---|--|
| Output current | 110 mA (Maximum current) |
| Output voltage | 28 V DC (Constant voltage) |
| Lamp load | LED strip with own current control for 28 V DC and max. 110 mA |
| Output power (max.) | 3.1 W |
| Connection terminals | Plug-in terminals 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 1 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | ta = –20 °C to +50 °C |
| Maximal permissible test point temperature | tc = 70 °C |
| Dimensions in mm (H x L x B) | 21 x 110 x 30 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.042 kg |
| Luminous flux Φ _E /Φ _N at the end of rated operating time | 100 % |

Ordering details

| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLS 28 | 40071352419 | 40071352449 |
| Module housing with strain relief | | 40071351928 |

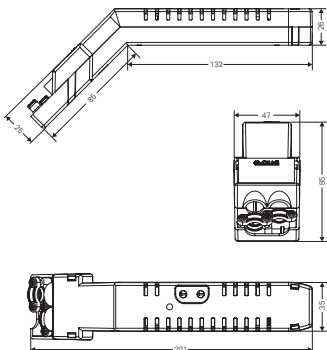
Dimensions in mm



Module housing



Dimensions in mm

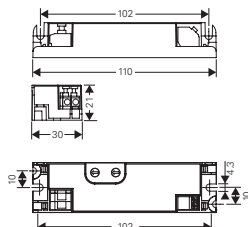




V-CG-SLS 350



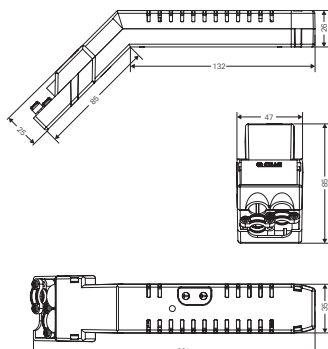
Dimensions in mm



Module housing



Dimensions in mm



V-CG-SLS 350

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 EVG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sideways upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S⁺-Technology:
Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side

| | |
|----------------------|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption | 41 mA (230 V AC) / 26 mA (220 V DC) |
| Power input | 9.4 VA (230 V AC) |
| Power factor λ | 0.60...0.70 |
| Inrush current | ≤ 1.5 A |
| Operating frequency | 132 kHz |
| EEL | A2 |
| Connection terminals | Clamp terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|--|
| Output current | 350 mA (constant current) |
| Output voltage | 14.5 V DC (open-circuit operation) |
| Lamp load | 1-4 LEDs (rated current 350 mA, UF = 3.0 ... 3.3 V), series connection |
| Output power (max.) | 4.62 W |
| Connection terminals | Clamp terminals 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 1 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | t _a = -20 °C to +50 °C |
| Maximal permissible test point temperature | t _c = 60 °C |
| Dimensions in mm (H x L x B) | 21 x 110 x 30 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.042 kg |
| Luminous flux Φ _E /Φ _N at the end of rated operating time | 100 % |

Ordering details

Scope of supply

| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| V-CG-SLS 350 | 40071352417 | 40071352447 |
| Module housing with strain relief | | 40071351928 |

V-CG-SLS 500

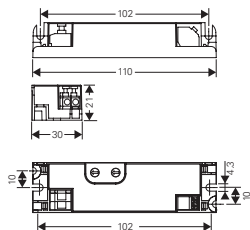
LED supply- and monitoring module



V-CG-SLS 500



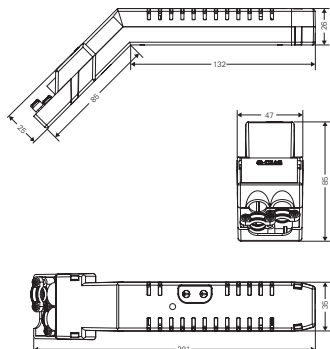
Dimensions in mm



Module housing



Dimensions in mm



V-CG-SLS 500

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 LCG cross section (H x W: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with insulation class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sideways upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side

| | |
|------------------------|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption | 36 mA (230 V AC) / 21 mA (220 V DC) |
| Power input | 8.2 VA (230 V AC) |
| Power factor λ | 0.55 |
| Inrush current | ≤ 1.5 A |
| Operating frequency | 132 kHz |
| EEL | A2 |
| Connection terminals | Plug-in terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|--|--|
| Output current | 500 mA (constant current) |
| Output voltage | 8.3 V DC (open-circuit operation) |
| Lamp load | 2 x LED (rated current 500 mA, UF = 2.5 ... 3.5 V), series connection |
| Output power (max.) | 3.2 W |
| Connection terminals | Plug-in terminals 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 1 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection category I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | $t_a = -20$ °C to +50 °C |
| Maximal permissible test point temperature | $t_c = 70$ °C |
| Dimensions in mm (H x L x B) | 21 x 110 x 30 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.042 kg |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |

Ordering details

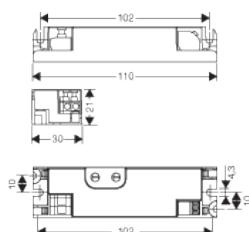
| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLS 500 | 40071352418 | 40071352448 |
| Module housing with strain relief | | 40071351928 |



V-CG-SLS 501



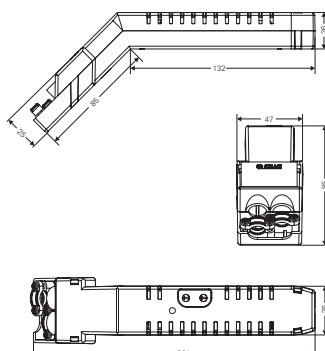
Dimensions in mm



Module housing



Dimensions in mm



V-CG-SLS 501

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 ECG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with protection class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sideways upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S⁺-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaire is needed

Primary side

| | |
|----------------------|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption | 24 mA (230 V AC) / 15 mA (220 V DC) |
| Power input | 6.0 VA (230 V AC) |
| Power factor λ | 0.57 |
| Inrush current | ≤ 1.5 A |
| Operating frequency | 132 kHz |
| EEL | A2 |
| Connection terminals | Plug-in terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|--|
| Output current | 500 mA (constant current) |
| Output voltage | 4.2 V DC (open-circuit operation) |
| Lamp load | 1 x LED (rated-current 500 mA), (UF = 2.5...3.85 V) |
| Output power (max.) | 2.0 W |
| Connection terminals | Plug-in terminals 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 1 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection class I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | t _a = -20 °C to +50 °C |
| Maximal permissible test point temperature | t _c = 70 °C |
| Dimensions in mm (H x L x B) | 21 x 110 x 30 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.042 kg |
| Luminous flux Φ _E /Φ _N at the end of rated operating time | 100 % |

Ordering details

Scope of supply

| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| V-CG-SLS 501 | 40071352369 | 40071355264 |
| Module housing with strain relief | | 40071351928 |

V-CG-SLS 701

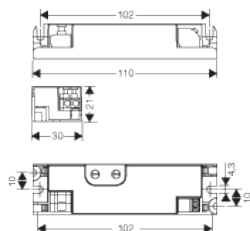
LED supply- and monitoring module



V-CG-SLS 701



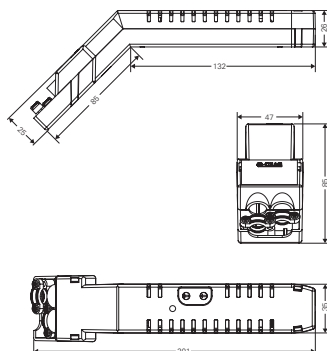
Dimensions in mm



Module housing



Dimensions in mm



V-CG-SLS 701

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized dimensions on the basis of conventional T5 LCG cross section (H x B: 21 x 30 mm) for an eased mounting in narrow luminaires
- Without protective conductor connection. For the use in luminaires with protection class I or II
- Variable mounting possibilities for different mounting positions (horizontal or sidewise upright)
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD- and S+-Technology: Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology: Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaire is needed

Primary side

| | |
|----------------------|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption | 33 mA (230 V AC) / 21 mA (220 V DC) |
| Power input | 7.3 VA (230 V AC) |
| Power factor λ | 0.59 |
| Inrush current | ≤ 1.5 A |
| Operating frequency | 132 kHz |
| EEL | A2 |
| Connection terminals | Plug-in terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|--|
| Output current | 700 mA (constant current) |
| Output voltage | 4.0 V DC (open-circuit operation) |
| Lamp load | 1 x LED (rated-current 700 mA), (UF = 2.5...3.85 V) |
| Output power (max.) | 2.7 W |
| Connection terminals | Plug-in terminals 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 1 m (module – LED) |
| Type of mounting | To be mounted in luminaires with protection class I or II |
| Degree of protection | IP20 |
| Permissible ambient temperature | t _a = –20 °C to +50 °C |
| Maximal permissible test point temperature | t _c = 70 °C |
| Dimensions in mm (H x L x B) | 21 x 110 x 30 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.042 kg |
| Luminous flux Φ _E /Φ _N at the end of rated operating time | 100 % |

Ordering details

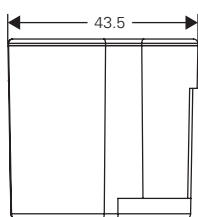
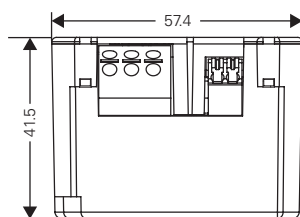
| | Without individual packaging | Individual packaging |
|-----------------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLS 701 | 40071352399 | 40071355265 |
| Module housing with strain relief | | 40071351928 |



V-CG-SLR 350



Dimensions in mm



V-CG-SLR 350

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized height of the luminaire due to flush-mounted installation of the module
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD Technology:
Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side

| | |
|------------------------|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption | 36 mA (230 V AC) / 22 mA (220 V DC) |
| Power input | 8.2 VA (230 V AC) |
| Power factor λ | 0.60 ... 0.70 |
| Inrush current | ≤ 1.5 A |
| Operating frequency | 132 kHz |
| EEI | A2 |
| Connection terminals | Plug-in terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|--|
| Output current | 350 mA (constant current) |
| Output voltage | 13 V DC (open-circuit operation) |
| Lamp load | 1-3 LED (rated current 350 mA, UF = 3.0 ... 4.0 V), series connection |
| Output power (max.) | 4.2 W |
| Connection terminals | Plug-in terminals 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 1 m (module – LED) |
| Type of mounting | For installation in a flush-mounted switch box. According German standard DIN 49073 (Ø 60 mm, height min. 61 mm!) |
| Degree of protection | IP20 |
| Permissible ambient temperature | $t_a = -20$ °C to $+40$ °C |
| Maximal permissible test point temperature | $t_c = 70$ °C |
| Dimensions in mm (H x L x B) | 41.5 x 57.4 x 43.5 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.05 kg |
| Luminous flux Φ_E/Φ_N at the end of rated operating time | 100 % |

Ordering details

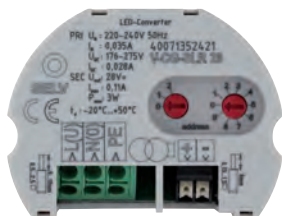
| Scope of supply | Without individual packaging | Individual packaging |
|-----------------|---------------------------------|-------------------------|
| | Order No. | Order No. |
| V-CG-SLR 350 | 40071352420 | 40071352450 |

V-CG-SLR 28

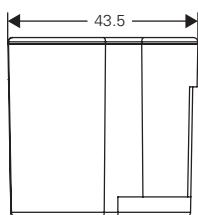
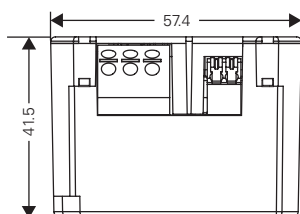
LED supply- and monitoring module



V-CG-SLR 28



Dimensions in mm



V-CG-SLR 28

- Low operating costs due to decreased standby losses < 0.5 W
- Minimized height of the luminaire due to flush-mounted installation of the module
- Avoidance of installation failures due to a mains connection being protected against polarity reversal
- Shortened inspection effort due to the CEWA GUARD Technology:
Automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to STAR-Technology:
Freely programmable mixed operation of the switching modes per luminaire in one circuit
- Reduced installation expenditures as no additional data line to the luminaires is needed

Primary side

| | |
|----------------------|--|
| Rated voltage ranges | 220 - 240 V, 50/60 Hz / 176 - 275 V DC |
| Standby power loss | < 0.5 W (230 V / 50 Hz) |
| Current consumption | 35 mA (230 V AC) / 20 mA (220 V DC) |
| Power input | 8.1 VA (230 V AC) |
| Power factor λ | 0.45 ... 0.60 |
| Inrush current | ≤ 1.5 A |
| Operating frequency | 132 kHz |
| EEL | A2 |
| Connection terminals | Plug-in terminals 2.5 mm ² / reverse-polarity protected |

Secondary side

| | |
|---|---|
| Output current | 110 mA (Maximum current) |
| Output voltage | 28 V DC (Constant voltage) |
| Lamp load | LED strip with own current control for 28 V DC and max. 110 mA |
| Output power (max.) | 3.1 W |
| Connection terminals | Plug-in terminals 1.5 mm ² / not reverse-polarity protected |
| Maximum line length | 1 m (module – LED) |
| Type of mounting | For installation in a flush-mounted switch box. According German standard DIN 49073 (Ø 60 mm, height min. 61 mm!) |
| Degree of protection | IP20 |
| Permissible ambient temperature | ta = –20 °C to +50 °C |
| Maximal permissible test point temperature | tc = 70 °C |
| Dimensions in mm (H x L x B) | 41.5 x 57.4 x 43.5 |
| Housing material / Colour | Flame retardant polycarbonate / grey |
| Weight | 0.05 kg |
| Luminous flux Φ _E /Φ _N at the end of rated operating time | 100 % |

Ordering details

| | Without individual packaging | Individual packaging |
|------------------------|------------------------------|----------------------|
| Scope of supply | Order No. | Order No. |
| V-CG-SLR 28 | 40071352421 | 40071352451 |



Central battery systems AC/DC

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ZB-S

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LP-STAR

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Central battery systems AC/DC

Overview

| | | Central Power System | Low Power System | AC/AC power source | AC/DC power source | DC/DC power source |
|-----|---------|----------------------|------------------|--------------------|--------------------|--------------------|
| 9.1 | ZB-S | | | | | |
| 9.2 | LP-STAR | | | | | |



| | Single luminaire monitoring in battery operation (DC) | Freely programmable switching mode in one and the same circuit | STAR technology and single luminaire monitoring in AC operation | | |
|--------------------|---|--|--|-------------------------------|---------------------|
| Circuit Monitoring | CEWA GUARD Technology (CG) | STAR Technology (S) | STAR+ Technology (S+) | EC (Easi Check) Technology | AE-CU Technology |
| (●) | ● | ● | | | (●) ^{1*} |
| | ● | ● | | | (●) ^{1*} |

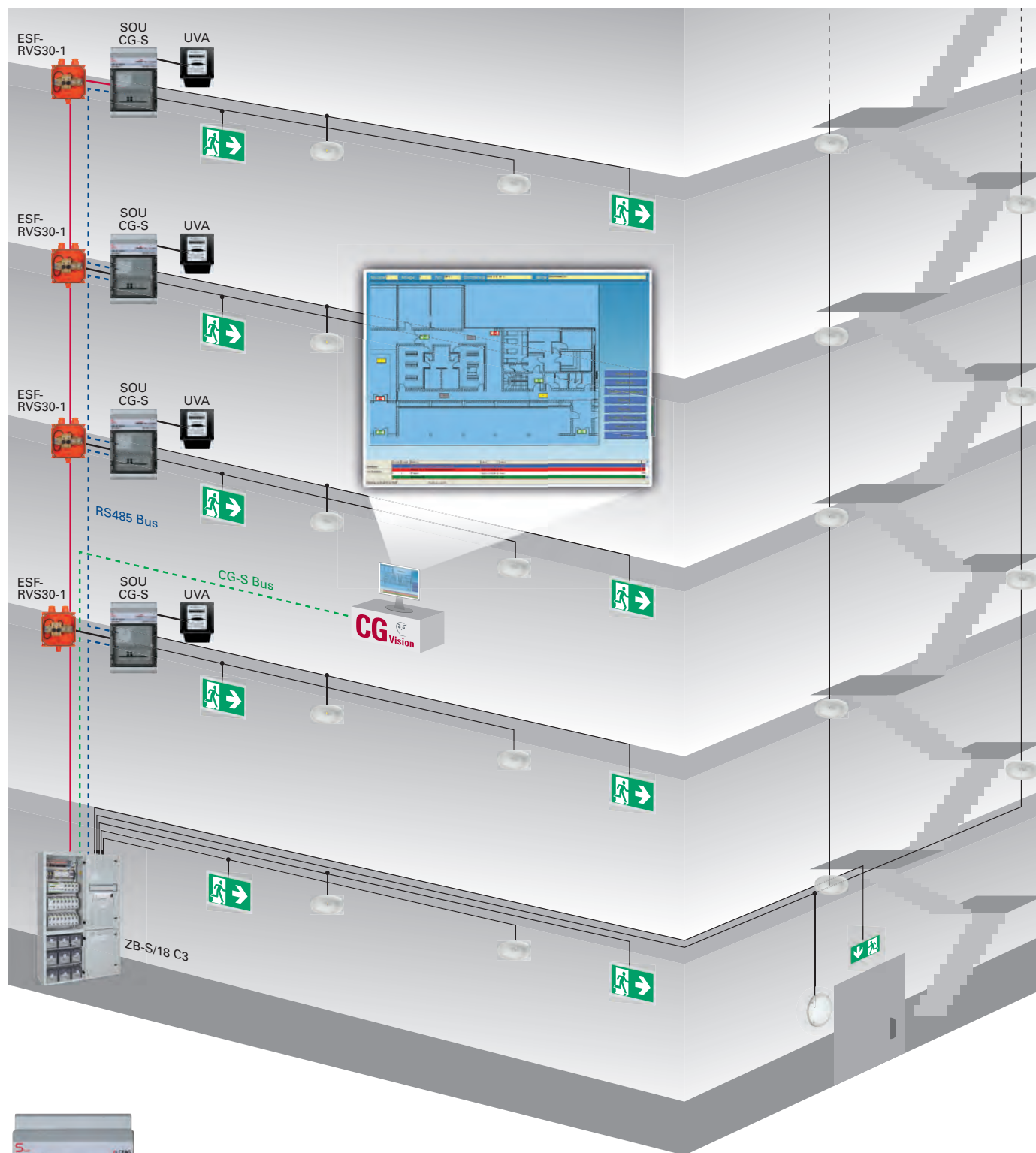
^{1*} Optional in combination with
a ZB-S or LP-STAR system

*The information given in this brochure is accurate
at the time of compilation (errors and omissions
excepted), however due to Eaton philosophy of
constant product development we reserve the right
to change specifications without prior notice.*

Central battery system ZB-S with STAR technology

Installation example

Please note the country-specific regulations and guidelines for planning and realisation.



US-S/ SOU1

Distribution board for area by area installation
allows electricity costs allocation per rental area

Central battery system ZB-S with single luminaire monitoring and STAR technology



As well as providing a dependable supply of power (230V AC/220 V DC) to safety and exit luminaires, the central battery system ZB-S tests itself automatically and individually monitors each CG-S luminaire (up to 20 per circuit), and it does all this using the power supply cable alone.

The STAR technology allows the switching mode of every connected CG-S luminaire to be freely programmed within a 50 or 60 Hz supply network using the central battery system's controller. This means that maintained light, switched maintained light and non-maintained light modes can be combined in one and the same circuit – there is no need for separate data cables!

The control module with its nonvolatile program memory and large graphic display monitors and controls the central battery system. It automatically tests all functions of the devices and emergency luminaires connected to it, and reports any faults that occur.

An integral search function automatically detects all system-dependent luminaires and modules that are assigned an address during installation. A central monitoring device can be connected via an interface.

Features:

- Shortened inspection effort due to CEWA GUARD technology; automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR-technology; freely programmable mixed operation of the switching modes per luminaire in one circuit
- Less installation costs as no data line is required to the luminaires
- Automatic luminaire search function
- Plain text display on the control module down to the last luminaire
- Flexible data storage for test log and system configuration with memory card
- Modular charging technology in the range of 5.5 to 1,000 Ah
- Energy-saving and increased service life via alternating switching of the charging modules and optimised efficiency

Central battery system ZB-S with STAR technology

What is STAR?

S = Switching
T = Technology
A = Advanced
R = Revision
STAR TECHNOLOGY

9

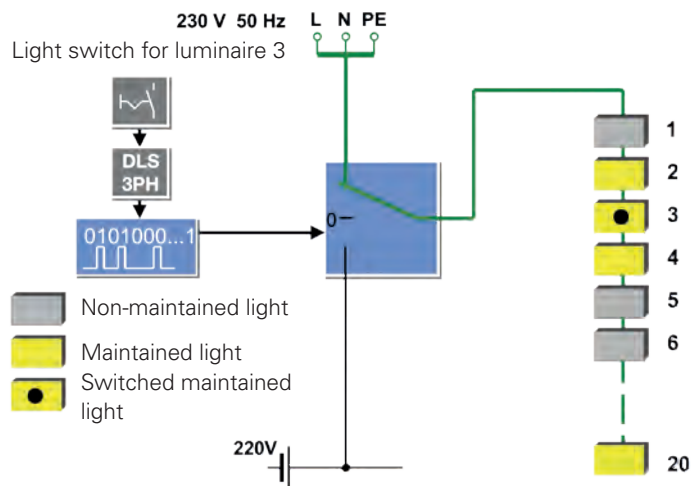
Switch to safety!

The continuing development of the CEWA GUARD monitoring system has led to the creation of the

**Switching
Technology
Advanced
Revision,**

or **STAR** for short. This **CG-STAR**-technology allows different switching modes to be implemented in one and the same circuit, and the switching mode of each individual luminaire can be re-programmed at any time.

As a result, this technology offers not just the proven CEWA GUARD safety when it comes to operating a safety lighting system, it also gives planners the confidence and flexibility of knowing that the system can respond and adapt at any time to any changes that are made to a building and its use.



Operation of the STAR technology

Your Advantages:

The number of outgoing circuits needed can be sharply reduced, since continuously operating, stand-by and switchable permanent lighting can be realised in one common circuit.

This allows the use of shorter cable distances, reduces installation costs and minimises the effects of burning materials. Any mode of operation can be assigned at a later date – **without encroachment in the lighting installation**. This enables simple project planning without having to take all possible types of operation into account.

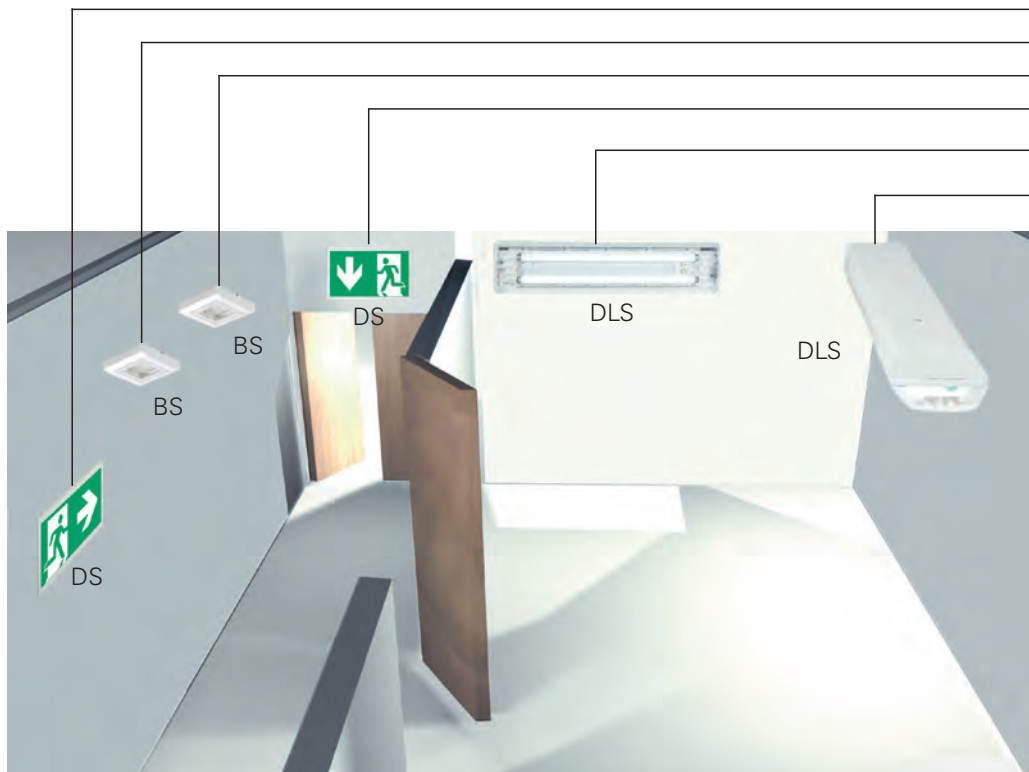
As with CEWA GUARD technology, the patented STAR technology requires no additional data cable to the luminaires.

STAR TECHNOLOGY

Conventional Installation:

Maintained light 1 (DS)
Non-maintained light 1 (BS)
Non-maintained light 2 (BS)
Maintained light 2 (DS)
Switched maintained light 1 (DLS)
Switched maintained light (DLS)

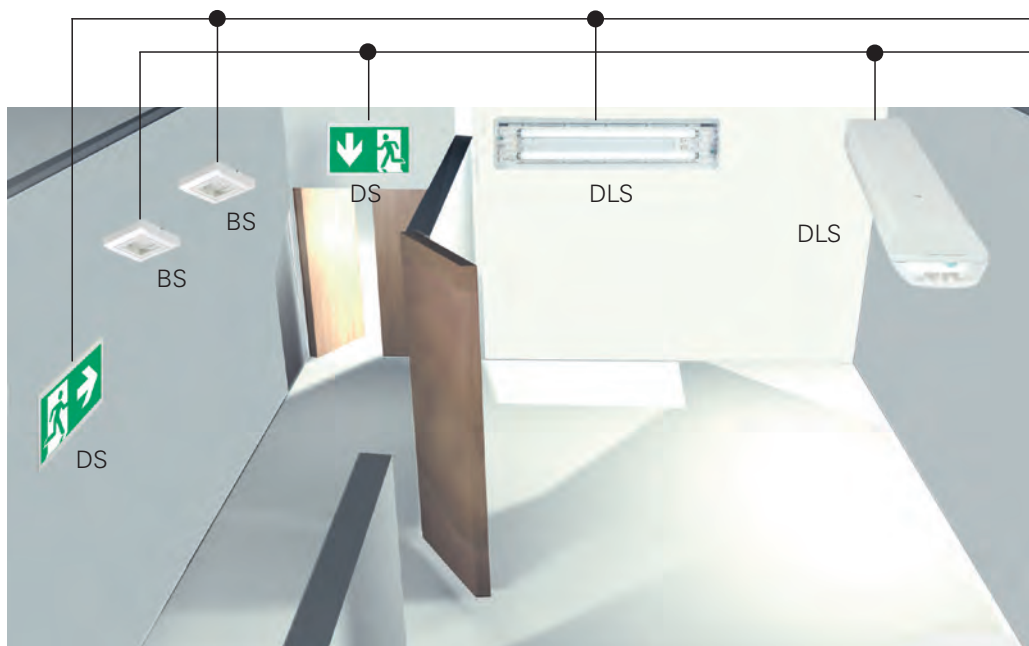
- Each type of switching mode requires two circuits
- Only one type of switching mode is possible per circuit
- Any later modifications involve a large amount of work and expense



ZB-S Installation with STAR-Technology:

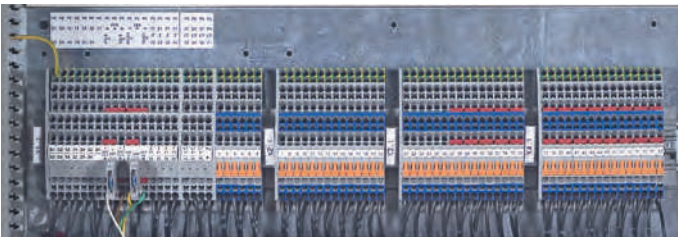
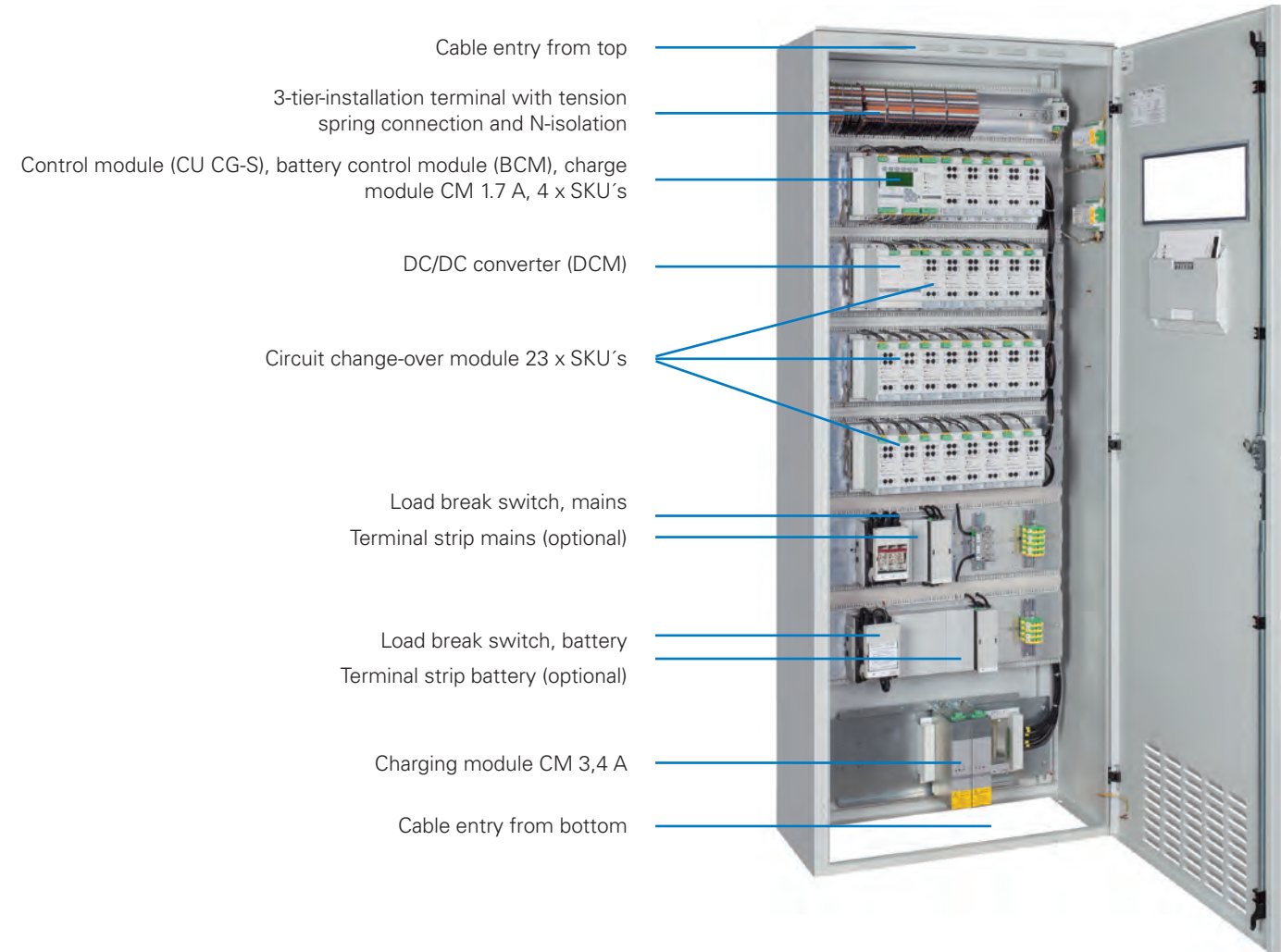
All types of switching modes
All types of switching modes

- Only two outgoing circuits for all types of switching modes
- Maintained light, non-maintained light and switched maintained light are possible in one common circuit
- Later circuit modifications do not pose any problems



Central battery system ZB-S with STAR technology

Modules



Plenty of connection space for convenient wiring

All connections are run to 3-level neutral disconnect terminals at the top of the switch cabinet.

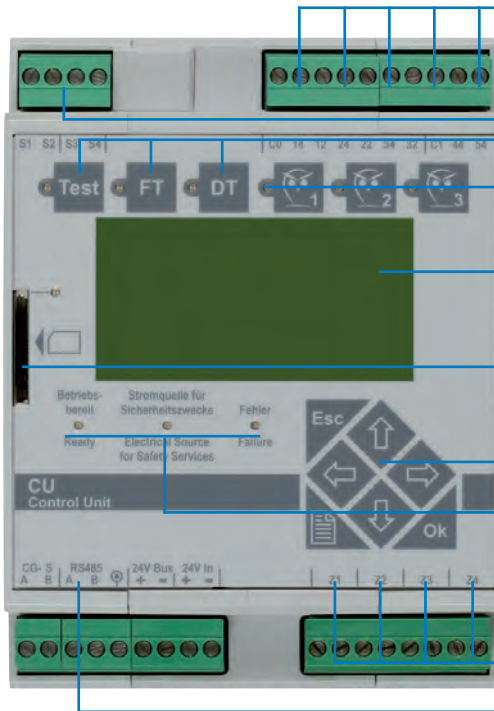
The wiring of the control module and the battery control module is standard. Wiring of the SKUs to 4 mm² triple deck installation terminals with spring connection and N disconnect terminal is optional.

Charge modules CM 3.4 A each with a charging current of 3.4 A

The battery control module (BCM) drives up to 32 Charge modules CM 3.4 A to which the standby power batteries with a rated capacity of up to 1,000 Ah that are installed outside the switch cabinet are connected.



Freely programmable control module



Connections for phase monitor and blocking switch with differential loop monitoring

three function keys, freely assignable

128 x 64 pixel graphic display, backlit, contrast and brightness adjustable

Seven control buttons for user-friendly navigation

four 24 V-inputs, freely allocated

Three potential-free alarm contacts, freely assignable, two potential-free alarm contacts with definite assignment

separate keys for

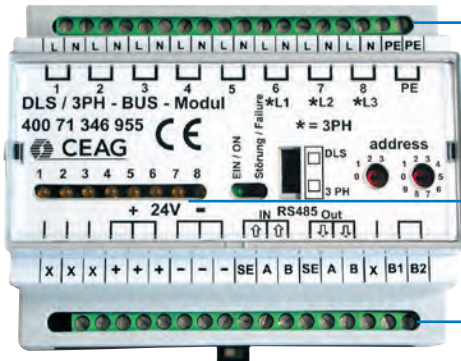
- Test (emergency function)
- Function test
- Duration test

Test book and device configuration easily stored on SD-Card. Easy programming from PC using SD-card-reader and CEAG's software.

LEDs for operation display

Terminals for data bus

External DLS/3PH-Bus-Module for common switching of safety- and general lighting

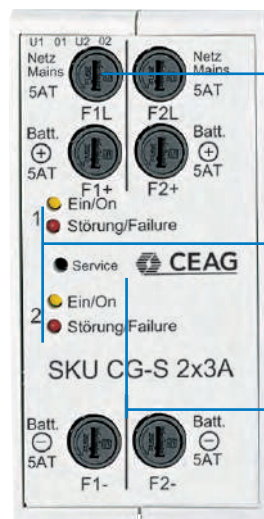


Freely programmable assignment of independent DLS inputs (2.5 mm²) per emergency lighting circuit or per light

8 DLS-inputs with LED display

can be used as phase monitor module and for light switch monitoring

Circuit change-over module SKU CG-S 2 x 3 A



separate fuse protection for mains- and battery operation (two-pole) fuses on front side of the module, easily accessible

LED display for operation/ON and failure of each circuit

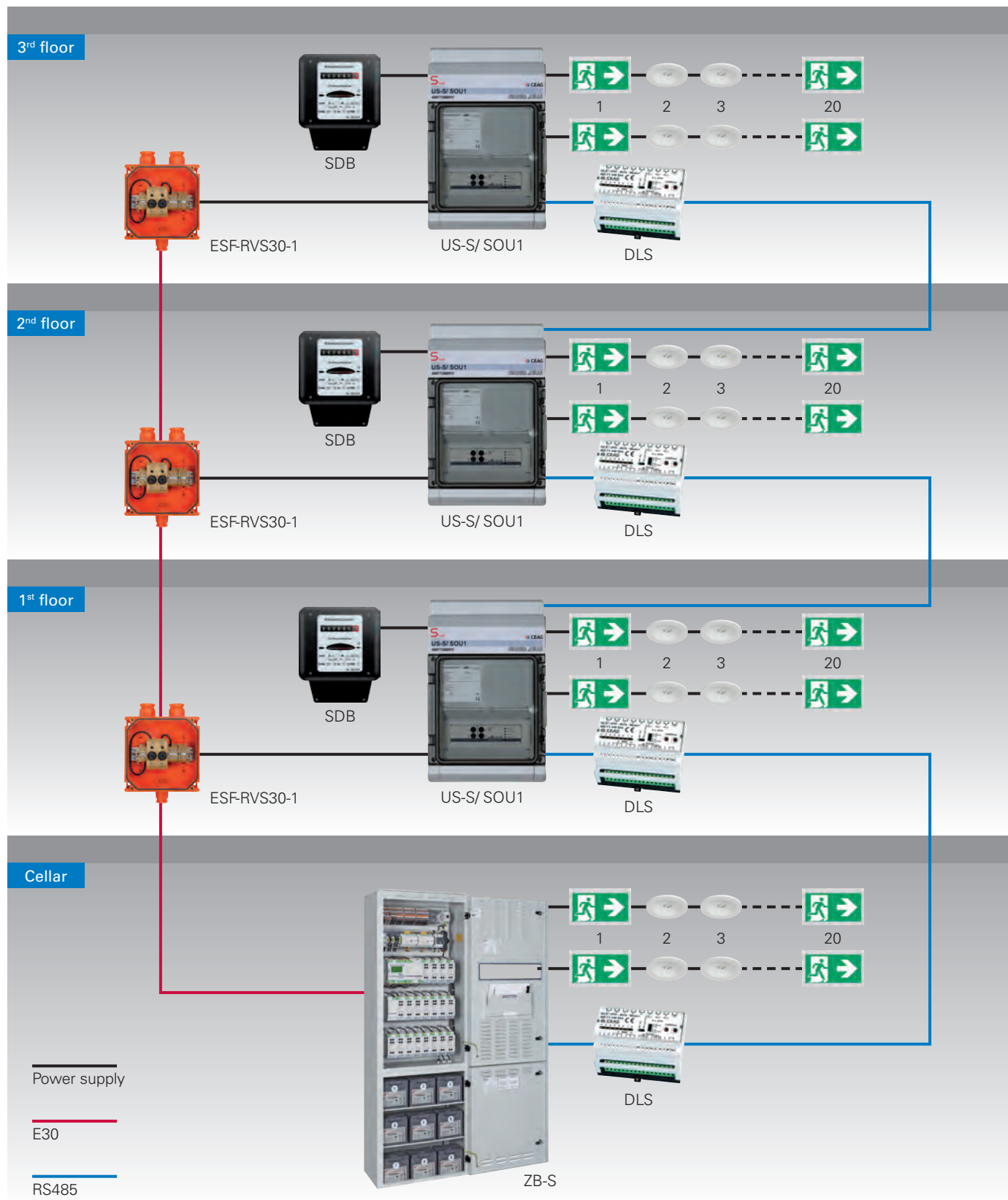
Service key for direct display in clear text at the control module of the change-over module status

Central battery system ZB-S with STAR technology

Distribution board US-S/ SOU1

Installation example Emergency lighting system ZB-S with distribution board US-S/ SOU1.

Please note the country-specific regulations and guidelines for planning and realisation.



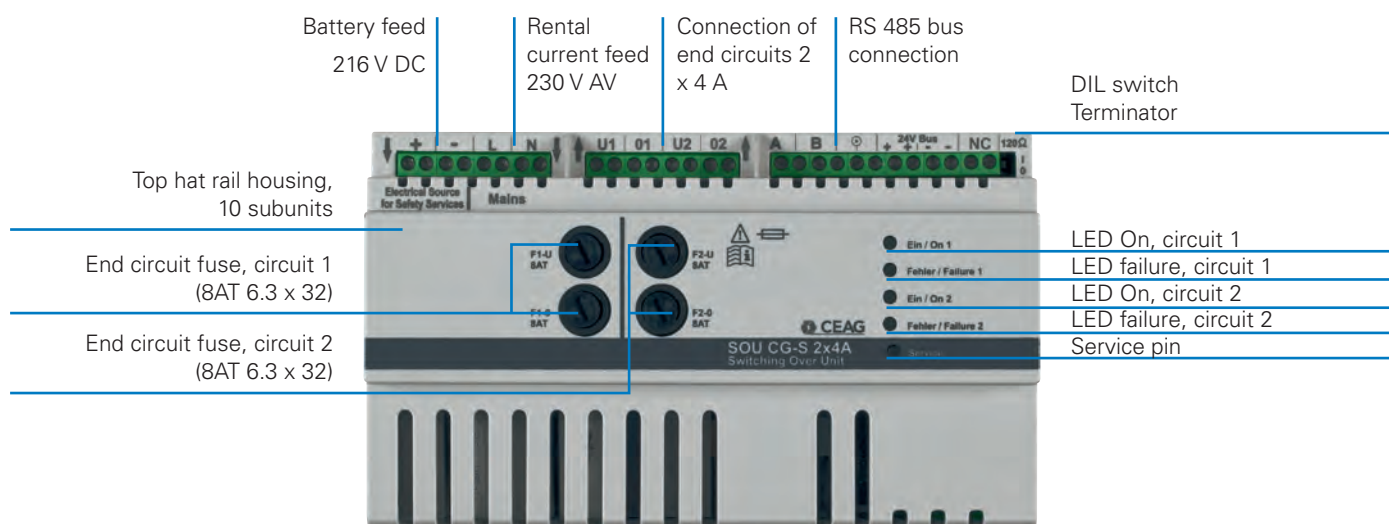


Distribution Board US-S/ SOU1

- Area by area installation
- Electricity costs allocation per rental area
- Maintained light, non-maintained light and switched maintained light are possible in one common circuit
- Later circuit modifications do not pose any problem

9

Switching over unit SOU CG-S 2 x 4 A



Central battery system ZB-S with STAR technology

Substations with functional integrity of 30 minutes

9

Safe operation under the most extreme environmental conditions

There are different types of sub-distributors available for compliance with the requirements on functional integrity of MLAR 11/2005.



ESF-E30/13-S

Sub-distributor in sheet steel housing

In accordance with the model guideline on fire protection requirements pertaining to wire systems (MLAR specimen guideline on wire systems), version 11/2005, verified by a National Material Testing Office.

Approved by the Deutsches Institut für Bautechnik (DIBT- German Institute for Civil Engineering) as an electrical distributor with functional integrity, including electrical equipment and technical air ventilation with approval number: Z-86.3-72.



Electric distributor with functional integrity

Experimental design for application as an electrical distributor with functional integrity. The functioning of all the installed electronic components was tested in a fire test.

Central battery system ZB-S with STAR technology

Substations with functional integrity of 30 minutes



US-S ESF30 13-P


Sub-distributor in Priodec housing

In accordance with the model guideline on fire protection requirements pertaining to wire systems (MLAR specimen guideline on wire systems), version 11/2005, verified by a National Material Testing Office.


Approved by the Deutsches Institut für Bautechnik (DIBT- German Institute for Civil Engineering) as an empty enclosure for fire protection with a fire resistance rating of minimum 30 minutes in case of external fire exposure, approval number of the empty enclosure: Z-86.1-46

Functional integrity exceeding 30 minutes is certified in an expert opinion, based on a fire test.





Please scan the following QR code for direct access:



Fire test in a video documentation

Please watch the video documentation of the fire test of the types of enclosures presented here:

<http://youtu.be/dk8qieMSiTI>



ESF30 SOU2

Small distributor

In accordance with the model guideline on fire protection requirements pertaining to wire systems (MLAR specimen guideline on wire systems), version 11/2005, verified by a National Material Testing Office.

Tested by a Material Testing Office (MPA) as an empty fire protection enclosure with a fire resistance rating of minimum 30 minutes in case of an external fire exposure, with fire test number: No. 210006480-01.

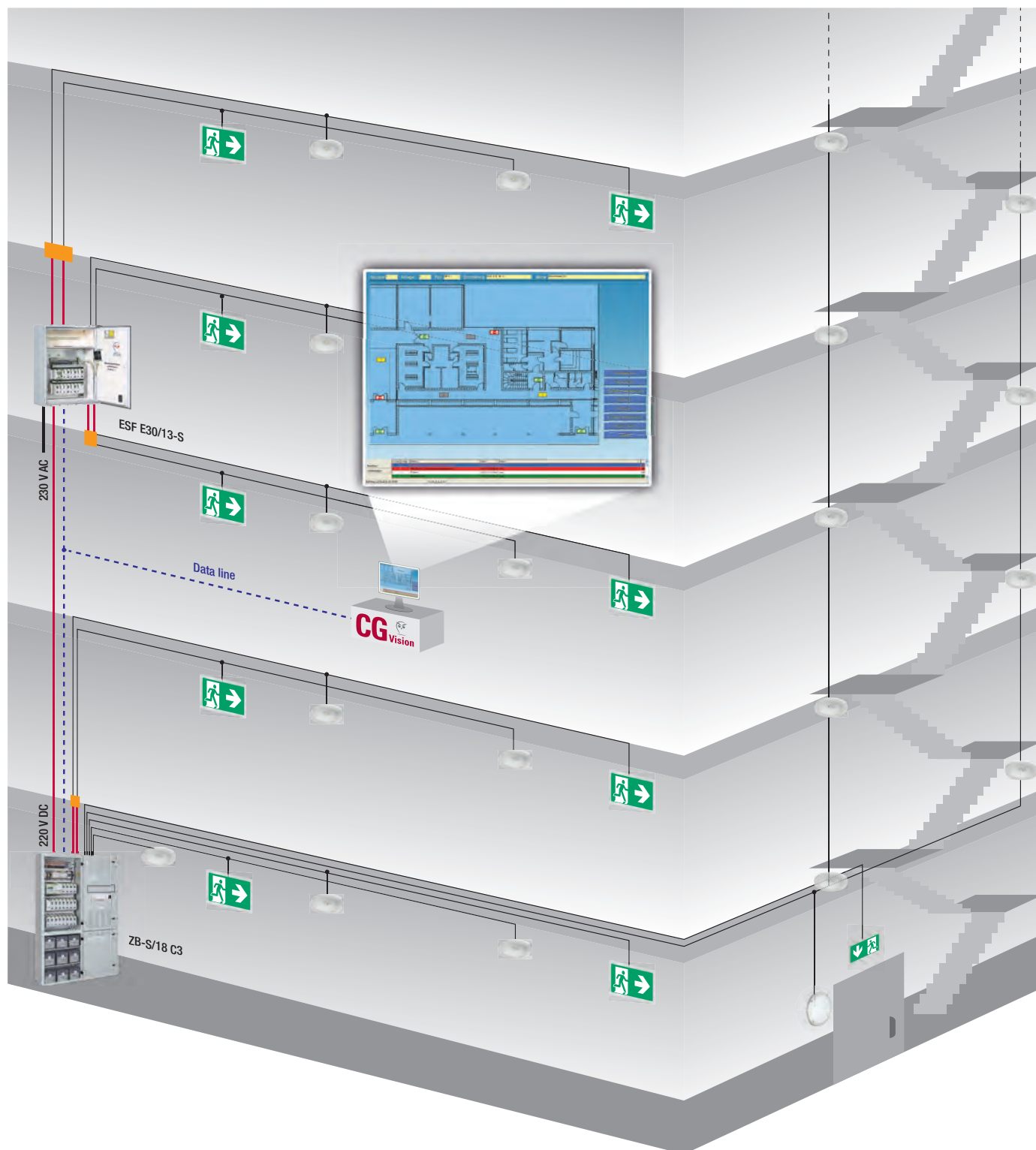
Functional integrity exceeding 30 minutes is certified by a VDE certificate, together with an expert opinion relating to the electrical equipment based on a fire test.



Central battery system ZB-S with STAR technology

Installation example

Please note the country-specific regulations and guidelines for planning and realisation.

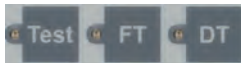




Controle module

A freely programmable control module with non-volatile program memory and 4-line alpha-numeric graphic display monitors and controls the central battery system. All functions such as charging, mains/ emergency lighting selection and deep discharge protection of the devices and the emergency luminaires are tested automatically. Any faults that occur are signalled immediately. An interface enables a central monitoring facility to be connected. In the event of a short circuit or open circuit in current loops, differential monitors immediately power on the system (maintained light) or put the system in readiness.

- Non-volatile memory
- Automatic luminaire search function
- Individual luminaire monitoring
- Automatic DLS/TLS search function
- Selective manual reset/circuit
- Selective emergency light/circuit
- Password function
- Final circuit fuse monitoring
- Module-selective battery operation
- Control module with multi-master mode M³



Sealed keypad with 3 keys for:

- Test (mains failure- battery operation)
- Function test start / cancel
- Operating duration test start / cancel



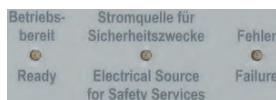
3 freely assignable function keys for:

- System disable/enable
- Manual reset
- Cancel function test
- Show fault list
- Maintained light off/on
- Power on complete safety lighting system (continuity lighting)
- Mains failure simulation UV-A (emergency operation)
- Reset deep discharge protection
- Find insulation failure
- Service Pin Message



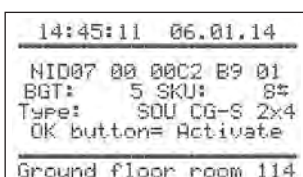
7 control keys

for user-friendly navigation



LED indicators for:

- Ready
- Electrical Source for Safety Services
- Failure



Graphic display:

128 x 64 pixel, backlit, program adjustable contrast and brightness.

Displays include:

- Date/Time
- Charging malfunction
- Deep discharge protection
- Battery voltage/charge current (+)
- Battery discharge current in test or failure (-)
- Manual reset
- Test mode
- Delay-time on mains return (remaining time in min.)
- Luminaire failure with location label
- Insulation fault with circuit indication
- Failure mains sub DB (with location label)
- Failure/programming information

Connections

• Connection for disable switch:

Control loops for blocking the installation during factory shutdowns with differential loop monitoring for short-circuit and open circuit detection. Differential monitoring: Short-circuit or open circuit result in readiness for operation of the system.

• Connection for phase monitor:

24V current loop for requesting emergency lighting using differential loop monitoring for the detection of short-circuit and open circuits. Differential monitoring: Short-circuit or open circuit result in immediate power on (maintained light) of the system.

• Connection for floating signalling contacts and buzzer:

3 relays with common root, each 1x switch-over contact, 24 V 0,5 A.

2 relays with common root, each 1 x make contact, 24V 0.5A;

Buzzer

One or several of 12 various messages can be freely assigned to the three zero-potential contacts and buzzer. DIN VDE specification can be called up at any time as a pre-setting.

• Connection for analog inputs:

4 of freely assignable 24 V analog inputs, can be programmed negated and non-negated, e.g. for start / cancel function test, start / cancel operating duration test, disable / enable system, manual reset, maintained light on / off, power on safety lighting as continuity lighting.

Central battery system ZB-S with STAR technology

Components and options



| | |
|--------------|--|
| Display | 128 x 64 pixel graphic display, program adjustable contrast |
| Illumination | backlighting, program adjustable brightness |
| Keypad | sealed, with 6 function and 7 control keys |
| Readout | Battery voltage Battery charge current (+) Battery discharge current in test or failure (-) Charge fault Luminaire failure with location label Deep discharge protection Manual reset Delay-time on mains return Failure mains sub DB (with location label) Test mode Date/Time Insulation fault with circuit label Failure information Programming information |
| Status | – Ready – Electrical Source for Safety Services – Failure |

Potential-free signal contacts, buzzer

3 relays with common potential, 1 x switching contact each, Free programmable, VDE requirement can be called at any time as a preset.

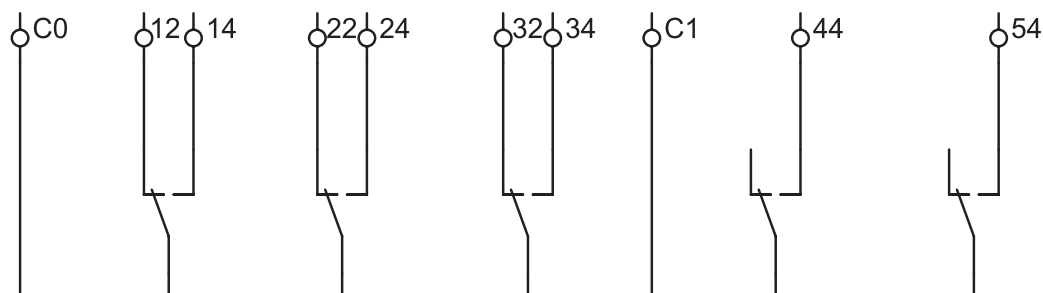
2 relays with common potential, 1 x normally open contact each, 24 V 0.5 A; buzzer.

ZB-S default setting

| Designation | Relay 1 C0/14/12 | Relay 2 C0/24/22 | Relay 3 C0/34/32 | Relay 4 C1/44 | Relay 5 C1/54 | Buzzer |
|----------------------------|---------------------|---------------------|---------------------|------------------|------------------|--------|
| Mains operation | | X | | | | |
| Mains failure | X | | X | | | |
| Mains failure UV | X | | | | | |
| Charging fault | X | | | | | |
| Circuit fault | X | | | | | |
| Luminaire fault | X | | | | | |
| Common system fault | X | | | | | |
| Total discharge protection | X | | | | | |
| ISO fault | X | | | | | |
| Function test | | X | | | | |
| Continuous operation test | | X | | | | |
| Device fault | | | | | | |

Permanently configured
to external buzzer operation
(analogue to internal buzzer)

Permanently configured for control
of a technical cabinet ventilation.
Default setting > 40°C ON < 35°C OFF.



Ordering details

| Type | Model | Order No. |
|---------------------------------|----------------|-------------|
| Control module ZB-S for SD-card | Plug-in module | 40071360300 |

SD Card



SD card reader



Secure-Digital-Card

Flexible data storage for system and log book configuration, e.g. of the mandatory archiving of log book information for a minimum of 4 years.

The system can also be programmed at any PC using optional SD-card reader and CEAG software. Texts can also be entered on the control module in the switch cabinet.

Storage of:

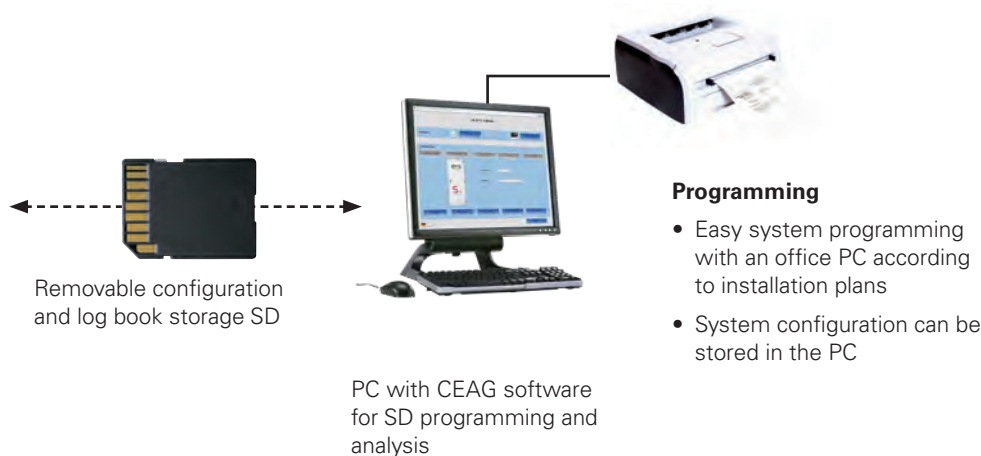
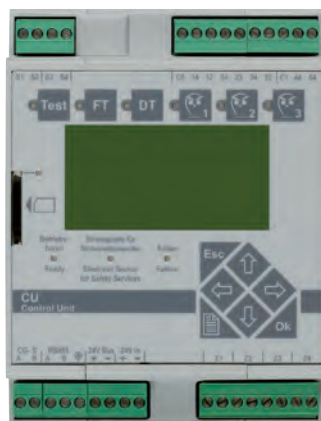
- 360,000 log book entries
- Location texts for the luminaires (20 characters per luminaire)
- Location texts of external modules such as phase monitor, DLS, TLS (20 characters per module)
- Circuit names (20 characters per circuit)
- System name (20 characters)

Ordering details

| Type | Model | Order No. |
|----------------|--|-------------|
| SD card | SD card formatted for ZB-S | 40071347911 |
| SD card reader | SD card reader for USB-Port | 40064070561 |
| Software | Software for external programming of the ZB-S via PC | 40071347152 |

9

Basic information about the SD card (Secure-Digital-Card)



Programming

- Easy system programming with an office PC according to installation plans
- System configuration can be stored in the PC

Central battery system ZB-S with STAR technology

Components and options

DC-DC converter.2 (DCM)



DC/DC-Converter.2 (DCM)

The DC/DC converter.2 converts the 220 V DC battery voltage to 24 V DC and 6 V DC to supply the modules and processor.

After more than 13 SKU CG-S 4 x 1.5 A or 26 SKU CG-S 2 x 3 A / 1 x 6 A a second DC/DC converter is needed. Please observe that all DC/DC converters are operated on the same module assembly frame next to each other:

- Supplies 26 SKUs CG-S 2 x 3 A/1 x 6 A or 13 SKUs 4 x 1.5 A
- Incoming supply can be run via AC/AC
- Gear tray mounting

| | |
|---------------|---|
| 24 V external | 20 W continuous rating Outgoing circuit with front panel connector Isolated voltage |
| 24 V internal | 100 W continuous rating 140 W peak rating (20 ms) |

Ordering details

| Type | Order No. |
|-------------------------|-------------|
| DC/DC-converter.2 (DCM) | 70071347071 |

AC-Module



AC-Module

Together with the DC/DC converter.2, the optional AC module supplies the internal system voltage when the battery supply is isolated, e. g. for maintenance.

| | |
|----------------|------------------|
| Constructed to | EN 61558/VDE 570 |
| Rated voltage | 230 V 50 Hz |
| Nominal power | 240 VA |
| Fusing | 1.6 A |

Ordering details

| Type | Scope of supply | Order No. |
|-----------|---|-------------|
| AC-Module | external transformer module AC/AC-module 240 VA incl. mounting adapter | 40071347162 |

SKU CG-S 4 x 1,5 A



SKU CG-S 4 x 1,5 A

Hybrid operation of maintained light, non-maintained light and switched maintained light per module can be programmed with no additional data cable.

- Up to 20 luminaires can be monitored individually
- AC/DC switching per module
- Easy access to fuses
- LED indicates fault and Run/ON for each circuit
- Supplies electronic ballast and LED luminaires
- Service-friendly modular units are wired up and ready to connect to 3-tier 4 mm² disconnect neutral terminals (optional)
- Gear tray mounting

| | |
|---------------------------|-----------------------------------|
| Fusing | 2.5 AT / 6.3 x 32 |
| Continuous current rating | 1.5 A per circuit |
| Max. inrush current* | 60 A per circuit/240 A per module |
| Typical switch over time | AC/DC approx. 450 ms |
| Own consumption | 7.7 W |

* Example: For two circuits => 120 A per circuit
For four circuits => 60 A per circuit

Ordering details

| Type | Scope of supply | Order No. |
|------------|---|-------------|
| SKU | Circuit change over module SKU CG-S 4 x 1.5 A | 40071347840 |
| Spare part | Fuse 2.5 AT (6.3 x 32), PU: 10 pcs. | 40071070716 |

SKU CG-S 2 x 3 A



SKU CG-S 2 x 3 A

Hybrid operation of maintained light, non-maintained light and switched maintained light in a single circuit can be programmed with no additional data cable.

- Up to 20 luminaires can be monitored individually
- AC/DC switching per each circuit
- Separate fusing for mains and battery operation
- Easy access to fuses
- LED indicates fault and Run/ON for each circuit
- Supplies electronic ballast and LED-luminaires
- Service-friendly modular units are wired up and ready to connect to 3-tier 4 mm² disconnect neutral terminals (optional)
- Gear tray mounting

| | |
|---------------------------|----------------------|
| Fusing | 5 AT / 6.3 x 32 |
| Continuous current rating | 3 A per circuit |
| Max. inrush current | 250 A per circuit |
| Typical switch over time | AC/DC approx. 450 ms |
| Own consumption | 3.85 W |

Ordering details

| Type | Scope of supply | Order No. |
|------------|---|-------------|
| SKU | Circuit change over module SKU CG-S 2 x 3 A | 40071347051 |
| Spare part | Fuse 5.0 AT (6.3 x 32), PU: 10 pcs. | 40071689047 |

Central battery system ZB-S with STAR technology

Components and options

SKU CG-S 1 x 6 A



SKU CG-S 1 x 6 A

Hybrid operation of maintained light, non-maintained light and switched maintained light in a single circuit can be programmed with no additional data cable.

- Up to 20 luminaires can be monitored individually
- Separate fusing for mains and battery operation
- Easy access to fuses
- LED indicates fault and Run/ON for each circuit
- Supplies electronic ballast and LED luminaires
- Service-friendly modular units are wired up and ready to connect to 3-tier 4 mm² disconnect neutral terminals (optional)
- Gear tray mounting

| | |
|---------------------------|----------------------|
| Fusing | 10 AT / 6.3 x 32 |
| Continuous current rating | 6 A per circuit |
| Max. inrush current | 250 A per circuit |
| Typical switch over time | AC/DC approx. 450 ms |
| Own consumption | 3.85 W |

Ordering details

| Type | Scope of supply | Order No. |
|------------|---|-------------|
| SKU | Circuit change over module SKU CG-S 1 x 6 A | 40071347345 |
| Spare part | Fuse 10 AT (6.3 x 32), PU: 10 pcs. | 40071070715 |

SOU CG-S 2 x 4 A



SOU CG-S 2 x 4 A

Hybrid operation of maintained light, non-maintained light and switched maintained light in a single circuit can be programmed with no additional data cable.

- Up to 20 luminaires can be monitored individually
- AC/DC switching per module
- Separate AV-feed for rental current
- Easy access to fuses
- LED indicates fault and Run/ON for each circuit
- Supplies electronic ballast and LED luminaires
- Service-friendly modular units are wired up and ready to connect to 3-tier 4 mm² disconnect neutral terminals (optional)
- DIN rail mounting

| | |
|---------------------------|----------------------|
| Fusing | 8 AT / 6.3 x 32 |
| Continuous current rating | 4 A per circuit |
| Max. inrush current | 250 A per circuit |
| Typical switch over time | AC/DC approx. 450 ms |
| Own consumption | ≤ 9 W (for 2 x 4 A) |
| Dimensions | 178 x 108 x 60 |

Ordering details

| Type | Scope of supply | Order No. |
|------------------|------------------------------------|-------------|
| SOU CG-S 2 x 4 A | Switching over unit SOU CG 2 x 4 A | 40071360430 |
| Spare part | Fuse 8 AT (6.3 x 32), PU: 10 pcs. | 40071360484 |

SKU CG 2 x 3 A



SKU CG 2 x 3 A

Change-over module SKU, module without STAR Function

- Up to 20 luminaires can be monitored individually
- AC/DC switching per each circuit
- Separate fusing for mains and battery operation
- Easy access to fuses
- LED indicates fault and Run/ON for each circuit
- Supplies electronic ballast and LED-luminaires
- Service-friendly modular units are wired up and ready to connect to 3-tier 4 mm² disconnect neutral terminals (optional)
- Gear tray mounting

| | |
|---------------------------|----------------------|
| Fusing | 5 AT / 6.3 x 32 |
| Continuous current rating | 3 A per circuit |
| Max. inrush current | 120 A per circuit |
| Typical switch over time | AC/DC approx. 450 ms |
| Own consumption | 3.85 W |

Ordering details

| Type | Scope of supply | Order No. |
|------------|---|-------------|
| SKU | Circuit change over module SKU CG 2 x 3 A | 40071347290 |
| Spare part | Fuse 5 AT (6.3 x 32), PU: 10 pcs. | 40071689047 |

SKU CG 1 x 6 A



SKU CG 1 x 6 A

Change-over module SKU, module without STAR Function

- Up to 20 luminaires can be monitored individually
- Separate fusing for mains and battery operation
- Easy access to fuses
- LED indicates fault and Run/ON
- Supplies electronic ballast and LED luminaires
- Service-friendly modular units are wired up and ready to connect to 4 mm² 3-tier disconnect neutral terminals (optional)
- Gear tray mounting

| | |
|---------------------------|----------------------|
| Fusing | 10 AT / 6.3 x 32 |
| Continuous current rating | 6 A per circuit |
| Max. inrush current | 180 A per circuit |
| Typical switch over time | AC/DC approx. 450 ms |
| Own consumption | 3.85 W |

Ordering details

| Type | Scope of supply | Order No. |
|------------|---|-------------|
| SKU | Circuit change over module SKU CG 1 x 6 A | 40071347346 |
| Spare part | Fuse 10 AT (6.3 x 32), PU: 10 pcs. | 40071070715 |

Components and options

The SWR 150 sinus inverter supplies and monitors emergency luminaires with conventional ballasts. In battery operation, the sinus inverter supplies a sinus voltage of 230 V AC. By altering the frequency of the output sinus voltage, the luminous flux of emergency luminaires with conventional ballast can be regulated in emergency lighting operation so that an optimum utilization of the available power is ensured. The functioning of a connected luminaire is checked by circuit monitoring.

- | | |
|-----------------------------|---------------|
| Slots | 1 |
| Fusing | G-Fuse 5 x 20 |
| | 1.6 AT |
| Max. rated current AC | 0.65 A |
| Max. rated current DC | 1.00 A |
| Max. connection terminals | 150 VA |
| for luminaire | KVG |
| Rated power DC/DC-converter | 2.3 W |
| Distortion factor | < 5 % |

| Type | Scope of supply | Order No. |
|---------|---|-------------|
| SWR 150 | Indicate light source and luminous flux ratio | 40071347960 |

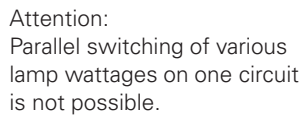


Table 1. Battery current consumption values (A) dependent upon number of luminaires and luminous flux ratio (LV%) at 20°C ambient temperature at the luminaire.


| International description | |  T5 | |
|--|------------|---|-------------|
| Base | | G5 | |
| Lamp power (W) | | 8W-VVG | |
| Luminous flux ratio (%) | 100 | 51 | 35 |
| Switch setting | 0 | 4 | 9 |
| Number of luminaires / | | | |
| Current consumption from the battery / | [A] [VA] | [A] [VA] | [A] [VA] |
| Apparent power | | | |
| 1 | 0.175 / 36 | 0.123 / 19 | 0.118 / 12 |
| 2 | 0.258 / 72 | 0.150 / 37 | 0.090 / 24 |
| 3 | – | 0.213 / 56 | 0.120 / 36 |
| 4 | – | 0.246 / 74 | 0.157 / 48 |
| 5 | – | 0.276 / 92 | 0.192 / 60 |
| 6 | – | 0.322 / 110 | 0.220 / 71 |
| 7 | – | – | 0.240 / 83 |
| 8 | – | – | 0.260 / 94 |
| 9 | – | – | 0.280 / 105 |

Table 2. Battery current consumption values (A) dependent upon number of luminaires and luminous flux ratio (LV%) at 20°C ambient temperature at the luminaire.

| International description | | | | | | | | | | | | T26 | |
|--|--|--|--|--|--|--|--|--|--|--|--|----------|----------|
| Base | | | | | | | | | | | | G13 | |
| Lamp power (W) | | | | | | | | | | | | 58 | 36 |
| Luminous flux ratio (%) | | | | | | | | | | | | 100 | 75 |
| Switch setting | | | | | | | | | | | | 0 | 2 |
| Number of luminaires / Current consumption from the battery / Apparent power | | | | | | | | | | | | [A] [VA] | [A] [VA] |
| 1 | | | | | | | | | | | | 0.62 147 | 0.37 84 |
| 2 | | | | | | | | | | | | 0.59 137 | 0.47 109 |
| 3 | | | | | | | | | | | | 0.47 107 | 0.34 80 |

Central battery system ZB-S with STAR technology

Components and options

Table 3. Battery current consumption values (A) dependent upon number of luminaires and luminous flux ratio (LV%) at 20 °C ambient temperature at the luminaire.

