**EATON Emergency Lighting**
Self-contained emergency lighting global catalogue - Ed.2

**Menvier**

# When safety depends on the decisions you make

EATON
*Powering Business Worldwide*

# 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
Crompton
Blessing
Univel


# Emergency Lighting Self-contained

Catalogue 2019

# 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

**Different technologies to meet the requirements of your building and activity**

- "Unmonitored" luminaires: only the battery charge circuit is tested, manual tests and inspection book management
- Luminaire Automatic Test (AT): battery and light source circuit is continously monitored and the status is displayed via LED. Specified tests (Weekly function test, annual duration test) are automatically started.
- Addressable luminaires: luminaires monitored and automatic tests, central display of system status, automatic inspection book management with digital memory, web access and visualisation possible.

**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 60.000 hours.

**A large portfolio for a wide range of applications**

- Exit sign, escape route, anti-panic luminaires
- Indoor or with high degree of protection
- Aesthetic solutions
- High output luminaires and beam light projectors for large premises

# Look to the future, trust our past

The projects listed below are only a selection of the locations and applications where EATON emergency lighting solutions are installed.

## Hospitality & leisure

- New Modern Art Museum, Italy
- Ritz-Carlton Hotel, Germany
- Marriot Opera Ambassador, France
- Ramada Resort Hotel, Hungary
- Atlantis the Palm Hotel, Dubai

## Schools and universities

- Technical University Berlin, Germany
- University Hamburg, Germany
- Normale University, Italy
- University Zurich, Switzerland
- University of Dubai, U.A.E.

## Airports

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

## Sport venues

- Emirates Stadium, UK
- Stadium Borussia-Park, Germany
- Stade des Lumières Lyon, France
- Karaiskakis Stadium, Greece
- National Aquatics Center, China

## High-rise buildings

- Tower 115, Slovakia
- Etisalat Tower, U.A.E.
- Capital Gate Tower, U.A.E.
- Burj Khalifa Tower, U.A.E.
- Burj Al Arab, U.A.E.

## Commercial centres / retail

- CentrO, Germany
- Carrefour Supermakets, Belgium
- Arena Plaza Budapest, Hungary
- Montedoro Freetime, Italy
- Mazaya Centre, U.A.E.

## Industry

- Microsoft, Italy
- EADS Airbus, Germany& France
- Bayer, Germany
- BP, Norway
- Dubai Cable Company, Abu Dhabi

## Assembly halls / rooms

- German Bundestag, Germany
- National Theatre Budapest, Hungary
- National Library Leipzig, Germany
- Town Hall Sydney, Australia
- National Convention Center, Qatar

# Eaton answers any specific application requirements

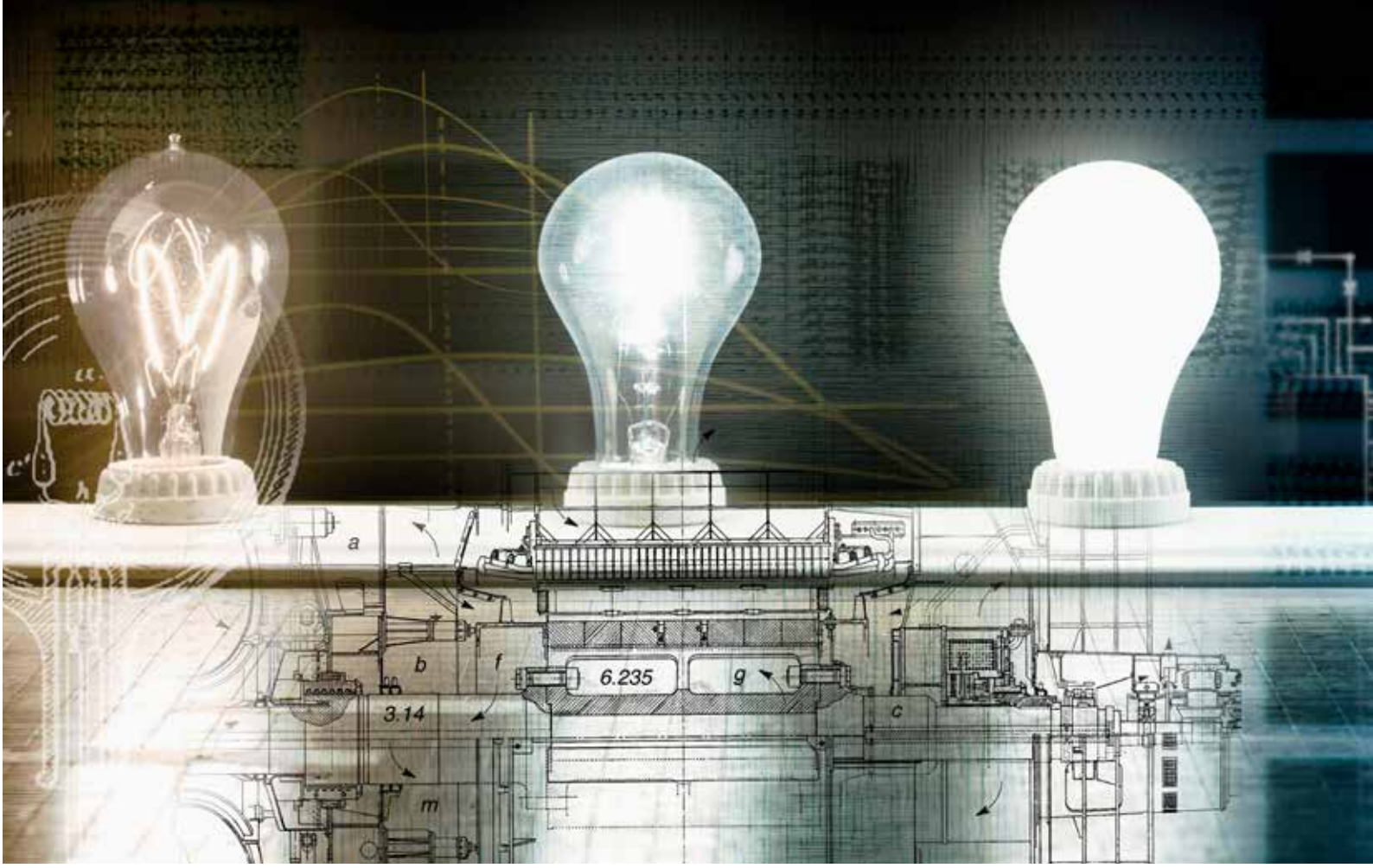
This catalogue shows the core range of Eaton Emergency Lighting (Self-contained) portfolio which covers a wide range of applications.

Besides this portfolio, Eaton works very closely with its customers in order to develop and manufacture products which meet Industries' very specific requirements.

For example, Eaton provides luminaires with minimal glare effect for train conductor specifically developped for tunnel applications,

ATEX (explosion proof) products for harsh environments.

Several Eaton luminaire's specifications also meet food industry specific health and safety requirements (HACCP or IFS), like iP-65+, Atlantic LED or 46811 LED CGLine+.




# From Static to Adaptive Evacuation, Eaton innovates to light the way to safety

## Static Emergency Lighting

Eaton's quality above standards

## Increased Affordance (IA)

For better visibility of escape routes

Learn more about IA on pages 8

## Adaptive Evacuation (AE)

To show the safest way to exit

Learn more about AE on pages 10

Innovation is key at Eaton. We own more than **30 patents** linked to emergency lighting.

2000: First to market with LED Emergency Lighting luminaires
2001: First adressable central power system
2003: First eco-friendly range of luminaires
2005: First monitoring panel for self-contained luminaires with web server integrated
2012: First graphic webserver
2015: Launch of CrystalWay luminaires, the new aesthetic reference
2017: Increased Affordance capability for better visibility of escape routes
2018: Adaptive Evacuation systems for safer evacuation

# Increased Affordance

Eaton innovates with Increased Affordance

## Better recognition of escape routes

The evacuation of commercial buildings can be inhibited by people's failure to recognise standard emergency exit signs.

Research has shown that only 38% of people see conventional exit signs during an evacuation from an unfamiliar environment. Much of this is down to the proliferation of branding, advertising and informational signage in buildings such as shopping centers and airports which can distract attention away from exit signs.

Eaton has developed a new system to increase the visibility of exit signs, whereby the emergency luminaire that illuminates the sign can flash on and off or pulse more softly.

Bearing in mind the two-sense principle for emergency notification, the challenge of recognising exit signs is exacerbated for people with hearing disabilities who may not hear any accompanying vocal instructions or alarms. In their normal mode, the luminaires offer excellent visibility thanks to a high level of luminance that exceeds the minimum requirement in most countries.

When activated, Increased Affordance enables even better recognition by flashing or pulsing but never dipping below the minimum level of luminance that is established in industry standards, thus achieving full compliance.

### CrystalWay IA

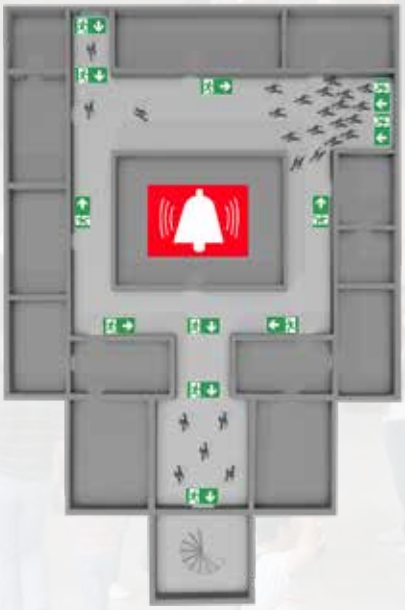
The CrystalWay design combines LED Lightguide technology with a highly transparent frame. Also thanks to optimal illumination, this achieves excellent recognition of the escape sign and a concise, discreet appearance. The standard scope of supply for CrystalWay already contains all accessories for mounting to walls or ceilings and a pictogram set.

### NexiTech IA

NexiTech LED™ was created with the aim of simplifying the work of the installer. No tools are needed to open or close the product and installation is further simplified by the presence of a quick plug-in screwless terminal block.

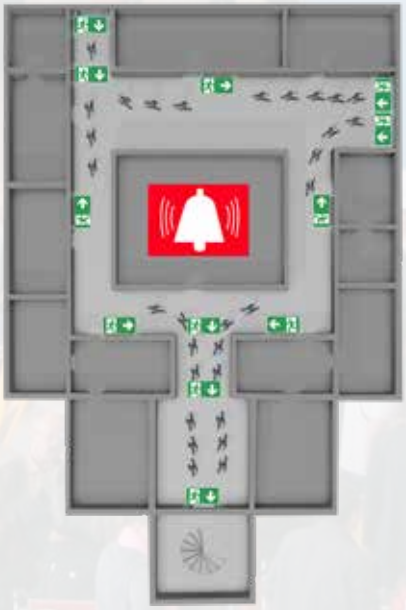
## How to improve the recognition of escape routes for faster evacuation ?

### Traditional evacuation



- Occupants may go to the exit they came in
- Crowding and congestion may slow evacuation
- Occupants may spend time trying to locate an exit
- Evacuation takes longer

### Increased Affordance



- Provices a catalyst for less congested exit routes
- Aids people with hearing difficulties
- Ensures that users understand the importance of the emergency
- Compliant with emergency lighting standards

*For more information, refer to page 130*

# Adaptive Evacuation

Eaton innovates with Adaptive Evacuation

## Improving escape route guidance

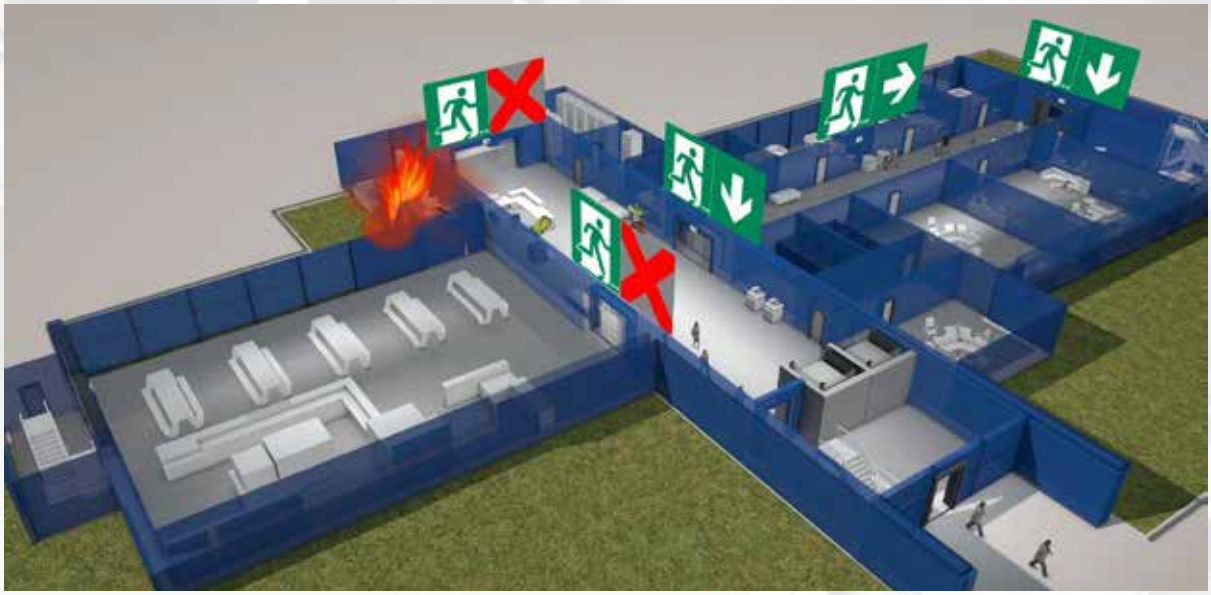
An increasingly urbanised and complex environment, combined with a rising diversity of safety threats, means the owners and managers of buildings need to re-evaluate the way they protect people and property as well as ensure business continuity that may be at risk in an emergency.

Building evacuation can prove increasingly challenging when a proportion of visitors 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.

Research into crowd behaviour and advances in scenario-modelling technology have highlighted the need for evacuation strategies that are more adaptable to differing circumstances.

Building upon decades of expertise in the delivery of life safety systems, Eaton has developed a highly innovative Adaptive Evacuation System.

Adaptive signage enables building owners to direct people out of the building in the safest way as and when the nature of the threat changes. The danger posed by fires, acts of terrorism and natural disasters will change as the event unfolds; Eaton's Adaptive Evacuation signage allows building occupants to be redirected to the safest exit route available should such an event occur.



*For more information, refer to page 140*

## Meet the innovative self-contained Matrix CGLine+ luminaire


Matrix CGLine+ can adjust the direction of the arrow it displays, with the aim of improving the speed and safety of emergency evacuations in commercial buildings.

The self-contained Matrix escape sign luminaire displays an arrow that can point in any one of four different directions. The additional ability to scroll the arrow from one side to the other increases its visual impact among the general population and helps to alert people with hearing impairments. It can also display a red cross to indicate that a particular exit route has become closed, blocked or dangerous. Making it a powerful tool when containment measures are the safest option. In such an emergency, it will not only lead occupants to but also keep them in a safe place.

## How is the Matrix CGLine+ luminaire activated to adapt to the safest escape route?

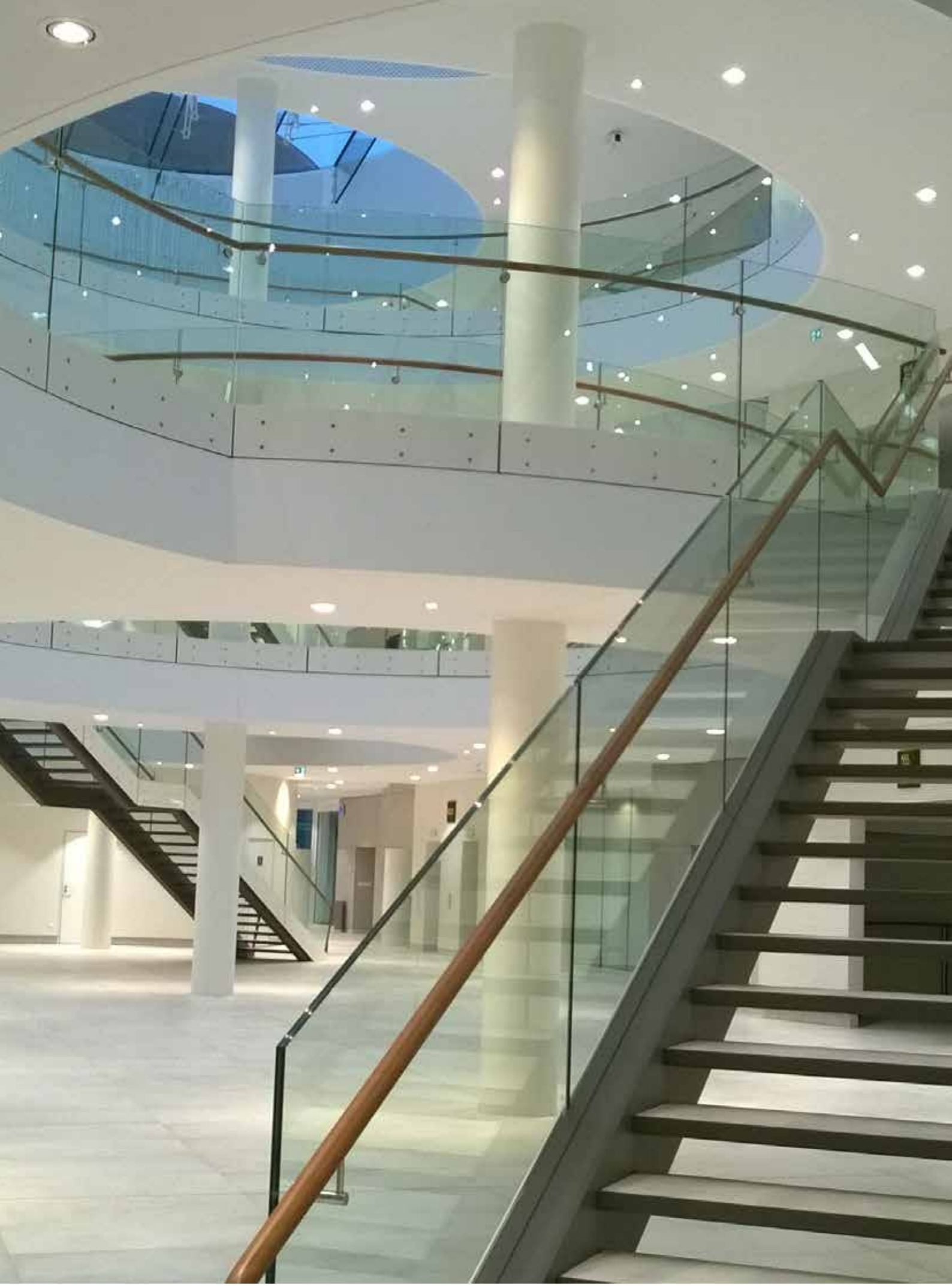
In normal mode, the Matrix exit sign works exactly as a standard exit sign luminaire would, with all the necessary regulatory compliance.

In adaptive mode, they are able to indicate one of a number of different directions, based on a series of pre-programmed scenarios. This functionality can be activated manually from a central control room, based on CCTV footage, for example, or can be triggered automatically by specific local devices such as smoke alarms or panic buttons.

## How is the self-contained adaptive-enabled CGLine+ system installed and maintained?

Ease of installation is always a key consideration during the design process and Eaton's self contained Adaptive Evacuation System is no exception. The adaptive-enabled CGLine+ is installed in the same way as its predecessor, but with additional inputs and back-up power supply. Operation of the system is reliant upon sophisticated cause-and-effect programming which should only be carried out by an appropriately trained specialist.

Ongoing maintenance of the system is aided by an automatic testing function, which runs continuous checks and issues alerts when any fault is identified. This enables remedial work to commence immediately and overcomes the time, cost and inconvenience associated with carrying out manual checks on a regular basis.



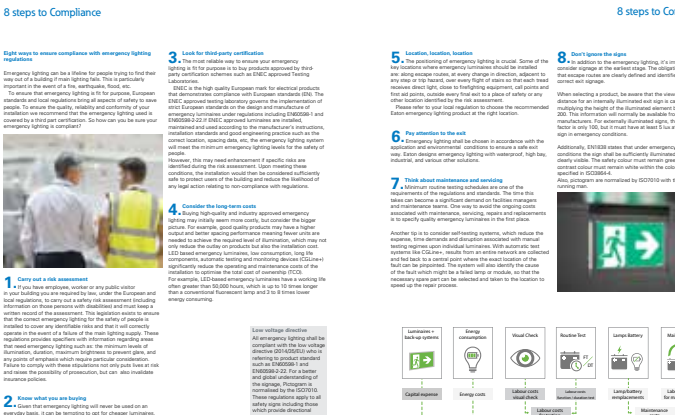
# 0.1 Emergency lighting design guide

## How to read ?

0

## Emergency lighting design guide

The opening pages of this catalogue have been developed to share our expertise regarding the main standards, regulations, and technologies related to emergency lighting. They will support you in choosing the most appropriate solutions to meet your project requirements.


8 steps to Compliance

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 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 part certification. So how can you be sure your emergency lighting is compliant?

1 Carry out a risk assessment
• If you have employee, worker or any public visitor in your building you are required by law, under the European and local regulations, to carry out a risk assessment including information on those persons with disabilities and must keep a written record of the assessment. The 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 provides 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 can also invalidate insurance policies.

2 Know what you are buying
• Given that emergency lighting will never be used on an everyday basis, it can be temptina to opt for cheaper luminaires.

3 Look for third-party certification
• 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 EN50598-2-22.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 (CGLine+) 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 greater than 50,000 hours, which is up to 10 times longer than a conventional fluorescent lamp and 3 to 8 times lower energy consuming.

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 EN50598-2-22. For a better and global understanding of the regulations, it can be matched by the ISO7010.
These regulations apply to all safety signs including those which provide directional

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 like CGLine+, 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 which might be a failed lamp or module, so that the necessary spare part can be selected and taken to the location to speed up the repair process.

8 Don't ignore the signs
• In addition to the emergency lighting, it's im consider signage at the earliest stage. The obligat that escape routes are clearly defined and identifie correct exit signage.

When selecting a product, be aware that the view distance for an internally illuminated exit sign is ca multiplying the height of the illuminated element b 200. This information will normally be available fro manufacturers. For externally illuminated signs, th factor is only 100, but it must have at least 5 lux a sign in emergency conditions.

Additionally, EN1838 states that under emergency conditions the sign shall be sufficiently illuminated clearly visible. The safety colour must remain gree contrast colour must remain white within the colo ISO3864-1 and ISO3864-4.
Also, pictograms are normalized by ISO7010 with t running man.




8 steps to Co

## Selection guides

These double pages introducing some catalogue sections provide a quick overview of our product portfolio and enable simple product selection.
You can base your choice on multiple criteria, including technology type, product features or applications.

| | Page | Performance | Global Features: Aesthetic | One box solution* | No replacement parts for 10 years | Low consumption / Eco-friendly | Protection Degree | Viewing distance | Operation: Maintained | Non-Maintained | Technology: Stand alone | Autotest | Monitored (CGLine+) | Battery |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| rystalWay | 68 | ★★★ | ● | ● | ● | ● | 42 | 20<br>30 | ● | ● | | ● | ● | Li-Ion |
| uideLed | 70 | ★★★ | | | ● | ● | 40<br>41 | 20<br>30 | ● | ● | | ● | ● | Li-Ion |
| 1811/71822LED | 74 | ★★ | | | | | 41 | 32 | ● | ● | | ● | ● | Li-Ion |
| elos | 76 | ★★ | | | | | 20 | 30<br>40 | ● | | ● | ● | | Ni-Cd |
| tyle<br>8011/28021 | 80 | ★★ | | | | | 41 | 32 | ● | ● | | ● | ● | Li-Ion |
| xit cube | 82 | ★★ | | | | | 40 | 20 | ● | ● | | ● | ● | Li-Ion |
| la 8 | 84 | ★ | | | | | 20 | 24 | | | ● | | | Ni-Cd |
| uro X LED | 86 | ★★ | | ● | | | 54 | 20 | ● | ● | | ● | | Li-Ion |

| | Installation: Wall | Ceiling | Recessed | Suspended | Applications: Healthcare | Hotels | Cinemas / Theatres | Commercial centers | Stadia / Arenas | Offices | Industrial | Warehouse | Best use |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | | Versatile mounting options enable the use in many applications and the design can be the same in the whole building. |
| | ● | ● | | ● | ● | ● | ● | ● | | ● | | | Robust solution made from extruded and anodised aluminium for public areas |
| | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | | Product range for flexible solutions to suit all situations and mounting options with a common consistent look & feel. |
| | ● | ● | | ● | ● | ● | | | | ● | | | |
| | | ● | | ● | | | | ● | | | ● | ● | 3-sided exit signage for large areas like warehouses or supermarkets |
| | | ● | | ● | | | | ● | | ● | | | |
| | ● | ● | | | | ● | | ● | | ● | ● | | |

## Product pages

For better readability and understanding, our product pages are all built using the same model, making it easy to find the information you are looking for (dimensional drawings, order codes, etc.). If you require any further technical information, feel free to contact us.

Product category (function)

Product name

Main features
See next page for product features icons definition

Product picture

Technical specifications
(Light source, material, installation, operation mode, etc.)

Dimensional drawings



Lighting data (distribution curves, lighting tables) may also be displayed. Please consult page 20 (EL Lighting guide) for more information.

Accessories & other installation options

Order code table

Accessories

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.

This catalogue doesn't show the exhaustive list of emergency lighting self-contained luminaires developed by Eaton but a selection of them.

**Please note that most of our emergency lighting luminaires are also available for central power systems.**

Please, contact us for further information.

**Definitions of key feature icons**

| Icon | Definition |
|---|---|
| 20 m | Viewing distance, here: 20 m |
| | Light output, here: single-sided |
| LED | LED light source |
| | Protection class 1 |
| | Protection class 2 |
| IP20 | Degree of protection, here: IP20 |
| IK10 | Degree of mechanical impact resistance, here: IK10 |

| Icon | Definition |
|---|---|
| CE | CE certified |
| EN 60598-2-22 | According to EN60598-2-22 |
| EN 1838 | According to EN 1838 |
| | ENEC certified |
| | Suitable for use in food processing industry e.g. acc. HACCP or IFS |
| DCD | Dubai Civil Defense approved<br>Please check relevant updated license |
| DCD | AbuDhabi Civil Defense approved<br>Please check relevant updated license |
| | Customization available for better integration in the building<br>**see page 96** |

| Icon | Definition |
|---|---|
| | Suitable for outdoor use |
| D | Luminaire with limited surface temperature |
| | 0 replacement of spare parts for 10 years |
| Li-Ion | With Lithium-ion battery |
| REST MODE | Rest mode |
| AT | Auto test |
| CG+ Line | CGLine+ technology |
| IA | Increased Affordance for better recognition of escape route<br>**see page 130** |

## 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 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, reliablity and conformity of your installation we recommend that the emergency lighting used is covered by a third part 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 (including information on those persons with disabilities) 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.

### 2. Know what you are buying

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.

### 3. Look for third-party certification

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.

### Consider the long-term costs

**4.** 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 (CGLine+) 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 greater than 50,000 hours, which is up to 10 times longer than a conventional fluorescent lamp and 3 to 8 times lower energy consuming.

Using 10 years life time batteries 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 like CGLine+, 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 which might be a failed lamp or module, 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 & batteries will significantly reduce maintenance costs.

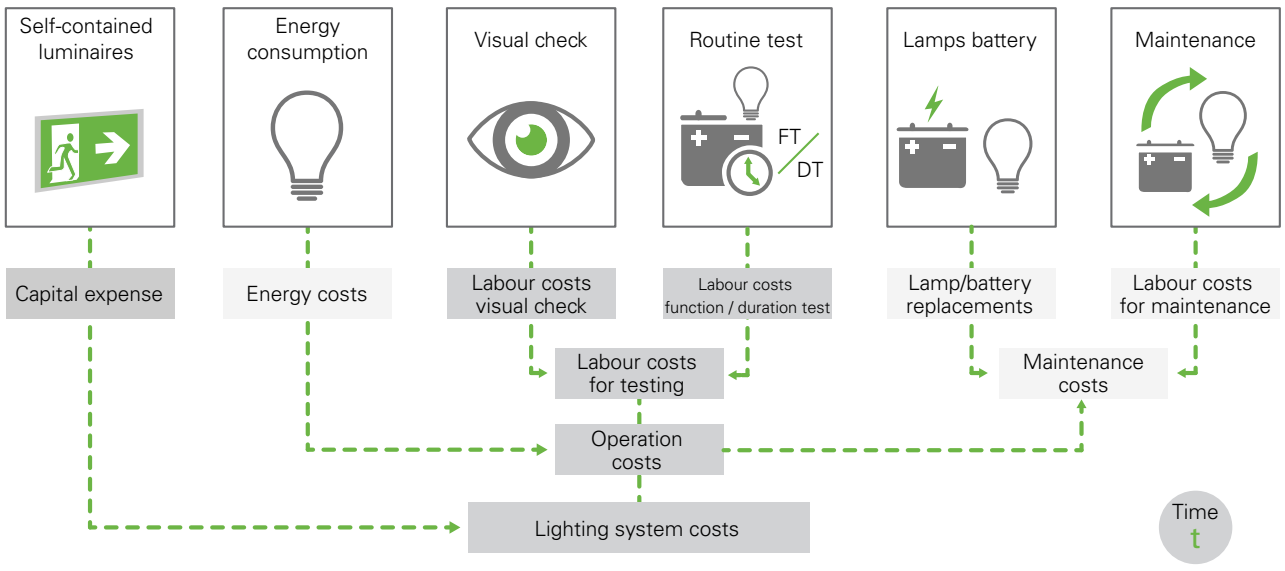
## 8. Don't ignore the signs

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, but it must have at least 5 lux at any point of the sign in emergency conditions.

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 lifecycle costs



**Locate luminaires at mandatory "Points of Emphasis"**

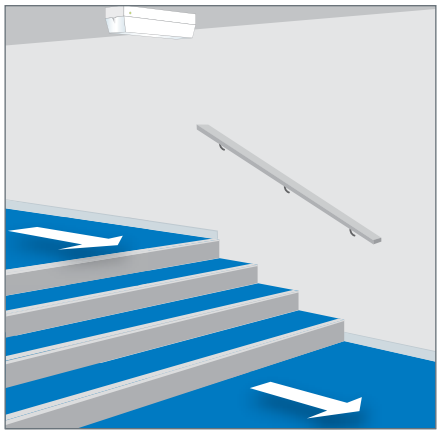
Initial design is conducted by situating luminaires to reveal specific hazards and highlight safety equipment and signs, care should be taken to ensure the correct illumination level is achieved, in addition to providing illumination to assist safe travel along the escape route. This should be performed 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

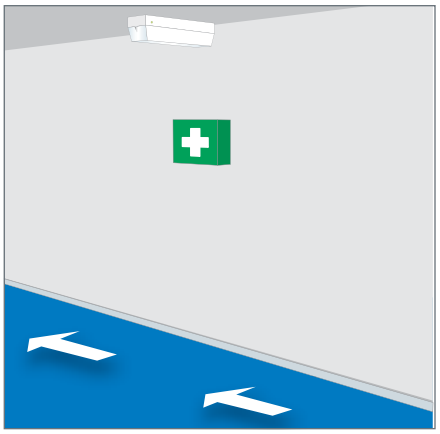
All safety exit signs

Outside the final exits and to a place of safety

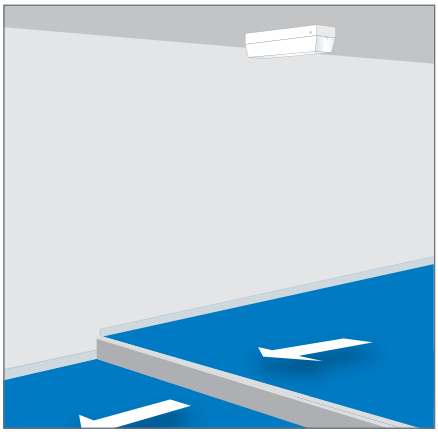


Near stairs so that each tread receives direct light

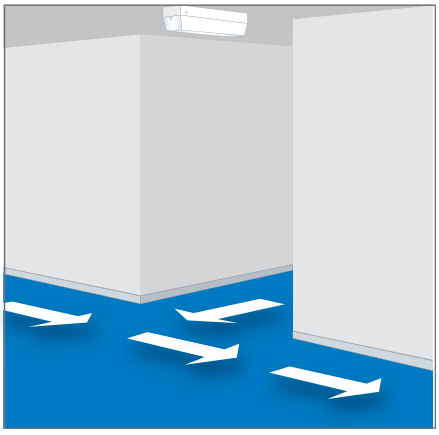
At each change of direction



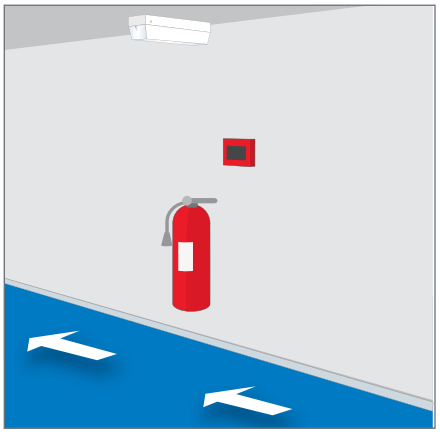
Near each first aid post



Near any other change of floor level



At each intersection of corridors



Near each piece of fire fighting equipment and call point

### 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:**



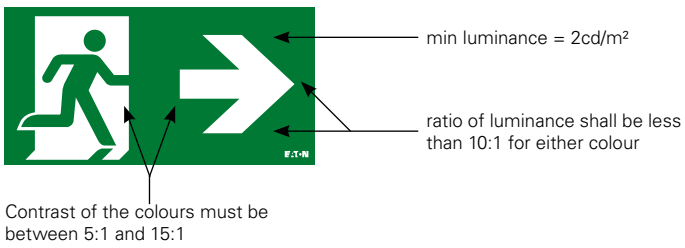
European signs directive format

### ISO 7010

In 2011, 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.



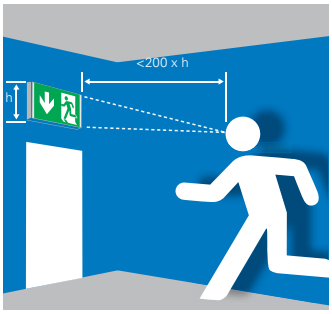

**Note:** Internally illuminated exit signs are pre-tested to ensure they meet these requirements, provided that they comply with EN 60598-2-22. If the sign is designed to be externally illuminated, considerable care must be taken by the system designer to see that these conditions are met. Even though an emergency luminaire must be sited within 2 metres from the sign (see stage 1) calculations should still be made to check that the sign is illuminated to 5 lux on any part of the face in emergency conditions.

### Maximum viewing distances

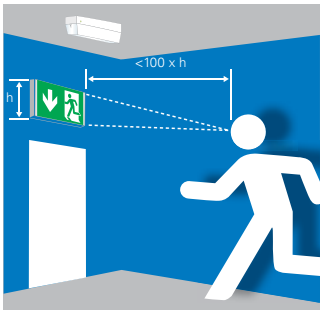
For all formats of safety signs, the maximum viewing distances and luminance conditions are given in EN 1838: 2013. Signs can be either internally illuminated, such as exit boxes or edge lit emergency luminaires with a screened sign that have a controlled illuminance, or painted signs.

Maximum viewing distances are:

Internally illuminated signs - 200 x the panel height




Externally illuminated signs - 100 x the panel height

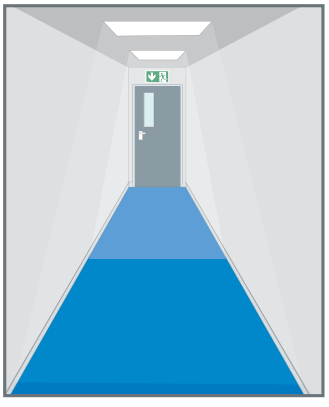



### Escape Route Lighting

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.

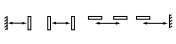
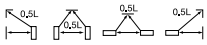


- **Photometric Design**

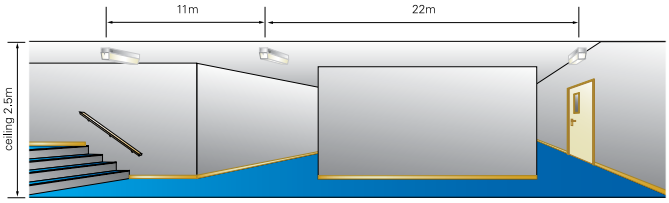
Emergency Escape Routes
The use of authenticated spacing tables or a suitable computer program provides the information to determine whether luminaires are needed in addition to those for the points of emphasis (see data section), to provide the minimum required level of illumination on the escape routes. 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:

i. Reduction in light as the battery voltage reduces during discharge
ii. Ageing of lamps in maintained circuits
iii. The effects of dirt

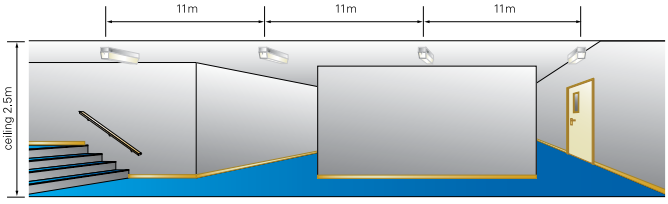
## Photometric Data

| Mode | Mounting height (m) | Lux level directly under | Escape route 2m wide 1 lux min | | | | Open (anti-panic) area 0.5 lux min | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | |  | | | |  | | | |
| Self-contained | | | | | | | | | | |
| NM | 2.5 | 3.28 | 3.9 | 11.3 | 4.0 | 2.0 | 4.0 | 12.0 | 6.0 | 1.9 |
| | 4.0 | 1.28 | 2.1 | 9.6 | 5.6 | 1.2 | 3.3 | 14.8 | 7.2 | 1.9 |
| | 6.0 | 0.57 | - | - | - | - | 1.6 | 12.4 | 7.4 | 0.8 |
| M | 2.5 | 2.75 | 3.3 | 10.7 | 5.2 | 1.8 | 3.7 | 11.7 | 5.8 | 1.8 |
| | 4.0 | 1.07 | 1.5 | 8.0 | 5.0 | 0.7 | 3.5 | 14.2 | 7.0 | 1.7 |
| | 6.0 | 0.48 | - | - | - | - | - | - | - | - |

Example - luminaire spacing along escape route

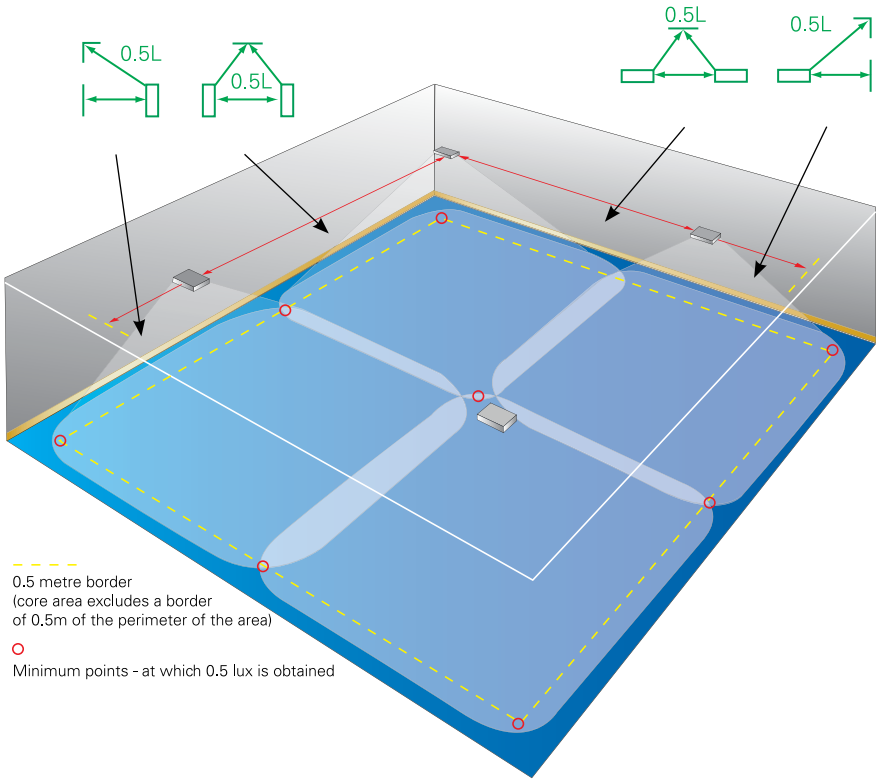



Locate luminaires at mandatory "Points of emphasis"




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 self-contained 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.

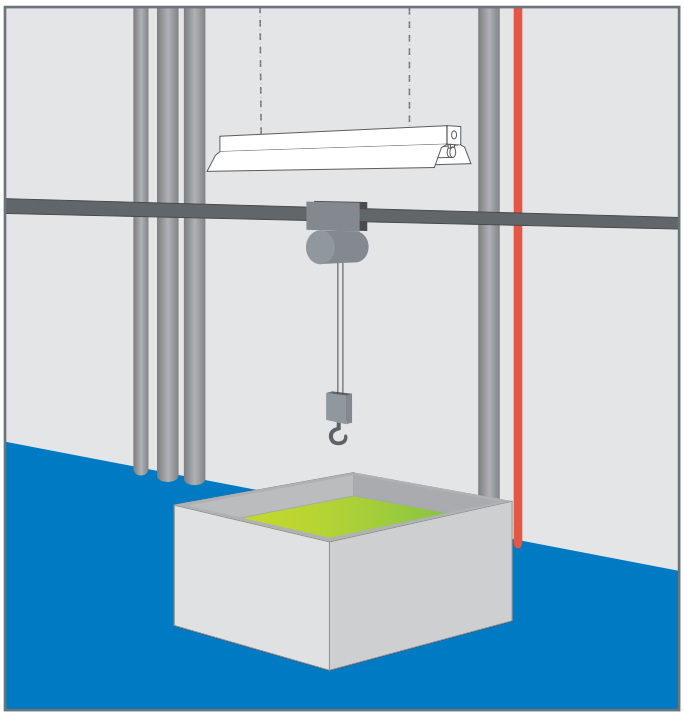
### High risk task area Lighting

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.

### Design procedures

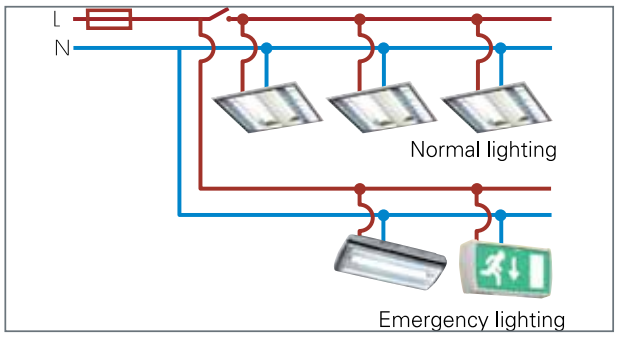
In order to reach this enhanced level of emergency illumination it is important to consider all options, which may include converted luminaires, either operated from integral batteries or the use of luminaires supplied from a central emergency unit. These versions in most instances would have higher Ballast Lumen Factors (BLF). It is also important to consider the emergency response time which may require that the emergency luminaires are operated in maintained mode, or possibly require the use of tungsten projector units. If these are used it is important to maintain a reasonable level of uniformity.



### Control

Non-maintained luminaires must be activated by failure of supply to the normal lighting. They must therefore be connected to an un-switched live taken from the local normal lighting final circuit.

It is important at this stage to ensure that the luminaires used in the design process are not changed without a full assessment of the lumen output and distribution of any alternative proposal. Failure to validate the performance could lead to a non-compliant installation.




### Testing and log book

Local regulation requires that appropriate testing is performed to maintain compliance of the system. The system should include adequate facilities for testing and recording the system condition. These need to be appropriate for the specific site and should be considered as part of the system design. Discussions with the user or system designer should identify:

- The calibre and reliability of staff available to do the testing
- The level of difficulty in performing the test
- If discharge tests need to be done outside normal working hours, or phased so only alternate luminaires are tested in buildings that are permanently occupied

The testing requirements in the code of practice are:

- **Function Test**
  All emergency luminaires should be tested by breaking the supply to them and checking that they operate satisfactorily. The supply must then be restored and the charging indicators must be seen to be operating correctly. This test must be performed at least once per month and the results logged.
- **Discharge Test**
  The luminaires must be tested for their full rated duration period and checked for satisfactory operation. The supply must then be restored and the charging indicators rechecked. This test must be performed at least once annually and the results logged.

**If manual testing is utilised, the following points should be considered:**

- Is a single switch to be used? Unless the whole building is to be switched off, a separate switch should be used for each final circuit. As the feed to non-maintained circuits must be taken from the switch, this will probably mean that the building will have to be walked around twice, once to check the luminaires and once to check that they are recharging.
- With manual testing it is difficult to correctly validate that the emergency luminaires illuminated within the specified time and at the correct level. Validation is also required that all emergency luminaires meet the minimum duration. Again, this would be difficult to validate for all locations.
- Are luminaires to be individually switched? In practice, only a single walk around the building will be needed. However, the test switches could spoil the décor of the building and they must be of a type that is tamper proof.
- After the tests, the performance of the luminaires must be logged.

### Commissioning certificate

European Standard requires written declarations of compliance to be available on site for inspection. These consist of:

1. Installation quality
   IEE regulations must have been conformed with and non-maintained fittings fed from the final circuit of the normal lighting in each.

2. Photometric performance
   Evidence of compliance with light levels has to be supplied by the system designer. Therefore copies of the spacing data in this catalogue provides the verification required.

3. Declaration of a satisfactory test of operation
   A log of all system tests and results must be maintained. System log books, with commissioning forms, testing forms and instructions are available from Eaton.

### Maintenance

Finally, to ensure that the system remains at full operational status, essential servicing should be defined. This normally would be performed as part of the testing routine, but in the case of consumable items such as replacement lamps, spares should be provided for immediate use.

### Automatic test systems

Legislation demands that emergency lighting systems are regularly tested and maintained in full working order. To avoid the cost and disruption of manual testing, automatic test systems should be considered. Eaton offer alternative testing systems, each optimised for different building types:

- **Autotest**
  Designed for use with self-contained emergency luminaires, Autotest is a stand alone self-test system for small installations. The testing module self calibrates and carries out testing at predetermined intervals. Faults are precisely reported by the flashing sequence of the LED indicator.

- **CGLine+**

CGLine+ is an automatic testing and monitoring device for up to 800 self-contained luminaires, giving information regarding their functionality and status. There are many ways in which you can monitor the status and event information of the system.

Each CGLine+ controller has an inbuilt web browser which can be accessed to view the status of the luminaires and system events, there are a number of LEDs used to signal system status and multiple controllers can be connected in a network allowing the ability to monitor of up to 25,600 emergency luminaires on one system. If site IT infrastructure allows, the system can be accessed remotely and can be configured to distribute email alerts from selectable alarm conditions. Alternatively a USB stick can be used to upload the event log and luminaires configuration and status.

CGLine+, simply the most flexible single screen system, offers enhanced safety by providing reliable efficient monitoring of your emergency evacuation lighting.

In order to support facility managers in their effort of monitoring and targeting energy consumption, improve life safety, save time and money during maintenance, Eaton enables its CGLine+ systems to communicate with their BMS through an OPC server.
(See more page 150)

**Key regulations**

**IEC 60364-5-56 (2009-07) Ed. 2**
Low-voltage electrical installations - Part 5-56: Selection and erection of electrical equipment - Safety services
560.5: General
560.5.4: Regarding control and bus systems, a failure in the control or bus system of a normal installation shall not adversely affect the function of safety services.
560.7 Circuits of safety services
560.7.1 Circuits of safety services shall be independent of other circuits.
*NOTE This means that an electrical fault or any intervention or modification in one system must not affect the correct functioning of the other. This may necessitate separation by fire-resistant materials or different routes orenclosures.*
560.9 Emergency escape lighting applications
560.9.8 Control and bus systems for safety illumination shall be independent of control and bus systems for general illumination; coupling of both systems is permitted only with interfaces that ensure a decoupling/ isolation of both busses from each other. A failure in the control and bus system of the general illumination shall not influence the proper function of the safety illumination.

**IEC 62034 (2012-02) Ed. 2**
Automatic test systems (ATS) for battery powered emergency escape lighting

4.4.5 Systems parts compatibility
It shall be the responsibility of the system designer to ensure ATS component and procedure compatibility. The manufacturer of ATS components/ system shall provide details of compatible system components (…)
The manufacturer shall declare: (…) the justification of compatibility between any part within the ATS

4.4.6 Electromagnetic immunity of the ATS
Compliance is checked by the tests of IEC 61547 applying the requirements and compliance criteria for emergency lighting luminaires.
NOTE :Some requirements are specific to emergency lighting luminaires.

**IEC62386-202 (2009-06) Ed 1.0**
Digital Addressable Lighting Interface
Part 202: Particular requirements for control gear - Self-contained emergency lighting

# Safety luminaires

## Overview

| | Page | Performance | General features: Aesthetic | General features: No replacement parts for 10 years | General features: Low consumption / Eco-friendly | General features: Protection Degree | Operation: Maintained | Operation: Non-Maintained | Technology: Stand alone | Technology: Auto-test | Technology: Monitored (CGLine+) | Battery |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.1** GuideLed SL  | 28 | ★ ★ ★ | | ● | ● | 20<br>41 | ● | ● | | ● | ● | Li-Ion |
| **1.2** Micropoint 2  | 32 | ★ ★ ★ | ● | | | 44 | ● | ● | ● | ● | ● | Ni-Cd |
| **1.3** Micropoint 2 High Output  | 36 | ★ ★ ★ | ● | | | 20 | | ● | ● | ● | ● | Ni-Cd |
| **1.4** 3583 LED  | 38 | ★ ★ ★ | ● | | ● | 20 | ● | ● | | ● | ● | Li-Ion |
| **1.5** i-P65+  | 40 | ★ ★ ★ | | | | 65 | ● | ● | | ● | ● | Ni-Cd |

| Installation | | | Applications | | | | | | | | Best use |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Wall | Ceiling surface | Ceiling recessed | Healthcare | Hotels | Cinemas / Theaters | Commercial centers | Stadia / Arenas | Offices | Service room | Warehouse | |
| | ● | ● | ● | ● | ● | ● | ● | ● | | | With different light distributions and variants for surface and recessed installation, this range fits many applications and heights up to 8m. Special version for 5 lx vertically acc. to EN 1838 available. |
| | ● | ● | ● | ● | ● | ● | | ● | | | With asymmetric and symmetric optics especially designed for typical mounting heights between 2.5 and 3.5m, Micropoint 2 shows excellent spacing values of more than 19m. |
| | | ● | ● | ● | ● | ● | ● | | | ● | The high output version of Micropoint 2 was designed for higher illuminance requirements e.g. 10.8 lx acc. to NFPA standard. It can also be used for areas with high ceiling of up to 15m. |
| | | ● | ● | ● | ● | ● | | ● | | | This luminaire has a universal wide beam optic and a high lumen output and can therefore be used in several installations with up to 9 m height. |
| | ● | | | | | | | | ● | ● | High lumen output combined with special optics for highest spacing for large areas and high ceilings. Can be used at 40°C permanent ambient temperature. |

# Safety luminaires

## GuideLed SL



- Surface and recessed variants available
- Two different optics: for escape route or room illumination
- Universal use for maintained or non-maintained solutions and free configurable for 1 h, 3 h or 8 h operation
- With environmental-friendly Li-Ion battery technology
- CGLine+ as standard

### Light Source:

2 × 1.6 W LED

### Materials:

White polycarbonate

Aluminium reflector (heat sink)

Module housing with steel sheet

Lithium ion battery

### Operation:

For maintained and non-maintained operations

CGLine+ (Without bus working in AT mode)

Selectable emergency duration of 1h, 3h, 8h

### Installation:

Surface and recessed variants available

### Applications:

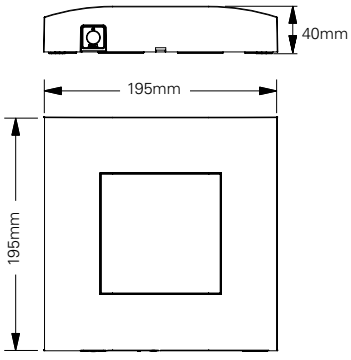
Healthcare, Hotels, offices, cinemas, theaters, museums, commercial centers

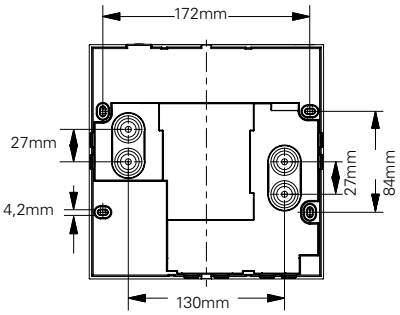
GuideLed SL is a range of self-contained safety luminaire with a unique and innovative design using LED technology. The sophisticated electronics and long life Li-Ion batteries allow a considerable autonomy in emergency for up to 8 hours.

This range is proposed with optimal symmetric uniform illumination for open anti-panic spaces, and asymmetric light distribution for escape routes. Surface and recessed variants are available to meet your needs.