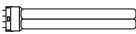

| | | TC-L | | | | | | | | | | | | | | | | | |
|--|--|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| International description | |  | | | | | | | | | | | | | | | | | |
| Base | | 2G11 | | | | | | | | | | | | | | | | | |
| Lamp power (W) | | 36 | 36 | 36 | 24 | 24 | 24 | 24 | 18 | 18 | 18 | 18 | | | | | | | |
| Luminous fluxverhältnis (%) | | 100 | 59 | 43 | 100 | 73 | 57 | 46 | 100 | 71 | 52 | 47 | | | | | | | |
| Switch setting | | 0 | 5 | 9 | 0 | 3 | 6 | 9 | 0 | 3 | 7 | 9 | | | | | | | |
| Number of luminaires / | | | | | | | | | | | | | | | | | | | |
| Current consumption from the battery / | | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] |
| Apparent power | | | | | | | | | | | | | | | | | | | |
| 1 | | 0.47 | 108 | 0.30 | 70 | 0.29 | 68 | 0.38 | 89 | 0.28 | 64 | 0.27 | 62 | 0.27 | 65 | 0.39 | 90 | 0.26 | 60 |
| 2 | | – | – | 0.43 | 96 | 0.33 | 76 | – | – | 0.42 | 99 | 0.34 | 79 | 0.32 | 74 | – | – | 0.42 | 98 |
| 3 | | – | – | 0.58 | 135 | 0.44 | 103 | – | – | 0.61 | 136 | 0.44 | 103 | 0.37 | 86 | – | – | 0.57 | 135 |
| 4 | | – | – | – | – | – | – | – | – | – | – | 0.56 | 130 | 0.47 | 105 | – | – | – | – |

Table 4. Battery current consumption values (A) dependent upon number of luminaires and luminous flux ratio (LV%) at 20 °C ambient temperature at the luminaire.

| | | TC-D | | | | | | | | | | | | | | | | | |
|--|--|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| International description | |  | | | | | | | | | | | | | | | | | |
| Base | | G24Q1. G24Q2 | | | | | | | | | | | | | | | | | |
| Lamp power (W) | | 26 | 26 | 26 | 26 | 18 | 18 | 18 | 18 | 13 | 13 | 13 | 13 | 10 | 10 | 10 | | | |
| Luminous flux ratio (%) | | 100 | 71 | 61 | 47 | 100 | 79 | 63 | 48 | 100 | 77 | 63 | 42 | 100 | 68 | 52 | | | |
| Switch setting | | 0 | 3 | 5 | 9 | 0 | 2 | 5 | 9 | 0 | 2 | 4 | 9 | 0 | 4 | 9 | | | |
| Number of luminaires / | | | | | | | | | | | | | | | | | | | |
| Current consumption from the battery / | | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] | [A] | [VA] |
| Apparent power | | | | | | | | | | | | | | | | | | | |
| 1 | | 0.36 | 85 | 0.28 | 63 | 0.27 | 61 | 0.27 | 64 | 0.30 | 51 | 0.26 | 37 | 0.24 | 29 | 0.23 | 24 | 0.26 | 60 |
| 2 | | – | – | 0.39 | 93 | 0.35 | 80 | 0.33 | 76 | 0.47 | 87 | 0.35 | 64 | 0.29 | 47 | 0.28 | 37 | 0.39 | 90 |
| 3 | | – | – | 0.54 | 126 | 0.45 | 104 | 0.36 | 80 | 0.65 | 114 | 0.48 | 86 | 0.36 | 65 | 0.32 | 48 | 0.53 | 121 |
| 4 | | – | – | – | – | 0.57 | 132 | 0.43 | 97 | – | – | 0.60 | 106 | 0.44 | 81 | 0.34 | 62 | – | – |
| 5 | | – | – | – | – | – | – | – | – | 0.71 | 125 | 0.53 | 94 | 0.40 | 73 | – | – | 0.57 | 130 |
| 6 | | – | – | – | – | – | – | – | – | 0.60 | 108 | 0.44 | 83 | – | – | – | – | 0.52 | 120 |
| 7 | | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 0.59 | 136 |

PD 3 printer



PD 3 printer

The printer logs and memorizes all function tests and mains failures of a ZB-S cover or a substation. After the performance of an automatic function test, the results are printed out in plain text stating also the time and date. The printing is automatic with each entry into the log book of the control module. A mains failure is also logged with time and date. The printer documents the operational state of emergency luminaires of a emergency lighting supply system. By means of the printer, the information on possible failures of the luminaires (e. g. defective lamp) can be printed out in detail.

- Gear tray mounting

| | |
|---------------------------------|------------------------|
| Printing paper | Woodfree printer paper |
| Paper width | 57.5 mm |
| Max. diameter of the paper roll | 61 mm |
| Plug-in module | 12 mm |

9

Ordering details

| Type | Scope of supply | Order No. |
|--------------------|---|-------------|
| PD 3 | Plug-in module | 40071347316 |
| Spare part | 1 roll printing paper | 40078079666 |
| Spare part package | 1 colour ribbon and 1 roll printing paper | 40071346042 |

Central battery system ZB-S with STAR technology

Components and options

CG IV relay modules



CG IV / CG V relay modules

The bipolar CG IV relay module transmits data and operational states of the covers/substations to a central building management system.

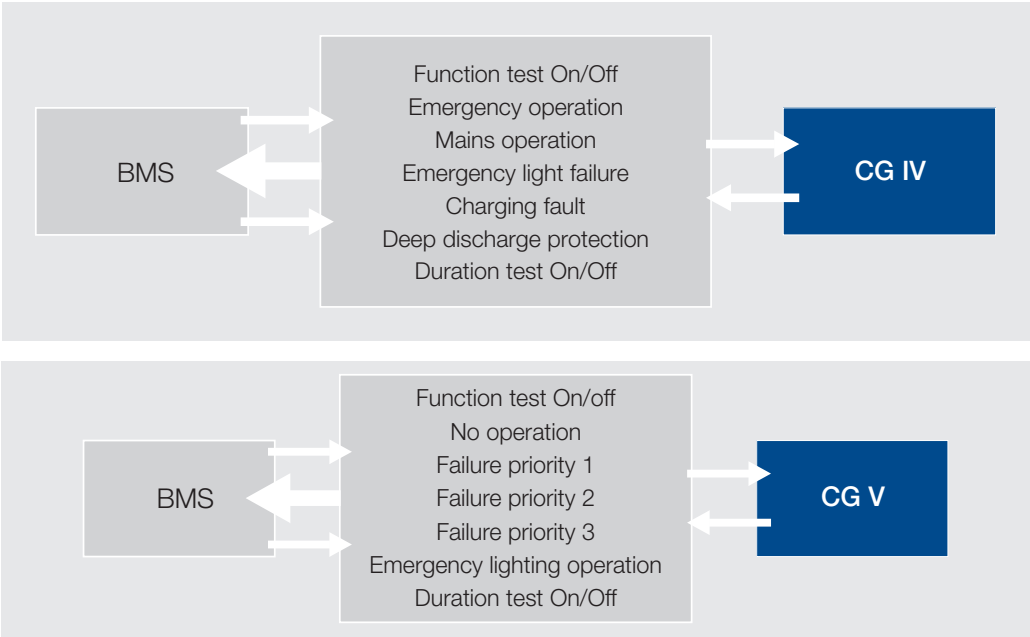
- Gear tray mounting

| | |
|--------------------------------------|--|
| Connection terminals/Clamp terminals | 2.5 mm ² rigid and flexible |
| Switching capacity of the contacts | 24 V/0.5 A AC DC |

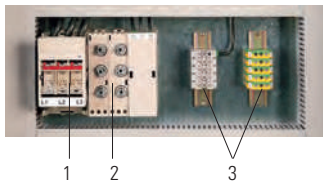
Ordering details

| Type | Scope of supply | Order No. |
|-------|-----------------|-------------|
| CG IV | Plug-in module | 40071343971 |
| CG V | Plug-in module | 40071347800 |

CG V relay modules



Mains distribution board



Mains distribution board

The mains supply to a ZB-S/26 or ZB-S/18 system comes via a modular mains distribution board. This includes a size 00C load disconnect (1) with a maximum conductor size of 50 mm² and allows the connection of up to 6 slave stations to modular size D02-E18 outgoing mains circuits (2) with the necessary terminals for neutral and ground (3).

The same mains distribution boards must also be used three-phase for feeders to powerful slave-stations (accommodates up to 2 slave stations in this case). The components are simply plugged on from the front and securely contacted.

Mains distribution module D02-E18

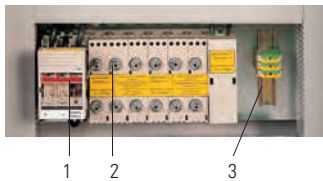


| | |
|---------------------------------------|---|
| Current rating | 63 A |
| Rated operating voltage | 400 V |
| Box terminal for circulator conductor | to 16 mm ² |
| Material | Polyamide (PA 6.6), 30 % glass-fibre-reinforced |
| Scope of supply | incl. 3 pcs. screw caps E18 and 3 pcs. D02-fuse inserts 25 A |

Ordering details

| Type | Scope of supply | Order No. |
|--|---|-------------|
| Mains distribution module for track mounting | incl. 3 pcs. screw caps E18 and 3 pcs. D02-fuse inserts 25 A | 40071347160 |

Battery distribution board



Battery distribution board

The battery supply to a ZB-S/26 or ZB-S/18 system comes via a modular battery distribution board. This includes a size 00C load disconnect (1) with a maximum conductor size of 50 mm² and allows the connection of up to 6 slave stations to modular size D02-E18 outgoing battery circuits (2) with related terminals for ground (3). The components are simply plugged on from the front and securely contacted.

Battery distribution module D02-E18



| | |
|---------------------------------------|---|
| Current rating | 63 A |
| Rated operating voltage | 400 V |
| Box terminal for circulator conductor | to 16 mm ² |
| Material | Polyamide (PA 6.6), 30 % glass-fibre-reinforced |
| Scope of supply | incl. 2 pcs. screw caps E18 and 2 pcs. D02-fuse inserts 25 A |

Ordering details

| Type | Scope of supply | Order No. |
|--|---|-------------|
| Battery distribution module for track mounting | incl. 2 pcs. screw caps E18 and 2 pcs. D02-fuse inserts 25 A | 40071347161 |

Cover strip

Busbar guard: Cover strip for clip-mounting to the trunking section. Ready-cut to module width. Material: Hard PVC.

Ordering details

| Type | Scope of supply | Order No. |
|--------------------|---|-------------|
| Busbar cover strip | Cover strip in module width for clip mounting at the trunking section | 40071347192 |

Central battery system ZB-S with STAR technology

Components and options

Battery Control Module (BCM)



Battery Control Modul (BCM)

The BCM battery control module is for control of the CM 1.7 A and CM 3.4 A charging modules via the Charge Control Bus (CCB). Messages such as fault, isolation fault and boost charge can be forwarded via the zero-potential signal contacts of the BCM.

LEDs on the module signal boost charge, charge fault and isolation fault between the battery + and PE or battery – and PE.

For simulating a battery isolation fault there are two buttons: ISO+ and ISO

| | |
|---|--|
| Charging characteristics | IU |
| Terminals | 2.5 mm ² rigid and flexible |
| End-of-charge voltage (factory setting for +20°C) | boost charge 259 V DC trickle charge 248 V DC |
| Deep discharge protection | 183.6 V DC |
| Potential-free signal contacts | 0.5 A/24 V AC/DC |

Ordering details

| Type | Scope of supply | Order No. |
|------|--|-------------|
| BCM | Battery Control Module for installation on gear tray | 40071360330 |

Charging module CM 1.7 A



Charging modules CM 1.7 A and CM 3.4 A

To realise the recharging duration for planned battery sets, the quantity of required charge modules should be used as specified in Table 3 (in this section).

| | |
|---|-------|
| Charging current CM 1.7 A | 1.7 A |
| Charging current CM 3.4 A | 3.4 A |
| Control of the charging modules (32 max.) via the Battery Control Module and the CCB. | |
| To save energy and extend service life of the charge modules, these are alternatively switched with the float charge. | |

Ordering details

| Type | Scope of supply | Order No. |
|--------------------------|--|-------------|
| Charging module CM 1,7 A | For installation on gear tray | 40071360340 |
| Charging module CM 3.4 A | For installation on separate gear tray | 40071360370 |

Charging module CM 3.4 A



Charging module rack 4-way



Charging module rack

A 4-way Charging module rack with 3-phase supply is mounted in system types ZB-S/26 and ZB-S/18. For supplying the CM 3.4 A boost chargers only!

The optional 2-way Charging module rack can be used to expand the system to 6 slots.

| | |
|---------------------|------------------------|
| Connection voltage | 400 V AC/220 V DC |
| Slots 3-phase split | |
| Conductor size | max. 4 mm ² |

Charging module rack 2-way



Ordering details

| Type | Scope of supply | Order No. |
|----------------------------|---|-------------|
| Charging module rack 4-way | Unit accommodates 4 charging modules CM 3.4 A for ZB-S/26 and ZB-S/18 | 40071347043 |
| Charging module rack 2-way | Unit accommodates 2 additional charging modules CM 3.4 A for ZB-S/26 and ZB-S/18 (only in conjunction with 40071347043) | 40071347130 |

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Charging module rack 1-way, compact



Charging module rack, compact

The compact version of the Charging module rack is intended for use in ZB-S compact systems. The single and double compact Charging module racks have been designed for system types ZB-S/10 C and ZB-S/10 C6 respectively. These are for supplying CM 3.4 A boost chargers only!

| | |
|--------------------|--------------------------|
| Connection voltage | 230 V AC/220 V DC |
| Conductor size | max. 2.5 mm ² |

Ordering details

| Typ | Lieferumfang | Bestell-Nr. |
|----------------------------|--|-------------|
| Charging module rack 1-way | Unit accommodates 1 charging module CM 3.4 A compact for ZB-S/10 C | 40071347167 |
| Charging module rack 2-way | Unit accommodates 2 charging modules CM 3.4 A compact for ZB-S/10 C6 | 40071347130 |

Central battery system ZB-S with STAR technology

Components and options

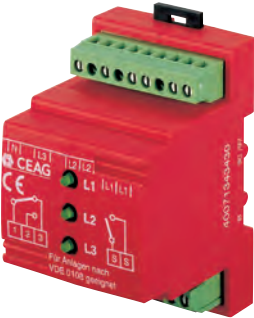
Connection terminals



Connection terminals

Standard terminals up to 4 mm², rigid or flexible, are provided for connecting the external phase monitors, monitoring equipment and control units. Optional terminals up to 4 mm² on DIN rail for rigid or flexible cables are provided for connecting the final circuits. The terminals are designed as 3-level neutral disconnect terminals.

Three-phase monitoring



Three-phase monitoring

The 3-phase monitoring is for monitoring of general lighting distributors. When one phase fails, the module switches a relay contact and interrupts the standard electronic 24 V current loop. The emergency luminaires in non-maintained mode are switched to mains operation, if the mains voltage still applies to the ZB-S cover.

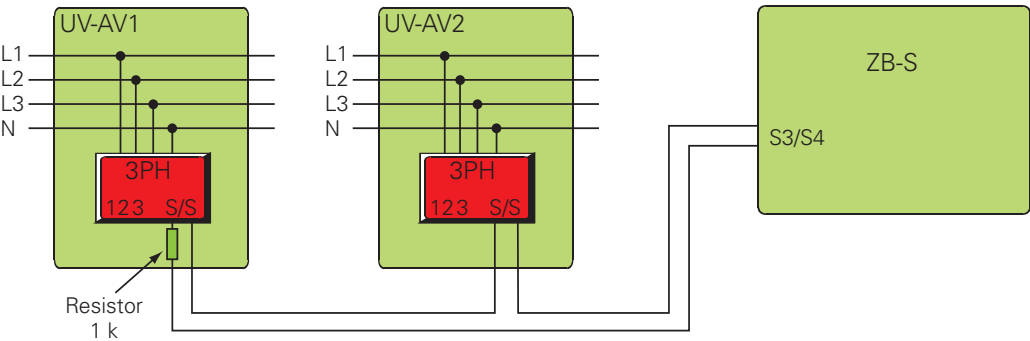
| | |
|---------------------------|--|
| Dimensions mm (H x W x D) | 85 x 52.5 x 65, 3 subunits |
| Enclosure | Plastic, red |
| Connection terminals | 2.5 mm ² rigid and flexible |
| Type of mounting | DIN mounting rail |
| Contact | 0.5 A/24 V AC/DC, 1 x open contact, 1 x changeover contact |
| Trigger threshold | $U < 85 \% U_N$ |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|---------------------------|-------------|
| Three-phase monitoring | Module ready for mounting | 40071343430 |

Current loop

24 V current loop for emergency lighting request using differential loop monitoring for short-circuit and open circuit detection.



Differential monitoring:

A short or open circuit causes the system to energise immediately (maintained light).

Phase monitor switch closed (1 kΩ):

Normal system mode

F3 remote indication



F3 remote indication for flush-mounting



F3 remote indication

The F3 remote indication ensures display of the most important installation functions via battery supply also with mains power failure. Blocking of emergency lighting operation is possible via a key switch during idle operation times. Blocking of emergency operation does not affect battery maintenance charging. Differential loop monitoring leads to operational readiness of the system with short circuits or wirebreak detection. LED displays: system readiness, source for safety services, failure. As such the F3 remote indication fulfills the requirement that remote switching is only permissible when operation by unauthorized persons is not possible.

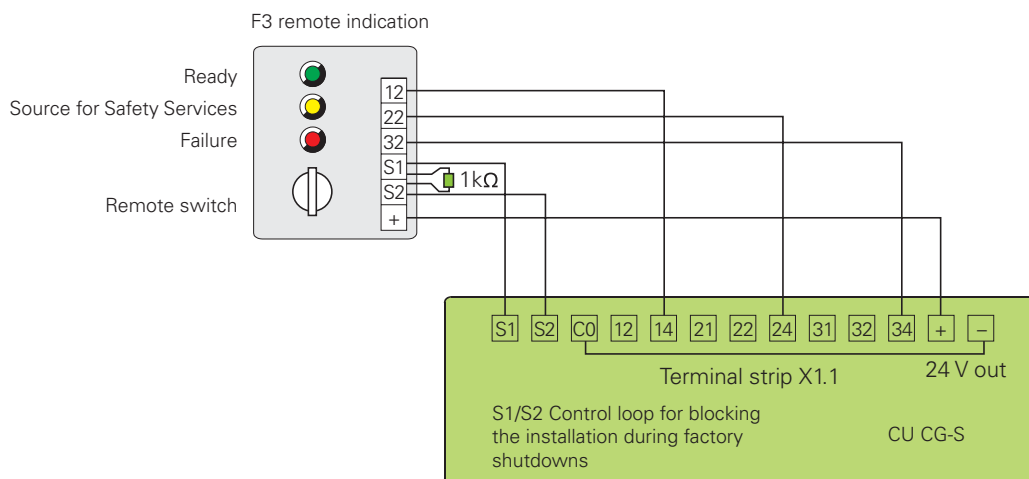
| | |
|--|---|
| Connection terminals wall surface-mounting | 2.5 mm ² rigid and flexible |
| Dimensions mm (H x W x D) | 160 x 80 x 55 |
| Connection terminals for flush-mounting | 1.5 mm ² rigid or 1 mm ² flexible |
| Dimensions mm (H x W x D) | 80 x 80 x 55 |
| Colour enclosure | sim. RAL 7035 Light grey |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------------------|--|-------------|
| F3 remote indication | Module surface-mounting | 40071338497 |
| F3 remote indication recessed | Performance for installation in the flush-mounted switch or empty space box acc. to DIN VDE 0606 | 40071347490 |

Remote switch

Control loop for blocking the installation during factory shutdowns with differential loop monitoring for short-circuit and open circuit detection.



Differential monitoring:
F3 switch closed:
F3 switch open (1 kΩ):

A short-circuit or open circuit causes the system to be enabled.
System ready
System blocked

Central battery system ZB-S with STAR technology

Components and options

External DLS/3PH-Bus Module



External DLS/3PH-Bus Module

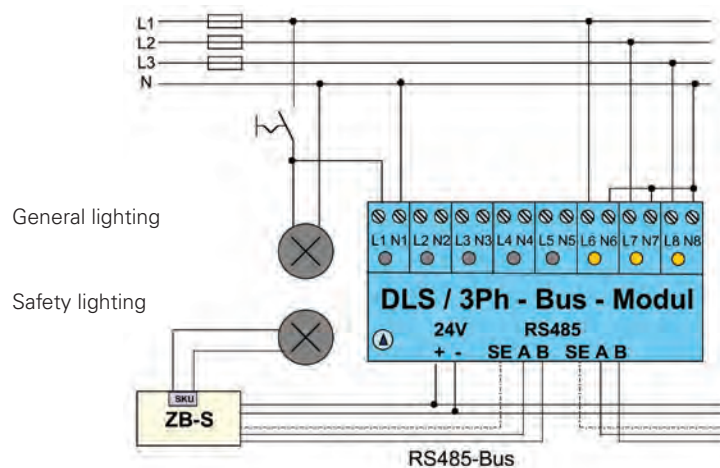
The DLS/3PH bus module can be used as a phase monitor and for light switch polling for the common switching of safety and general lighting systems. Switch cables to the safety luminaires are not required. The housing is suitable for DIN rail mounting. The module has a service button, an RS 485 bus port (integral 120 Ohm bus load resistor) with 24 V module supply, and is addressed with encoding switches. Coloured LEDs indicate fault, ON status and operation.

Freely programmable assignment of independent DLS inputs per emergency light circuit or luminaire and individual name per bus module in control unit. With use a 3-phase monitor, detailed phase failure display with location of failed sub-distribution for general lighting via clear text display in control unit.

| | |
|---|--|
| Supply voltage device | 24 V DC (min. 19 V, max. 30 V) |
| Current consumption (all 8 channel connected) | 20 mA ± 5 mA |
| Degree of protection | IP20 |
| Insulation class | I |
| Ambient temperature | – 10 ° to + 40 °C |
| Input channels 8 | $U_N = 230 V$ |
| DLS (channel 1-8) or | > 195 V-> ON < 138 V-> OFF |
| DLS (channel 1-5) and 3Ph (channel 6-8) | > 195 V-> ON < 138 V-> OFF |
| Number of light switch inputs | 8 pcs. with LED display or 5 pcs. with 3-phase-monitor (selector) |
| Monitoring threshold | 60- 85 % U_{Nom} (meets DIN VDE 0100-718) |
| Data bus | RS 485 |
| Address range | 1-25 |
| Weight | 0.2 kg |
| Dimensions (L x W x H) mm | 105 x 85 x 60 |
| Mounting | DIN-rail |
| Connection terminals/Clamp terminals | 2.5 mm ² rigid and flexible |

Ordering details

| Type | Scope of supply | Order No. |
|----------------------------|--|-------------|
| DLS/3Ph-Bus-Module | Module for DIN rail mounting | 40071346955 |
| DLS/3Ph-Bus-Module inverse | Module for DIN rail mounting with inverse switching logic | 40071347455 |
| DIN mounting rail | 4 pcs. DIN-rails for mounting external modules in the cabinet incl. mounting accessories | 40071347125 |



External TLS-Bus Module



External TLS-Bus Module

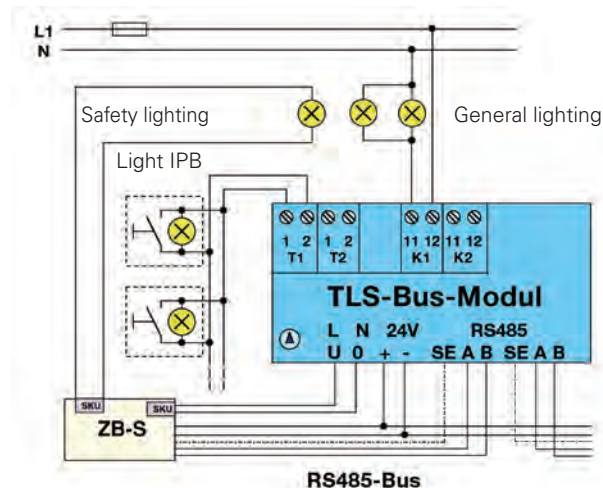
The TLS bus module is used to poll stairwell light switches, to supply the glow lamps in mains and emergency operation and for the common switching of safety and general lighting. The housing is suitable for DIN rail mounting. General and safety luminaires can be controlled via the same push buttons with use of a TLS switching module (installation in light distributor).

The module has a service button, an RS 485 bus port (integral 120 Ohm bus load resistor), 24 V module supply, and generates the glow lamp voltage. It also has a glow lamp flash function (30 s before On-time timeout). The TLS bus module is addressed with encoding switches. Coloured LEDs indicate fault, ON status and operation. Freely programmable assignment of independent TLS inputs per emergency light circuit and individual name per bus module in control unit.

| | |
|--------------------------------------|--|
| Supply voltage device | 24 V DC (min. 19 V, max. 30 V) |
| Current consumption at 24 V | Standby 10 mA ± 3 mA 1 pushed push-button 35 mA ± 5 mA 2 pushed push-button 60 mA ± 6 mA |
| Degree of protection | IP20 |
| Insulation class | I |
| Ambient temperature | – 10 °C to + 40 °C |
| Connection T1/T2 | max. 50 mA each z. B. 50 push-button with glow lamp 1 mA |
| Connection K1/K2 | 10 A/250 V AC starting current max. 120 A |
| Data bus | RS 485 |
| Address range | 1-25 |
| Weight | 0.2 kg |
| Dimensions (L x W x H) mm | 105 x 85 x 60 |
| Mounting | DIN-rail |
| Connection terminals/Clamp terminals | 2.5 mm ² rigid and flexible |
| Number of button inputs | 2 pcs. incl. supply the glow lamp (max. 50 mA) |
| Load circuits for general lighting | 2 pcs. (10 A/120 A/ms) |
| Variable on-time | 1 to 15 min. |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------|--|-------------|
| TLS-Bus-Module | Module for DIN rail mounting | 40071346965 |
| DIN mounting rail | 4 pcs. DIN-rails for mounting external modules in the cabinet incl. mounting accessories | 40071347125 |



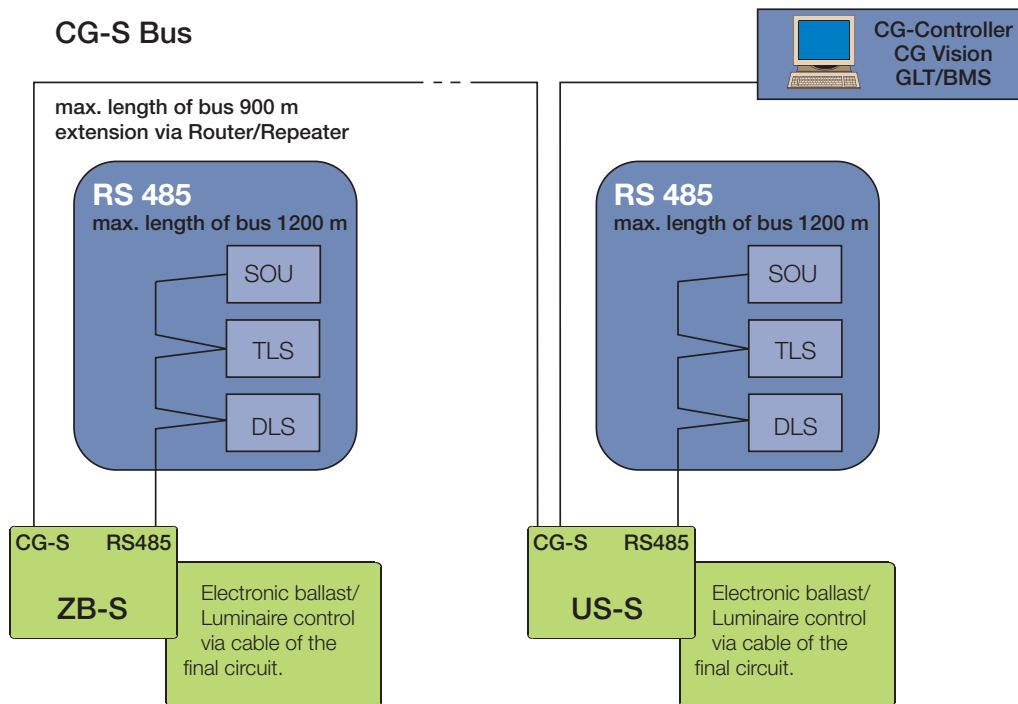
Central battery system ZB-S with STAR technology

Bus technology

Bus technology according to RS 485

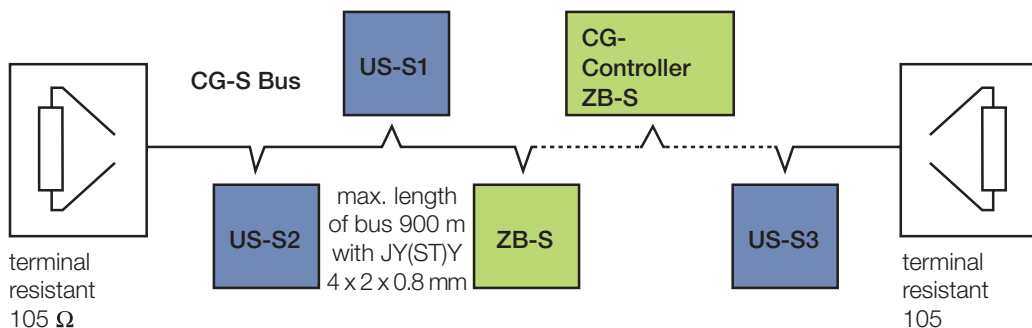
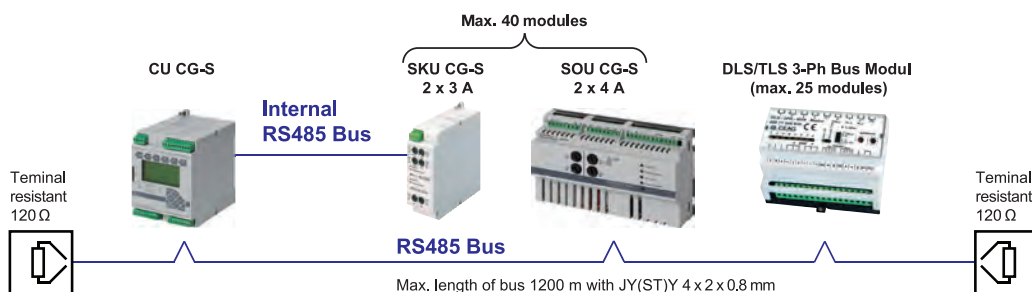
An RS 485 bus is used for data communication with external bus modules (DLS/3PH or TLS). A connection to a central building services management system (BMS) can be made with the CG-S bus. An isolated 24V/0.5 A power supply (SELV) is available for the external modules. The maximum line length depends on the required power and the conductor size.

CG-S Bus



Overall structure of the bus system for communication with external switching modules and master control system.

RS485 bus for communication with external modules (DLS/3PH, TLS or SOU CG-S bus module). The terminating resistor (120, 0.5 W) can be connected in the modules. The ZB-S control cabinet also includes a resistor. This must be mounted in the ZB-S system if only one cable is laid.



CG-S bus for communication by ZB-S or US-S systems with a CG controller ZB-S.



Notes:

- Bus topology: linear, double terminated (no spur lines allowed)
- The absolutely essential terminating resistors are supplied in a plastic pack in the control cabinet.
- Cable type (minimum requirement): JY(ST)Y 4 x 2 x 0.8 mm (twisted pair, screened).
- The conductor size required for the 24 V bus voltage will depend on the line length and the number of bus modules ($U_{min} = 19 \text{ V DC}$).
- DLS = external maintained light switching module (DLS/3PH bus module)
- TLS = external stairwell light switching module
- BMS = Building Management System

CG-controller ZB-S



SD card



SD card reader



CG-Controller ZB-S

For the central monitoring of ZB-S, the CEAG CG Controller offers a variety of new features:

- Housing: degree of protection IP65
- Control and monitoring of up to 32 emergency supply systems
- SD-card for the storage of systems configuration, luminaire designation and log book
- Programming of the CG Controller via PC preprogrammed memory card via SD can be realized using an SD-card reader
- LED displays: operation, test and fault
- Log book for a period of 4 years
- Storage of luminaire designation for 6400 luminaires with 20 digits
- Functions:
 - Start functional test, test period can be freely defined
 - Start operational duration test, test period can be freely defined
 - Abort operational duration test
 - Continuous status query of devices
 - Recording of individual fault messages
 - Query of current assignment
- Volt-free contact freely programmable for:
 - charging fault, · luminaire fault, · ISO failure, · power failure or, · battery operation
- With universal retainer for trunking systems or wall surface-mounting

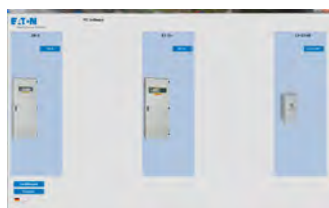
| | |
|--------------------------------------|---|
| Dimensions mm (H x W x D) | 184 x 240 x 112 |
| Enclosure | Plastic RAL 7035, with transparent panel |
| Degree of protection (IEC 529) | IP65 |
| Supply voltage | 230 V 50/60 Hz/24 V DC |
| Insulation class | II |
| Ambient temperature | -5 °C to + 40 °C |
| Connection terminals/Clamp terminals | 2.5 mm ² rigid and flexible |
| Display | Illuminated display, alphanumeric 4 x 20 characters |
| Keyboard | Membrane keypad 4 x 4 |
| Contact | 1 x UM, 24 V 0.5 A; freely programmable |

Ordering details

| Type | Scope of supply | Order No. |
|--------------------|--|-------------|
| CG controller ZB-S | Controller in enclosure incl. CG-S BUS-interface | 40071347900 |
| SD card | SD card formatted for CG-controller ZB-S | 40071347871 |
| SD card reader | SD card reader for USB-Port | 40064070561 |
| CG-S BUS component | 2-way router for CG-S BUS DIN rail mounting | 40071347142 |
| CG-S BUS component | 2-way repeater for CG-S BUS DIN rail mounting | 40071347143 |

Central battery system ZB-S with STAR technology

PC-programming software



PC programming software for ZB-S

Programming software for preset memory cards for the quick pre-programming via PC and simple reading and editing of the logbook. For documentation all files are saveable on memory card and hard disk.

Prints for documentation: Detailed prints of the programmed system configuration with the following details:

- individual name of the device
- the date and time of automatic battery duration tests, incl. distance
- the date and time of automatic function tests, incl. distance
- manual reset: yes/no
- delay on mains return: 0-15 min
- selective emergency light: yes/no
- Lon switch: yes/no
- capacity in Ah
- quantity of booster
- rated operation time in h
- min. operation time in %
- assignments of the 3 relays
- assignments of the 3 function keys
- assignments of the 4 option inputs
- number, type and individual name of the bus modules

Detailed print of the programmed electrical circuits (line diagram) with the following details per electrical circuit:

- electrical circuit / SKU number and type
- individual electrical circuit name
- type of monitoring
- switching mode of the electrical circuit
- number of luminaires
- address and individual name per luminaire
- switching mode of each luminaire

Logbook prints with the following options:

- fault event (35 different fault events, separate or completely generic)
- time period of the logbook (date and time)
- individual comment per print
- luminaire failure: Detail of the individual luminaire and electrical circuit names

Ordering details

| Type | Scope of supply | Order No. |
|----------|---|-------------|
| Software | PC-Software for ZB-S, for alternative programming of the system configuration on PC | 40071347152 |

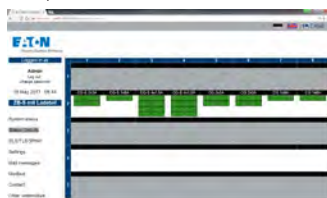
Webmodule CG-S



Example: Device status



Example: SKU-Status



Cyber Security:

see White Paper WP152002EN
"Cyber security considerations
for electrical distribution sys-
tems"
www.eaton.com

Webmodule CG-S (ZB-S/AT-S+)

Webmodule ZB-S/AT-S+ for visualisation and monitoring of a central battery system, type ZB-S/US-S via a local ethernet (LAN) or internet (WWW) with a conventional WEB browser. Access to the web-module via internet (WWW) must be administrated from an IT department on-site. Integrated mail-client for comfortable, event orientated failure information, for up to 5 E-mail recipients. Access via administrator account or guest account, with password protection.

- Easy menu structure
- Any type of display devices can be used with a WEB browser, for example notebook, tablet PC, iPad or smartphone
- Full visualisation and monitoring of a ZB-S (central battery system) via ethernet (LAN) with conventional WEB browser (e.g. Internet Explorer, Firefox etc.)
- Display of all actual operation modes
- Local failure information of each emergency circuit and luminaires with destination information in plain text
- Permanent actual information of the charging unit and battery
- Parallel access to the web module from different workstations possible (max. 8)
- Integrated mail client for comfortable failure notification via encrypted mail
- Type of different failures for the mail transmission is selectable
- Up to 5 mail recipients programmable
- Actualisation cycle of the web browser via the web module is adjustable
- Encrypted transmission
- Authenticated access via administrator account with password protection
- Adjustable guest account with restricted access with password protection
- Static or dynamic (DHCP) IP-addressing possible
- Supports IPv4/IPv6 (Internet Protocol version 4/version 6)
- Any number of modules can be operated in parallel
- Overview display of all active web modules in local ethernet with status display and hyperlink function
- Includes 2 Modbus sockets as standard

| | |
|-----------------------|---------------|
| Supply voltage device | 24 V DC |
| Rated power | < 1.1 W |
| Connection | RJ45 |
| Degree of protection | IP20 |
| Weight | 0.05 kg |
| Dimensions | 90 x 35 x 31 |
| Enclosure | Polycarbonate |

Ordering details

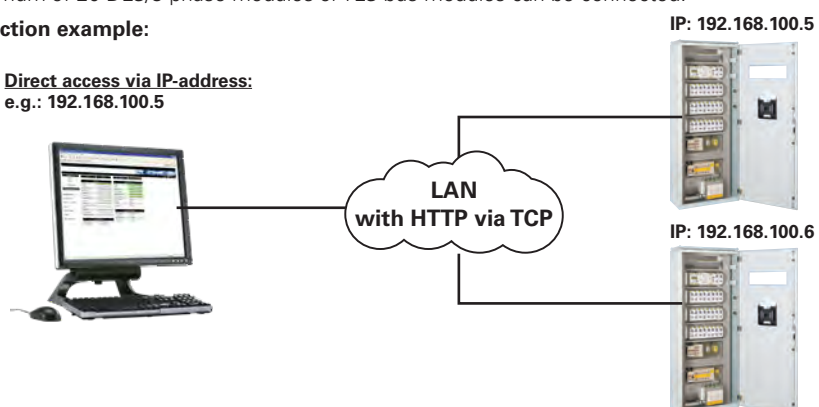
| Type | Scope of supply | Order No. |
|-----------------------------|---|-------------|
| Webmodule CG-S (ZB-S/AT-S+) | Module for DIN-rail mounting, incl. connection without patch line RJ45 | 40071361383 |

Notes:

If a webmodule integrated in the ZB-S is supplied by the DC/DC.2 converter (external 24 V), a maximum of 20 DLS/3-phase modules or TLS bus modules can be connected.

Connection example:

Direct access via IP-address:
e.g.: 192.168.100.5



Central battery system ZB-S with STAR technology

Ordering details



Ordering details

| Type | Scope of supply | Order No. |
|-----------------------------------|--|-------------|
| Central battery system ZB-S/26 | Central battery system type ZB-S/26 incl. CU CG-S, BCM and DC/DC.2, 26 free module slots* ¹ | 40071362905 |
| Central battery system ZB-S/18 | Central battery system type ZB-S/18 incl. CU CG-S, BCM and DC/DC.2, 18 free module slots* ¹ | 40071362906 |
| Central battery system ZB-S/LAD | Central battery system type ZB-S/LAD incl. CU CG-S, BCM and DC/DC.2, (2 free module slots possible) | 40071347099 |
| Central battery system ZB-S/10 C | Central battery system type ZB-S/10 C, incl. CU CG-S, BCM and DC/DC.2, 10 free module slots* ¹ | 40071362900 |
| Central battery system ZB-S/26 C6 | Central battery system type ZB-S/26 C6 incl. CU CG-S, BCM and DC/DC.2, 26 free module slots* ¹ | 40071689064 |
| Central battery system ZB-S/18 C6 | Central battery system type ZB-S/18 C6 incl. CU CG-S, BCM and DC/DC.2, 18 free module slots* ¹ | 40071362904 |
| Central battery system ZB-S/10 C6 | Central battery system type ZB-S/10 C6 incl. CU CG-S, BCM and DC/DC.2, 10 free module slots* ¹ | 40071362903 |
| Central battery system ZB-S/18 C3 | Central battery system type ZB-S/18 C3, incl. CU CG-S, BCM and DC/DC.2, 19 free module slots | 40071362902 |
| Central battery system ZB-S/10 C3 | Central battery system type ZB-S/10 C3, incl. CU CG-S, BCM and DC/DC.2, 11 free module slots | 40071362901 |
| Central battery system ZB-S/2 C3 | Central battery system type ZB-S/2 C3, incl. CU CG-S, BCM and DC/DC.2, 3 free module slots | 40071360201 |
| Substation US-S/36 | Substation type US-S/36 incl. CU CG-S and DC/DC.2, 36 free module slots | 40071362907 |
| Substation US-S/28 | Substation type US-S/28 incl. CU CG-S and DC/DC.2, 28 free module slots | 40071362908 |
| Substation US-S/21 | Substation type US-S/21 incl. CU CG-S and DC/DC.2, 21 free module slots | 40071347088 |
| Substation US-S/13 | Substation type US-S/13 incl. CU CG-S and DC/DC.2, 13 free module slots | 40071347089 |
| Substation US-S/5 | Substation type US-S/5 incl. CU CG-S and DC/DC.2, 5 free module slots | 40071347090 |
| Substation US-S/ SOU2 | Substation type US-S/ SOU2 incl. 2 x SOU CG-S 2 x 4 A | 40071360510 |
| Substation US-S/ SOU1 | Substation type US-S/ SOU1 incl. 1 x SOU CG-S 2 x 4 A | 40071360511 |
| E30 junction box ESF-RVS30-1 | For small cabinets type US-S/SOU with 2 NEOZED fuses inside | 40036071032 |
| Substation ESF-E30/13-S | Substation type ESF-E30/13-S, equipped with control module CU CG-S, DC/DC 2-converter, with space reserve for expansion to max. 40 final circuits, but max. 13 variable circuit modules | 40071362912 |
| Substation ESF-E30/28-S | Substation type ESF-E30/28-S, equipped with control module CU CG-S, DC/DC 2-converter, with space reserve for expansion to max. 60 final circuits, but max. 28 variable circuit modules | 40071362913 |
| Substation US-S ESF30 28-P | Substation type US-S ESF30 28-P incl. control module CU CG-S and DC/DC.2, with space reserve for final assembly up to max. 60 final circuits, however accepts max. 28 variable change-over modules | 40071360738 |
| Substation US-S ESF30 13-P | Substation type US-S ESF30 13-P incl. control module CU CG-S and DC/DC.2, with space reserve for final assembly up to max. 40 final circuits, however accepts max. 13 variable change-over modules | 40071360737 |

*¹ Plus max. two additional slots in correlation of CM 1.7 A and CM 3.4 A placement.



Ordering details

| Type | Scope of supply | Order No. |
|---|---|-------------|
| Substation US-S ESF30 SOU5 | Small distribution board US-S ESF30 SOU5, incl. 5 switching over units SOU CG-S 2 x 4 A | 40071360734 |
| Substation US-S ESF30 SOU3 | Small distribution board US-S ESF30 SOU3, incl. 3 switching over units SOU CG-S 2 x 4 A | 40071360732 |
| Substation US-S ESF30 SOU2 | Small distribution board US-S ESF30 SOU2, incl. 2 switching over units SOU CG-S 2 x 4 A | 40071360729 |
| Substation US-S ESF30 SOU1 | Small distribution board US-S ESF30 SOU1, incl. 1 switching over unit SOU CG-S 2 x 4 A | 40071360726 |
| ESF-RVS30 | E30 junction box ESF-RVS30 for ESF-E30 with 4 Neozed fuse inside | 40071347920 |
| Reduction | Reduction M32 to M20 cable glands for E30 junction boxes incl. M20 cable gland | 40071071033 |
| 4 pcs. DIN-mounting rail | incl. mounting accessories | 40071347125 |
| 3 pcs. C-section rail | incl. mounting accessories | 40071347126 |
| Base 200 mm | for ZB-S, depth 400 mm | 40071361216 |
| Base 100 mm | for ZB-S, depth 400 mm | 40071361215 |
| Base 200 mm | for ZB-S/18C3 and 10C3, depth 330 mm | 40071360049 |
| Base 800 x 600 x 200 mm | for ZB-S/10C6-18C6 and 26C6 | 40071361219 |
| 3-piece baseplate | for ZB-S, depth 400 mm, mouse-proof | 40071347124 |
| Cable support rail | | 40071347123 |
| Metal flange plate | undrilled for battery cabinet ZB-S | 40071346225 |
| Flange plate | for foam rubber for battery cabinet ZB-S | 40036070164 |
| Fireproof dowel M10 | for E30 substation, Set of = 12 pcs., for installation in concrete walls | 40036070298 |
| Optional wall mounting plate for wall mounting for ESF-E30/13-S | | 40071347726 |
| Door with left hinge for ZB-S/18 and ZB-S/26 | | 40071689081 |
| Door with left hinge for ZB-S/10C3 | | 40071361325 |
| Door with left hinge for ZB-S/10C and ZB-10C6 | | 40071361326 |
| Door with left hinge for battery cabinet | | 40071689085 |

Central battery system ZB-S with STAR technology

Table of covers, technical data ZB-S

| Type | ZB-S/26 | ZB-S/18 | ZB-S/LAD | ZB-S/10 C |
|---|-----------------------|-----------------------|-----------------------|-------------------------------|
| Modules: | | | | |
| Control module: CU CG-S | 1 | 1 | 1 | 1 |
| DC/DC.2-converter (DCM)* ⁵ | 1 | 1 | 1 | 1 |
| BCM | 1 | 1 | 1 | 1 |
| Circuit module SKU CG-S* ⁵ | 0-26* ⁸ | 0-18* ⁸ | 0-2* ² | 0-10* ⁸ |
| Maximum number of SWR 150 due to 100% luminous flux and max. rated power | 7 | 7 | 2 | 7 |
| Charging module 1,7 A | 0-2 | 0-2 | 0-2 | 0-2 |
| Charging module 3,4 A | 0-6* ¹ | 0-6* ¹ | 0-8 | 0-1* ³ |
| Electrical cabinet construction: | | | | |
| Rated voltage | 400/230 V | 400/230 V | 400/230 V | 230 V |
| Rated frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Conductor order and system of earthing in mains power operation/battery operation | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT |
| Max. ambient temperature* ⁹ | -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C |
| Insulation class | 1 | 1 | 1 | 1 |
| Degree of protection | IP20 | IP20 | IP20 | IP20 |
| Max. current rating mains [Σ L1, L2, L3] [A] | 80 | 80 | 100 | 35 |
| Max. rated power mains [KW] | 18.4 | 18.4 | 23 | 13.8 |
| Max. current rating battery [A] | 80 | 80 | 100 | 35 |
| Max. rated power battery [KW] | 17.3 | 17.3 | 21.6 | 7.6 |
| Three-phase distribution | yes | yes | yes | no |
| Conductor size for mains and battery supply | 50 mm ² | 50 mm ² | 50 mm ² | 16 mm ² |
| Outgoing circuits | 0- 6 Feeders | 0-6 Feeders | 0- 15 Feeders | 1 Feeder |
| Conductor size | 16 mm ² | 16 mm ² | 16 mm ² | 35 mm ² |
| Max. conductor size final circuits | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² |
| Max. number of final circuit terminals | 80 | 68 | 8 | 40 |
| Mechanical cabinet construction: | | | | |
| Dimensions H x W x D (mm) | 2050 x 800 x 400 | 2050 x 800 x 400 | 2050 x 800 x 400 | 2050 x 800 x 400 |
| Material / Design | Sheet steel / Cabinet | Sheet steel / Cabinet | Sheet steel / Cabinet | Sheet steel / Compact cabinet |
| Door stop | right | right | right | right |
| Outer coating | Textured powder paint | Textured powder paint | Textured powder paint | Textured powder paint |
| Colour | RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 |
| Partial viewing door | Yes | Yes | No | Yes |
| Lock | 3 mm Two-way | 3 mm Two-way | 3 mm Two-way | 3 mm Two-way |
| Cable entry from above | yes | yes | yes* ⁷ | yes |
| Cable entry from below | yes | yes | yes* ⁷ | no |
| Base (optional) | 100/200 | 100/200 | 100/200 | 200 |
| Weight (without batteries) | approx. 180 kg | approx. 170 kg | approx. 170 kg | approx. 155 kg |
| Battery capacity, installed in: | | | | |
| Compact cabinet | – | – | – | 23.3-53.7 Ah |
| Battery cabinet | 23.3-195.4 Ah | 23.3-195.4 Ah | 23.3-308 Ah | – |
| Battery rack | 23.3-195.4 Ah | 23.3-195.4 Ah | 23.3-308 Ah | – |

Other battery sizes on application

*1 When 6 charging modules CM 3,4 A are fitted an additional charging module rack 2-way is necessary.

*2 Max. 8 charging modules are possible when 2 SKUs are fitted.

*3 When 1 charging module CM 3,4 A is fitted an additional charging module rack 1-way is necessary.

*4 When 2 charging modules CM 3,4 A are fitted an additional charging module rack 2-way is necessary. (>240 Ah Special design)

*5 After more than 13 SKU CG-S 4 x 1.5 A or 26 SKU CG-S 2 x 3 A / 1 x 6 A a second DC/DC converter is needed.
Please observe that all DC/DC-converter are operated on the same module assembly frame next to each other.

Central battery system ZB-S with STAR technology

Table of covers, technical data ZB-S

| ZB-S/26 C6 | ZB-S/18 C6 | ZB-S/10 C6 | ZB-S/18 C3 | ZB-S/10 C3 | ZB-S/2 C3 |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 |
| 0-26*8 | 0-18*8 | 0-10*8 | 0-19 | 0-11 | 0-3 |
| 7 | 7 | 7 | 7 | 7 | 2 |
| 0-2 | 0-2 | 0-2 | 0-2 | 0-2 | 1 |
| 0-2*3*4 | 0-2*3*4 | 0-2*3*4 | – | – | – |
| 400/230 V | 400/230 V | 230 V | 230 V | 230 V | 230 V |
| 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT |
| -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C |
| 1 | 1 | 1 | 1 | 1 | 1 |
| IP20 | IP20 | IP20 | IP20 | IP20 | IP20 |
| 50 | 50 | 50 | 25 | 25 | 15 |
| 14.5 | 14.5 | 14.5 | 5.8 | 5.8 | 3.5 |
| 50 | 50 | 50 | 25 | 25 | 12 |
| 13.6 | 13.6 | 13.6 | 5.4 | 5.4 | 2.6 |
| yes | yes | no | no | no | no |
| 35 mm ² | 35 mm ² | 16 mm ² | 16 mm ² | 16 mm ² | 16 mm ² |
| 2 Feeders | 2 Feeders | 1 Feeder | 1 Feeder | 1 Feeder | – |
| 35 mm ² | 35 mm ² | 35 mm ² | 16 mm ² | 16 mm ² | – |
| 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² |
| 60 | 60 | 40 | 50 | 40 | 12 |
| 2250 x 800 x 600 | 2050 x 800 x 600 | 2050 x 800 x 600 | 1800 x 600 x 350 | 1800 x 600 x 350 | 1000 x 600 x 300 |
| Sheet steel / Compact cabinet | Sheet steel / Compact cabinet | Sheet steel / Compact cabinet | Sheet steel / Compact cabinet | Sheet steel / Compact cabinet | Sheet steel / Compact cabinet |
| right | right | right | right | right | right |
| Textured powder paint | Textured powder paint | Textured powder paint | Textured powder paint | Textured powder paint | Textured powder paint |
| RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 |
| Yes | Yes | Yes | Yes | Yes | No |
| 3 mm | 3 mm | 3 mm | 3 mm | 3 mm | 3 mm |
| Two-way | Two-way | Two-way | Two-way | Two-way | Two-way |
| yes | yes | yes | yes | yes | yes |
| no | no | no | no | no | no |
| – | – | – | 200 | 200 | – |
| approx. 250 kg | approx. 205 kg | approx. 206 kg | approx. 120 kg | approx. 115 kg | approx. 50 kg |
| 5.5-89.4 Ah | 5.5-89.4 Ah | 5.5-89.4 Ah | 5.5-23.3 Ah | 5.5-23.3 Ah | 5.5-14 Ah |
| – | – | – | – | – | – |
| – | – | – | – | – | – |

*6 Higher battery capacities =>118 Ah are achieved by connecting several battery sets in parallel.

*7 Please indicate the cable entry when planning the system.

*8 Plus max. two additional slots in correlation of CM 1.7 A and CM 3.4 A placement.

*9 Optimal ambient battery temperature +20 °C.

Central battery system ZB-S with STAR technology

Table of covers, technical data ZB-S

| Type | US-S/36 | US-S/28 | US-S/21 | US-S/13 |
|---|-----------------------|-----------------------|----------------------------|----------------------------|
| Modules: | | | | |
| Control module: CU CG-S | 1 | 1 | 1 | 1 |
| DC/DC.2-converter (DCM)* ¹ | 1 | 1 | 1 | 1 |
| Circuit module SKU CG-S* ¹ | 0-36 | 0-28 | 0-21 | 0-13 |
| Maximum number of SWR 150 due to 100% luminous flux and max. rated power | 7 | 7 | – | – |
| Electrical cabinet construction: | | | | |
| Rated voltage | 400/230 V | 400/230 V | 230 V | 230 V |
| Rated frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Conductor order and system of earthing in mains power operation/battery operation | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT |
| Max. ambient temperature | -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C |
| Insulation class | 1 | 1 | 1 | 1 |
| Degree of protection | IP20 | IP20 | IP54 | IP54 |
| Max. current rating mains [\sum L1, L2, L3] [A] | 80 | 80 | 50 | 50 |
| Max. rated power mains [KW] | 18.4 | 18.4 | 11.5 | 11.5 |
| Max. current rating battery [A] | 80 | 80 | 50 | 50 |
| Max. rated power Battery [KW] | 17.3 | 17.3 | 10.8 | 10.8 |
| Three-phase distribution | yes | yes | no | no |
| Conductor size for mains and battery supply | 35 mm ² | 35 mm ² | 35 mm ² | 16 mm ² |
| Outgoing circuits | – | – | – | – |
| Max. conductor size final circuits | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² |
| Max. number of final circuit terminals | 80 | 80 | 52 | 24 |
| Mechanical cabinet construction: | | | | |
| Dimensions H x W x D (mm) | 2050 x 800 x 400 | 2050 x 800 x 400 | 1200 x 600 x 300 | 800 x 600 x 250 |
| Material / Design | Sheet steel / Cabinet | Sheet steel / Cabinet | Sheet steel / Wall cabinet | Sheet steel / Wall cabinet |
| Door stop | right | right | right | right |
| Outer coating | Textured powder paint | Textured powder paint | Textured powder paint | Textured powder paint |
| Colour | RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 |
| Partial viewing door | Yes | Yes | No | No |
| Lock | 3 mm Two-way | 3 mm Two-way | 3 mm Two-way | 3 mm Two-way |
| Cable entry from above | yes | yes | yes | yes |
| Cable entry from below | yes | yes | no | no |
| Base (optional) | 100/200 | 100/200 | – | – |
| Weight (without batteries) | approx. 170 kg | approx. 165 kg | approx. 110 kg | approx. 75 kg |

Other battery sizes on application

*1 After more than 13 SKU CG-S 4 x 1.5 A or 26 SKU CG-S 2 x 3 A / 1 x 6 A a second DC/DC converter is needed. Please observe that all DC/DC-converters are operated on the same module assembly frame next to each other.

*2 With admittance no. Z-86.2-1. The supply cabinets ESF-E30 must be mounted on a solid wall with fire resistance of at least 30 minutes.

*3 The housing has insulation class II. The earth conductor must however be routed in the housing.

*4 IP54 with optional IP54 hood.

Central battery system ZB-S with STAR technology

Table of covers, technical data ZB-S

| US-S/5 | US-S/ SOU2 | US-S/ SOU1 |
|----------------------------|---------------------------------------|---------------------------------------|
| 1 | – | – |
| 1 | – | – |
| 0-5 | inkl. 2 x SOU CG-S 2 x 4 A | inkl. 1 x SOU CG-S 2 x 4 A |
| – | – | – |
| – | – | – |
| 230 V | 230 V | 230 V |
| 50/60 Hz | 50/60 Hz | 50/60 Hz |
| TN-C-S / IT | TN-C-S / IT | TN-C-S / IT |
| -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C |
| 1 | 2*3 | 2*3 |
| IP54 | IP65 | IP65 |
| 25 | 16 | 8 |
| 6.9 | 3,6 | 1,8 |
| 25 | 16 | 8 |
| 6.5 | 3.4 | 1.7 |
| no | no | no |
| 16 mm ² | 10 mm ² | 10 mm ² |
| – | – | – |
| 4 mm ² | 4 mm ² | 4 mm ² |
| 20 | 4 | 2 |
| 600 x 400 x 250 | 583 x 295 x 129 | 458 x 295 x 129 |
| Sheet steel / Wall cabinet | Plastic / Small distribution board | Plastic / Small distribution board |
| right | right | right |
| Textured powder paint | – | – |
| RAL 7035 | RAL 7035 | RAL 7035 |
| No | Yes | Yes |
| 3 mm Two-way | On request | On request |
| yes | yes | yes |
| no | no | no |
| – | – | – |
| approx. 42 kg | approx. 8.8 kg | approx. 7.5 kg |

Central battery system ZB-S with STAR technology

Table of covers, technical data ZB-S

| Type | ESF-E30/13-S | ESF-E30/28-S | US-S ESF30 13-P | US-S ESF30 28-P |
|---|--|---|-------------------------------------|-------------------------------------|
| Modules: | | | | |
| Control module: CU CG-S | 1 | 1 | 1 | 1 |
| DC/DC-2-converter (DCM) ^{*1} | 1 | 1 | 1 | 1 |
| Circuit module SKU CG-S 1 x 6 A | 0-13 | 0-28 | 0-13 | 0-28 |
| Circuit module SKU CG-S 2 x 3 A | 0-13 | 0-28 | 0-13 | 0-28 |
| Circuit module SKU CG-S 4 x 1.5 A | 0-13 | 0-28 | 0-13 ^{*3} | 0-28 ^{*4} |
| Switching over unit SOU CG-S 2 x 4 A | – | – | – | – |
| Maximum number of SWR 150 due to 100% luminous flux and max. rated power | – | – | – | – |
| Interface module DLS/TLS | 1 | 2 | 2 | 2 |
| Web module | 1 | 1 | 1 | 1 |
| Electrical cabinet construction: | | | | |
| Rated voltage | 230 V | 400/230 V | 230 V | 400/230 V |
| Rated frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Artificial ventilation, sound pressure level (dB) | 46 | 60 | 55 | 55 |
| Conductor order and system of earthing in mains power operation/battery operation | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT |
| Max. ambient temperature | -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +30 °C |
| Insulation class | 1 | 1 | I | I |
| Degree of protection | IP20 | IP20 | IP42 | IP42 |
| Maximal permitted heating power loss [W] | 100 | 215 | 45 | 90 |
| Maximal rated power [A] depending on the ambient temperature | | | | |
| +25 °C | 35 | 50 | 35 (30) ^{*6} | 40 (45) ^{*6} |
| +30 °C | 35 | 50 | 17.3 (30) ^{*6} | 20 (45) ^{*6} |
| +35 °C | 35 | 50 | 11 (30) ^{*6} | – (45) ^{*6} |
| Maximal rated power [kW] depending on the ambient temperature | | | | |
| +25 °C | 7.6 | 10.8 | 7.5 (6.4) ^{*6} | 8.6 (9.7) ^{*6} |
| +30 °C | 7.6 | 10.8 | 3.7 (6.4) ^{*6} | 4.3 (9.7) ^{*6} |
| +35 °C | 7.6 | 10.8 | 2.3 (6.4) ^{*6} | – (9.7) ^{*6} |
| Three-phase distribution | no | yes | no | yes |
| Conductor size for mains and battery supply | 35 mm ² | 35 mm ² | 35 mm ² | 35 mm ² |
| Max. conductor size final circuits | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² |
| Max. number of final circuit terminals | 40 | 60 | 40 | 60 |
| Mechanical cabinet construction: | | | | |
| Dimensions H x W x D (mm) | 1150 x 885 x 405 | 2190 x 885 x 405 | 1278 x 918 x 496 | 2278 x 918 x 604 |
| Material / Design | Sheet steel / func. endurance 30 min. / Wall cabinet | Sheet steel / func. endurance 30 min. / Stand alone cabinet | Coated plaster board / Wall cabinet | Coated plaster board / Wall cabinet |
| Door stop | right | right | right | right |
| Colour | RAL 7035 | RAL 7035 | | |
| Cable entry | from above ^{*7} | from above ^{*7} | from above | from above ^{*7} |
| Base (optional) | – | – | – | – only with base |
| Weight (without batteries) | approx. 235 kg | approx. 390 kg | approx. 169 kg | approx. 330 kg |
| Certification / Verification | | | | |
| ABZ housing including modules | yes | yes | Requested | Requested |
| ABZ housing without modules | – | – | yes | yes |
| Fire test fire protection test report short form MPA NRW | – | – | yes | yes |
| VDE certificate | – | – | – | – |
| Declaration of expert | – | – | yes | yes |

*1: After more than 13 SKU CG-S 4 x 1.5 A or 26 SKU CG-S 2 x 3 A / 1 x 6 A a second DC/DC converter is needed.
Please observe that all DC/DC-converters are operated on the same module assembly frame next to each other.

*2: Protective isolated acc. to VDE 0106

*3: Max. 40 circuits. Attention: Please note the maximum rated power!

*4: Max. 60 circuits. Attention: Please note the maximum rated power!

*5: Please note: Each DLS module reduces the possible number of SOU modules.

*6: (...) = Plannings with SKU CG-S 2 x 3 A and SKU CG-S 1 x 6 A modules.

*7: Cable entry from below on request

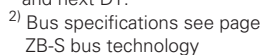
Central battery system ZB-S with STAR technology

Table of covers, technical data ZB-S

| US-S ESF30 SOU5 | US-S ESF30 SOU3 | US-S ESF30 SOU2 | US-S ESF30 SOU1 |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| – | – | – | – |
| – | – | – | – |
| – | – | – | – |
| – | – | – | – |
| – | – | – | – |
| 5 | 3 | 2 | 1 |
| – | – | – | – |
| 2*5 | 1*5 | 1 | – |
| – | – | – | – |
| | | | |
| 230 V | 230 V | 230 V | 230 V |
| 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz |
| – | – | – | – |
| TN-C-S / IT | TN-C-S / IT | TN-C-S / IT | TN-C-S / IT |
| -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C | -5 °C to +35 °C |
| I ² | I ² | I ² | I ² |
| IP65 | IP65 | IP65 | IP65 |
| – | – | – | – |
| | | | |
| 33 | 20 | 15 | 8 |
| 28 | 17 | 12 | 6 |
| 16 | 10 | 9 | 5 |
| | | | |
| 7.1 | 4.3 | 3.2 | 1.7 |
| 6.0 | 3.6 | 2.5 | 1.2 |
| 3.4 | 2.1 | 1.3 | 1.0 |
| no | no | no | no |
| 10 mm ² | 10 mm ² | 10 mm ² | 10 mm ² |
| | | | |
| 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² |
| 10 | 6 | 4 | 2 |
| | | | |
| 1135 x 396 x 230 | 835 x 396 x 230 | 685 x 396 x 230 | 535 x 396 x 230 |
| Coated plaster board / Wall cabinet | Coated plaster board / Wall cabinet | Coated plaster board / Wall cabinet | Coated plaster board / Wall cabinet |
| left | left | left | left |
| | | | |
| from above | from above | from above | from above |
| – | – | – | – |
| approx. 81 kg | approx. 61 kg | approx. 51 kg | approx. 34 kg |
| | | | |
| Requested | Requested | Requested | Requested |
| Requested | Requested | Requested | Requested |
| yes | yes | yes | yes |
| yes | yes | yes | yes |
| yes | yes | yes | yes |

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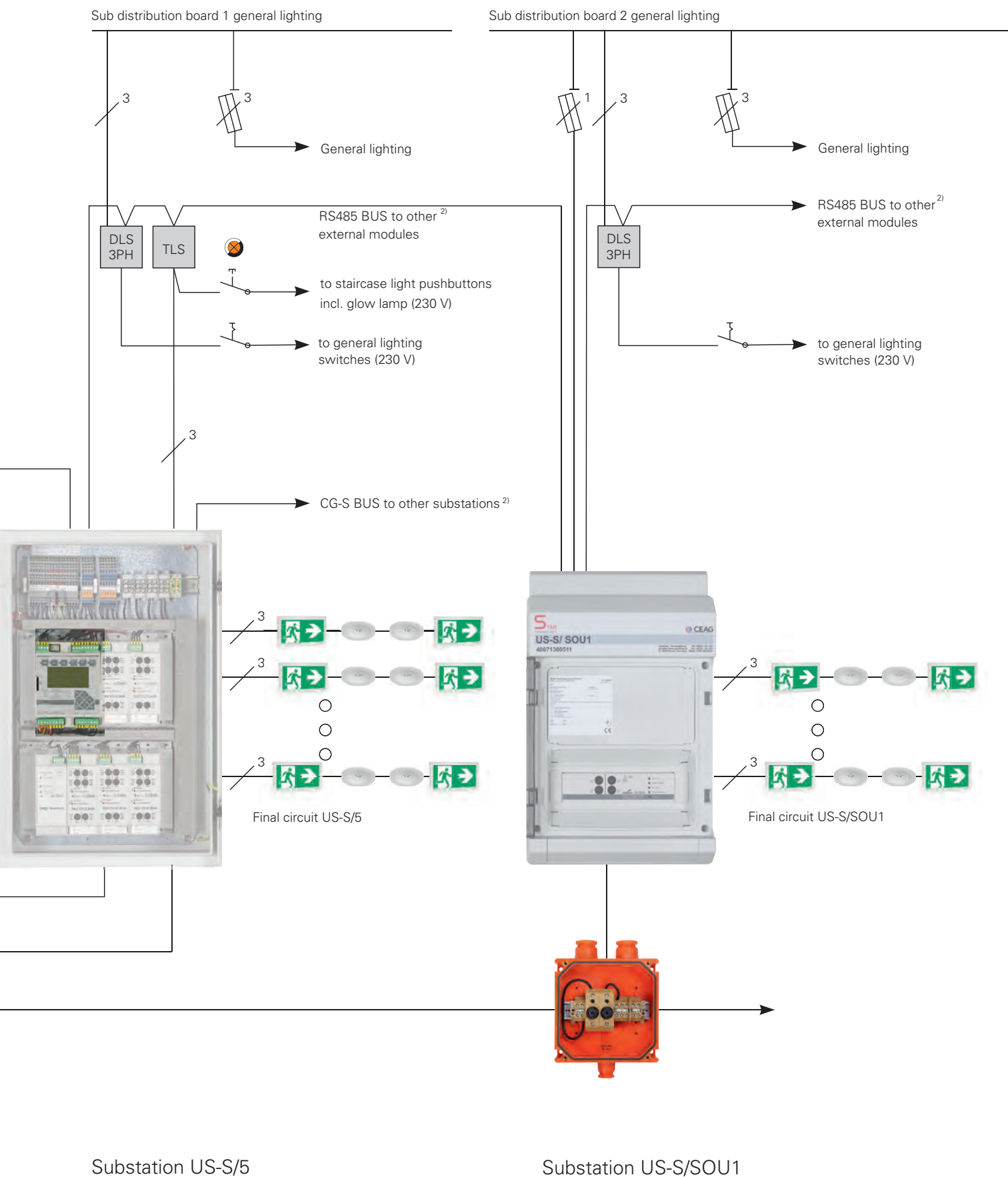
Installation example



Central Battery system ZB-S

Central battery system ZB-S with STAR technology

Installation example



9

Central battery system ZB-S with STAR technology

Planning and layout of the ZB-S emergency lighting supply system

Based on the data given in the tables, planning the ZB-S central battery system can easily and quickly be carried out.