The use of LEDs, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation.

*Recessed mounting:
Protection class II
IP41 for the luminaire
IP20 for the module housing
Surface mounting:
Protection class I - IP41



## Lithium ion battery technology

Lithium ion batteries require much less space than Ni-Cd or NiMh cells of equal capacity, allowing more space in a compact design for cable routing. The Lithium ion batteries also don't suffer from the so-called memory effect associated with Ni-Cd and NiMh cells.

## Permanent safety

Capacity losses from ageing have been considered by corresponding dimensioning of the cells.

A multiple protective circuit, integrated in the batteries ensures safe operation and high reliability. Ni-Cd and NiMh batteries have a significantly higher self-discharge and are therefore permanently charged. This is no longer necessary with the new GuideLed luminaries, saving additional energy costs.

**Powered by Lilon**

- Low spacial requirement
- No memory effect
- Environmentally friendly

## Equipped for all situations

With all GuideLed luminaries, selection can be made between Maintained and Non-Maintained mode of operation as well as 1h, 3h and 8h emergency light duration as standard. As such, all accommodation establishments and homes can be equipped with self contained luminairies.

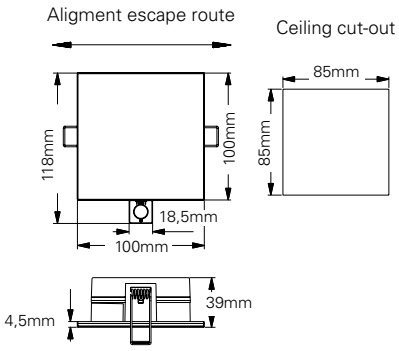
**Rated duration of emergency operation and its application**

**1h** e.g. escape routes in places of work

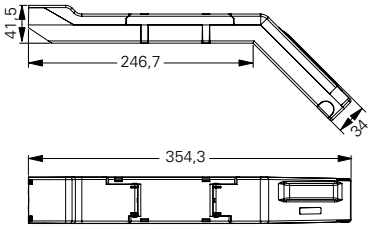
**3h** e.g. escape of assembly, sales areas, restaurants, schools, exhibition halls

**8h** e.g. hotels, sleeping areas

## GuideLed SL recessed

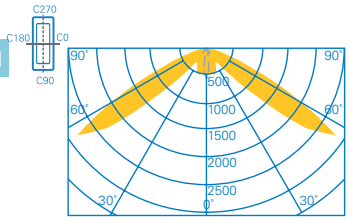



Ceiling thickness 1-20mm




Required height in cavity ceiling for recessing through ceiling cut-out: 150 mm

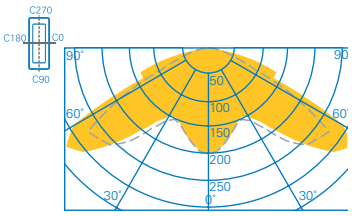
| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| 40071355926 | GuideLed SL 13811 recessed asym. CGLine+ | 6.9VA / 6.7W | 210 Lm | 1h, 3h, 8h | Lilon 3.7V 4Ah | Maintained / Non-Maintained |
| 40071355921 | GuideLed SL 13821 recessed sym. CGLine+ | 6.9VA / 6.7W | 204 Lm | 1h, 3h, 8h | Lilon 3.7V 4Ah | Maintained / Non-Maintained |
| 40071355923 | GuideLed SL 13812 surface asym. CGLine+ | 6.9VA / 6.7W | 210 Lm | 1h, 3h, 8h | Lilon 3.7V 4Ah | Maintained / Non-Maintained |
| 40071355922 | GuideLed SL 13822 surface sym. CGLine+ | 6.9VA / 6.7W | 204 Lm | 1h, 3h, 8h | Lilon 3.7V 4Ah | Maintained / Non-Maintained |
| 40071355924 | GuideLed SL 13851 recessed asym. 5 lx CGLine+ | 6.9VA / 6.7W | 310 Lm | 1h, 3h, 8h | Lilon 3.7V 4Ah | Maintained / Non-Maintained |
| 40071355925 | GuideLed SL 13852 surface asym. 5 lx CGLine+ | 6.9VA / 6.7W | 310 Lm | 1h, 3h, 8h | Lilon 3.7V 4Ah | Maintained / Non-Maintained |




Escape route illumination with asymmetric optics

**Planning help for GuideLed SL CGLine+ with asymmetric optics for E = 1.0 lx (0.5 lx)**
Measurement level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

| Emergency light operating duration | Mounting height in metres | Mounting types | L1 | L2 | L3 | L4 |
|---|---|---|---|---|---|---|
| 1 h | 2.5 | Ceiling mounting | 1.6 (2.9) | 5.8 (7.4) | 5.9 ( 6.6) | 13.2 (14.7) |
| | 3.0 | Escape route centre | 1.3 (3.0) | 5.8 (7.9) | 6.6 ( 7.5) | 15.0 (16.6) |
| | 3.5 | | 1.1 (2.2) | 4.5 (8.2) | 7.3 ( 8.3) | 16.6 (18.5) |
| | 4.0 | | 1.1 (1.9) | 3.9 (8.4) | 8.1 ( 9.0) | 18.0 (20.3) |
| | 5.0 | | 1.1 (1.6) | 3.2 (6.3) | 9.4 (10.4) | 20.9 (23.6) |
| | 6.0 | | 1.0 (1.5) | 3.0 (5.1) | 10.5 (11.9) | 23.8 (26.4) |
| | 7.0 | | 1.0 (1.5) | 3.0 (4.6) | 3.5 (13.2) | 19.0 (29.3) |
| | 8.0 | | 0.9 (1.4) | 2.9 (4.2) | 3.3 (14.4) | 19.6 (32.3) |
| 3 h | 2.5 | Ceiling mounting | 1.0 (2.3) | 4.5 (6.4) | 5.4 ( 6.2) | 12.3 (13.7) |
| | 3.0 | Escape route centre | 0.9 (1.7) | 3.4 (6.7) | 6.2 ( 6.9) | 13.9 (15.6) |
| | 3.5 | | 0.9 (1.4) | 2.9 (6.5) | 6.9 ( 7.6) | 15.3 (17.3) |
| | 4.0 | | 0.9 (1.3) | 2.6 (5.1) | 7.5 ( 8.4) | 16.7 (18.9) |
| | 5.0 | | 0.8 (1.2) | 2.5 (4.0) | 8.7 ( 9.8) | 19.6 (21.7) |
| | 6.0 | | 0.8 (1.2) | 2.4 (3.5) | 2.7 (11.1) | 15.5 (24.7) |
| | 7.0 | | 0.5 (1.1) | 2.3 (3.5) | 2.4 (12.2) | 16.3 (27.5) |




Escape route illumination with symmetric optics

**Planning help for GuideLed SL CGLine+ with symmetric optics for E = 1.0 lx (0.5 lx)**
Measurement level 0.02 m, maintenance factor MF = 80 %, battery operation, distances in m

| Emergency light operating duration | Mounting height in metres | Mounting types | L1 | L2 | L3 | L4 |
|---|---|---|---|---|---|---|
| 1 h | 2.5 | Ceiling mounting | 3.8 (4.5) | 9.0 (10.2) | 4.2 (4.9) | 9.7 (11.4) |
| | 3.0 | Escape route centre | 4.1 (5.0) | 10.0 (11.5) | 4.4 (5.4) | 10.9 (12.4) |
| | 3.5 | | 4.0 (5.4) | 10.8 (12.7) | 4.4 (5.9) | 11.8 (13.7) |
| | 4.0 | | 3.4 (5.8) | 11.5 (13.7) | 2.4 (6.2) | 12.3 (14.9) |
| | 5.0 | | 1.3 (5.6) | 11.0 (15.4) | 1.3 (6.2) | 10.3 (16.7) |
| 3 h | 2.5 | Ceiling mounting | 3.3 (4.1) | 8.2 (9.5) | 3.6 (4.5) | 8.9 (10.2) |
| | 3.0 | Escape route centre | 3.1 (4.5) | 9.0 (10.6) | 3.4 (4.9) | 9.7 (11.5) |
| | 3.5 | | 1.5 (4.7) | 9.4 (11.5) | 1.5 (5.1) | 9.0 (12.6) |
| | 4.0 | | 1.0 (4.6) | 8.9 (12.4) | 1.1 (5.0) | 8.3 (13.5) |

| Emergency light operating duration | Mounting height in metres | Mounting types | L1 | L2 | L3 | L4 |
|---|---|---|---|---|---|---|
| 1 h | 2.5 | Ceiling mounting | 3.4 (4.3) | 8.8 (10.2) | 3.2 (3.9) | 8.1 ( 9.0) |
| | 3.0 | Room illumination | 3.4 (4.5) | 9.4 (11.3) | 3.5 (4.2) | 9.4 (10.3) |
| | 3.5 | | 3.4 (4.4) | 10.3 (12.5) | 3.5 (4.2) | 10.2 (11.3) |
| | 4.0 | | 3.4 (4.4) | 11.0 (13.5) | 3.4 (4.2) | 10.9 (12.3) |
| | 5.0 | | 0.6 (5.0) | 10.5 (14.7) | 1.1 (4.7) | 11.4 (14.5) |
| | 6.0 | | 0.7 (2.4) | 10.8 (15.9) | 0.5 (2.5) | 10.0 (15.9) |
| | 7.0 | | 0.5 (0.7) | 9.1 (14.9) | 0.5 (1.6) | 9.9 (16.1) |
| 3 h | 2.5 | Ceiling mounting | 2.9 (3.4) | 7.7 ( 9.5) | 2.9 (3.3) | 7.7 ( 8.3) |
| | 3.0 | Room illumination | 3.0 (4.0) | 8.5 (10.4) | 2.9 (3.5) | 8.5 ( 9.5) |
| | 3.5 | | 1.4 (4.0) | 9.2 (11.0) | 2.0 (3.8) | 9.1 (10.8) |
| | 4.0 | | 0.5 (4.1) | 8.5 (11.7) | 1.1 (4.0) | 9.2 (11.7) |
| | 5.0 | | 0.7 (1.4) | 8.3 (13.0) | 0.5 (1.9) | 8.3 (13.0) |

Data for 8h emergency light operation upon request

# Requirements of EN 1838: illuminance of 5 lx for safety equipment

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).

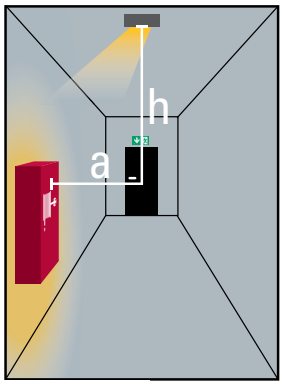
The required level of illuminance on the equipment is 5 lx measured vertically - i.e. perpendicular to the usual horizontal illuminance measurements on one level.

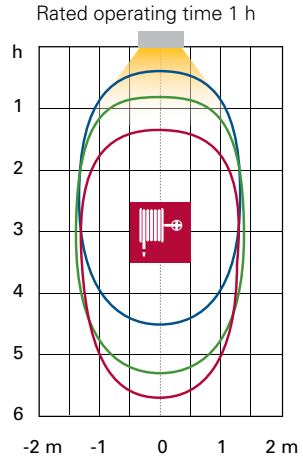
In comparison to the escape route requirement for 1 lx horizontally, different requirements apply in this situation for the light distribution from the safety luminaires, due to the flatter light angle of incidence.

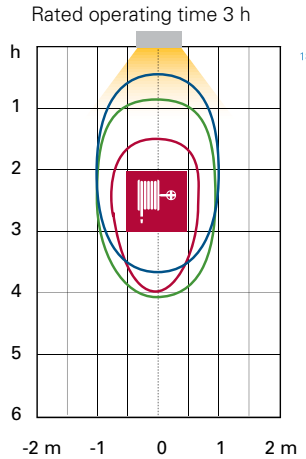
### GuideLed SL 13851 and 13852 CGLine+ meet the specific requirements of EN 1838

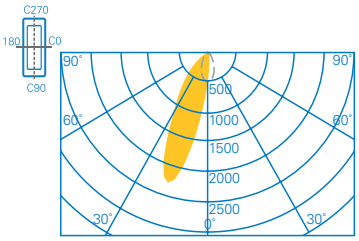
In order to meet the requirements of EN 1838, the new GuideLed SL 13851 and 13852 CGLine+ have special optics to guarantee the required illuminance of 5 lx vertically over a wide area. Hence mounting at heights of up to 5.6 m, and a breadth of illumination of up to 2.8 metres, are possible.

**Engineering help, GuideLed SL 13851 and 13852 CGLine+**




Asymetric distribution for high vertical illuminance

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

- Versatile multi functional use (escape and open area anti-panic)
- IP44 ingress protection suitable for bathrooms and wet environment
- First fix base for ease of installation
- 60,000 hour life LED for reduced maintenance

**Light Source:**

1 x 1 W LED

**Materials:**

Luminaire Enclosure
Polycarbonate

Battery - Ni-Cd

**Installation:**

Flush & Surface mount

20mm Conduit entry
on all four sides

BESA box entry on base

**Operation:**

Self-contained Maintained luminaire can be operated in Non-Maintained mode

Can be used as security light with 4 pre-set light levels

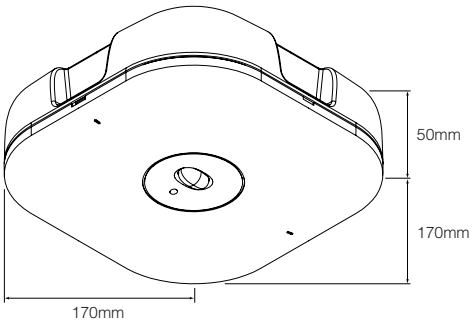
**Applications:**

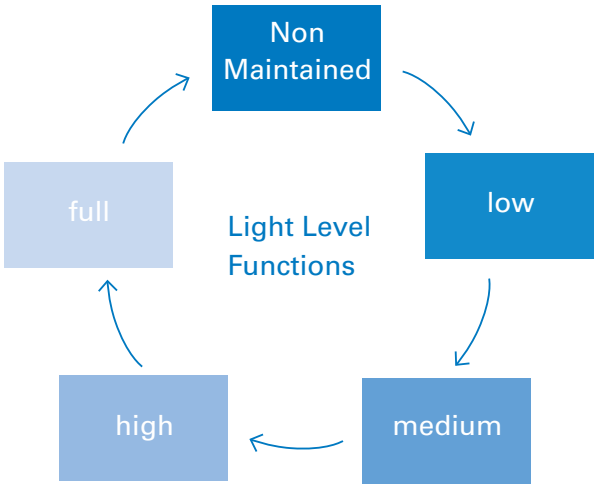
Healthcare, Hotels, offices, cinemas, theaters, museums, commercial centers

Micropoint 2 Surface is a high performance surface mounted emergency luminaire utilising the latest LED and optic technology to provide an unobtrusive, high quality and high performance luminaire for indoor use.

The innovative optic design used in the Micropoint 2 utilises light efficiently from the LED to provide a uniform distribution in either an escape route or open area anti-panic emergency lighting. Preset light levels can be adjusted in maintained mode to operate as a security light, adjustable using a touch sensitive button on the luminaire fascia.

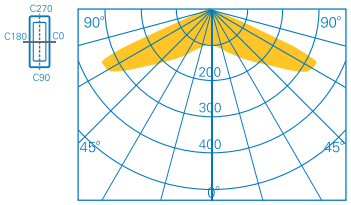
The use of LEDs, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation.

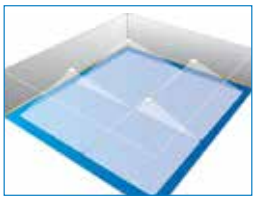


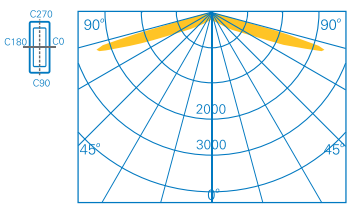

Preset light levels can be adjusted in Maintained mode to operate as security light, adjustable using touch sensitive button on luminaire fascia.

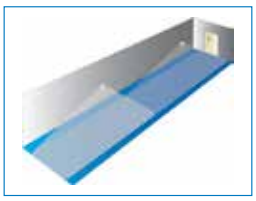
### Open area anti-panic



### Escape route



### Open area (Symmetric)

| Mode | Mount height (m) | Lux level directly under | Open area 1 Lux min | | | |
|---|---|---|---|---|---|---|
| Self contained | | | | | | |
| | 02.50 | 01.70 | 04.30 | 09.40 | 04.30 | 09.40 |
| | 02.80 | 01.40 | 03.30 | 09.30 | 03.30 | 09.30 |
| | 03.00 | 01.20 | 03.20 | 09.20 | 03.20 | 09.20 |

### Escape optic (Asymmetric)

| Mode | Mount height (m) | Lux level directly under | Escape route 2m wide, 1 Lux min | | | |
|---|---|---|---|---|---|---|
| Self contained | | | | | | |
| | 02.50 | 02.70 | - | - | 07.50 | 16.60 |
| | 02.80 | 02.20 | - | - | 08.10 | 18.10 |
| | 03.00 | 01.90 | - | - | 08.30 | 19.10 |

| Order code | Description | * | | | | |
|---|---|---|---|---|---|---|
| MP2SO3HCGL-M | Micropoint2 Surface Open Area CGLine+ | 3.6VA/2.5W-6.9VA/5W | 144 Lm | 3h | 4.8V - 2Ah Ni-Cd | Maintained / Non-Maintained |
| MP2SE3HCGL-M | Micropoint2 Surface Escape Route CGLine+ | 3.6VA/2.5W-6.9VA/5W | 145 Lm | 3h | 4.8V - 2Ah Ni-Cd | Maintained / Non-Maintained |

*Non-maintained - Maintained*

- Versatile multi functional use (escape and open area anti-panic)
- Low power consumption reducing cost of ownership
- Excellent spacing reducing the quantity of fittings required
- 60.000 hour life LED for reduced maintenance

### Light Source:
1 x 1W LED

### Materials:
Luminaire body: Aluminium, luminaire Head: Polycarbonate, remote gear pod: flame retardant ABS

Battery - Ni-Cd

### Installation:
Flush mounting

Spring retaining clips for surface installation (install from below ceiling)

Plug and play socket for mains supply

No disassembly required during installation

### Operation:
Maintained luminaire can be operated in Non-Maintained mode

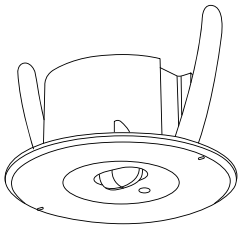
Can be used as security light with 4 preset light levels

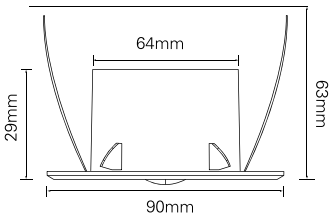
### Applications:
Healthcare, Hotels, offices, cinemas, theaters, museums, commercial centers

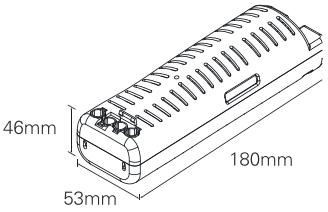
Micropoint 2 is a high performance recessed mounted emergency luminaire utilising the latest LED and optic technology to provide an unobtrusive, high quality and high performance luminaire for indoor use.

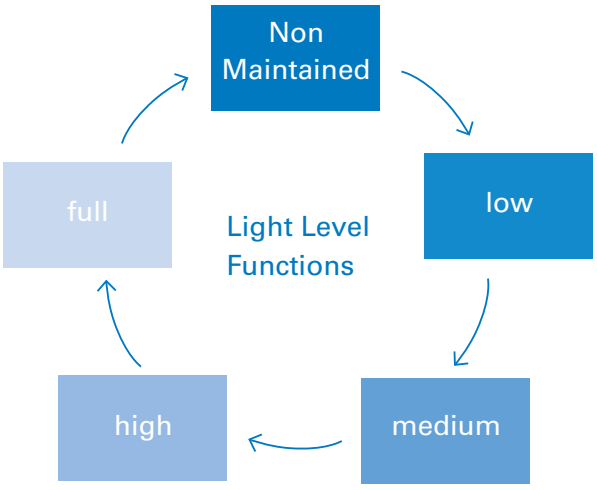
The innovative optic design used in the Micropoint 2 utilises light efficiently from the LED to provide a uniform distribution in either an escape route or open area anti-panic emergency lighting, improving the performance and reducing the electrical power consumption. Preset light levels can be adjusted in maintained mode to operate as a security light, adjustable using a touch sensitive button on the luminaire fascia.

The use of LEDs, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation.



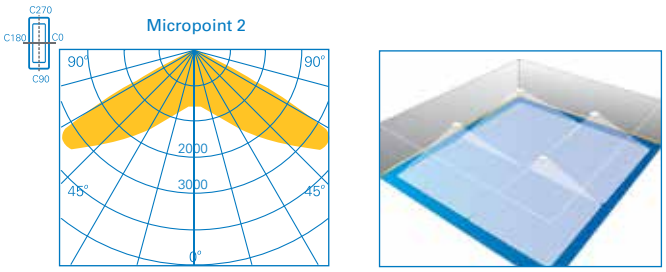



Preset light levels can be adjusted in Maintained mode to operate as security light, adjustable using touch sensitive button on luminaire fascia.

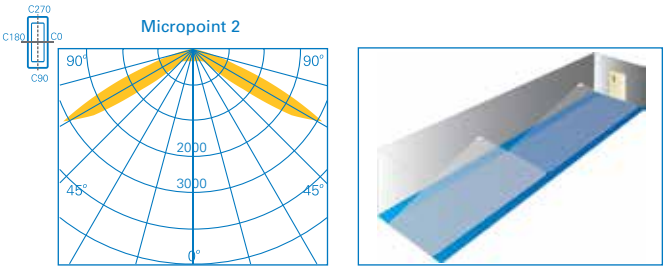
The high power, high efficiency LED light source provides uniform illumination with asymmetric and symmetric light patterns for escape or open area use.




Open Area (Symmetric 0.5 Lux)

| Model | Height (m) | Distance for 1 Lux | | | |
|---|---|---|---|---|---|
| MP2O3H (Open Area Anti-Panic) | | | | | |
| | 02.50 | 04.30 | 09.40 | 01.70 | 09.40 |
| | 02.80 | 03.30 | 09.30 | 01.40 | 09.30 |
| | 03.00 | 03.20 | 09.20 | 01.20 | 09.20 |

Micropoint 2 advanced optics with rectangular distribution
Luminaire with 'no' optics require overlap to eliminate dark spots




Escape Route (Asymmetric 1 Lux)

| Model | Height (m) | Distance for 1 Lux (escape route 2m wide) | | | |
|---|---|---|---|---|---|
| MP2E3H (Escape Route) | | | | | |
| | 02.50 | - | - | 07.80 | 17.10 |
| | 02.80 | - | - | 08.40 | 18.60 |
| | 03.00 | - | - | 08.60 | 19.60 |

| Order code | Description | * | | | | |
|---|---|---|---|---|---|---|
| MP2O3HCGL-M | Micropoint2 Open Area CGLine+ | 3.6VA/2.5W-6.9VA/5W | 153 Lm | 3h | 4.8V - 2Ah Ni-Cd | Maintained / Non-Maintained |
| MP2E3HCGL-M | Micropoint2 Escape Route CGLine+ | 3.6VA/2.5W-6.9VA/5W | 148 Lm | 3h | 48V - 2Ah Ni-Cd | Maintained / Non-Maintained |

*Non-maintained - Maintained*

- 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
- 60,000 hour life LED for reduced maintenance

### Light Source:
1 x 2,5W LED

Consumption 7.2VA/3,9W

### Materials:
Luminaire body: polycarbonate

Remote gear pod - flame retardant ABS

Battery box– steel powder coated in RAL9016

Battery – Ni-Cd

### Installation:
Flush mount

Spring retaining clips for surface installation (install from below ceiling)

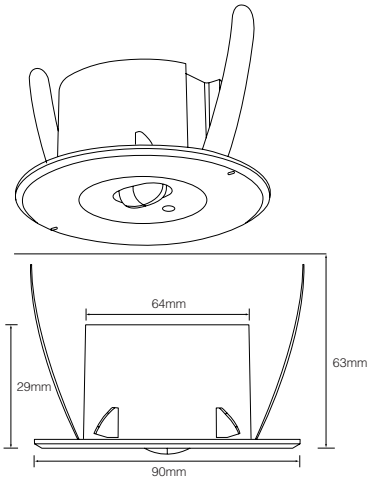
### Operation:
Non-Maintained luminaire

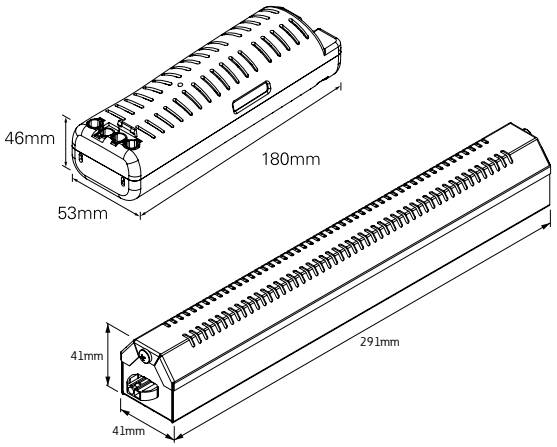
### Applications:
All recessed high risk indoor applications

Micropoint 2 High Output remains a high specification LED emergency down light designed for use as both escape route and anti-panic emergency lighting in high ceiling applications. It meets the requirements for the specific high-risk locations such as disabled refuge areas, plant rooms, kitchens, first aid rooms, treatment rooms and reception areas and meets the requirements to reach 10.8 lux average light output in an escape route application.

As with the rest of the Micropoint 2 range, ease of installation, reduced energy consumption and minimal maintenance reduce the total cost of ownership without compromising on performance or aesthetics.

The use of LEDs, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation.

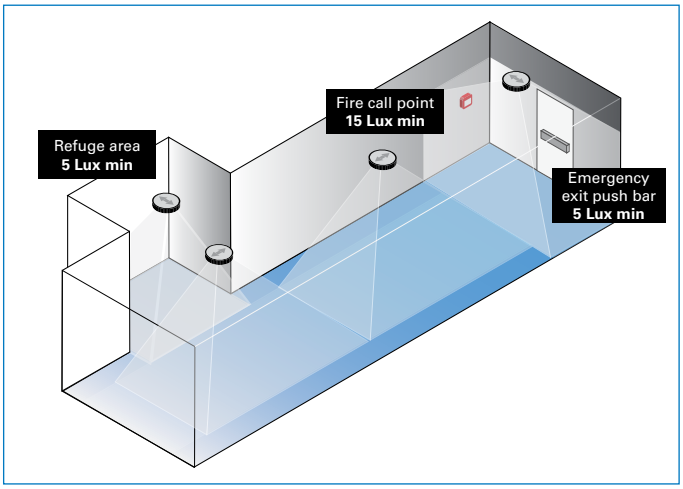


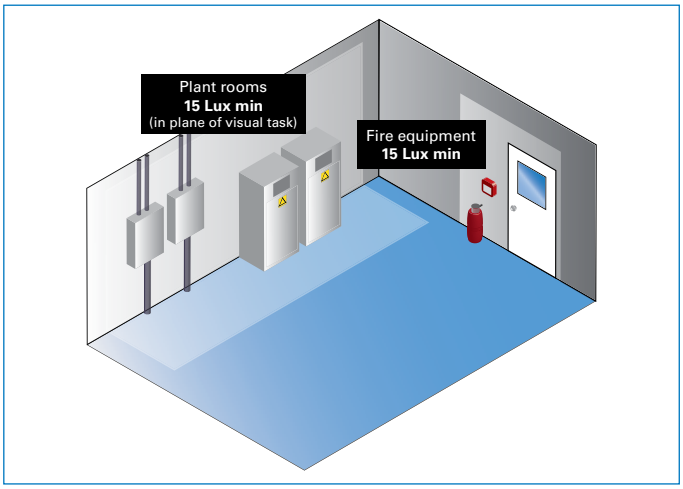

| Mode | Mount height (m) | Lux level directly under | Escape route 2m wide, 1 Lux min | | | | Open area, 0,5 Lux min | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Non maintained | | | | | | | | | | |
| | 3.0 | 22.5 | N/A | N/A | 5.2 | 12.7 | 1.4 | 2.3 | 3.4 | 7.5 |
| | 4.0 | 12.5 | N/A | N/A | 5.8 | 14.6 | 1.5 | 2.7 | 3.5 | 8.1 |
| | 5.0 | 8 | N/A | N/A | 6.2 | 16 | 1.3 | 2.9 | 3.5 | 8.9 |

| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| MP2HI3H-M | Non-maintained 3 Hour self-contained | 7.2VA/3,9W | 298 Lm | 3h | 4.8V - 4Ah Ni-Cd | Non-Maintained |
| MP2HI3HCGL-M | Non-maintained 3 Hour self-contained CGLine+ | 7.2VA/3,9W | 298 Lm | 3h | 4.8V - 4Ah Ni-Cd | Non-Maintained |

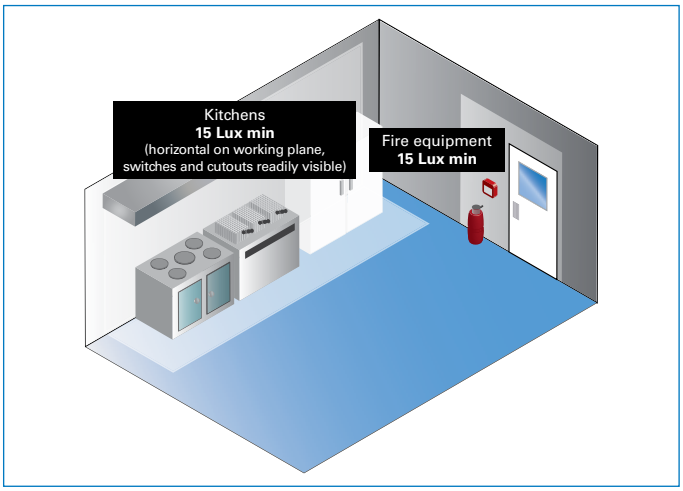
## Corridor and refuge area



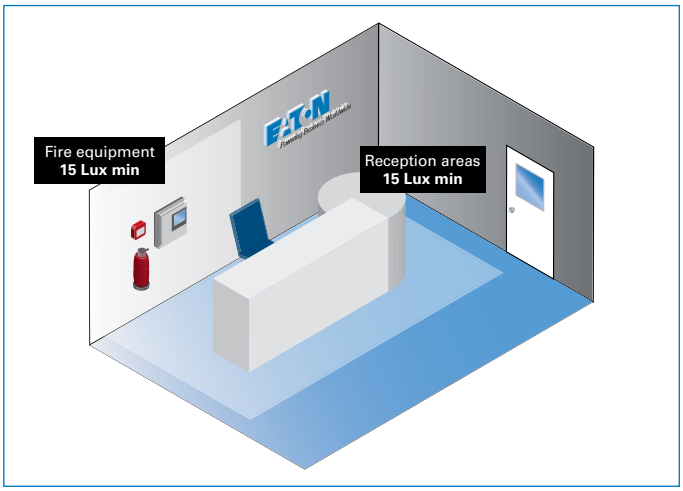

## Plant room



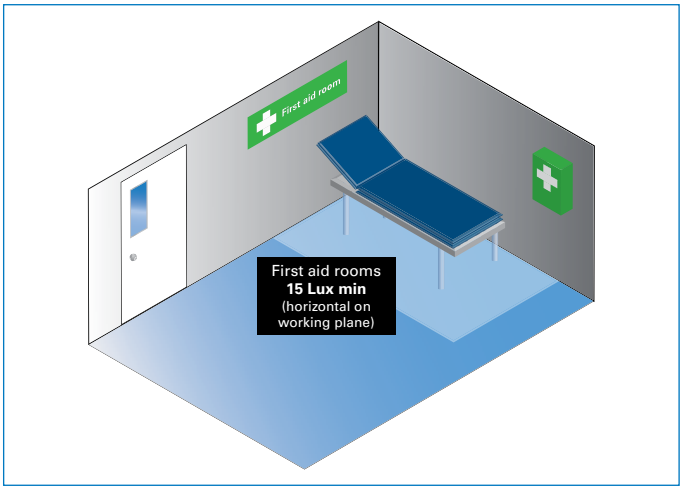

## Kitchen



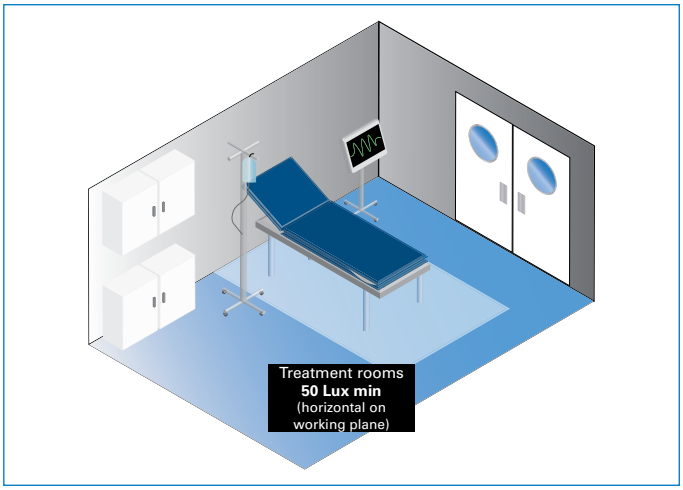

## Reception areas




## First aid rooms




## Treatment rooms



- Recessed luminaire with up to 385 lm in battery mode for high spacing and mounting heights up to 9 m
- Common ceiling cut-out diameter of 68 mm
- With CGLine+ technology

**Light Source:**

3 x 1W LED

Lithium ion battery

**Materials:**

Bezel: sheet steel

Module: Polycarbonate

**Installation:**

Recessed ceiling mounting

**Operation:**

For maintained and non-maintained operations CGLine+ (Without bus working in AT mode)

Selectable emergency duration of 1 h, 3 h, 8 h

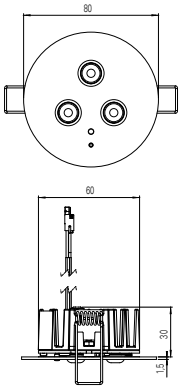
**Applications:**

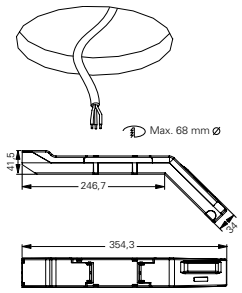
Hotels, offices, cinemas, theaters, museums and hospitals

The 3583 LED is a recessed safety luminaire which provides a lumen output of 385lm with a wide beam distribution. Thus, it can be used for various applications, also for areas with high mounting heights up to 9m.

One, three or eight hours rated operating duration can be freely specified according to application (luminous flux at the end of rated operating time 100% at 1h; 70% at 3h; 25% at 8h). 3583 LED is equipped with an environmental-friendly Li-Ion battery technology.

The use of LEDs, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation.




**Guideled SL CGLine+ with asymmetric optics for E=1.0lx**

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

| | Mounting hight in metres | Types of mounting | L1 | L2 | L3 | L4 |
|---|---|---|---|---|---|---|
| 1 h | 2.5 | Ceiling mounting | 4.3 | 10.0 | 4.3 | 10.0 |
| | 3.0 | Escape route centre | 4.7 | 11.2 | 4.8 | 11.2 |
| | 3.5 | | 5.1 | 12.2 | 5.1 | 12.2 |
| | 4.0 | | 5.3 | 13.0 | 5.3 | 13.1 |
| | 5.0 | | 5.6 | 14.4 | 5.6 | 14.5 |
| | 6.0 | | 5.6 | 15.3 | 5.6 | 15.3 |
| | 7.0 | | 5.3 | 15.7 | 5.3 | 15.8 |
| | 8.0 | | 4.6 | 15.8 | 4.6 | 15.9 |
| | 9.0 | | 2.2 | 15.6 | 2.2 | 15.6 |
| 3 h | 2.5 | Ceiling mounting | 3.9 | 9.2 | 3.9 | 9.2 |
| | 3.0 | Escape route centre | 4.2 | 10.1 | 4.2 | 10.2 |
| | 3.5 | | 4.4 | 10.9 | 4.4 | 11.0 |
| | 4.0 | | 4.5 | 11.6 | 4.5 | 11.6 |
| | 5.0 | | 4.5 | 12.4 | 4.5 | 12.5 |
| | 6.0 | | 4.0 | 12.7 | 4.1 | 12.8 |
| | 7.0 | | 2.7 | 12.6 | 2.8 | 12.6 |

| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| 40071355900 | 3583 1-8h/D LED CGLine+ | 7VA / 6.6W | 385 Lm | 1h, 3h, 8h | Li-Ion 3.7V / 4Ah | Maintained & Non-Maintained |

- Robust design  with IK08
- i-P65+ L: with wide-beam symmetrical lens
- i-P65+ H: with narrow-beam reflector
- High lumen output for high spacing and high ceilings
- Minimum maintenance effort and increased safety via use of LEDs with high service life (up to 60,000 hours)

**Light Source :**
COB LED 6.5W

**Materials:**
Impact-resistent polycarbonate
Die-Cast aluminium optional
Ni-Cd battery

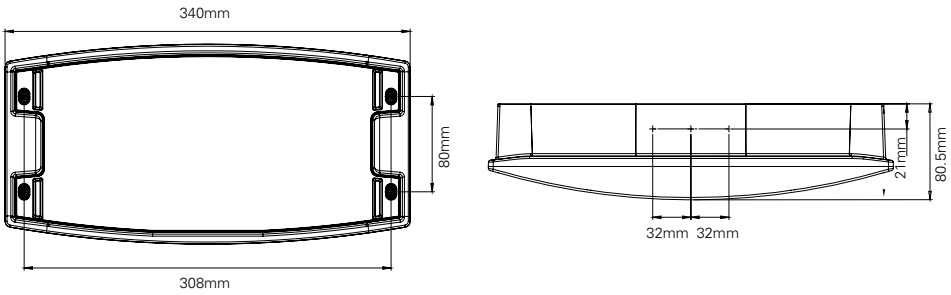
**Operation:**
Maintained / Non-maintained
3h duration

**Applications:**
Factories, warehouses

i-P65+ was developed specifically for requirements in industrial environments. With a combination of high-efficiency LEDs and special optics, it provides optimum performance for a variety of applications. The housing construction features an IP65 protection rating and IK08 impact resistance, making it ideal for ambient conditions in the industrial sector.

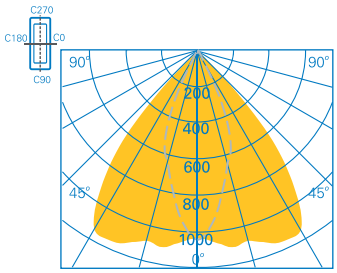
The photometric and electronic components including batteries are designed for reliable functionality with continuous ambient temperatures up to 40°C. The luminaires can therefore be reliably used in halls where machines or processes cause increased temperatures. Because of the high light output - also with battery operation - the i-P65+ is also suitable for applications in which more than 1lx is required e.g. high-risk areas.

The use of LEDs, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation

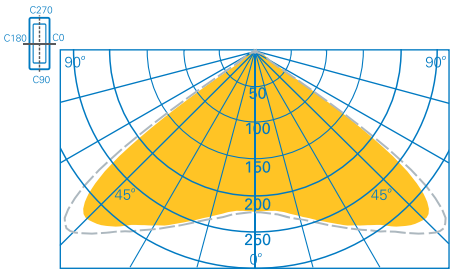



| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| **Polycarbonate enclosure** | | | | | | |
| IP65PLP3HM | i-P65 Plus L 3H | 21.7 VA/10.7 W | 510 Lm | 3h | 4.8V-4Ah NiCd | Maintained / Non Maintained |
| IP65PHP3HM | i-P65 Plus H 3H | 21.7 VA/10.7 W | 380 Lm | 3h | 4.8V-4Ah NiCd | Maintained / Non Maintained |
| iIP65PLP3HCGLM | i-P65 Plus L 3H, CGLine+ | 21.7 VA/10.7 W | 510 Lm | 3h | 4.8V-4Ah NiCd | Maintained / Non Maintained |
| IP65PHP3HCGLM | i-P65 Plus H 3H, CGLine+ | 21.7 VA/10.7 W | 380 Lm | 3h | 4.8V-4Ah NiCd | Maintained / Non Maintained |
| **Aluminium enclosure** | | | | | | |
| IP65PLA3HCGLM | i-P65 Plus L 3H, CGLine+ | 21.7 VA/10.7 W | 510Lm | 3h | 4.8V-4Ah NiCd | Maintained / Non Maintained |
| IP65PHA3HCGLM | i-P65 Plus H 3H, CGLine+ | 21.7 VA/10.7 W | 380Lm | 3h | 4.8V-4Ah NiCd | Maintained / Non Maintained |

| Accesories | |
|---|---|
| iP65PSUSPB | Mounting bracket for chain suspension or for mounting at trunking systems or similar |




i-P65+ H
Asymmetric reflector
Narrow-beam
reflector technology




i-P65+ L
Wide-beam
Symmetrical lens

| | Luminaire type | Height (m) | Distance for 1 Lux | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| 3 h | Ceiling mounting | 03.00 | 03.10 | 06.60 | 02.00 | 05.10 |
| | Escape route centre | 04.00 | 04.10 | 08.50 | 02.40 | 05.60 |
| | | 05.00 | 04.90 | 10.30 | 02.80 | 06.20 |
| | | 06.00 | 05.70 | 12.10 | 03.20 | 07.10 |
| | | 07.00 | 06.40 | 13.80 | 03.60 | 07.90 |
| | | 08.00 | 07.10 | 15.50 | 03.90 | 08.70 |
| | | 09.00 | 07.70 | 17.00 | 04.10 | 09.50 |
| | | 10.00 | 08.20 | 18.40 | 04.20 | 10.20 |
| | | 15.00 | 08.80 | 23.70 | 02.80 | 11.70 |
| | | 16.00 | 08.00 | 24.30 | 02.20 | 11.60 |

| | Luminaire type | Height (m) | Distance for 1 Lux | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| 3 h | Ceiling mounting | 03.00 | 04.40 | 09.20 | 04.40 | 09.30 |
| | Escape route centre | 04.00 | 05.60 | 11.80 | 05.50 | 11.80 |
| | | 05.00 | 06.60 | 14.30 | 06.50 | 14.20 |
| | | 06.00 | 07.20 | 16.60 | 07.00 | 16.40 |
| | | 07.00 | 07.40 | 18.50 | 07.00 | 18.10 |
| | | 08.00 | 06.40 | 19.50 | 06.10 | 19.00 |
| | | 09.00 | 04.60 | 19.50 | 04.50 | 18.90 |
| | | 10.00 | - | 15.50 | - | 15.00 |
| 3 h | Ceiling mounting | 03.00 | 04.20 | 08.20 | 04.10 | 08.10 |
| | Room illumination | 04.00 | 05.20 | 10.50 | 05.20 | 10.50 |
| | | 05.00 | 05.90 | 12.80 | 05.90 | 12.80 |
| | | 06.00 | 06.30 | 14.90 | 06.40 | 15.00 |
| | | 07.00 | 06.80 | 16.90 | 06.80 | 16.90 |
| | | 08.00 | 05.00 | 18.50 | 05.40 | 18.40 |
| | | 09.00 | 03.60 | 18.20 | 03.70 | 18.20 |
| | | 10.00 | 00.50 | 16.00 | 00.50 | 16.00 |
| | | 15.00 | 00.50 | 15.70 | 00.50 | 15.60 |
| | | 18.00 | 00.50 | 09.40 | 00.50 | 09.40 |

**The reflector solution** was specifically developed for extreme mounting heights in combination with tight escape routes, e.g. with highbay racking applications, where in the case of wrong light distribution more light is distributed into the shelving than for safety along the escape routes. Here mounting heights to 28 m and luminaire spacing to 30 m are possible. This reduction in the quantity of luminaires needed leads to reduced installation- and operating costs.

**The lens optic** emits almost square light distribution over a very large area. This makes it especially suitable for large halls where no fixed escape route can be defined due to changing uses, meaning the complete area must be illuminated. A maximum spacing of up to 23 m between luminaires reduces the number of required light points. An application range up to 17 m enables mounting at the normally occurring heights.

# Safety & Exit signs

## Overview

| | Page | Performance | Global Features | | | | | | Operation | | Technology | | | Battery |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Aesthetic | One box solution* | No replacement parts for 10 years | Low consumption / Eco-friendly | Protection Degree | Viewing distance | Maintained | Non-Maintained | Stand alone | Autotest | Monitored (CGLine+) | |
| **2.1** NexiTech LED  | 46 | ★ ★ | ● | | | ● | 40<br>65 | 20<br>30* | ● | ● | | ● | ● | Ni-Cd |
| **2.2** SafeLite  | 52 | ★ | | | | | 42<br>65 | 20<br>30 | ● | ● | ● | ● | ● | Ni-Cd |
| **2.3** Sirios LED  | 58 | | | | | ● | 42<br>65 | 30 | ● | ● | ● | ● | ● | Ni-Cd |
| **2.4** Sirios fluro  | 59 | | | | | | 42<br>65 | 30 | | | | | ● | Ni-Cd |
| **2.5** ATLANTIC LED  | 62 | ★ ★ ★ | | | | ● | 65 | 24 | ● | ● | | ● | ● | Ni-Mh |

**double side panels available for 30m viewing distance*

| Installation | | | | Applications | | | | | | | | Best use |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wall | Ceiling | Recessed | Suspended* | Healthcare | Hotels | Cinemas / Theaters | Commercial centers | Stadia / Arenas | Offices | Industrial | Warehouse | |
| ● | ● | ● | | ● | ● | ● | ● | ● | ● | | ● | |
| ● | ● | ● | | ● | ● | ● | ● | | ● | | | |
| ● | ● | ● | | ● | ● | ● | ● | | ● | | | |
| ● | ● | ● | | | | ● | ● | | ● | | | |
| | ● | | | | | | | ● | | ● | ● | Very robust solution with IK10 for industrial and public buildings like car parks . With battery heater suitable for down to -20°C. |

** See pure exit sign section for suspended luminaires*

- From 100 to 800lm output flux
- Comparable to 8, 11 and 24W fluorescent lamp
- Ni-Cd HT high quality batteries

**Light Source:**
LED strip

**Material:**
Base and reflector
white polycarbonate

Diffuser clear polycarbonate

Protection degree IP40 and
IP65 with the accessory kit

Ni-Cd battery

**Installation options:**
Wall and ceiling mounting

Surface or recessed installation
in false ceiling and bricks wall

Single side glue-less
ISO7010 pictograms with

20m viewing distance

Double side ISO7010
panels with 20 or 30m
of viewing distance

**Operation:**
Maintained and Non-Maintained
mode on all version

Fixed 60lm output in
Maintained mode for all variants
for high
energy saving

1h, 1,5h and 3h duration

Rest Mode and Tests via
remote command

12h recharge period
(24h for 3h versions)

**Applications:**
Schools, universities,
commercial
malls, stores, offices, public
administration and all indoor
generic environments

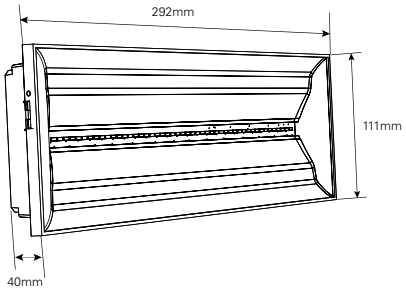
Safety antipanic lighting
and escape route lighting

Hi-bay environments

The modern style, the simplicity of the shapes and the high quality surfaces make NexiTech LED ideal for any architectural context, while the precision of the mechanics and the sophisticated electronics guarantee a full unmatched reliability. The latest generation of LED light source provides a good and uniform light distribution.

The wide range of accessories allows installation on a wall or ceiling, surface or recessed in indoor and harsh environments, thanks to the IP65 protection kit. It is also possible to use it as single or double-sided exit sign and to combine exit and safety lighting functions in one product.

This range is composed of maintained and non-maintained variants, 1/1.5/3h duration versions, from 100lm up to 800lm light output. The use of LEDs, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation.




## Autotest is now for all

The reliability and the guarantee of operation are now within everyone's reach. We chose to design NexiTech LED starting directly from models with built-in diagnostic functions, all the self-contained versions (with battery on board) are equipped with a self-test system that performs automatic tests in accordance with standard EN62034 and EN50172.

## Top level signalization

The pictograms, optional and available upon request, conform to the international standard ISO7010, have no glue and can be repositioned at will and with ease, without a complex installation. They are placed between the diffuser and reflector creating a translucency which finds its maximum aesthetic applications when recessed into the wall.

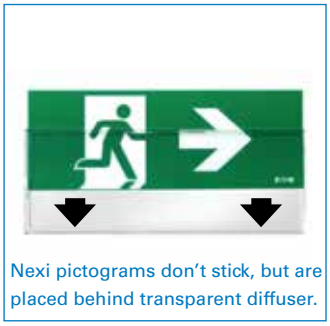
NexiTech LED with IP65 protection kit

The IP65 kit is compatible with all the variants.
Only surface mounting. Dimension 308x125x53 mm

With double-side pictograms

Viewing distance: 20 or 30m

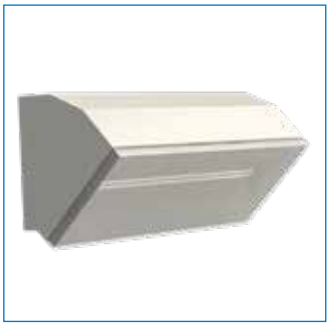
With single-side pictograms



Nexi pictograms don't stick, but are placed behind transparent diffuser.