We recommend the following procedure:

• Calculation of required battery capacity

The number of required emergency luminaires is known from the emergency lighting design with the engineering guides included in part 1 of this catalogue.

Example:

The following number of luminaires has been calculated for the emergency lighting of a meeting hall (3 h rated duration and 12 h recharge period).

| Amount | Type | Current consumption per luminaire | in total |
|--------|------------|---|----------|
| 100 | 55021 CG-S | 0.03 A | 3.00 A |
| 250 | 55011 CG-S | 0.03 A | 7.50 A |
| 100 | EVG 13.3 | 0.05 A | 5.00 A |
| Total: | | | 15.50 A |

Based on table 2a and depending on the required rated duration (1 h, 3 h and 8 h), the battery capacity (C10; **1.8V/Z**; +20° C) is to be calculated, depending on the maximum discharge current that has been determined on the basis of the total current drawn from the battery by all consumers.

According to EN 50171, batteries with a lifetime of 10 years at +20° C will have to be installed.

In the above example with the required rated duration of 3 h the 53.70 Ah battery (C10; 1.8V/Z; +20° C) is to be selected from the table 2a.

The maximum discharge current for a 3 h discharge according to table 2a is at 15.80 A.

• Calculation of required additional booster.

According to EN 50171, 80 % of capacity must be loaded within 12 h into the discharged battery. In the calculation of the required booster the ageing factor of 25 % must not be considered.

Example:

| | | |
|-----------------------------|---|--------------------------|
| Current consumption battery | = | 15.80 A at 3 h discharge |
| Required number of boosters | | |
| 1 x CM 1.7 A and 1 x 3.4 A | = | 2 pcs. |
| acc. to table 3 | | |

• Calculation of required battery capacity including ageing factor according to table 2a

As a lead-acid battery has a capacity loss of 2.5% each year (25% in 10 years) at intended operation this capacity loss has to be included in the battery appointment acc. to EN 50171.

The end of the lifetime is reached when the rated voltage of the battery at full load falls below 90%.

Example:

| | |
|--|----------------------------|
| Current consumption battery | |
| 15.50 A + 25% ageing factor | = 19.38 A |
| U _N battery | = 216 V |
| 90% U _N battery (108 battery) = | 194.4 V |
| | = 1.8 V per battery |

In this example the battery capacity has to be increased from 53.70 Ah to 85.70 Ah.

The maximum discharge current for a 3h discharge is at 23.10 A.

Attention!

In the calculation of the required booster the ageing factor of 25% must not be considered.

• Fuse protection of the mains input

In order to determine the fuse in the main distribution board of the general power supply, you must know the total connected load of the ZB-S system. This is made up of the sum of mains connected loads of the individual luminaires and consumers (see table 1) and of the ratings of the charging booster CM 1.7 A and CM 3.4 A.

Example:

| | | |
|-----------------------------|---------|-------------------|
| 100 pcs. 55021 CG-S | à 16 VA | = 1.60 kVA |
| 250 pcs. 55011 CG-S | à 16 VA | = 4.00 kVA |
| 100 pcs. EVG 13.3 | | |
| for 13 WTC-DEL | à 23 VA | = 2.30 kVA |
| | | = 7.90 kVA |
| Booster CM 1.7 A | | |
| P _{zu} 0.72 kVA | | = 0.72 kVA |
| Booster CM 3.4 A | | |
| P _{zu} 0.98 kVA | | = 0.98 kVA |
| Total connected load | | = 9.60 kVA |

N-EVG 54 W V-CG-S



Table 1.1

Rated value N-EVG ... V-CG-S for mains and battery operation

| Term | | | | | | |
|--|---------------------|---------------------|---------------------|---------------------|---------|---------|
| Lamp cap | T5 | T5 | T5 | T5 | T5 | T5 |
| Type N-EVG ... V-CG-S | G5 | G5 | G5 | G5 | G5 | G5 |
| Lamp load [W] | 14 / 21 / 28 / 35 W | 14 / 21 / 28 / 35 W | 14 / 21 / 28 / 35 W | 14 / 21 / 28 / 35 W | 24/39 W | 24/39 W |
| Current consumption [A] at 220 V battery operation, setting (Luminous flux Φ_E/Φ_N in %) | | | | | | |
| 100 % | 0.08 | 0.11 | 0.15 | 0.18 | 0.13 | 0.19 |
| 90 % | 0.07 | 0.10 | 0.13 | 0.16 | 0.12 | 0.17 |
| 80 % | 0.064 | 0.09 | 0.12 | 0.14 | 0.10 | 0.15 |
| 70 % | 0.057 | 0.08 | 0.11 | 0.13 | 0.09 | 0.13 |
| 60 % | 0.051 | 0.07 | 0.10 | 0.11 | 0.08 | 0.12 |
| 50 % | 0.045 | 0.062 | 0.09 | 0.10 | 0.07 | 0.11 |
| 40 % | 0.040 | 0.055 | 0.08 | 0.09 | 0.066 | 0.10 |
| 30 % | 0.036 | 0.050 | 0.07 | 0.08 | 0.059 | 0.09 |
| Power consumption [A] at 230 V mains operation | 0.08 | 0.11 | 0.14 | 0.17 | 0.12 | 0.18 |
| Power factor λ | 0.96 | 0.96 | 0.98 | 0.98 | 0.98 | 0.98 |
| Inrush current [A] | 10 | 10 | 10 | 10 | 10 | 10 |
| System power lamp + ECG acc. to EN 50294 [W] | 16 | 23 | 30 | 37 | 25 | 41 |

N-EVG 58 W V-CG-S



| Term | | | | | |
|--|------|------|------|------|------|
| Lamp cap | T5 | T5 | T5 | T8 | T8 |
| Type N-EVG ... V-CG-S | G5 | G5 | G5 | G13 | G13 |
| Lamp load [W] | 49W | 54W | 80W | 36W | 58W |
| Current consumption [A] at 220 V battery operation, setting (Luminous flux Φ_E/Φ_N in %) | | | | | |
| 100 % | 0.24 | 0.26 | 0.38 | 0.17 | 0.25 |
| 90 % | 0.21 | 0.23 | 0.34 | 0.15 | 0.22 |
| 80 % | 0.19 | 0.21 | 0.30 | 0.14 | 0.20 |
| 70 % | 0.17 | 0.18 | 0.27 | 0.12 | 0.18 |
| 60 % | 0.15 | 0.16 | 0.24 | 0.11 | 0.16 |
| 50 % | 0.14 | 0.15 | 0.21 | 0.10 | 0.14 |
| 40 % | 0.12 | 0.13 | 0.19 | 0.09 | 0.13 |
| 30 % | 0.11 | 0.12 | 0.17 | 0.08 | 0.11 |
| Power consumption [A] at 230 V mains operation | 0.24 | 0.25 | 0.37 | 0.16 | 0.24 |
| Power factor λ | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Inrush current [A] | 10 | 10 | 12 | 10 | 10 |
| System power lamp + ECG acc. to EN 50294 [W] | 52 | 57 | 84 | 34 | 53 |

Depending on the luminous flux (30% ... 100%) the correspondend battery current has to be projected.

Dim operation permitted by 30% up to 10°C, 60% up to 0°C only.

For outdoor use set 100 % only!

Central battery system ZB-S with STAR technology

Tables

EVG 13.3



EVG 13.3 V-CG-S



EVG 18 V-CG-S



EVG 18C V-CG-S



Table 1.2

Rated value of EVG 13.3 V-CG-S, EVG 18 V-CG-S and EVG 18C V-CG-S for mains and battery operation

| International term | Lamp cap | EVG-type EVG... | Lamp load in [W] | Power consumption at battery operation [A] ¹⁾ | Power consumption in [VA] | Inrush current [A] | Power factor λ |
|--------------------|----------|-----------------|------------------|--|---------------------------|--------------------|----------------|
| T16 / T5 | G 5 | 13.3 V-CG-S | 4 | 0.020 | 8 | 3 | 0.6 |
| | | 13.3 V-CG-S | 6 | 0.025 | 12 | 3 | 0.6 |
| | | 13.3 V-CG-S | 8 | 0.030 | 16 | 3 | 0.6 |
| | | 13.3 V-CG-S | 13 | 0.050 | 23 | 3 | 0.6 |
| TC-SEL | 2 G 7 | 13.3 V-CG-S | 5 | 0.020 | 10 | 3 | 0.6 |
| | | 13.3 V-CG-S | 7 | 0.025 | 13 | 3 | 0.6 |
| | | 13.3 V-CG-S | 9 | 0.030 | 16 | 3 | 0.6 |
| | | 13.3 V-CG-S | 11 | 0.040 | 18 | 3 | 0.6 |
| TC-DEL | G 24 q-1 | 13.3 V-CG-S | 10 | 0.035 | 16 | 3 | 0.6 |
| | | 13.3 V-CG-S | 13 | 0.050 | 23 | 3 | 0.6 |
| TC-TEL | G 24 q-2 | 18C V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| | | 18C V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| TC-F | 2 G 10 | 18 V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| | | 18 V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| TC-L | 2 G 11 | 18 V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |
| | | 18 V-CG-S | 18 | 0.070 | 30 | 8 | 0.6 |

¹⁾ Luminous flux $\Phi_E/\Phi_N = 75\%$

Table 1.3

Current ratings of incandescent and tungsten halogen lamps

| 220 V incandescent lamps (AGL) | | | 12 V tungsten halogen lamps with 220 V electronic transformer | | |
|--------------------------------|---------|--------------------------------------|---|---------------------------------|----------------------|
| | Φ rated | Current consumption from the battery | Lamp rating | Current rating from the battery | Mains connected load |
| 7 W | 30 lm | 30 mA | 20 W | 115 mA | 33.6 VA |
| 15 W | 90 lm | 70 mA | 35 W | 200 mA | 58.0 VA |
| 25 W | 230 lm | 110 mA | 50 W | 285 mA | 84.0 VA |
| 40 W | 430 lm | 180 mA | 75 W | 420 mA | 72.6 VA |
| 60 W | 730 lm | 270 mA | 100 W | 570 mA | 168.0 VA |
| 75 W | 960 lm | 340 mA | | | |
| 100 W | 1380 lm | 450 mA | | | |

Table 2a

Calculation of the battery capacity of maintenance free OGIv batteries acc. to EN 50171 (higher capacities on request).

| Battery capacity C10 at 1.8 V/C and +20°C | Ah | 5.5 | 8.5 | 14.0 | 23.3 | 32.0 | 39.8 | 50.4 | 53.7 | 66.2 | 85.7 | 89.4 | 106.0 | 118.0 | 143.1 | 155.6 | 178.8 | 195.4 | 245.0 | 268.2 | 308.0 | 357.6 |
|---|------------|-----|-----|------|------|------|------|------|------|------|------|------|----------------------|-------|----------------------|----------------------|----------|----------------------|----------------------|----------|----------------------|----------|
| | | | | | | | | | | | | | 1 x 39.8 1 x 66.2 | | 1 x 89.4 1 x 53.7 | 1 x 89.4 1 x 66.2 | 2 x 89.4 | 1 x 89.4 1 x 66.2 | 1 x 39.8 2 x 89.4 | 3 x 89.4 | 3 x 89.4 1 x 39.8 | 4 x 89.4 |
| max. discharge current [A] with operating time [h], 1.8 V per cell and +20°C ambient temperature | 1.0 | 3.2 | 4.5 | 9.3 | 15.4 | 20.2 | 24.1 | 30.7 | 37.9 | 49.2 | 52.6 | 63.8 | 73.3 | 85.1 | 101.7 | 113.0 | 127.6 | 137.1 | 176.8 | 191.4 | 215.5 | 255.2 |
| | 1.5 | 2.5 | 3.4 | 6.9 | 11.9 | 15.0 | 19.0 | 22.7 | 27.6 | 34.5 | 38.3 | 46.1 | 53.5 | 60.0 | 73.7 | 80.6 | 92.2 | 99.6 | 126.7 | 138.3 | 157.3 | 194.7 |
| | 2.0 | 2.1 | 2.9 | 5.7 | 9.2 | 12.3 | 14.6 | 18.5 | 21.5 | 26.3 | 31.0 | 36.0 | 40.9 | 46.9 | 57.5 | 62.3 | 72.0 | 76.9 | 98.3 | 108.0 | 122.6 | 144.0 |
| | 3.0 | 1.5 | 2.1 | 4.1 | 6.9 | 9.1 | 11.0 | 13.6 | 15.8 | 18.2 | 23.1 | 26.5 | 29.2 | 33.3 | 42.3 | 44.7 | 53.0 | 55.7 | 71.2 | 79.5 | 90.5 | 106.0 |
| | 8.0 | 0.7 | 1.0 | 1.7 | 2.8 | 3.7 | 4.8 | 5.9 | 6.6 | 7.9 | 10.3 | 11.0 | 12.7 | 14.2 | 17.6 | 18.9 | 22.0 | 23.7 | 29.9 | 33.0 | 37.8 | 44.0 |

Important note: The aging provision for batteries (25 %) is not included.

Table 3a

Number of 1.7 A and 3.4 A booster acc. to DIN EN 50171 for recharging of:

| Battery capacity C10 at 1.8 V/C and +20°C | h | A | 5.5 | 8.5 | 14.0 | 23.3 | 32.0 | 39.8 | 50.4 | 53.7 | 66.2 | 85.7 | 89.4 | 106.0 | 118.0 | 143.1 | 155.6 | 178.8 | 195.4 | 245.0 | 268.2 | 308.0 | 357.6 |
|--|------------|-----|-----|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 12 hours / 80 % | 1.0 | 1.7 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| | | 3.4 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 6 |
| | 1.5 | 1.7 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| | | 3.4 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 5 | 6 | 6 |
| | 2.0 | 1.7 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| | | 3.4 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 5 | 5 | 6 | 7 |
| | 3.0 | 1.7 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| | | 3.4 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 6 | 6 | 7 |
| | 8.0 | 1.7 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| | | 3.4 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 6 | 6 | 7 | 8 |

Table 4

Number of battery cabinets; battery weight

| Battery capacity C10 at 1.8 V/C and +20°C | 5.5 | 8.5 | 14.0 | 23.3 | 32.0 | 39.8 | 50.4 | 53.7 | 66.2 | 85.7 | 89.4 | 106.0 | 118.0 | 143.1 | 155.6 | 178.8 | 195.4 | 245.0 | 268.2 | 308.0 | 357.6 |
|---|-----|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| No. of battery cabinets (weight approx. 150 kg) per cabinet | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 |
| Total weight per battery set approx. kg | 45 | 65 | 100 | 180 | 243 | 252 | 351 | 405 | 499 | 527 | 594 | 612 | 900 | 1000 | 1093 | 1296 | 1354 | 1687 | 1782 | 1782 | 2376 |

Table 5.1

Calculation of ventilation of electrical rooms acc. to DIN EN 50272-2 (calculated for boost charge):

| Battery 216 V | 5.5 | 8.5 | 14.0 | 23.3 | 32.0 | 39.8 | 50.4 | 53.7 | 66.2 | 85.7 | 89.4 | 106.0 | 118.0 | 143.1 | 155.6 | 178.8 | 195.4 | 245.0 | 268.2 | 308.0 | 357.6 |
|--|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Air volume flow req. for the ventilation of the place of installation [m³/h] | 0.24 | 0.37 | 0.60 | 1.01 | 1.38 | 1.72 | 2.18 | 2.32 | 2.86 | 3.70 | 3.86 | 4.58 | 5.10 | 6.18 | 6.72 | 7.72 | 8.44 | 10.58 | 11.59 | 13.31 | 15.45 |
| Vent cross-section of the air inlets and outlets of the place of installation [cm²] | 6.65 | 10.28 | 16.93 | 28.18 | 38.71 | 48.14 | 60.96 | 64.96 | 80.08 | 103.66 | 108.14 | 128.22 | 142.73 | 173.09 | 188.21 | 216.28 | 236.36 | 296.35 | 324.41 | 372.56 | 432.55 |

Table 5.2

Calculation of ventilation of electrical rooms acc. to DIN EN 50272-2 (calculated for float charge)*:

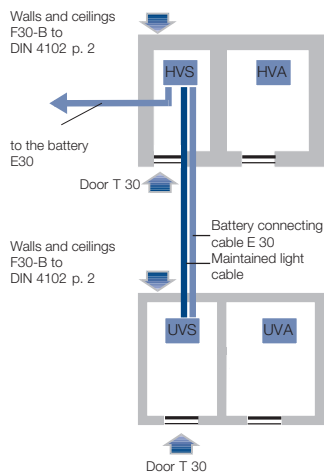
| Battery 216 V | 5.5 | 8.5 | 14.0 | 23.3 | 32.0 | 39.8 | 50.4 | 53.7 | 66.2 | 85.7 | 89.4 | 106.0 | 118.0 | 143.1 | 155.6 | 178.8 | 195.4 | 245.0 | 268.2 | 308.0 | 357.6 |
|--|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Air volume flow req. for the ventilation of the place of installation [m³/h] | 0.03 | 0.05 | 0.08 | 0.13 | 0.17 | 0.21 | 0.27 | 0.29 | 0.36 | 0.46 | 0.48 | 0.57 | 0.64 | 0.77 | 0.84 | 0.97 | 1.06 | 1.32 | 1.45 | 1.66 | 1.93 |
| Vent cross-section of the air inlets and outlets of the place of installation [cm²] | 0.83 | 1.29 | 2.12 | 3.52 | 4.84 | 6.02 | 7.62 | 8.12 | 10.01 | 12.96 | 13.52 | 16.03 | 17.84 | 21.64 | 23.53 | 27.03 | 29.54 | 37.04 | 40.55 | 46.57 | 54.07 |

* If a boost charge only occurs occasionally (e.g. monthly), the float charge current can be used for calculation of the air volume current of ventilation.

Central battery system ZB-S with STAR technology

Accommodation

Example 1



A number of rules and regulations apply to the accommodation of central battery systems, in particular the EltBauVo, DIN EN 50272-2, MLAR and LBO.

Depending on the constructional circumstances, the following accommodation possibilities result from these rules and regulations.

Example 1:

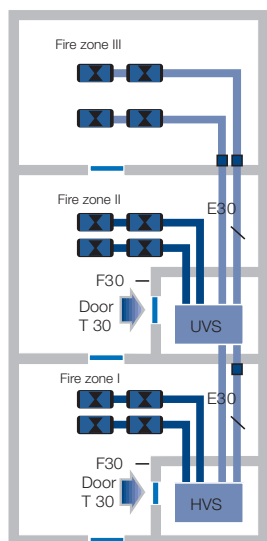
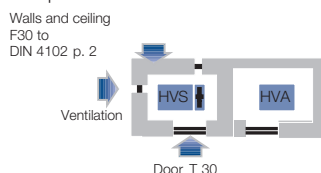
Main distribution board of the general lighting power supply (MDB) and main distribution board of the emergency lighting power supply (ZB) in an electrical room.

In case of accommodation acc. to example 1, attention must be paid that the MDB and ZB are isolated from each other so that arcing is safely prevented.

Example 2:

Main distribution board of the emergency lighting power supply (ZB) including the battery, in a separate electrical room.

Example 2



Example for the possible accommodation of a ZB-S and laying of cables which, however, depend on the building's use.

Ventilation of electrical rooms

Dimensioning of the ventilation acc. to DIN EN 50272-2. The ventilation of rooms, cabinets or containers in the inside of which batteries are operated, is considered sufficient, if a min. air volume flow is ensured that has been calculated according to the following formula:

$$Q = 0.05 \times n \times I_{\text{gas}} \times C_N \times 10^{-3} [\text{m}^3/\text{h}]$$

Q = needed air volume flow, in m^3/h

0,05 = fixed factor

n = no. of accumulator cells

I_{gas} = current in mA per Ah, fits 8 mA per Ah for Iboost with VRLA batteries

C_N = capacity C_{10} for lead acid at 20 °C

Example of calculation for required airflow of a ZB-S with closed 155.6 Ah lead acid battery:

$$Q = 0.05 \times n \times I_{\text{gas}} \times C_N \times 10^{-3}$$

$$Q = 0.05 \times 108 \times 8 \times 155.6 \times 10^{-3} \text{ m}^3/\text{h}$$

$$Q = 6.72 \text{ m}^3/\text{h}$$

In order to ensure the air volume flow of 6.72 m^3/h , the air inlets and outlets in the electrical distribution room must have the following minimum cross-sections acc. to DIN EN 50272-2.

Vent cross-section of the air inlets and outlets:

$$A \geq 28 \times Q$$

$$A \geq 28 \times 6,72 \text{ m}^3/\text{h}$$

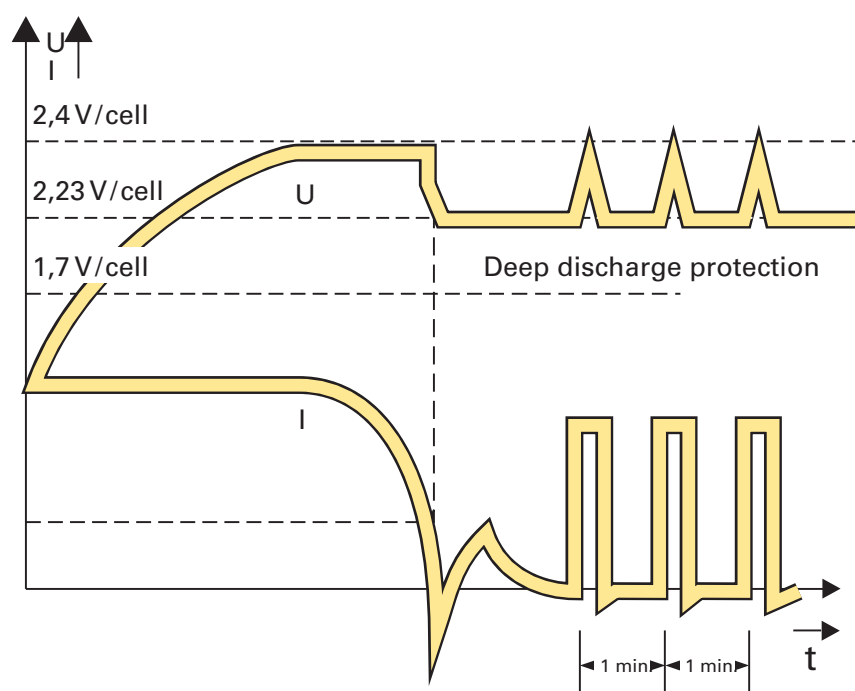
$$A \geq 188,21 \text{ cm}^2$$

The required vents in the F90 walls must be guarded by fire protection measures, e. g. F90 fire shutters. As the calculation shows, the use of even the largest battery does not require an elaborate technical ventilation (e.g. explosion protected fans).

Due to the installed low maintenance of sealed lead acid gas recombination batteries, no further special constructional requirements such as a floor resistant to electrolyte or a floor covering (tiles) etc. have to be met.

VRLA valve regulated lead acid monobloc batteries can operate in any position.

Exception on top.



Properties of environmentally friendly battery technology:

- low-maintenance, leak-proof gas recombination battery block
- extremely low gassing due to antimony-free alloys and an internal recombination of the generated oxygen
- service life: 10 years
- density of acid between 1.24 kg/l and 1.26 kg/l
- design according to DIN
- electrolyte and aerial oxygen proof pole bushing
- low self-discharge, therefore the possibility of long rest periods during transport and storage



The patented CEAG charge monitoring method enables the recognition of:

- a blown fuse
- a failure in the charging circuit
- a faulty charging unit
- missing batteries
- battery voltage monitoring

Central battery system ZB-S with STAR technology

Specifications

Central Battery System ZB-S



CEAG Central Battery System ZB-S

Central battery system ZB-S complies with EN 50171 to supply power to 230V/216V AC/DC safety and escape sign luminaires. Suitable for Emergency escape lighting systems according to DIN VDE 0100-560, EN 50172 and V DIN VDE 0108-100. With automatic testing device and single luminaire monitoring with individual display of state and name per luminaire in conjunction with system-dependent electronic ballasts including monitoring module, without additional data cable.

The switching mode of each of the safety and escape sign luminaires with system-dependent electronic ballasts or monitoring modules can be programmed as required in the control module of the central battery system. An additional data cable to the luminaires is not required.

The CEAG STAR technology greatly reduces the number of final circuits, as it is now possible to combine operation of maintained light, switched maintained light and non-maintained light in a single common circuit.

Assignment of all operating modes is via the control unit without encroaching in the luminaire installation. Selection of the non-maintained light or maintained light operating modes via possibly slide switch, coding switch or jumpers on the monitoring module or ECG / LED supply module is not permitted. Surplus costs to installation lines caused by use of devices from other manufacturers or additional components cannot be made valid.

Electronic assemblies in service-compatible module design wired ready for connection to triple deck installation terminals with N isolating terminal 4 sq. mm (AWG 11) and PE connection. The assemblies are simple to install and replace with rapid connections. Simple connection method via plugable terminal connection to the assemblies.

Connection compartments from above or below on touch-protected connection terminals. With optionally installed distribution box for battery supply and mains supply to the substations including fusing. Design with modular plug technology.

Bus technologies

CG-S bus technology based on LONWorks®-technology

The 2-pole, bi-directional CG-S data bus in series integrated in the control module is used for data communication between the Central Battery System and connected substations or monitoring devices like CG-Controller or CG-Vision (visualisation software).

With an optional available interface-box each Building Management System which is based on LONWorks®-technology can communicate with the systems via the CG-S – bus.

Alternative each Building Management System which is OPC compatible can be connected to the CG-S – bus via an optional available OPC – Server and interface-box.

So the CG-S-Bus has the possibility to call off voluminous status messages and control commands without additional modules.

The following data can be communicated in this way:

- Output data, e.g., system blocked, deep discharge protection, battery open circuit, battery voltage, current and temperature, insulation fault, charger / booster malfunction, bus communication error, mains failure, circuit malfunctions etc.
- Input commands, e.g., start function test, start and cancel operating time test, manual reset, block and release device

16 virtual input switches enable via external LON-sensors to switch independently circuits or even separate luminaires.

Networking of all ZB-S distribution boards with different media. For example fiber optic cable, Ethernet and LAN by optional components possible.

Status and error messages of individual luminaires are recallable.

External units such as the DLS/3PH bus module, DLS/3PH bus module inverse and TLS bus module are connected with the RS485 bus.

Only the power supply cable is required for communication with the system-dependent luminaires.

The central system uses a search function to automatically find the system-dependent luminaires and modules that were addressed when the system was installed.

Control module

A user-programmable control module with non-volatile program memory and 4-line alphanumeric graphic display monitors and controls the central battery system. All functions such as charging, mains/emergency lighting selection and deep discharge protection of the devices and the emergency luminaires are tested automatically. Any faults that occur are signalled immediately.

An interface enables a central monitoring facility to be connected.

In the event of a short circuit or open circuit in current loops, differential monitors immediately power on the system (maintained light) or put the system in readiness.

Graphic display:
4 x 20 characters, backlit, program adjustable contrast and brightness

Readouts:

Battery voltage, battery charge current (+), battery discharge current during test or in case of fault (-), charging malfunction, luminaire fault indicating the location in plain text, deep discharge protection, manual reset, time-delayed emergency light (remaining time in minutes), test operation, date/time, insulation fault indicating the faulty circuit, UV-AV failure (indicating the location in plain text), fault information, programming information, logbook.



LED indicators: Ready for operation, power source for safety purposes, fault.

Sealed keypad:

- separate keys for system test, function test, operating duration test
- 3 programmable function keys for e.g.: system disable/enable, manual reset, maintained light On/Off, show fault list, through lighting On/Off, mains failure simulation UV
- 7 control keys for user-friendly navigation in polling and programming mode.

Each module also has its own service button which can be used to view directly the current module status in the display.

Programming possibilities:

individual luminaire monitoring, current value monitoring, individual name per device, circuit, luminaire and bus-module, device address, selective manual reset, delay on mains return (1-15 min.), selective emergency light, LON switch, timer function, automatically function and battery duration test, selection of menu language.

Connection for disable switch:

Control loop for disabling the installation during factory shutdowns with differential loop monitoring for short-circuit and open circuit detection.

Differential monitoring: Short-circuit or open circuit result in readiness for operation of the system.

Connection for phase monitor:

24 V current loop for requesting emergency lighting using differential loop monitoring for the detection of short and open circuits.

Differential monitoring: Short-circuit or open circuit result in the immediate power on (maintained light) of the system.

3 floating relays with common potential.

One or more of 11 different signals can be assigned to each floating contact or to the buzzer. Freely programmable, DIN VDE requirement can be called at any time as a preset.

2 floating relays with common potential (permanently programmed).

Connection for 24V inputs:

4 off user-assignable 24V inputs, can be programmed negated or non-negated for, e.g.

Function test start/cancel, operating duration test start/cancel, system disable/enable, manual reset, maintained light On/Off, power on safety lighting as through lighting.

Memory Card:

Storage card for archiving the device configuration and mandatory test log information for at least 2 years.

Provides storage for:

- 300,000 test log entries
- Location texts for the luminaires (20 characters per luminaire)

- Location texts of external modules such as phase monitor, DLS, TLS (20 characters per module)
- Names of the circuits (20 characters per circuit)
- System name (20 characters)

Can be programmed offline on a PC using optional CEAG software.

Charging technology

The completely sealed, low-maintenance lead batteries are carefully charged using a micro-processor-controlled I/U charging characteristic with temperature control. Depending on the charge state of the batteries, boost charging is activated to allow the batteries to be charged without exceeding the gassing voltage. The patented charge monitoring process continuously checks the charge and immediately signals faults such as battery open circuit, a faulty charging module or a high-resistance cell.

- With insulation tester to DIN VDE0100 Part 410
- Depending on battery size, with additional charging modules
- LED indicators for charging module on, boost charging on, insulation fault, charging malfunction, mains present
- Floating contacts for charging malfunction, boost charging, insulation fault
- Temperature sensor built into battery cabinet
- Alternate activation of charging modules at trickle charge

Circuit modules for installation on gear tray

The circuit changer supplies and monitors emergency luminaires with electronic ballasts for DC operation and incandescent lamps. The CEWA GUARD monitor checks the function of the luminaires that are connected to the system.

- Up to 20 luminaires can be monitored per circuit with individual status display
- Combined operation of maintained light, switched maintained light and non-maintained light within one circuit is possible. An additional data cable to the luminaires is not required.
- Output voltage in battery mode: 216V DC
- Typical mains / battery switchover time: 450ms,
- User programming for maintained light, switched maintained light or non-maintained light,
- Fuses easily accessible on the front of module,
- permanent monitoring of the fuses.
- LED indicates fault and Run/ON for each circuit
- service button, used to view directly the current module status in the display
- at 3phase feeding selective mains- / battery switchover per phase / module carrier
- automatically luminaire search function

Central battery system ZB-S with STAR technology

Specifications



Circuit modules DIN rail mounting

The circuit changer supplies and monitors emergency luminaires with electronic ballasts for DC operation and incandescent lamps. The CEWA GUARD monitor checks the function of the luminaires that are connected to the system. Separate AC feed for rental current. Decentral arrangement and connection via the RS485 bus for fire protection section-related supply of the safety lighting.

- Up to 20 luminaires can be monitored per circuit with individual status display
- Combined operation of maintained light, switched maintained light and non-maintained light within one circuit is possible. An additional data cable to the luminaires is not required.
- Output voltage in battery mode: 216V DC
- Typical mains / battery switchover time: 450ms,
- User programming for maintained light, switched maintained light or non-maintained light,
- Fuses easily accessible on the front of module,
- permanent monitoring of the fuses.
- LED indicates fault and Run/ON for each circuit
- service button, used to view directly the current module status in the display
- automatically luminaire search function

Sinus Inverter

The sinus inverter supplies and controlled emergency luminaires with conventional ballasts and bulbs. With rotary encoder switch for adjustment of the luminous flux in range of 25% to 100% in battery mode.

- monitoring each module,
- 230V AC sinus voltage in mains and battery mode,
- Adjustable luminous flux in range of 25% up to 100% in battery mode,
- Typical switch over time mains / battery 450ms,
- Alternative mains input each module or via back plane with mains power failure notification,
- 3-phase mains incoming selective mains / battery switch over each phase / back plane,
- Additional light switch polling (DLS) for the common switching of safety and general lighting,
- free programming for maintained, non maintained and switched maintained mode,
- Fuses easily accessible on the front of module,
- permanent monitoring of the fuses,
- service button, used to view directly the current module status in the display

External DLS/3Ph Bus Module

The external DLS/3PH bus module for installation in sub-distribution boards for the general lighting can be used as a phase monitor and for light

switch polling (DLS) for the common switching of safety and general lighting systems.

8 DLS inputs (2.5 sqmm) with LED indicators or 5 DLS inputs combined with 3 phase monitor inputs can be activated by a selector switch.

Monitoring thresholds comply with DIN EN 60598-2-22: 60-85% UNOM.

Connection of RS485 bus and 24 V module supply.

Addressable by decode switch, LEDs for Fault, ON status and Run.

Enclosure for DIN rail mounting.

User-programmable assignment of independent DLS inputs for each emergency light circuit or luminaire as well as individual name per bus-module in the control module.

When using as a 3 phase monitor the detailed phase failure information with location of the mains distribution board will be displayed in the control module.

External DLS/3Ph Bus Module inverse

The external DLS/3PH bus module inverse for installation in sub-distribution boards for the general lighting can be used as a phase monitor and for light switch polling (DLS) with inverse switching logic for the common switching of safety and general lighting systems or for the control of the circuit-breaker.

8 DLS inputs inverted (2.5 mm²) with LED indicators or 5 DLS inputs inverse combined with 3 phase monitor inputs can be activated by a selector switch.

Monitoring thresholds comply with DIN EN 60598-2-22: 60-85% UNOM.

Connection of RS485 bus and 24 V module supply.

Addressable by decode switch, LEDs for Fault, ON status and Run.

Enclosure for DIN rail mounting.

User-programmable assignment of independent DLS inputs for each emergency light circuit or luminaire as well as individual name per bus-module in the control module.

When using as a 3 phase monitor the detailed phase failure information with location of the mains distribution board will be displayed in the control module.

External TLS Bus Module

The external TLS bus module is used to poll stairwell light pushbuttons and to supply the glow lamps in both mains and emergency mode. General and safety luminaires can be controlled with the same pushbuttons by using a TLS switching module (installed in the lighting distribution system).

2 pushbutton inputs (2.5 mm²) including supply of glow lamps, max. 50 mA per TLS input.

2 load circuits for general lighting (2.5 mm²), max. 10 A per circuit (120 A/ms).



Variable 'on' time ranging from 1 to 15 minutes, including glow lamp flash function 30 s before the end of the preset on time.

Connection of RS485 bus, 24 V module power supply and supply cable from final circuit for the generation of the glow lamp voltage.

Addressable by decode switch, LEDs for Fault, ON status and Run.

Enclosure for DIN rail mounting.

User-programmable assignment of independent TLS inputs for each emergency light circuit or luminaire as well as individual name per bus-module in the control module.

Event printer PD3

- For logging and storage of operating states on a ZB-S installation or US-S substation
- With built in 4-needle-printmechanism.

Relay module CG IV

Relay module for signalling the following operating states using potential-free contacts:

Emergency/mains operation, emergency lighting/charging failure, deep discharge

protection, function test on/off, operating time test on/off.

8 pcs. LED indicators for indications given above

Relay module CG V

Relay module for signalling the following operating states using potential-free contacts:

Contact "No operation" is closed during: Unit blocked, deep discharge protection, relay module voltfree,

Contact "Failure priority 1" is closed during: Charger and booster failure, battery failure.

Contact "Failure priority 2 is closed during: Circuit fuse defect.

Contact "Failure priority 3 is closed during: Luminaire failure.

Contact "Emergency Lighting Operation" is closed during: Mains failure, delay on mains return, manual reset, function- and duration test.

Webmodul

Webmodul ZB-S for visualisation and monitoring of a central battery system, Type ZB-S via a local ethernet (LAN) or internet (WWW) with a usual WEB-Browser. An access to the webmodule via internet (WWW) must be administrated from an IT-department at site!

Integrated mail-client for a comfortable, event orientated failure information, for up to 5 E-mail recipients. Access via administrator account or guest account, with password protection.

- Easy menu structure
- Full visualisation and monitoring of a ZB-S (central battery system) via ethernet (LAN) with usual WEB-Browser (e.g. Internet Explorer, Firefox etc.)
- Display of all actual operation modes

- Local failure information of each emergency circuit and luminaires with destination information in plain text
- Permanent actual information of the charging unit and the battery
- Parallel access to the webmodule from different workstations possible (max. 8)
- Integrated mail-client for comfortable failure notification via mail
- Type of different failures for the mail transmission selectable
- Up to 5 mail-recipients programmable
- Actualisation cycle of the web browser via the webmodule adjustable
- Authenticated access via administrator-account with password protection
- Adjustable guest account with restricted access with password protection
- Static or dynamic (DHCP) IP-addressing possible
- Any number of web modules can be operated in parallel
- Overview display of all active web modules in intranet with status display and hyperlink function

Supply voltage: 24V DC

Power consumption: < 1,5W

LAN connection: RJ45

Housing: Polycarbonat for DIN-rail mounting, 2TE

Dimmensions: L=90 mm, W=35 mm, H=58 mm

Weight: approx. 100 g

Degree of protection: IP20

216V OGiV Battery Block

Only low-maintenance- sealed leak-proof OGiV block batteries are used. Nominal operating time 1, 3 or 8 h.

- Extremely low gassing
- Service life 10 years at 20 °C
- Low self-discharge
- Designed to IEC 896-2 requirements
- Battery post bushings sealed against electrolyte and atmospheric oxygen

CEAG is a member of the 'Stiftung Gemeinsames Rücknahmesystem Batterien (GRS)', a battery take back scheme operated jointly by German battery manufacturers.

Under this scheme, batteries undergo proper and complete recycling, thus allowing materials that may be environmentally harmful to be recovered and used to make new products.

The 'Specification for Tender' on the following pages is based on CEAG supplied products. These products must be offered for comparability. The bidder may offer a different supplier of equivalent design in an additional offer (the bidder must show equivalence). The tender must be

Central battery system ZB-S with STAR technology

Specifications



supported by detailed product descriptions to allow equivalence to be assessed:

Source of supply:

CEAG Notlichtsysteme GmbH
Senator-Schwartz-Ring 26
D-59494 Soest/Germany

Telefon +49 (0) 2921 69-870

Telefax +49 (0) 2921 69-617

Internet www.ceag.de

e-mail info-n@eaton.com

Furthermore, the evidence of a ISO 9001 Certification has to be provided.

Manufacturer without ISO 9001 certification are not admitted.

LONWorks®: registered trademark of Echelon Corporation

Table 2b

Calculation of the battery capacity of maintenance free OGiV batteries not acc. to EN 50171
(higher capacities on request)

| Battery capacity C10 at 1.8 V/C and +20°C | Ah | 5.5 | 8.5 | 14.0 | 23.3 | 32.0 | 39.8 | 50.4 | 53.7 | 66.2 | 85.7 | 89.4 | 106.0 | 118.0 | 143.1 | 155.6 | 178.8 | 195.4 | 245.0 | 268.2 | 308.0 | 357.6 |
|---|-----|-----|-----|------|------|------|------|------|------|------|------|------|----------------------|-------|----------------------|----------------------|----------|----------------------|----------------------|----------------------|----------------------|----------|
| | | | | | | | | | | | | | 1 x 39.8 1 x 66.2 | | 1 x 89.4 1 x 53.7 | 1 x 89.4 1 x 66.2 | 2 x 89.4 | 1 x 89.4 1 x 66.2 | 1 x 39.8 2 x 89.4 | 1 x 66.2 3 x 89.4 | 3 x 89.4 3 x 89.4 | 4 x 89.4 |
| max. discharge current [A] with operating time [h], 1.7 V per cell and +20°C ambient temperature | 1.0 | 3.4 | 4.7 | 9.7 | 16.7 | 20.8 | 26.2 | 31.7 | 40.9 | 52.6 | 55.3 | 66.8 | 78.8 | 90.0 | 107.7 | 119.4 | 133.6 | 145.6 | 186.2 | 200.4 | 226.6 | 267.2 |
| | 1.5 | 2.6 | 3.5 | 7.3 | 12.3 | 15.5 | 19.8 | 23.5 | 29.4 | 37.2 | 40.5 | 47.7 | 57.0 | 65.1 | 77.1 | 84.9 | 95.4 | 104.7 | 132.6 | 143.1 | 162.9 | 190.8 |
| | 2.0 | 2.2 | 3.0 | 6.1 | 9.8 | 12.7 | 16.0 | 19.2 | 22.8 | 28.6 | 32.9 | 37.2 | 44.6 | 51.7 | 60.0 | 65.8 | 74.4 | 81.8 | 103.0 | 111.6 | 127.6 | 148.8 |
| | 3.0 | 1.6 | 2.2 | 4.4 | 7.2 | 9.3 | 11.8 | 14.1 | 16.6 | 19.5 | 24.5 | 27.2 | 31.3 | 35.4 | 43.8 | 46.7 | 54.4 | 58.5 | 73.9 | 81.6 | 93.4 | 108.8 |
| | 8.0 | 0.7 | 1.0 | 1.8 | 3.0 | 3.9 | 5.1 | 6.1 | 6.8 | 8.2 | 10.8 | 11.2 | 13.3 | 14.9 | 18.0 | 19.4 | 22.4 | 24.5 | 30.6 | 33.6 | 38.7 | 44.8 |

Important note: The aging provision for batteries (25 %) is not included.

Table 3b

Number of 1.7 A and 3.4 A booster **not acc. to EN 50171** for recharging of 10 h and 20 h:

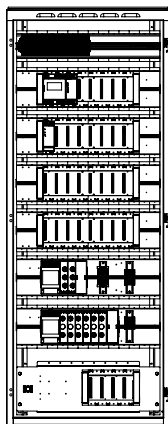
| Recharging cycle [h] | h | A | 5.5 | 8.5 | 14 | 23.3 | 32 | 39.8 | 50.4 | 53.7 | 66.2 | 85.7 | 89.4 | 106 | 118 | 143.1 | 155.6 | 178.8 | 195.4 | 245 | 268.2 | 308 | 357.6 |
|----------------------|-----|-----|-----|-----|----|------|----|------|------|------|------|------|------|-----|-----|-------|-------|-------|-------|-----|-------|-----|-------|
| 10 | 1.0 | 1.7 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| | | 3.4 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 6 | 7 |
| | 1.5 | 1.7 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| | | 3.4 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 7 |
| | 2.0 | 1.7 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| | | 3.4 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 6 | 7 | 8 |
| | 3.0 | 1.7 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| | | 3.4 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 6 | 7 | 7 | 8 |
| | 8.0 | 1.7 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| | | 3.4 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 7 | 7 | 8 | 10 |
| 20 | 1.0 | 1.7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 |
| | | 3.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 |
| | 1.5 | 1.7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| | | 3.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 4 |
| | 2.0 | 1.7 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| | | 3.4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 |
| | 3.0 | 1.7 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| | | 3.4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 |
| | 8.0 | 1.7 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |
| | | 3.4 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 5 |

Central battery system ZB-S with STAR technology

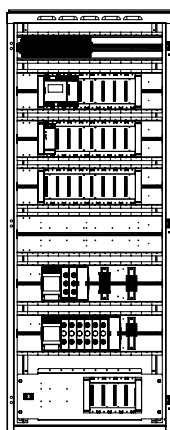
Appendix overview cabinets

Central battery systems

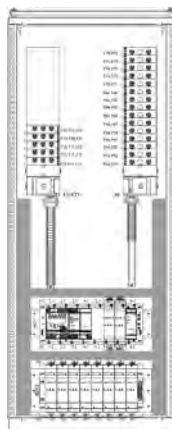
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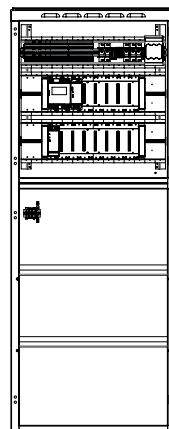
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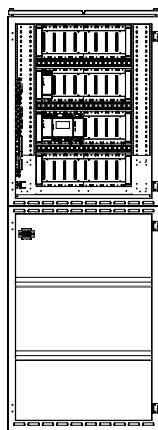
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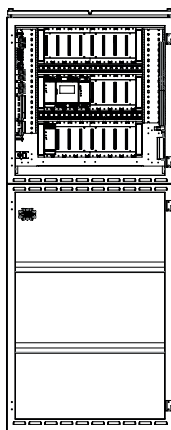
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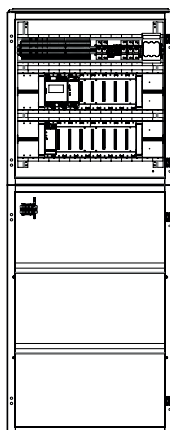
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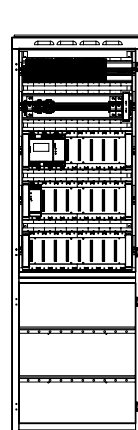
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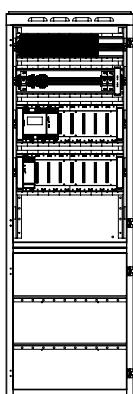
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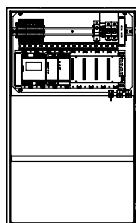
ZB-S/18C3



ZB-S/10C3

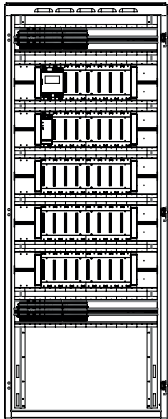


ZB-S/2C3

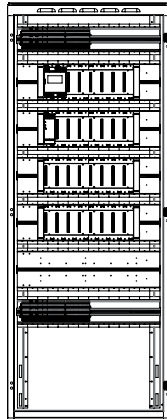


Substations

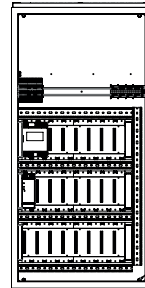
US-S/36



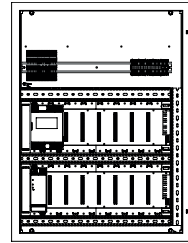
US-S/28



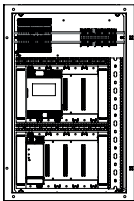
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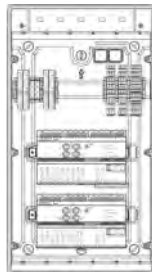
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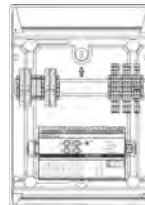
US-S/5



US-S/SOU2

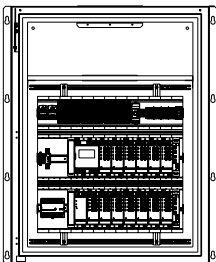


US-S/SOU1

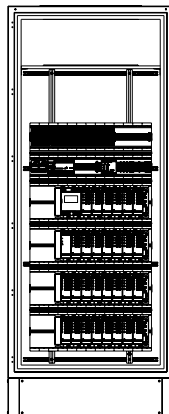


Substations with functional integrity

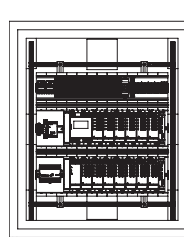
ESF-E30/13S



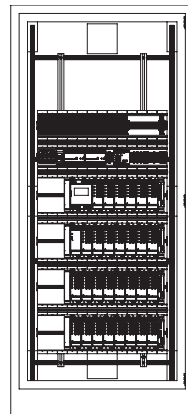
ESF-E30/28S



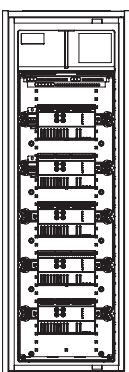
US-S ESF30 13-P



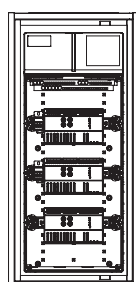
US-S ESF30 28-P



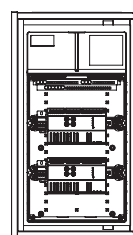
US-S ESF30 SOU5



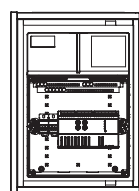
US-S ESF30 SOU3



US-S ESF30 SOU2



US-S ESF30 SOU1







Central battery systems AC/DC

LP-STAR

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Construction 358

Components and options..... 360

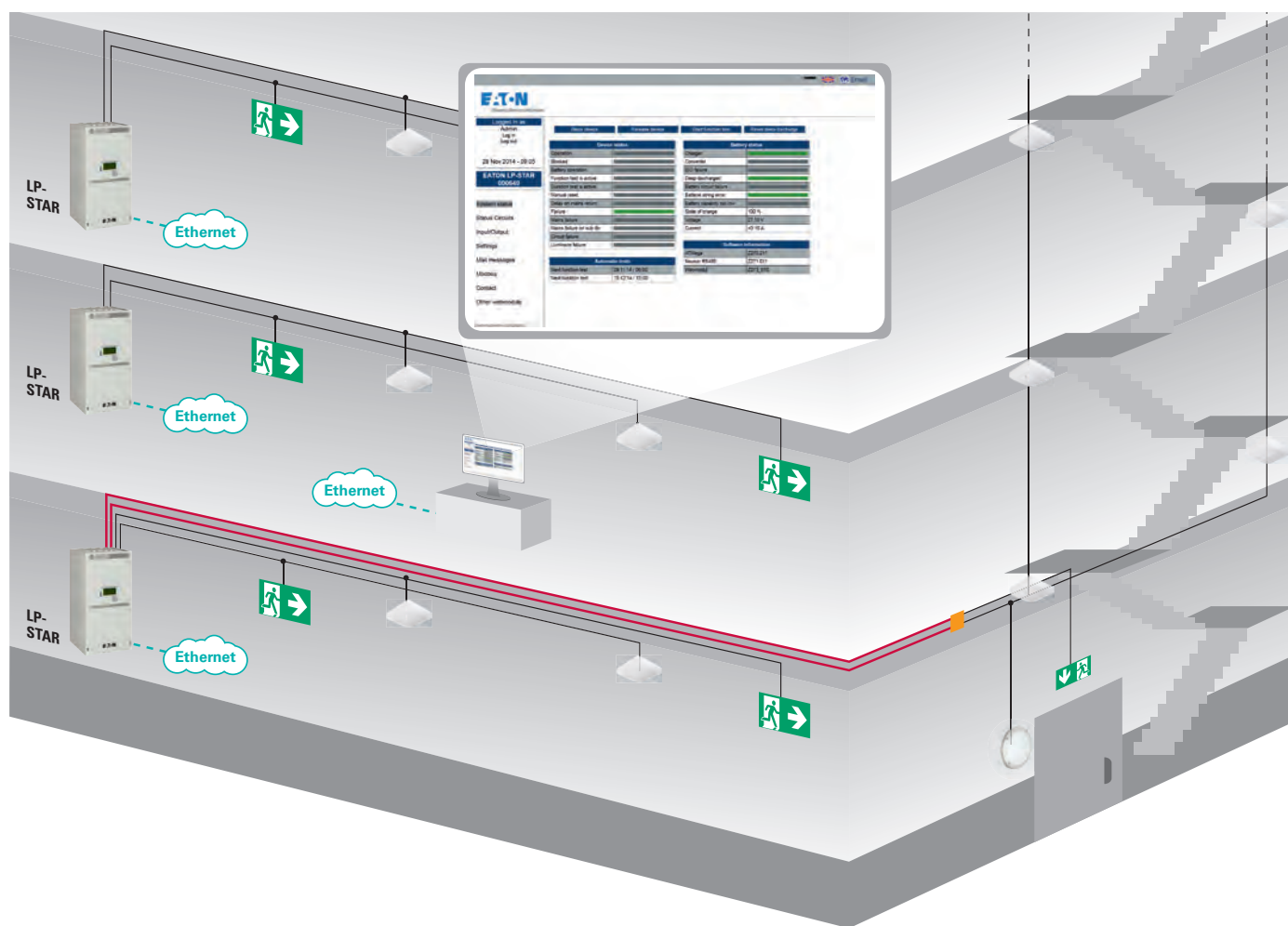
Technical Data..... 362

Installation example 377

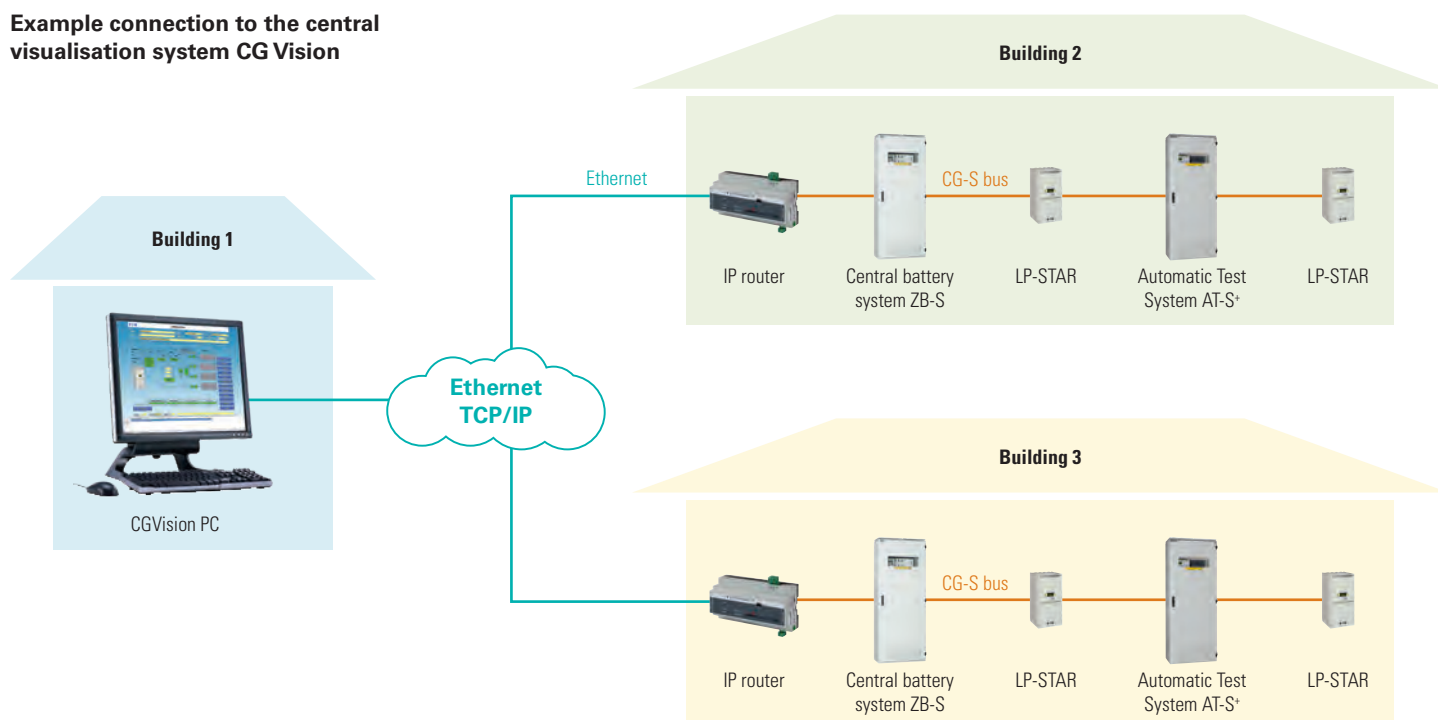
Description 378

LP-STAR emergency lighting power supply in a compact design

Installation example



Example connection to the central visualisation system CG Vision



Simple installation and reliable power supply



9

LP-STAR is especially recommended in case of the separate supply of emergency lighting systems of individual fire areas to save on installation costs incurred by installing E30 cabling to cover different fire areas.

The LP-STAR System supplies reliable power to the escape luminaires and exit sign luminaires (230V AC/220 V DC) according to EN 50171. It is suitable for emergency lighting systems according to DIN VDE 0100-560, EN 50172 and V DIN V VDE 0108-100.

The system performs an automatic self-check and monitors all CG-S luminaires connected (up to 20 luminaires per circuit) simply through a feed line. The circuit type of each connected CG-S luminaire can be programmed freely in the 50 Hz or 60 Hz supply network with the control module based on the STAR technology. This means that the same power circuit is used for mixed operation including maintained light, switched maintained light and non-maintained light, all this without an additional data cable!

The control module including a non-volatile program memory as well as a big graphical display that monitors and controls the LP-STAR device and checks all functions of the connected emergency luminaires according to EN 62034 and it reports the operating states of the entire system. The integrated search function detects all luminaires addressed during installation automatically. A central monitoring system can be connected using the optional bus interface.

The main scope for the protection of electrical rooms is the protection of the environment against the hazards involved with technical devices, transformer stations and switching stations of over 1 kV. At the same time, for example in case of fire, the operation of safety-relevant systems, central battery systems and fixed power generators must be maintained for a specific period of time.

The LP-STAR System was designed to meet the requirements concerning batteries and these have been verified according to EN 60950 and EN 50272-2.

Features

- No special requirements concerning the housing on functionality in case of installation in separate fire areas
- Cost savings as E30 wiring is not required because devices are installed in separate fire areas
- Natural ventilation is generally sufficient due to the closed form and low capacity of batteries
- Additional safety even in case of fire due to the decentralised arrangement of systems
- Simple operation and commissioning based on a smart programming and operating plan
- 230V AC / 220V DC supply voltage selectable to power the escape luminaires and exit sign luminaires to comply with architectural issues
- Standard integrated phase monitor for monitoring general power supply conditions
- Additional phase monitor input including line monitoring for an external phase monitor
- Standard eight digital 230 V input channels for switching each luminaire separately, for example, freely programmable
- Optional webmodule for the automatic monitoring of LP-STAR according to EN 62034
- Optional CG-S interface for connecting to the CG-S bus for CGVision or master/slave operation for connecting several LP-STAR devices
- Shorter inspection time using the CEWA GUARD technology, automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation costs due to the STAR technology, freely programmable mixed operation of switching modes per luminaire in a single circuit without an additional data cable
- Automatic luminaire search function
- Plain text display at the control module for all luminaires
- Flexible data memory for the test log and device configuration using the Secure Digital card
- Absence of retroactive effect of different circuits in case of a short-circuit due to the automatic, selective shut-off function
- EoL shut-off, programmable as standard

LP-STAR emergency lighting power supply in a compact design

What is STAR?

S_{TAR}
TECHNOLOGY

S = Switching
T = Technology
A = Advanced
R = Revision

9

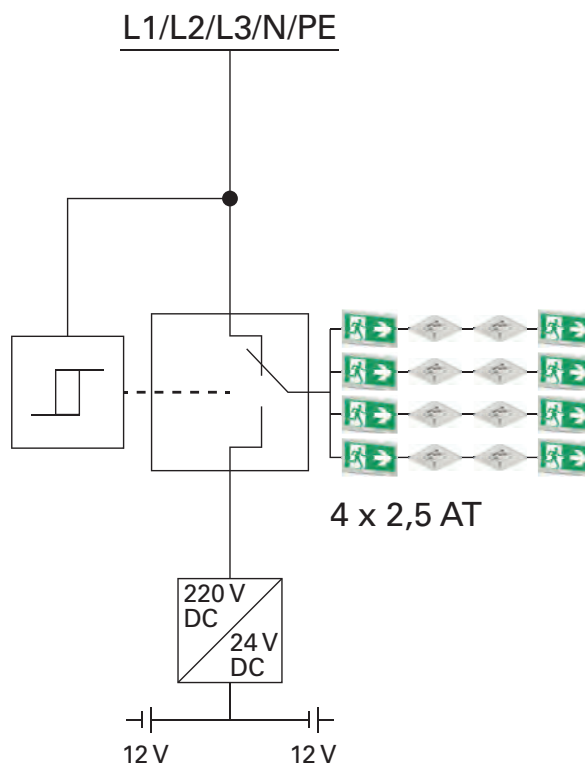
Switch to safety!

The continuing development of the CEWA GUARD monitoring system has led to the creation of the

Switching
Technology
Advanced
Revision,

or **STAR** for short. This **CG-STAR**-technology allows different switching modes to be implemented in the same circuit, and the switching mode of each individual luminaire can be re-programmed at any time.

As a result, this technology offers not just the proven CEWA Guard safety when it comes to operating a safety lighting system, it also gives planners the confidence and flexibility of knowing that the system can respond and adapt at any time to any changes that are made to a building and its use.



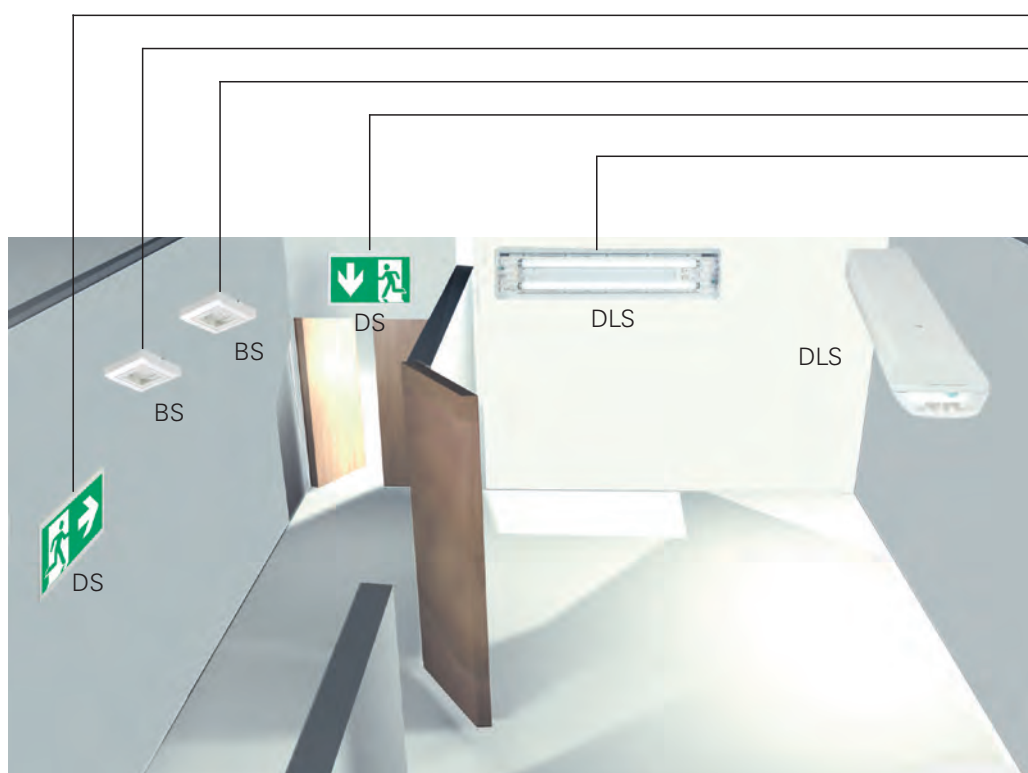
Your Advantages:

The number of outgoing circuits needed can be sharply reduced, since continuously operating, stand-by and switchable permanent lighting can be realised in one common circuit.

This allows the use of shorter cable distances, reduces installation costs and minimises the effects of burning materials. Any mode of operation can be assigned at a later date – **without encroachment in the lighting installation**. This enables simple project planning without having to take all possible types of operation into account.

As with CEWA GUARD technology, the patented STAR technology requires no additional data cable to the luminaires.