Viewing distance: 20m

45° Wall Bracket (IP40/IP65)



Light the floor from the wall (available in 2019)

Nexi LED frame

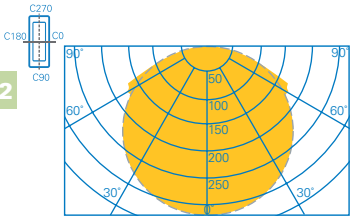
| Order code | Description | * | | | | |
|---|---|---|---|---|---|---|
| NEXI100-3H-AT-M | NexiTech LED 100 3h Auto Test | 1.3 W - 3.1 W | 100 Lm | 3h | 3.6V - 2.0Ah NiCd | Non-Maintained |
| NEXI150-3H-AT-M | NexiTech LED 150 3h Auto Test | 0.65 W - 2.4 W | 150 Lm | 3h | 3.6V - 2.0Ah NiCd | Maintained / Non-Maintained |
| NEXI250-3H-AT-M | NexiTech LED 250 3h Auto Test | 2.25 W - 3.6 W | 250 Lm | 3h | 7.2V - 1.7Ah NiCd | Maintained / Non-Maintained |
| NEXI150-3H-CGL-M | NexiTech LED 150 3h CGLine+ | 1.3 W - 3.1 W | 150 Lm | 3h | 7.2V - 1.7Ah NiCd | Maintained / Non-Maintained |
| NEXI150-3H-CGL-IPM | NexiTech LED 150 3h IP65 CGLine+ | 1.3 W - 3.1 W | 150 Lm | 3h | 7.2V - 1.7Ah NiCd | Maintained / Non-Maintained |
| NEXI300-3H-CGL-M | NexiTech LED 300 3h CGLine+ | 2 W - 3.2 W | 300 Lm | 3h | 7.2V - 1.7Ah NiCd | Maintained / Non-Maintained |
| NEXI300-3H-CGL-IPM | NexiTech LED 300 3h IP65 CGLine+ | 2 W - 3.2 W | 300 Lm | 3h | 7.2V - 1.7Ah NiCd | Maintained / Non-Maintained |

**Non-maintained - Maintained*

Increased Affordance versions

| Order code | Description | ** | | | | |
|---|---|---|---|---|---|---|
| NEXI3HIACGL-M | NexiTech LED 3h IA CGLine+ IP40 | 2.5W 4W | >500cd | 3h | 7.2V - 1.7Ah Ni-Cd | Maintained / Non-Maintained |
| NEXI3HIACGLIPM | NexiTech LED 3h IA CGLine+ IP65 | 2.5W 4W | >500cd | 3h | 7.2V - 1.7Ah Ni-Cd | Maintained / Non-Maintained |

***50cd - 500cd*




### NexiTech, 100 lm

#### Escape route 2m wide 1 lux min

| Mounting height [m] | Lux level directly under | | | | |
|---|---|---|---|---|---|
| 2,5 | 4,4 | 2,7 | 7,2 | 7,2 | 2,7 |
| 2,8 | 3,6 | 2,7 | 7,4 | 7,4 | 2,7 |
| 3,0 | 3,2 | 2,7 | 7,5 | 7,5 | 2,7 |
| 4,0 | 1,8 | 2,5 | 7,8 | 7,8 | 2,5 |

#### Open (anti-panic) area 0.5 lux min

| Mounting height [m] | Lux level directly under | | | | |
|---|---|---|---|---|---|
| 2,5 | 4,4 | 3,1 | 7,5 | 7,5 | 3,1 |
| 2,8 | 3,6 | 3,2 | 7,9 | 7,9 | 3,2 |
| 3,0 | 3,2 | 3,3 | 8,1 | 8,1 | 3,3 |
| 4,0 | 1,8 | 3,4 | 9,1 | 9,1 | 3,4 |
| 5,0 | 1,1 | 3,1 | 9,6 | 9,6 | 3,1 |
| 6,0 | 0,8 | 2,7 | 10,2 | 10,2 | 2,7 |

#### Mounting height for 5 lux below 2 meters

### NexiTech, 150 lm

#### Escape route 2m wide 1 lux min

| Mounting height [m] | Lux level directly under | | | | |
|---|---|---|---|---|---|
| 2.5 | 6.0 | 3.2 | 8.5 | 8.5 | 3.2 |
| 2.8 | 5.0 | 3.3 | 8.7 | 8.7 | 3.3 |
| 3.0 | 4.4 | 3.4 | 8.8 | 8.8 | 3.4 |
| 4.0 | 2.7 | 3.4 | 9.4 | 9.4 | 3.4 |
| 5.0 | 1.7 | 2.8 | 9.1 | 9.1 | 2.8 |
| 6.0 | 1.1 | 1.8 | 8.7 | 8.7 | 1.8 |
| 7.0 | N/A | N/A | N/A | N/A | N/A |

#### Open (anti-panic) area 0.5 lux min

| Mounting height [m] | Lux level directly under | | | | |
|---|---|---|---|---|---|
| 2.5 | 6.0 | 3.6 | 8.0 | 8.0 | 3.6 |
| 2.8 | 5.0 | 3.7 | 8.5 | 8.5 | 3.7 |
| 3.0 | 4.4 | 3.8 | 9.8 | 9.8 | 3.8 |
| 4.0 | 2.7 | 4.4 | 9.2 | 9.2 | 4.4 |
| 5.0 | 1.7 | 4.0 | 11.0 | 11.0 | 4.0 |
| 6.0 | 1.1 | 3.8 | 11.6 | 11.6 | 3.8 |
| 7.0 | 0.8 | 3.5 | 12.1 | 12.1 | 3.5 |

#### Mounting height for 5 lux below 2 meters

**NexiTech, 250 lm**

**Escape route 2m wide 1 lux min**

| Mounting height [m] | Lux level directly under | | | | |
|---|---|---|---|---|---|
| 2,5 | 10,1 | 3,9 | 10,0 | 10,0 | 3,9 |
| 2,8 | 8,4 | 4,0 | 10,6 | 10,6 | 4,0 |
| 3,0 | 7,4 | 4,1 | 10,8 | 10,8 | 4,1 |
| 4,0 | 4,5 | 4,3 | 10,8 | 10,8 | 4,3 |
| 5,0 | 2,8 | 4,0 | 11,3 | 11,3 | 4,0 |
| 6,0 | 1,9 | 3,7 | 11,4 | 11,4 | 3,7 |
| 7,0 | 1,4 | 2,9 | 11,2 | 11,2 | 2,9 |

**Open (anti-panic) area 0.5 lux min**

| Mounting height [m] | Lux level directly under | | | | |
|---|---|---|---|---|---|
| 2,5 | 10,1 | 4,0 | 9,4 | 9,4 | 4,0 |
| 2,8 | 8,4 | 4,2 | 9,9 | 9,9 | 4,2 |
| 3,0 | 7,4 | 4,3 | 10,3 | 10,3 | 4,3 |
| 4,0 | 4,5 | 4,7 | 11,8 | 11,8 | 4,7 |
| 5,0 | 2,8 | 4,8 | 12,7 | 12,7 | 4,8 |
| 6,0 | 1,9 | 4,9 | 13,6 | 13,6 | 4,9 |
| 7,0 | 1,4 | 4,9 | 14,4 | 14,4 | 4,9 |

**Mounting height for 5 lux below 3.9 meters**

**Open (anti-panic) area 10.8 lux min NEXI 300 CGL**

| Mounting height [m] | | | | |
|---|---|---|---|---|
| 2,5 | 2,0 | 6,0 | 2,0 | 6,0 |
| 3,0 | 2,0 | 5,0 | 2,0 | 5,0 |
| 4,5 | 2,0 | 4,0 | 2,0 | 4,0 |

## Nexi LED - Edge Light Panel with opal diffuser



CE | EN 60598-2-22 | EN 1838 | IP40 | 20 m | 30 m

- Combined Exit Sign and Safety Lighting functions in one product
- Good light distribution performance
- No glare effect thanks to the opal diffuser
- Suitable for (IP40 luminaires), Self Contained and Central Power System versions
- Suitable for all light output variants (100lm to 1000lm)

**Light Source:**
LED strip

**Material:**

Diffuser polycarbonate
Edge Light Panel
polycarbonate and PMMA

Protection degree IP40

**Installation options:**

Compatible with false ceiling adaptor and finishing frame

20m and 30m viewing distance

4 mm thickness panel

Single and double sided edge panel for ceiling mounting

**Applications:**

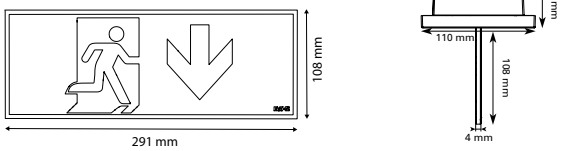
Schools, universities, commercial
malls, stores, offices, public administration and all indoor generic environments

Safety antipanic lighting and escape route lighting

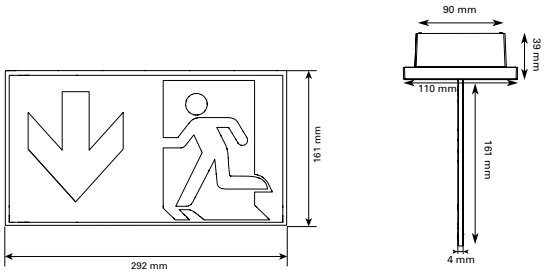
This new range of accessories makes Nexi LED luminaires a solution for Exit Sign and Safety Lighting functions in one product.

The additional light provided by the luminaire through the opal diffuser contributes to the escape route lighting (possible spacing up to 12m with Nexi LED 500, 14.9m with Nexi LED 1000).

The standard edge light panel with opaque cover make Nexi Led luminaires a solution for pure Exit Sign. All new Edge Light Panel are available in two versions: 20 and 30m viewing distance. The illumination of the ISO format pictogram is homogenous and complies with EN1838.




Nexi LED 20m viewing distance




Nexi LED 30m viewing distance

### Ordering details - Opal diffuser for Exit Sign and Safety Lighting functions

High Uniformity, complying with EN1838, suitable for Nexi LED IP40 versions

| Order code | Description | Pictogram |
|---|---|---|
| NEXI-PLEXO-DB | NEXI PANEL OPAL 30 D-B ISO High Unifor. | 30m, Down/Blank |
| NEXI-PLEXO-DD | NEXI PANEL OPAL 30 D-D ISO High Unifor. | 30m, Down/Down |
| NEXI-PLEXO-LR | NEXI PANEL OPAL 30 L-R ISO High Unifor. | 30m, Left/Right |
| NEXI-PLEXO-UB | NEXI PANEL OPAL 30 U-B ISO High Unifor. | 30m, Up/Blank |
| NEXI-PLEXO-UU | NEXI PANEL OPAL 30 U-U ISO High Unifor. | 30m, Up/Up |
| NEXI-PLEXO-20-DB | NEXI PANEL OPAL 20 D-B ISO High Unifor. | 20m, Down/Blank |
| NEXI-PLEXO-20-DD | NEXI PANEL OPAL 20 D-D ISO High Unifor. | 20m, Down/Down |
| NEXI-PLEXO-20-LR | NEXI PANEL OPAL 20 L-R ISO High Unifor. | 20m, Left/Right |
| NEXI-PLEXO-20-UB | NEXI PANEL OPAL 20 U-B ISO High Unifor. | 20m, Up/Blank |
| NEXI-PLEXO-20-UU | NEXI PANEL OPAL 20 U-U ISO High Unifor. | 20m, Up/Up |



Nexi LED recessed using false ceiling adapter + Edge light panel

## High Uniformity, complying with EN1838, suitable for Nexi LED IP40 versions

| Order code | Description | Pictogram |
|---|---|---|
| NEXI-PLEX-20-DB | NEXI PANEL 20 D-B ISO High Unifor. | 20m, Down/Blank |
| NEXI-PLEX-20-DD | NEXI PANEL 20 D-D ISO High Unifor. | 20m, Down/Down |
| NEXI-PLEX-20-LR | NEXI PANEL 20 L-R ISO High Unifor. | 20m, Left/Right |
| NEXI-PLEX-20-UB | NEXI PANEL 20 U-B ISO High Unifor. | 20m, Up/Blank |
| NEXI-PLEX-20-UU | NEXI PANEL 20 U-U ISO High Unifor. | 20m, Up/Up |
| NEXI-PLEX-DB | NEXI PANEL 30 D-B ISO High Unifor. | 30m, Down/Blank |
| NEXI-PLEX-DD | NEXI PANEL 30 D-D ISO High Unifor. | 30m, Down/Down |
| NEXI-PLEX-LR | NEXI PANEL 30 L-R ISO High Unifor. | 30m, Left/Right |
| NEXI-PLEX-UB | NEXI PANEL 30 U-B ISO High Unifor. | 30m, Up/Blank |
| NEXI-PLEX-UU | NEXI PANEL 30 U-U ISO High Unifor. | 30m, Up/Up |

Nexi LED + Edge light panel

## Standard uniformity, suitable for Nexi LED IP40 versions

| | | |
|---|---|---|
| NEXI-PLEXL-DB | NEXI PANEL 30 D-B ISO Lite Unifor. | 30m, Down/Blank |
| NEXI-PLEXL-DD | NEXI PANEL 30 D-D ISO Lite Unifor. | 30m, Down/Down |
| NEXI-PLEXL-LR | NEXI PANEL 30 L-R ISO Lite Unifor. | 30m, Left/Right |

## Standard uniformity, suitable for Nexi LED IP65 versions

| | |
|---|---|
| NEXI-PLEX-IP | NEXI PANEL 30 ISO Lite Unifor. Delivered with 7 stickers |

Nexi LED + finishing frame + Edge light panel

## Single-side pictograms

| | |
|---|---|
| NEXI-PICTO-D | Pictogram Down ISO single-side 20m |
| NEXI-PICTO-L | Pictogram Left ISO single-side 20m |
| NEXI-PICTO-R | Pictogram Right ISO single-side 20m |
| NEXI-PICTO-U | Pictogram Up ISO single-side 20m |

## Accessories

| | |
|---|---|
| NEXI-IP | IP65 protection kit |
| NEXI-WB45 | 45° Wall Bracket (IP40/IP65)* |
| EL-BR1 | 90° Wall Bracket (IP40/IP65)* |
| NEXI-RB | Bricks wall recessed base (cut-out 277x100mm) |
| NEXI-FC | False ceiling adapter (cut-out 272x95mm) |
| NEXI-FR | Finishing frame NexiTech LED |
| LUM10312 | Rest-Mode and Test telecommand |

** available in 2019*

- All applications covered (Escape route, Anti-panic, Exit sign)
- One product throughout installation for same look and feel across the building
- Accessories available for a better integration in all buildings
- Easily installed as retro fit due to good performance ensuring scheme compliance
- 3h Duration
- Latest generation LEDs with high lumen/watt ratio

**Light Source:**

LED strip

**Materials:**

Base and reflector white polycarbonate

Diffuser clear polycarbonate

Protection degree IP42 and IP65 housings

**Installation:**

Surface

Options: Recessed box for plaster or brick, recessed base for ceiling, double sided diffuser, set of adhesive exit legends

**Operation:**

Non Maintained or Maintained & Non Maintained mode selectable

Safety antipanic lighting and escape route lighting
Exit sign with single and double side signalization

**Applications:**

Schools, universities, commercial malls, stores, offices, public administration and all indoor generic environments

One product, several applications. SafeLite is a range of anti-panic and escape route luminaires that can also by used as an exit-sign by purchasing optional sets of pictograms (Conform to ISO7010). The housings are available in two IP rating options (IP42 & IP65) making SafeLite luminaires suitable for indoor or more industrial applications.

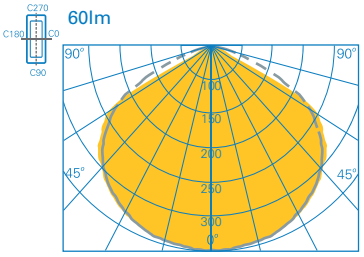
A wide range of accessories (recessed box, recessed base, double-sided diffuser and wire guard) will provide more flexibility and ease of integration within the building.

This range of LED stand-alone self-contained luminaires is composed of maintained and non-maintained variants, 1/2/3h duration versions, from 60lm up to 300lm light output.

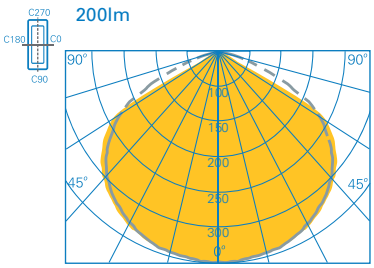
**Double side cone diffuser:**
Used to do ceiling signage, double or single side (blind picto inside).
In accordance with EN1838 standard.
Exit pictograms comply with ISO7010. Compatible with IP42 and IP65 luminaire versions.
Could be associated with recessed base. Adhesives pictograms have to be ordered separately (or re use ones delivered with luminaires).

**Double side plexi diffuser:**
Used to do ceiling signage, double or single side.
Exit pictograms comply with ISO7010.
Select order code according to signage configuration requested.
Compatible with IP42 and IP 65 luminaire versions.
Could be associated with recessed base.

**Recessed base:**
Option used for full recessed mounting in false ceiling.
Compatible with IP42 and IP65 luminaire versions.
Could be associated with double side diffuser and panel signage.




| Mode | Mount height (m) | Lux level directly under | Escape route 2m wide, 1 Lux min | | | | Open area, 0,5 Lux min | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Non maintained | | | | | | | | | | |
| | 2.5 | 3.4 | 2.5 | 6.6 | 2.4 | 6.4 | 2.9 | 7.2 | 2.8 | 7 |
| | 2.8 | 2.7 | 2.4 | 6.7 | 2.4 | 6.6 | 3.0 | 7.5 | 2.9 | 7.2 |
| | 3.0 | 2.3 | 2.3 | 6.8 | 2.3 | 6.7 | 3.0 | 7.7 | 2.9 | 7.4 |
| | 3.5 | 1.7 | 2.1 | 6.8 | 2.1 | 6.7 | 3.0 | 7.9 | 2.9 | 7.8 |
| | 4.0 | 1.3 | 1.7 | 6.6 | 1.7 | 6.5 | 2.9 | 8.3 | 2.8 | 8.2 |
| | 4.5 | 1.0 | 0.8 | 6.3 | 0.8 | 6.2 | 2.8 | 8.5 | 2.7 | 8.5 |
| | 5.0 | | | | | | 2.7 | 8.8 | 2.6 | 8.7 |
| | 5.5 | | | | | | 2.4 | 9.0 | 2.3 | 8.9 |
| | 6.0 | | | | 2.5 | | 1.8 | 9.0 | 1.9 | 9.4 |
| | 6.5 | | | | | | 0.8 | 8.8 | 0.9 | 9.8 |




| Mode | Mount height (m) | Lux level directly under | Escape route 2m wide, 1 Lux min | | | | Open area, 0,5 Lux min | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Non maintained | | | | | | | | | | |
| | 2.5 | 10.0 | 3.9 | 8.7 | 3.7 | 9.2 | 3.9 | 9.1 | 3.7 | 9.5 |
| | 3.0 | 7.0 | 4.0 | 9.8 | 3.9 | 9.9 | 4.1 | 9.7 | 4.0 | 10.1 |
| | 4.0 | 3.9 | 4.2 | 11.2 | 4.0 | 11.0 | 4.5 | 11.8 | 4.4 | 11.6 |
| | 4.5 | 3.1 | 4.2 | 11.5 | 4.1 | 11.2 | 4.6 | 12.6 | 4.5 | 12.4 |
| | 5.0 | 2.5 | 4.1 | 11.7 | 4.0 | 11.4 | 4.7 | 13.0 | 4.6 | 12.8 |
| | 5.5 | 2.0 | 3.9 | 11.8 | 3.8 | 11.6 | 4.7 | 13.4 | 4.6 | 13.1 |
| | 6.0 | 1.7 | 3.7 | 11.8 | 3.6 | 11.6 | 4.7 | 13.7 | 4.6 | 13.5 |
| | 7.0 | 1.3 | 2.8 | 11.4 | 2.7 | 11.3 | 4.5 | 14.6 | 4.4 | 14.3 |
| | 8.0 | | | | | | 4.3 | 15.0 | 4.3 | 14.7 |
| | 9.0 | | | | | | 3.8 | 15.2 | 3.8 | 15.0 |
| | 10.0 | | | | | | 3.1 | 15.5 | 3.1 | 15.2 |
| | 10.5 | | | | | | 2.6 | 15.5 | 2.6 | 15.1 |
| | 11.0 | | | | | | 1.7 | 15.2 | 1.7 | 15.0 |

| Model | Height (m) | Distance for 10.8 Lux | | | |
|---|---|---|---|---|---|
| Safe Lite 200lum CGL | | | | | |
| | 2.5 | 2.0 | 4.0 | 2.0 | 4.0 |

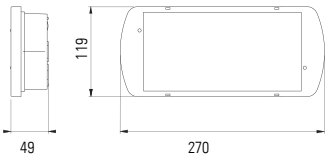
# 2.2 Safety & exit signs

## SafeLite

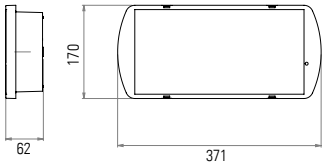


| Order code | Viewing distance (m) | IP | IK | Duration (h) | Lum in emergency | Lum in mains | Operation | Consumption NM VA | Consumption NM W | Consumption M VA | Consumption M W | Battery | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SL2NM42C3-M | 20 | 42 | 04 | 3 | 60 | - | NM | 1.7 | 1.4 | - | - | 3.6 V | 0.8 Ah | 0.5 |
| SL2NM42D3-M | 20 | 42 | 04 | 3 | 100 | - | NM | 1.7 | 1.4 | - | - | 3.6 V | 1.7 Ah | 0.5 |
| SL2NM42F3-M | 20 | 42 | 04 | 3 | 200 | - | NM | 1.8 | 1.5 | - | - | 3.6 V | 2 Ah | 0.5 |
| SL2NM65D3-M | 20 | 65 | 07 | 3 | 100 | - | NM | 1.7 | 1.4 | - | - | 3.6 V | 1.7 Ah | 0.6 |
| SL2MNM42C3C-M | 20 | 42 | 04 | 3 | 60 | 60 | MNM | 2.7 | 2.6 | 2.8 | 2.7 | 3.6 V | 0.8 Ah | 0.5 |
| SL2MNM42D3C-M | 20 | 42 | 04 | 3 | 100 | 60 | MNM | 3.2 | 2.5 | 3.8 | 3.2 | 3.6 V | 1.7 Ah | 0.7 |
| SL2MNM65C3C-M | 20 | 65 | 07 | 3 | 60 | 60 | MNM | 2.7 | 2.6 | 2.8 | 2.7 | 3.6 V | 0.8 Ah | 0.5 |
| SL2MNM65D3C-M | 20 | 65 | 07 | 3 | 100 | 60 | MNM | 3.2 | 2.5 | 3.8 | 3.2 | 3.6 V | 1.7 Ah | 0.7 |
| SL2MNM42D3D-M | 20 | 42 | 04 | 3 | 100 | 100 | MNM | 5.5 | 4.3 | 6.5 | 5.5 | 3.6 V | 1.7 Ah | 0.7 |
| SL2-42D3D-CGL-M | 20 | 42 | 04 | 3 | 100 | 100 | MNM | 3 | 1.2 | 7 | 3.2 | 3.6 V | 1.5 Ah | 0.7 |
| SL2-65D3D-CGL-M | 20 | 65 | 07 | 3 | 100 | 100 | MNM | 3 | 1.2 | 7 | 3.2 | 3.6 V | 1.5 Ah | 0.7 |
| SL3MNM42F3C-M | 30 | 42 | 04 | 3 | 200 | 60 | MNM | 3,2 | 2.5 | 3.8 | 3.2 | 3.6 V | 2 Ah | 0.9 |
| SL3MNM65F3C-M | 30 | 65 | 07 | 3 | 200 | 60 | MNM | 3.2 | 2.5 | 3.8 | 3.2 | 3.6 V | 2 Ah | 0.9 |
| SL3-42D3D-CGL-M | 30 | 42 | 04 | 3 | 100 | 100 | MNM | 3 | 1.2 | 7 | 3.2 | 3.6 V | 1.7 Ah | 0.9 |
| SL3-65D3D-CGL-M | 30 | 65 | 07 | 3 | 100 | 100 | MNM | 3 | 1.2 | 7 | 3.2 | 3.6 V | 1.7 Ah | 0.9 |

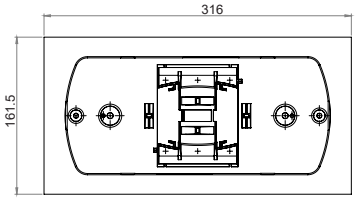
### SafeLite 20m



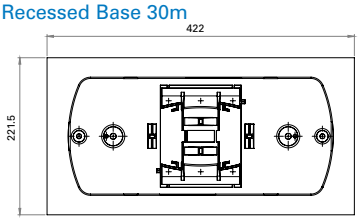

### SafeLite 30m



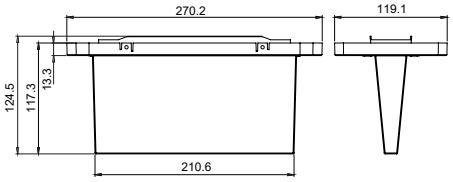

### Recessed Base 20m



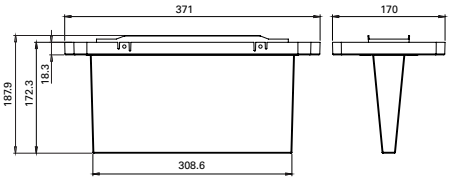

### Recessed Base 30m



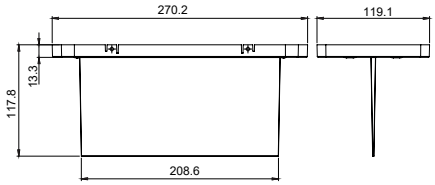

### Cone Diffuser 20m



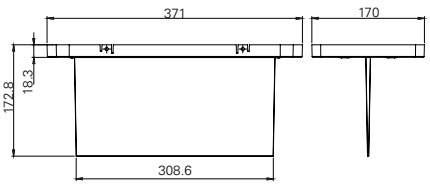

### Cone Diffuser 30m



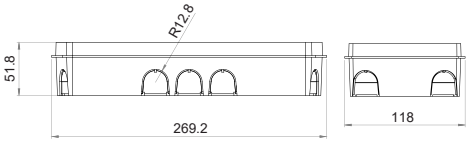

### SafeLite 20m Exit Sign Plexiglass




### SafeLite 30m Exit Sign Plexiglass




### SafeLite 20m Recessed box for concrete



## Accessories

**Wire guard - ensures high degree of protection**

| | |
|---|---|
| SL2PG | SafeLite 20m, Wire guard |
| O-EL-GRID | SafeLite 30m, Wire guard |

**Recessed base - For full recessed mounting, compatible IP42 & IP65 variants, can be associated to double side diffusers**

| | |
|---|---|
| SL2RB | SafeLite 20m, RecesBase |
| SL3RB | SafeLite 30m, RecesBase |
| SL2RBRC | SafeLite 20m, RecesBase Round Corner |

**Recessed box**

| | |
|---|---|
| SL2WB | SafeLite 20m, Wall Base |



**Opal diffuser**

| | |
|---|---|
| SL2OP | SafeLite Opal Diffuser** |

**Lightdecreasearound5%,mesuredvaluesuponrequest

**Wall bracket**

| | |
|---|---|
| EL-BR1 | SafeLite 20m, 90° Wall Bracket |

**Double side cone diffuser - compliant with EN1838**

| | |
|---|---|
| SL2CD | SafeLite 20m, Cone Diffuser* |
| SL3CD | SafeLite 30m, Cone Diffuser* |
| SL2DC3I | SafeLite 20m, Cone Diffuser, 3 Inside pictograms included |

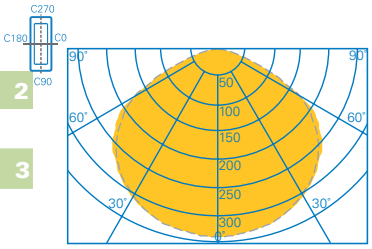
*Pictograms have to be ordered separately (or re use ones delivered with luminaires).

**Double side plexi diffuser**

| | |
|---|---|
| SL2PPD | SafeLite 20m, Plexi Plate, one side, Down |
| SL2PPDD | SafeLite 20m, Plexi Plate, double side, Down |
| SL2PPLR | SafeLite 20m, Plexi Plate, double side, Left & Right |
| SL3PPD | SafeLite 30m, Plexi Plate,one side, Down |
| SL3PPDD | SafeLite 30m, Plexi Plate,double side, Down |
| SL3PPLR | SafeLite 30m, Plexi Plate, double side, Left & Right |

**Set of adhesive exit legends**

| ISO7010 format | |
|---|---|
| SL23A | SafeLite ISO 20m, 3x Adh (Left, Right, Down) |
| SL33A | SafeLite ISO 30m, 3x Adh (Left, Right, Down) |
| SL24A | SafeLite ISO 20m, 4x Adh (Left, Right, Down, Up) |
| SL34A | SafeLite ISO 30m, 4x Adh (Left, Right, Down, Up) |
| SL210DI | SafeLite ISO 20m, 10x Adh pictograms Arrow Down |



Light distribution curve

### SafeLite 20m version, 100 lm

#### Escape route 2m wide 1 lux min

| Mounting height [m] | Lux level directly under | | | | |
|---|---|---|---|---|---|
| 2,5 | 5,7 | 3,1 | 7,8 | 7,7 | 3,1 |
| 2,8 | 4,6 | 3,2 | 8,2 | 8,0 | 3,1 |
| 3,0 | 4,0 | 3,2 | 8,4 | 8,2 | 3,1 |
| 3,5 | 2,9 | 3,2 | 8,8 | 8,5 | 3,1 |
| 4,0 | 2,2 | 3,0 | 8,9 | 8,6 | 3,0 |
| 4,5 | 1,8 | 2,8 | 8,9 | 8,7 | 2,8 |
| 5,0 | 1,4 | 2,5 | 8,8 | 8,6 | 2,4 |

**Mounting height for 5 lux below 2.8 meters**

#### Open (anti-panic) area 0.5 lux min

| Mounting height [m] | | | | |
|---|---|---|---|---|
| 2,5 | 3,3 | 7,7 | 8,0 | 3,3 |
| 2,8 | 3,4 | 8,6 | 8,6 | 3,3 |
| 3,0 | 3,5 | 8,9 | 8,8 | 3,4 |
| 3,5 | 3,6 | 9,7 | 9,7 | 3,5 |
| 4,0 | 3,7 | 10,1 | 10,0 | 3,6 |
| 4,5 | 3,7 | 10,5 | 10,3 | 3,6 |
| 5,0 | 3,6 | 10,7 | 10,6 | 3,6 |

### SafeLite 20m version, 200lm

#### Escape route 2m wide 1 lux min

| Mounting height [m] | Lux level directly under | | | | |
|---|---|---|---|---|---|
| 2,5 | 10,0 | 3,9 | 8,7 | 9,2 | 3,7 |
| 2,8 | 8,0 | 4,0 | 9,4 | 9,7 | 3,9 |
| 3,0 | 7,0 | 4,0 | 9,8 | 9,9 | 3,9 |
| 3,5 | 5,1 | 4,1 | 10,8 | 10,5 | 4,1 |
| 4,0 | 3,9 | 4,2 | 11,2 | 11,0 | 4,0 |
| 4,5 | 3,1 | 4,2 | 11,5 | 11,2 | 4,1 |
| 5,0 | 2,5 | 4,1 | 11,7 | 11,4 | 4,0 |
| 5,5 | 2,0 | 3,9 | 11,8 | 11,6 | 3,8 |
| 6,0 | 1,7 | 3,7 | 11,8 | 11,6 | 3,6 |
| 6,5 | 1,5 | 3,3 | 11,6 | 11,5 | 3,3 |
| 7,0 | 1,3 | 2,8 | 11,4 | 11,3 | 2,7 |

**Mounting height for 5 lux below 3.7 meters**

#### Open (anti-panic) area 0.5 lux min

| Mounting height [m] | | | | |
|---|---|---|---|---|
| 2,5 | 3,9 | 9,1 | 9,5 | 3,7 |
| 2,8 | 4,1 | 9,4 | 9,8 | 3,9 |
| 3,0 | 4,1 | 9,7 | 10,1 | 4,0 |
| 3,5 | 4,3 | 11,0 | 10,9 | 4,2 |
| 4,0 | 4,5 | 11,8 | 11,6 | 4,4 |
| 4,5 | 4,6 | 12,6 | 12,4 | 4,5 |
| 5,0 | 4,7 | 13,0 | 12,8 | 4,6 |
| 5,5 | 4,7 | 13,4 | 13,1 | 4,6 |
| 6,0 | 4,7 | 13,7 | 13,5 | 4,6 |
| 6,5 | 4,6 | 14,1 | 13,9 | 4,6 |
| 7,0 | 4,5 | 14,6 | 14,3 | 4,4 |

### SafeLite - 30m version, 100lm

#### Escape route 2m wide 1 lux min

| Mounting height [m] | Lux level directly under | | | | |
|---|---|---|---|---|---|
| 2,5 | 5,2 | 3,0 | 7,5 | 7,5 | 2,9 |
| 2,8 | 4,2 | 3,0 | 8,0 | 7,8 | 3,0 |
| 3,0 | 3,6 | 3,1 | 8,3 | 8,0 | 3,0 |
| 3,5 | 2,7 | 3,0 | 8,5 | 8,2 | 2,9 |
| 4,0 | 2,1 | 2,8 | 8,6 | 8,4 | 2,8 |
| 4,5 | 1,6 | 2,6 | 8,5 | 8,4 | 2,5 |
| 5,0 | 1,3 | 2,1 | 8,3 | 8,2 | 2,0 |

**Mounting height for 5 lux below 2.6 meters**

#### Open (anti-panic) area 0.5 lux min

| Mounting height [m] | | | | | |
|---|---|---|---|---|---|
| 2,5 | | 3,4 | 7,4 | 7,3 | 3,4 |
| 2,8 | | 3,5 | 7,9 | 7,8 | 3,4 |
| 3,0 | | 3,5 | 8,3 | 8,2 | 3,4 |
| 3,5 | | 3,5 | 9,2 | 9,1 | 3,4 |
| 4,0 | | 3,6 | 9,9 | 9,6 | 3,5 |
| 4,5 | | 3,6 | 10,5 | 9,9 | 3,5 |
| 5,0 | | 3,5 | 10,8 | 10,3 | 3,5 |
| 5,5 | | 3,4 | 10,8 | 10,5 | 3,4 |
| 6,0 | | 3,3 | 10,8 | 10,6 | 3,3 |
| 6,5 | | 3,0 | 10,9 | 10,8 | 3,0 |
| 7,0 | | 2,7 | 10,9 | 10,8 | 2,7 |

### SafeLite - 30m version, 200lm

#### Escape route 2m wide 1 lux min

| Mounting height [m] | Lux level directly under | | | | |
|---|---|---|---|---|---|
| 2,5 | 10,6 | 3,8 | 8,3 | 9,1 | 3,8 |
| 2,8 | 8,5 | 4,1 | 9,2 | 9,6 | 4,0 |
| 3,0 | 7,4 | 4,2 | 9,6 | 9,9 | 4,0 |
| 3,5 | 5,5 | 4,3 | 10,6 | 10,6 | 4,2 |
| 4,0 | 4,2 | 4,4 | 11,5 | 11,2 | 4,2 |
| 4,5 | 3,3 | 4,4 | 11,9 | 11,5 | 4,2 |
| 5,0 | 2,7 | 4,2 | 12,1 | 11,8 | 4,1 |
| 5,5 | 2,2 | 4,1 | 12,2 | 11,9 | 4,1 |
| 6,0 | 1,8 | 3,8 | 12,2 | 11,9 | 3,8 |
| 6,5 | 1,5 | 3,5 | 12,1 | 11,9 | 3,5 |
| 7,0 | 1,3 | 3,1 | 11,9 | 11,7 | 3,0 |

**Mounting height for 5 lux below 3.65 meters**

#### Open (anti-panic) area 0.5 lux min

| Mounting height [m] | | | | | |
|---|---|---|---|---|---|
| 2,5 | | 3,9 | 7,7 | 8,5 | 3,8 |
| 2,8 | | 4,3 | 8,6 | 8,7 | 3,9 |
| 3,0 | | 4,4 | 9,2 | 9,1 | 4,1 |
| 3,5 | | 4,5 | 10,1 | 10,1 | 4,3 |
| 4,0 | | 4,6 | 11,2 | 11,3 | 4,5 |
| 4,5 | | 4,7 | 12,3 | 12,1 | 4,7 |
| 5,0 | | 4,7 | 13,1 | 12,9 | 4,7 |
| 5,5 | | 4,8 | 13,7 | 13,4 | 4,7 |
| 6,0 | | 4,8 | 14,2 | 13,8 | 4,7 |
| 6,5 | | 4,8 | 14,5 | 14,1 | 4,7 |
| 7,0 | | 4,8 | 14,8 | 14,4 | 4,7 |

***Further data available upon request.**

CE | EN 60598-2-22 | EN 1838 | EN 62034 | ENEC | DCD | ADCD | IP42 | IP65 | 30 m | LED | AT | CG+ Line

- Anti-panic and exit sign in one
- Easy mounting
- Complete range of accessories
- Certified family of emergency lights in accordance to EN 60 598-2-22
- ENEC certificate
- IP rating IP42 with the ability to upgrade it to IP65

### Light Source:
24 white LED 1.5W

### Materials:
White polycarbonate base and reflector

Clear polycarbonate diffuser

### Operation:
Maintained & Non-Maintained (user selectable)

Autonomy from 1h up to 3h

Functional test integrated into the diffuser

Inhibition and Rest Mode

Autotest & slave models available

### Installation:
Wall and Ceiling Installation kit for recessed wall and ceiling

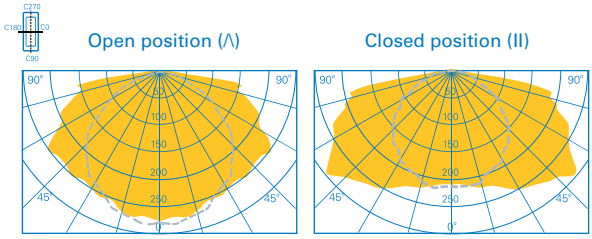
Base for quick mounting (accessory)

Protection Kit IP65 for outdoor use

### Applications:
Schools, universities, public administration, commercial environments

Sirios LED is a low profile range of emergency lights, designed and equipped with technical solutions and accessories for a wide range of applications such as offices, restaurants, hotels, hospitals and general commercial applications.

The range of accessories includes a recessed base for installation to walls and false ceilings, a weatherproof kit an exit sign label as well as a variety of light distribution options.




### Summary

| Application / Led position | Exit Sign | Antipanic | Escape Route |
|---|---|---|---|
| Open ( Λ ) | Best* | Best** | Good |
| Closed ( \| \| ) | Good | Good | Best*** |

* Better uniformity on sign

** Bigger covering area

*** Longer distance in smaller heights, lower diversity (min to max illuminance ratio) along the route path.

O-SLED open position (Λ)

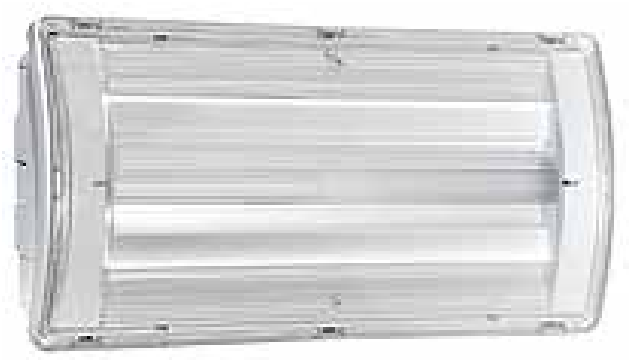
O-SLED closed position (II)

| Height (m) | Distance for 1 Lux | | | | Distance for 0,5 Lux | | | |
|---|---|---|---|---|---|---|---|---|
| **open** | | | | | | | | |
| 02.50 | 03.44 | 08.66 | 02.88 | 07.14 | 04.83 | 11.24 | 04.07 | 08.66 |
| 02.80 | 03.46 | 09.32 | 02.90 | 07.44 | 05.16 | 12.00 | 04.22 | 09.32 |
| 03.00 | 03.33 | 09.24 | 02.90 | 07.68 | 05.12 | 11.78 | 04.34 | 09.60 |
| 03.50 | 03.26 | 09.64 | 02.83 | 08.06 | 05.32 | 12.62 | 04.53 | 10.00 |
| 04.00 | 03.01 | 09.54 | 02.80 | 08.00 | 05.27 | 12.80 | 04.50 | 10.62 |
| 04.50 | 02.70 | 09.32 | 02.90 | 08.10 | 05.16 | 13.34 | 04.55 | 11.12 |
| **closed** | | | | | | | | |
| 02.50 | 03.44 | 09.04 | 02.50 | 06.40 | 05.02 | 11.76 | 03.70 | 08.20 |
| 02.80 | 03.58 | 09.32 | 02.44 | 06.68 | 05.16 | 12.00 | 03.84 | 08.64 |
| 03.00 | 03.57 | 09.24 | 02.43 | 06.68 | 05.12 | 12.40 | 03.84 | 08.80 |
| 03.50 | 03.38 | 09.64 | 02.27 | 07.00 | 05.32 | 12.60 | 04.00 | 08.96 |
| 04.00 | 02.90 | 09.88 | 02.04 | 06.96 | 05.44 | 13.30 | 03.98 | 09.20 |
| 04.50 | 02.39 | 10.00 | 01.55 | 06.78 | 05.50 | 13.34 | 03.89 | 09.64 |

In Sirios LED, both led positions are suitable to use for exit sign according to EN1838.

| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| SLED-3H-M | Emerg. Light Sirios 24LEDs M 3H | 24 LED 1.5W | 120 Lm | 180' | NiCd 1,7Ah / 4,8V | Maintained / Non-Maintained |
| SLED-AT-3H-M | Emerg. Light Sirios AT 24LEDs M 3H | 24 LED 1.5W | 120 Lm | 180' | NiMH 2,2Ah / 4,8V | Maintained / Non-Maintained |
| SLED-3H-CGL-M | Sirios 24LEDs M 3H, CGL+ | 24 LED 1.5W | 120Lm | 180' | NiCd 1,7Ah / 4,8V | Maintained / Non-Maintained |

* Sirios LED has same accessories as Sirios fluro product line.



- Easy mounting
- Complete range of accessories
- Certified family of emergency lights in accordance to EN 60 598-2-22
- ENEC certificate
- IP rating IP42 with the ability to upgrade it to IP65

### Light Source:

Lamp. 8W fluorescent G5, 2G7 11W, 18W and 24W/2G11

### Materials:

Base and reflector unit in white ABS

Clear polycarbonate diffuser

### Operation:

Maintained, Non-Maintained and Sustain versions

Autonomy from 1h up to 3h

Functional test integrated into the diffuser

Inhibition and Rest Mode

Autotest, slave and CBS models available

Ultra Models with lumens flow up to 350lm

Low consumption in Maintained operation, with a power save of 33% of the nominal output of the lamp

### Installation:

Wall and Ceiling Installation kit for recessed wall and ceiling

Base for quick mounting (accessory)

Panel, double-sided printed for reporting security (optional)

Distance view of 30 meters provides the ability to use fewer products and less power consumption per coverage area of an application

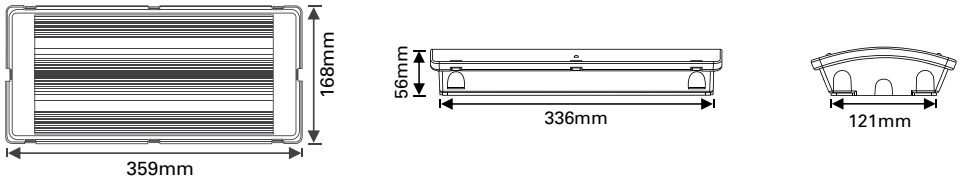
Protection Kit IP65 for outdoor use

### Applications:

Schools, universities, public administration, commercial environments

Sirios range of emergency lights are low profile, designed and equipped with technical solutions and accessories for a wide range of applications such as offices, restaurants, hotels, hospitals and general commercial applications.

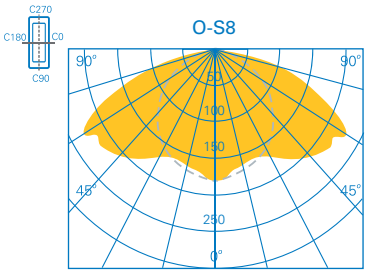
The range of accessories includes a recessed base for installation to walls and false ceilings, an IP65 weatherproof kit an exit sign label as well as a variety of lamp options (8, 11, 18, 24W).



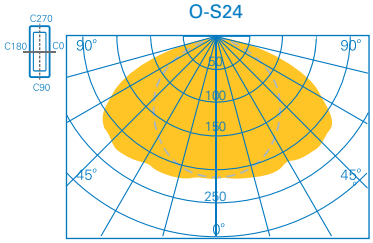
## CGLine+



| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| S8-3H-CGL-M | Non-Maintained Sirios 8W CGLine+ 3h | FL8WG5 | 100 Lm | 180' | 3,6V-4Ah NiCd | Non-Maintained |
| S11-3H-CGL-M | Non-Maintained Sirios 11W CGLine+ 3h | FL11W2G7 | 110 Lm | 180' | 3,6V-4Ah NiCd | Non-Maintained |
| S18-3H-CGL-M | Non-Maintained Sirios 18W CGLine+ 3h | FL18W2G11 | 120 Lm | 180' | 3,6V-4Ah NiCd | Non-Maintained |
| S8M-3H-CGL-M | Maintained Sirios 8W CGLine+3h | FL8WG5 | 100 Lm | 180' | 3,6V-4Ah NiCd | Maintained |
| S11M-3H-CGL-M | Maintained Sirios 11W CGLine+3h | FL11W2G7 | 110 Lm | 180' | 3,6V-4Ah NiCd | Maintained |
| S18M-3H-CGL-M | Maintained Sirios 18W CGLine+3h | FL18W2G11 | 120 Lm | 180' | 3,6V-4Ah NiCd | Maintained |




| Model | Height (m) | Distance for 1 Lux | | | | Distance for 0,5 Lux | | | |
|---|---|---|---|---|---|---|---|---|---|
| O-S8 | | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| | 02,60 | 03,02 | 08,86 | 02,21 | 06,20 | 04,93 | 11,15 | 03,60 | 07,71 |
| | 02,80 | 02,94 | 08,76 | 02,19 | 06,26 | 04,88 | 11,48 | 03,63 | 08,00 |
| | 03,00 | 02,83 | 08,67 | 02,13 | 06,34 | 04,83 | 11,78 | 03,67 | 08,26 |
| | 03,20 | 02,67 | 08,68 | 02,06 | 06,40 | 04,84 | 12,04 | 03,70 | 08,43 |
| | 03,50 | 02,33 | 08,68 | 01,92 | 06,32 | 04,84 | 12,37 | 03,66 | 08,64 |
| | 04,00 | 01,49 | 08,26 | 01,50 | 06,16 | 04,63 | 12,23 | 03,58 | 08,88 |

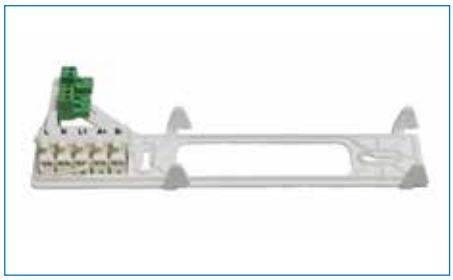



| Model | Height (m) | Distance for 1 Lux | | | | Distance for 0,5 Lux | | | |
|---|---|---|---|---|---|---|---|---|---|
| O-S24 | | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| | 02,60 | 04,65 | 11,68 | 03,59 | 08,83 | 06,34 | 13,41 | 04,91 | 10,66 |
| | 02,80 | 04,77 | 11,90 | 03,72 | 09,14 | 06,45 | 13,86 | 05,07 | 10,99 |
| | 03,00 | 04,88 | 12,25 | 03,80 | 09,42 | 06,62 | 14,49 | 05,21 | 11,28 |
| | 03,20 | 04,97 | 12,56 | 03,85 | 09,67 | 06,78 | 15,08 | 05,33 | 11,64 |
| | 03,50 | 05,09 | 12,89 | 03,94 | 10,00 | 06,95 | 15,72 | 05,50 | 12,12 |
| | 04,00 | 05,23 | 13,53 | 04,01 | 10,58 | 07,26 | 16,85 | 05,79 | 12,90 |

## Accessories

| Order code | Description |
|---|---|
| S-WB | Wall mounting base |
| S-RB | Recessed base |
| S-IP | Weatherproof base |
| 171-000-032 | Vertical metal base (MP41) |
| 171-000-035 | Horizontal metal base (PU41) |
| S-LGD100 | Exit sign Left ISO format |
| S-LGD200 | Exit sign Right ISO format |
| S-LGD300 | Exit sign Down ISO format |
| S-PSLR | Sirios acrylic legend (left / right) |

## Sirios wall mount base for fast installation



O-S-WB

### Test Point

Just by pressing the plastic diffuser on all Sirios models you can test the lamp operation, the battery and electronic circuit switching

### Recessed Base

Recessed base for false ceiling and wall recessed applications

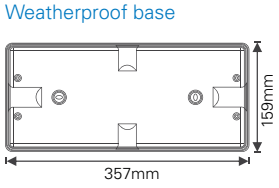
### IP65 kit

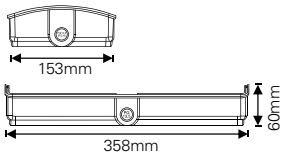
Retrofit IP65 weather proof kit provides an upgrade from IP42 to IP65 installations

### Sirios Exit sign plexiglass

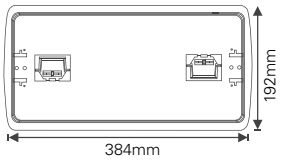
30m viewing distance reduces the quantity of fittings required and in turn reduces power consumption

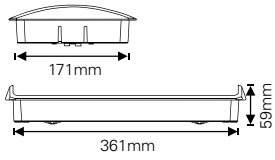
### Weatherproof base




### Recessed base



- For Indoor and Outdoor use
- Robust construction from aluminium diecast and high impact resistant cover made of polycarbonate
- Optional with self-regulating battery heater for use at low temperature down to -20°C

### Light Source:
2 × 1.6W LED

### Materials:
Aluminium die-cast housing

White polycarbonate reflector

Clear polycarbonate diffuser

Lithium ion battery

### Operation:
For maintained and non-maintained operations

CGLine+ (Without bus working in AT mode)

For 1h, 3h or 8h operation

### Installation:
Wall and ceiling installations

### Applications:
Factories, warehouses, underground car parks, workshops, tunnel

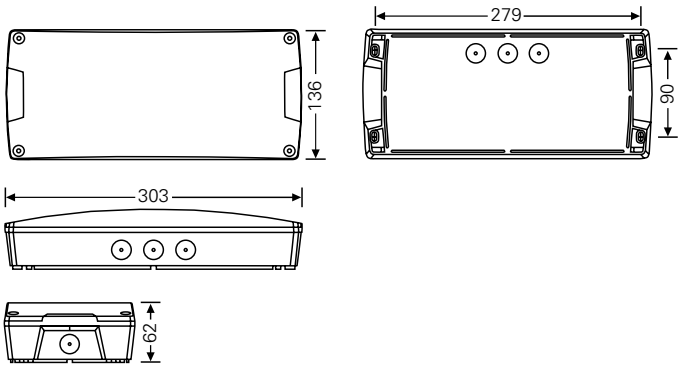
Escape routes, corridors

The Atlantic LED luminaire series fulfills protection rating IP65 with UV-resistant materials and an especially tough construction. It is ideal for use in outdoor areas or in industrial applications. Optional versions with a self-regulating battery heater allow ambient temperature down to -20°C.

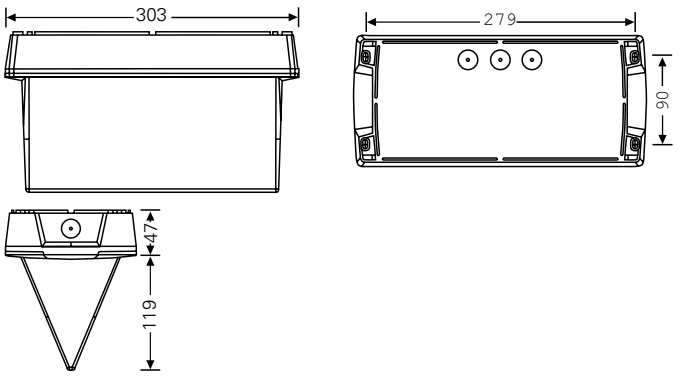
The range includes safety luminaires with different optics for escape route or anti-panic illumination and single or double-sided exit signs with an optimal perceptibility of the exit sign is achieved by the high luminance of the white contrasting colour (>500 cd/m²). Atlantic LED is also suitable for use in the food processing industry in accordance with Standards IFS and HACC

The use of LEDs, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation.