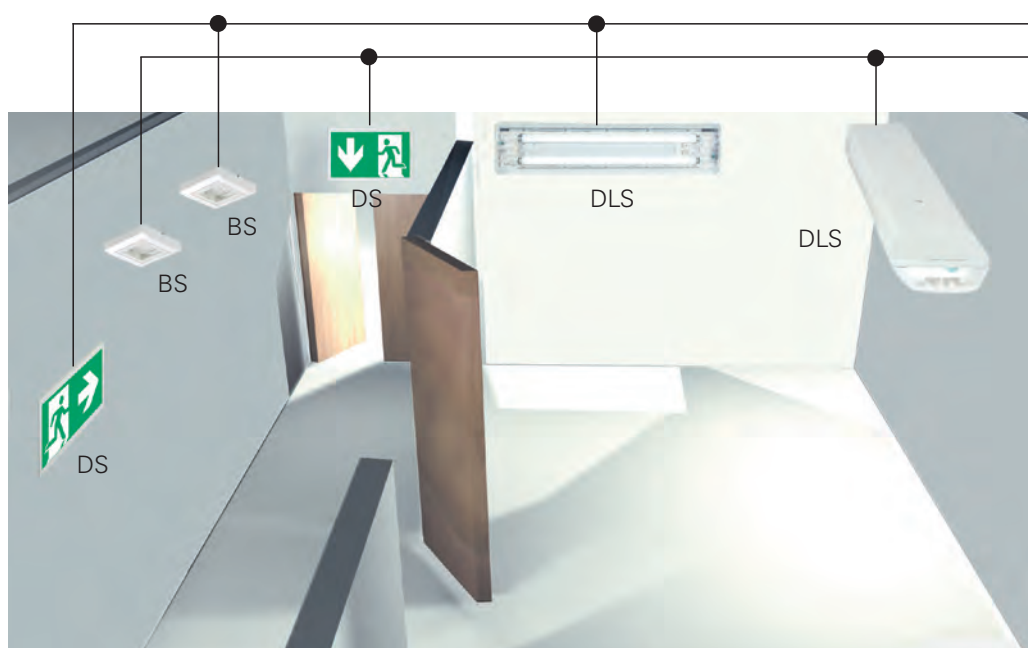
STAR

TECHNOLOGY


Conventional Installation:

- Maintained light 1 (DS)
- Non-maintained light 1 (BS)
- Non-maintained light 2 (BS)
- Maintained light 2 (DS)
- Switched maintained light 1 (DLS)
- Switched maintained light (DLS)

- Each type of switching mode requires two circuits
- Only one type of switching mode is possible per circuit
- Any later modifications involve a large amount of work and expense



ZB-S Installation with STAR-Technology:

- All types of switching modes
- All types of switching modes

- Only two outgoing circuits for all types of switching modes
- Maintained light, non-maintained light and switched maintained light are possible in one common circuit
- Later circuit modifications do not pose any problems

LP-STAR emergency lighting power supply in a compact design

Construction

Overview of connections



1 Grid connection terminal

3-phase feed-in incl. phase monitoring function

2 Connection for end circuits

Double assignment, 2.5 mm² solid/flexible

3 Connection for disable switch

Control loop for disabling the system during operating downtimes with differential loop monitoring for short circuit and wire breakage detection. Differential monitoring: Short circuit or interruption lead to the system going into standby.

4 24 V connection for external phase monitors

24 V power loop for the emergency luminaires with differential loop monitoring for short circuit and wire breakage detection. Differential monitoring: Short circuit or interruption lead to the system switching on (maintained light) immediately.

5 Connection for potential-free indicator contacts and buzzer

4 relays with a separate root, each 1x changeover contact, 24 V 0.5 A.

The four potential-free contacts and the buzzer can be assigned freely to one or several of 12 different messages. The DIN VDE specification can be loaded any time and used as a default setting.

6 Connection for digital inputs

8 freely assignable inputs 230V, programmable as inverted and non-inverted for example start/stop function test, start/stop duration test, block/release device, manual reset, turn on/off maintained light, turn on emergency lighting as corridor lighting, for light switch query and switching emergency lighting depending on the general lighting conditions (DLS function).

7 Optional interface (factory-installed)

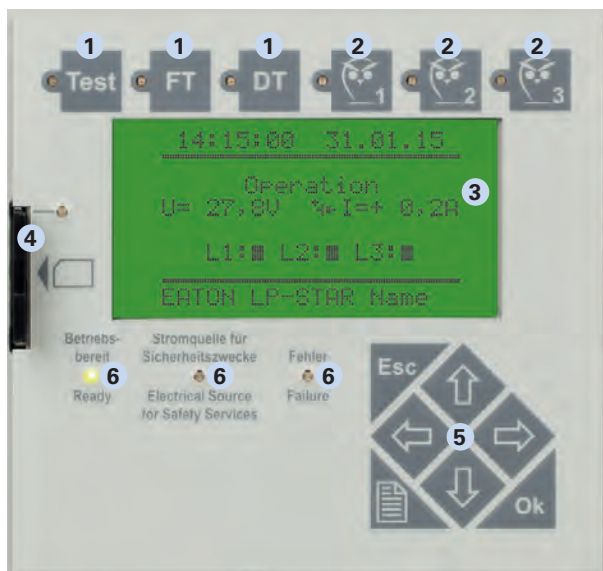
The interface for connecting to a CGVision can be installed on site, see page 13.

8 Webmodule connection

9 Battery connection, wires 1-4

Maximum 4 sets per 2 battery blocks, 12 V.

Freely programmable control module



1 Separate buttons for:

- Test (emergency luminaire function)
- Function test
- Duration test

2 Three freely assignable function keys

3 128 x 64 pixel graphical display

Back-lit, adjustable contrast and brightness

4 Log book and device configuration

Save the log book and device configuration comfortably on the memory card. Easily programmable on the PC using an SD card reader and the CEAG software.

5 Seven control buttons for a user-friendly navigation

6 Function display using LEDs



Control module

A freely programmable control module with a non-volatile program memory and 4-lines, alphanumeric, graphic display monitors and controls the LP-STAR system. All functions such as loading, mains/emergency switch-over and deep discharge protection of devices and the connected emergency luminaires are automatically inspected. The errors are reported immediately. A central monitoring system can be connected using the interface. In case of a short circuit or interruption of control current loops, differential monitoring leads to the system immediately switching on (maintained light) or to the system being put in standby.

- Non-volatile program memory
- Automatic luminaire search function
- Single luminaire monitoring
- Manual reset
- Password function
- Fuse monitoring of the end circuits
- Control module with master/slave function



Sealed keypad with 3 buttons for:

- Test (mains failure- battery operation)
- Start/stop function test
- Start/stop duration test



3 freely assignable function keys for:

- Block/release device
- Manual reset
- Stop function test
- Display error list
- Turn on/off maintained light
- Turn on complete emergency lighting (continuity lighting)
- Power failure simulation UV-A (emergency operation)
- Confirm deep discharge protection



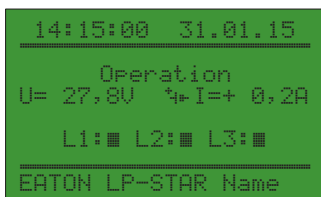
7 control keys

for a user-friendly navigation



LED indicators for:

- Ready
- Operation through the electrical source for safety services
- Failure



Graphic display:

128 x 64 pixels, back-lit, program adjustable contrast and brightness.

LP-STAR emergency lighting power supply in a compact design

Components and options

Control module



| | |
|-------------------|---|
| Graphical display | 128 x 64 pixel adjustable contrast |
| Illumination | Adjustable background luminosity |
| Keypad | Sealed, with 6 function and 7 control keys |
| Readout | Battery voltage Battery charge current (+) Battery discharge current in test or by failure (-) Charge Fault Luminaire failure with location label Deep discharge protection Manual reset Delay-time on mains return Fault UV-AV (location label) Test mode Date/time Insulation fault with circuit label Failure information Programming information |
| Status | <ul style="list-style-type: none">• Ready• Electrical source for safety services• Failure |

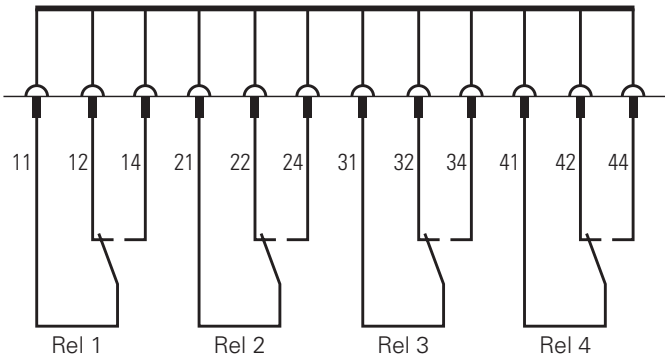
Potential-free signal contacts, buzzer

4 relays with a common potential, 1x switching contact each, 24 V 0.5 A.

The three potential-free contacts and the buzzer can be assigned freely to one or several of 12 different messages. The DIN VDE specification can be loaded any time and used as a default setting.

Default settings LP-STAR

| Name | Relay 1 | Relay 2 | Relay 3 | Relay 4 | Buzzer |
|----------------------------|---------|---------|---------|---------|--------|
| Mains operation | | X | | | |
| Mains failure | X | | X | | |
| UV mains failure | X | | | | |
| Charge fault | X | | | | |
| Circuit fault | X | | | | |
| Luminaire fault | X | | | | |
| Common system fault | X | | | | |
| Total discharge protection | X | | | | |
| ISO fault | X | | | | |
| Function test | | X | | | |
| Duration test | | X | | | |
| Device fault | | | | | |



Note:
NO = Normal Open (normally open)
NC = Normal Closed (normally closed)
The device is fitted with 4 potential-free signal contacts (relay outputs) and an integrated buzzer.
Signal contacts freely programmable including: 1 x changeover contact 1 x 24 V; 0.5 A capacity

SD card



SD card reader



Secure Digital card

Flexible memory for device and inspection log book configuration, for example for archiving the device configuration and the prescribed inspection log book information over a minimum of 4 years.

The device can be programmed using any PC with the optional SD card reader and the CEAG software. The text messages can be introduced also using the control module.

Storing of:

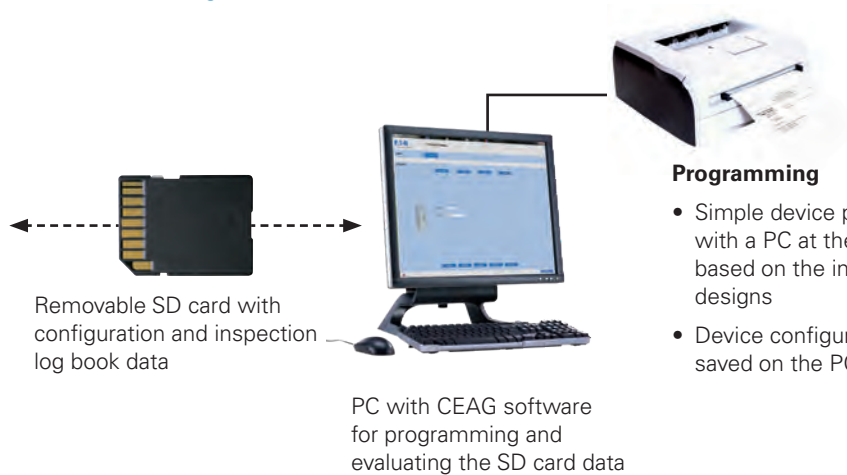
- 360.000 log book entries
- Luminaire target location texts (20 characters per luminaire)
- Circuit names (20 characters per circuit)
- LP-STAR name (20 characters)

Ordering details Replacement SD-Card

| Type | Model | Order No. |
|----------------|-------------------------------|-------------|
| SD card | SD card formatted for LP-STAR | 40071347911 |
| SD card reader | SD card reader for USB port | 40064070561 |

9

SD card (Secure Digital Card)



- Simple device programming with a PC at the office based on the installation designs
- Device configuration can be saved on the PC

LP-STAR emergency lighting power supply in a compact design

Technical Data

LP-STAR 4-24



LP-STAR IP54

Input

| | |
|-----------------------|----------------------------------|
| Rated voltage AC | 1 ~ 220-240 V |
| Rated frequency | 50/60 Hz |
| Max. rated current AC | 5.5 A |
| Rated voltage DC | 19.2- 28.8 V |
| Battery | VRLA, 2x6 cells in series, 20 °C |

Output

| | |
|-------------------------|----------------------------------|
| Rated voltage AC | 220-240 V AC / 220 V DC konstant |
| Total current | 4.7 A AC / 2.45 A DC |
| Total power | 1080 VA / 540 W |
| Circuit power | 345 VA / 330 W |
| Rated breaking capacity | 1500 A @ 300 V DC |
| Max. rated current | 6 W |
| 24 V auxiliary voltage | |

LP-STAR 4-48



| | LP-STAR 4-12 | LP-STAR 4-24 | LP-STAR-4-36 | LP-STAR-4-48 |
|--|---|------------------|--------------------|------------------|
| Circuits | 4 | 4 | 4 | 4 |
| Max. battery size (C10; 1.8 V/Z, +20 °C) | 2 x 12 V / 12 Ah | 4 x 12 V / 12 Ah | 6 x 12 V / 12 Ah | 8 x 12 V / 12 Ah |
| Dimensions (W x H x D) | 550 x 260 x 260 mm | | 730 x 260 x 260 mm | |
| Max. ambient temperature | For storage: -20 °C to + 40 °C, For operation*: -5 °C to + 35 °C | | | |
| Sound pressure level at mains operation / emergency mode (converter operation) | 0 dB / 50 dB | | | |
| Housing colour | RAL 7035 | | | |
| Degree of protection / insulation class | IP20 / I | | | |
| Weight (approx.) without battery | 17 kg | | 21 kg | |

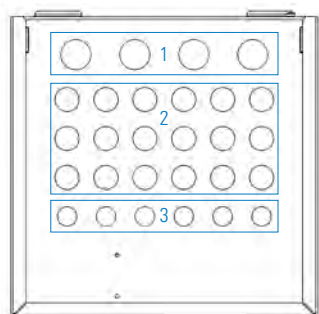
* Maximum Design Lifetime at +20 °C: 10 years

Battery

| Rated capacity AhK10, 1.8 V/Z, +20 °C | Dimensions of one battery L x W x H (mm) | Number of batteries U _B = 12 V pieces | Total weight of all batteries (kg) |
|--|--|---|--|
| 10 Y: 12 Ah | 152 x 98 x 102 | max. 8 pieces | 4 pieces: 15.25 8 pieces: 30.50 |

Pre-cut cable entries LP-STAR

(11)

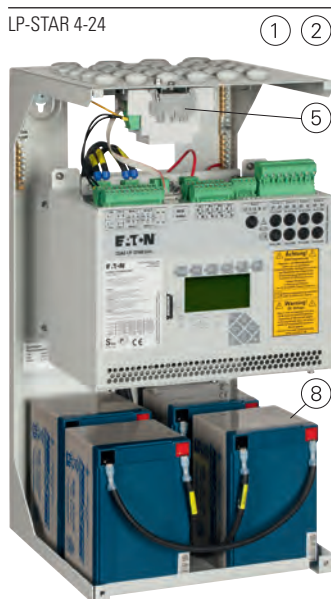


1 = 4 x M25

2 = 18 x M20

3 = 6 x M16

LP-STAR 4-24



LP-STAR 4-48



Optional Webmodule LP-STAR, for expansion



LP-STAR

Ordering details

| Type | Model | Order No. | Selection |
|----------------|--|-------------|--------------------------|
| 1 LP-STAR 4-12 | LP-STAR-4-12, incl. control module, 1 charging unit, 4 circuits and battery packs 2 x 12 V / 12 Ah | 40071362120 | <input type="checkbox"/> |
| 2 LP-STAR 4-24 | LP-STAR-4-24, incl. control module, 1 charging unit, 4 circuits and battery packs 4 x 12 V / 24 Ah | 40071362240 | <input type="checkbox"/> |
| 3 LP-STAR 4-36 | LP-STAR-4-36, incl. control module, 1 charging unit, 4 circuits and battery packs 6 x 12 V / 36 Ah | 40071362360 | <input type="checkbox"/> |
| 4 LP-STAR 4-48 | LP-STAR-4-48, incl. control module, 1 charging unit, 4 circuits and battery packs 8 x 12 V / 48 Ah | 40071362480 | <input type="checkbox"/> |

Construction group ordering details

| Type | Model | Order No. | Selection |
|-----------------------|---|-------------|--------------------------|
| 5 Webmodule LP-STAR | Module for DIN Rail Mounting, incl. connection line without patch cable RJ45, factory fitted | 40071361450 | <input type="checkbox"/> |
| 6 Webmodule LP-STAR | Module for DIN Rail Mounting, incl. connection line without patch cable RJ45, for expansion | 40071361449 | <input type="checkbox"/> |
| 7 CG-S Bus Interface* | Interface* for connection on CGVision or for MasterSlave operation (Connection of more LP-STAR over the CG-S Bus) | 40071071178 | <input type="checkbox"/> |

* **Attention:** The installation of the CG-S Bus Interface must factory-provided happened. A expansion of the module locally is only possible with exchange of the full CSU module. MasterSlave and CGVision operation isn't possible.

Battery ordering details

| Type | Model | Order No. | Selection |
|--------------|--|-------------|--------------------------|
| 8 12 V/12 Ah | Battery block, period of use: 10 years | 40066071147 | <input type="checkbox"/> |

Period of use specified for a max. battery temperature of +20 °C

Fuse ordering details

| Type | Model | Order No. | Selection |
|---------------------------|---|-------------|--------------------------|
| 9 Final circuit fuses | 2.5 AT / 250 V (packaging unit 10 pieces) | 40071361235 | <input type="checkbox"/> |
| 10 Mains feed-in circuits | 6.3 AT / 250 V (packaging unit 10 pieces) | 40071361234 | <input type="checkbox"/> |

Accessories ordering details

| Type | Model | Order No. | Selection |
|----------------------------------|----------------------------|-------------|--------------------------|
| 11 Clamping gland set, 28 pieces | 4 x M25, 18 x M20, 6 x M16 | 40071361159 | <input type="checkbox"/> |

LP-STAR emergency lighting power supply in a compact design

Technical Data

LP-STAR 4-24/IP 54



LP-STAR IP54

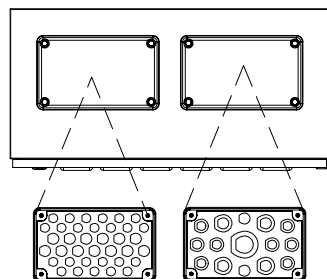
Input

| | |
|-----------------------|------------------------------------|
| Rated voltage AC | 1 ~ 220-240 V |
| Rated frequency | 50/60 Hz |
| Max. rated current AC | 5,5 A |
| Rated voltage DC | 19.2- 28.8 V |
| Battery | VRLA, 2 x 6 cells in series, 20 °C |

Output

| | |
|-------------------------|----------------------------------|
| Rated voltage AC AC | 220-240 V AC / 220 V DC konstant |
| Total current | 4.7 A AC / 2.45 A DC |
| Total power | 1080 VA / 540 W |
| Circuit power | 345 VA / 330 W |
| Rated breaking capacity | 1500 A @ 300 V DC |
| Max. rated current | 6 W |
| 24 V auxiliary voltage | |

Pre-cut cable entries LP-STAR



24 x M16
13 x M20

1 x M50/32
4 x M32/20
8 x M25/16
2 x M20

| | LP-STAR 4-12/IP54 | LP-STAR 4-24/IP54 | LP-STAR 4-36/IP54 | LP-STAR 4-48/IP54 |
|--|---|-------------------|-------------------|-------------------|
| Circuits | 4 | 4 | 4 | 4 |
| max. battery size (C10; 1,8 V/Z, +20 °C) | 2 x 12 V / 12 Ah | 4 x 12 V / 12 Ah | 6 x 12 V / 12 Ah | 8 x 12 V / 12 Ah |
| Dimensions (W x H x D) | 815 x 600 x 300 mm | | | |
| Max. ambient temperature | For storage: -20 °C to + 40 °C, For operation*: -5 °C to + 35 °C | | | |
| Sound pressure level at mains operation / emergency mode (converter operation) | 0 dB / 30 dB | | | |
| Housing colour | RAL 7035 | | | |
| Degree of protection electronic area | IP54 | | | |
| Degree of protection battery box | IP21 | | | |
| Degree of protection / insulation calss | I | | | |
| Weight (approx.) without battery | 17,5 kg | | | |

* Maximum Design Life Time at +20 °C: 10 years

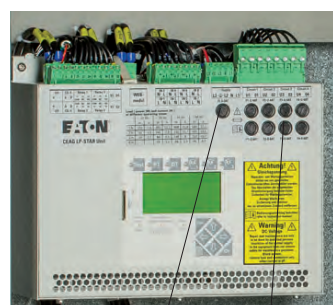
Battery

| Rated capacity AhK10, 1.8 V/Z, +20 °C | Dimensions of one battery L x W x H (mm) | Number of batteries U _b = 12 V | Total weight of all batteries (kg) |
|--|--|--|--|
| 10 J: 12 Ah | 152 x 98 x 102 | max. 8 pieces | 4 pieces: 15,25 8 pieces: 30,50 |

LP-STAR 4-48/IP54



Optional Webmodule LP-STAR, for expansion



LP-STAR IP54

Ordering details

| Type | Model | Order No. | Selection |
|---------------------|---|-------------|--------------------------|
| 1 LP-STAR 4-12/IP54 | LP-STAR-4-12/IP54, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 2 x 12 V / 12 Ah | 40071362124 | <input type="checkbox"/> |
| 1 LP-STAR 4-24/IP54 | LP-STAR-4-24/IP54, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 4 x 12 V / 24 Ah | 40071362244 | <input type="checkbox"/> |
| 1 LP-STAR 4-36/IP54 | LP-STAR-4-36/IP54, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 6 x 12 V / 36 Ah | 40071362364 | <input type="checkbox"/> |
| 1 LP-STAR 4-48/IP54 | LP-STAR-4-48/IP54, incl. control module, 1 charging unit, 4 circuits, CG-S Bus Interface and battery packs 8 x 12 V / 48 Ah | 40071362484 | <input type="checkbox"/> |

Construction group ordering details

| Type | Model | Order No. | Selection |
|---------------------|--|-------------|--------------------------|
| 2 Webmodule LP-STAR | Module for DIN Rail Mounting, incl. connection line without patch cable RJ45, factory fitted | 40071361450 | <input type="checkbox"/> |
| 3 Webmodule LP-STAR | Module for DIN Rail Mounting, incl. connection line without patch cable RJ45, for expansion | 40071361449 | <input type="checkbox"/> |

Battery ordering details

| Type | Model | Order No. | Selection |
|--------------|--|-------------|--------------------------|
| 4 12 V/12 Ah | Battery block, period of use: 10 years | 40066071147 | <input type="checkbox"/> |

Period of use specified for max. battery temperatur of +20 °C

Fuse ordering details

| Type | Model | Order No. | Selection |
|--------------------------|---|-------------|--------------------------|
| 5 Final circuit fuses | 2.5 AT / 250 V (packaging unit 10 pieces) | 40071361235 | <input type="checkbox"/> |
| 6 Mains feed-in circuits | 6.3 AT / 250 V (packaging unit 10 pieces) | 40071361234 | <input type="checkbox"/> |

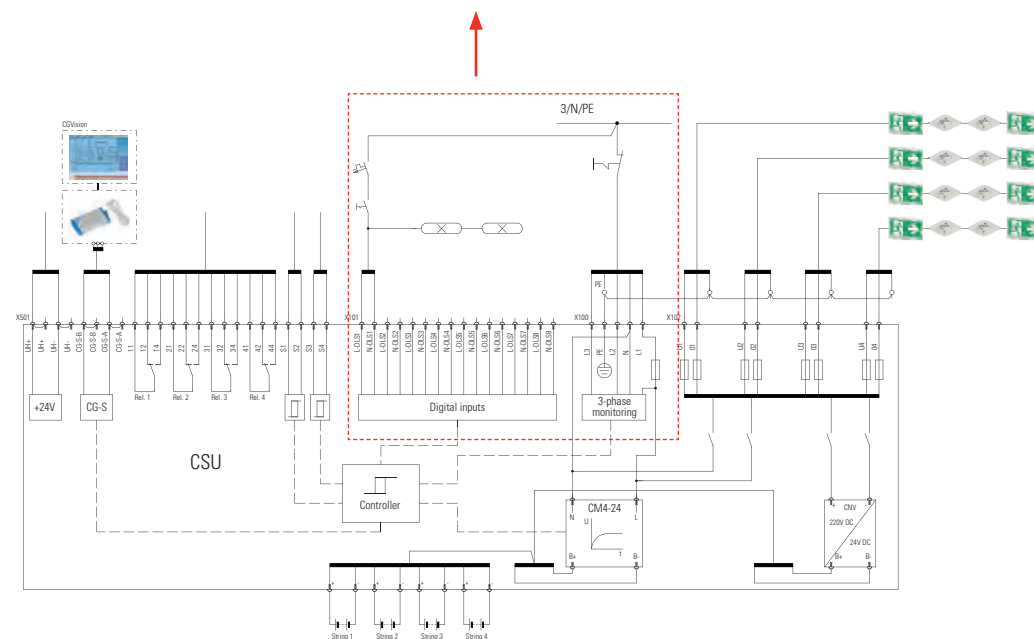
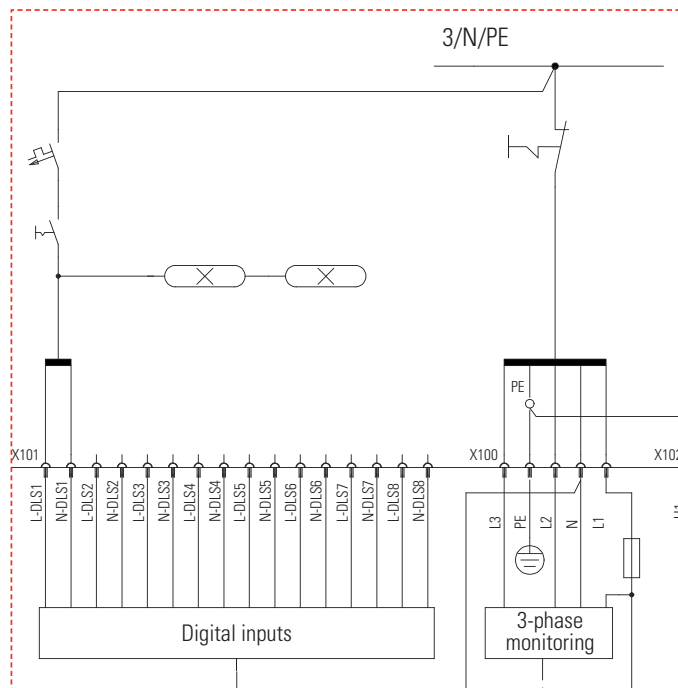
LP-STAR emergency lighting power supply in a compact design

Components and options

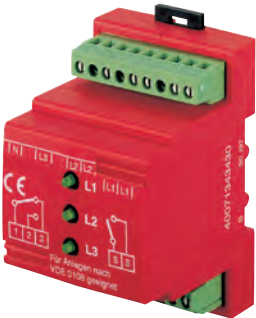
Digital inputs, for example light switch query

The standard 8 digital inputs (two for each circuit) can be used to query the switch for the combined switching of emergency and general lighting.

Schematic diagram



Three-phase monitoring



Three-phase monitoring

Three-phase monitoring is used for monitoring the distributors of general lighting systems. In case of a phase failure, the component switches a relay contact and interrupts the standard electronic 24 V power loop in the LP-STAR device.

The emergency luminaires in non-maintained mode are switched to mains operation as long as the LP-STAR system is supplied by mains voltage.

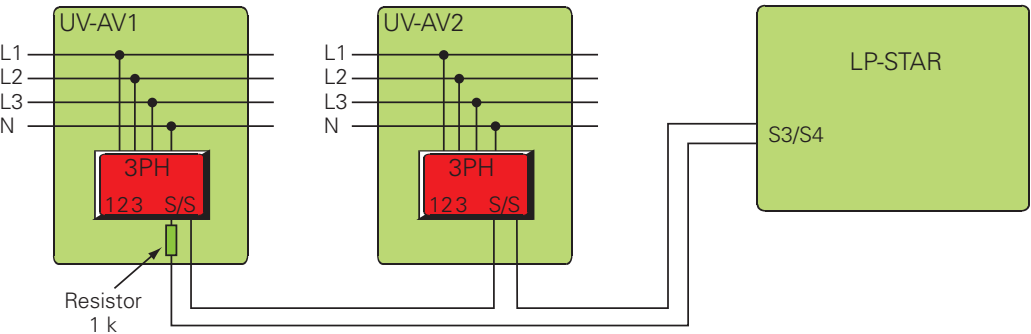
| | |
|------------------------------|---|
| Dimensions in mm (W x H x D) | 85 x 52.5 x 65, 3 subunits |
| Housing | Plastic, red |
| Connection terminals | 2.5 mm² rigid or flexible |
| Type of mounting | DIN mounting rail |
| Contact | 0.5 A/24 V AC/DC, 1 x open contact, 1 x change-over contact |
| Trigger threshold | U < 85 % UN |
| Grid size | 3 units |

Ordering details

| Type | Scope of supply | Order No. |
|------------------------|---------------------------|-------------|
| Three-phase monitoring | Module ready for mounting | 40071343430 |

Current loop

24V current loop for emergency lighting request with differential loop monitoring for short circuit and wire breakage detection.



| | |
|-------------------------------------|--|
| Differential monitoring: | Short circuit or interruption lead to the system immediately switching on (maintained light) |
| Phase monitor switch closed (1 kΩ): | Normal system mode |

LP-STAR emergency lighting power supply in a compact design

Components and options

F3 remote indication



F3 remote indication

The F3 remote indication ensures that the most important device functions are displayed even in case of a power failure based on its battery supply. The emergency lighting operation can be blocked during operating downtimes with a key switch. The battery maintenance charging is not affected by blocking the emergency operation. A differential loop monitoring leads to the system going into standby in case of short circuit or breakage detection. LED displays: System readiness, source for safety services, failure. The F3 remote indication thus meets the requirement that remote operation is only possible if it cannot be activated by unauthorized persons.

| | |
|--|---|
| Connection terminals wall surface-mounting | 2.5 mm ² solid or flexible |
| Dimensions in mm (W x H x D) | 160 x 80 x 55 |
| Connection terminals for flush-mounting | 1.5 mm ² rigid or 1 mm ² flexible |
| Dimensions in mm (W x H x D) | 80 x 80 x 55 |
| Housing colour | similar to RAL 7035 light grey |

F3 remote indication for flush-mounting

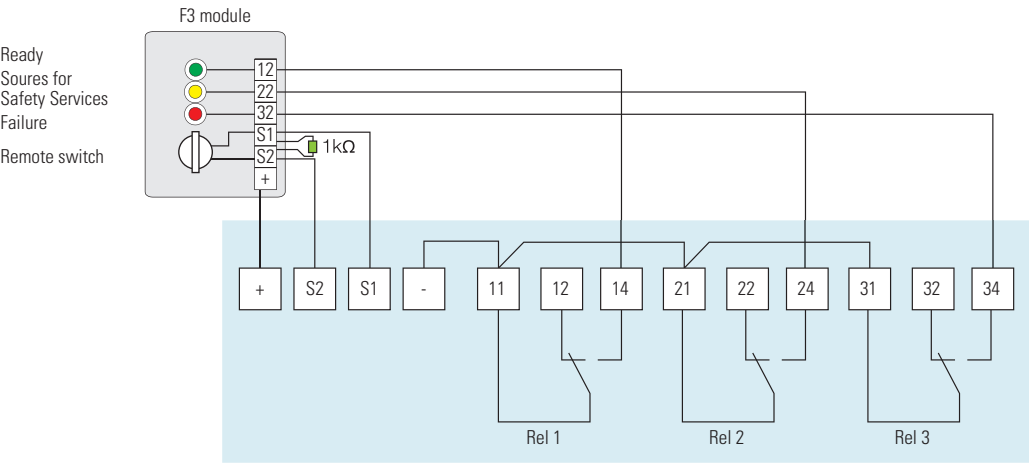


Ordering details

| Type | Scope of supply | Order No. |
|-------------------------------|---|-------------|
| F3 remote indication | Module surface mounting | 40071338497 |
| F3 remote indication recessed | Performance for installation in the flush-mounted switch or empty space box according to DIN VDE 0606 | 40071347490 |

Remote switch

Control loop for blocking LP-STAR during operating downtimes with differential loop monitoring for short circuit and wire breakage detection.



Differential monitoring:
F3 switch closed:
F3 switch open (1 kΩ):

Short circuit or interruption lead to unlock LP-STAR
Device ready
Device blocked

Webmodule LP-STAR



Example: Device status



Example: Circuit status



Cyber Security:

see White Paper WP152002EN
"Cyber security considerations for
electrical distribution systems"
www.eaton.com

Webmodule CG-S (LP-STAR)

Webmodule LP-STAR for visualisation and monitoring an LP-STAR device on the local Ethernet (LAN) or Internet (WWW) with a conventional WEB browser. Access to the webmodule via internet (WWW) must be appropriately administered and set up on site by a competent IT department. Integrated mail program for convenient, event-related error notification via email, for up to 5 email recipients. 1 web-module is required for each LP-STAR device.

- Simple menu navigation
- Any type of display devices can be used with a WEB browser, for example notebook, tablet PC, iPad or smartphone
- Complete visualisation and monitoring of an LP-STAR device through the local Ethernet (LAN) with a regular WEB browser, no additional software required for all functions
- Retrieving and indicating all current operating states
- Localised fault indicators for every emergency luminaire circuit and luminaires with target location information in plain text connected to a function test
- Continuous up-to-date information on charging unit and battery
- Parallel access from various PC workstations to a webmodule possible (max. 8)
- Integrated email program for each webmodule for convenient error notification via email
- Encrypted, adjustable email dispatch acc. to type of error or function test
- Up to 5 email recipients programmable
- Adjustable update cycle for web browser via the webmodule
- Encrypted transmission
- Authenticated access via administrator account with password protection
- Configurable guest account for restricted access with password protection
- Static or dynamic (DHCP) IP addressing possible
- Supports IPv4/IPv6 (Internet Protocol version 4/version 6)
- Any number of webmodules operable in parallel
- Overview of all active webmodules on the local Ethernet with status display and hyperlink function
- Independent parallel operation of a CGVision visualisation possible
- Includes 2 Modbus sockets as standard

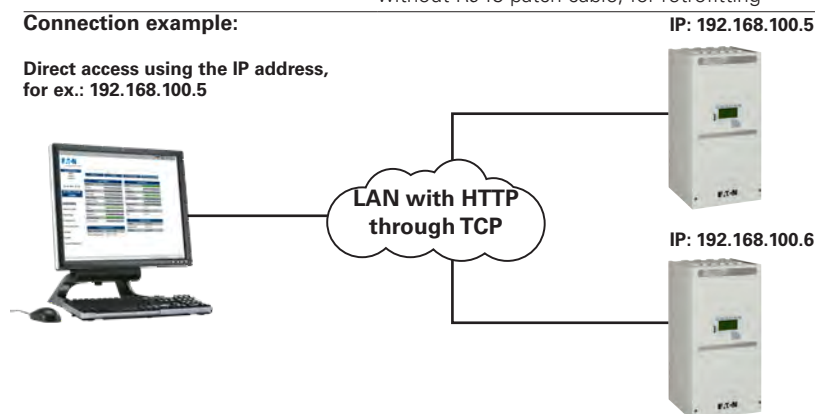
| | |
|-----------------------|---------------|
| Device supply voltage | 24 V DC |
| Rated power | < 1.1 W |
| Connection | RJ45 |
| Degree of protection | IP20 |
| Weight | 0.05 kg |
| Dimensions | 90 x 35 x 31 |
| Housing | Polycarbonate |

Ordering details

| Type | Scope of supply | Order No. |
|---------------------------------|---|-------------|
| Webmodule CG-S (LP-STAR intern) | Module for DIN rail mounting, incl. connection without RJ45 patch cable, mounted ex works | 40071361450 |
| Webmodule CG-S (LP-STAR) | Module for DIN rail mounting, incl. connection without RJ45 patch cable, for retrofitting | 40071361449 |

Connection example:

Direct access using the IP address,
for ex.: 192.168.100.5



LP-STAR emergency lighting power supply in a compact design

Components and options

CGVision Package III

CGVision Package III (Basic or Pro) includes the CG-S/USB interface (USB box), for connecting the CG-S bus-based emergency luminaire systems like the LP-STAR, ZB-S and AT-S⁺ to the CGVision visualisation software using a standard bus cable and an optional CG-S Bus Interface.

Up to 480 devices of the LP-STAR, ZB-S or AT-S⁺ systems can be connected, even in mixed mode. However, systems must be assigned to their own device groups in CGVision.

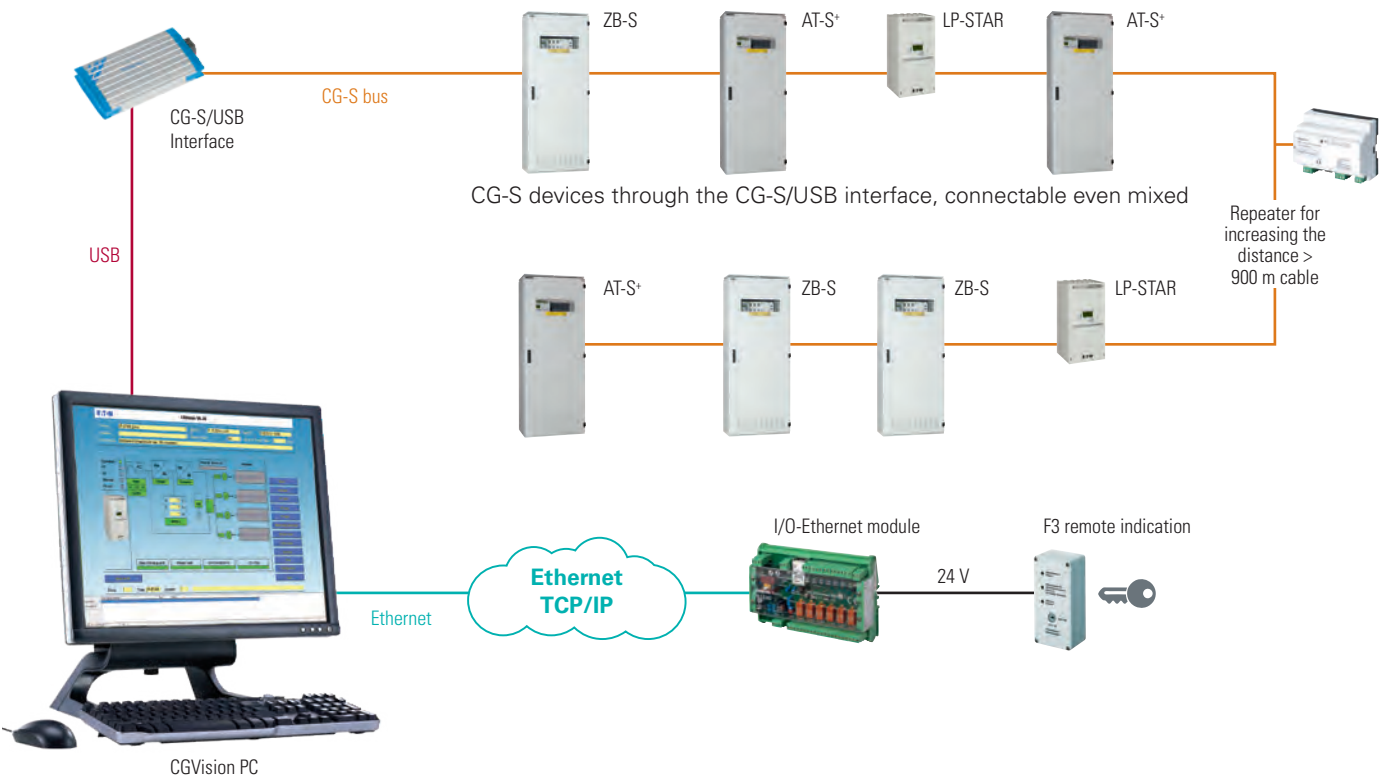
The bus cable can be extended with an optionally available repeater.

The CGVision Package III also includes all dongle licences for EGA devices (ZB96, EuroZB.1, GVL24.1, CG48 or ZVL220), CGLine or Ethernet I/O module on CGVision.

CG-S bus

- Max. bus length: 900 m
- The bus length can be extended using a router/repeater
- Double terminated Bus
- No stub lines allowed
- Recommended cable: JY (ST)Y 4 x 2 x 0.8 mm² Ø twisted pair (double twisted pair), shielded
- Termination resistor: 105 Ω on both sides

CGVision Package III application example



Ordering details

| Type | Scope of supply | Order No. |
|--------------------|-----------------|-------------|
| CG-S Bus Interface | Plug-in card* | 40071071178 |

* **Attention:** The CG-S Bus Interface must be installed by the manufacturer. The module can be installed later on site only with the replacement of the entire CSU module.



PC programming software LP-STAR

Programming software for pre-configured LP-Star memory cards for quick pre-programming on the PC and for easy reading and processing of the inspection log book memory. All data can be saved on the memory card and hard disk for documentation.

Prints for documentation:

Detailed prints of programmed system configuration with the following information:

- Individual device name (20 characters) + 100 characters of additional information
- Date and time of automatic duration test incl. Distance in months
- Date and time of automatic function test incl. Distance in days
- Manual reset: Yes/No
- Delay in mains return: 0-99 min
- LON switch: Yes/No
- Capacity in Ah
- Rated operating time in h
- Operating limit time in %
- Assignments of the 4 relays
- Assignments of the 3 function keys
- Assignments of the 8 optional inputs

Detailed print of the programmed circuits (wiring diagrams) with the following information for each circuit:

- Circuit/ SKU number and type
- Individual circuit name
- Monitoring type for circuit
- Switch type for circuit
- Number of luminaires
- Address and individual name of each luminaire
- Circuit type for each luminaire

Print of inspection log book with following options:

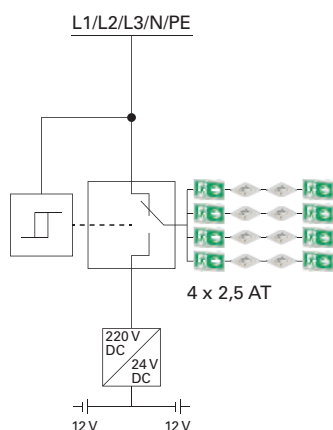
- Fault events (35 various fault events selectable separately or fully)
- Inspection log book period (from – to for date and time)
- Individual comment per print
- For luminaire failure: Information on individual luminaire and circuit names

Ordering details

| Type | Scope of supply | Order No. |
|----------|---|-------------|
| Software | PC software for LP-STAR for alternative programming of the system configuration on PC | 40071347152 |

LP-STAR emergency lighting power supply in a compact design

Technical Data



Circuit change-over module

The circuit change-over module supplies 230 V AC in mains operation and 220 V DC in emergency lighting operation to the luminaires of the emergency lighting system according to EN 60598-2-22.


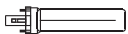
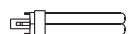



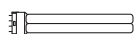
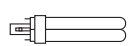

The CEWA GUARD monitoring checks the operation of the connected luminaires. Up to 20 luminaires can be connected.

| | |
|--|--|
| Mechanical structure | Circuit board |
| Fuse | 2,5 AT / 250 V 5 x 20 mm |
| Max. operating time in battery operation | Maximum 330 W per circuit and total maximum 540 W for all circuits |
| Max. power in mains operation | Maximum 345 VA per circuit and total maximum 1080 W for all circuits |
| Max. inrush current transformer output | 250 A |
| Output voltage | 220 V constant |
| For the luminaires | EVG |

| Luminaire series | Luminaire type | Power consumption battery operation [W]* | Power consumption mains operation [VA]* | Inrush current [A] |
|-------------------|------------------------------|--|---|--------------------|
| GuideLed | 10011 ... 10026 CG-S | 1.9 | 4.0 | 1.5 |
| | 10021 ... 10026 CG-S | 2.9 | 5.5 | |
| | 11011 ... 11026 CG-S | 2.6 | 5.0 | |
| | 11021 ... 11026 CG-S | 4.1 | 7.1 | |
| | 10011 ... 10013 CG-S FSL | 4.0 | 7.2 | |
| | 13011.1 ... 13022.1 | 3,9 | 8,0 | |
| | 13051 ... 13052 | 5,0 | 8,5 | |
| | 13091.1 ... 13092.1 | 3,9 | 8,0 | |
| | 13032 ... 13042 | 5,0 | 8,5 | |
| | 13031 ... 13041 | 5,0 | 8,5 | |
| CrystalWay | 19021 | 1,6 | 3,5 | |
| | 19022 | 3,7 | 6,5 | |
| Style LED | 22011 LED CG-S | 4.4 | 7.6 | |
| | 22021 LED CG-S | 5.8 | 9.5 | |
| | 51011, 51021 LED CG-S | 5.8 | 9.5 | |
| Spirit LED | Spirit LED 16 | 1.7 | 3.8 | |
| | Spirit LED 28 | 3.7 | 6.6 | |
| Brillant LED | 1503 ... 1803 LED CG-S | 2.9 | 5.5 | |
| | 1504 ... 1804 LED CG-S | 4.1 | 7.1 | |
| | 1903 LED CG-S | 3.0 | 5.5 | |
| Aluminium housing | 70011 LED CG-S | 2.0 | 4.36 | |
| | 70021 LED CG-S | 3.1 | 5.8 | |
| | 71011 LED CG-S | 3.1 | 5.8 | |
| | 71021 LED CG-S | 5.8 | 9.5 | |
| Escape luminaires | 3503.1 LED CG-S | 4.4 | 7.6 | |
| | 3604.1 LED CG-S | 5.8 | 9.5 | |
| Atlantic | Atlantic LED S CG-S | 5.0 | 8.5 | |
| | Atlantic LED D CG-S | 5.0 | 8.5 | |
| | Atlantic LED R/O/Wand CG-S | 5.0 | 8.5 | |
| i-P65+ | i-P65+ L CG-S, i-P65+ H CG-S | 9,3 | 15,6 | |
| 46011 LED | 46011 LED CG-S | 10,3 | 17,1 | |
| | 46011 LED HYG CG-S | 10,3 | 17,1 | |
| | 46011 LED LT CG-S | 10,5 | 11,0 | |

* Power consumption of the luminaires during battery or mains operation in case of an ambient temperature of +20 °C.

Connection cable/W for the luminaires with:

| International term | Lamp cap | EVG Type EVG ... | Lamp load in [W] | Battery operation P [W] at a luminous flux $K_E/K_{Rated} = 75\%$ | Mains operation S [VA] | Inrush current [A] |
|---|----------|------------------|------------------|--|------------------------|--------------------|
|  | G5 | 13.3 ... | 4 | 4.4 | 8 | 3 |
| | | 13.3 ... | 6 | 5.5 | 12 | 3 |
| | | 13.3 ... | 8 | 6.6 | 16 | 3 |
| | | 13.3 ... | 13 | 11.0 | 23 | 3 |
|  | 2G7 | 13.3 ... | 5 | 4.4 | 10 | 3 |
| | | 13.3 ... | 7 | 5.5 | 13 | 3 |
| | | 13.3 ... | 9 | 6.6 | 16 | 3 |
| | | 13.3 ... | 11 | 8.8 | 18 | 3 |
|  | G24q-1 | 13.3 ... | 10 | 7.7 | 16 | 3 |
| | | 13.3 ... | 13 | 11.0 | 23 | 3 |
|  | GX24q-1 | 13.3 ... | 13 | 11.0 | 23 | 3 |
|  | G13 | 18 ... | 18 | 15.4 | 30 | 8 |
| | | 18 ... | 18 | 15.4 | 30 | 8 |
| | | 18 ... | 18 | 15.4 | 30 | 8 |
| | | 18 ... | 18 | 15.4 | 30 | 8 |
|  | 2G10 | 18 ... | 18 | 15.4 | 30 | 8 |
|  | 2G11 | 18 ... | 18 | 15.4 | 30 | 8 |
|  | G24q-2 | 18C ... | 18 | 15.4 | 30 | 8 |
|  | GX24q-2 | 18C ... | 18 | 15.4 | 30 | 8 |

Continuous output = start output

N-EVG 54 W V-CG-S



Rated value N-EVG ... V-CG-S in case of mains and battery operation

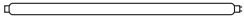

| Term | T5 | T5 | T5 | T5 | T5 | T5 |
|---|---------------------|---------------------|---------------------|---------------------|-----------|-----------|
| Lamp cap | G5 | G5 | G5 | G5 | G5 | G5 |
| Type N-EVG ... V-CG-S | 14 / 21 / 28 / 35 W | 14 / 21 / 28 / 35 W | 14 / 21 / 28 / 35 W | 14 / 21 / 28 / 35 W | 24 / 39 W | 24 / 39 W |
| Lamp load [W] | 14 | 21 | 28 | 35 | 24 | 39 |
| Battery operation, incl. converter efficiency [W] in switch position (luminous flux K_E/K_{Rated} in %) | | | | | | |
| 100 % | 18 | 24 | 33 | 40 | 29 | 42 |
| 90 % | 15 | 22 | 29 | 35 | 26 | 37 |
| 80 % | 14 | 20 | 26 | 31 | 22 | 33 |
| 70 % | 13 | 18 | 24 | 29 | 20 | 29 |
| 60 % | 11 | 15 | 22 | 24 | 18 | 26 |
| 50 % | 10 | 14 | 20 | 22 | 15 | 24 |
| 40 % | 9 | 12 | 18 | 20 | 15 | 22 |
| 30 % | 8 | 11 | 15 | 18 | 13 | 20 |
| Power consumption [VA] | 18 | 25 | 32 | 39 | 28 | 41 |
| Inrush current [A] | 10 | 10 | 10 | 10 | 10 | 10 |
| System power lamp + EVG acc. EN 50294 [W] | 16 | 23 | 30 | 37 | 25 | 41 |

LP-STAR emergency lighting power supply in a compact design

Technical Data

N-EVG 58 W V-CG-S



| Term |  | | |  | |
|--|--|-----|-----|---|-----|
| Lamp cap | G5 | G5 | G5 | G13 | G13 |
| Type N-EVG ... V-CG-S | 49W | 54W | 80W | 36W | 58W |
| Lamp load [W] | 49 | 54 | 80 | 36 | 58 |
| Power consumption [A] at 220 V battery operation in switch position (luminous flux K_E/K_{Rated} in %) | | | | | |
| 100 % | 53 | 57 | 84 | 37 | 55 |
| 90 % | 46 | 51 | 75 | 33 | 48 |
| 80 % | 42 | 46 | 66 | 31 | 44 |
| 70 % | 37 | 40 | 59 | 26 | 40 |
| 60 % | 33 | 35 | 53 | 24 | 35 |
| 50 % | 31 | 33 | 46 | 22 | 31 |
| 40 % | 26 | 29 | 42 | 20 | 29 |
| 30 % | 24 | 26 | 37 | 18 | 24 |
| Power consumption [VA] | 55 | 58 | 85 | 37 | 55 |
| Inrush current [A] | 10 | 10 | 12 | 10 | 10 |
| System power lamp + EVG acc. EN 50294 [W] | 52 | 57 | 84 | 34 | 53 |

The required battery current is determined based on luminous flux conditions (30% ... 100%).

Dim mode 30% only down to 10°C, 60% only down to 0°C allowed.

When used outdoors, the 100% setting should only be used.

Calculation example

The following luminaires should be connected to one power circuit:

8 pieces of GuideLed 10011 CG-S RZ

4 pieces of 35 W/T5 with N-EVG 54 W V-CG-S, luminous flux 40 %

2 pieces of GuideLed 13011 CG-S SL

There are the following conditions:

Battery operation:

max. cont. output: 330 W

Mains operation:

max. 345 VA apparent power
max. inrush current 250 A

max. output:

10011 CG-S: 8 x 1.9 W = 15.2 W

35 W/T5: 4 x 40 W (100 %) = 160.0 W

13011 CG-S: 2 x 5 W = 10 W

Total = 185.2 W **< 330 W --> OK**

max. inrush current:

10011 CG-S: 8 x 1.5 A = 12.0 A

35 W/T5: 4 x 10 A = 40.0 A

13011 CG-S: 2 x 1.5 A = 3.0 A

Total = 55.0 A **< 250 A --> OK**

max. mains power:

10011 CG-S: 8 x 4 VA = 32.0 VA

35 W/T5: 4 x 39 VA = 156.0 VA

13011 CG-S: 2 x 8.5 VA = 17.0 VA

Total = 205.0 VA **< 345 VA --> OK**

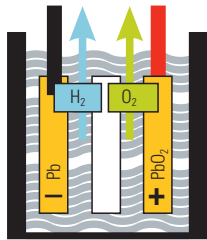
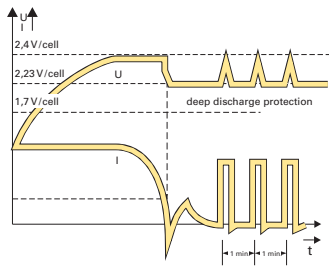
Attention!

The connected load of all circuits in total may not exceed **540 W** and **1080 VA** per LP-STAR device.

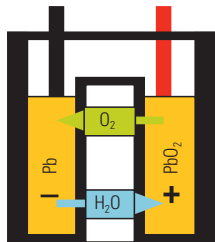
When connecting external modules to the 24 V auxiliary supply, consider power consumption with battery sizing.

LP-STAR emergency lighting power supply in a compact design

Components and options



In conventional lead-acid batteries with free electrolyte, water is broken down into oxygen at the positive plate and hydrogen at the negative plate in case of overcharging the battery. To protect the battery from drying, this loss of water must be compensated for at regular intervals.



The extremely low gas emission absorption cells are designed to ensure that the positive plate is charged completely before the negative plate and consequently the released oxygen diffuses to the negative plate. On the negative plate it reacts with the lead to form lead-oxide which in turn reacts with the sulphuric acid electrolyte and forms lead-sulphate and water to prevent any loss of water.

CM 4-24

The completely sealed lead batteries are charged gradually based on an IU0U charging curve in function of temperature. Boost charge is activated in function of the battery charge level to ensure that the batteries are charged without exceeding the gassings voltage.

The charge monitoring procedure verifies the charging process continuously and it reports any faults immediately, including interruption of the battery circuit, faulty charging unit or a high impedance battery cell.

| | |
|--|------------|
| End-of-charge voltage boost charge at +20 °C | 28.8 V |
| End-of-charge voltage trickle charge at +20 °C | 27.6 V |
| Deep discharge protection [1.6 V/Z] | 20.4 V |
| Maximum charging current | 4 A |
| Maximum rated power at boost charge | 130 VA |
| Maximum rated power at trickle charge | 10- 120 VA |

Max. battery discharge power [W] ¹⁾

| Rated operating time | P-Batt min 12 Ah | P-Batt min 24 Ah | P-Batt min 36 Ah | P-Batt min 48 Ah |
|----------------------|------------------|------------------|------------------|------------------|
| 1.0 h | 133 W (7.6 A) | 303 W (15.2 A) | 468 W (22.8 A) | 540 W (27.1 A) |
| 1.5 h | 81 W (5.2 A) | 204 W (10.5 A) | 320 W (15.7 A) | 437 W (21.0 A) |
| 2.0 h | 50 W (3.9 A) | 142 W (7.8 A) | 232 W (11.7 A) | 320 W (15.6 A) |
| 3.0 h | 24 W (2.7 A) | 86 W (5.3 A) | 149 W (8.0 A) | 212 W (10.7 A) |
| 8.0 h | - | 16 W (2.2 A) | 38 W (3.3 A) | 66 W (4.4 A) |

¹⁾ Values incl. converter efficiency

^{c)} = Discharge current

Important note: The aging provision for batteries (25 %) is included.

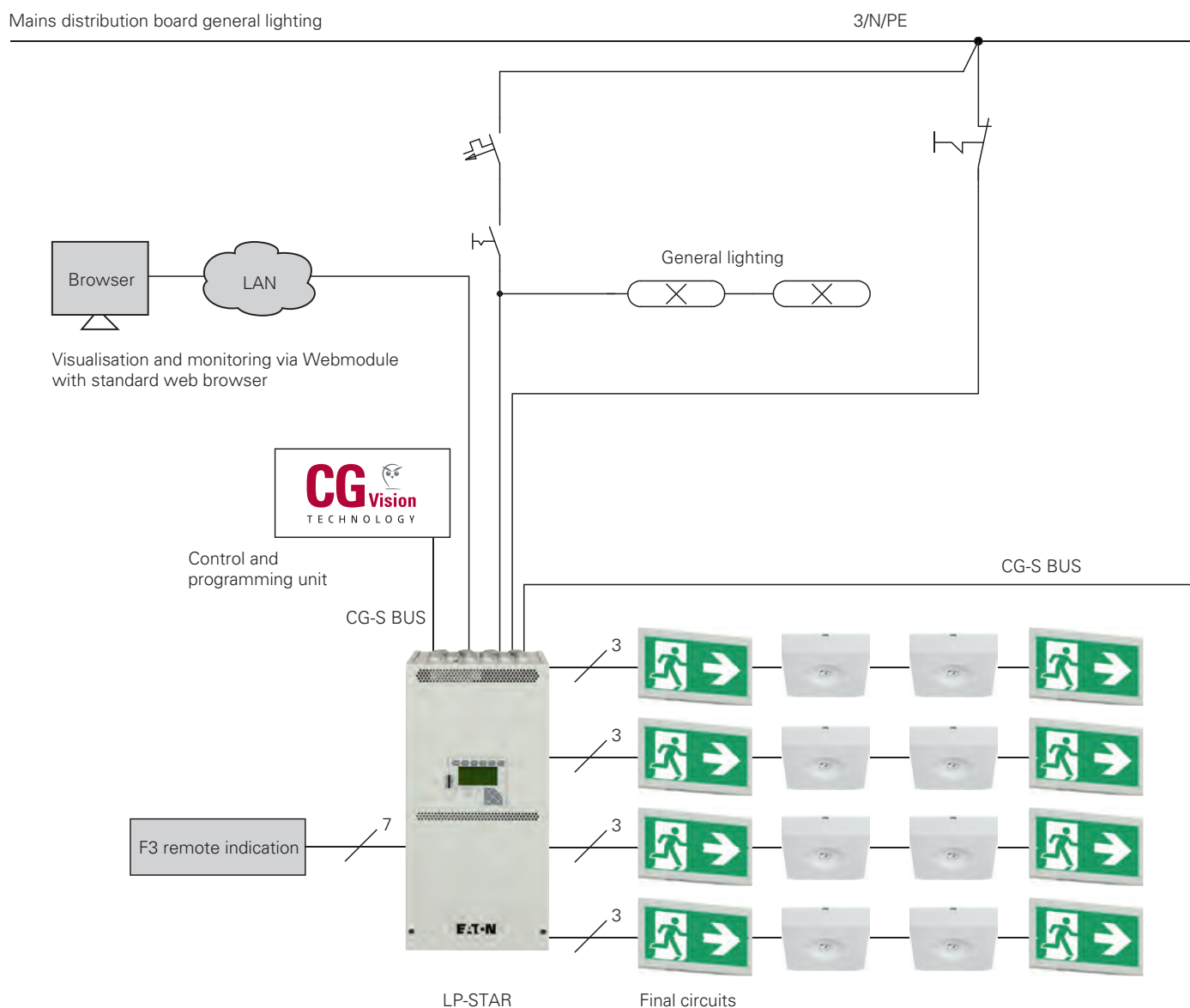
Evaluation of aeration and deaeration of electrical service rooms according to DIN EN 50272-2

| Capacity | 12 | 24 | 36 | 48 |
|---|------|-------|-------|-------|
| Air volume flow required for the aeration of the location room [l/h], calculated for boost charge* | 57.6 | 115.2 | 172.8 | 230.4 |
| Vent cross-section of the air inlets and outlets of the place of installation [cm²], calculated for boost charge* | 1.6 | 3.2 | 4.8 | 6.5 |
| Air volume flow required for the aeration of the location room [l/h], calculated for trickle charge* | 7.2 | 14.4 | 21.6 | 28.8 |
| Vent cross-section of the air inlets and outlets of the place of installation room [cm²], calculated for trickle charge* | 0.2 | 0.4 | 0.6 | 0.81 |

* If boost charge is not frequently used (for example once a month), the air flow rate can be calculated based on the trickle charge current.

LP-STAR emergency lighting power supply in a compact design

Installation example



9

LP-STAR emergency lighting power supply in a compact design

Description

LP-STAR



LP-STAR emergency lighting power supply in a compact design

Low Power System according to EN 50171 for the power supply of escape luminaires and exit sign luminaires 230V / 216V AC/DC. It is suitable for emergency lighting systems according to DIN VDE 0100-560, EN 50172 and V DIN V VDE 0108-100. With an automatic test device and monitoring and displaying the state and name of individual luminaires connected to system-specific EVG/LED supply module including a monitoring component without an additional data cable.

The switching operation of each escape luminaire and exit sign luminaire with system-specific EVG/LED supply module or monitoring component is programmed freely in the control module without an additional control cable to the luminaires.

The CEAG STAR technology results in a severe reduction of end circuits, because the mixed operation including maintained light, switched maintained light and non-maintained light is implemented in a single circuit.

The control module assigns the different operating modes without any modification of the luminaire installation. The operating modes: non-maintained light or maintained

light cannot be selected at the monitoring module or EVG/LED supply module using slide switches, coding switches or jumpers respectively. The additional costs incurred due to the use of parts made by other manufacturers or additional components on the installation lines cannot be claimed.

Simple connection technology using plug-in, back of hand proof clamp connections.

Bus technologies

CG-S bus technology based on LONWorks® technology

For data communication a 2-pole, bidirectional CG-S data bus, is integrated optimally in the control module of LP-STAR.

Using the optionally available CG-S Bus Interface, any building control systems based on the LONWorks® technology can communicate with the system on the CG-S bus.

Alternatively, any OPC compatible building control system can be connected to the optionally available OPC server and the Interface-Box using the CG-S bus.

Thus extensive status messages and commands can be queried through the CG-S bus.

The following data can thus be directly communicated:

- Status messages such as device disabled, deep discharge protection, battery interruption, battery voltage, current and temperature, insulation error, charging unit fault, bus communication error, mains failure, circuit faults etc.
- Input commands such as Start function test, Start and cancel duration test, Manual reset, Disable and release system.

16 virtual switching inputs can be used to directly and independently switch circuits or even individual luminaires via external LON sensors.

Interconnection of all LP-STAR distribution boards also possible via various media such as fibre optic cables, Ethernet and LAN using optional components.

Status and error messages can be retrieved for each individual luminaire.

Communication with system-oriented luminaires takes place only through the connected power line.

Using the search function, the luminaires connected to the system addressed during installation are automatically detected.

Control module

A freely programmable control module with a non-volatile program memory and alphanumeric graphic display monitors and controls the LP-STAR system. All functions such as loading, mains/emergency switch-over and deep discharge protection of devices and the connected emergency luminaires are automatically inspected. Errors arising will be reported immediately.

An interface provides a connection to a central monitoring device.

In case of a short circuit or interruption of control current loops, differential monitoring leads to the system immediately switching on (maintained light) or to the system being put in standby.

Graphical display: 128 x 64 pixels, back-lit, program-adjustable contrast and brightness.

Display values: battery voltage, battery charge current (+), battery charge current in test mode or in case of fault (-), charge fault, luminaire fault with location information in plain text, deep discharge protection, manual reset, delayed emergency light (remaining time in minutes), test mode, date/time, insulation fault, UV-AV fault, fault information, programming information, test log book.

LED displays: System readiness, supply from the source for safety services, failure.

Sealed keypad:

- individual buttons for device test, function test and duration test.
- 3 freely programmable function keys for example: Lock/unlock device, manual reset, turn on/off maintained light, display fault list, turn on/off continuity lighting, simulation mains failure UV.
- 7 control buttons for user-friendly navigation in query and programming mode.

Programming options:

Individual luminaire monitoring, circuit monitoring, individual name (20 characters) per device, circuit, luminaire, device address, selective manual reset, delayed emergency light (1-15 min.), LON switch, timer function, automatic function and duration test, selection of menu language, automatic daylight savings time setting, password protection.

Connection for disable switch: Control loop for disabling the system during operating downtimes with differential loop monitoring for short circuit and wire breakage detection.

Differential monitoring: Short circuit or interruption lead to the system going into standby.

Connection for phase monitor: 24V current loop for emergency light requirement with differential loop monitoring for short circuit and wire breakage detection.

Differential monitoring: Short circuit or interruption lead to the system switching on (maintained light) immediately.

Connection for potential-free indicator contacts, buzzer: 4 potential-free indicator contacts with a separate root. Every potential-free contact can have one or more of the 11 different alerts assigned to it. Freely programmable, DIN VDE specification retrievable at any time as default setting.

Connection for 230 V digital inputs without phase monitor function: 8 freely assignable inputs 230V, programmable as inverted and non-inverted for example for start/stop function test, start/stop duration test, manual reset, turn on/off

maintained light, turn on emergency lighting as continuity lighting.

Memory card:
Memory card for archiving the device configuration and the mandatory inspection log book information over a minimum of 4 years.

Storing:

- 360.000 inspection log book entries
- Luminaire target location texts (20 characters per luminaire)
- Circuit names (20 characters per circuit)
- Device name (20 characters)

Using The device can be programmed offline on a PC using the optional CEAG software.

Charging technology

The sealed maintenance-free lead batteries are charged gradually based on an microprocessor-controlled IU charging curve in function of temperature. Force charge is activated in function of the battery charge level to ensure that the batteries are charged without exceeding the gas development voltage. The charge monitoring procedure verifies the charging process continuously and it reports any faults immediately, including interruption of the battery circuit, faulty charging unit or a high impedance battery cell.

- with ISO test device according to DIN VDE0100 Part 410
- LED displays for charging unit on, boost charge on, insulation fault, charge fault, mains available
- potential-free contacts charge fault, boost charge, insulation fault
- Temperature sensor built into the battery compartment

Circuit components

The circuit switch-over supplies and monitors emergency luminaires with electronic ballasts for DC operation. The CEWA GUARD monitoring

checks the operation of the connected luminaires.

- Monitoring of up to 20 luminaires per circuit with individual status display
- Mixed operation of continuous lighting, switched maintained light and non-maintained light within a single circuit. (an additional data line to the luminaires is not required)
- Output voltage in battery operation: 220 V DC
- Typical switch-over time mains/battery: 450 ms
- freely programmable for maintained light, switched maintained light or maintained mode
- fuses easily accessible on the front part of the component
- permanent monitoring of fuses
- automatic luminaire search function

Webmodule

Webmodule for visualising and monitoring a LP-STAR device on the local Ethernet (LAN) or Internet (WWW) with a regular WEB browser. Access to the webmodule via internet (WWW) must be appropriately administered and set up on site by a competent IT department.

Integrated email program for convenient, event-related error notification via email, for up to 5 email recipients.

- Simple menu navigation
- Complete visualisation and monitoring of an LP-STAR through the local Ethernet (LAN) with a regular WEB browser
- Retrieving and indicating all current operating states
- Localised fault indicators for every emergency luminaire circuit and luminaires with target location information in plain text connected to a function test
- Continuous up-to-date information on charging device and battery
- Parallel access from various PC workstations to a web-module possible (max. 8)

- Integrated email program for a convenient error notification via email
- Adjustable email dispatch acc. to type of error or function test
- Up to 5 email recipients programmable
- Adjustable update cycle for web browser via the webmodule
- Authenticated access via administrator account with password protection
- Configurable guest account for restricted access with password protection
- Static or dynamic (DHCP) IP addressing possible
- Any number of webmodules operable in parallel
- Overview of all active web-modules on the Intranet with status display and hyperlink function

Supply voltage: 24V DC
power consumption: < 1.5W
Connection: RJ45

Housing made of polycarbonate for installation on DIN rail, 2TE

Dimensions (L x W x H): 90 mm x 35 mm x 58 mm Weight: ca. 100 g Protection rating: IP20

24V OGiv block battery

Only closed and non-spillable OGiv batteries are used. Rated operating time 1, 3 and 8 hours respectively

- extremely low gas emissions
- Period of use: 10 years at 20°C
- low self-discharge
- Design according to IEC60896-21/-22
- electrolyte and air oxygen sealed terminals

CEAG is a member of the "Stiftung Gemeinsames Rücknahmesystem Batterien [joint battery recycling programme] (GRS)".

In this manner batteries undergo a controlled and complete recycling cycle. This means that possible polluting

materials are recovered and reused for new products.