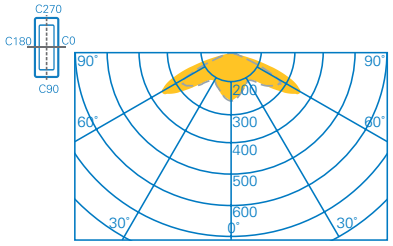
### Drawings for Atlantic LED R, O and S




Atlantic LED S - Single sided exit sign



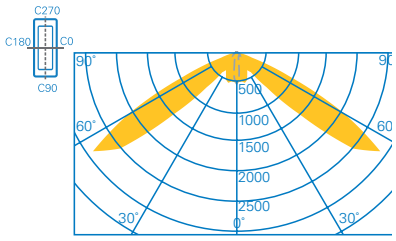

Atlantic LED D - Double sided exit sign




Atlantic O CGLine+
with symmetric optics

**Planning help for Atlantic LED O – symmetric optics for E = 1.0 lx**
Measurement level: 0.02 m, maintenance factor MF = 80 %, battery operation

| Duration of emergency operation | Mounting height in metres | Mounting types | L1 | L2 | L3 | L4 | Mounting types | L1 | L2 | L3 | L4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 h | 2.5 | Ceiling mounting | 4.5 | 10.7 | 3.8 | 8.9 | Ceiling mounting | 3.9 | 9.6 | 2.9 | 7.2 |
| | 3.0 | Escape route centre | 4.7 | 11.7 | 4.1 | 9.9 | Room illumination | 3.4 | 10.6 | 3.1 | 8.1 |
| | 3.5 | | 4.9 | 12.5 | 4.1 | 10.8 | | 3.4 | 11.6 | 3.1 | 8.8 |
| | 4.0 | | 4.3 | 13.2 | 4.1 | 11.4 | | 3.4 | 12.5 | 2.8 | 9.4 |
| | 5.0 | | 1.9 | 13.1 | 1.9 | 10.4 | | 1.9 | 12.1 | 0.8 | 11.1 |
| | 6.0 | | 1.1 | 7.0 | 1.1 | 7.3 | | 1.2 | 11.8 | 0.5 | 10.5 |
| 3 h | 2.5 | Ceiling mounting | 3.8 | 9.6 | 3.3 | 8.1 | Ceiling mounting | 3.4 | 8.9 | 2.4 | 6.5 |
| | 3.0 | Escape route centre | 3.8 | 10.4 | 3.3 | 8.9 | Room illumination | 3.4 | 9.7 | 2.5 | 7.3 |
| | 3.5 | | 1.9 | 10.8 | 1.9 | 9.4 | | 2.0 | 10.5 | 2.0 | 7.9 |
| | 4.0 | | 1.6 | 10.6 | 1.5 | 8.4 | | 1.4 | 9.7 | 0.9 | 9.0 |
| | 4.5 | | 1.2 | 10.0 | 1.2 | 7.6 | | 1.0 | 9.4 | 0.6 | 8.8 |




Atlantic R CGLine+
with asymmetric optics

**Planning help for Atlantic LED R – asymmetric optics for E = 1.0 lx**
Measurement plane: 0.02 m, maintenance factor MF = 80 %, battery operation

| Duration of emergency operation | Mounting height in metres | Mounting types | L1 | L2 | L3 | L4 |
|---|---|---|---|---|---|---|
| 1 h | 2.5 | Ceiling mounting | 6.0 | 13.0 | 2.0 | 6.1 |
| | 3.0 | Escape route, centre | 6.8 | 15.0 | 1.7 | 6.1 |
| | 3.5 | | 7.5 | 16.8 | 1.4 | 5.6 |
| | 4.0 | | 8.3 | 18.5 | 1.2 | 5.0 |
| | 5.0 | | 9.6 | 21.5 | 1.1 | 3.9 |
| | 6.0 | | 10.8 | 24.4 | 1.0 | 3.3 |
| | 7.0 | | 3.5 | 21.9 | 1.0 | 3.3 |
| | 8.0 | | 3.3 | 22.0 | 0.9 | 3.1 |
| 3 h | 2.5 | Ceiling mounting | 5.6 | 12.4 | 1.3 | 4.9 |
| | 3.0 | Escape route, centre | 6.3 | 14.2 | 1.0 | 4.2 |
| | 3.5 | | 7.1 | 15.8 | 0.9 | 3.7 |
| | 4.0 | | 7.7 | 17.2 | 0.9 | 3.2 |
| | 5.0 | | 8.9 | 20.1 | 0.8 | 2.6 |
| | 6.0 | | 2.7 | 17.6 | 0.8 | 2.6 |
| | 7.0 | | 2.4 | 18.3 | 0.6 | 2.4 |

| Order code | Description | | | | |
|---|---|---|---|---|---|
| 40071355905 | Exit sign luminaire Atlantic LED S, single sided, CGLine+ | 7.2 VA / 7.0 W | 1 - 3 - 8h | Li-Ion 3.7V / 4Ah | Maintained / Non-Maintained |
| 40071355906 | Exit sign luminaire Atlantic LED O, double sided, CGLine+ | 7.2 VA / 7.0 W | 1 - 3 - 8h | Li-Ion 3.7V / 4Ah | Maintained / Non-Maintained |
| 40071355907 | Safety luminaire Atlantic LED R CGLine+, with asymmetric optics | 7.2 VA / 7.0 W | 1 - 3 - 8h | Li-Ion 3.7V / 4Ah | Maintained / Non-Maintained |
| 40071355908 | Safety luminaire Atlantic LED O CGLine+, with symmetric optics | 7.2 VA / 7.0 W | 1 - 3 - 8h | Li-Ion 3.7V / 4Ah | Maintained / Non-Maintained |
| 40071355901 | Exit sign luminaire Atlantic LED S, single sided, CGLine+ H, with battery heater for low ambient temperature down to -20°C | 9.2 VA / 9.3 W | 1 - 3 - 8h | Li-Ion 3.7V / 4Ah | Maintained / Non-Maintained |
| 40071355902 | Exit sign luminaire Atlantic LED D, single sided, CGLine+ H, with battery heater for low ambient temperature down to -20°C | 9.2 VA / 9.3 W | 1 - 3 - 8h | Li-Ion 3.7V / 4Ah | Maintained / Non-Maintained |
| 40071355903 | Safety luminaire Atlantic LED R CGLine+ H, with asymmetric optics, with battery heater for low ambient temperature down to -20°C | 9.2 VA / 9.3 W | 1 - 3 - 8h | Li-Ion 3.7V / 4Ah | Maintained / Non-Maintained |
| 40071355904 | Safety luminaire Atlantic LED O CGLine+ H, with symmetric optics, with battery heater for low ambient temperature down to -20°C | 9.2 VA / 9.3 W | 1 - 3 - 8h | Li-Ion 3.7V / 4Ah | Maintained / Non-Maintained |

*2 × cable glands 20mm included*

## Accessories

| | | | | |
|---|---|---|---|---|
| Pictograms for Atlantic LED S | | | | |
| 155-000-011 | Pictogram RIGHT | 155-000-013 | Pictogram DOWN | |
| 155-000-012 | Pictogram LEFT | | | |
| Pictograms for Atlantic LED D (2 × required) | | | | |
| 155-000-211 | Pictogram RIGHT, ISO | 155-000-213 | Pictogram DOWN, ISO | |
| 155-000-212 | Pictogram LEFT, ISO | 155-000-209 | Pictogram BLIND | |

# Exit signs

# Exit signs

## Overview

| | | Page | Performance | Global Features | | | | | | Operation | | Technology | | | Battery |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Aesthetic | One box solution* | No replacement parts for 10 years | Low consumption / Eco-friendly | Protection Degree | Viewing distance | Maintained | Non-Maintained | Stand alone | Autotest | Monitored (CGLine+) | |
| **3.1** CrystalWay |  | 68 | ★ ★ ★ | ● | ● | ● | ● | 42 | 20<br>30 | ● | ● | | ● | ● | Li-Ion |
| **3.2** GuideLed |  | 70 | ★ ★ ★ | | | ● | ● | 20<br>40 | 20<br>30 | ● | ● | | ● | ● | Li-Ion |
| **3.3** Velos |  | 74 | ★ ★ | | | | | 20 | 30<br>40 | ● | | ● | ● | ● | Ni-Cd |

| Installation | | | | Applications | | | | | | | | Best use |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wall | Ceiling | Recessed | Suspended | Healthcare | Hotels | Cinemas / Theaters | Commercial centers | Stadia / Arenas | Offices | Industrial | Warehouse | |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | Aesthetic range for easy integration in differently-sized environments. Accessories and pictograms included for a wall & ceiling surface mounting. |
| ● | ● | ● | ● | ● | ● | ● | ● | | ● | | | Versatile mounting options enable the use in many applications and the design can be the same in the whole building. |
| ● | ● | ● | ● | ● | ● | ● | ● | | ● | | | |

* One box solution : delivered with set of pictograms and acessories for wall or ceiling surface mounting

# 3.1 Exit signs

## CrystalWay


- Unit with innovative LED technology
- Lithium Batteries 10 years
- Selectable autonomy of 1h, 3h and 8h
- Wall, ceiling, suspension
- Version 20m and 30m visibility
- Available for ceiling mounting and recessed applications

### Light Source:

LED strip

### Materials:

Polycarbonate

Lithium ion battery (10 years)

### Operation:

Maintained (M) / Non Maintained (NM)

Adjustable brightness function, standing at 100 % at 1 h; 45 % at 3 h; 25 % at 5 h; 18 % at 8 h

Duration selectable 1h, 3h and 8h

Installation possibilities: Wall, ceiling, recessed, suspended

Maintenance costs reduced, no replacement of spareparts needed for 10 years

### Applications:

Hotels, restaurants, meeting rooms, offices, shops, cinemas, theaters, museums

The CrystalWay self-contained emergency exit sign is the standard in high quality, aesthetic exit sign luminaires. It brings together a range of flexible mounting options and a modern yet discreet design perfectly suited to modern office buildings or other commercial buildings where a high-end aesthetic is required.

The clear frame and low profile allows seamless integration into the surrounding architecture and is perfect for any size of project. The LED light guide ensures the pictogram is uniformly illuminated without hot spots, this gives the luminaire a flawless finish complying to EN1838.

This 10 years lifetime range has benefited from an eco-design in order to meet the latest environmental standards. The use of LEDs, long life components, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation.

**New :**

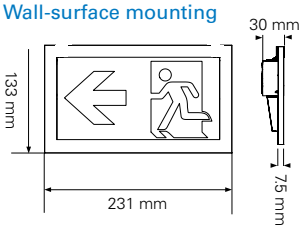
It is now possible to use an Eaton magnet in order to :

- carry out manual tests
- configure the level of light output in mains mode (30%, 70% or 100%)

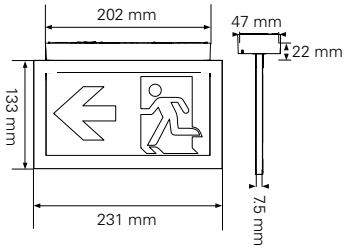
**New :**

- Stainless steel cover for 20 and 30m variants
- Add a touch of class to your projects

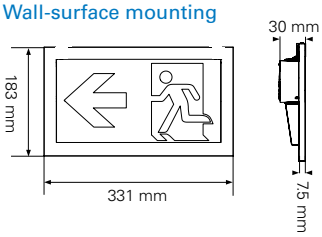
**CrystalWay 20m**
**Wall-surface mounting**



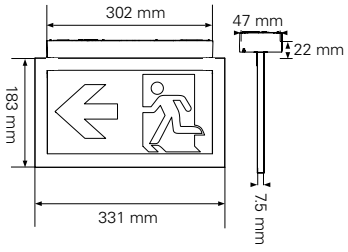

**Ceiling-surface mounting 20m**




**CrystalWay 30m**
**Wall-surface mounting**




**Ceiling-surface mounting 30m**



Ceiling-surface mounting

Wall-surface mounting

Recessed mounting option

Suspension kit option

Flag mounting

| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| LUM17122-M | CrystalWay 20m CGLine+ | 0.7W | 2.5W | 1-3-5-8h | 3.6V-0.6 Ah Li-Ion | Maintained / Non Maintained |
| LUM17124-M | CrystalWay 30m CGLine+ | 0.9W | 4.2W | 1-3-5-8h | 3.6V-1.2 Ah Li-Ion | Maintained / Non Maintained |
| Increased Affordance versions | | | | | | |
| LUM17122IA-M | CrystalWay IA CGLine+ 20m | 2.3W | 4.1W | 1-3-5-8h | 3.6V-0.6 Ah Li-Ion | Maintained / Non Maintained |
| LUM17124IA-M | CrystalWay IA CGLine+ 30m | 2.5W | 5.8W | 1-3-5-8h | 3.6V-1.2 Ah Li-Ion | Maintained / Non Maintained |

**50cd - 500cd*
*** Exit legends : ISO format - Right, left, down, up*

## Accessories

| CrystalWay 20 m | CrystalWay 30m | Description |
|---|---|---|
| LUM10319 | LUM10319 | TL CGLine+ for rest mode command |
| 40071352379 | 40071352379 | Magnet |
| LUM10560 | LUM10560 | Wire suspension kit |
| LUM10561 | LUM10562 | Recessed base |
| LUM10563 | LUM10564 | Recessed base with cover |
| LUM10563S | LUM10564S | Recessed base with cover for suspension kit |
| LUM10565 | LUM10566 | Recessed box for concrete |
| LUM10567 | | Base for optional cable access |
| 40071708300 | 40071708287 | Stainless steel metal cover |
| LUM10573 | LUM10587 | Pictogram Arrow DOWN, ISO |
| LUM10574 | LUM10588 | Pictogram Arrow LEFT, ISO |
| LUM10575 | LUM10589 | Pictogram Arrow RIGHT, ISO |
| LUM10577 | LUM10591 | Pictogram Arrow UP , ISO |
| LUM10584 | LUM10592 | Vertical pictogram Arrow DOWN, ISO |
| LUM10585 | LUM10593 | Vertical pictogram Arrow LEFT, ISO |
| LUM10586 | LUM10594 | Vertical pictogram Arrow RIGHT, ISO |

## Spare parts

| Order code | Description |
|---|---|
| LUM10568 | Battery pack Li-Ion 3.6 V/650 mAh for CrystalWay 20m |
| LUM10569 | Battery pack Li-Ion 3.6 V/1300 mAh for CrystalWay 30m |
| LUM10570 | Diffuser kit 24 LEDs for CrystalWay 20m |
| LUM10571 | Diffuser kit 38 LEDs for CrystalWay 30m |
| LUM10572 | Set of 4 hooks for CrystalWay 20m & CrystalWay 30m diffusers |

# 3.2 Exit signs

## GuideLed



- Perfectly illuminated exit sign with by use of innovative light guide technology
- Versatile mounting options: Wall, ceiling, recessed Surface, supended
- Available in 20 and 30 m viewing distance
- Duration selectable 1 h, 3 h, 8 h
- Environmental friendly Li-Ion battery technology

### Light Source:

LED Strip

### Materials:

Housing unit in light grey polycarbonate

Panel PMMA

Aluminum tubes for suspension

Lithium ion battery

### Operation:

For maintained and non-maintained operations

CGLine+ (Without bus working in AT mode)

Adjustable brightness function, standing at 100%, 30% and 10%

Duration selectable 1h, 3h and 8h

Installation options: Wall, ceilings and recessed

Ceiling, recessed, tube suspension and cable versions

External push button for manual execution of test

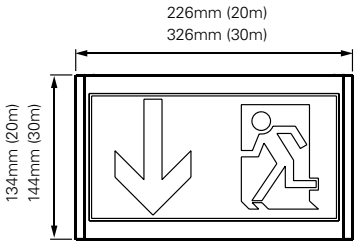
### Applications:

Hotels, restaurants, meeting rooms, offices, shops, cinemas, theaters, museums

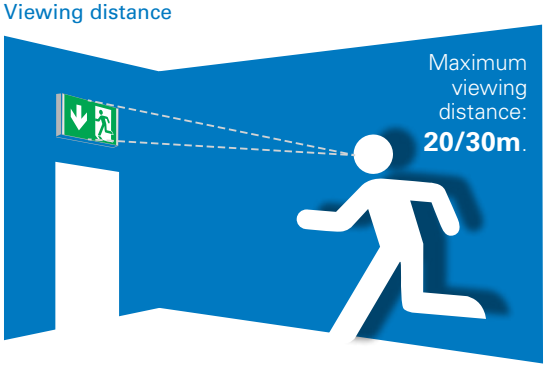
With GuideLed, a new generation of exit sign luminaires has been developed that convinces in particular with its absolutely homogeneous, bright luminous surface. This is made possible by a new light guide technology. In addition, GuideLed also catches the eye with regard to design with a concise functionality without visible screw connections, and a very flat construction.

The wide variety of versions available make the GuideLed exit sign luminaire a versatile solution. Featuring viewing distances of 20m or 30m, single-sided or double-sided options and multiple mounting types, they are ideal for a variety of room sizes and applications.

The use of LEDs, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation.




Viewing distance




### LEDs for increased safety

Longevity, instant start up, high efficiency and compact size are the features that make LEDs especially suitable for emergency and safety lighting. Precise matching along with low temperatures and low operating current guarantees high luminous efficiency with maximum service life.

### 1 LED Lightguide technology

- Perfect, standard compliant illumination
- Low energy requirements
- LEDs for increased safety with 50.000 hours service life

### 2 CGLine+ LED electronics

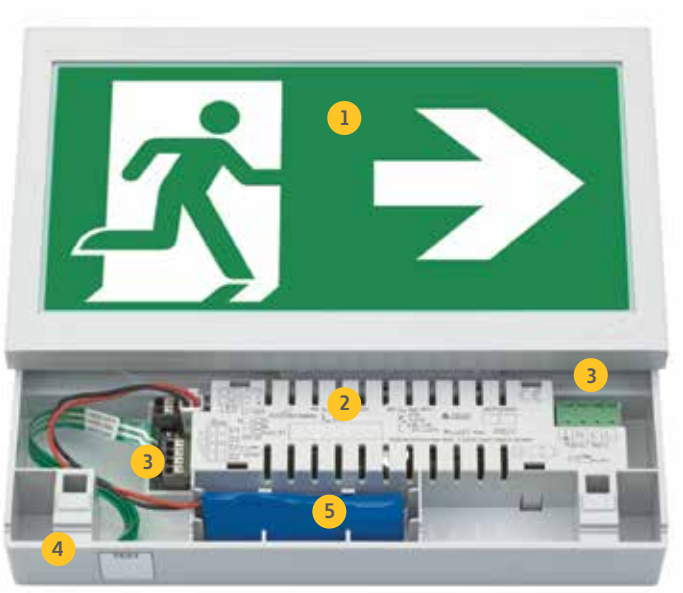
- Can be used for Maintained mode and Non-Maintained mode
- Fully automatic function test (weekly) or duration test (every 6 months)
- 1 minute switch-back delay to normal operation after mains return
- Blocking function prevents unintentional discharge during idle operating times (via CGLine+ webcontroller)
- Convenient and concise central monitoring in combination with CGLine+ webcontroller or CG Vision visualisation Software

### 3 Optimised connection technology

- Spacious insertion areas
- Equipped for through-wiring of mains cable and CGLine bus live double terminals and 4 cable terminals

### 4 Display and test unit

- Testing button for manual triggering of function test and duration test
- Simple fault analysis with bicolor LED (light source charging or battery fault) and status display (operation, function test, duration test)
- Setting of dimming level in mains operation (100%, 30%, 10%)




### 5 Innovative Lilon technology

- Large capacity with compact design
- 1 version for 1h, 3h and 8h emergency lighting operation
- No memory effect
- Environmental friendly: no heavy metals and energy-optimized charging process due to low self-discharge
- Simple replacement via polarity reversal protected plug-in contacts and snap mounting

## Lightguide technology for optimal illumination

The highly developed Lightguide technology converts the high point-sourced luminance of the LED into an illuminated surface with absolute uniform brightness, with luminance of over 500 cd/m² on white surface. Therefore the escape sign always remains easily recognisable even with poor visibility conditions or in bright surroundings.

Despite the very good photometric values, the new Lightguide technology with particularly efficient LEDs requires up to 60% less energy compared to previous escape sign luminaires with fluorescent lamps.

**Photometric requirements for escape sign**
**DIN 4844-1 (2005-05) and ISO 3864-1 (2002):**
$L_m \geq 500$ cd/m² (white surface)
For applications in bright ambient conditions (mains operation)

**ISO 30061 (2007):**
$L_{min} = 10$ cd/m² (green surface)
In smoky conditions. The luminaires should be suspended by at least 0.5m

**EN 1838 (2013):**
$L_{min} = 2$ cd/m² (green surface)
Emergency lighting operation

Badly illuminated escape sign


GuideLed

# 3.2 Exit signs

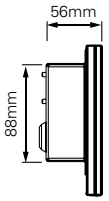
## GuideLed



### Wall Mount


GuideLed 10811 - 20m
GuideLed 11811 - 30m

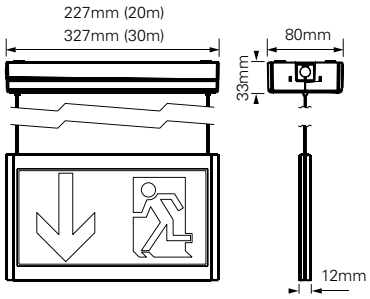
### Wall Recessed




GuideLed 10812 - 20m
GuideLed 11812 - 30m

| Order code | Description | | | | |
|---|---|---|---|---|---|
| 40071353260 | Wall mounting set for GuideLed, 20m and 30m, CGLine+ | 20 m : 4.8 VA / 4,1 W<br>30 m : 5.3 VA / 4.7 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355909 | Wall Recessed mounting set for GuideLed, 20m, CGLine+ | 4.8 VA / 4.1 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355910 | Wall Recessed mounting set for GuideLed, 30m, CGLine+ | 5.3 VA / 4.7 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071354500 | LED pictogram LEFT, 11x11/11x12, 20m | | | | |
| 40071354501 | LED pictogram RIGHT, 11x11/11x12, 20m | | | | |
| 40071354502 | LED pictogram DOWN, 11x11/11x12, 20m | | | | |
| 40071355836 | LED pictogram LEFT, 11x11/11x12, 30m | | | | |
| 40071355837 | LED pictogram RIGHT, 11x11/11x12, 30m | | | | |
| 40071355838 | LED pictogram DOWN, 11x11/11x12, 30m | | | | |

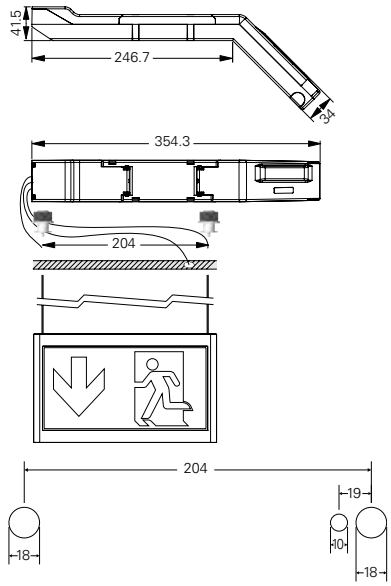
### Ceiling mounted Suspended




GuideLed 10825 - 20m
GuideLed 11825 - 30m

### Ceiling recessed mounted Suspended

GuideLed 10826 - 20m
GuideLed 11826 - 30m

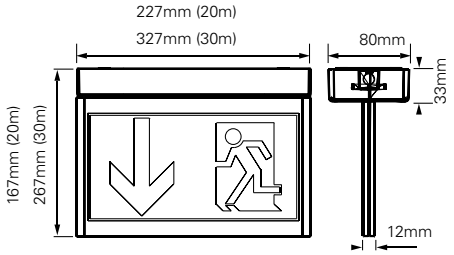



Wire installation with ceiling wire holders, LED supply for mounting in cavity ceiling

| Order code | Description | | | | |
|---|---|---|---|---|---|
| 40071355915 | Wire suspension set 10825, with canopy, 20m, CGLine+ | 5.6 VA / 5.1 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355920 | Wire suspension set 11825, with canopy, 30m, CGLine+ | 6.6 VA / 6.3 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355911 | Wire suspension set 10826/11826, with ceiling holders, 20/30m | 20 m: 5.6 VA / 5.1 W<br>30 m: 6.6 VA / 6.3 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355931 | LED pictogram (left/right), 10x25/10x26 (wire), 20m | | | | |
| 40071355946 | LED pictogram (left/right), 11x25/11x26 (wire), 30m | | | | |
| 40071355932 | LED pictogram (down/down), 10x25/10x26 (wire), 20m | | | | |
| 40071355933 | LED pictogram (left/blank), 10x25/10x26 (wire), 20m | | | | |
| 40071355934 | LED pictogram (right/blank), 10x25/10x26 (wire), 20m | | | | |
| 40071355935 | LED pictogram (down/blank), 10x25/10x26 (wire), 20m | | | | |
| 40071355947 | LED pictogram (down/down), 11x25/11x26 (wire), 30m | | | | |
| 40071355948 | LED pictogram (left/blank), 11x25/11x26 (wire), 30m | | | | |
| 40071355949 | LED pictogram (right/blank), 11x25/11x26 (wire), 30m | | | | |
| 40071355950 | LED pictogram (down/blank), 11x25/11x26 (wire), 30m | | | | |

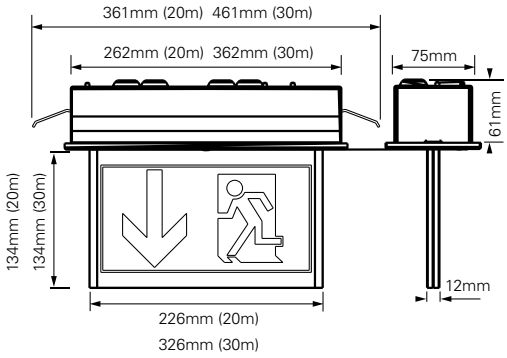
## Ceiling Mounting

GuideLed 10821 - 20m
GuideLed 11821 - 30m



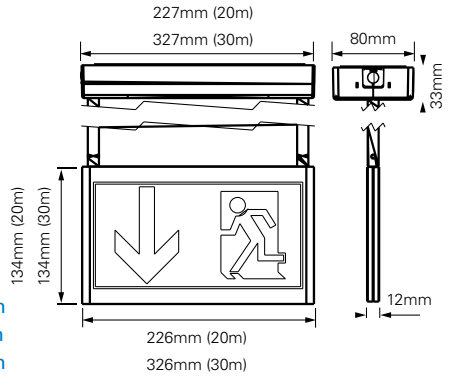

## Ceiling recessed

GuideLed 10824 - 20m
GuideLed 11824 - 30m




## Ceilling tube suspended

GuideLed 10822 - 20m - pendant tube 0,5m
GuideLed 11822 - 30m - pendant tube 0,5m
GuideLed 10823 - 20m - pendant tube 1,5m
GuideLed 11823 - 30m - pendant tube 1,5m




| Order code | Description | | | | |
|---|---|---|---|---|---|
| 40071355912 | Ceiling mounting set 10821, with canopy 20m | 5.6 VA / 5.1 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355913 | Ceiling mounting set 10822, with canopy and 0,5m pendant tube, 20m | 5.6 VA / 5.1 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355914 | Ceiling mounting set 10822, with canopy and 0,5m pendant tube, 20m | 5.6 VA / 5.1 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071353267 | Ceiling mounting set 10824, ceiling recessed housing, 20m | 5.6 VA / 5.1 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355916 | Ceiling mounting set 11821, with canopy 30m | 6.6 VA / 6.3 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355917 | Ceiling mounting set 11822, with canopy and 0,5m pendant tube, 30m | 6.6 VA / 6.3 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355918 | Ceiling mounting set 11822, with canopy and 1,5m pendant tube, 30m | 6.6 VA / 6.3 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355919 | Ceiling mounting set 11824, ceiling recessed housing, 30m | 6.6 VA / 6.3 W | 1h-3h-8h | Lilon 3.7 / 2Ah | Maintained / Non-Maintained |
| 40071355920 | Cable installation set 11825 1-8h/D CGLine+ with LED supply integrated in canopy and CGLine+ technology, 30 m | | | | |
| 40071355927 | LED pictogram (left/right), 10x21/10x22, 10x23, 10x24, 20m | | | | |
| 40071355928 | LED pictogram (down/down), 10x21/10x22, 10x23, 10x24, 20m | | | | |
| 40071354505 | LED pictogram (left/blank), 10x21/10x22, 10x23, 10x24, 20m | | | | |
| 40071354506 | LED pictogram (right/blank), 10x21/10x22, 10x23, 10x24, 20m | | | | |
| 40071354507 | LED pictogram (down/blank), 10x21/10x22, 10x23,10x24,20m | | | | |
| 40071355929 | LED pictogram (left/right), 10x21/10x22,10x23,10x24, 20m vertical | | | | |
| 40071355930 | LED pictogram (left/right), 10x21/10x22, 10x23, 10x24, 20m vertical | | | | |
| 40071355939 | LED pictogram (left/right), 11x21/11x22,11x23, 11x24, 30m | | | | |
| 40071355940 | LED pictogram (down/down), 11x21/11x22,11x23, 11x24 30m | | | | |
| 40071355941 | LED pictogram (left/blank), 11x21/11x22,11x23, 11x24, 30m | | | | |
| 40071355942 | LED pictogram (right/blank), 11x21/11x22,11x23, 11x24, 30m | | | | |
| 40071355943 | LED pictogram (down/blank), 11x21/11x22,11x23, 11x24, 30m | | | | |
| 40071355944 | LED pictogram (left/right), 11x21/11x22,11x23, 11x24, 30m vertical | | | | |
| 40071355945 | LED pictogram (left/right), 11x21/11x22,11x23, 11x24, 30m vertical | | | | |

# 3.3 Exit signs

## Velos



- Unit with innovative LED technology Certified family of emergency exit signs in accordance to EN 60598-2-22
- 3rd party certification
- Push button for test operation
- Ceiling, wall, suspension, recessed and lateral installation
- Models of 30m and 40m visibility
- Test functions

### Light Source:

LED Strip with a lifetime of more than 60.000 hours

24 LEDs producing 140 lumens

### Materials:

Base and reflector unit in white Polycarbonate

NiCd and NiMH batteries

### Operation:

Maintained, slave and CBS models available

Autonomy from 1h up to 3h

Adjustable brightness function to 50% in mains operation

Functional test button

Telecommand, Inhibition operation

Autotest, CGLine+ and Slave models available

### Installation:

Ceiling, wall, recessed, suspended through rope or metal pipe and lateral installation

No special tools required

### Applications:

Schools, universities, public administration, commercial environments

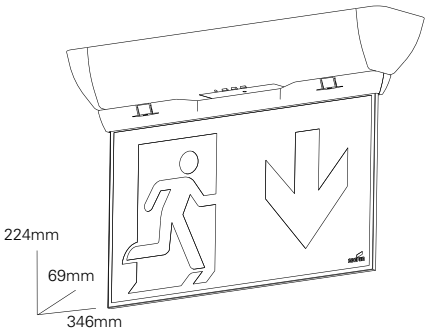
Hotels, restaurants, meeting rooms, offices, shops, cinemas, theaters, museums

Areas with large heights and long viewing distance requirements

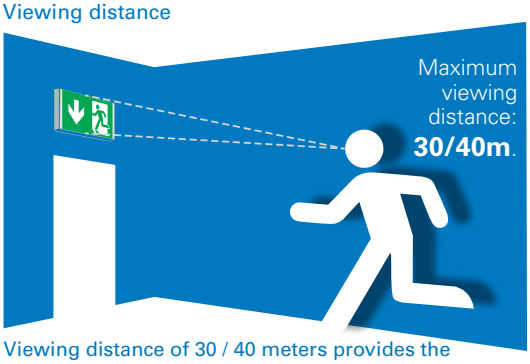
Velos is a range of emergency exit sign luminaires designed and equipped with technical solutions that make it suitable for a wide range of applications. The choice of exit sign labels makes the Velos range appropriated for emergency lighting requirements in multiple places such as offices, restaurants, hotels, hospitals and general commercial applications.