Specifications have been quoted based on CEAG products. Specifications can be compared based on this product. The tenderer can submit a tender based on a variant solution including an equivalent product (proof by the tenderer). Detailed product descriptions must be attached to the offer for the evaluation of equivalence:

References

CEAG Notlichtsysteme GmbH
Senator-Schwartz-Ring 26
D-59494 Soest/Germany
Telephone +49 (0) 2921/69-870
Fax +49 (0) 2921/69-617
Internet www.ceag.de
Email info-n@ceag.de

A ISO 9001 certification must be further provided as proof.

Manufacturers without the ISO 9001 certification are not permitted.

LONWorks®: Registered trademark of the Echelon Corporation



Central Battery Systems AC/AC

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Loadstar

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Central Battery Systems AC/AC

Overview

| | Central Power System | Low Power System | AC/AC power source | AC/DC power source | DC/DC power source |
|---|----------------------|------------------|--------------------|--------------------|--------------------|
| 10.1 Loadstar  | ● | | ● | | |
| 10.2 Easichck  | ●1* | | | | |
| 10.3 AT-S+  | ●2* | | | | |

| | Single luminaire monitoring in battery operation (DC) | Freely programmable switching mode in one and the same circuit | STAR technology and single luminaire monitoring in AC operation | | |
|--------------------|---|--|--|-------------------------------|---------------------|
| Circuit Monitoring | CEWA GUARD Technology (CG) | STAR Technology (S) | STAR+ Technology (S+) | EasiCheack (EC) Technology | AE-CU Technology |
| | | | | | |
| | | | | ● 1* | |
| | ● | ● | ● | | |

1* Optional luminaire test system for Loadstar

2* Luminaire test and controll system for
external AC safety power supply systems

Central Battery Systems AC/AC

System Design - Loadstar

10

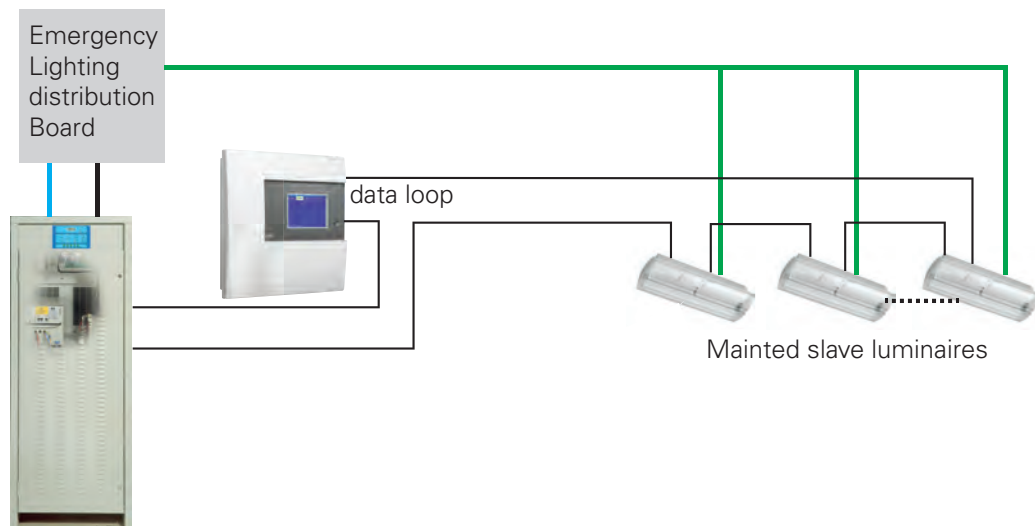


Central battery system based emergency lighting is ideal for medium to large installations. For projects where central control and testing is desirable, a central battery system is a viable and cost effective alternative to self-contained emergency lighting products. The main advantages of central battery systems over self-contained systems are:

- Testing and maintenance is much easier to carry out
- Battery replacement is much quicker and less disruptive
- Battery life is generally 10 years or more
- Luminaires can be centrally controlled
- High light levels can easily be achieved
- The emergency lighting system can be completely unobtrusive

Eaton manufactures a wide range of central battery emergency lighting systems. Standard products include AC/AC static inverter systems, with the addition of a new compact, competitively priced unit for smaller installations. Bespoke systems to suit the exact requirements of the specifier are also available.

To complement the range of central battery systems, Eaton also offers a wide selection of slave luminaires and conversion modules for mains fluorescent luminaires. EasiCheck automatic self-testing can be readily incorporated into central systems.



System Control and Mode of Operation

It is a requirement of any correctly designed emergency lighting system that the emergency lighting is activated both in the event of complete mains failure, and also in the event of a local mains failure. The emergency lighting system can have luminaires that are maintained or non-maintained. Similarly, the central battery unit can also be maintained or non-maintained operation. The following diagrams explain how activation of the emergency lighting is achieved, using the main types of central battery systems.

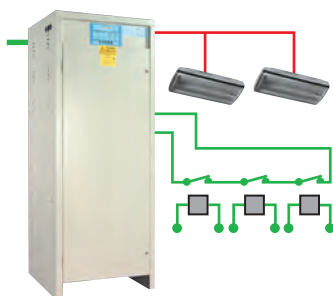
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Central systems with dedicated slave luminaires

a. Non-maintained central battery unit with sub-circuit monitors

With this method, relays are used to monitor the normal lighting supplies. The contacts of these relays are wired in a series loop such that in the event of failure of any of the normal lighting supplies, the loop is broken, sending a signal to the central battery unit to activate all of the emergency luminaires. Details of purpose-made remote sub-circuit monitor units can be found in the Loadstar product section.

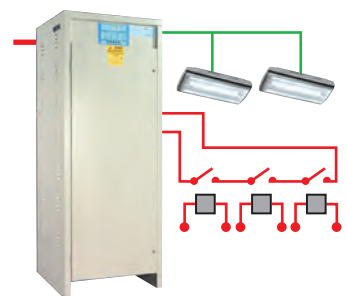
Normal mains healthy condition



Failure of normal lighting final circuit



Total mains failure



KEY
— LIVE
— DEAD

Central Battery Systems AC/AC

System Design - Loadstar

b. Maintained central battery unit with the maintained circuit continuously energised

A simple installation where emergency luminaires are illuminated at all material times irrespective of the status of the normal lighting. In the event of a complete mains failure, the slave luminaires are illuminated from the battery supply.

Normal mains healthy condition



Failure of normal lighting final circuit



Total mains failure



KEY

- LIVE

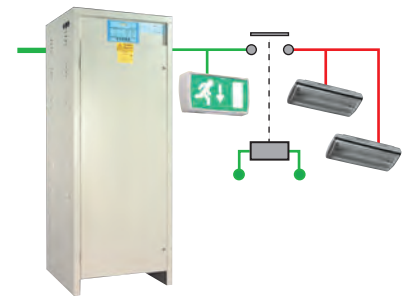
- DEAD

c. Maintained central battery unit with remote hold off relays

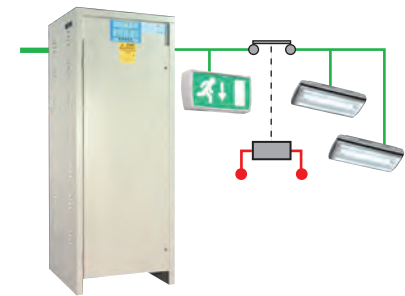
The maintained output from the battery unit is fed to a number of remote hold off relays throughout the building. The coil of the hold off relay is connected to the unswitched side of the local normal lighting supply. Assuming this supply is healthy, the relay will pull in, opening the contacts and preventing power from reaching the slave luminaires. In the event of a local mains failure, the relay drops out, the contacts close and the emergency luminaires in that particular area are illuminated from the maintained circuit of the battery unit. In the event of a complete mains failure, the system operates in a similar manner, except that the slave luminaires are illuminated from the battery supply. Details of purpose-made remote hold off relays can be found in the Loadstar product section.

In the event of a local mains failure, the relay drops out, the contacts close and the emergency luminaires in that particular area are illuminated from the maintained circuit of the battery unit. In the event of a complete mains failure, the system operates in a similar manner, except that the slave luminaires are illuminated from the battery supply. Details of purpose-made remote hold off relays can be found in the Loadstar product section.

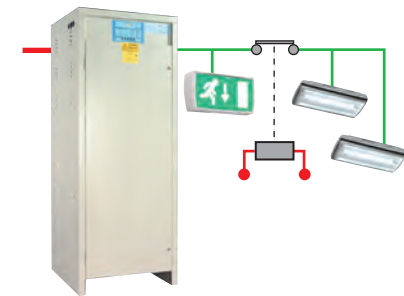
Normal mains healthy condition



Failure of normal lighting final circuit



Total mains failure



KEY

- LIVE

- DEAD

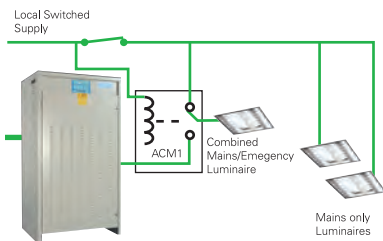
Central systems with converted mains luminaires

d. Static inverter unit with conventional mains fittings

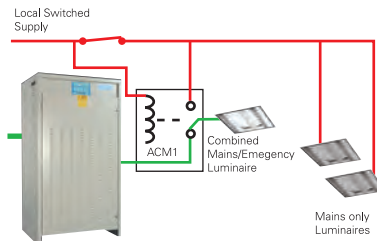
A static inverter runs conventional mains luminaires at full brightness during both mains healthy and mains failure conditions. However, there is usually a requirement for local switching of the luminaires during mains healthy conditions, with automatic illumination in the event of mains failure.

Local switching with automatic illumination in the event of mains failure can be easily achieved by use of the ACM1 module, which is purpose-designed for this application. A detailed description of the ACM1 module, including a typical wiring schematic, can be found on page in Loadstar product section.

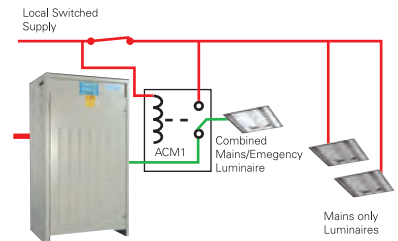
Normal mains healthy condition



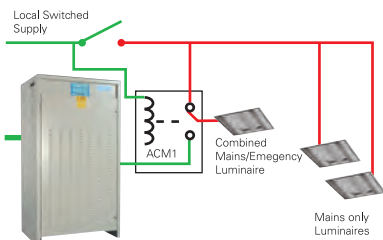
Failure of normal lighting final circuit



Total mains failure



OR



KEY
— LIVE
— DEAD



Battery Type

Eaton offers a choice of five different battery types:

- Valve regulated lead acid (10 year design life)
- Valve regulated lead acid (3-5 year design life)
- Vented nickel-cadmium
- High performance plante lead acid
- Flat plate lead acid

Each battery type has specific characteristics. The table below (fig. 2) provides a comparative guide to these characteristics.

The most popular battery type is valve regulated lead acid with a 10 year design life. This type of battery is used on approximately 90% of projects due to its competitive cost, good life characteristics, ease of maintenance and compact size.

Fig 2. Comparison of Battery Characteristics

| Characteristics | Valve Regulated Lead Acid (10 year life) | Valve Regulated Lead Acid (3-5 year life) | Vented Nickel Cadmium | High Performance Plante Lead Acid | Flat Plate Lead Acid |
|--------------------------------|--|---|-----------------------|-----------------------------------|----------------------|
| Expected life | ✓✓✓ | ✓ | ✓✓✓ | ✓✓✓ | ✓ |
| Capital cost | ✓✓ | ✓✓✓ | ✓ | ✓ | ✓ |
| Maintenance | ✓✓✓ | ✓✓✓ | ✓✓ | ✓✓ | ✓✓ |
| Resistance to damage and abuse | ✓ | ✓ | ✓ | ✓ | ✓ |
| Through life costs | ✓✓ | ✓ | ✓✓ | ✓✓ | ✓✓ |

10

Battery Room Ventilation

Vented batteries, such as nickel cadmium, plante and flat plate lead acid emit potentially explosive gases under charge conditions. Therefore it is important when selecting rooms for emergency lighting central battery systems with these types of battery, to calculate the amount of ventilation required. The required number of air changes per hour (A) is given by the following formula:

$$A = \frac{0.045 \times N \times I}{V}$$

Where:

N = Number of cells in the battery

V = Volume of room in cubic metres

I = Charge rate in Amperes

This formula will give the number of air changes per hour required during boost charge conditions. On float charge (systems are on float charge for most of their service life), the amount of gas emitted is approximately 1.5% of that liberated whilst on boost charge and under most circumstances this will be dissipated by natural ventilation, and will not present a hazard. However, we recommend that the boost charge condition is allowed for at the design stage to ensure the appropriate decision on ventilation requirements is made.

Although Valve Regulated Lead-Acid Batteries require little ventilation under normal operating conditions, it is good practice to apply the formula to calculate the number of air changes required to achieve minimum risk under battery fault or failure conditions. Please refer to: EN50272-2



Installation Notes

- Warning notices should be displayed on entry doors to battery rooms: BATTERY ROOM. EXTINGUISH ALL NAKED LIGHTS BEFORE ENTERING. NO SMOKING

System Sizing

When sizing the system, it is important to allow for the full input requirement of the light fittings rather than the lamp wattages.

AC/AC systems

When utilising a static inverter system, the fitting operates at full output during both mains healthy and mains failure conditions. When sizing a suitable static inverter to power a particular load, it is important to consider the input VA and the input (not lamp) wattage of the emergency luminaires. The total VA requirement defines the inverter module size, and the total input wattage defines the battery size.

Therefore, to establish the correct inverter module size, the power factor correction (PFC) rating of the luminaires must be

considered in addition to lamp wattage and control gear losses. High frequency control gear circuits have excellent PFC ratings, usually of around 0.96 to 0.98. This compares with 0.85 to 0.9 for equivalent lamp magnetic control gear circuits. Care should be taken when low wattage compact fluorescent lamps are used, utilising high frequency gear or high PFC versions where possible. Low power factor versions can have PFC ratings of only 0.45 to 0.5, thereby greatly increasing the inverter rating required for the system. If utilising low voltage lighting powered via step-down transformers, it is essential to allow for the efficiency and power factor of the step-down transformers. Table (fig. 3) and graph (fig. 4) illustrate the relationship between wattage and VA rating for a typical system.

Note: EN 60598-2-22 prohibits the use of glow starters in fluorescent luminaires used for emergency lighting.

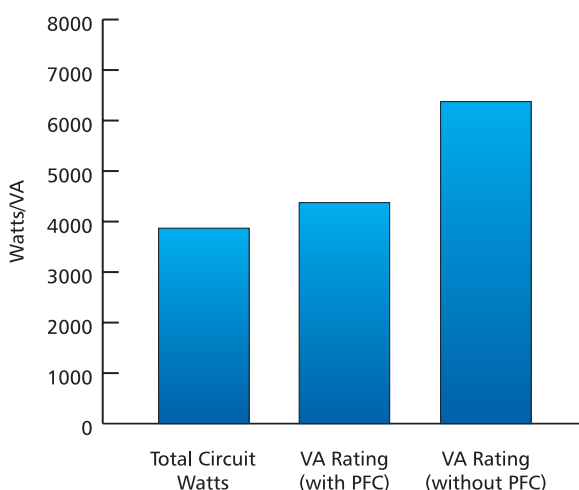
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Fig 3. Typical system. VA rating with and without power factor correction

| Qty of Luminaires | Description | Total Circuit Watts | VA Rating (Compact lamps without PFC) | VA Rating (Compact lamps with PFC) |
|-------------------|------------------------------------|---------------------|---------------------------------------|------------------------------------|
| 25 | 1 x 58W T8 (wire wound ballasts) | 1725 | 1925 | 1925 |
| 40 | 1 x 28W 2D (wire wound ballasts) | 1360 | 2960 | 1560 |
| 15 | 1 x 16W 2D (wire wound ballasts) | 315 | 690 | 375 |
| 15 | 1 x 13W TC-D (wire wound ballasts) | 270 | 600 | 315 |
| 5 | 1 x 40W GLS incandescent | 200 | 200 | 200 |
| Inverter Rating = | | 3870 | 6375 | 4375 |

Note: Use of compact fluorescent luminaires with power factor correction (PFC) leads to a reduced inverter module size and therefore savings in space and capital costs

Fig 4. Typical system. VA rating with and without power factor correction



Additional Considerations

Spare capacity

With any central battery system it is important to bear in mind that it is difficult to extend the system at a later date unless capacity has been allowed for at the design stage. For this reason, we would strongly recommend that some spare capacity is included when selecting the central battery system rating. Our technical department is available to provide assistance.

Central Battery Systems AC/AC

System Design - Loadstar

Cable sizes

When selecting cable sizes, due regard should be paid to limitations imposed by voltage drop and physical strength. Each conductor shall be of copper, having a nominal cross sectional area of not less than 1mm². Usually (see national requirements) the voltage drop in cables connecting a central battery to a slave luminaire should not exceed 4 % of the system nominal voltage at maximum rated current.

Using copper conductors, volts drop can be calculated per pair of conductors as shown in table fig. 5. Total volts drop on a circuit can be calculated according to the formula:

$$VDT = I \times VDM \times D$$

Where:

- 10
- VDT = volts drop total
 - I = maximum load current
 - VDM = volts drop per amp per metre (obtained from fig. 5)
 - D = cable run in metres

Example:

Fig. 6 and 7 show an example comparison for a central battery system with a total connected load of 1500W and a 50m run of 16mm² cable supplying the luminaires.

This example shows that for this configuration, a 230 V system would be most suitable to meet the requirements of max. 4 % voltage drop. The low current value combined with greater allowable volt drop would enable much smaller cables to be used.

Fig 6.

| Comparison Data | 24V System | 50V System | 110V System | 230V System |
|--|------------|------------|-------------|-------------|
| Max. permissible | 0.96V | 2.0V | 4.4V | 9.2V |
| Volt drop (4 %) | | | | |
| Total current for total connected load of 1500W | 62.5A | 30A | 13.6A | 6.52A |
| Actual volt drop for 16mm ² cable with 50m length | 8.43V | 4.05V | 1.84V | 0.88V |

The use of larger cables or multiple outgoing circuits may permit the use of 24, 50 or 110V systems in the above example.

Additional Considerations

Fire protection of cables

Cables should be routed through areas of low fire risk. The following cables and wiring systems should be used.

- Cables with inherently high resistance to attack by fire
- Wiring systems with additional fire protection.

Systems should be installed in accordance to the national Regulations. Additional fire protection may apply. For example, if cables are buried in the structure of the building.

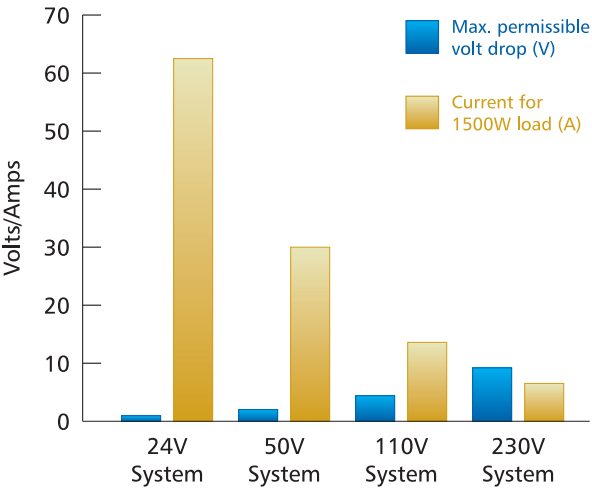
Fig 5.

| Nominal Cross Sectional Area | Maximum Current Rating | Volt per Drop per Metre |
|------------------------------|------------------------|-------------------------|
| 1.0mm ² | 14 amps | 42mV |
| 1.5mm ² | 17 amps | 28mV |
| 2.5mm ² | 24 amps | 17mV |
| 4.0mm ² | 32 amps | 11mV |
| 6.0mm ² | 41 amps | 7.1mV |
| 10.0mm ² | 55 amps | 4.2mV |
| 16.0mm ² | 74 amps | 2.7mV |

The problems of volt drop can be overcome by:

- Using higher system voltages (= lower currents and therefore lower volt drop)
- Using larger cables (= lower resistance and therefore lower volt drop)
- Using multiple outgoing circuits (= less current per circuit and therefore lower volt drop)

Fig 7.





Loadstar

The Loadstar range of AC/AC static inverter units offer the opportunity to create a discreet emergency lighting system, utilising suitable standard mains luminaires without modification. Small or decorative compact luminaires can also be easily incorporated. Loadstar AC/AC systems offer many benefits, including higher light levels in emergency mode, as all lamps in the luminaire are usually energised by the emergency supply. Mains voltage and lower currents enable cables of smaller cross sectional area to be used with low voltage AC/DC systems, without unacceptable levels of voltage drop. The proven and reliable modular design ensures a cost effective emergency lighting solution.

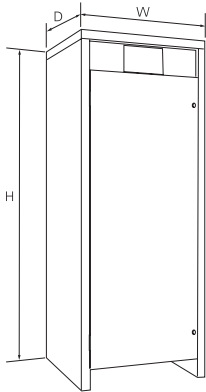
Loadstar AC/AC System



- BSI Kitemarked for peace of mind
- Cost effective modular design
- Standard mains luminaires used for emergency lighting
- Fully complies with EN50171
- Digital display to clearly indicate system status
- EasiCheck compatible versions available
- Low maintenance
- Low running cost due to passive stand-by operation
- Three phase systems available

10

Dimensions



| Cubicle Ref | H (mm) | W (mm) | D (mm) |
|-------------|--------|--------|--------|
| 931 | 1200 | 715 | 755 |
| 932 | 1800 | 715 | 755 |
| 934 | 1800 | 1015 | 755 |

Depth of 931/2/4 includes a 75mm spacer fitted to back, to ensure ventilation grilles are not obstructed. Dimensions are for guidance only and may be subject to change.



System Operation

- In mains healthy condition, the system charges the batteries and stores power, ready for emergency operation
- In mains healthy condition, the power to luminaires designated for emergency use is supplied from the normal mains, via a by-pass contactor inside the cubicle. This may be switched, using a "maintained lights" switch (optional extra) or by use of a remote switch connected to terminals provided
- Local change-over switching can be achieved using an ACM1 module, controlling single or multiple luminaires (if fed from common switched mains supply - max load 750VA). The system will then supply normal mains power or emergency power via the inverter, dependant on status of mains supply at the static inverter
- In the event of a mains failure, the system provides emergency power to dedicated mains slave or designated standard mains luminaires, until mains power is restored (or for the rated duration of the system in the event of extended mains failure)
- Output voltage, from the system via the inverter, is 230V AC nominal
- Standard mains luminaires require no modification to operate with the static inverter (unless ACM1 change-over module is fitted integrally). All lamps in multi-lamp luminaires will be lit during mains failure, unless separate control gear is provided for individual lamps
- Sub-circuit monitoring and hold off relays can be added to the system to energise the emergency luminaires in the event of a localised mains circuit failure, if the ACM1 module is not used

Energy Efficient Standby Operation

The Loadstar range of AC/AC static inverter systems are designed specifically for long term sustainability, reduced carbon footprint and reduced running cost without compromising on the products performance criteria. Due to the passive stand-by operation of the inverter only operating when required, the quiescent running power is minimised while maximising equipment lifetime and reduced running cost.

Standard Specification

• Cubicles

- 1.6mm zinc coated steel panels with powder coat RAL7032 light pebble grey finish
- Plinth base feature to prevent build up of moisture/corrosive materials and aid mechanical handling by fork or pallet truck
- 3 standard size cubicles, for combined charger/inverter/battery, charger/inverter only or battery only
- Small systems require only one cubicle. Larger systems housed in multiple sets (see selection tables)
- Electrical control gear and battery compartments are segregated, with lockable access door(s)
- Battery compartments supplied, where appropriate with separate tiered sections, to enable ease of electrolyte level inspection
- Separate fixed facia panel for mounting control/display panel
- Option of open battery racks on larger systems

• Battery Charger

- Solid state, constant voltage charge control module
- Fully automatic
- Full recharge within 24 hours of a rated discharge
- Recharge to 80% capacity within 12 hours, complying with EN 50171
- Manual boost switch on systems with vented battery cells
- Current limit facility, preventing overcharging or damage to the system in the event of battery failure or fault
- Outputs have low AC ripple currents for maximum battery life and in compliance with EN 50171
- Input protection by MCB to BS 3871 Part 1 or BS 4752 Part 1

• Battery

- Systems can be specified with:
 - Valve regulated lead acid
 - Vented nickel cadmium
 - High performance plante
- See selection tables/guides for battery characteristics

• Fusegear

- Removable industrial HRC fuses

• Input Circuits

- Cable entry via removable gland plate on top of cubicle
- Single phase 230V \pm 10% AC 50Hz supply. Other input voltages on request
- Input terminals and MCB DIN-rail mounted and easily accessible

• Load Circuits

- Substantial DIN rail mounted output terminals
- Option of integral distribution board (MCB or HRC fuses)

• Output

- Systems are available in single phase and true three phase (three phase + neutral) output
- Standard systems offered are designed to 0.85 power factor, however unity power factor systems are available on request
- Option for 50Hz or 60Hz

• Monitoring Circuits

- Terminals provided for connection of remote monitors and controls

• Cables

- Compliant with BS 6231

• Transformer

- Double wound with earth screen to BS 171

• Rectifier

- Full wave controlled thyristor/diode bridge

• Contactor

- Mains failure contactor to BS5424 Part 1

• Temperature Compensation

- All lead acid cell systems supplied with transducer to monitor battery compartment temperature
- Chargers pre-set for optimum performance in 20°C ambient
- Charging voltage automatically adjusted to optimise battery life

• Low Battery Voltage Disconnect Circuit

- Automatically shuts down the inverter when battery voltage falls below pre-set level, during extended periods of mains supply failure
- Helps prevent potential damage from deep discharge
- Indicator remains lit until mains power restored and reset pressed

• Inverter

- Extensively proven and reliable modular design
- Systems with ratings up to 4 kVA incorporate a single module rated at 1.25 kVA, 2.5 kVA or 4 kVA
- Larger systems utilise multiple modules in parallel to provide a single common output, equal to sum of individual ratings
- Complies fully with EN50171
- Modules can be quickly and easily removed/replaced, aiding installation and maintenance
- See table for detailed technical specification

• Test Push Button

- Simulates a mains failure

• Frequency

- 50 Hz +/- 0.01% (60 Hz option)

• Metering and Display Panel

Simple and easy to read status display

- LCD meter indicating battery voltage, battery current or battery compartment temperature. Voltage is default, others displayed using push buttons. Display mode indicated by LED:
 - Volts
 - Amps
 - Temperature - lead acid batteries only
- Charger indication LEDs
 - Power On
 - Maintained Lights (maintained systems only)
 - Float Mode
 - Current Limit
 - Full Charge
 - Boost mode (vented battery systems only)
- Alarm indication LEDs
 - Mains Fail
 - Charge Fail
 - Battery High Volts
 - Battery Low Volts
 - DC Earth Fault
 - Deep Discharge Protection (protection circuit has operated)
- Inverter indication LEDs
 - Inverter Running
 - Inverter Overload (optional alarm package)
 - Inverter High Volts (optional alarm package)
 - Inverter Low Volts (optional alarm package)
- Audible alarm fitted internally, with mute button on display plus common volt free contacts for remote signalling of a fault condition and terminals for optional remote alarm unit



Central Battery Systems AC/AC

Loadstar AC/AC Systems

Inverter



Inverter

- To ensure a suitably rated system is selected, list the luminaires to be used, with their characteristics, to determine the wattage and VA power rating of the required inverter
- Where possible, utilise luminaires with high frequency control gear, compact fluorescent luminaires with high power factor correction, or dedicated 230V AC mains slave luminaires, to minimise the required VA rating of the inverter
- Using uncorrected compact fluorescent luminaires with poor power factor, will increase the size of inverter module required, leading to increased capital cost and space requirements
- For details of static inverter systems with ratings above those listed, please contact our central systems technical sales department
- It should be noted that multiple smaller units can often be more cost effective than a single large system. Distribution costs can be substantially reduced by locating units throughout a large building
- Note - systems specified for emergency lighting use should not have other services connected to them

| | |
|---------------------------|---|
| Output Voltage | Pre-settable in the range 220-240V AC. Default setting is 230V AC. Voltage tolerance is 2% on loads of 0-100% of system rating |
| Frequency | 50 or 60Hz. $\pm 0.01\%$. Standard setting 50Hz. Waveform: Sinusoidal |
| Voltage Regulation | Static 2%, dynamic 6% |
| Isolation | 2kV rms between input and output terminals |
| Total Harmonic Distortion | Less than 3% into a linear load |
| Power Factor | Will supply loads in the 0.3 lag - 0.3 lead range |
| Overload voltage | 200% for 10 seconds, 125% for 20 minutes without reduction in output |
| Start-up time | Standard 30ms soft start |
| Noise Level | Less than 55dBA at 1 metre |
| Efficiency | 85 - 89% |
| Protection | DC input and AC output MCBs DC input reverse polarity protection Short circuit protection Pre-charge protection fuse Reverse-fed mains proof |
| Low Voltage Shut down | Inverter module(s) automatically shut down when battery discharges to a pre-set level. Re-set is following a combination of the restoration of the mains supply and an increase in battery voltage above the disconnect threshold level |
| | Residual current drain when the disconnect circuit has operated is less than 1mA per module |
| Inhibit | An inhibit switch to control the inverter is fitted on a user control pcb in the cubicle |
| Technology | Pulse width modulation with high frequency switching |

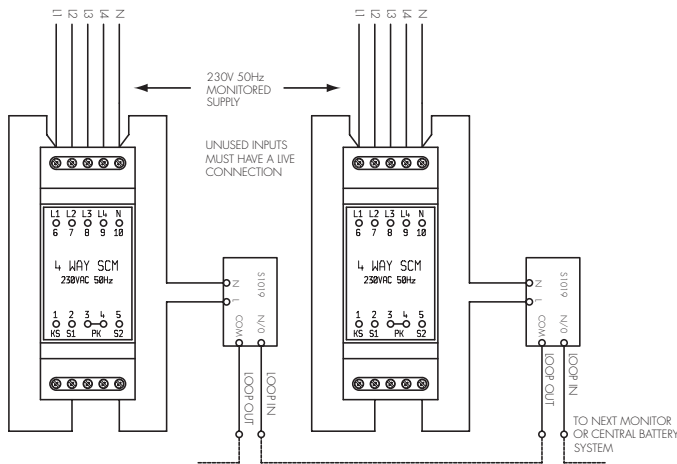
Remote Alarm Unit



Remote Alarm Unit

- Visual and audible indication of system fault
- Sounder mute facility
- Surface mounting dimensions: H114 x L114 x D25mm
- Catalogue Number - RAU-2V1

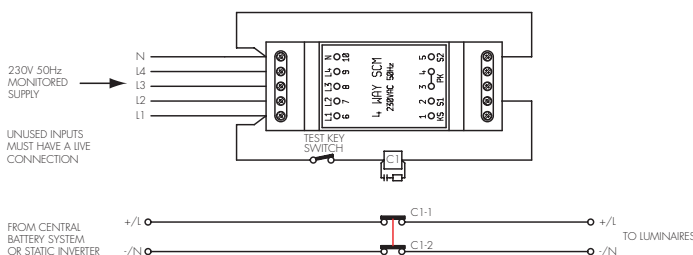
Typical sub-circuit monitor arrangement



Sub Circuit Monitor

- Non load switching
- Monitors mains lighting circuits. Provides signal to central battery unit in the event of a sub circuit failure
- Standard units available to monitor 4, 8 or 12 sub circuits
- Multiple units can be used if more than 12 circuits require monitoring
- A keyswitch can be fitted if required to enable simple testing by authorised user
- Unit dimensions: H 250 x L 265 x D 130mm

Typical hold off relay arrangement



Hold Off Relay Monitors

- Load switching
- Used to hold off maintained output from static inverter unit, providing non-maintained luminaire operation
- Monitors mains lighting circuits. In the event of a sub circuit failure, contactor drops out, allowing the maintained supply to energise the emergency luminaires
- Standard units available to monitor 4, 8 or 12 sub circuits, however monitors are available with up-to 24 circuits
- A keyswitch or supply healthy indicator can be fitted if required to enable simple testing by authorised user and visual indication of the supply condition
- Unit dimensions: H 250 x L 265 x D 130mm

SCM and HOR units are designed to accept a single common neutral per enclosure, all monitored circuits connected to an individual unit must share a common neutral.

Ordering details

| Type: Number of ways monitored | Order No. of Sub Circuit Monitor | Order No. of Hold Off Relay Monitor |
|--------------------------------|----------------------------------|-------------------------------------|
| 4 | 1SCM4 | 1HOR4 |
| 8 | 1SCM8 | 1HOR8 |
| 12 | 1SCM12 | 1HOR12 |

Central Battery Systems AC/AC

Loadstar AC/AC Systems

Selection Table: AC/AC SLR Range, 0.85 Power Factor

| System Reference 230V in / 230V out | Inverter Power Rating (kVA) | Output Watts (W) | 1 Hour Autonomy | Cubicle Arrangement 2 Hr Autonomy | 3 Hr Autonomy |
|--|--------------------------------|---------------------|-----------------------|--------------------------------------|----------------------------------|
| AC1KVA/850/SLR* | 1 | 850 | 931CBI | 931CBI | 931CBI |
| AC2KVA/1700/SLR* | 2 | 1700 | 931CBI | 932CBI | 932CBI |
| AC2.5KVA/2125/SLR* | 2.5 | 2125 | 931CBI | 932CBI | 932CBI |
| AC3KVA/2550/SLR* | 3 | 2550 | 932CBI | 932CBI | 932CBI |
| AC4KVA/3400/SLR* | 4 | 3400 | 932CBI | 932CBI | 934CBI |
| AC5KVA/4250/SLR* | 5 | 4250 | 934CBI | 934CBI | 934CBI |
| AC6KVA/5100/SLR* | 6 | 5100 | 934CBI | 934CBI | 932CI + 932B3 |
| AC7.5KVA/6375/SLR* | 7.5 | 6375 | 934CBI | 932CI + 932B3 | 932CI + 934B2 |
| AC8KVA/6800/SLR* | 8 | 6800 | 934CBI | 932CI + 932B3 | 932CI + 934B3 |
| AC9KVA/7650/SLR* | 9 | 7650 | 932CI + 932B3 | 932CI + 934B2 | 932CI + 934B3 |
| AC10KVA/8500/SLR* | 10 | 8500 | 932CI + 932B3 | 932CI + 934B2 | 932CI + 934B3 |
| AC11KVA/9350/SLR* | 11 | 9350 | 932CI + 932B3 | 932CI + 934B3 | 932CI + 2 x 932B3 |
| AC12KVA/10200/SLR* | 12 | 10200 | 932CI + 932B3 | 932CI + 934B3 | 932CI + 2 x 932B3 |
| AC13KVA/11050/SLR* | 13 | 11050 | 932CI + 932B3 | 932CI + 934B3 | 932CI + 932B3 + 934B3 |
| AC14KVA/11900/SLR* | 14 | 11900 | 932CI + 932B3 | 932CI + 934B3 | 932CI + 932B3 + 934B3 |
| AC15KVA/12750/SLR* | 15 | 12750 | 932CI + 932B3 | 932CI + 2 x 932B3 | 932CI + 932B3 + 934B3 |
| AC16KVA/13600/SLR* | 16 | 13600 | 932CI + 934B2 | 932CI + 2 x 932B3 | 932CI + 2 x 934B3 |
| AC17.5KVA/14875/SLR* | 17.5 | 14875 | 934CI + 934B2 | 934CI + 934B3 + 932B1 | 934CI + 3 x 932B3 |
| AC18KVA/15300/SLR* | 18 | 15300 | 934CI + 934B2 | 934CI + 934B3 + 932B3 | 934CI + 3 x 932B3 |
| AC19KVA/16150/SLR* | 19 | 16150 | 934CI + 934B2 | 934CI + 934B3 + 932B3 | 934CI + 2 x 934B3 |
| AC20KVA/17000/SLR* | 20 | 17000 | 934CI + 934B3 | 934CI + 2 x 934B2 | 934CI + 932B3 + 2 x 934B3 |
| AC21KVA/17850/SLR* | 21 | 17850 | 934CI + 932B3 + 932B1 | 934CI + 2 x 934B2 | 934CI + 932B3 + 2 x 934B3 |
| AC22KVA/18700/SLR* | 22 | 18700 | 934CI + 932B3 + 932B1 | 934CI + 3 x 932B3 | 934CI + 932B2 + 2 x 934B3 |
| AC23KVA/19550/SLR* | 23 | 19550 | 934CI + 932B3 + 932B1 | 934CI + 3 x 932B3 | 934CI + 932B2 + 2 x 934B3 |
| AC24KVA/20400/SLR* | 24 | 20400 | 934CI + 934B3 | 934CI + 3 x 932B3 | 934CI + 2 x 934B3 + 932B2 |
| AC25KVA/21250/SLR* | 25 | 21250 | 934FC + 932I + 934B3 | 934FC + 932I + 3 x 932B3 | 934FC + 932I + 2 x 934B3 + 932B3 |

Factory Fitted Options

• 3 Phase Failure Monitor

- Detects phase failure and energises the inverter from the battery supply
- Suffix - PM

| System Reference 400V in / 400V out | Inverter Power Rating (kVA) | Output Watts (W) | 1 Hour Autonomy | Cubicle Arrangement 2 Hr Autonomy | 3 Hr Autonomy |
|--|--------------------------------|---------------------|--|--|--|
| AC26KVA/22100/SLR*/ TPN4W | 26 | 22100 | 934FC + 934I + 2 x 932B3 | 934FC + 934I + 2 x 934B3 | 934FC + 934I + 2 x 934B3 + 2 x 932B3 |
| AC28KVA/23800/SLR*/ TPN4W | 28 | 23800 | 934FC + 934I + 934B3 + 932B1 | 934FC + 934I + 2 x 934B3 + 932B3 | 934FC + 934I + 3 x 934B3 |
| AC30KVA/25500/SLR*/ TPN4W | 30 | 25500 | 934FC + 934I + 2 x 932B3 | 934FC + 934I + 2 x 934B3 + 932B2 | 934FC + 934I + 4 x 934B3 |
| AC32KVA/27200/SLR*/ TPN4W | 32 | 27200 | 934FC + 934I + 934B3 + 932B3 | 934FC + 934I + 2 x 934B3 + 932B2 | 934FC + 934I + 4 x 934B3 |
| AC34KVA/28900/SLR*/ TPN4W | 34 | 28900 | 934FC + 934I + 934B3 + 932B3 | 934FC + 934I + 2 x 934B3 + 932B3 | 934FC + 934I + 4 x 934B3 + 934B1 |
| AC36KVA/30600/SLR*/ TPN4W | 36 | 30600 | 934FC + 934I + 934B3 + 932B3 | 934FC + 934I + 2 x 934B3 + 932B3 | 934FC + 934I + 4 x 934B3 + 934B1 |
| AC38KVA/32300/SLR*/ TPN4W | 38 | 32300 | 934FC + 2 x 932I + 934B3 + 932B3 | 934FC + 2 x 932I + 3 x 934B3 | 934FC + 2 x 932I + 4 x 934B3 + 934B1 |
| AC40KVA/34000/SLR*/ TPN4W | 40 | 34000 | 934FC + 2 x 932I + 2 x 934B3 | 934FC + 2 x 932I + 3 x 934B3 | 934FC + 2 x 932I + 5 x 934B3 |
| AC42KVA/35700/SLR*/ TPN4W | 42 | 35700 | 934FC + 2 x 932I + 3 x 932B3 | 934FC + 2 x 932I + 4 x 934B3 | 934FC + 2 x 932I + 3 x 934B3 + 3 x 932B3 |
| AC44KVA/37400/SLR*/ TPN4W | 44 | 37400 | 934FC + 2 x 932I + 3 x 932B3 | 934FC + 2 x 932I + 4 x 934B3 | 934FC + 2 x 932I + 5 x 934B3 |
| AC46KVA/39100/SLR*/ TPN4W | 46 | 39100 | 934FC + 2 x 932I + 3 x 932B3 | 934FC + 2 x 932I + 4 x 934B3 + 934B1 | 934FC + 2 x 932I + 3 x 934B3 + 3 x 932B3 |
| AC48KVA/40800/SLR*/ TPN4W | 48 | 40800 | 934FC + 2 x 932I + 2 x 934B3 + 932B3 | 934FC + 2 x 932I + 4 x 934B3 + 934B1 | 934FC + 2 x 932I + 6 x 934B3 |
| AC50KVA/42500/SLR*/ TPN4W | 50 | 42500 | 934FC + 934I + 932I + 2 x 934B3 + 932B3 | 934FC + 934I + 932I + 4 x 934B3 + 934B1 | 934FC + 934I + 932I + 6 x 934B3 |
| AC52KVA/44200/SLR*/ TPN4W | 52 | 44200 | 934FC + 934I + 932I + 2 x 934B3 + 932B3 | 934FC + 934I + 932I + 4 x 934B3 + 934B1 | 934FC + 934I + 932I + 4 x 934B3 + 4 x 932B3 |
| AC54KVA/45900/SLR*/ TPN4W | 54 | 45900 | 934FC + 934I + 932I + 2 x 934B3 + 932B2 | 934FC + 934I + 932I + 4 x 934B3 + 934B1 | 934FC + 934I + 932I + 4 x 934B3 + 4 x 932B3 |
| AC56KVA/47600/SLR*/ TPN4W | 56 | 47600 | 934FC + 934I + 932I + 2 x 934B3 + 932B2 | 934FC + 934I + 932I + 5 x 934B3 | 934FC + 934I + 932I + 4 x 934B3 + 4 x 932B3 |
| AC58KVA/49300/SLR*/ TPN4W | 58 | 49300 | 934FC + 934I + 932I + 2 x 934B3 + 932B2 | 934FC + 934I + 932I + 4 x 934B3 + 934B1 | 934FC + 934I + 932I + 4 x 934B3 + 4 x 932B3 |
| AC60KVA/51000/SLR*/ TPN4W | 60 | 51000 | 934FC + 934I + 932I + 2 x 934B3 + 932B3 | 934FC + 934I + 932I + 4 x 934B3 + 934B1 | 934FC + 934I + 932I + 4 x 934B3 + 4 x 932B3 |

* Denotes the system autonomy i.e. AC1KVA/850/SLR3 = 3Hr Backup Autonomy

≈ Denotes cubicles size/quantity information is available on application

NOTE: The above solutions may change dependant on batteries availability

Central Battery Systems AC/AC

Loadstar AC/AC Systems

Selection Table: AC/AC SLR Range, Unity Power Factor

| System Reference | Inverter Power Rating (kVA) | Output Watts (W) | 1 Hour Autonomy | Cubicle Arrangement 2 Hr Autonomy | 3 Hr Autonomy |
|----------------------|-----------------------------|------------------|-----------------|--------------------------------------|---------------|
| AC1KVA/1000/SLR3* | 1.0 | 1000 | ≈ | ≈ | ≈ |
| AC2KVA/2000/SLR* | 2.0 | 2000 | ≈ | ≈ | ≈ |
| AC2.5KVA/2500/SLR* | 2.5 | 2500 | ≈ | ≈ | ≈ |
| AC3KVA/3000/SLR* | 3.0 | 3000 | ≈ | ≈ | ≈ |
| AC4KVA/4000/SLR* | 4.0 | 4000 | ≈ | ≈ | ≈ |
| AC5KVA/5000/SLR* | 5.0 | 5000 | ≈ | ≈ | ≈ |
| AC6KVA/6000/SLR* | 6.0 | 6000 | ≈ | ≈ | ≈ |
| AC7.5KVA/7500/SLR* | 7.5 | 7500 | ≈ | ≈ | ≈ |
| AC8KVA/8000/SLR* | 8.0 | 8000 | ≈ | ≈ | ≈ |
| AC9KVA/7650/SLR* | 9.0 | 9000 | ≈ | ≈ | ≈ |
| AC10KVA/1000/SLR* | 10.0 | 10000 | ≈ | ≈ | ≈ |
| AC11KVA/11000/SLR* | 11.0 | 11000 | ≈ | ≈ | ≈ |
| AC12KVA/12000/SLR* | 12.0 | 12000 | ≈ | ≈ | ≈ |
| AC13KVA/13000/SLR* | 13.0 | 13000 | ≈ | ≈ | ≈ |
| AC14KVA/14000/SLR* | 14.0 | 14000 | ≈ | ≈ | ≈ |
| AC15KVA/15000/SLR* | 15.0 | 15000 | ≈ | ≈ | ≈ |
| AC16KVA/16000/SLR* | 16.0 | 16000 | ≈ | ≈ | ≈ |
| AC17.5KVA/17500/SLR* | 17.5 | 17500 | ≈ | ≈ | ≈ |
| AC18KVA/18000/SLR* | 18.0 | 18000 | ≈ | ≈ | ≈ |
| AC19KVA/19000/SLR* | 19.0 | 19000 | ≈ | ≈ | ≈ |
| AC20KVA/20000/SLR* | 20.0 | 20000 | ≈ | ≈ | ≈ |
| AC21KVA/21000/SLR* | 21.0 | 21000 | ≈ | ≈ | ≈ |
| AC22KVA/22000/SLR* | 22.0 | 22000 | ≈ | ≈ | ≈ |
| AC23KVA/23000/SLR* | 23.0 | 23000 | ≈ | ≈ | ≈ |
| AC24KVA/24000/SLR* | 24.0 | 24000 | ≈ | ≈ | ≈ |
| AC25KVA/25000/SLR* | 25.0 | 25000 | ≈ | ≈ | ≈ |
| AC26KVA/26000/SLR* | 26.0 | 26000 | ≈ | ≈ | ≈ |
| AC28KVA/28000/SLR* | 28.0 | 28000 | ≈ | ≈ | ≈ |
| AC30KVA/30000/SLR* | 30.0 | 30000 | ≈ | ≈ | ≈ |
| AC32KVA/32000/SLR* | 32.0 | 32000 | ≈ | ≈ | ≈ |
| AC34KVA/34000/SLR* | 34.0 | 34000 | ≈ | ≈ | ≈ |
| AC36KVA/36000/SLR* | 36.0 | 36000 | ≈ | ≈ | ≈ |
| AC38KVA/38000/SLR* | 38.0 | 38000 | ≈ | ≈ | ≈ |
| AC40KVA/40000/SLR* | 40.0 | 40000 | ≈ | ≈ | ≈ |
| AC42KVA/42000/SLR* | 42.0 | 42000 | ≈ | ≈ | ≈ |
| AC44KVA/44000/SLR* | 44.0 | 44000 | ≈ | ≈ | ≈ |
| AC46KVA/46000/SLR* | 46.0 | 46000 | ≈ | ≈ | ≈ |
| AC48KVA/48000/SLR* | 48.0 | 48000 | ≈ | ≈ | ≈ |
| AC50KVA/50000/SLR* | 50.0 | 50000 | ≈ | ≈ | ≈ |
| AC52KVA/52000/SLR* | 52.0 | 52000 | ≈ | ≈ | ≈ |
| AC54KVA/54000/SLR* | 54.0 | 54000 | ≈ | ≈ | ≈ |
| AC56KVA/56000/SLR* | 56.0 | 56000 | ≈ | ≈ | ≈ |
| AC58KVA/58000/SLR* | 58.0 | 58000 | ≈ | ≈ | ≈ |
| AC60KVA/60000/SLR* | 60.0 | 60000 | ≈ | ≈ | ≈ |

* Denotes the system autonomy i.e. AC1KVA/850/SLR3 = 3Hr Backup Autonomy

≈ Denotes cubicles size/quantity information is available on application

Selection Guide Batteries

Systems with Valve Regulated Lead Acid Batteries

- Compact
- Reliable
- Cost effective
- Maintenance free, 10 year design life batteries
- Low battery voltage disconnect circuit fitted as standard
- Charger temperature compensation fitted as standard

Systems with Vented Nickel Cadmium Batteries

- Extremely robust over a wide temperature range
- Reliable, with a 25 year service life
- Good "through life" costs
- Resistant to electrical and mechanical abuse
- Can be stored in any state of discharge without damage
- Automatic and manual boost circuits fitted as standard

Systems with High Performance Plante Batteries

- 20 year service life
- Reliable
- Retains virtually full capacity throughout design life
- Low battery voltage disconnect circuit fitted as standard
- Charger temperature compensation fitted as standard

AC/NC Range

| System Reference | Inverter Power Rating (kVA) | Inverter Wattage |
|------------------|-----------------------------|------------------|
| AC/NC Series | 1.0 - 25.0 | 500 - 21250 |

AC/HP Range

| System Reference | Inverter Power Rating (kVA) | Inverter Wattage |
|------------------|-----------------------------|------------------|
| AC/HP Series | 1.0 - 25.0 | 500 - 21250 |

This guide provides only an overview of possible system configurations. Contact our central systems technical sales department for full details, including cubicle arrangement. 1, 2 or 3 hour autonomy systems available

Compact AC/AC



Many features normally only associated with larger units are included in the standard specification of the Compact AC/AC static inverter system. The inverter has a rated output of 500VA/400W or 600VA/510W and benefits from 4 independently fused outputs, battery deep discharge protection, automatic temperature compensation and a clear, informative system status display panel. The unit also fully complies with the EN 50171 standard. An output voltage of 230V AC permits any suitable, unmodified mains luminaires to be operated at full output in emergency mode.



Compact AC/AC

- 500 VA or 600 VA static inverter system
- Compact - ideal for smaller installations
- Fully complies with EN 50171
- Four separately fused outputs
- Digital display to clearly indicate system status
- EasiCheck compatible version available

Compact AC/AC



General

| | |
|-----------|--|
| Cubicle | 1.6 mm zinc coated steel panels with powder coat RAL7032 light pebble grey finish. Removable cover retained by screws. Cable entries via removable top gland plate |
| Batteries | Valve regulated lead acid, 10 year design life |

Charger and controls

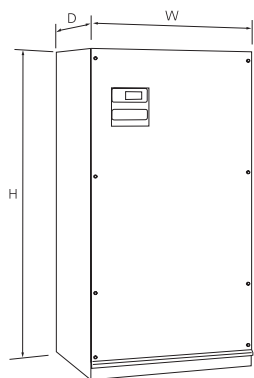
| | |
|---------------------------|---|
| Mains supply | 230V \pm 10% AC single phase supply, 50 Hz |
| Input control | MCB to BS3871 Pt 1, or BS4752 Pt 1 |
| Fusegear | HRC type to BS88 |
| Terminals | DIN-rail mounted near to cable entry |
| Transformer | Double wound with earth screen |
| Rectifier | Full wave controlled thyristor/diode bridge |
| Contactor | Standard contactors comply with requirements of BS5424 |
| Charger | Constant voltage, current limited type with electronic solid state controller. Voltage controlled to within 2% of setting at up to 10% mains supply variations. Full recharge within 24 hours. 80% capacity within 12 hours. Current limit facility |
| Deep discharge protection | Fitted as standard. Automatic shut down of inverter when battery voltage falls below pre-set level, during extended periods of mains supply failure |
| Cables | Compliant with BS6231 |
| Load circuits | 4 independent fused output circuits |
| Monitoring circuits | Terminals provided for connection of remote monitors and controls |
| Temperature compensation | Fitted as standard. Charger voltage is automatically adjusted with reference to ambient temperature to optimise charging and battery life. Pre-set for optimum performance at 20°C |
| Test push button | Simulates mains failure |
| Display panel | Composite fascia with LCD display and LED indicators |
| Alarm warning | Audible alarm fitted internally plus common volt free contacts for remote signalling of a fault condition and terminals for remote alarm unit option |

10

Central Battery Systems AC/AC

Compact AC/AC

Dimensions in mm



H x W x D: 970 x 530 x 400

Inverter

| | |
|---------------------------|--|
| Output voltage | Pre-settable in the range 220-240V AC. Default setting is 230V AC. Voltage tolerance is 2% on loads of 0-100% of system rating |
| Frequency | 50Hz. $\pm 0.1\%$. Waveform: Sinusoidal |
| Voltage regulation | Static 2%, dynamic 6% |
| Isolation | 1kv rms between input and output terminals |
| Total harmonic distortion | Typically 3% or better. Max. 10% |
| Power factor | Will supply loads in the 0.7 lag - 0.7 lead range |
| Overload | 200% for 10 seconds, 125% for 20 minutes without reduction in output voltage |
| Start-up time | Standard 300mS. Soft start |
| Noise level | Effectively silent on both charge and discharge |
| Efficiency | 83% nominal. Typically 82-85% |
| Protection | DC input protection. AC output fuses DC input reverse polarity protection Short circuit protection Pre-charge protection fuse |
| Low voltage shut down | Inverter module automatically shuts down when battery discharges to a pre-set level. Re-set is automatic following the restoration of the mains supply |
| Inhibit | An inhibit switch to control the inverter is fitted on the main PCB in the cubicle |
| Technology | Pulse width modulation with high frequency switching |

Ordering details

| Type | Inverter Output Rating (VA) | Order No. of Hold Off Relay Monitor |
|----------------------|-----------------------------|-------------------------------------|
| Compact AC/AC 500 VA | 500 | AC500VA/M3 |
| Compact AC/AC 600 VA | 600 | AC600VA/M3 |

System Operation

- In mains healthy condition, the system charges the batteries and stores power, ready for emergency operation
- In mains healthy condition, the power to luminaires designated for emergency use is supplied from the normal mains via a by-pass contactor inside the cubicle
- In the event of a mains failure, the system provides emergency power to dedicated mains slave or designated standard mains luminaires, until mains power is restored (or for the rated duration of the system in the event of extended mains failure)
- Output voltage, from the system via the inverter, is 230V AC nominal
- Local change-over switching can be effected using an ACM1 module, controlling single or multiple luminaires (if fed from common switched mains supply)
- Suitable standard mains luminaires* require no modification to operate with the static inverter (unless ACM1 change-over module is integral). All lamps in multi-lamp luminaires will be lit during mains failure, unless separate control gear is provided for individual lamps.
*High inrush LED or compact fluorescent may not be suitable
- Sub-circuit monitoring and hold off relays can be added to the system to energise the emergency luminaires in the event of a localised mains circuit failure, if the ACM1 module is not used

Metering and Display Panel

- Simple and easy to read status display
- LCD meter indicating battery voltage or current reading mode indicated by LED:
 - Volts
 - Amps
- Indication LEDs
 - Power On
 - Battery High/Low Volts
 - Charge Fail
 - Deep Discharge Protection
 - Inverter Running
- Five function buttons:
 - 1 Press to Test
 - 2 Read Current
 - 3 Mute Buzzer
 - 4 Deep Discharge Protection Reset
 - 5



Remote Mounted Options

- Remote Alarm Unit
- Sub Circuit Monitor
- Hold Off Relay Monitor
- ACM1s

Design and Installation Notes

- To ensure the system is suitably rated, list the luminaires to be used, with their characteristics, to ensure the wattage and VA power rating of the inverter is not exceeded
- Using fluorescent luminaires with poor power factor will increase the VA load
- Note - EN 60598-2-22 prohibits the use of glow starters in fluorescent luminaires used for emergency lighting.
- A full set of installation, operating and maintenance instructions is supplied with each system to assist the installer carry out the work efficiently and safely
- Adequate ventilation has been provided in the cubicle to allow a safe dispersal of gases but it is important to remember that when choosing where to locate systems, particularly those with large batteries, attention must be paid to ensuring a build-up of potentially explosive gases is avoided
- Please refer to the system design section for details of ventilation calculations
- Warning notices should be displayed on entry doors to battery rooms:

BATTERY ROOM. EXTINGUISH ALL NAKED LIGHTS BEFORE ENTERING. NO SMOKING





Central Battery Systems AC/AC

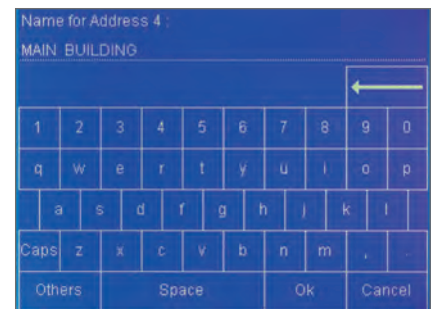
Easichack

| | |
|--|-----|
| EasiCheck 1.5 Slave | 405 |
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| EasiCheck EC140/1 – Monitoring module with control input | 412 |
| ACM1- Changeover module | 413 |

Central Battery Systems AC/AC

EasiCheck 1.5 Slave

EasiCheck 1.5 Slave



EasiCheck 1.5 Slave is a purpose designed emergency lighting testing system for central battery AC/AC systems, providing a simple to operate, labour saving alternative to manual testing. Avoiding the need for separate secure manual test keys and the need to manually inspect fittings during and after tests, EasiCheck 1.5 automatically tests the emergency lighting luminaires and central battery system at a user controlled, convenient, non-disruptive time, then gathers the test results and displays them in a simple to understand manner at a central control panel. EasiCheck 1.5 has been designed to ensure quick and simple installation, ease of operation and simple system re-configuration. System extensions and changes can easily be incorporated without the need for specialist software or re-programming.

Features:

- Reduces time and cost of testing and maintenance as required by law
- Testing in compliance with EN50172
- Easy to use touch screen panel
- 250 luminaire capacity per panel
- Stand alone or network up to 63 panels
- Event logs and test reports can be downloaded or printed
- Selection of central monitoring software (text or graphic)

IP20



EasiCheck 1.5 Slave



EasiCheck 1.5 Slave

The main element of the EC1002TS is a large (120mm x 90mm visible area) touch screen display, which provides comprehensive user information and also acts as a multifunctional keypad.

The EC1002TS touch screen display automatically reconfigures to suit the selected function, for example, if the change device text menu option is selected, the touch screen is automatically formatted as a full QWERTY keyboard to enable fast and simple text entry.

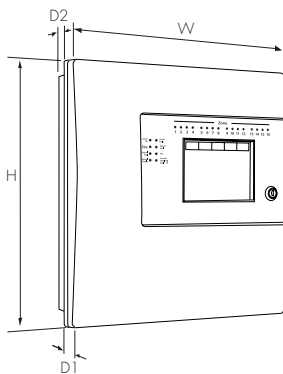
The use of the touch screen display enables a wide range of user and engineering facilities to be incorporated into the panel whilst still offering simple operation. There are a number of system status LEDs (power on, emergency mode, general fault, system fault, comms fault, luminaire fault, test in progress, disable luminaire, fault indication) designed to give clear status information to non-technical users.

Panel is used to facilitate following functions:

- Set up test types and times
- Initiate manual tests
- Display real time single luminaire status
- View fault log/panel configuration
- Download/upload fault log and panel configuration
- Re-configure luminaire text locations for ease of installation and commissioning

10

Dimensions



H: 375 mm
W: 357 mm
D1: 50 mm
D2: 45 mm

An EasiCheck interface module is fitted into all suitable dedicated emergency luminaires and mains luminaires converted for emergency operation.

- Each module shall be addressed using a hand held programmer during installation with a unique address number in the range 0-250
- Every luminaire is connected to a 2 core data BUS cable in a loop configuration, which is linked back to the control panel. A single panel can accommodate up to 250 luminaires
- It is important to maintain accurate 'as fitted' drawings to identify the respective luminaire and its assigned address/location
- Text information can be allocated to each system component
- The panel can then be programmed to carry out automatic test sequences according to EN 50172 or any regional testing regime. Testing can also be initiated manually. All test data is sent back and stored at the control panel. Additionally, the system carries out continuous real time monitoring of all connected devices
- In the event of a fault, the precise location of the device is displayed at the control panel along with accurate details of the nature of the fault, time/date stamp and an alarm is raised
- The system can be enhanced by networking up to 63 panels. Central PC monitoring can also be incorporated

Ordering details

| Type | Order No. |
|--|------------|
| EasiCheck1.5 Slave control panel | EC1002TS |
| EasiCheck1.5 Slave control panel (networked) | EC1002TSNC |
| Luminaire interface module with changeover relay | EC141 |
| Luminaire changeover relay (non-monitoring) | EC140 |
| Luminaire interface module | EC125 |
| Hand-held programmer | EC160 |
| Printer | EC170EC2 |
| LON/IP Echelon router | EC400 |
| Fibre optic router | CFSFL01 |
| Network booster | EC460 |

Central Battery Systems AC/AC

EasiCheck EC125



EasiCheck EC125



EasiCheck EC125 SVAEL Addressable Test Interface

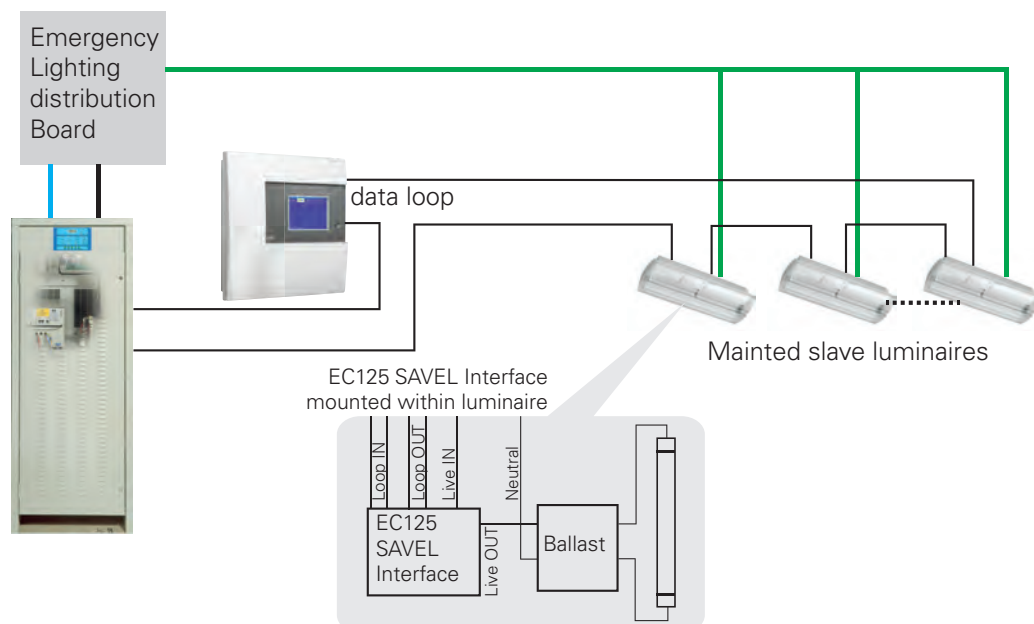
SVAEL interface is fitted within every emergency luminaire on the emergency lighting system to monitor and report the AC current drawn by the luminaire to the EC1002TS panel along with its address/location. In the event of a luminaire reporting incorrect power consumption, the EC1002TS panel displays a fault with audible warning and location of faulty luminaire.

- Compact Design
- can be addressed in the range 0 to 255
- Works on a wide range of luminaires
- Networkable with 32 panels
- Central PC monitoring
- User selectable measuring range (via link)

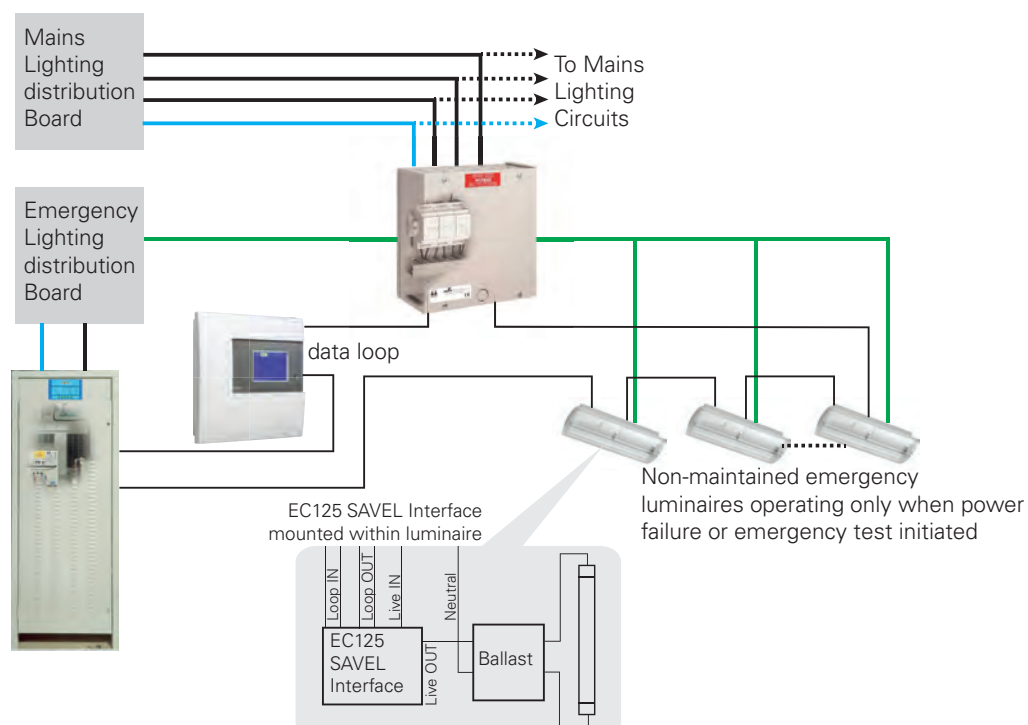
| | |
|------------------------------|---|
| Enclosure Material | Polycarbonate |
| Type of mounting | Within mains / slave luminaire |
| Dimensions in mm (L x H x D) | 54 x 38 x 24 |
| Weight | 0.1 kg |
| Communications | Easichack Data Loop |
| Connections | Max. 1.5 mm ² |
| Measurement | AC current |
| Monitoring range | 34 – 250 mA (no link) 250 – 800 mA (link fitted) |
| Degree of protection | IP20 |
| Temperature Range | 0 °C to +40 °C |

Ordering details

| Scope of supply | Order No. |
|----------------------------------|-----------|
| Easichack test interface (Slave) | EC125 |



10



Central Battery Systems AC/AC

EasiCheck EC140 – Module with control input

IP20



EASI-CHECK

EasiCheck EC140 Changeover relay



EC140ENC remote enclosure



Remote enclosure dimensions in mm
(L x W x H) 280 x 102 x 53,
0.7 mm steel painted RAL 9016,
Degree of protection: IP20

EasiCheck EC140 Addressable Changeover Module

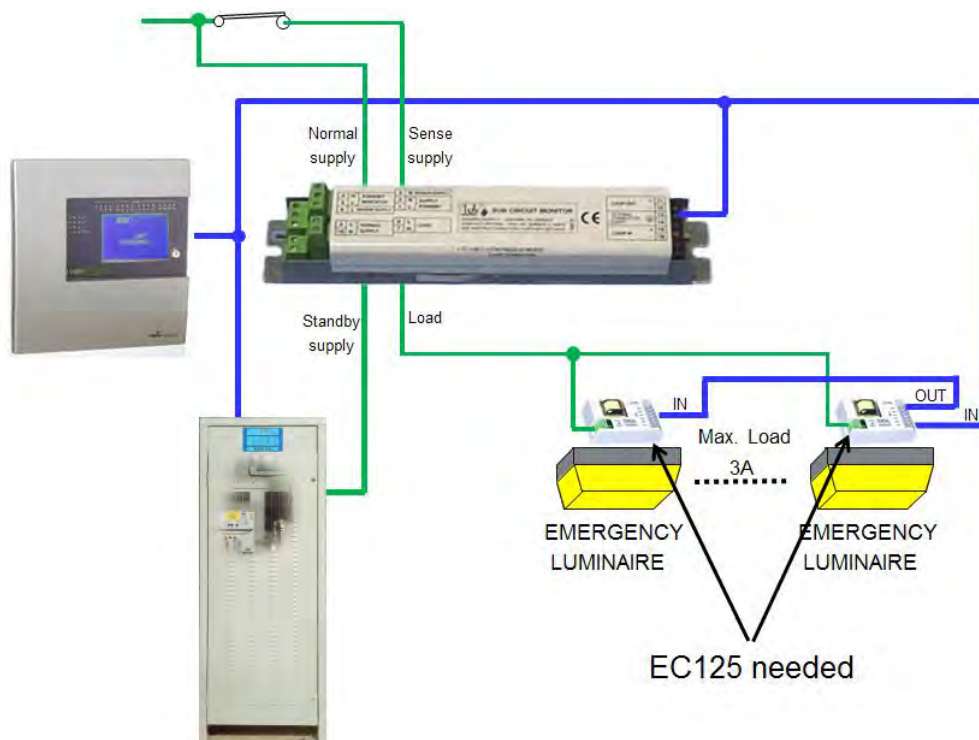
EC140 addressable changeover relay can be used to supply several luminaires for emergency operation fed from a static inverter central power supply. The changeover relay automatically illuminates the emergency luminaire in the event of power failure or when a test is in operation. EC140 addressable changeover relay illuminates the emergency luminaires when a test is in progress enabling a SVAEL monitoring device within the luminaire to report the luminaire status back to the EC1002 panel to display luminaires condition indicating a fault with audible warning and location of faulty luminaires.

- Compact Design
- can be addressed in the range 0 to 255
- Works on a wide range of luminaires
- Networkable with 64 panels
- Central PC monitoring

| | |
|------------------------------|--|
| Enclosure Material | Galvanised steel |
| Type of mounting | Within mains / slave luminaire or remote enclosure |
| Dimensions in mm (L x H x D) | 220 x 34 x 40 |
| Weight | 0.3 kg |
| Communications | Easichack Data Loop |
| Connections | Max. 2.5 mm ² (2 x 2.5 mm ² when mounted within FMENCA) |
| Monitoring range | No monitoring (use EC 141) |
| Degree of protection | IP20 |
| Temperature Range | 0 °C to +50 °C |

Ordering details

| Scope of supply | Order No. |
|-----------------------------------|-----------|
| Easichack test interface (Slave) | EC140 |
| EC140 mounted in remote enclosure | EC140ENC |





EasiCheck EC141 Addressable Changeover Module

EC141 interface can be fitted within mains luminaire to convert luminaire to emergency operation with addressable testing, alternatively mounted within a remote enclosure supplying a standard mains luminaire. EC141 monitors and report the AC current drawn by the luminaire to the control panel along with its address/location. In the event of a luminaire reporting incorrect power consumption, the EC1002 panel displays a fault with audible warning and location of a faulty luminaire.

- Compact Design
- can be addressed in the range 0 to 255
- Works on a wide range of luminaires
- Networkable with 64 panels
- Central PC monitoring
- User selectable measuring range (via link)

EasiCheck EC141



EC140ENC remote enclosure



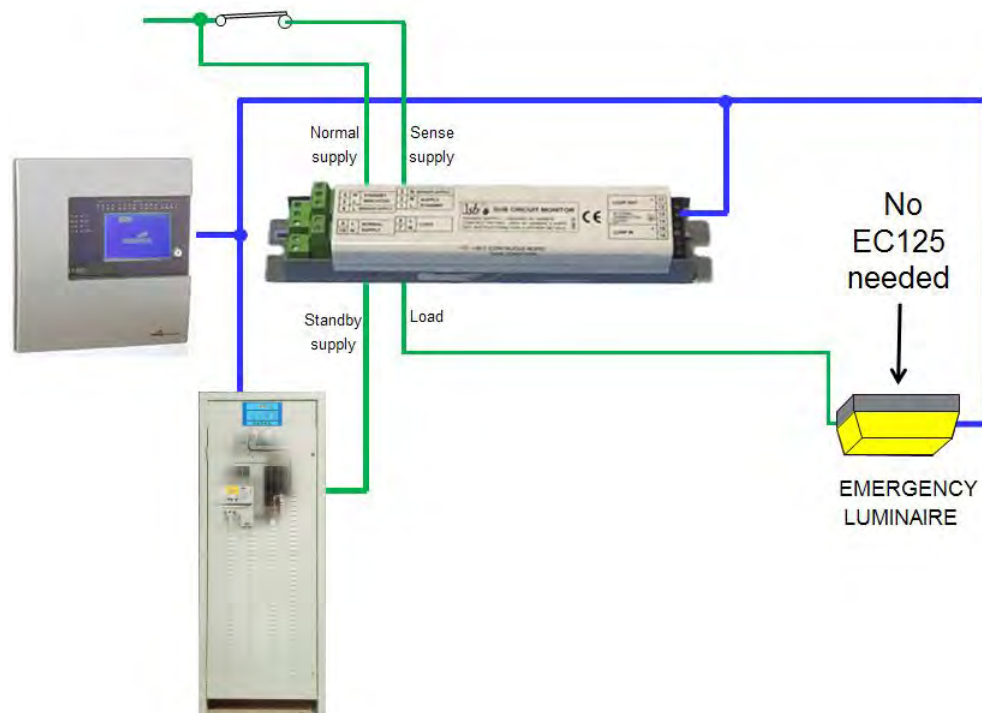
Remote enclosure dimensions in mm
(L x W x H) 280 x 102 x 53,
0.7 mm steel painted RAL 9016,
Degree of protection: IP20

| | |
|------------------------------|--|
| Enclosure Material | Galvanised steel |
| Type of mounting | Within mains / slave luminaire or remote enclosure |
| Dimensions in mm (L x H x D) | 220 x 34 x 40 |
| Weight | 0.3 kg |
| Communications | Easichack Data Loop |
| Connections | Max. 2.5 mm ² (2 x 2.5 mm ² when mounted within FMENCA) |
| Measurement | AC current |
| Monitoring range | 0- 250 mA (no link) 250- 800 mA (link fitted) |
| Degree of protection | IP20 |
| Temperature Range | 0 °C to +50 °C |

10

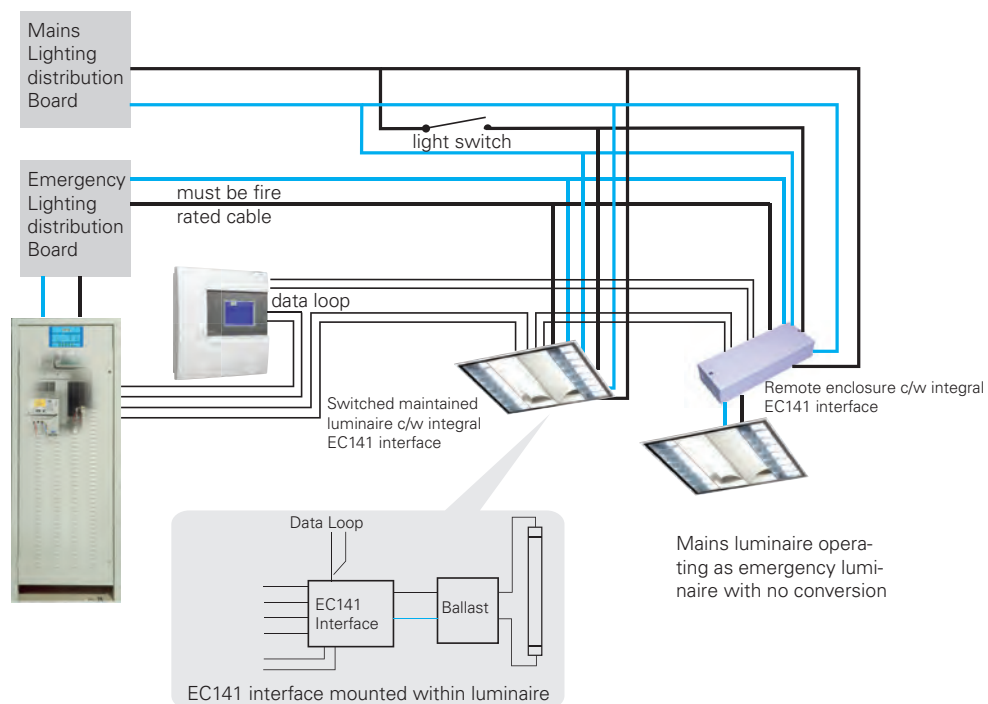
Ordering details

| Scope of supply | Order No. |
|-----------------------------------|-----------|
| Easichack test interface (Slave) | EC141 |
| EC141 mounted in remote enclosure | EC141ENC |



Central Battery Systems AC/AC

EasiCheck EC141 – Monitoring module with control input





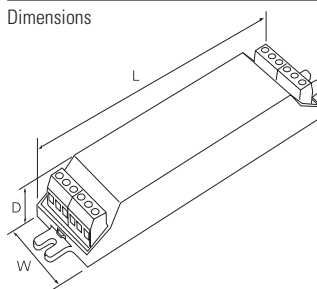
ACM1 - Changeover module

- Utilise mains luminaires as emergency lighting
- Controls up to 750VA
- Simple single or multiple luminaire control
- Rated to switch 480V
- Auxiliary contact for inhibiting dimming control
- Operates luminaire at full lumen output
- Ultra compact profile for ease of integration or remote mounting
- Heavy duty terminals

ACM1 - Static Inverter Conversions



Dimensions

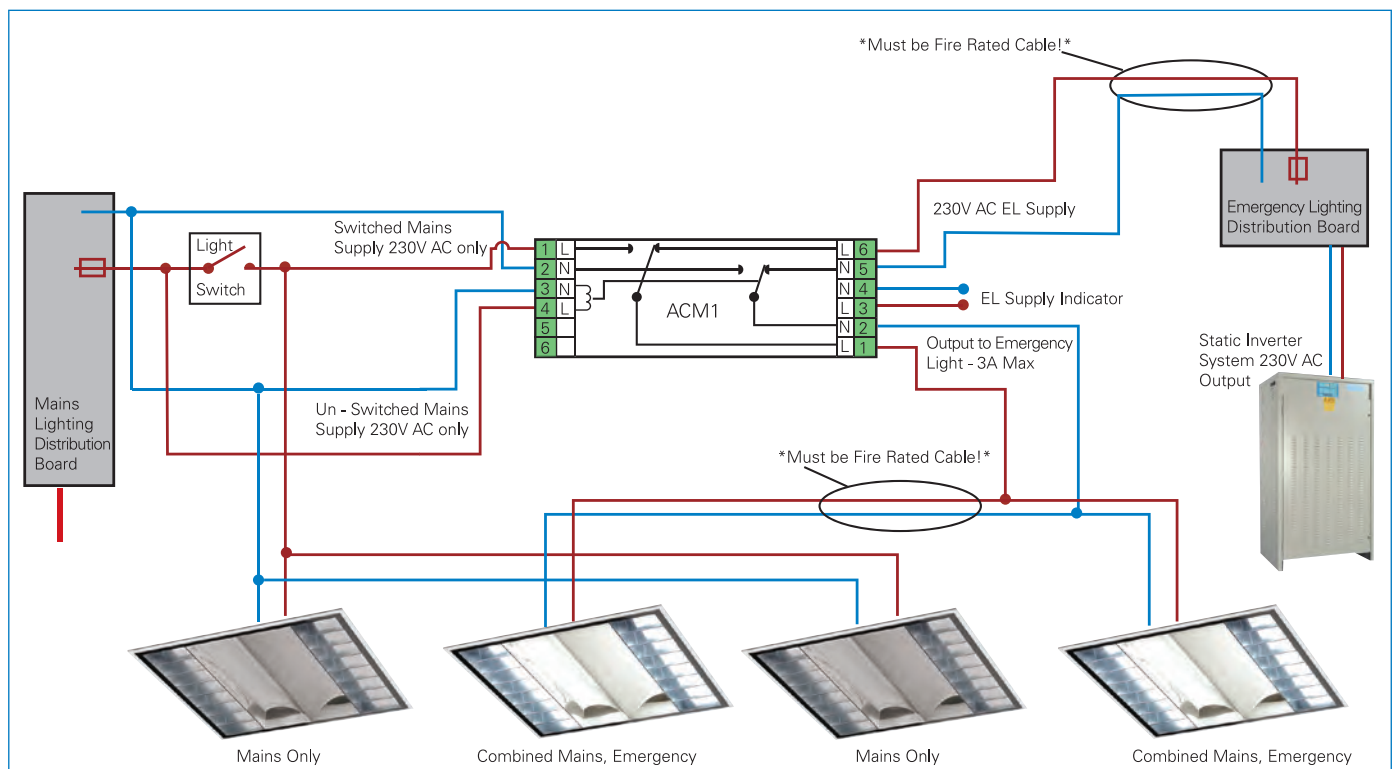
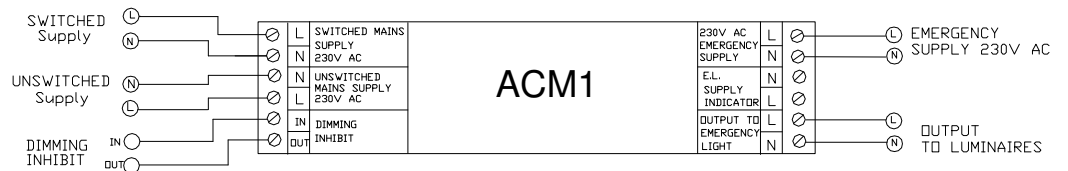


| Description | L (mm) | W (mm) | D (mm) |
|-------------|--------|--------|--------|
| ACM1 | 158 | 38 | 33 |
| ACM1ENC | 285 | 100 | 55 |

| | |
|------------------------------|---|
| Rated voltage ranges | 230 V, 50 Hz |
| Controls of | up to 750 VA |
| Degree of protection | IP20 |
| Dimensions in mm (H x L x W) | 33 x 158 x 38 |
| Housing material / colour | Module case- polycarbonate, white finish Remote enclosure- steel, white finish |
| Weight | ACM1: 0.30 kg ACM1ENC: 0.90 kg |
| Auxiliary contact | 1 A at 240 V DC |

Ordering details

| Description | Order No. |
|------------------------------------|-----------|
| Active Control Module (max 750 VA) | ACM1 |
| ACM1 mounted in remote enclosure | ACM1ENC |



Typical ACM1 schematic diagram





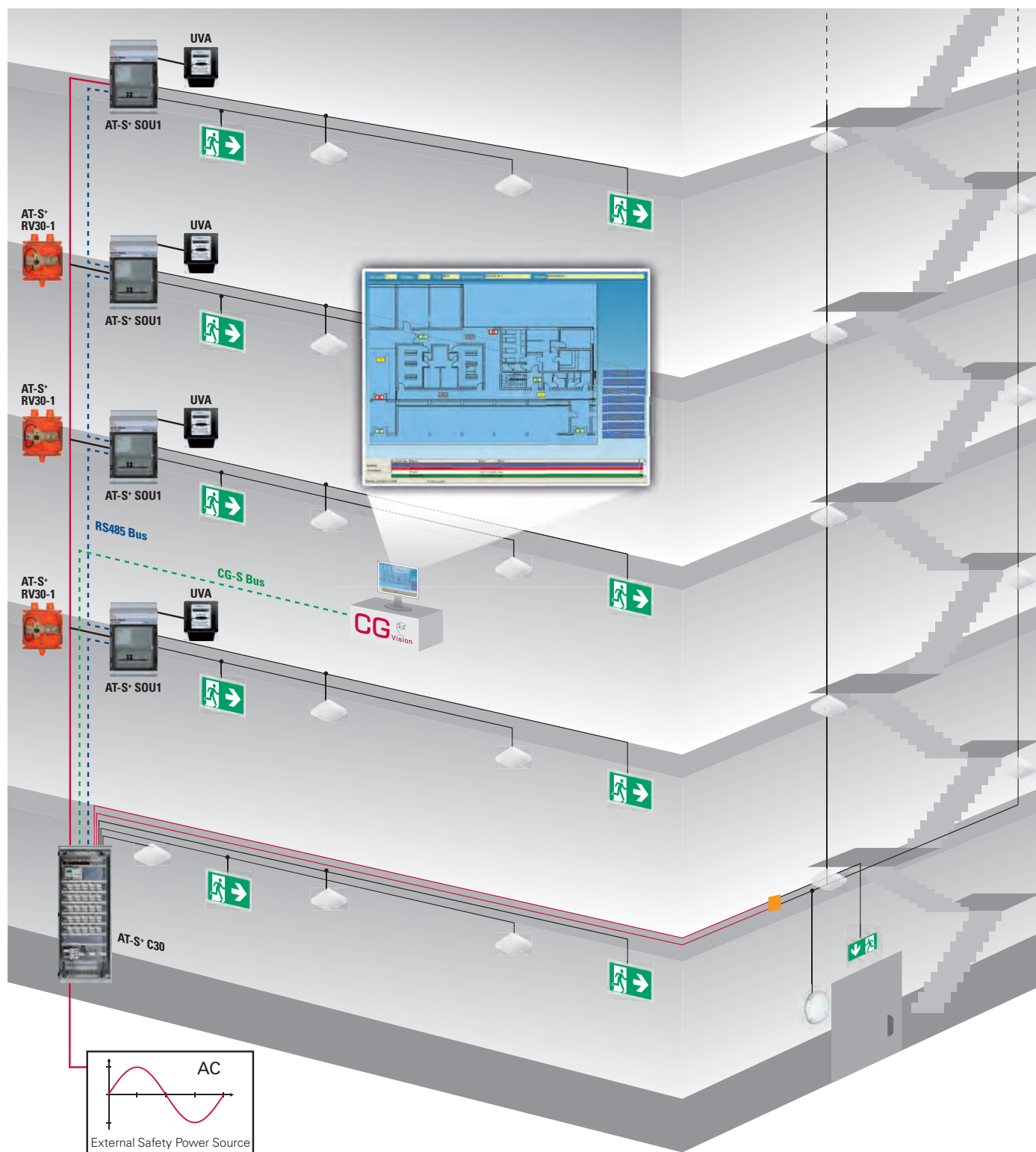
Central Battery Systems AC/AC

AT-S+

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Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Fire compartment-specific installation example



AT-S+ SOU1

Distribution box for area by area installation allows electricity costs allocation per rental area



Reliable STAR technology for AC safety power sources

AT-S+ offers all the known benefits of our STAR technology, now also for AC safety power sources. It is the perfect symbiosis of CEWA GUARD and STAR technology.

The Automatic Test System AT-S+ individually monitors each CG-S luminaire (up to 20 per circuit), and it does all this using the power supply cable alone.

The new STAR+ technology allows the switching mode of every connected V-CG-S luminaire to be freely programmed within a 50 or 60 Hz supply network using the system's controller.

This means that maintained light, switched maintained light and non-maintained light modes can be combined in one and the same circuit – there is no need for separate data cables!

The control module with its nonvolatile program memory and large graphic display automatically monitors and controls all components of the test system as well as emergency luminaires connected to it. Faults occurring are shown by the display, forwarded via freely configurable signal contacts and saved to an inspection book.

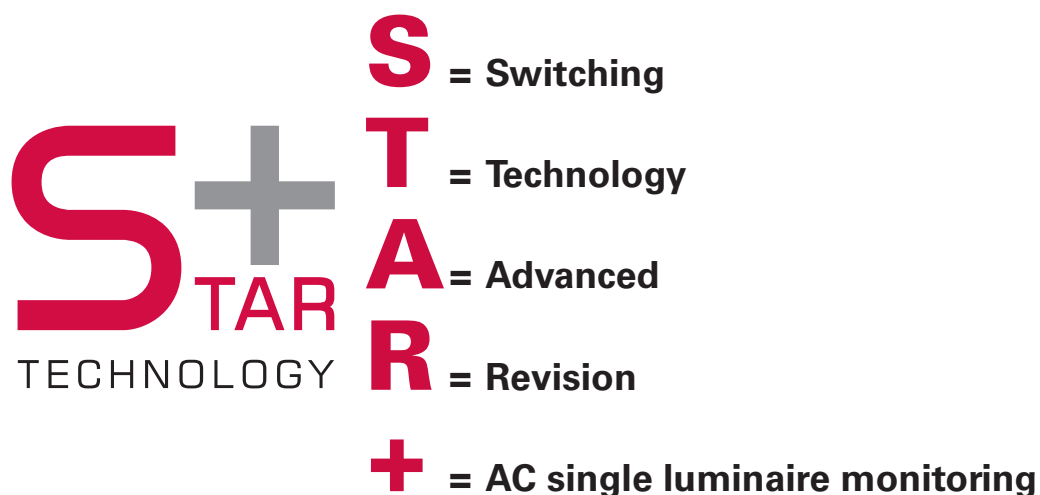
An integral search function automatically detects all system-dependent luminaires and modules that are assigned an address during installation. A central monitoring device can be connected via an interface.

Features:

- Shortened inspection effort due to STAR+ technology; automatic function monitoring of up to 20 luminaires per circuit
- Reduced installation expenditures by STAR+ technology; freely programmable mixed operation of the switching modes per luminaire in one circuit
- Less installation costs as no data line is required to the luminaires
- Automatic luminaire search function
- Plain text display on the control module down to the last luminaire
- Flexible data storage for test log and system configuration with memory card
- 30 minutes functionality in compliance with model directive for fire protection requirements on electrical wiring systems (MLAR model conduit systems directive), version 11/2005, tested by national material testing office

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – What is STAR+?



Identify STAR+ market requirements and consistently implement them!

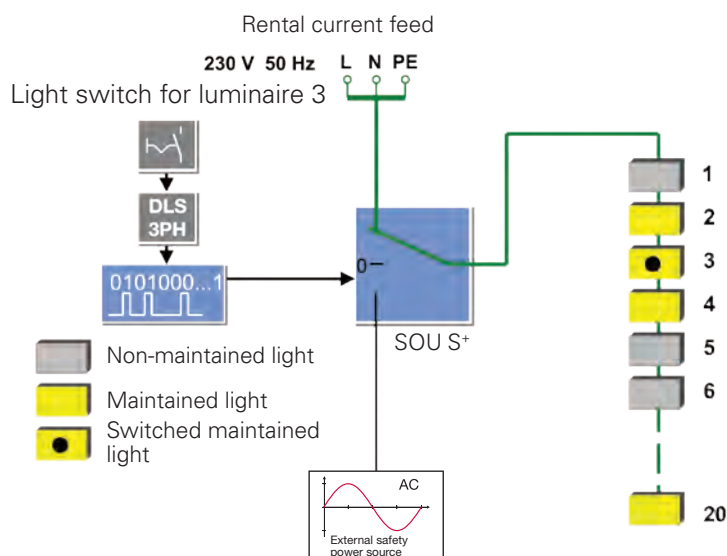
The continuing development of the CEWA GUARD monitoring system has led to the creation of the

**Switching
Technology
Advanced
Revision,**

or **STAR** for short. This **CG-STAR** technology allows different switching modes to be implemented in one and the same circuit, and the switching mode of each individual luminaire can be re-programmed at any time.

As a result, this technology offers not just the proven CEWA Guard safety when it comes to operating a safety lighting system, it also gives planners the confidence and flexibility of knowing that the system can respond and adapt at any time to any changes that are made to a building and its use.

We have united both forms of technology to STAR+ to take advantage of CEWA GUARD and STAR technology in projects in which batteries as power sources for safety services are not needed, but where generators, dual systems (secondary power supply) or central converter systems are used. This now gives you a highly flexible test system with all the familiar benefits.



Operation of the STAR+ technology

Your Advantages:

The number of outgoing circuits needed can be sharply reduced, since continuously operating, stand-by and switchable permanent lighting can be realised in one common circuit.

This allows the use of shorter cable distances, reduces installation costs and minimises the effects of burning materials. Any mode of operation can be assigned at a later date – without encroachment in the lighting installation. This enables simple project planning without having to take all possible types of operation into account.

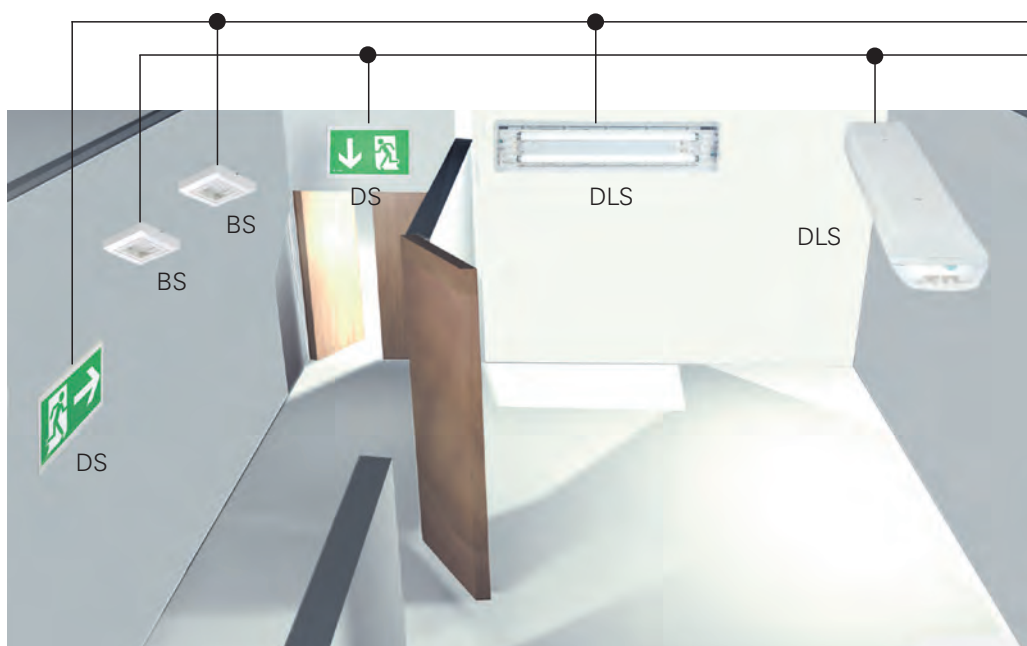
With symbiosis of CEWA GUARD technology and the patented STAR technology to STAR+ technology, no supplementary data line to the luminaires is needed even with use of an AC power source for safety services.



Conventional Installation:

- Maintained light 1 (DS)
- Non-maintained light 1 (BS)
- Non-maintained light 2 (BS)
- Maintained light 2 (DS)
- Switched maintained light 1 (DLS)
- Switched maintained light 2 (DLS)

- Each type of switching mode requires two circuits
- Only one type of switching mode is possible per circuit
- Any later modifications involve a large amount of work and expense



AT-S+ Installation with STAR+ Technology:

- All types of switching modes
- All types of switching modes

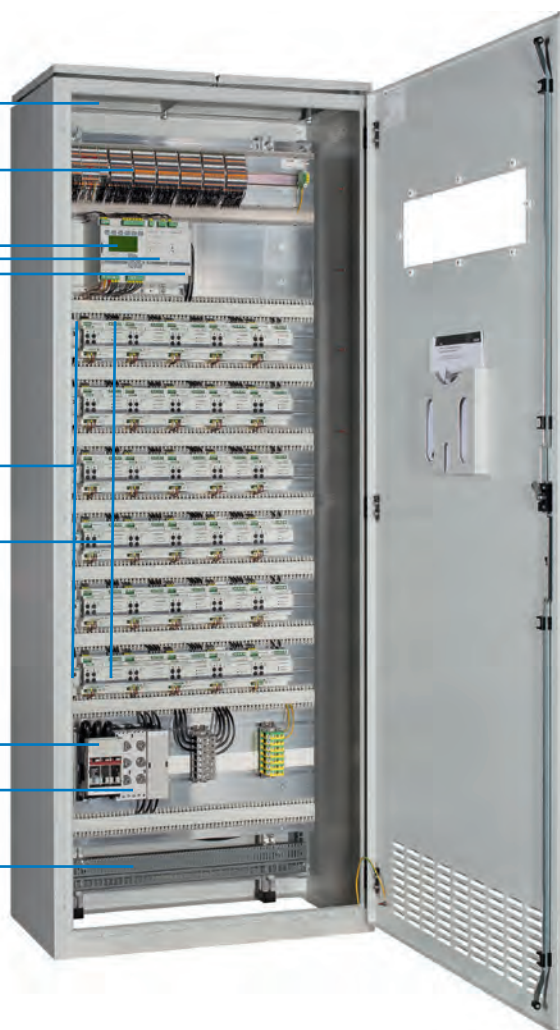
- Only two outgoing circuits for all types of switching modes
- Maintained light, non-maintained light and switched maintained light are possible in one common circuit
- Later circuit modifications do not pose any problems

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Strong in detail

AT-S+ cabinet

- Cable infeed from above
- Triple deck tension spring installation terminal with neutral wire disconnect terminal
- Control unit CU S+
- DC/DC converter.2
- AC module
- Fuse circuit breaker D02 25 A per field
- Circuit switching modules SU S+ 2 x 6 A
- Fuse circuit breaker
- 6-fold mains distribution box (optional)
- Cable infeed from below



10

Large connection compartment for convenient wiring

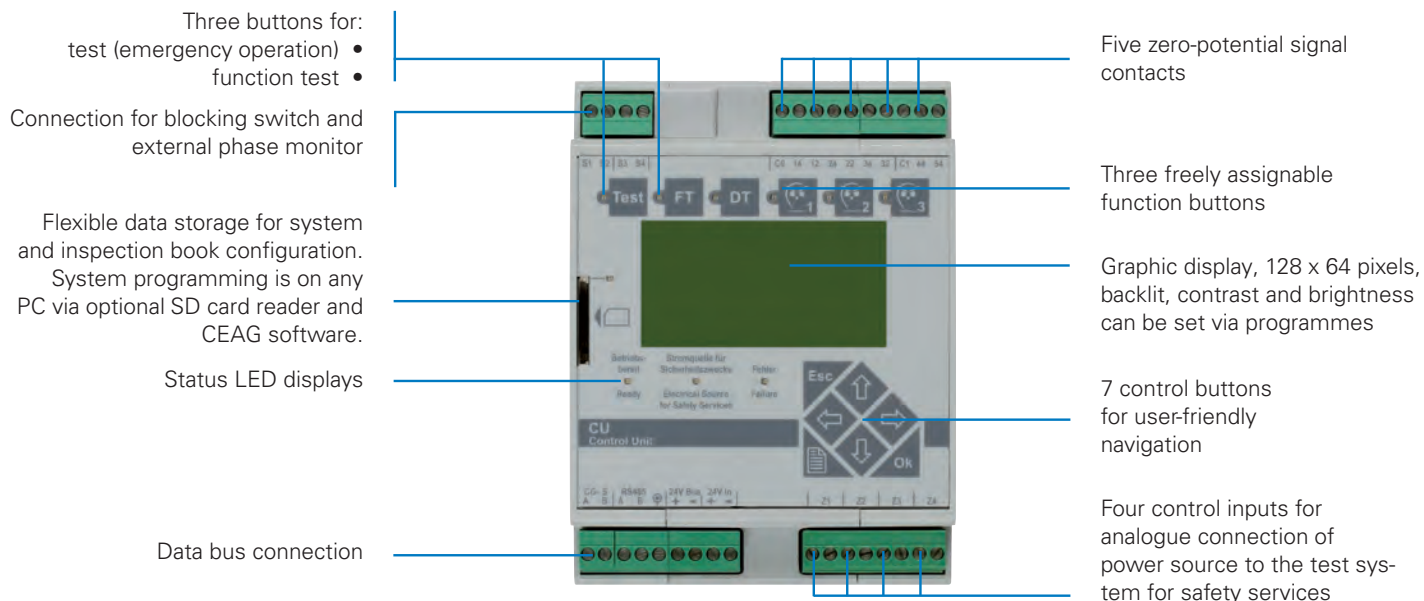
All connections on triple deck installation terminals in the upper part of the central unit.

The control unit, DC/DC converter and the AC module are wired at terminal as standard.

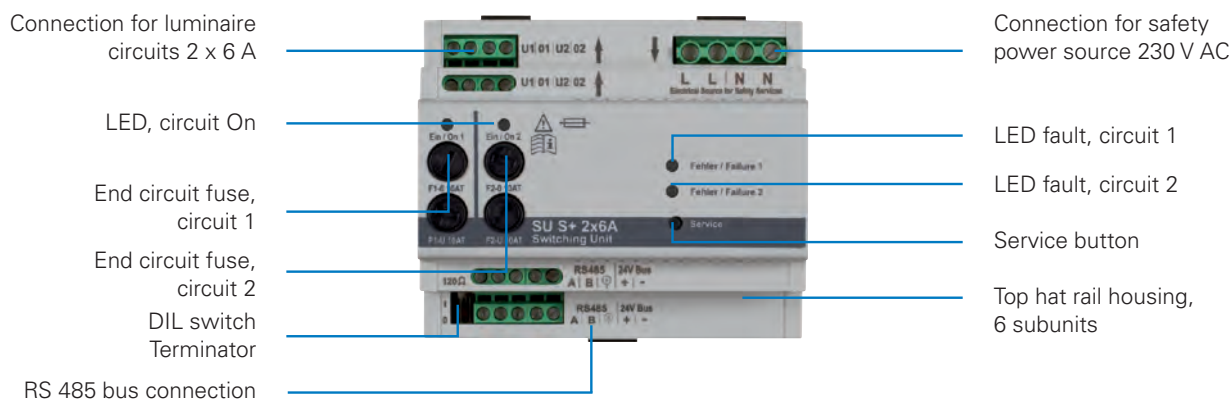
Wiring of the SU-S+ modules at terminals is optional.



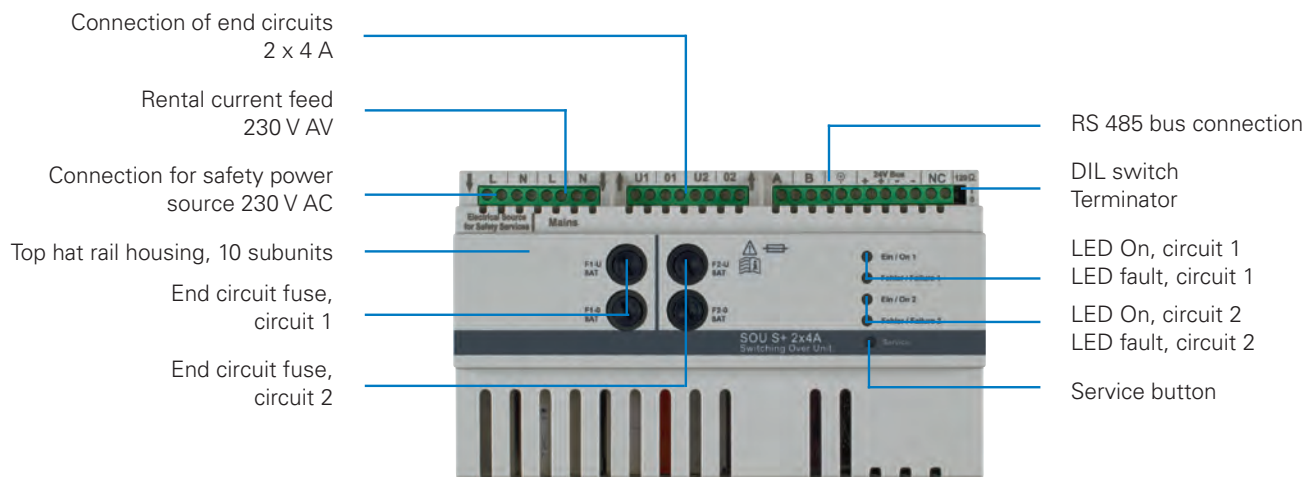
Freely programmable control unit



Switching unit SU S+ 2 x 6 A



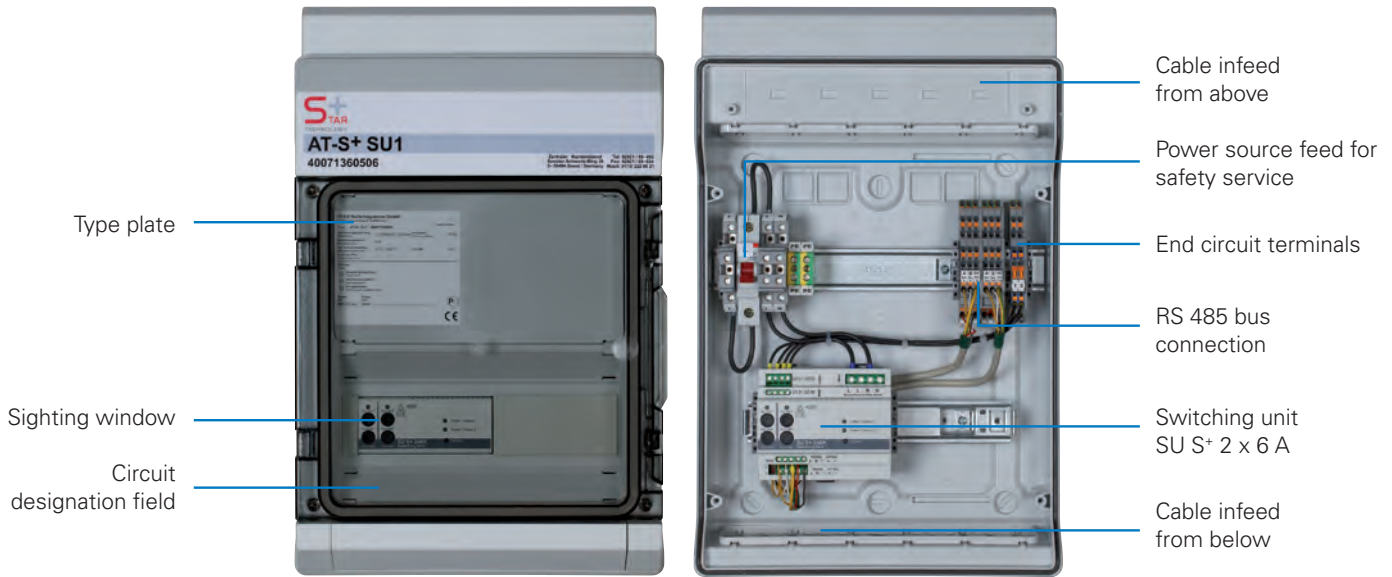
Switching over unit SOU S+ 2 x 4 A



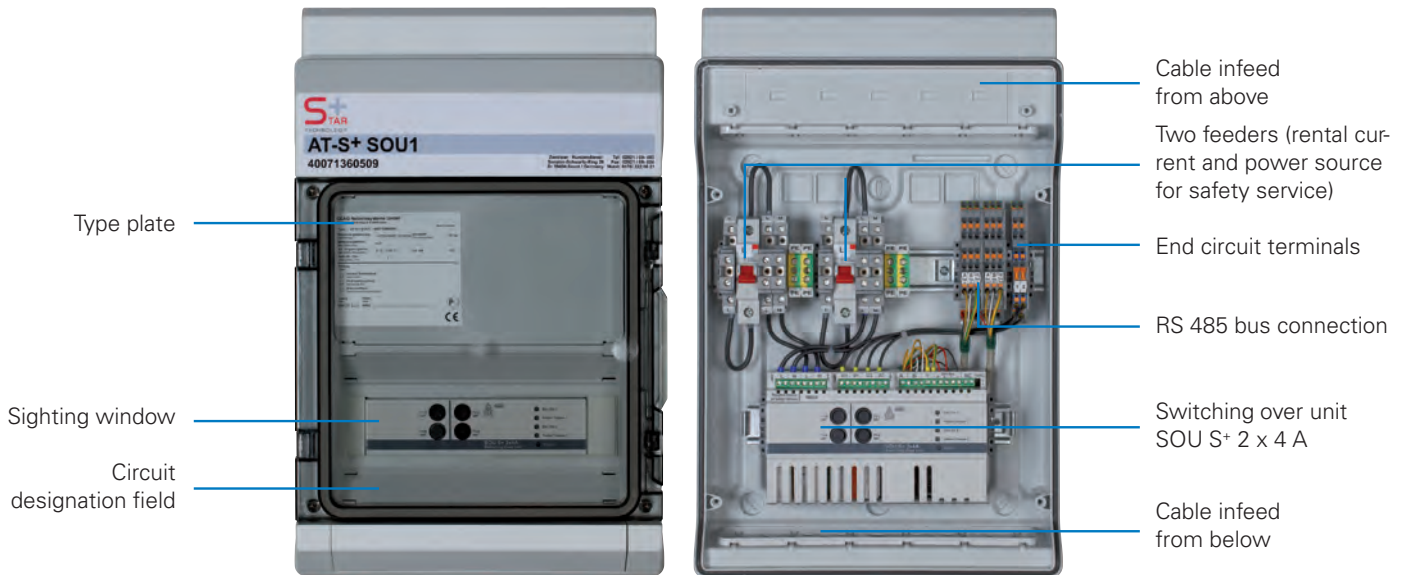
Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Distribution box SU1 and SOU1

AT-S+ SU1



AT-S+ SOU1

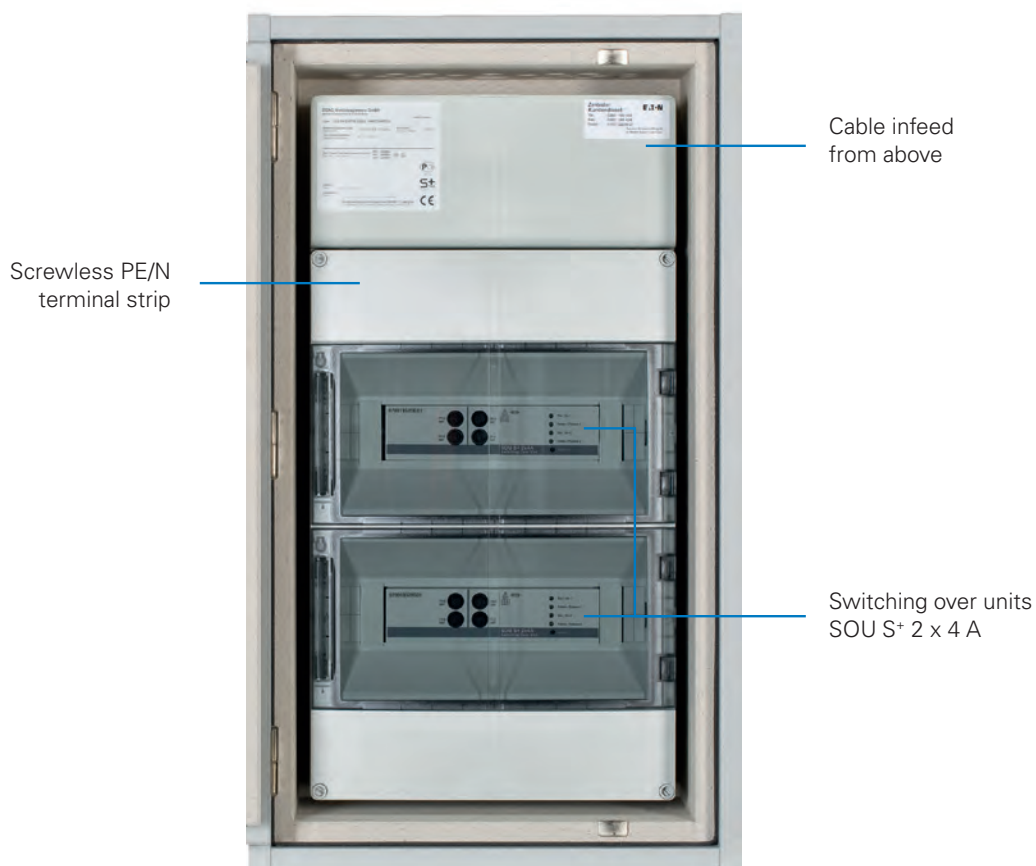


AT-S+ ESF30 SU2



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AT-S+ ESF30 SOU2



Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Substations with functional integrity of 30 minutes

10

Safe operation under the most extreme environmental conditions

There are different types of sub-distributors available for compliance with the requirements on functional integrity of MLAR 11/2005.



AT-S* ESF30 C10-P



Sub-distributor in sheet steel housing

In accordance with the model guideline on fire protection requirements pertaining to wire systems (MLAR specimen guideline on wire systems), version 11/2005, verified by a National Material Testing Office.

Approved by the Deutsches Institut für Bautechnik (DIBT- German Institute for Civil Engineering) as an electrical distributor with functional integrity, including electrical equipment and technical air ventilation with approval number: Z-86-2-1.



Electric distributor with functional integrity

Experimental design for application as an electrical distributor with functional integrity. The functioning of all the installed electronic components was tested in a fire test.



AT-S+ ESF30 SOU2

Sub-distributor in Priodec housing

In accordance with the model guideline on fire protection requirements pertaining to wire systems (MLAR specimen guideline on wire systems), version 11/2005, verified by a National Material Testing Office.

Approved by the Deutsches Institut für Bautechnik (DIBT- German Institute for Civil Engineering) as an empty enclosure for fire protection with a fire resistance rating of minimum 30 minutes in case of external fire exposure, approval number of the empty enclosure: Z-86.1-46

Functional integrity exceeding 30 minutes is certified in an expert opinion, based on a fire test.



10



Please scan the following QR code for direct access:



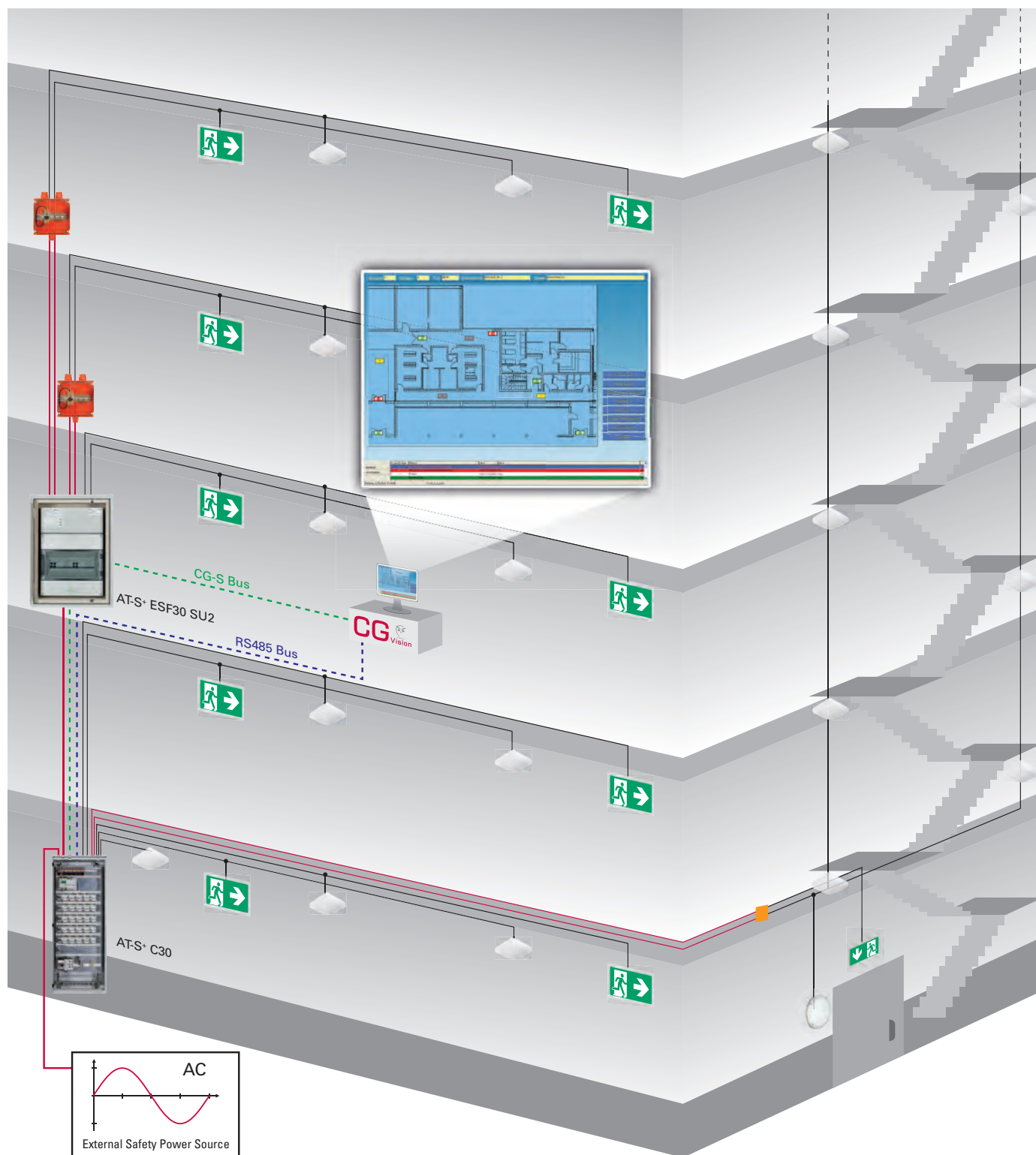
Fire test in a video documentation

Please watch the video documentation of the fire test of the types of enclosures presented here:

<http://youtu.be/dk8qieMSiTI>

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Across fire compartments-specific installation example



AT-S+ ESF30 SU2

Distribution box for across fire compartments-specific installation

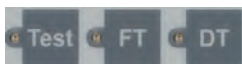


Controle module

A freely programmable control module with non-volatile program memory and graphic display monitors and controls the test system. All functions such as mains/emergency light switching of the devices and the emergency luminaires are tested automatically. Any faults that occur are signalled immediately. An interface enables a central monitoring facility to be connected.

In the event of a short circuit or open circuit in current loops, differential monitors immediately power on the system (maintained light) or put the system in readiness.

- Non-volatile memory
- Automatic luminaire search function
- Individual luminaire monitoring
- Automatic DLS/TLS search function
- Selective manual reset/circuit
- Selective emergency light/circuit
- Password function
- Final circuit fuse monitoring
- Control module with multi-master mode M³



Sealed keypad with 2 keys for:

- Test (mains failure)
- Function test start / cancel (Key DT without function)



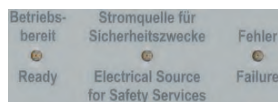
3 freely assignable function keys for:

- System disable/enable
- Manual reset
- Cancel function test
- Show fault list
- Maintained light off/on
- Power on complete safety lighting system (continuity lighting)
- Mains failure simulation UV-A (emergency operation)



7 control keys

for user-friendly navigation

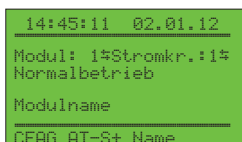


LED indicators for:

- Ready
- Electrical Source for Safety Services
- Failure

Graphic display:

128 x 64 pixels, backlit, program adjustable contrast and brightness.



Displays include:

- Date/Time
- Power source for safety services ready for operation
- Infeed of safety lighting from power source for safety services
- Power source for safety services faulty
- Manual reset
- Test mode
- Delay-time on mains return (remaining time in min.)
- Luminaire failure with location label
- UV-AV failure (location specification)
- Failure/programming information

Connections

• Connection for disable switch:

24V control loops for blocking the installation during factory shutdowns with differential loop monitoring for short-circuit and open circuit detection. Differential monitoring: Short-circuit or open circuit result in readiness for operation of the system.

• Connection for phase monitor:

24V current loop for requesting emergency lighting using differential loop monitoring for the detection of short-circuit and open circuits. Differential monitoring: Short-circuit or open circuit result in immediate power on (maintained light) of the system.

• Connection for zero-potential signal contacts and buzzers:

Connection for zero-potential signal contacts, 24 V 0.5 A:

3 relays with common potential, 1 x switching contact each,

One or several from 11 different messages can be assigned to each zero-potential contact. Freely programmable, DIN VDE specification can be called up at any time as a pre-setting.

2 relays with common potential, 1 x open contact each with fixed assignment.

• Connection for analog inputs:

4 of freely assignable 24 V analog inputs, switch function can be programmed negated and non-negated, e.g. for start / cancel function test, disable / enable system, manual reset, maintained light on / off, power on safety lighting as continuity lighting.

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Components and options



| | |
|--------------|--|
| Display | 128 x 64 pixel graphic display, program adjustable contrast |
| Illumination | backlighting, program adjustable brightness |
| Keypad | sealed, with 6 function and 7 control keys |
| Readout | Infeed of safety lighting from power source for safety services Power source for safety services ready for operation AC isolation fault External fan fault Luminaire failure with location label Manual reset Delay-time on mains return UV-AV failure (location specification) Test mode Date/Time Failure information Programming information |
| Status | – Ready – Electrical Source for Safety Services – Failure |

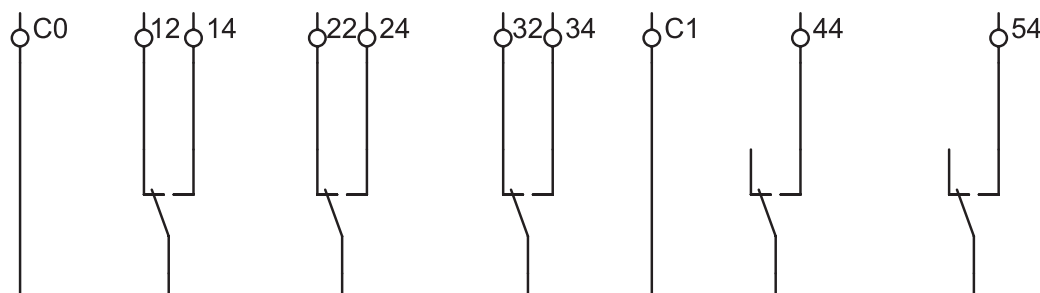
Potential-free signal contacts, buzzer

3 freely configurable relays with common potential, 1 x switching contact each, 2 relays with fixed assignment and common potential, 1 x open contact each, 24 V 0.5 A; buzzer. Freely programmable, DIN VDE specification can be called up at any time as a pre-setting.

Default setting AT-S+

| Designation | Relay 1 C0/14/12 | Relay 2 C0/24/22 | Relay 3 C0/34/32 | Relay 4 C1/44 | Relay 5 C1/54 | Buzzer |
|-----------------------|---------------------|---------------------|---------------------|----------------------------|------------------|--------|
| Ready for operation | | X | | | | |
| Mains failure S3/S4 | X | | | | | |
| Mains failure DLS/3PH | X | | | | | |
| Ext. source error | X | | | | | |
| Circuit fault | X | | | | | |
| Luminaire fault | X | | | | | |
| Device fault | X | | | | | |
| Ext. source active | | | X | | | |
| ISO error | X | | | | | |
| Function test | | | | X (permanently configured) | | |
| Invert contact | | X | | | | |

Permanently configured for control of a technical cabinet ventilation. Default setting >40°C ON < 35°C OFF.



Ordering details

| Type | Model | Order No. |
|------------------------------|----------------|----------------|
| Control module CU-S+ with SD | Plug-in module | 4 0071 360 371 |

SD card



SD card reader



Secure-Digital-Card

Flexible data storage for system and log book configuration, e.g. of the mandatory archiving of log book information for a minimum of 4 years.

The system can also be programmed at any PC using optional SD-card reader and CEAG software. Texts can also be entered on the control module in the switch cabinet.

Storage of:

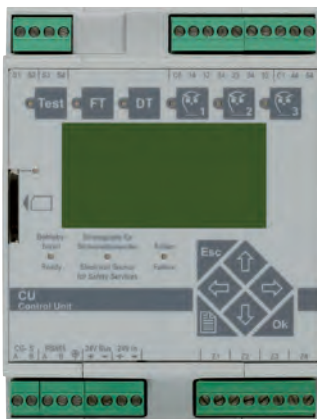
- 360,000 log book entries
- Location texts for the luminaires (20 characters per luminaire)
- Location texts of external modules such as phase monitor, DLS, TLS (20 characters per module)
- Circuit names (20 characters per circuit)
- System name (20 characters)

Ordering details

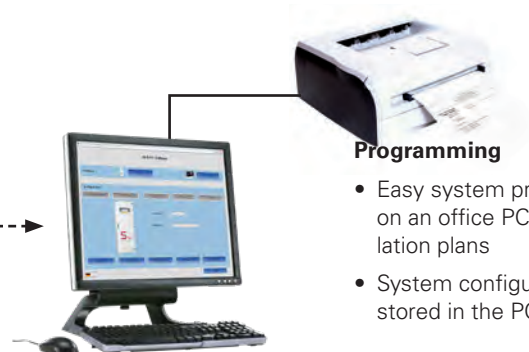
| Type | Model | Order No. |
|----------------|---|-------------|
| SD card | SD card formatted for AT-S+ | 40071347911 |
| SD card reader | SD card reader for USB-Port | 40064070561 |
| Software | Software for external programming of the AT-S+ via PC | 40071347152 |

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SD-Card (Secure-Digital-Card)



Removable configuration and log book storage SD



PC with CEAG software for SD programming and analysis

Programming

- Easy system programming on an office PC from installation plans
- System configuration can be stored in the PC

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Components and options

DC/DC-Converter.2



DC/DC-Converter.2

The DC/DC converter.2 converts the 240 V AC from the AC supply with galvanic isolation in 24 V DC and 6 V DC for supply of the CU S+ control unit.

| | |
|---------------|---|
| 24 V external | 20 W continuous rating Outgoing circuit with front panel connector Isolated voltage |
| 24 V internal | 100 W continuous rating 140 W peak rating (20 ms) |

Ordering details

| Type | Order No. |
|-----------------|-------------|
| DC/DC-Wandler.2 | 70071347071 |

10

AC module



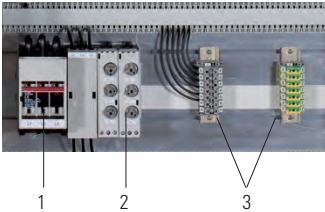
AC module

The AC supply in combination with the DC/DC converter.2 assumes supply of the internal system voltage.

Ordering details

| Type | Order No. |
|-----------|-------------|
| AC module | 40071346311 |

Mains distribution board



Mains distribution board

The mains supply to a AT-S+ C30 or AT-S+ C16 system comes via a modular mains distribution board. This includes a size 00C load disconnect (1) with a maximum conductor size of 50 mm² and allows the connection of up to 6 distribution terminals for slave stations to modular size D02-E18 outgoing mains circuits (2) with the necessary terminals for neutral and ground (3). The same mains distribution boards must also be used three-phase for feeders to powerful slave-stations (accommodates up to 2 slave stations in this case). The components are simply plugged on from the front and securely contacted.

Mains distribution module D02-E18



| | |
|---------------------------------------|---|
| Current rating | 63 A |
| Rated operating voltage | 400 V |
| Box terminal for circulator conductor | to 16 mm ² |
| Material | Polyamide (PA 6.6), 30 % glass-fibre-reinforced |
| Scope of supply | incl. 3 pcs. screw caps E18 and 3 pcs. D02-fuse inserts 25 A |

Ordering details

| Type | Scope of supply | Order No. |
|--|---|-------------|
| Mains distribution module for track mounting | incl. 3 pcs. screw caps E18 and 3 pcs. D02-fuse inserts 25 A | 40071347160 |

SU S+ 2 x 6 A



Switching unit SU S+ 2 x 6 A

- Up to 20 luminaires can be monitored individually
- Easy access to fuses
- LED indicates fault and Run/ON for each circuit
- Supplies ballast and LED luminaires
- Service-friendly modular units are wired up and ready to connect to 3-tier 4 mm² disconnect neutral terminals

Hybrid operation of maintained light, non-maintained light and switched maintained light per module can be programmed with no additional data cable.

| | |
|---------------------------|---|
| Fusing | 10 AT/250 V, 5 x 20 |
| Continuous current rating | 6 A per circuit |
| Max. inrush current | 250 A/ms per circuit |
| Switching time | 450 ms |
| Own consumption | 10.5 W (max.) |
| Module width | 6 subunits (H x W x D = 107 x 90 x 58 mm) |

10

Ordering details

| Type | Scope of supply | Order No. |
|---------------|--|-------------|
| SU S+ 2 x 6 A | Switching unit SU S+ 2 x 6 A | 40071360350 |
| Spare part | Fuse 10 AT (5 x 20) 250 V (PU 10 pcs.) | 40071360483 |

SOU S+ 2 x 4 A



Switching over unit SOU S+ 2 x 4 A

- Up to 20 luminaires can be monitored individually
- Separate AV-feed for rental current
- Easy access to fuses
- LED indicates fault and Run/ON for each circuit
- Supplies ballast and LED luminaires
- Service-friendly modular units are wired up and ready to connect to 3-tier 4 mm² disconnect neutral terminals inside the distribution box

Hybrid operation of maintained light, non-maintained light and switched maintained light in a single circuit can be programmed with no additional data cable.

| | |
|---------------------------|---|
| Fusing | 8 AT/250 V, 6.3 x 32 |
| Continuous current rating | 4 A per circuit |
| Max. inrush current | 250 A/ms per circuit |
| Switching time | 450 ms |
| Own consumption | 9 W (max.) |
| Module width | 10 subunits (H x W x D = 178 x 108 x 60 mm) |

Ordering details

| Type | Scope of supply | Order No. |
|----------------|---|-------------|
| SOU S+ 2 x 4 A | Switching over unit SOU S+ 2 x 4 A | 40071360461 |
| Spare part | Fuse 8 AT (6.3 x 32) 250 V (PU 10 pcs.) | 40071360484 |

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Components and options

F3 remote indication



F3 remote indication for flush-mounting



F3 remote indication

The F3 remote indication ensures display of the most important installation functions. Blocking of emergency lighting operation is possible via a key switch during idle operation times. Differential loop monitoring leads to operational readiness of the system with short circuits or wire-break detection.

LED displays: system readiness, source for safety services, failure. As such the F3 remote indication fulfills the requirement that remote switching is only permissible when operation by unauthorized persons is not possible.

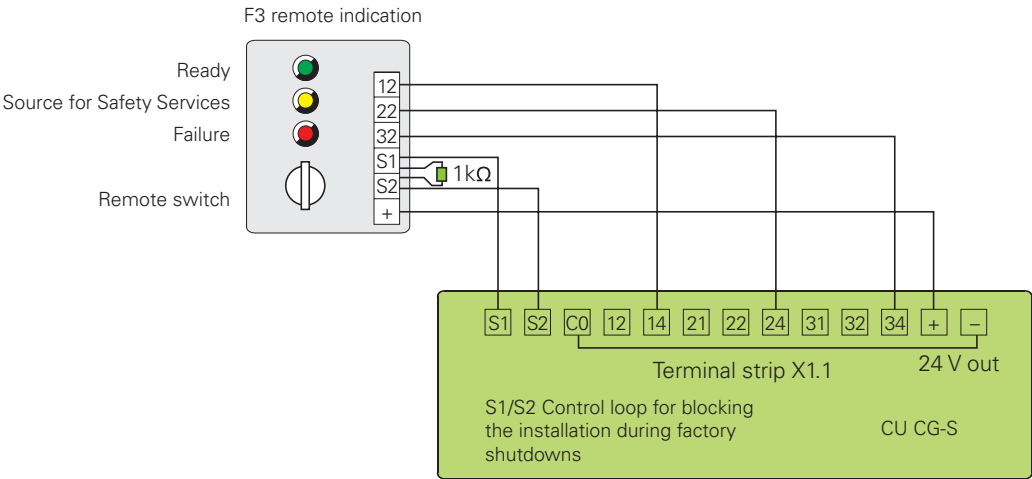
| | |
|--|---------------------------------|
| Connection terminals wall surface-mounting | 2.5 mm² rigid and flexible |
| Dimensions mm (H x W x D) | 160 x 80 x 55 |
| Connection terminals for flush-mounting | 1.5 mm² rigid or 1 mm² flexible |
| Dimensions mm (H x W x D) | 80 x 80 x 55 |
| Colour enclosure | sim. RAL 7035 Light grey |

Ordering details

| Type | Scope of supply | Order No. |
|-------------------------------|--|-------------|
| F3 remote indication | Module surface-mounting | 40071338497 |
| F3 remote indication recessed | Performance for installation in the flush-mounted switch or empty space box acc. to DIN VDE 0606 | 40071347490 |

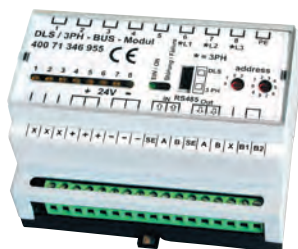
Remote switch

Control loop for blocking the installation during factory shutdowns with differential loop monitoring for short-circuit and open circuit detection.



| | |
|--------------------------|--|
| Differential monitoring: | A short-circuit or open circuit causes the system to be enabled. |
| F3 switch closed: | System ready |
| F3 switch open (1 kΩ): | System blocked |

External DLS/3PH-Bus Module



External DLS/3PH-Bus-Module inverse



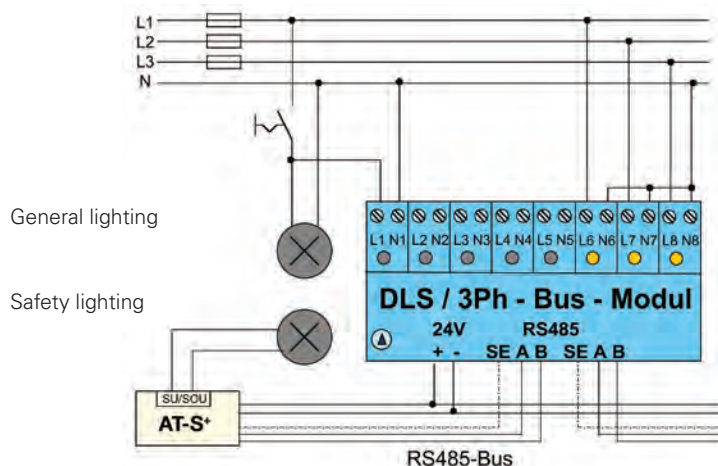
External DLS/3PH-Bus Module

The DLS/3PH bus module can be used as a phase monitor and for light switch polling for the common switching of safety and general lighting systems. Switch cables to the safety luminaires are not required. The housing is suitable for DIN rail mounting. The module has a service button, an RS 485 bus port (integral 120 Ohm bus load resistor) with 24 V module supply, and is addressed with encoding switches. Coloured LEDs indicate fault, ON status and operation. Freely programmable assignment of independent DLS inputs per emergency light circuit or luminaire and individual name per bus module in control unit. With use a 3-phase monitor, detailed phase failure display with location of failed sub-distribution for general lighting via clear text display in control unit.

| | |
|---|--|
| Supply voltage device | 24 V DC (min. 19 V, max. 30 V) |
| Current consumption (all 8 channel connected) | 20 mA \pm 5 mA |
| Degree of protection | IP 20 |
| Insulation class | I |
| Ambient temperature | - 10 ° to + 40 °C |
| Input channels 8 | $U_N = 230 V$ |
| DLS (channel 1-8) or | > 195 V-> ON < 138 V-> OFF |
| DLS (channel 1-5) and 3Ph (channel 6-8) | > 195 V-> ON < 138 V-> OFF |
| Number of light switch inputs | 8 pcs. with LED display or 5 pcs. with 3-phase-monitor (selector) |
| Monitoring threshold | 60- 85 % U_{Nom} (meets DIN VDE 0100-718) |
| Data bus | RS 485 |
| Address range | 1-25 |
| Weight | 0.2 kg |
| Dimensions (L x W x H) mm | 105 x 85 x 60 |
| Mounting | DIN-rail |
| Connection terminals/Clamp terminals | 2.5 mm ² rigid and flexible |

Ordering details

| Type | Scope of supply | Order No. |
|----------------------------|--|-------------|
| DLS/3Ph-Bus-Module | Module for DIN rail mounting | 40071346955 |
| DLS/3Ph-Bus-Module inverse | Module for DIN rail mounting with inverse switching logic | 40071347455 |
| DIN mounting rail | 4 pcs. DIN-rails for mounting external modules in the cabinet incl. mounting accessories | 40071347125 |

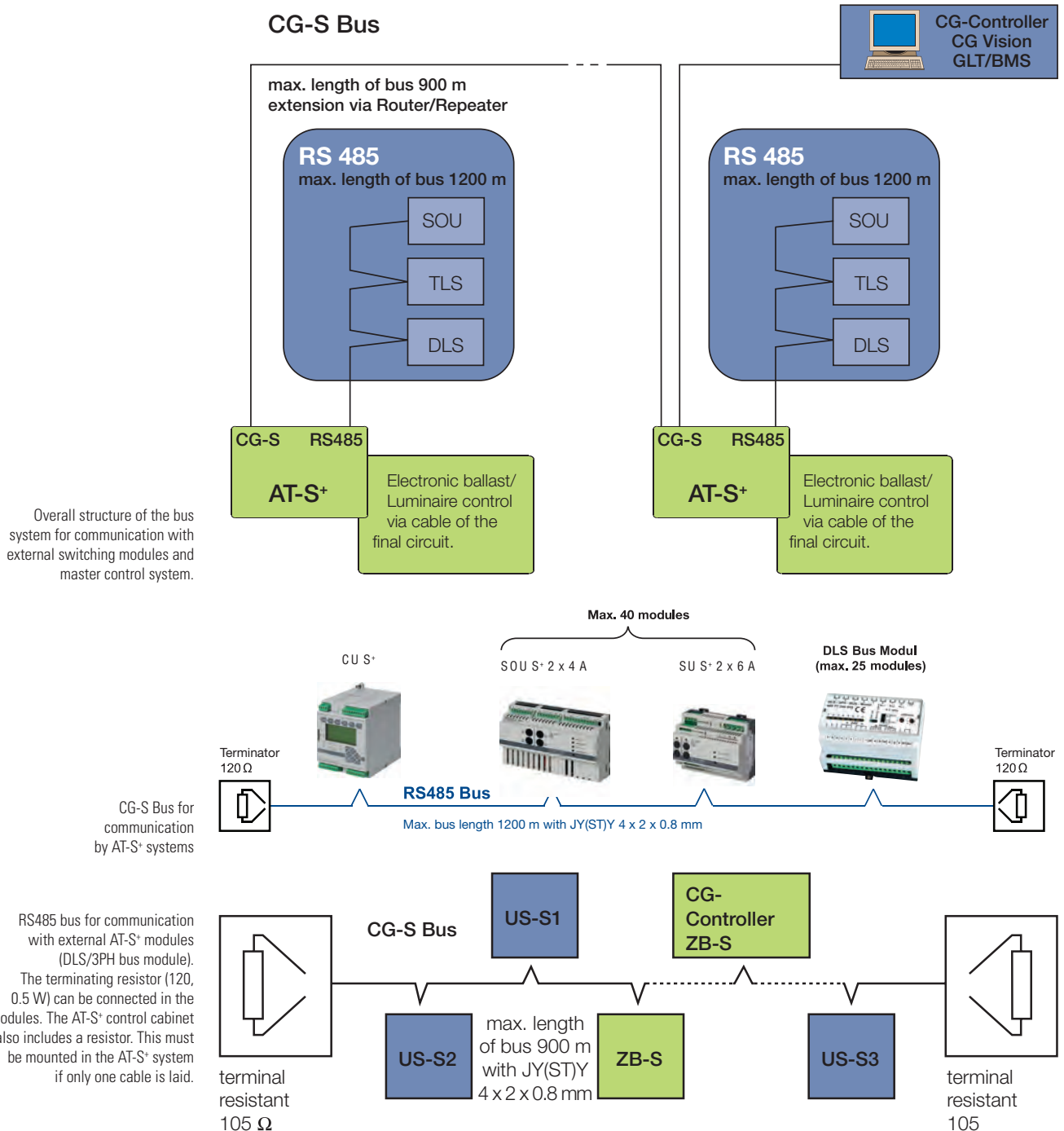


Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Components and options

Bus technology according to RS 485

An RS 485 bus is used for data communication with external bus modules (DLS/3PH). A connection to a central building services management system (BMS) can be made with the CG-S bus. An isolated 24V/0.5 A power supply (SELV) is available for the external modules. The maximum line length depends on the required power and the conductor size.



Notes:

Bus topology: linear, double terminated (no spur lines allowed)

The absolutely essential terminating resistors are supplied in a plastic pack in the control cabinet. Cable type (minimum requirement): JY(ST)Y 4 x 2 x 0.8 mm (twisted pair, screened). The conductor size required for the 24 V bus voltage will depend on the line length and the number of bus modules ($U_{min} = 19 \text{ V DC}$).

DLS = external maintained light switching module (DLS/3PH bus module)

SOU S+ = switching over unit

SU S+ = switching over unit

CGVision = visualisation software



PC programming software AT-S+

Programming software for preset memory cards of the AT-S+ for the quick pre-programming via PC and simple reading and editing of the logbook. For documentation all files are saveable on memory card and hard disk.

Prints for documentation: Detailed prints of the programmed system configuration with the following details:

- individual name of the device
- the date and time of automatic function tests, incl. distance
- manual reset: yes/no
- delay on mains return: 0-15 min
- selective emergency light: yes/no
- Lon switch: yes/no
- assignments of the 5 relays
- assignments of the 3 function keys
- assignments of the 4 option inputs
- number, type and individual name of the bus modules

Detailed print of the programmed electrical circuits (line diagram) with the following details per electrical circuit:

- electrical circuit / module number and type
- individual electrical circuit name
- type of monitoring
- switching mode of the electrical circuit
- number of luminaires
- address and individual name per luminaire
- switching mode of each luminaire

Logbook prints with the following options:

- fault event (35 different fault events, separate or completely generic)
- time period of the logbook (date and time)
- individual comment per print
- luminaire failure: Detail of the individual luminaire and electrical circuit names

Ordering details

| Type | Scope of supply | Order No. |
|----------|--|-------------|
| Software | PC-Software for AT-S+, for alternative programming of the system configuration on PC | 40071610233 |

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Components and options

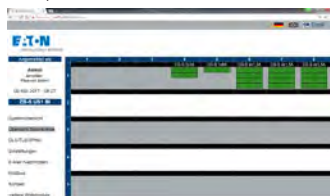
Webmodule CG-S



Example: AT-S+ Device status



Example: SKU-Status



Cyber Security

See White paper WP152002EN
"Cybersecurity considerations for
electrical distribution systems"

www.eaton.com

Webmodule CG-S (ZB-S/AT-S+)

Webmodule ZB-S/AT-S+ for visualisation and monitoring of a central battery system, type ZB-S/AT-S+ via a local ethernet (LAN) or internet (WWW) with a conventional WEB browser. Access to the web-module via internet (WWW) must be administrated from an IT department on-site. Integrated mail-client for comfortable, event orientated failure information, for up to 5 E-mail recipients. Access via administrator account or guest account, with password protection.

- Easy menu structure
- Any type of display devices can be used with a WEB browser, for example notebook, tablet PC, iPad or smartphone
- Full visualisation and monitoring of a AT-S+ (automatic test system) via ethernet (LAN) with conventional WEB browser (e.g. Internet Explorer, Firefox etc.)
- Display of all actual operation modes
- Local failure information of each emergency circuit and luminaires with destination information in plain text
- Permanent actual information of the charging unit and battery
- Parallel access to the web module from different workstations possible (max. 8)
- Integrated mail client for comfortable failure notification via encrypted mail
- Type of different failures for the mail transmission is selectable
- Up to 5 mail recipients programmable
- Actualisation cycle of the web browser via the web module is adjustable
- Authenticated access via administrator account with password protection
- Encrypted transmission
- Adjustable guest accounts with restricted access with password protection
- Static or dynamic (DHCP) IP-addressing possible
- Supports IPv4/IPv6 (Internet Protocol version 4/version 6)
- Any number of modules can be operated in parallel
- Overview display of all active web modules in local ethernet with status display and hyperlink function
- Includes 2 modbus sockets as standard

| | |
|-----------------------|---------------|
| Supply voltage device | 24 V DC |
| Rated power | < 1.1 W |
| Connection | RJ45 |
| Degree of protection | IP20 |
| Weight | 0.05 kg |
| Dimensions | 90 x 35 x 31 |
| Enclosure | Polycarbonate |

Ordering details

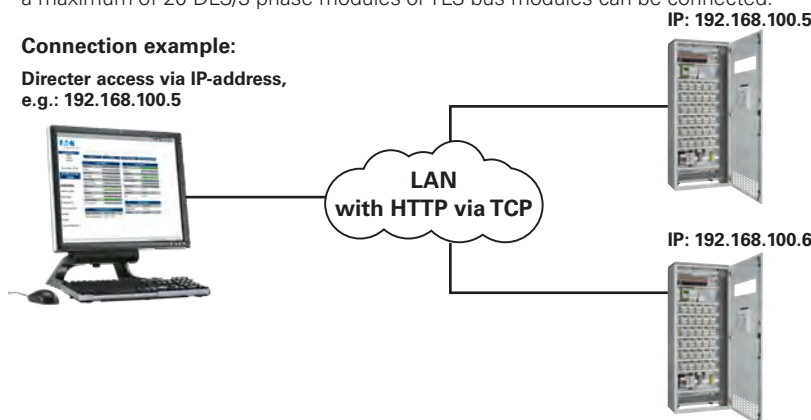
| Type | Scope of supply | Order No. |
|-----------------------------|---|-------------|
| Webmodule CG-S (ZB-S/AT-S+) | Module for DIN-rail mounting, incl. connection without patch line RJ45 | 40071361383 |

Notes:

If a webmodule integrated in the AT-S+ is supplied by the DC/DC.2 converter (external 24 V), a maximum of 20 DLS/3-phase modules or TLS bus modules can be connected.

Connection example:

Director access via IP-address,
e.g.: 192.168.100.5



AT-S+ C30



Ordering details

| Type | Scope of supply | Order No. |
|---------------------------------|--|-------------|
| Automatic Test System AT-S+ C30 | Automatic Test System type AT-S+ C30 incl. CU-S+, DC/DC.2 and AC module 30 free module slots | 40071360500 |
| Automatic Test System AT-S+ C16 | Automatic Test System type AT-S+ C16 incl. CU-S+, DC/DC.2 and AC module 16 free module slots | 40071360501 |
| Automatic Test System AT-S+ C4 | Automatic Test System type AT-S+ C4 incl. CU-S+, DC/DC.2 and AC module 4 free module slots | 40071360502 |
| Automatic Test System AT-S+ C0 | Automatic Test System type AT-S+ C0 incl. CU-S+, DC/DC.2 and AC module no free module slot | 40071360503 |
| Distribution box AT-S+ SU4 | Distribution box type AT-S+ SU4 incl. 4 switching units SU S+ 2 x 6 A | 40071360504 |
| Distribution box AT-S+ SU2 | Distribution box type AT-S+ SU2 incl. 2 switching units SU S+ 2 x 6 A | 40071360505 |
| Distribution box AT-S+ SU1 | Distribution box type AT-S+ SU1 incl. 1 switching unit SU S+ 2 x 6 A | 40071360506 |
| Distribution box AT-S+ SOU2 | Distribution box type AT-S+ SOU2 incl. 2 switching over units SOU S+ 2 x 4 A | 40071360508 |
| Distribution box AT-S+ SOU1 | Distribution box type AT-S+ SOU1 incl. 1 switching over unit SOU S+ 2 x 4 A | 40071360509 |

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AT-S+ ESF30 C10-P



Ordering details

| Type | Scope of supply | Order No. |
|---|--|-------------|
| Automatic Test System AT-S+ ESF30 C30-P | Cabinet for automatic test system with 30 minutes functionality, incl. CU S+ control unit, DC/DC.2 converter, AC supply with space reserve for expansion to max. 60 end circuits, but maximum of 30 SU-S+ 2 x 6 A circuit assemblies | 40071360723 |
| Automatic Test System AT-S+ ESF30 C10-P | Cabinet for automatic test system with 30 minutes functionality, incl. CU S+ control unit, DC/DC.2 converter, AC supply with space reserve for expansion to max. 20 end circuits, but maximum of 10 SU-S+ 2 x 6 A circuit assemblies | 40071360722 |
| Automatic Test System AT-S+ ESF30 SU5 | Distribution box for automatic test system with 30 minutes functionality, incl. 5 SU-S+ 2 x 6 A circuit assemblies | 40071360730 |
| Automatic Test System AT-S+ ESF30 SU4 | Distribution box for automatic test system with 30 minutes functionality, incl. 4 SU-S+ 2 x 6 A circuit assemblies | 40071360727 |
| Automatic Test System AT-S+ ESF30 SU2 | Distribution box for automatic test system with 30 minutes functionality, incl. 2 SU-S+ 2 x 6 A circuit assemblies | 40071360724 |
| Automatic Test System AT-S+ ESF30 SOU5 | Distribution box for automatic test system with 30 minutes functionality, incl. 5 SOU-S+ 2 x 4 A circuit assemblies | 40071360733 |
| Automatic Test System AT-S+ ESF30 SOU3 | Distribution box for automatic test system with 30 minutes functionality, incl. 3 SOU-S+ 2 x 4 A circuit assemblies | 40071360731 |
| Automatic Test System AT-S+ ESF30 SOU2 | Distribution box for automatic test system with 30 minutes functionality, incl. 2 SOU-S+ 2 x 4 A circuit assemblies | 40071360728 |
| Automatic Test System AT-S+ ESF30 SOU1 | Distribution box for automatic test system with 30 minutes functionality, incl. 1 SOU-S+ 2 x 4 A circuit assemblies | 40071360725 |
| AT-S+ RV30-1 | E30 junction box AT-S+RV30-1 for small cabinets type AT-S+/SU with 1 Neozed fuse inside | 40036071031 |
| Reduction | Reduction M32 to M20 cable glands for E30 junction boxes incl. M20 cable gland | 40071071033 |

AT-S+ RV30-1



Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Technical data

| Type | AT-S+ C30 | AT-S+ C16 | AT-S+ C4 | AT-S+ C0 |
|--|-----------------------|-----------------------|--------------------------------|--------------------------------|
| Modules: | | | | |
| Control module: CU-S+ | 1 | 1 | 1 | 1 |
| DC/DC.2-converter | 1 | 1 | 1 | 1 |
| AC module | 1 | 1 | 1 | 1 |
| Switching unit SU S+ 2 x 6 A | 0-30 | 0-16 | 0-4 | – |
| Switching over unit SOU S+ 2 x 4 A | – | – | – | – |
| Safety load disconnecter mains feed | yes | yes | yes | – |
| Load disconnecter mains feed | – | – | – | yes |
| No. of branching distributors | 6 | 6 | 4 | – |
| Electrical cabinet construction: | | | | |
| Rated voltage | 400/230 V | 400/230 V | 400/230 V | 230 V |
| Rated frequency | 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz |
| AC network | TN-C-S | TN-C-S | TN-C-S | TN-C-S |
| Insulation class | 1 | 1 | 1 | 1 |
| Degree of protection | IP20 | IP20 | IP54 | IP54 |
| Max. current rating mains [Σ L1, L2, L3] [A] | 90 | 74 | 48 | – |
| Max. rated power mains [KVA] | 20.7 | 17 | 11 | – |
| Three-phase distribution | yes | yes | yes | no |
| Connection cross-section for mains supply | 50 mm ² | 50 mm ² | 50 mm ² | 4 mm ² |
| Connection cross-section for branching distributors | 16 mm ² | 16 mm ² | 16 mm ² | – |
| Max. conductor size final circuits | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² |
| Max. number of final circuit terminals | 60 | 32 | 8 | – |
| Mechanical cabinet construction: | | | | |
| Cabinet height (max.) | 2050 | 1800 | 800 | 600 |
| Cabinet width (max.) | 800 | 600 | 600 | 400 |
| Cabinet depth (max.) | 400 | 400 | 250 | 250 |
| Material | Sheet steel | Sheet steel | Sheet steel | Sheet steel |
| Design | Cabinet | Cabinet | Wall cabinet / surface mounted | Wall cabinet / surface mounted |
| Door stop | right | right | right | right |
| Outer coating | Textured powder paint | Textured powder paint | Textured powder paint | Textured powder paint |
| Colour | RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 |
| Partial viewing door | yes | yes | yes | yes |
| Lock | 3 mm two-way | 3 mm two-way | 3 mm two-way | 3 mm two-way |
| Cable entry from above | yes | yes | yes | yes |
| Cable entry from below | yes | yes | no | no |
| Base (optional) | 100/200 | 100/200 | – | – |

*1 housing has insulation class II. The earth conductor must however be routed in the housing.

| AT-S+ SU4 | AT-S+ SU2 | AT-S+ SU1 | AT-S+ SOU2 | AT-S+ SOU1 |
|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| – | – | – | – | – |
| – | – | – | – | – |
| – | – | – | – | – |
| 4 | 2 | 1 | – | – |
| – | – | – | 2 | 1 |
| – | – | – | – | – |
| yes | yes | yes | yes | yes |
| – | – | – | – | – |
| | | | | |
| 230 V | 230 V | 230 V | 230 V | 230 V |
| 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz |
| TN-C-S | TN-C-S | TN-C-S | TN-C-S | TN-C-S |
| 2*1 | 2*1 | 2*1 | 2*1 | 2*1 |
| IP65 | IP65 | IP65 | IP65 | IP65 |
| 25 | 16 | 10 | 25 | 10 |
| 5,7 | 3,7 | 2,3 | 5,7 | 2,3 |
| no | no | no | no | no |
| 10 mm ² | 10 mm ² | 10 mm ² | 10 mm ² | 10 mm ² |
| – | – | – | – | – |
| | | | | |
| 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² | 4 mm ² |
| 8 | 4 | 2 | 4 | 2 |
| | | | | |
| 583 | 458 | 458 | 583 | 458 |
| 295 | 295 | 295 | 295 | 295 |
| 129 | 129 | 129 | 129 | 129 |
| Plastic | Plastic | Plastic | Plastic | Plastic |
| Wall cabinet / surface mounted | Wall cabinet / surface mounted | Wall cabinet / surface mounted | Wall cabinet / surface mounted | Wall cabinet / surface mounted |
| right | right | right | right | right |
| – | – | – | – | – |
| RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 | RAL 7035 |
| yes | yes | yes | yes | yes |
| on request | on request | on request | on request | on request |
| yes | yes | yes | yes | yes |
| yes | yes | yes | yes | yes |
| – | – | – | – | – |

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Technical data

| Type | AT-S+ ESF30 C30-P | AT-S+ ESF30 C10-P | AT-S+ ESF30 SU5 |
|--|--|--|--|
| Modules: | | | |
| Control module: CU-S+ | 1 | 1 | - |
| DC/DC.2-converter | 1 | 1 | - |
| AC module | 1 | 1 | - |
| Switching unit SU S+ 2 x 6 A | 30 | 10 | 5 |
| Switching over unit SOU S+ 2 x 4 A | - | - | - |
| No. of branching distributors | 0 | 0 | 0 |
| Electrical cabinet construction: | | | |
| Rated voltage | 400/230 V | 230 V | 230 V |
| Rated frequency | 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz |
| AC network | TN-C-S ^{*1} | TN-C-S ^{*1} | TN-C-S ^{*1} |
| Insulation class | I ^{*2} | I ^{*2} | I ^{*2} |
| Degree of protection | IP42 | IP42 | IP65 |
| Max. total rated current [A] depends on ambient temperature at 230 V, 50 or 60 Hz: | | | |
| +25 °C | 50 | 35 | 26 |
| +30 °C | 50 | 27 | 20 |
| +35 °C | 40 | 20 | 14 |
| Max. rated power mains [KVA] depends on ambient temperature at 230 V, 50 or 60 Hz: | | | |
| +25 °C | 11.50 | 8.05 | 5.98 |
| +30 °C | 11.50 | 6.20 | 4.60 |
| +35 °C | 9.20 | 4.60 | 3.22 |
| Three-phase distribution | Yes | Yes | No |
| Max. connection cross-section for mains supply [qmm] | 35 | 35 | 10 |
| Max. conductor size final circuits [qmm] | 4 | 4 | 4 |
| Max. number of final circuit terminals | 60 | 20 | 10 |
| Mechanical cabinet construction: | | | |
| Dimensions [mm]: | | | |
| height (max.), | 2253 (incl. fan) | 1253 (incl. fan) | 835 |
| width (max.), | 918 | 918 | 396 |
| depth (max.) | 596 | 496 | 230 |
| Weight [kg] approx. | 330 | 169 | 61 |
| Material / version: | Coated gypsum fibre-board / floor-standing cabinet | Coated gypsum fibre-board / floor-standing cabinet | Coated gypsum fibre-board / wall cabinet |
| Type of mounting | Wall mounting ^{*3} | Wall mounting ^{*3} | Wall mounting ^{*3} |
| Door stop | Right | Right | Left |
| Colour RAL | 7035 | 7035 | 7035 |
| Cable entry | From above ^{*4} | From above ^{*4} | From above |
| Base (optional) | Yes | - | - |
| Approvals / Verifications | | | |
| ABZ housing incl. components Z-86.2 ... | Applied for | Applied for | Applied for |
| ABZ empty housing Z-86.1 ... | Yes | Yes | Applied for |
| Fire test for functional integrity, short report MPA NRW | Yes | Yes | Yes |
| VDE certificate | - | - | Yes |
| Specialised company declaration | Yes | Yes | Yes |

***1: Further networks on request**

***2: Protective insulation acc. to VDE 0106**

***3: Housings must be adapted to the masonry so that the housing is horizontal.
The masonry must be designed for functional integrity of at least 30 minutes.
The functional integrity of the masonry must not be impaired by the installation.**

***4: Cable infeed from below on request**

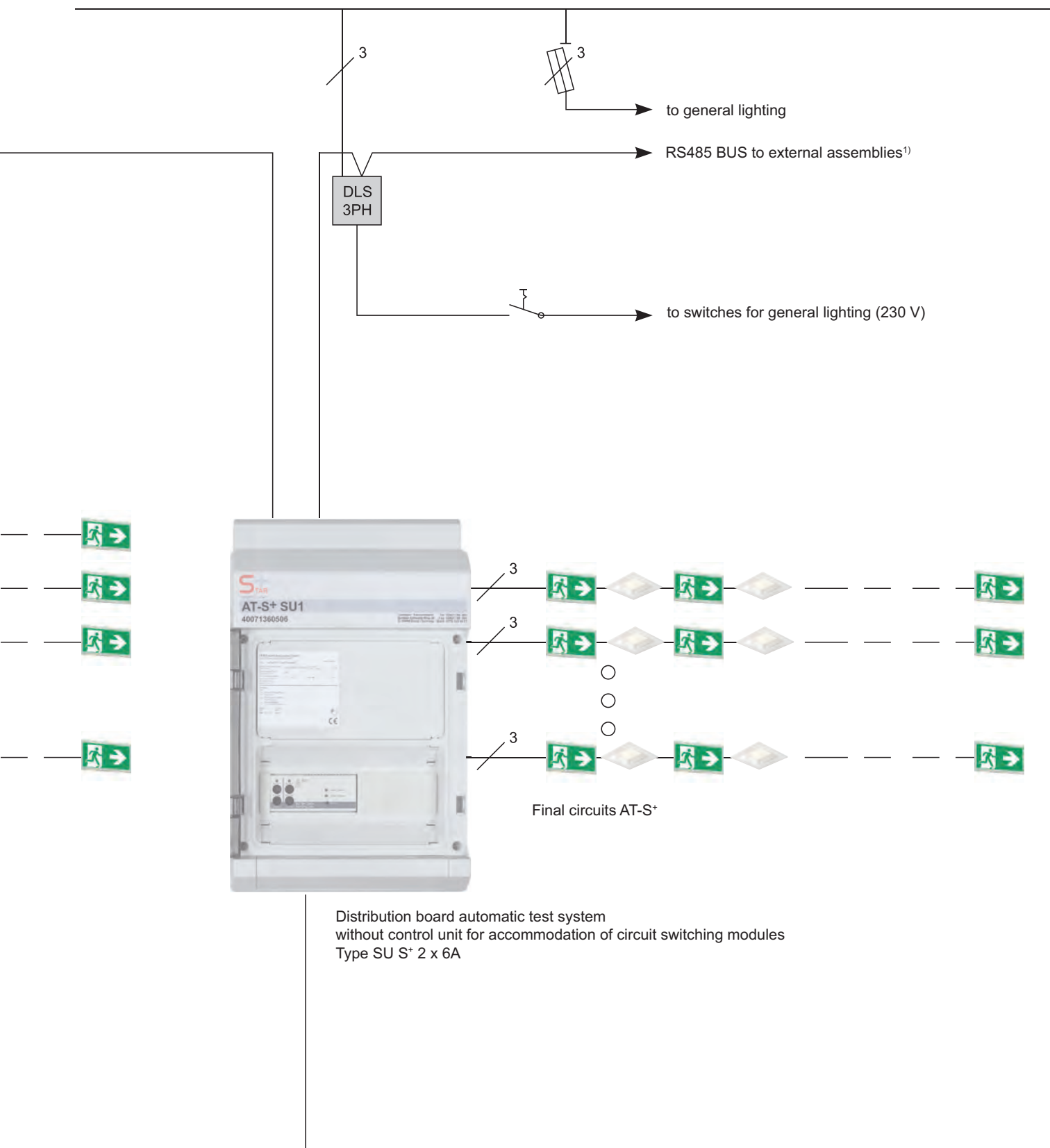
| AT-S+ ESF30 SU4 | AT-S+ ESF30 SU2 | AT-S+ ESF30 SOU5 | AT-S+ ESF30 SOU3 | AT-S+ ESF30 SOU2 | AT-S+ ESF30 SOU1 |
|---|---|---|---|---|---|
| - | - | - | - | - | - |
| - | - | - | - | - | - |
| - | - | - | - | - | - |
| 4 | 2 | - | - | - | - |
| - | - | 5 | 3 | 2 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | |
| 230 V | 230 V | 230 V | 230 V | 230 V | 230 V |
| 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz | 50 or 60 Hz |
| TN-C-S ^{*1} | TN-C-S ^{*1} | TN-C-S ^{*1} | TN-C-S ^{*1} | TN-C-S ^{*1} | TN-C-S ^{*1} |
| I ^{*2} | I ^{*2} | I ^{*2} | I ^{*2} | I ^{*2} | I ^{*2} |
| IP65 | IP65 | IP65 | IP65 | IP65 | IP65 |
| | | | | | |
| 21 | 18 | 33 | 20 | 15 | 8 |
| 16 | 14 | 28 | 17 | 12 | 6 |
| 11 | 11 | 16 | 10 | 9 | 5 |
| | | | | | |
| 4.83 | 4.14 | 7.59 | 4.60 | 3.45 | 1.725 |
| 3.68 | 3.22 | 6.44 | 3.91 | 2.76 | 1.380 |
| 2.53 | 2.53 | 3.68 | 2.30 | 1.53 | 1.150 |
| No | No | No | No | No | No |
| 10 | 10 | 10 | 10 | 10 | 10 |
| 4 | 4 | 4 | 4 | 4 | 4 |
| 8 | 4 | 10 | 6 | 4 | 4 |
| | | | | | |
| 685 | 535 | 1135 | 835 | 685 | 535 |
| 396 | 396 | 396 | 396 | 396 | 396 |
| 230 | 230 | 230 | 230 | 230 | 230 |
| 51 | 32.7 | 81 | 61 | 51 | 34 |
| Coated gypsum fi- bre-board / wall cabinet | Coated gypsum fi- bre-board / wall cabinet | Coated gypsum fi- bre-board / wall cabinet | Coated gypsum fi- bre-board / wall cabinet | Coated gypsum fi- bre-board / wall cabinet | Coated gypsum fi- bre-board / wall cabinet |
| Wall mounting ^{*3} | Wall mounting ^{*3} | Wall mounting ^{*3} | Wall mounting ^{*3} | Wall mounting ^{*3} | Wall mounting ^{*3} |
| Left | Left | Left | Left | Left | Left |
| 7035 | 7035 | 7035 | 7035 | 7035 | 7035 |
| From above | From above | From above | From above | From above | From above |
| - | - | - | - | - | - |
| | | | | | |
| Applied for | Applied for | Applied for | Applied for | Applied for | Applied for |
| Applied for | Applied for | Applied for | Applied for | Applied for | Applied for |
| Yes | Yes | Yes | Yes | Yes | Yes |
| Yes | Yes | Yes | Yes | Yes | Yes |
| Yes | Yes | Yes | Yes | Yes | Yes |

Automatic Test System AT-S+ with STAR+ Technology – Installation example

Main distributor general lighting



Sub-distributor for general lighting



10

¹⁾ bus specifications see page
AT-S+ bus technology

Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Specifications

Automatic Test System AT-S+



Automatic Test System AT-S+

AT-S+ automatic test system for 230V / AC safety and escape sign luminaires.

Suitable for safety lighting systems with an AC power source for safety purposes according to DIN VDE 0100-718, DIN VDE 0100-560, DIN EN 50172 and V DIN VDE 0108. With automatic testing device and single luminaire monitoring with individual display of state and name per luminaire in connection with system-connected ECG including monitoring module without supplementary data line.

Developed, manufactured and tested according to ISO 9001.

The switching mode of each safety and escape sign luminaire with system-connected ECG or monitoring module is freely programmed in the control unit of the test system without a supplementary control line.

The CEAG STAR+ technology enables the number of end circuits to be strongly reduced as the mixed operation of maintained light, switched maintained light and non-maintained light is implemented in a common circuit.

Assignment of all operating modes is via the control unit without encroaching in the luminaire installation. Selection of the non-maintained light or maintained light operating modes via possibly slide switch, coding switch or jumpers on the monitoring module or ECG is not permitted. Surplus costs to installation lines caused by use of devices from other manufacturers or additional components cannot be made valid.

Electronic assemblies in service-compatible module design wired ready for connection to triple deck installation terminals with N isolating terminal and PE connection.

Connection compartments from above or below on touch-protected connection terminals. With optionally installed mains distribution box for mains cable feed to the substations including fusing. Design with modular plug technology.

Bus technologies

CG-S bus technology based on LONWorks® technology.

For data communication of the test system with the connected substations or monitoring facilities such as CGVision (visualisation software), the 2-pole bidirectional CG-S data bus is used, integrated as standard in the AT-S+ control unit.

Via an optionally available interface box, all types of building management technology based on LONWorks® can communicate with the systems via the CG-S bus.

Alternatively, all OPC-compatible building management technologies can be connected via the CG-S bus with an optionally available OPC server and the interface box.

As such the CG-S bus enables direct calling up of extensive status messages and control commands without supplementary modules.

16 virtual switching inputs via external LON sensors enable circuits or even single luminaires to be independently switched directly.

Networking of all AT-S+ distributors control unit also possible via differing media such as optical waveguide, ethernet and LAN via optionally available components.

Status and error messages can be called up per single luminaire.

External assemblies such DLS/3PH bus module, DLS/3PH inverted bus module and TLS bus module are connected via the RS485 bus.

Communication with the system-connected luminaires is exclusively via the connected energy line.

The central system automatically detects the assemblies addressed during installation and the system-connected luminaires via a search function.

Control unit

A freely programmable control unit with non-volatile program memory and graphic display monitors and controls the test system. All functions such as mains/emergency switching

of the devices and connected emergency luminaires are tested automatically. Errors occurring are reported immediately.

An interface enables connection of a central monitoring facility.

Differential monitoring with short circuiting or interruption of control current loops leads to immediate switching on (maintained light) of the system or operational readiness of the system.

Display:

128 x 64 pixel, backlit, contrast and brightness settable via program

Displays:

Power source for safety purposes ready for operation, infeed of safety lighting from power source for safety purposes, power source for safety purposes faulty, manual resetting, follow-on emergency light (residual time in mins.), test operation, date / time, uV-AV failure with location specification in plain text, error information, programming information, inspection book.

LED displays: Ready for operation, power source feed for safety purposes, error

Foil keyboard:

- separate keys for system test, function test.
- 3 freely programmable function buttons for e.g.: Block/release system, manual resetting, switch on / off maintained light, display fault list, switch on / off corridor lighting, mains failure UV simulation
- 7 control buttons for user-friendly navigation in querying and programming mode.

Furthermore, each assembly has a separate service button for directly showing the current assembly status in the display (immediate analysis).

Programming options:

Single luminaire monitoring, individual name (20 characters) per device, circuit, luminaire and bus module, device address, selective manual resetting, follow-on emergency light (1-60 mins.) selective emergency light, LON switch, timer

function, automatic function test, menu language selection

Connection for blocking switch: Control loop for blocking system during idle operating times with differential loop monitoring for short circuit and wirebreak detection.

Differential monitoring: Short circuit or interruption lead to operational readiness of the system.

Connection for phase monitor: 24V current loop for emergency light request with differential loop monitoring for short circuit and wirebreak detection.

Differential monitoring: Short circuit or interruption lead to immediate switching on (maintained light) of the system.

Connection for zero-potential signal contacts, buzzers: 5 potentialfree relais contacts, each 3 x changeover contact, 2 x normally open contact. 30V DC/AC, 0,5A, buzzer

One or several from 11 different messages can be assigned to each contact. Freely programmable, DIN VDE specification as presetting can be called up at any time.

Connection for 24 inputs: 4 freely assignable 24V inputs, can be programmed either inverted or non-inverted for e.g.: Power source for safety purposes ready for operation, infeed of safety lighting from power source for safety purposes, power source for safety purposes faulty, start/abort function test, block/release system, manual resetting, switch on/off maintained light, switch on safety lighting as corridor lighting, external AC isolation fault, external fan fault.

Memory card: Memory card for archiving of device configuration and specified inspection book information over at least 4 years.

Saving of:

- 300,000 inspection book entries
- Target location texts of luminaires (20 characters per luminaire)

- Target location texts of external modules such as phase monitors, DLS, TLS (20 characters per module)
- Circuit names (20 characters per luminaire)
- System name (20 characters)

With optional CEAG software, programming is possible offline via PC.

Circuit modules

The circuit modules monitored emergency luminaires with electronic ballasts for AC operation. The STAR+ monitoring tests functionality of the connected luminaires.

- Monitoring of up to 20 luminaires per circuit with individual status display via the control unit
- Mixed operation within one circuit for maintained light, switched maintained light and non-maintained light (A supplementary data line to the luminaires is not required).
- Typical switching over time mains/safety source: 450ms
- Free programming for maintained light, switched maintained light or non-maintained operation
- Fuses on the front of the assembly are easily accessible
- Permanent monitoring of fuses
- LED displays for fault and operation/ON per circuit
- Service button for configuration
- Housing for DIN rail mounting
- Automatic luminaire search function

External DLS/3PH bus module

The external DLS/3PH bus module for installation into the sub-distribution of the general lighting can be used as phase monitor and light switch query (DLS) for the general switching of safety and general lighting.

8 DLS inputs (2.5 sq.mm) with LED display or 5 DLS inputs in combination with 3 phase monitor inputs can be activated via selector switch.

Monitoring thresholds acc. to DIN EN 60598-2-22: 60-85% U_{NOM}

Connection of RS485 bus and 24V module supply.

Addressable via coding switch, LED displays for fault, switching state on, operation.

Housing for DIN rail mounting

Freely programmable assignment of independent DLS inputs per emergency light circuit or luminaire and individual name per bus module in control unit.

With use a 3-phase monitor, detailed phase failure display with location of failed sub-distribution for general lighting via clear text display in control unit.

External DLS/3PH bus module inverted

The external DLS/3PH bus module inverted for installation into the sub-distribution of the general lighting can be used as phase monitor and light switch query (DLS) with inverted switching logic for the common switching of safety and general lighting or for monitoring of automatic cutouts.

8 inverted DLS inputs (2.5 sq.mm) with LED display or 5 inverted DLS inputs in combination with 3 phase monitor inputs can be activated via selector switch.

Monitoring thresholds acc. to DIN EN 60598-2-22: 60-85% U_{NOM}

Connection of RS485 bus and 24V module supply.

Addressable via coding switch, LED displays for fault, switching state on, operation.

Housing for DIN rail mounting.

Freely programmable assignment of independent inverted DLS inputs per emergency light circuit or luminaire and individual name per bus module in control unit.

With use a 3-phase monitor, detailed phase failure display with location of failed sub-distribution for general lighting via clear text display in control unit.

Supplier information:

CEAG Notlichtsysteme GmbH
Senator-Schwartz-Ring 26
D-59494 Soest/Germany
Telefon +49 (0) 2921/69-870
Telefax +49 (0) 2921/69-617
Internet www.ceag.de
e-mail info-n@ceag.de

ISO 9001:4500 certification must also be verified.

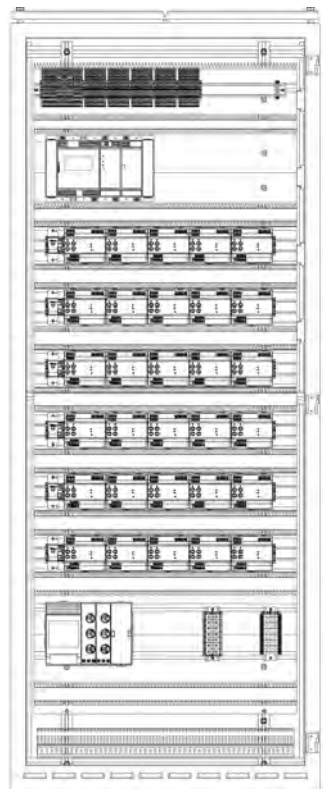
Manufacturers without ISO 9001:4500 certification are not permitted.

LONWorks®: registered trademark of Echelon Corporation

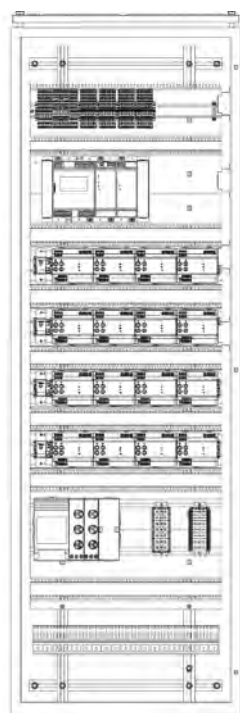
Central Battery Systems AC/AC

Automatic Test System AT-S+ with STAR+ Technology – Technical drawings

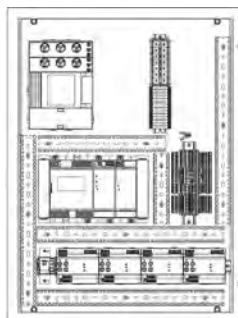
AT-S+ C30



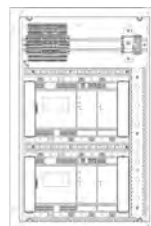
AT-S+ C16



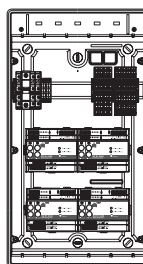
AT-S+ C4



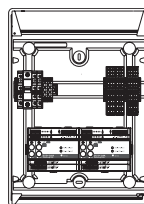
AT-S+ C0



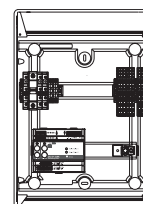
AT-S+ SU4



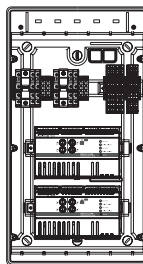
AT-S+ SU2



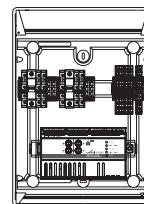
AT-S+ SU1



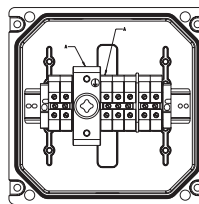
AT-S+ SOU2



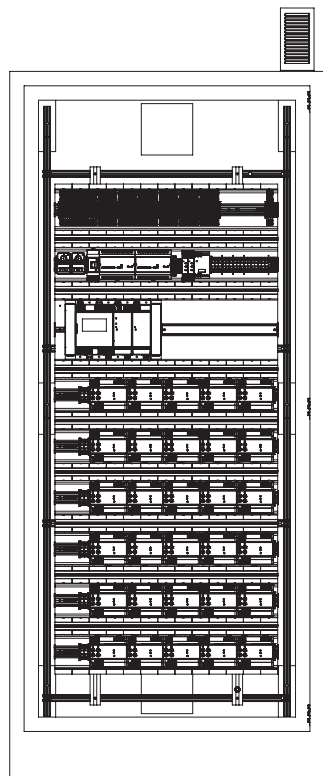
AT-S+ SOU1



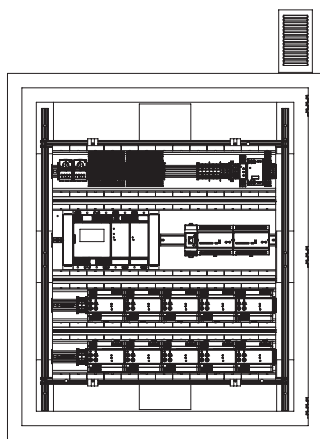
AT-S+ RV30-1



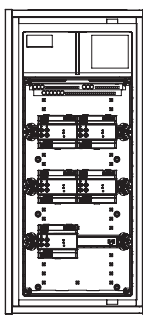
AT-S+ ESF30 C30-P



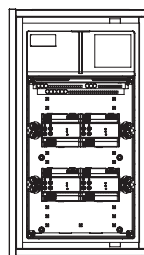
AT-S+ ESF30 C10-P



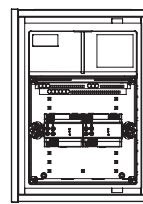
AT-S+ ESF30 SU5



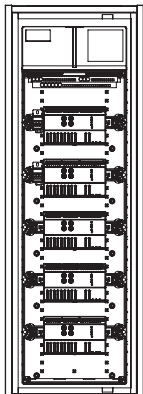
AT-S+ ESF30 SU4



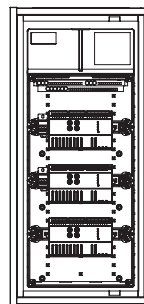
AT-S+ ESF30 SU2



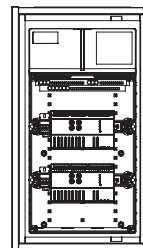
AT-S+ ESF30 SOU5



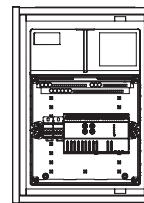
AT-S+ ESF30 SOU3



AT-S+ ESF30 SOU2



AT-S+ ESF30 SOU1



An aerial, high-angle photograph of a modern public space, likely a transit station or a large indoor plaza. The floor is made of large, light-colored square tiles. In the upper half, several groups of people are sitting on long, dark-colored benches. Some are looking at their phones, others are talking. A few people are walking across the open space. In the lower half, there is a set of stairs with a glass railing, and more people are walking or standing nearby. The overall atmosphere is one of a busy, contemporary environment.

From static to adaptive escape routing



Adaptive Evacuation

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WorkSafe

Protect your people and property

Specify superior escape route management technology in complex buildings with Eaton's unique adaptive **emergency lighting evacuation system**.

Risk management for commercial buildings is evolving rapidly. An increasingly urbanised and complex environment, combined with a rising diversity of safety threats, compels the owners and managers of buildings to re-evaluate the way they protect the people, property and business continuity that may be at risk in an emergency. It is not only a legal obligation but a moral, financial and reputational imperative. In situations involving fire, terrorism, major crime, extreme weather and civil unrest, buildings must be able to detect, alert and evacuate. The safe and timely completion of this process is dependent on planning, equipment, training and infrastructure being in place. However, evacuation poses particular challenges when a proportion of occupants are unfamiliar with layout and procedures, and particularly if they are in large, densely-populated, high-risk or complex premises such as railway stations, shopping centres, airports, stadia, government buildings or leisure facilities. Research into crowd behaviour and advances in scenario-modelling technology have highlighted the need for evacuation strategies that are more adaptable to differing circumstances and buildings. In particular, fixed emergency exit routes, indicated by static signage, can lead to congestion, delays and, in some instances, may direct people towards a hazard. Panic is heightened and decision-making can be impaired. Eaton has developed an Adaptive Evacuation System that is capable of identifying the safest exit route in a given circumstance and guiding people towards it via digital signage. The ability of such systems to enhance safety has been confirmed by academic research and technical organisations.



Adaptive evacuation

Adaptive:

Capable of changing in response to changes in environment.

Building upon decades of expertise in the delivery of life safety systems, and particularly emergency lighting technologies, Eaton's Adaptive Evacuation System enables faster, safer and more agile evacuations, particularly when deployed alongside a public address/voice alarm solution that provides additional guidance. When installed, the system is programmed with a range of potential exit routes. Based on information from CCTV, fire detection and other devices that pinpoint the nature and location of a hazard, it can select the safest and fastest route for occupants and an appointed system operator within the building is given the opportunity to accept or reject this recommendation, so that occupants can be directed accordingly. Unlike 'active' and 'dynamic' systems, Eaton's technology is fully adaptable and its instructions can be modified in real-time. It has been extensively tested and conforms with current regulatory requirements, although the technology is so new that standards are still to be fully defined.

Adaptive escape sign luminaires for building evacuation as a supportive system-technical measure.

Aim of protection:

Safe self-rescue to ensure that rescue forces can take care of injured or disabled persons.

Benefits:

- More efficient, quicker and safer evacuation
- Escape routing adapt continuously to the risk
- Assistance to save oneself
- Relief of the rescuers
- Possible compensation measure for constructional scarcities

Facing the diverse risks of fire, terrorism, violent crime, extreme weather and civil unrest, the owners and managers of commercial buildings must ensure the ability to detect, alert and evacuate, which is dependent on planning, equipment, training and infrastructure being in place. However, evacuation poses additional challenges when occupants may include visitors who are not familiar with layout and procedures, and particularly if they are in large, highly-populated, high-risk or complex premises such as railway stations, shopping centres, airports, stadia, government buildings or leisure facilities. Fixed emergency exit routes, denoted by static signage, are inflexible to changing circumstances and may inadvertently direct people towards danger, as in the case of the deadly attack on Nairobi's Westgate shopping mall in 2013. Building upon decades of expertise in the delivery of life safety systems, Eaton has pioneered the development of an Adaptive Evacuation System, which is capable of switching between a number of predefined routes and guiding people towards the safest available exit in a given scenario.

In hazard situations caused by e.g. fire, attacks, technical plant faults (e.g. gas accidents) and natural catastrophes, only safe escape routes can be used.

11

Static escape route guidance:

Exit sign luminaires designate the escape route out of the building always in the same direction, **independently** of a danger situation.

no change



Dynamic escape route guidance:

Exit sign luminaires **block** unsafe escape routes in evacuation situations, thereby guiding those fleeing out of the building via the safe escape routes.

State 1



State 2



Adaptive escape route guidance:

Exit sign luminaires **block** unsafe escape routes and **release these as soon as they become safe again**. This enables dynamic hazard situations (e.g. in case of fire or attacks) to be flexibly responded to.

Normal



Blocked



Open again

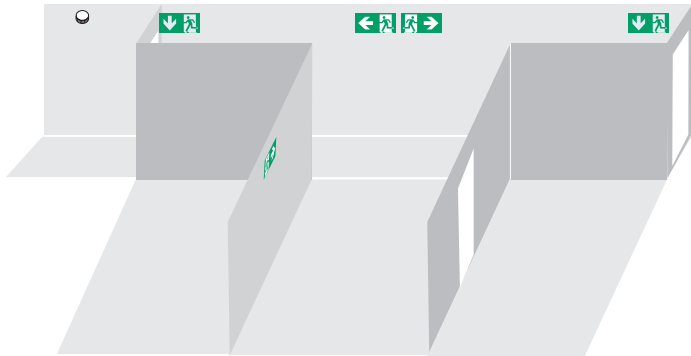


Adaptive Evacuation

Benefits of adaptive Evacuation

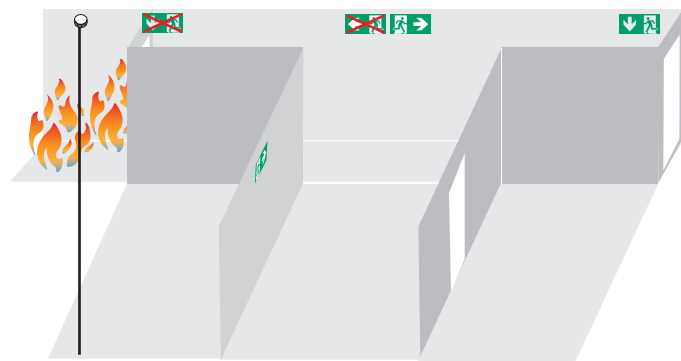
Representation of an adaptive Evacuation:

Before the occurrence:



Exit sign luminaires show the fastest exit route.

During the occurrence:

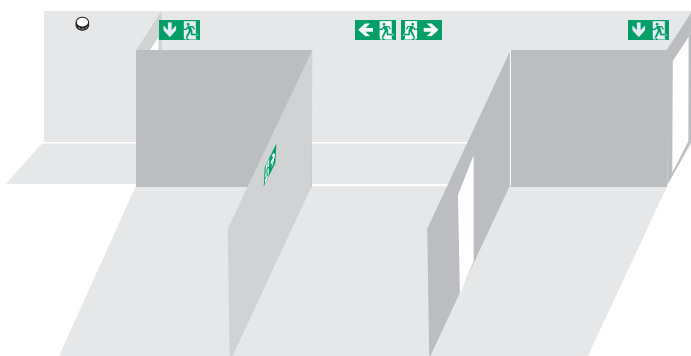


Exit sign luminaires block the unsafe exit route as they receive information of e.g. a Fire detector, video monitoring, locking systems, evacuation systems. The safest exit route out of the building is now shown.

Alarm e.g. via:

Fire detector,
video monitoring,
locking systems,
evacuation systems

After the occurrence:



Once the exit route is open again, the exit sign luminaires show it. Therefore it can be flexible and dynamic reacted on hazard e.g. fire or attacks.

Benefits of adaptive Evacuation:



- AE-CU technology in combination with GuideLed DXC exit sign luminaires enable dynamic danger situations such as in cases of fire, attacks or natural catastrophes to be actively responded to
- Decentral configuration of the AE-CU for up to 240 GuideLed DXC exit sign luminaires. This enables flexible, low-cost planning.
- Short circuit and open circuit resistant loop bus technology. This means no E30 cable routing of the loop bus line is required because these are fail-safe with the first fault case.
- Separate operating units for safety lighting and for the programming of scenarios provides increased safety with subsequent modifications.
- Due to separate cable routing of the 230V end circuits and 24V loop bus line to the adaptive GuideLed DXC exit sign luminaires, the hybrid operation of static and adaptive exit sign luminaires and the integration of escape luminaires and luminaires for general lighting is possible in the same circuit.
- An integrated search function automatically detects all GuideLed DXC exit sign luminaires connected up during installation.
- Self-addressing of the connected DXC luminaires simplifies the process for installation and commissioning.
- The control unit with nonvolatile program memory and large touch display automatically monitors and controls all components in the AE-CU system as well as the functionality of the connected adaptive luminaires.
- Connection of central visualization is possible via an interface.
- Networking the AE-CU with EATON fire detection technology provides system integrity between alerting and evacuation
- Already installed ZB-S systems could be expanded with the AE-CU

Adaptive Evacuation

Performance

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From static to adaptive escape route guidance

System-technical measures for ensuring self-rescue in cases of evacuation have top priority in dynamic hazard situations. AE-CU technology in combination with GuideLed DXC exit sign luminaires enable dynamic danger situations such as in cases of fire, attacks or natural catastrophes to be actively responded to. The shortest route out of a building is not always the safest.

The AE-CU system reliably triggers up to 240 adaptive exit sign luminaires via a short circuit and open circuit resistant loop bus.

The hazard scenario can be freely assigned to each adaptive exit sign luminaire via the AE-CU.

The control unit with nonvolatile program memory and large touch display automatically monitors and controls all components in the AE-CU system as well as the functionality of the connected adaptive luminaires. Faults occurring are shown on the display, forwarded via signal contacts and saved to an inspection book.

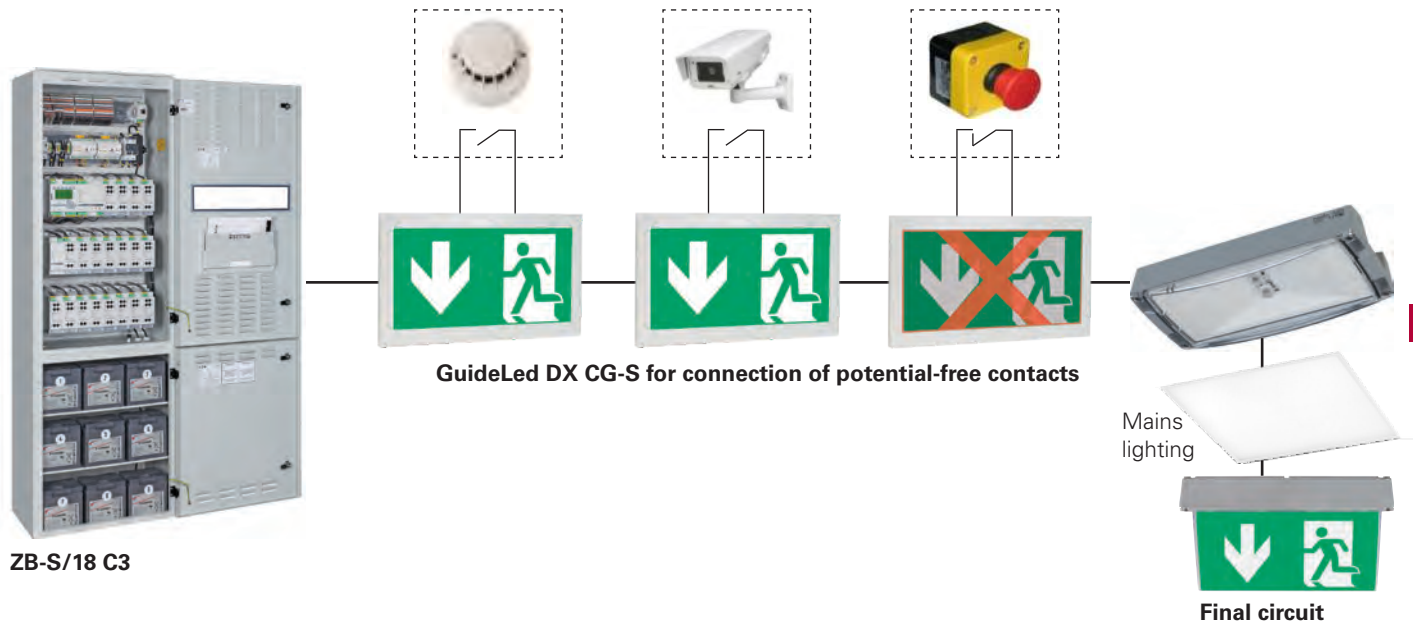
An integrated search function automatically detects all GuideLed DXC exit sign luminaires connected up during installation. Connection of central visualization is possible via an interface.

The solution for simple structured applications

Application example:

Triggering of GuideLed DX luminaires via potential-free contacts:

Potential-free signal contacts of fire detectors, CCTV or key switches to indicate areas as „locked, blocked or unsafe“. As an example for areas where entry is forbidden for a specific time due to construction measures. Parallel connection of the DX inputs is not possible.

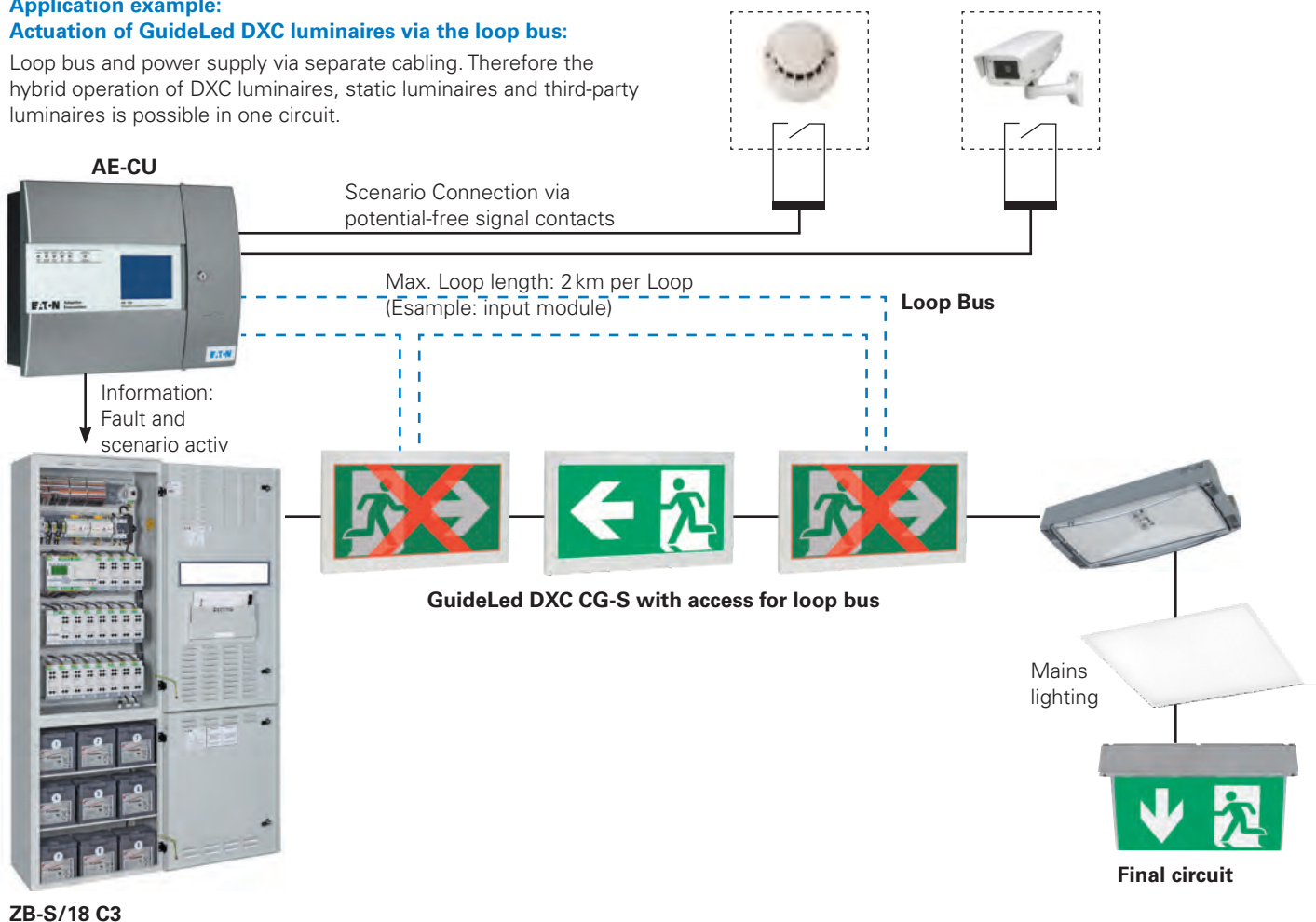


The solution for simple and complex structured applications

Application example:

Actuation of GuideLed DXC luminaires via the loop bus:

Loop bus and power supply via separate cabling. Therefore the hybrid operation of DXC luminaires, static luminaires and third-party luminaires is possible in one circuit.

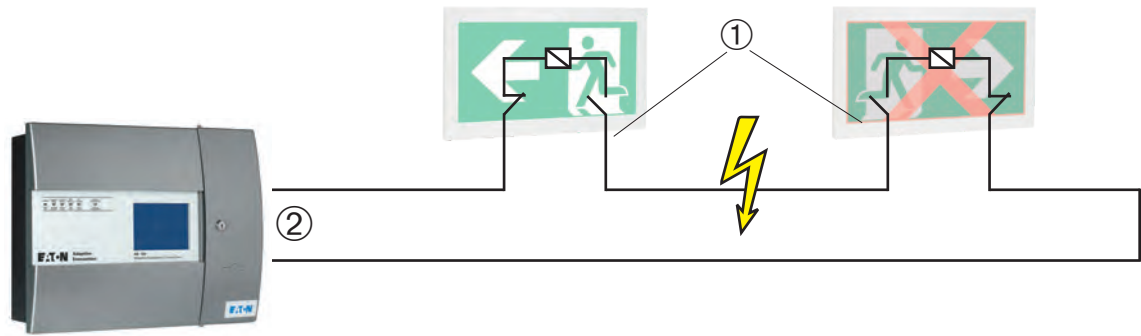


Adaptive Evacuation

Control matrix

Application example:
Short circuit and open circuit resistant loop bus technology

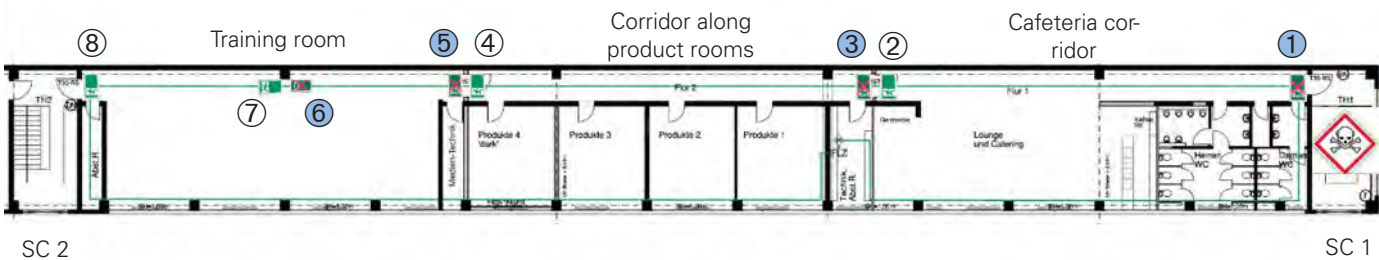
- ① short circuit-isolated separation
- ② **still** safeguarded via loop communication after isolation of the short circuit



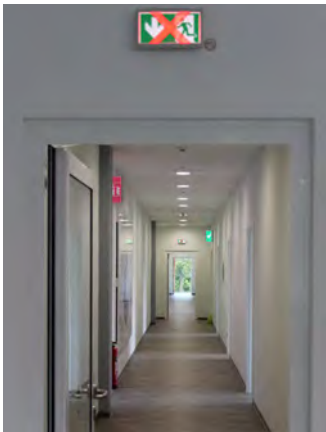
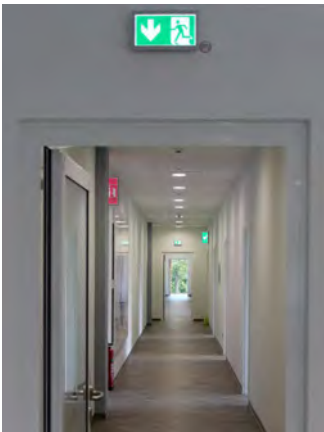
11

AE-CU control matrix

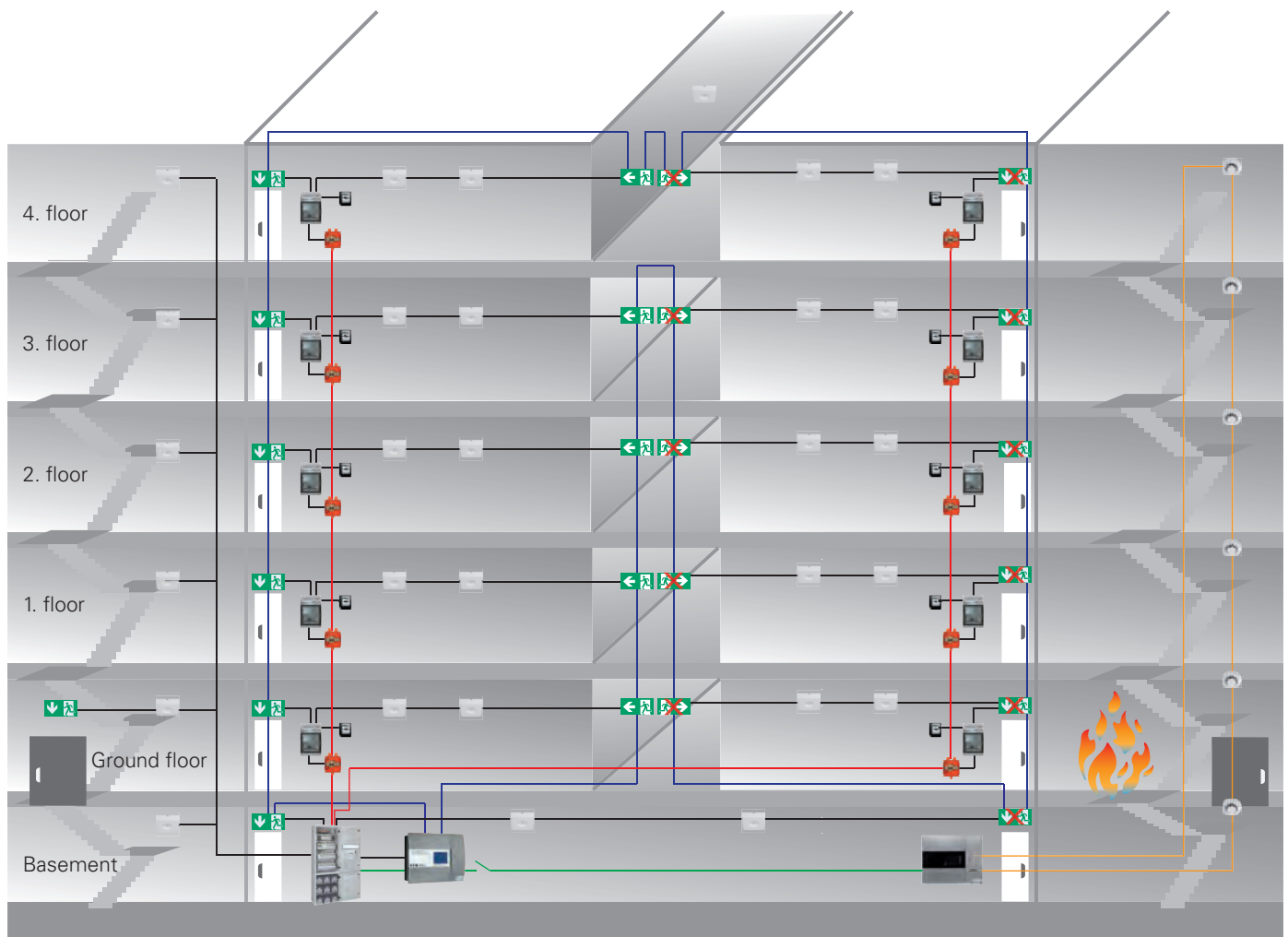
Example: Client training center at a workplace



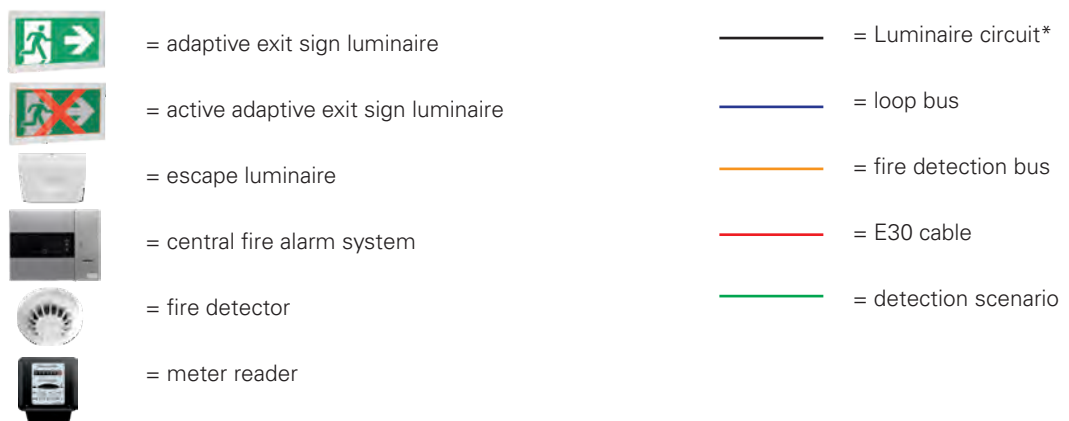
| No. | Luminaire description: | Scenario: | SC 1 blocked | | | | |
|-----|---|-----------|--------------------------------|------------------------------------|-----------------------|--------------|---|
| | | | Corridor 1 + Cafeteria blocked | Corridor 2 + product rooms blocked | Training room blocked | SC 2 blocked | |
| ① | Corridor 1, at door to SC 1 | | X | | | | |
| ② | Corridor 1, at door to corridor 2 | | | X | X | X | |
| ③ | Corridor 2, at door to corridor 1 | | X | X | | | |
| ④ | Corridor 2, at door to training room | | | | X | X | |
| ⑤ | Training room at door to corridor 2 | | X | X | | | |
| ⑥ | Training room middle direction corridor 2 | | X | X | | | |
| ⑦ | Training room middle direction SC 2 | | | | | | X |
| ⑧ | Training room at door to SC 2 | | | | | | X |



Adaptive evacuation – installation example



* Due to simplification, only one circuit is shown pro fire zone/staircase/flat



Adaptive Evacuation

AE-CU-W wall housing

AE-CU-W



AE-CU-W

Adaptive Evacuation Control Unit for wall mounting with integrated battery-supported power supply using loop technique for controlling addressable adaptive exit sign luminaires with 230V / 216V AC/DC technology for safety lighting systems acc. to DIN VDE 0100-560, DIN EN 50172 and V DIN V VDE 0108-100. With automatic testing device and monitoring of loop bus communication and individual display of condition and name of loop BUS connection per GuideLed DXC luminaire.

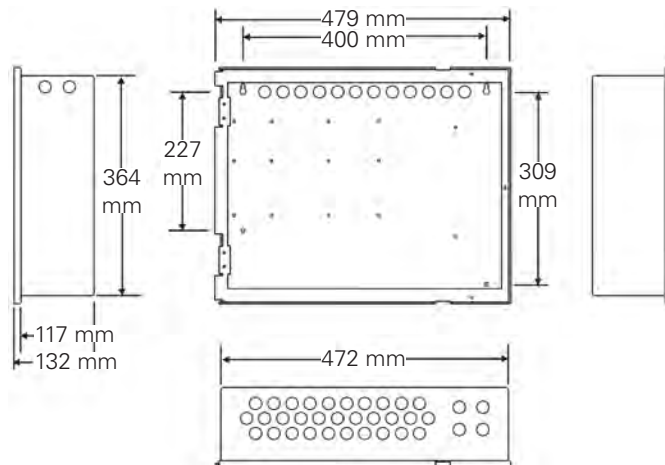
- Adaptive system – Escape routing adapt continuously to the risk
- Self-addressing of the connected DXC luminaires simplifies the process for installation and commissioning
- Simple handling by Touch Display and optional PC programming software
- AE-CU for the adaptive control of up to 240 GuideLed DXC luminaires
- Four short circuit and open circuit resistant loop lines each with 60 GuideLED DXC luminaires
- Two scenarios freely programmable for building evacuation, factory provided integrated. More than two scenarios on request
- A maximum of six ZB-S/US-S systems can be connected per AE-CU. More than six ZB-S systems on request
- Automatic software address-setting of all GuideLed DXC luminaires for scenario control
- Number of scenarios could be extended via scenario boxes with 8 or 16 scenarios
- Number of scenario inputs individual extendable
- Functionality also at power failure by inbuilt battery supply
- Universal applicable and with hazard alert systems combinable by potential free scenario inputs
- No E30 cable routing of the loop bus line is required because these are fail-safe with the first fault case

| | |
|---|--|
| Primary rated voltage | 230 V AC +10%, -15% |
| Primary rated current | 75 mA |
| Nominal frequency | 50 Hz |
| Protection rating | IP 30 |
| Insulation class | I |
| Ambient temperature | -5°C to +40°C |
| Secondary rated voltage | 18,5 V - 29,5 V |
| Battery | 2 x 12 V / 12 Ah |
| Max. battery current | 3.5 A |
| Charge characteristic | Constant voltage temperature-compensated |
| Min. backup power time | 30 h |
| Weight with battery | 14 kg |
| Dimensions (HxWxD in mm) | 395 x 495 x 180 |
| Basic housing material | Sheet steel, powder-coated |
| Material of front | Plastic |
| Inputs | |
| Addressable loop line | 4 |
| Scenario active inputs | 2 (more on request) |
| Maximum ring length | 2,000 m / I(ST)Y 4 x 2 x 0.8 mm |
| Maximum number of GuideLed DX/DXC luminaires per loop | 60 |
| Outputs | |
| Zero-potential changeover contact | 2 |
| Contact load | 24 V / 1 A |
| Fuse | 1.35 A |

Ordering details

| Type | Scope of supply | Order No. |
|---------|--|-------------|
| AE-CU-W | Surface- / Recessed mounted wall housing | 40071361359 |

Dimensions in mm



1 LED displays:

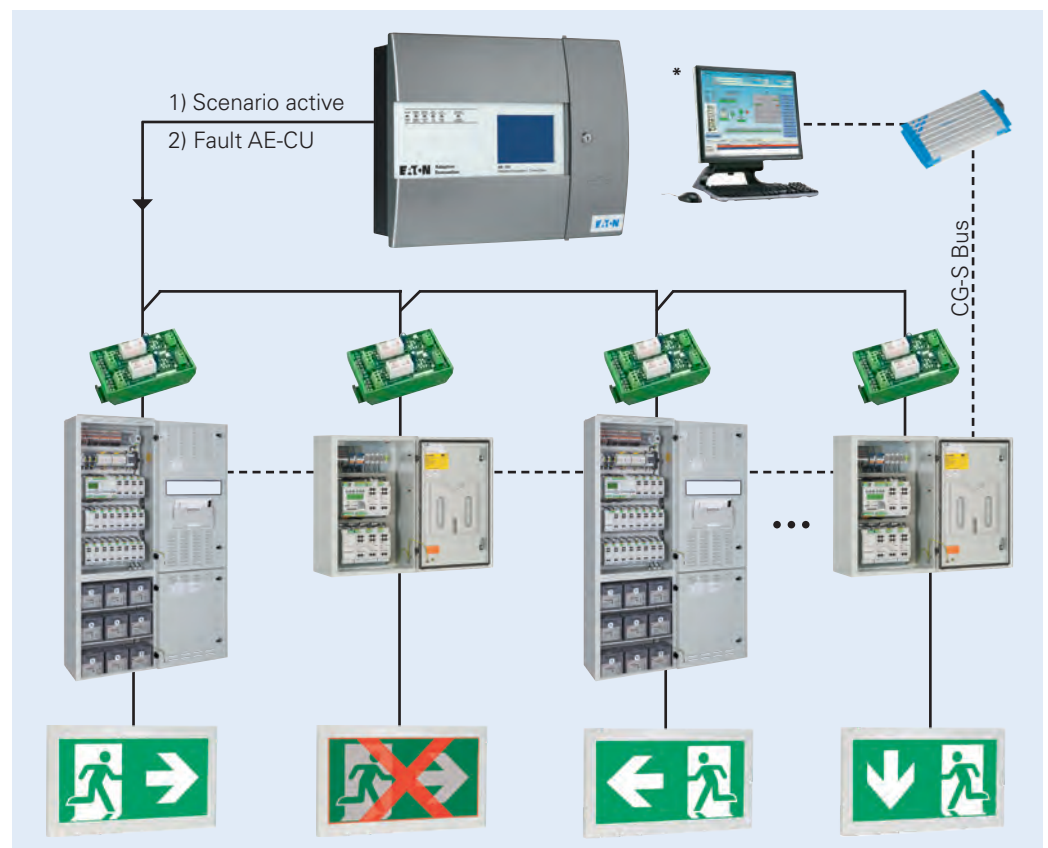
Power On, Scenario Active, General Fault, CPU Fault, Power Fault, General Disablement

2 Touch display, operating messages:

Scenario Active, Fault, Disablement

3 Fault messages:

Battery fault (AE-CU wall assembly), double address, earth fault, loop short circuit, charge fault, mains fault, loop communication fault, loop driver fault, trouble fault relay, CPU fault, loop overload, loop break at address, break-loop +loop



* At connection of a CGVision the messages „Scenario active“ and „sum failure AE-CU“ are shown on the control unit of the systems and on the CGVision. This messages are also listed in the test book with date and time.

Adaptive Evacuation

AE-CU-E installation variant

AE-CU-E



AE-CU-E

Adaptive Evacuation Control Unit for assembly in ZB-S/18-AE units using loop technique for controlling addressable adaptive exit sign luminaires with 230V / 216V AC/DC technology for safety lighting systems acc. to DIN VDE 0100-560, DIN EN 50172 and V DIN VDE 0108-100. With automatic testing device and monitoring of loop bus communication and individual display of condition and name of loop BUS connection per GuideLed DXC luminaire.

| | |
|--------------------------|----------------------------|
| Primary rated voltage | 28.5 V/DC |
| Primary rated current | 4.2 A |
| Protection rating | IP 20 |
| Insulation class | I |
| Ambient temperature | -5°C to +40°C |
| Secondary rated voltage | 18.5 V- 29.6 V |
| Weight | 8 kg |
| Dimensions (HxWxD in mm) | 200 x 500 x 190 |
| Material | Sheet steel, powder-coated |

Inputs

| | |
|---|---------------------------------|
| Addressable loop line | 4 |
| Scenario active inputs | 2 (more on request) |
| Maximum ring length | 2,000 m / I(ST)Y 4 x 2 x 0.8 mm |
| Maximum number of GuideLed DX/DXC luminaires per loop | 60 |

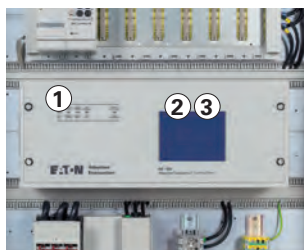
Outputs

| | |
|-----------------------------------|------------|
| Zero-potential changeover contact | 2 |
| Contact load | 24 V / 1 A |
| Fuse | 1.35 A |

Ordering details

| Type | Scope of supply | Order No. |
|----------|-------------------------------------|-------------|
| *AE-CU-E | Installation variant for ZB-S/18-AE | 40071361360 |

*note: not suitable for ATS+ and LP-STAR systems



1 LED displays:

Power On, Scenario Active, General Fault, CPU Fault, Power Fault, General Disablement

2 Touch display, operating messages:

Scenario Active, Fault, Disablement

3 Fault messages:

Battery fault (AE-CU wall assembly), double address, earth fault, loop short circuit, charge fault, mains fault, loop communication fault, loop driver fault, trouble fault relay, CPU fault, loop overload, loop break at address, break-loop +loop

Relay module



Relay module

Information units ,scenario active' and ,fault' are reported to the ZB-S by the AE-CU via the relay module (installed in a ZB-S/US-S). Six ZB-S/US-S can be connected per AE-CU. More on request.

Ordering details

| Type | Scope of supply | Order No. |
|--------------|---|-------------|
| Relay module | Relay module connection set for use per ZB-S/US-S for connection to a AE-CU | 40071361422 |

*Note: Relay module must be mounted externally at sub stations with functional integrity.

Adaptive Evacuation

GuideLed DX 10011 CG-S – Wall mounting



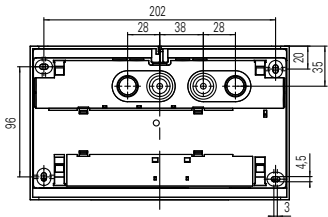
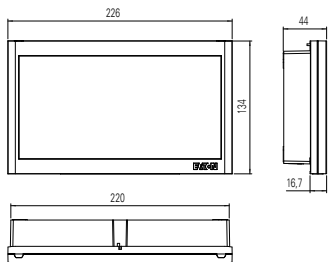
GuideLed DX 10011 CG-S

- Escape sign luminaire with LED Lightguide technology for wall-mounting.
- Additional function: Displaying a red 'X' to signify an area as closed or blocked
- Activated by a switching input on the supply module.
- Upgraded perception of the exit sign luminaire
- **GuideLed 10011DX: connection to local input, e.g. smoke detector or panic switch via potential free contact**
- Increased visibility in bright surroundings possible via additional selectable function modes, e.g. flashing red 'X'.
- Very good perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity L_{min}/L_{max} > 0.8
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50 000 hours)
- Installation of the LED pictogram without tools on the mounting set.
- Without power supply: still visible pictogramm

GuideLed DX 10011 CG-S



Dimensions in mm



Please observe a distance of 10 mm above for mounting!

| | |
|--|---|
| Viewing distance | 20 m |
| Luminous Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | PC, PMMA |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.65 kg |
| Type of mounting | Wall mounting |
| Connection terminal | Mains 3 x 2 x 2.5 mm ² Switch input 2 x 2 x 1.5 mm ² |
| Connection voltage | 220 - 240 V AC, 50/60 Hz 176 V - 275 V DC |
| Current consumption - battery operation (220 V) | 16 mA |
| Power consumption mains operation (apparent power / effective power) | 8.0 VA / 3.9 W |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED batten |

Ordering details - fastening set

| Type | Scope of supply (LED pictograms must ordered separete) | Order No. |
|------------------------|--|-------------|
| GuideLed DX 10011 CG-S | Wall mounting set for GuideLed DX 10011 CG-S, Sur-face mounting, including LED supply with additional switching input and CG-S technology (20 addresses) | 40071354646 |

Ordering details - LED pictograms (fastening set required)

| Type | Scope of supply | Order No. |
|-------------------------------|---|-------------|
| PL acc. ISO 7010 ¹ | LED-Piktogramm für GuideLed DX 10011 CG-S, Pfeil links (PL) gem. ISO 7010, 20 m | 40071354681 |
| PR acc. ISO 7010 ¹ | LED-Piktogramm für GuideLed DX 10011 CG-S, Pfeil rechts (PR), gem. ISO 7010, 20 m | 40071354682 |
| PU acc. ISO 7010 ¹ | LED-Piktogramm für GuideLed DX 10011 CG-S, Pfeil unten (PU), gem. ISO 7010, 20 m | 40071354683 |
| PO acc. ISO 7010 ¹ | LED-Piktogramm für GuideLed DX 10011 CG-S, Pfeil oben (PO), gem. ISO 7010, 20 m | 40071354684 |

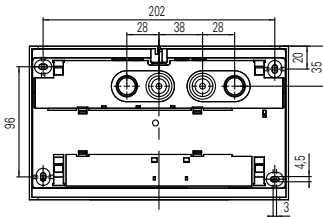
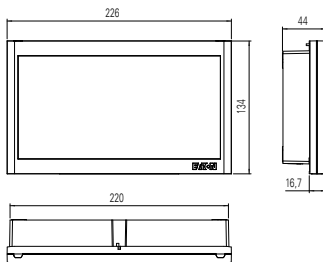
¹ with additional option: red X



GuideLed DXC 10011 CG-S



Dimensions in mm



Please observe a distance of 10 mm above for mounting!

GuideLed DXC 10011 CG-S

- Escape sign luminaire with LED Lightguide technology for wall-mounting.
- Additional function: Displaying a red 'X' to signify an area as closed or blocked
- Activated by a switching input on the supply module.
- Upgraded perception of the exit sign luminaire
- **GuideLed 10011DXC: connection to Eaton's Adaptive Evacuation with use of the EATON AE-CU via integrated bus interface**
- Increased visibility in bright surroundings possible via additional selectable function modes, e.g. flashing red 'X'.
- Very good perceptibility on account of high luminance of the white contrasting colour > 500 cd/m² in keeping with standard ISO 3864-1 and high uniformity Lmin/Lmax > 0.8
- Reduced battery costs on account of especially low power consumption
- Minimum service requirement due to high service life of the LEDs (50 000 hours)
- Installation of the LED pictogram without tools on the mounting set.
- Without power supply: still visible pictogramm

| | |
|--|--|
| Viewing distance | 20 m |
| Luminous Φ_E/Φ_N at the end of rated operating time | 100 % |
| Housing material | PC, PMMA |
| Housing colour | Light grey RAL 7035 |
| Weight | 0.65 kg |
| Type of mounting | Wall mounting |
| Connection terminal | Mains 3 x 2 x 2.5 mm ² bus interface 2 x 2 x 1.5 mm ² |
| Connection voltage | 220 - 240 V AC, 50/60 Hz 176 V - 275 V DC |
| Current consumption - battery operation (220 V) | 16 mA |
| Power consumption mains operation (apparent power / effective power) | 8.0 VA / 3.9 W |
| Permissible ambient temperature | -20 °C to +40 °C |
| Light source | LED batten |

Ordering details - fastening set

| Type | Scope of supply (LED pictograms must ordered sepearate) | Order No. |
|-------------------------|--|-------------|
| GuideLed DXC 10011 CG-S | Wall mounting set for GuideLed DXC 10011 CG-S, Surface mounting, including LED supply and CG-S technology (20 addresses), with integrated bus interface for connection to an AE-CU | 40071355085 |

Ordering details - LED pictograms (fastening set required)

| Type | Scope of supply | Order No. |
|-------------------------------|---|-------------|
| PL acc. ISO 7010 ¹ | LED-Piktogramm für GuideLed DX 10011 CG-S, Pfeil links (PL) gem. ISO 7010, 20 m | 40071354681 |
| PR acc. ISO 7010 ¹ | LED-Piktogramm für GuideLed DX 10011 CG-S, Pfeil rechts (PR), gem. ISO 7010, 20 m | 40071354682 |
| PU acc. ISO 7010 ¹ | LED-Piktogramm für GuideLed DX 10011 CG-S, Pfeil unten (PU), gem. ISO 7010, 20 m | 40071354683 |
| PO acc. ISO 7010 ¹ | LED-Piktogramm für GuideLed DX 10011 CG-S, Pfeil oben (PO), gem. ISO 7010, 20 m | 40071354684 |

¹ with additional option: red X



Central Visualisation

Visualisation software CGVision466

Monitoring and programming software476

CG-S bus components.....480





A software for giant tasks

The high performance CGVision visualisation software controls and monitors even large-scale safety lighting systems with maximum reliability. This is backed up by CEAG, a company belonging to Cooper Industries, with over 40 years of expertise and experience. As market leader we are always aware of our special responsibility. Because where we are active, light means life!

The monitoring tool for really large-scale tasks: up to 480 individual emergency lighting systems with over one million light points can be kept in view on a monitor in the control room. With larger buildings in particular such as airports, universities, museums, sports centres and industrial facilities, the software is the ideal partner for optimal and therefore also economical operation of the complete safety lighting.

Web server solutions can only achieve a fraction of this compared to CGVision. Complexity and configurability are the strengths with which the CEAG software convinces. The management of the complete safety lighting is implemented with exemplary clarity and efficiency.

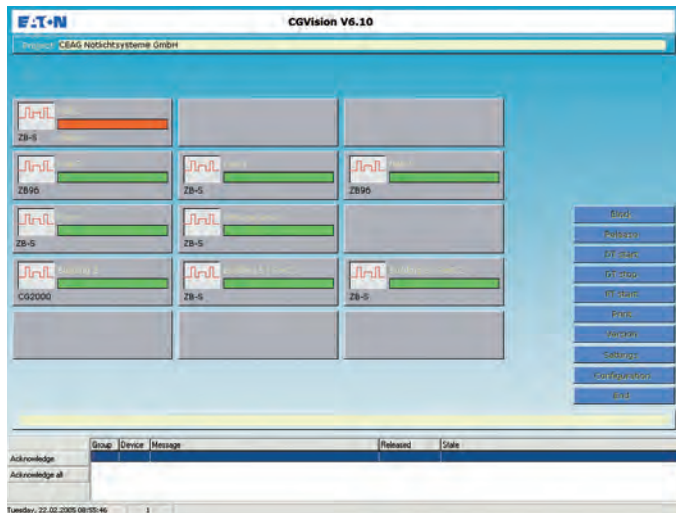
Every safety luminaire counts

Because when the worst comes to the worst, only 100 percent protection is enough. Every operator must document such cases. CGVision records all relevant details in an electronic inspection book. Status printouts can be implemented automatically and according to set times.

Control in its most cost-efficient form.



Clarity counts



In the main group screen, up to 15 buildings (or other device groups) can be defined. With green everything is fine, red means that a defect has occurred.



The device group affected by the defect can be opened as simply as that. A maximum of 480 emergency lighting systems with up to 32 devices per group can be visualised here.

Intuitive operating concept



Red signals a problem. The device image gives a quick overview and supplies detailed, highlighted status information.



The software recognises colours on the circuit level as well. What is the luminaire status? Are the maximum of 20 luminaires switched off or defective? One glance is enough.

Documenting, controlling, reacting

CGVision tests the complete system once weekly in automatic mode according to legislative requirements. Complex control rounds are a thing of the past.

12

CGVision tests the complete system once weekly in automatic mode according to legislative requirements. Complex control rounds are a thing of the past.

If an 'emergency light defect' is reported, the error can be localised conveniently and safely on the screen. The display shows in which subsystem the defect has occurred, which circuit module is affected, the position specification of the luminaire and how the switching type was programmed. The software interface is no cryptic intellectual challenge but can be operated highly intuitively.

It is also possible to integrate a detailed building plan into the software that precisely positions the safety luminaires with a coloured status display at their locations. Safety-relevant controls of the work of house technicians or external service providers can be implemented directly on the screen. If the display changes from red to yellow, the light point again functions perfectly.

But the graphical display possibilities do not end there: even the location-specific display as part of an aerial view is possible. You can't get an overview more quickly.



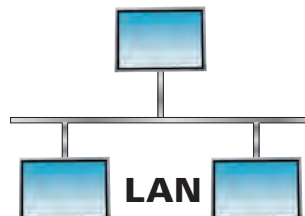
More comfort with an interface to building technology

CGVision and the emergency lighting systems can be connected without complex installations via existing LAN and telecommunication cables. The most common interfaces for building technology are offered. A connection to the building control systems is also simple: CGVision offers an OPC interface for this, or optionally a BACnet interface.

The software is also optimal for decentral solutions: various locations can be controlled via the company-internal intranet without limitations. In this way, efficiency and economy are united as one.

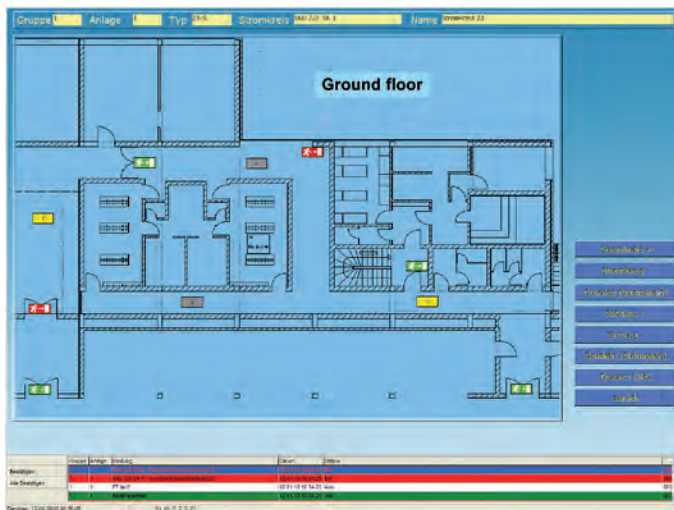


BMS

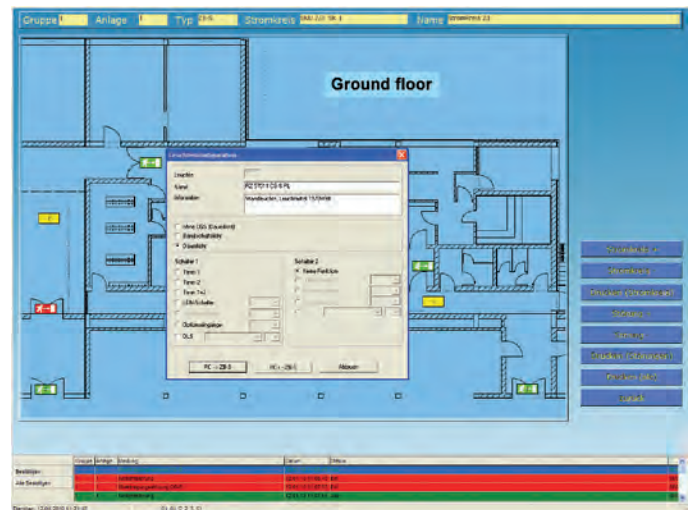


CGVision

Graphical display possibilities



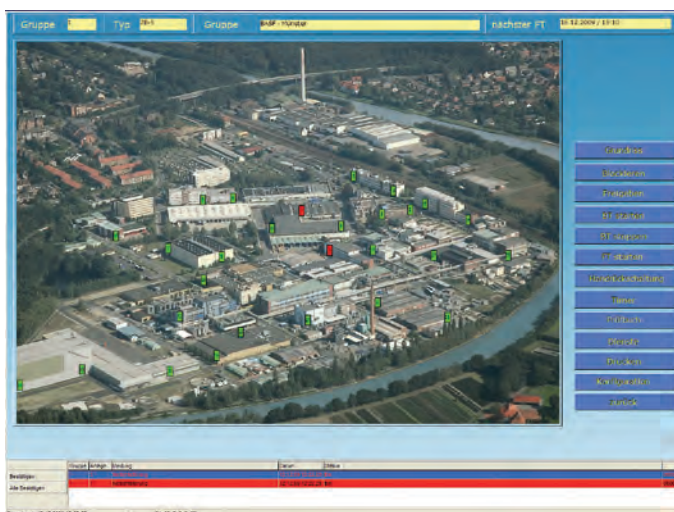
Clear and concise display of the luminaires in the layout plans is also optionally possible. A special graphics tool enables the simple import of CAD plans in .dwg or .dxf format.



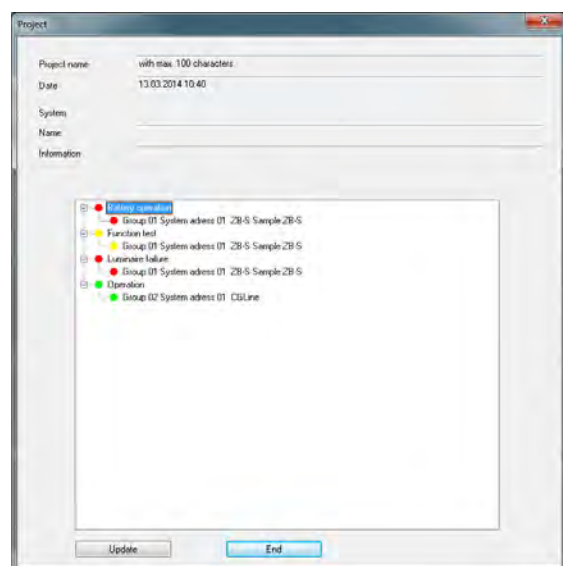
The luminaires can be reprogrammed with respect to their switching types, e.g. from maintained light to standby light with only a few clicks of the mouse in the layout image.

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Orientation becomes child's play



Display of the emergency lighting systems in an aerial view or area plan simplifies orientation enormously!



In addition, all systems can be displayed clearly within an Explorer structure along with detailed information.

Technology that always pays for itself ...

... and not only because our light saves lives.

CGVision is the ideal tool for the central monitoring and fully automated inspection of complex emergency lighting systems. The workload is reduced enormously because control rounds are no longer necessary. The team of technicians or external service providers are only then required when a defect is reported. Personnel-intensive resources are therefore spared.

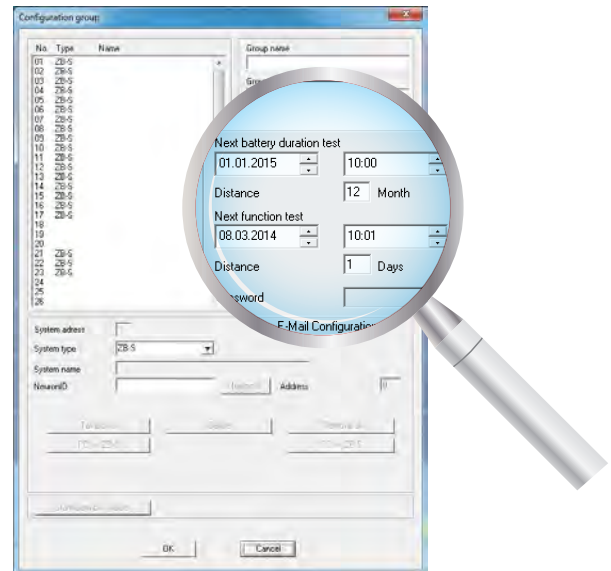
Decentral implementation in particular where several locations are interconnected via

intranet pays for itself rapidly. If for example the safety lighting systems of six locations are monitored centrally at one location, thanks to the powerfully functional CEAG software this is possible by only one person. The person responsible has all light points in view from one control room and also has their functional efficiency under control, even at a distance of 500 kilometres. In times past this task would have occupied more than half a dozen technicians.

Fully automatic functions optimise work and time invested



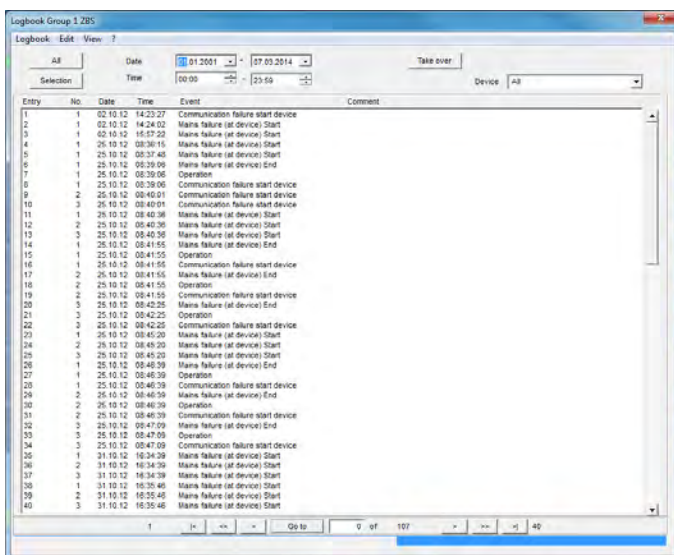
Time-controlled, automatic system status printouts



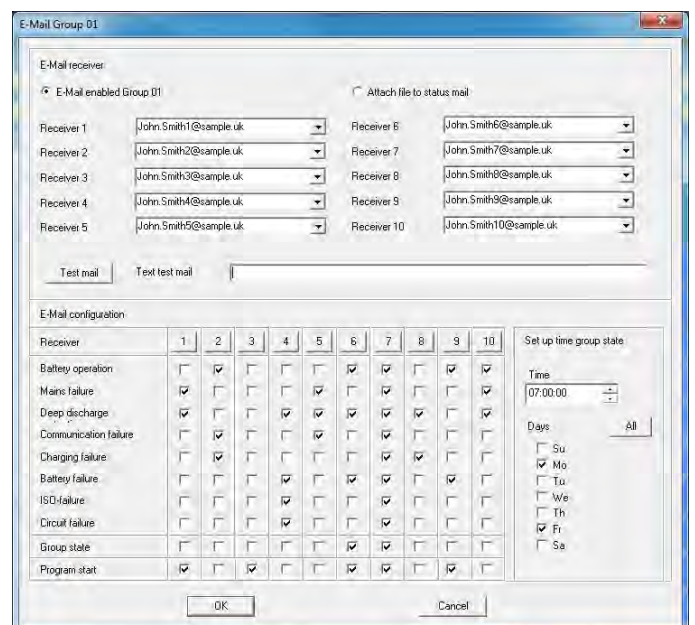
Self-executing tests

12

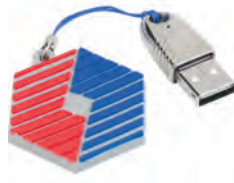
Professional functions for total convenience



Innovative inspection books with intuitive operation



Notification per e-mail



The correct license for your application

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CGVision visualisation software is available in three different packages in the Basic or Pro versions.

The packages essentially differ with the CG-S interface for connecting the existing emergency light systems to the CG-S bus. All packages have dongle licenses for all EGA devices that can be connected to CGVision (ZB96/Euro ZB.1/GVL24.1/CG48 or ZVL220, optionally available CG-S/IP router+ 1P required)

Package I contains a CG-S/IP interface, for connecting CG-S based systems such as ZB-S, AT-S+ or CG2000 via ethernet (IP network). For this purpose optional CG-S/IP-Router are necessary.

Package II does not contain a CG-S interface, e.g. only with use of a CGLine+ self-contained luminaire system via CGLine+ Web-Controller.

Package III contains a CG-S/USB interface for connecting CG-S based systems via a standard 2-wire bus line (CG-S bus).

All **Pro Packages** contain in addition to the Basic Packages convenient layout programming enabling the display of the systems in building plans or aerial views, or the display of emergency luminaires circuit-related in building layouts. The image format is typically .bmp format. Converting a .dwg based AutoCAD file is also possible. Positioning luminaires in the layout is via drag & drop.



Overview CGVision licences

| | Basic Package I | Basic Package II | Basic Package III | Pro Package I | Pro Package II | Pro Package III |
|--------------------------------------|-----------------|------------------|-------------------|---------------|----------------|-----------------|
| CG-S/IP interface | X | - | - | X | - | - |
| EGA licences | X | X | X | X | X | X |
| CGLine 400 licences | X | X | X | X | X | X |
| CGLine+ licences | X | X | X | X | X | X |
| Ethernet I/O licences | X | X | X | X | X | X |
| CG-S/USB interfacebox | - | - | X | - | - | X |
| Graphic visualisation of the devices | - | - | - | X | X | X |
| Visualisation in a building layout | - | - | - | X | X | X |

CGVision Package I

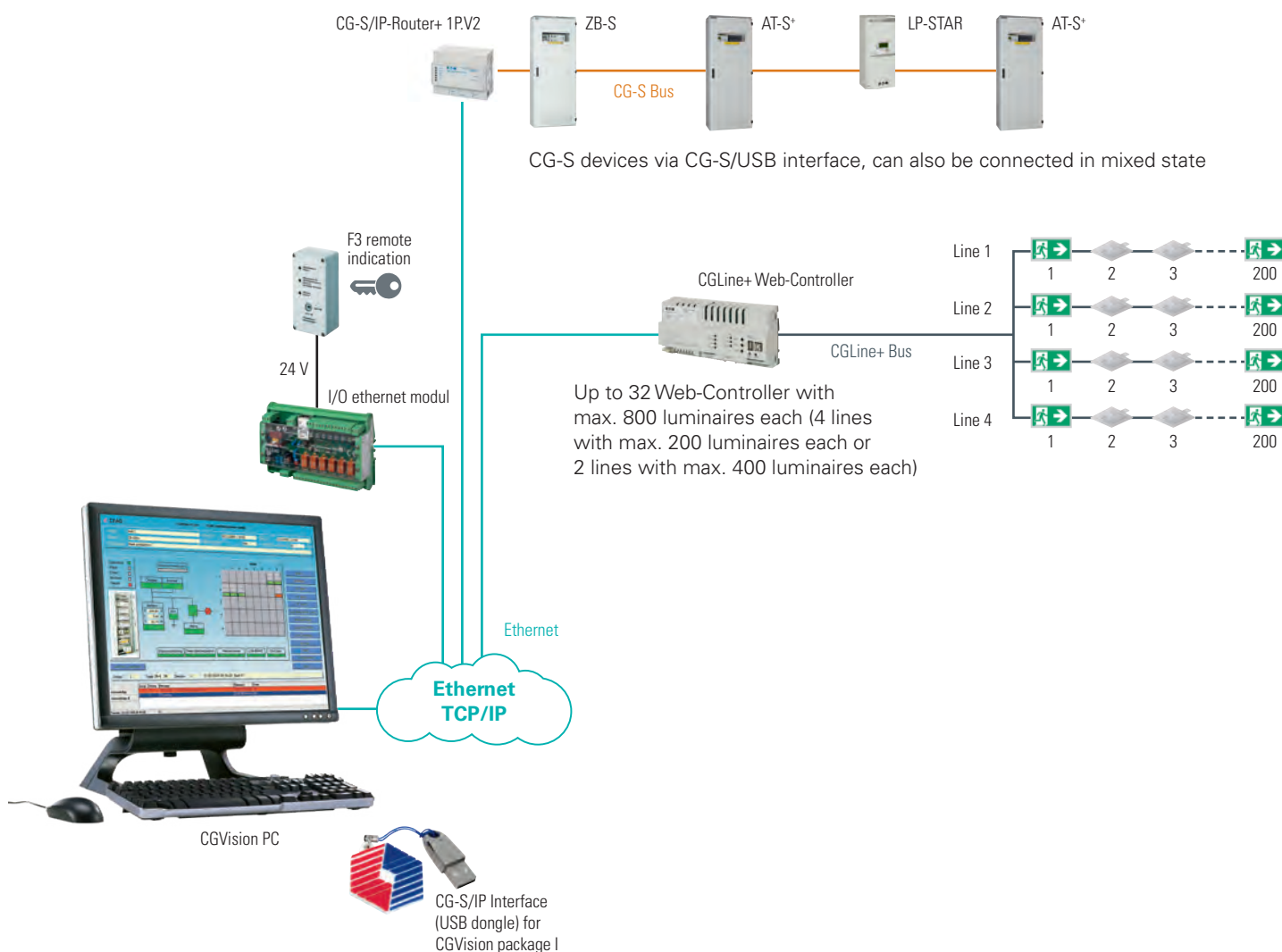
CGVision Package I (Basic or Pro) contains the CG-S/IP interface (USB dongle) enabling CG-S bus-based emergency light systems such as ZB-S, LP-STAR, AT-S⁺ and CG2000 to be connected to the CGVision visualisation software with the aid of CG-S/IP routers (optionally available) via an ethernet-based network (TCP/IP).

Any number of ZB-S, AT-S⁺ or CG2000 systems, also in mixed state, can be connected to a CG-S/IP router+ 1P.V2. In CGVision the systems must however be assigned own device groups.

In addition, the CGVision Package I version contains all dongle licenses for EGA devices (ZB96, EuroZB.1, GVL24.1, CG48 or ZVL220), CGLine+, CGLine or Ethernet I/O modules on CGVision.

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CGVision Package I application example



CGVision Package II

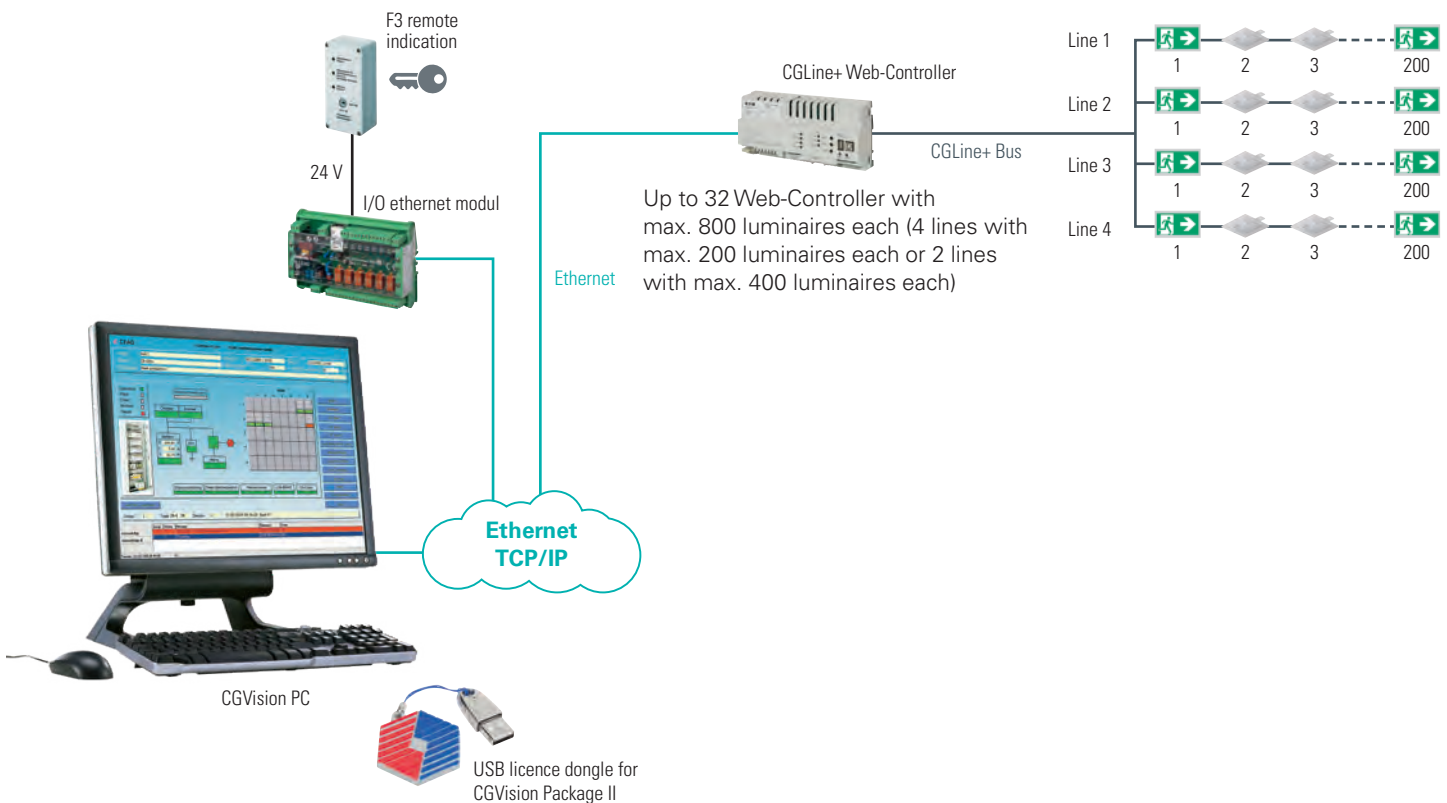
CGVision Package II (Basic or Pro) does not contain the CG-S interface.

The package contains all dongle licenses for EGA devices (ZB96, EuroZB.1, GVL24.1, CG48 or ZVL220), CGLine+, CGLine or Ethernet I/O modules on CGVision. Thus only visualisation of EGA devices or CGLine+ self-contained luminaires without CG-S bus-based devices is possible.

The license for the I/O Ethernet module is also provided, enabling visualisation of devices from other manufacturers via potential-free contacts.

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CGVision Package II application example



CGVision Package III

CGVision Package III (Basic or Pro) contains the CG-S/USB interface (USB box), enabling CG-S bus-based emergency light systems such as ZB-S, LP-STAR, AT-S+ and CG2000 to be connected to the CGVision visualisation software via a standard bus cable.

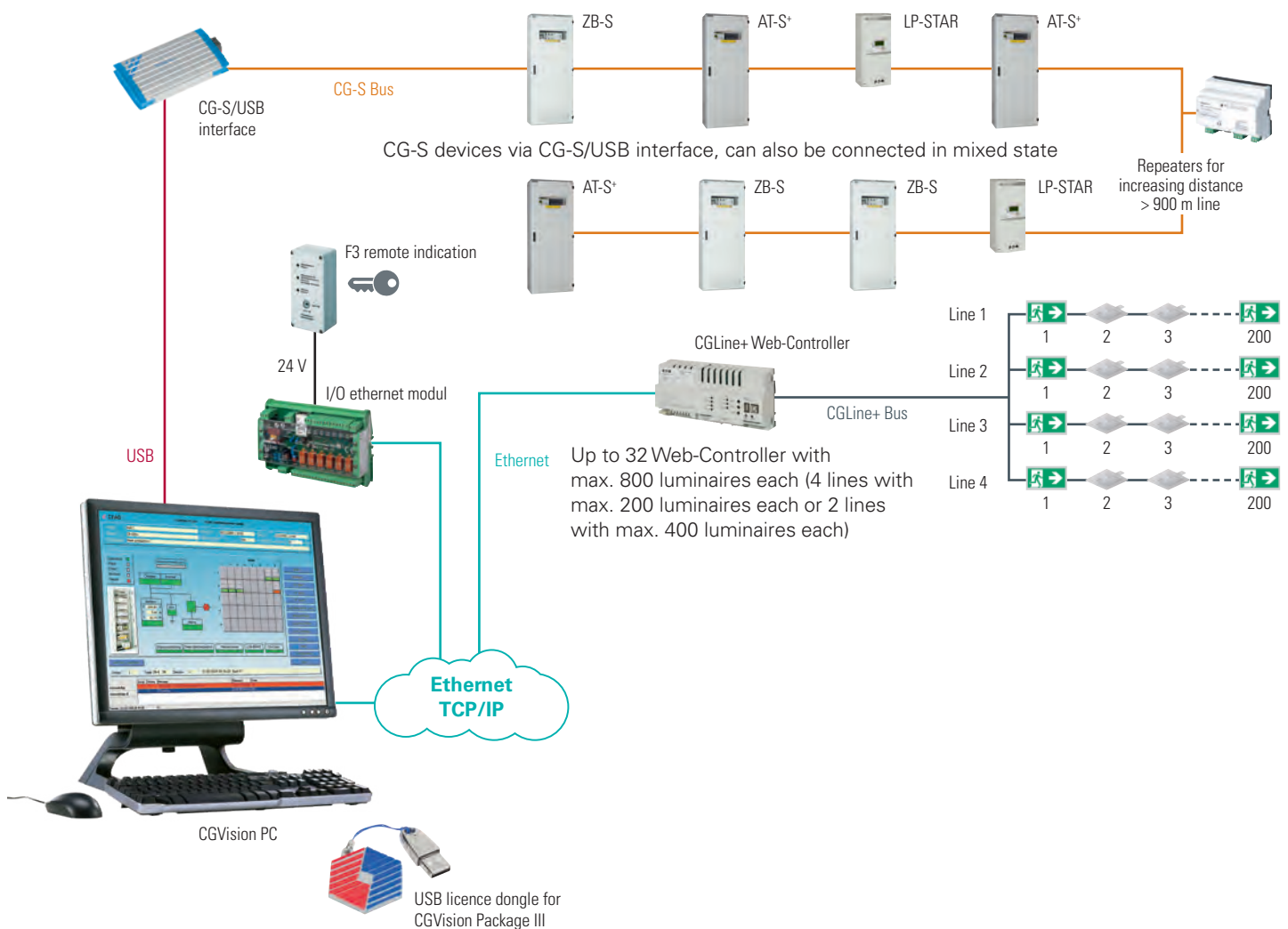
Any number of ZB-S, CGLine+, AT-S+ or CG2000 systems, also in mixed state, can be connected. In CGVision the systems must however be assigned own device groups.

Increasing the distance of the bus cable is possible via optionally available repeaters or routers.

In addition, the CGVision Package III version contains all dongle licenses for EGA devices (ZB96, EuroZB.1, GVL24.1, CG48 or ZVL220), CGLine+, CGLine or Ethernet I/O modules on CGVision.

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CGVision Package III application example



Central Visualisation

Monitoring and programming software



Monitoring and programming software

- Extremely diverse: complete visualisation, monitoring and programming of up to 480 emergency lighting systems with over 1,000,000 emergency luminaires
- Ideal orientation: luminaire texts and supplementary information fields for each luminaire as well as the display of emergency lighting systems and luminaires in aerial views or layouts makes orientation child's play
- Clear and user-friendly inspection books as well as extensive printing functions offer convenient information possibilities
- Automatic notification: an integrated e-mail function with many setting possibilities informs conveniently per e-mail. Thus control rounds are no longer necessary

| | |
|------------------|--|
| Operating system | Windows® 7 (32 Bit/64 Bit), Windows® 10 (32/64 Bit), Windows® Server 2012 (no server/client) |
| Processor | at least 2 GHz |
| RAM | at least 4 GB RAM / 32 Bit or 8 GB RAM / 64 Bit recommended |
| Hard disk | 10 GB free hard disk storage |
| Graphics board | at least 128 MB (no shared memory) |
| Drives | CD-ROM / DVD |
| Monitor | at least 17" (min. 1280 x 1024 dpi) |
| Mouse, keyboard | 1 x each |
| USB port | 1 x (CG-S interface/dongle license) |
| | 1 x USB for printer |

CGVision

- Detailed system information are available at every time
- Simple menu guidance
- Up to 480 emergency lighting devices are monitor- and programmable, a segmentation in up to 15 groups of devices is possible (one device group per device family)
- Up to 32 pcs. CGLine+ WEB-Controller with up to 25,600 CGLine+ luminaires are monitor- and programmable
- Up to 8 pcs. CGLine WEB-Interfaces with up to 3,200 self contained luminaires are monitor- and programmable
- Free input of texts and additional information at each level (up to 100 signs) and cognition of destination for luminaires (ZB-S/CG 2000 up to 20 signs)
- Inquiry of the current working conditions of all mounted systems
- Clearly-presented display in explore structure (tree structure) possible
- Constant display of the 5 latest events in an alarm list
- Localised failure display about each emergency circuit and luminaries with destination data in plain text in connection with function tests
- Always current information on charging unit and battery
- Storage and retrieval possibility of all log book entries over a period of 4 years at least
- Free programmable function- and duration test
- Configurable automatic print functions
- Integrated e-mail client program with status information for each device group
- Up to 10 e-mail recipients each device group configuring
- Connection of a building management system (BMS) via integrated OPC-server possible
- Optional BACnet server (only for ZB-S / CG2000) for BACnet based BMS available

Overview CGVision licences

| | Basic Package I | Basic Package II | Basic Package III | Pro Package I | Pro Package II | Pro Package III |
|--------------------------------------|-----------------|------------------|-------------------|---------------|----------------|-----------------|
| CG-S/IP interface | X | - | - | X | - | - |
| EGA licences | X | X | X | X | X | X |
| CGLine 400 licences | X | X | X | X | X | X |
| CGLine+ licences | X | X | X | X | X | X |
| Ethernet I/O licences | X | X | X | X | X | X |
| CG-S/USB interfacebox | - | - | X | - | - | X |
| Graphic visualisation of the devices | - | - | - | X | X | X |
| Visualisation in a building layout | - | - | - | X | X | X |

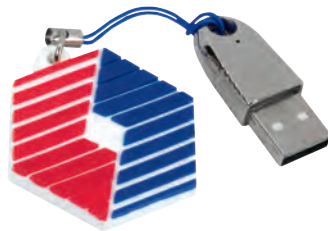
Features of all packages

- CGLine+ Licence (release via USB-dongle) for visualisation of CGLine+ self-contained luminaires via CGLine+ WEB-Controller on CGVision. Up to 32 pcs. CGLine PC-interfaces with up to 25,600 pcs. CGLine+ self-contained luminaires can be controlled and monitored.
- CGLine Licence (release via USB-dongle) for visualisation of CGLine self-contained luminaires via CGLine WEB-interface on CGVision. Up to 8 pcs. CGLine PC-interfaces with up to 3,200 pcs. CGLine self-contained luminaires can be controlled and monitored.
- Ethernet I/O-License (released via USB-dongle) for visualisation of devices via pot.-free In-/Outputs. 8 digital inputs for visualisation and 7 relay outputs 24V, to control of diverse functions, e.g. Start function test.

In addition all CGVision Software Pro Packages contain:

- Graphic visualisation of the devices in a .bmp graphic, e.g. area plan, aerial map
- Circuit orientated visualisation of luminaires in a building layout

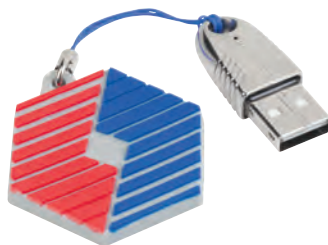
Licence (Dongle) Basic Package I



Special features of CGVision Software Basic Package I

- CG-S/IP-Interface (USB-dongle) for the connection of CEAG emergency lighting systems with STAR technology (AT-S+, ZB-S, LP-STAR, CG 2000) via an ethernet (TCP/IP), directly via the LAN-interface (RJ45) of the PC. For the connection of CEAG emergency lighting systems with STAR-Technology via an ethernet, CG-S/IP-Routers+ 1P are necessary, which are optionally available.
- EGA-Licences (release via USB-dongle) for the visualisation of EGA-devices on CGVision. Up to 8 EGA-lines of each device family (ZB96, Euro ZB.1, GVL 24.1, CG48, and ZVL220) possible. Max. 15 EGA-lines in total on CGVision connectable. For the connection of CEAG emergency lighting systems with EGA-technology at CGVision via EGA-Interface-Box (one box each line) or via EGA/PC-interface-2 (each interface up to two lines) on a PC.

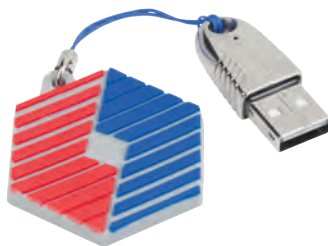
Licence (Dongle) Basic Package II



Special features of CGVision Software Basic Package II

- EGA-Licences (release via USB-dongle) for the visualisation of EGA-devices on CGVision. Up to 8 EGA-lines of each device family (ZB96, Euro ZB.1, GVL 24.1, CG48, and ZVL220) possible. Max. 15 EGA-lines in total on CGVision connectable. For the connection of CEAG emergency lighting systems with EGA-technology at CGVision via EGA-Interface-Box (one box each line) or via EGA/PC-interface-2 (each interface up to two lines) on a PC.

Licence (Dongle) Basic Package III



Special features of CGVision Software Basic Package III

- CG-S/USB-Interfacebox for the connection of CEAG emergency lighting systems with STAR technology (AT-S+, ZB-S, CG 2000) via a conventional two-conductor cable data bus.
- EGA-Licences (release via USB-dongle) for the visualisation of EGA-devices on CGVision. Up to 8 EGA-lines of each device family (ZB96, Euro ZB.1, GVL 24.1, CG48, and ZVL220) possible. Max. 15 EGA-lines in total on CGVision connectable. For the connection of CEAG emergency lighting systems with EGA-technology at CGVision via EGA-Interface-Box (one box each line) or via EGA/PC-interface-2 (each interface up to two lines) on a PC.

Central Visualisation

Monitoring and programming software

Licence BACnet-Server (Dongle)

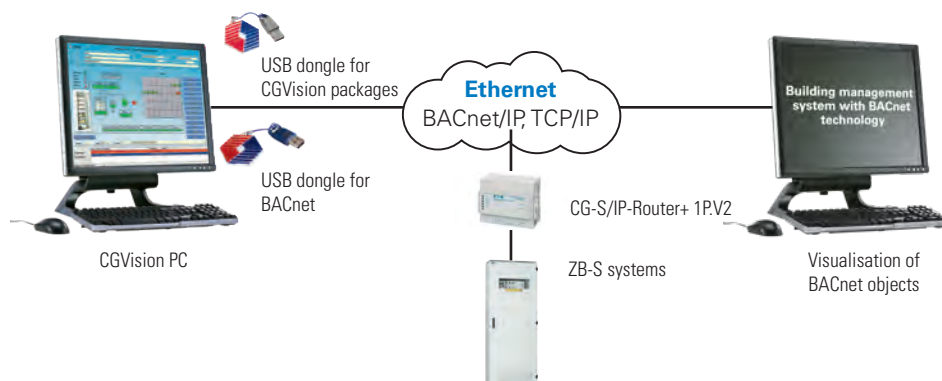


BACnet Server for CGVision

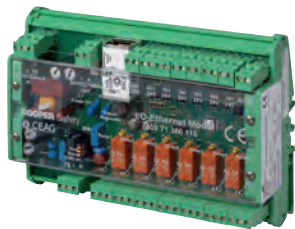
BACnet Server for CGVision to connect a BACnet based BMS to CGVision with ZB-S/CG2000 systems via BACnet/IP. The BACnet Server provides event-driven BACnet-objects with relevant status indications of ZB-S/CG2000 systems with STAR technology.

The BACnet interface provides following information each ZB-S/CG2000 system:

- 35 status information (e.g. mains failure, battery operation, luminaire sum failure etc.)
- 3 sum messages, mirroring of free programmable relay contacts
- 4 analogue battery values (Battery voltage, charge-/discharge current, temperature, capacity)
- 4 ZB-S control commands (e.g. start function test)
- 16 switch commands, to switch circuits or luminaires, which are programmed to LON-switch



I/O ethernet module



I/O ethernet module

- Connection as F3 interface with F3 module (optionally available) to CGVision
- Control and monitoring of external devices via up to seven pot. free relay outputs or up to eight digital inputs
- Integrated web server, for control/monitoring via standard web browsers (e.g. Firefox)
- Blocking input (input 8) with differential loop monitoring (closed-circuit principle)
- Integrated e-mail program, can be freely configured for up to ten e-mail recipients
- Voltage supply either 230V/AC or 24V/DC

F3 remote indication



F3 remote indication

The F3 remote indication ensures display of the most important installation functions via battery supply also with mains power failure. Blocking of emergency lighting operation is possible via a key switch during idle operation times. Blocking of emergency operation does not affect battery maintenance charging. Differential loop monitoring leads to operational readiness of the system with short circuits or wirebreak detection. LED displays: system readiness (green), source for safety services (yellow), failure (red). As such the F3 remote indication fulfills the requirement that remote switching is only permissible when operation by unauthorized persons is not possible.

F3 remote indication for flush-mounting



24" TFT screen

Generous TFT high resolution flat screen for display of CGVision visualisation, monitoring and programming software via a PC system.

PC miditower

High performance PC system for installation and operation of CGVision visualisation, monitoring and programming software, incl. WIN 10 Prof. (64 Bit), PC: High performance processor, 8 GB RAM / 64 Bit, 256 GB SSD, 1 TB HDD, mouse and keyboard.

Ordering specifications software

| Scope of delivery | Order No. |
|---|-------------|
| CGVision Basic Package I (including CG-S/IP-Interface) | 40071361020 |
| CGVision Basic Package II (EGA components to be ordered separately) | 40071361022 |
| CGVision Basic Package III (including CG-S/USB-Interface, EGA components to be ordered separately) | 40071361024 |
| CGVision Pro Package I (including CG-S/IP-Interface and visualisation in a building layout) | 40071361021 |
| CGVision Pro Package II (including visualisation in a building layout, EGA components to be ordered separately) | 40071361023 |
| CGVision Pro Package III (including CG-S/USB-Interface and visualisation in a building layout, EGA components to be ordered separately) | 40071361025 |

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Ordering specifications optional licenses

| Scope of delivery | Order No. |
|---|-------------|
| CGVision CEAG BACnet-Server (dongle) with 1000 data points, version: USB-Port | 40071360336 |

Ordering specifications I/O ethernet module

| Scope of delivery | Order No. |
|---|-------------|
| I/O ethernet module (via LAN), for DIN rail | 40071360115 |

Ordering specifications F3 remote indication

| Scope of delivery | Order No. |
|---|-------------|
| F3 remote indication, surface-mounting | 40071338497 |
| F3 remote indication recessed, performance for installation in the flush-mounted switch or empty space box acc. to DIN VDE 0606 | 40071347490 |

Ordering specifications Hardware

| Scope of delivery | Order No. |
|---|-------------|
| PC Miditower with high performance Prozessor, incl. keyboard, optical mouse and WIN 10 Prof. (64 Bit) (english), incl. installation | 40071347144 |
| 24" TFT screen | 40071347155 |
| Ink jet printer (Laser printer black&white optional) | 40071340753 |

Central Visualisation

CG-S bus components

4-channel repeater for CG-S bus



CG-S bus components

- Powerful amplifier modules for expansion of bus structure
- Signal amplification and regeneration
- Generation of CG-S network segments
- Active interference suppression with logical filter function (router)
- Expansion of network capacity
- With diagnosis function
- Visualise without limits with transmission via TCP/IP
- Use existing ethernet-based corporate networks
- Any media possible (copper, LAN, WLAN, glass fibre)
- Convenient networking via standard network components

CG-S bus repeater

- 4-channel repeater for connecting of CG-S bus networks and expansion of network capacity of a CG-S bus network via physical division into two or more CG-S bus network segments.

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Order specifications CG-S Bus (ZB-S, CG2000)

| Scope of delivery | Order No. |
|---------------------------------|-------------|
| 4-channel repeater for CG-S bus | 40071070583 |

CG-S/IP router+ 1PV2



CG-S/IP router+ 1PV2 connection box



CG-S/USB Interfacebox



CG-S/IP router+ 1PV2

- CG-S/IP router+ 1PV2 for connection of CEAG emergency lighting systems with CG-S bus to CGVision via an existing on-site ethernet (with TCP/IP). Simple, building-wide connection of centrally located emergency lighting systems with STAR technology with coupling of CG-S/IP routers+ 1PV2 configured as clients via ethernet. Connection to CGVision can either be implemented via a USB port with the CG-S/USB interface box and a CG-S/IP router+ 1PV2, or directly via the LAN interface of the PC. The CG-S/IP interface is required for this. Management of all CG-S network components is implemented via any CG-S/IP router+ 1PV2 in the network configured as a configuration server and administering all participants in a channel list with their IP addresses.
- CG-S/IP-router+ connection box incl. CG-S/IP router+ 1PV2 and 24V/1.25A DC power supply for external mounting.
- CG-S/IP interface for operation of CEAG emergency lighting systems with CG-S bus technology and CG-S/IP router+ 1PV2 via ethernet to CGVision visualisation, monitoring and programming software. The CG-S/IP interface enables connection of the emergency lighting systems via CG-S/IP router+ 1PV2 through the ethernet directly via the LAN interface of the PC.

12

Order specifications CG-S Bus/Ethernet

| Scope of delivery | Order No. |
|---|-------------|
| CG-S/IP router+ 1PV2 (Ethernet) | 40071361090 |
| CG-S/IP router+ 1PV2-connection box incl. CG-S/IP router+ 1PV2 (ethernet) and 24V/DC power supply | 40071361092 |

Order specifications CG-S Bus (ZB-S, CG2000)

| Scope of delivery | Order No. |
|--|-------------|
| CG-S/USB interface box, surface mounted housing, without license key, replacement part | 40071347137 |

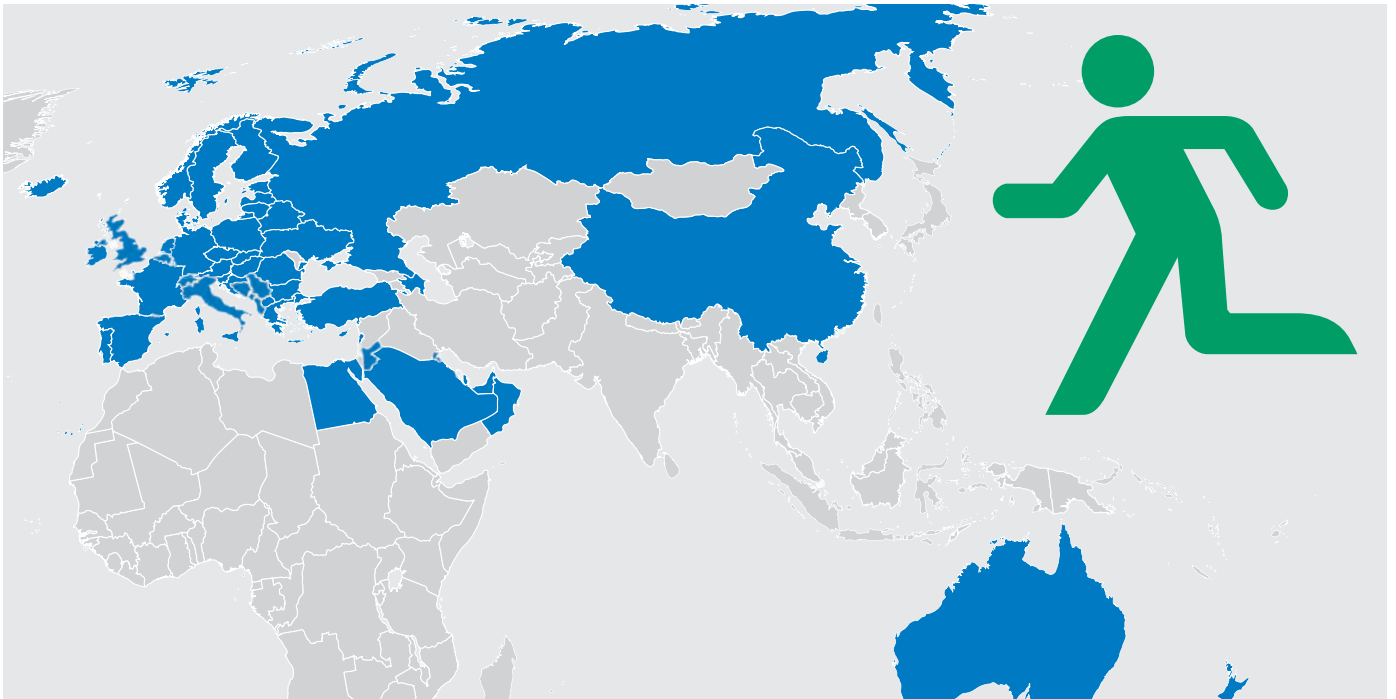


CEAG contact person

You can find further information at www.ceag.de

We are also available for you personally.

Our technical sales representatives are available on-site for creating interesting and economic escape lighting concepts according to specific requirements and complying with valid regulations.



CEAG representatives are located in the following countries:

| | | | |
|--------------------|-----------|------------------|----------------|
| Abu Dhabi | Denmark | Kosovo | Portugal |
| Albania | Dubai | Kuwait | Qatar |
| Australia | Egypt | Latvia | Romania |
| Austria | Estonia | Lebanon | Russia |
| Azerbaijan | Finland | Lithuania | Saudi Arabia |
| Bahrain | France | Luxembourg | Serbia |
| Belarus | Germany | Macedonia | Slovakia |
| Belgium | Greece | Montenegro | Slovenia |
| Bosnia Herzegovina | Hong Kong | Netherlands | Spain |
| Bulgaria | Hungary | New Zealand | Sweden |
| China | Iceland | Northern Ireland | Switzerland |
| Croatia | Ireland | Norway | Turkey |
| Cyprus | Italy | Oman | Ukraine |
| Czech Republic | Jordan | Poland | United Kingdom |

Please visit www.ceag.de to find the contact person responsible for your country.

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Eaton Industries Manufacturing GmbH

Electrical Sector EMEA
Route de la Longeraie 7
1110 Morges, Switzerland
www.eaton.eu

CEAG Notlichtsysteme GmbH

Senator-Schwartz-Ring 26
59494 Soest, Germany
Phone: +49 (0) 2921 69-870
Fax: +49 (0) 2921 69-617
E-Mail: info-n@eaton.com
Web: www.ceag.de

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