A complete range of accessories such as the recessed base for false ceiling installations, lateral and back base as well as suspension options allow for a variety of mounting positions. Velos is equipped with LED light source to provide an excellent uniform illumination of the legend comfortably meeting the requirements of EN1838.

The use of LEDs, automatic testing and monitoring devices (CGLine+) significantly reduce the operating and maintenance costs of the installation.




Viewing distance




Viewing distance of 30 / 40 meters provides the ability to use fewer products and less power consumption per coverage area of an application.

### Power Supply Unit

1
- Easy to install with no use of special tools required.
- Environmentally friendly: no heavy metals and energy-optimized charging process due to low self-discharge.

2
- Easy to connect power cables via screwless connectors for up to 2.5mm² cables.

3
- Multiple entrance points for power cables through base and main body of the power supply unit.
- Construction Material: Polycarbonate.
- Large capacity NiMH batteries with small construction size for compact luminaire design.

### 4 Velos electronics

- Fully automatic function test (weekly) or duration test (every 10 weeks).
- Testing button for manual triggering of function test.
- Autotest models available with simple fault analysis with two LED indication of battery / LED test and status display (operation, function test, duration test, failure).
- Easily set the level in mains operation to 50% or 100%.
- Increased product reliability with LED matrix orientation. By groups of 3, if one of the 24 LEDs fails, the intact LEDs will illuminate more brightly.

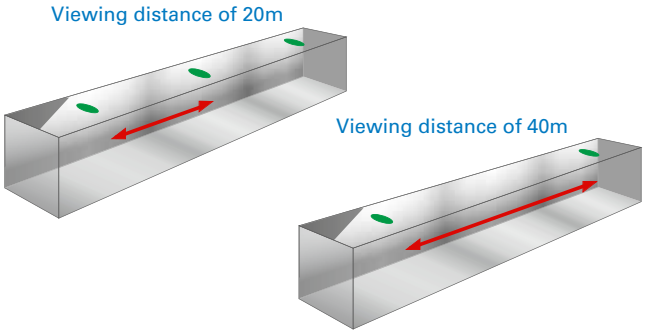

### 5 Velos Exit Sign

- Design life time: exceeding 60.000 hours lifetime expectancy using an EN1838 standard plate of 4mm thickness with 24 LED producing 140lm with minimum 240 cd/m² on white surface.

6
- Simple parts clicking with each other ensuring fast installation.

### Velos viewing distance

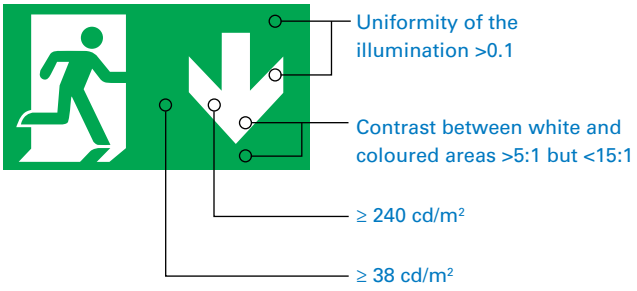
- Velos provides a solution regarding viewing distance and emergency exit signs
- Viewing distance from 30 up to 40 meters, minimizing the number of lights into an installation, reducing the energy consumption of the emergency lighting in a building and installation and maintenance cost.
- Various accessories for ease of installation aiming to accommodate all possible applications and areas, with recessed base, wall mounting accessories, lateral direction base, suspended from ceiling either with rope or metal pipes.




### Velos optimal illumination

New exit sign plate used in Velos converts the high luminance of the LED into an illuminated surface with homogeneous brightness, with luminance of over 38 cd/m² on the white surface. As such the escape sign always remains easily recognisable even with poor visibility conditions or in bright surroundings.

Velos LEDs illuminate with a high efficiency of more than 112lm/W.




**Photometric requirements for escape sign**

**EN 1838 (1999), Emergency lighting operation:**

$L_{min}$ = 2 cd/m² (green surface) Lgreen ≥ 2 cd/m²

Lwhite ≥ 10 cd/m²

5 ≤ Lwhite / Lgreen ≤15

**ISO 30061 (2007), When smoke is prime consideration:**

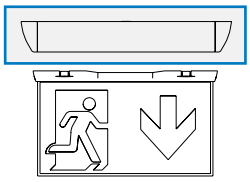
Lgreen ≥ 10 cd/m²

Lwhite ≥ 50 cd/m²

# 3.3 Exit signs

## Velos

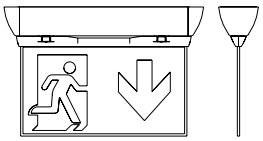




PSU unit of Velos (order separately)

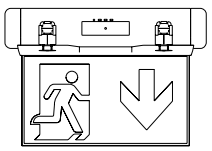
| Order code | Description | | | | |
|---|---|---|---|---|---|
| ESC-3H-M | Velos PSU 3h | 8.7VA/4.4W | 3h | 4VTCs Ni-Cd 1700mA | Maintained |
| ESC-3H-CGL-M | Velos PSU, CGL+, 3h | 9.6VA/5.1W | 3h | 4VTCs Ni-Cd 1700mA | Maintained |

### Ceiling mount



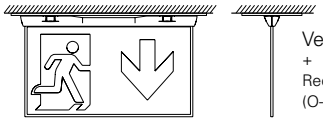
PSU + Exit Sign ➔ Velos

### Wall mount



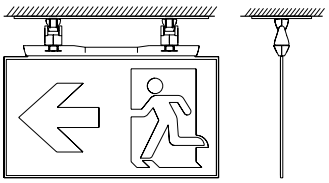
Velos
+
Wall FLEXI Joint
(O-ESA-FLEX)

### Recessed (30m)



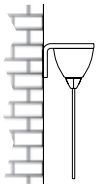
Velos
+
Recessed Base
(O-ESA-RB)

### Recessed (40m)



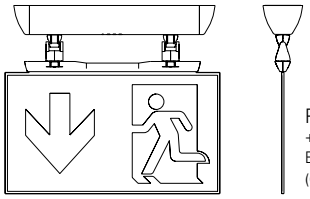
Velos
+
PSU
+
Recessed Base
(O-ESA-RB)
+
Exit sign 40m
(O-ESP40-ILR)

### Back wall mount



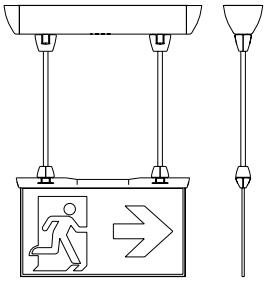
Velos
+
Back mounting Base
(O-ESA-BMB)

### Ceiling mount (40m)



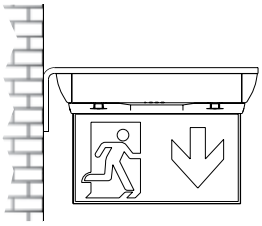
PSU
+
Exit sign 40m
(O-ESP40-IDD)

### Suspended with metal pipes



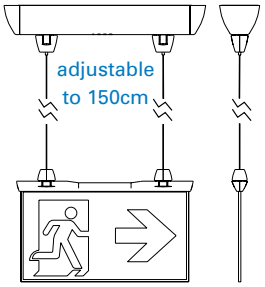
Velos
+
Pipe Suspension
48cm (ISO30061)
(O-ESA-PS30)

### Lateral mount



Velos
+
Lateral Base
(O-ESA-LMB)

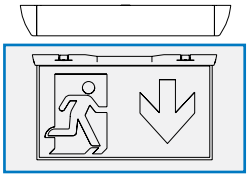
### Suspended with adjustable rope




Velos
+
Rope Suspension
Adjustable 150cm
(O-ESA-RSA)

## Accessories

| Order code | Description |
|---|---|
| ESA-RB | Velos Recessed base |
| ESA-FLEX | Velos Wall FLEXI Joint |
| ESA-RSA | Velos Rope Suspension adjustable 150cm |
| ESA-RSA-5M | Velos Rope Suspension adjustable 5m |
| ESA-PS30 | Velos Pipe Suspension 48cm (ISO30061) |
| ESA-LMB | Velos Lateral Mounting Base |
| ESA-BMB | Velos Back Mounting Base |



Exit sign of Velos

| Order code | Description | | Dimensions | |
|---|---|---|---|---|
| ESP-ILR | Velos pictogram ISO LEFT/RIGHT 30m | 24 LEDs | 288x165 | |
| ESP-ID | Velos pictogram ISO DOWN/BLANK 30m | 24 LEDs | 288x165 | |
| ESP-IDD | Velos pictogram ISO DOWN/DOWN 30m | 24 LEDs | 288x165 | |
| ESP-IU | Velos pictogram ISO UP/BLANK 30m | 24 LEDs | 288x165 | |
| ESP-IUU | Velos pictogram ISO UP/UP 30m | 24 LEDs | 288x165 | |
| ESP-I2R | Velos pictogram ISO Lateral to Room | 24 LEDs | 288x165 | |
| ESP-I2W | Velos pictogram ISO Lateral to Wall | 24 LEDs | 288x165 | |
| ESP-H | Velos Hydrant pictogram 30m | 24 LEDs | 288x165 | |
| ESP-FHD | Velos Fire hose down 30m | 24 LEDs | 288x165 | |
| ESP-FH-EXT | Velos Fire hose & extinguisher 30m | 24 LEDs | 288x165 | |
| ESP-WILR | Velos pictogram Wheel ISO LEFT/RIGHT 30m | 24 LEDs | 288x165 | |
| ESP-WIDD | Velos pictogram Wheel ISO DOWN/DOWN 30m | 24 LEDs | 288x165 | |

*Additional pictograms available*

| Order code | Description | | Dimensions | |
|---|---|---|---|---|
| ESP40-ILR | Velos pictogram ISO LEFT/RIGHT 40m | 24 LEDs | 370x220 | |
| ESP40-IDD | Velos pictogram ISO DOWN/DOWN 40m | 24 LEDs | 370x220 | |
| ESP40-WILR | Velos pictogram Wheel ISO LEFT/RIGHT 40m | 24 LEDs | 370x220 | |
| ESP40-WIDD | Velos pictogram Wheel ISO DOWN/DOWN 40m | 24 LEDs | 370x220 | |

*Additional pictograms available*

# Beam lights

## Overview

| | Page | Performance | General features: Aesthetic | General features: No replacement parts for 10 years | General features: Low consumption / Eco-friendly | General features: Protection Degree | Operation: Maintained | Operation: Non-Maintained | Technology: Stand alone | Technology: Autotest | Technology: Monitored (CGILine+) | Battery |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **4.1** BeamTech Small PSU, 1 Light Head  | 84 | ★★ | | | | 65 | | ● | ● | | | Ni-Cd |
| **4.2** BeamTech Small PSU, 2 Light Heads  | 86 | ★★★ | | | | 65 | | ● | ● | | | Ni-Cd |
| **4.3** BeamTech Large PSU, 2 Light Heads  | 76 | ★★★ | | | | 65 | | ● | ● | | ● | Ni-Cd |
| **4.4** Beamlite II  | 90 | ★ | | | | 65 | | ● | ● | | | Ni-Cd |

| Installation | | | Applications | | | | | | | | Best use |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Wall | Ceiling | Recessed | Healthcare | Hotels | Cinemas /Theaters | Commercial centers | Stadia / Arenas | Offices | Industrial | Warehouse | |
| ● | ● | ● | ● | ● | | ● | | ● | ● | ● | Designed as an aesthetic alternative to traditional solutions, with batteries and configurable light heads making it a choice for public commercial areas. IP65 makes it perfect for even the harshest of industrial environments.5.1 |
| ● | ● | ● | | | ● | ● | ● | | ● | ● | |
| ● | ● | ● | | | ● | ● | ● | | ● | ● | |
| ● | | | | | | ● | ● | | ● | ● | |

*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 360°
# New high performance Beam lights

### New ranges for more applications

In case of a power failure, large open plan areas need to be clearly lit to prevent panic and aid evacuation.

New Beam lights ranges provide a solution for both wide area anti-panic lighting and narrow illumination of escape routes or to highlight safety equipment such as alarms and fire extinguishers.

Rated at IP65 ingress protection and with an IK03 impact resistance, the new ranges are ideal for industrial applications such as factories or warehouses, but a complete redesign of the BeamTech range  means that it can now also be used in areas where aesthetics is important, such as in entertainment venues and shopping malls.

High intensity light source provides efficient illumination of long, narrow escape routes, but can also provide general wide coverage of a specific area when positioned at any degree specified to each other, in locations where higher illumination is required.

Additionally the light output and the narrow and wide light distribution can be configured by the user (e-focus) in order to provide ease of installation and adopt the product into all relevant emergency applications.

BeamTech Small PSU, 1 Light Head

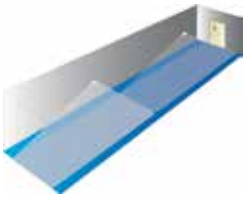
BeamTech Small PSU, 2 Light Heads

BeamTech Large PSU, 2 Light Heads

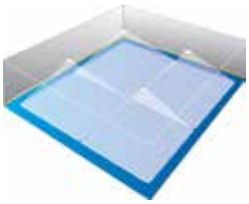
Beamlite II

## E-focus patented technology to fit the application with higher performance lighting

PRODUCT PATENTED



Narrow light distribution enables installations and ideal for large, escape routes and illumination of safety equipments. A maximum spacing of up to 36.5m (depending the variant and product line) between luminaires reduces the number of required light points and an application range from 5m up to 25m for 1Lux enables mounting at the normally occurring heights.



Wide light distribution enables higher height installations and ideal for large and high areas where no fixed escape route is defined, meaning that the complete area must be illuminated.
A maximum spacing of up to 23.1m (depending the variant and product line) between luminaires reduces the number of required light points and an application range from 2.5m up to 15m for 1Lux enables mounting at the normally occurring heights.

Eaton's new Beam lights flexibility makes them the ideal products to direct light into safety points.
BeamTech range meets requirements of EN 1838:1 for illuminance of 5lx for safety equipment like first aid stations, fire fighting equipment and any alarm devices.

## 1 or 2 LED lamp head (s), directed on specific degrees of inclination easily configurable.

90° 360°

Led lamp directed on specific degrees of inclination from 0° to 90° and rotated up to 360°

Rotation stopping point with degree information displayed

The lamp head is equipped with a locking mechanism preventing accidental change of light head configuration.

# 4.1 Beam lights

## BeamTech Small PSU, 1 Light Head




- High flux luminaire with configuration of one directional LED lamp head
- E-focus programming
- Narrow and Wide light distribution, programmed by the user
- One product applicable for Escape Route or Open area illumination
- Flexible and modular design, wall and ceiling mounted

### Light Source:

12 LEDs Wide, (4W max)
12 LEDs Narrow, (4W max)
250lm & 500lm variants

### Materials:

Body IP65, polycarbonate
Lamp Head IP65, polycarbonate

### Installation:

Suitable for wall and ceiling mounting

Installation up to 20m (25m) with optimum spacing of 16.6m (20.8m) for 1lux (0.5lux) illumination

Cable entries from side & back

Locking mechanism on Light Head

### Applications:

Suitable for use in large open areas (supermarkets, warehouses, cinemas, theatres, factories, shopping malls, industrial units, stadiums etc..)

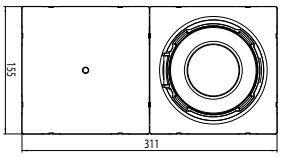
Eaton's BeamTech, high intensity single light source, provides efficient illumination of long, narrow escape routes, but can also provide general wide coverage of a specific area when positioned at any degree specified to each other, in locations where higher illumination is required.

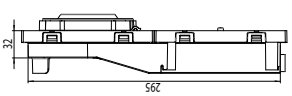
Designed as an aesthetic alternative to traditional solutions, the battery and configurable light heads are contained in the same unit making it a good choice for public areas. Equally its IP65 ingress protection and IK07 impact resistance makes it perfect for even the harshest of industrial environments.

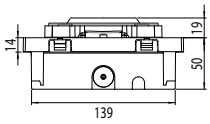
This range of beam light self-contained luminaires is composed of 1h and 3h versions, from 250 to 500lm light output.

Narrow light distribution enables installations and ideal for large, escape routes and illumination of safety equipments. A maximum spacing of up to 16.5m between luminaires reduces the number of required light points and an application range from 5m up to 20m for 1Lux enables mounting at the normally occurring heights.

Wide light distribution enables higher height installations and ideal for large and high areas where no fixed escape route is defined, meaning that the complete area must be illuminated. A maximum spacing of up to 16m between luminaires reduces the number of required light points and an application range from 2.5m up to 10m for 1Lux enables mounting at the normally occurring heights.

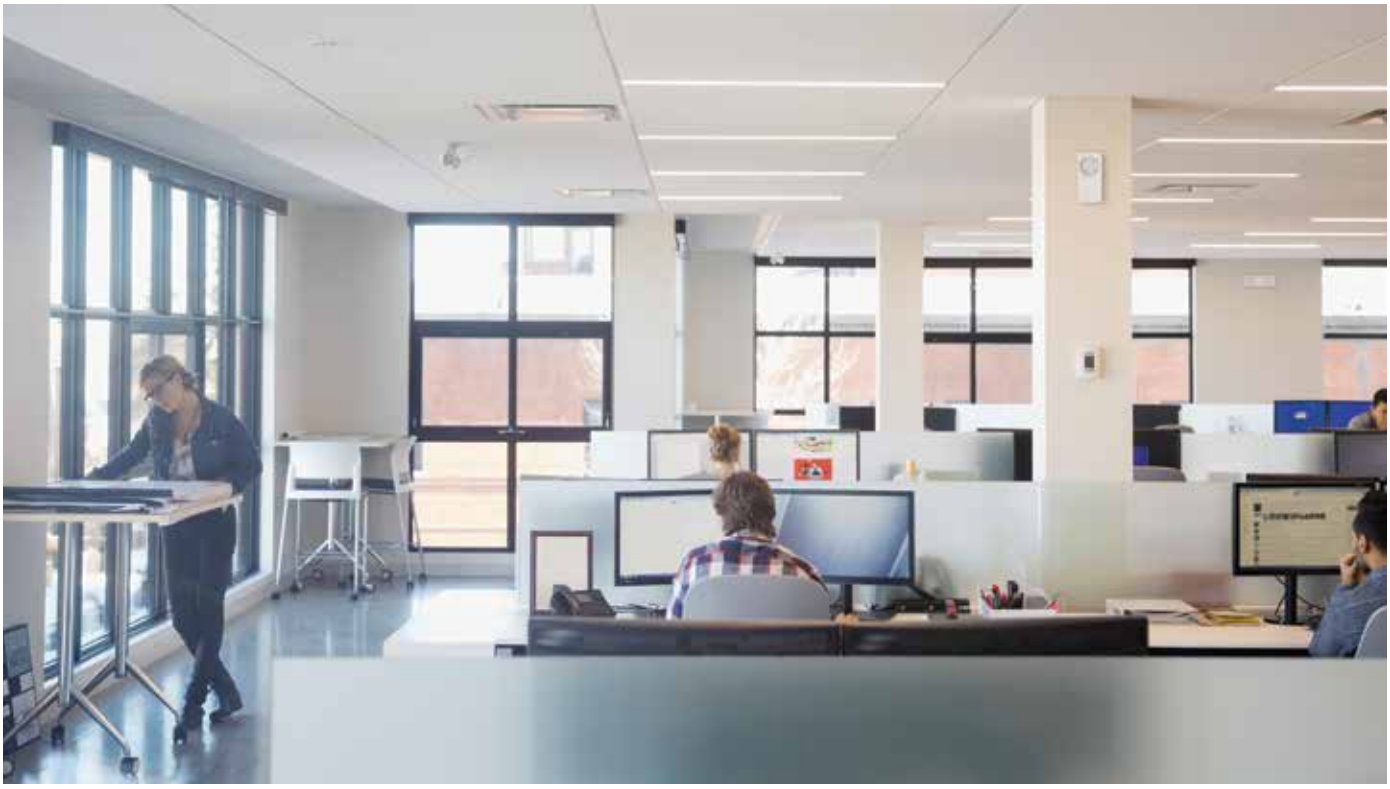


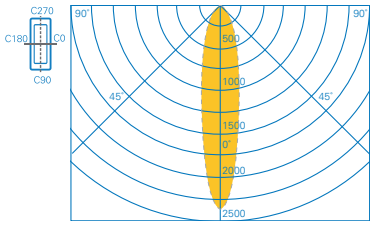



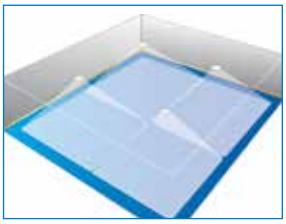

| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| BT1SD-B3-M | BeamTech Small 1x250lm | 3VA / 2.4W | 250 lm | 3h | NiCd 3D, 3.6V / 4Ah | Non-Maintained |
| BT1SL-D3-M | BeamTech Small 1x500lm | 5VA/4.5W* | 500 lm | 3h | LifePo4 6.4V / 3.2Ah | Non-Maintained |

* While charging, less than 1W in standby

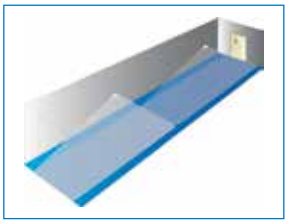


BeamTech 1 Light Head
Narrow beam at 0° slope



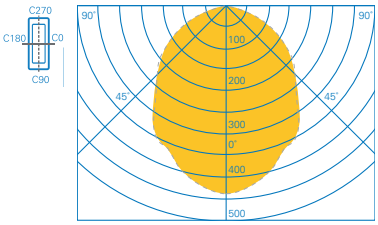



Open area for 0.5 lux



Escape route for 1 lux

BeamTech 1 Light Head
Wide beam at 0° slope




**Planning help for BeamTeach 1 Light Head with Narrow & Wide beam 1.0 lx (0.5lx)**
Maintenance factor MF = 80 %, battery operation and distances in m

| Luminaire type | Height (m) | Distance for 1 Lux (0.5 Lux) | | | |
|---|---|---|---|---|---|
| | | | | | |
| Ceiling mounting Escape route centre 1 Light Head 250lm Narrow beam at 0° | 4,00 | 3,45 (---) | 8,65 (---) | 3,45 (---) | 8,73 (---) |
| | 5,00 | 3,63 (3,83) | 9,41 (9,7) | 3,63 (3,83) | 9,41 (9,6) |
| | 7,50 | 3,7 (4,16) | 10,41 (11,65) | 3,74 (4,2) | 10,41 (11,55) |
| | 10,00 | 3,44 (4,23) | 10,52 (12,87) | 3,49 (4,29) | 10,63 (12,77) |
| | 12,50 | 3,06 (4,12) | 10,1 (13,67) | 3,06 (4,12) | 10,36 (13,71) |
| Ceiling mounting Escape route centre 1 Light Head 500lm Narrow beam at 0° | 5,00 | 4,7 (---) | 11,61 (---) | 4,7 (---) | 11,61 (---) |
| | 7,50 | 5,2 (5,28) | 13,51 (14,05) | 5,2 (5,28) | 13,51 (14,08) |
| | 10,00 | 5,26 (5,61) | 14,53 (16,11) | 5,32 (5,66) | 14,53 (16,01) |
| | 12,50 | 5,05 (5,74) | 14,87 (17,43) | 5,18 (5,88) | 15,02 (17,33) |
| | 15,00 | 4,8 (5,79) | 14,79 (18,61) | 4,8 (5,79) | 14,96 (18,51) |
| | 20,00 | 3,89 (5,38) | 13,77 (19,72) | 3,98 (5,5) | 13,97 (19,83) |

| Luminaire type | Height (m) | Distance for 1 Lux (0.5 Lux) | | | |
|---|---|---|---|---|---|
| | | | | | |
| Ceiling mounting Escape route centre 1 Light Head 250lm Wide beam at 0° | 2,50 | 3,64 (3,66) | 8,93 (8,72) | 3,64 (3,66) | 8,84 (8,82) |
| | 3,00 | 3,84 (3,86) | 9,51 (9,54) | 3,84 (3,86) | 9,6 (9,75) |
| | 4,00 | 4,04 (4,3) | 10,71 (11,09) | 4 (4,27) | 10,62 (10,99) |
| | 5,00 | 4,01 (4,44) | 11,3 (12,38) | 4,05 (4,48) | 11,2 (12,28) |
| | 7,50 | 3,15 (4,5) | 11,3 (14,2) | 3,15 (4,5) | 11,3 (13,97) |
| Ceiling mounting Escape route centre 1 Light Head 500lm Wide beam at 0° | 3,00 | 4,75 (4,64) | 11,53 (11,57) | 4,8 (4,68) | 11,9 (11,2) |
| | 4,00 | 5,36 (5,18) | 13,18 (13,06) | 5,31 (5,14) | 13,18 (13,4) |
| | 5,00 | 5,65 (5,62) | 14,55 (14,89) | 5,6 (5,57) | 14,55 (14,64) |
| | 7,50 | 5,65 (6,14) | 16,09 (18,01) | 5,65 (6,14) | 15,95 (17,91) |
| | 10,00 | --- (6,21) | --- (19,88) | --- (6,14) | --- (19,6) |

** Spacing tables above are examples of performance of certain models with specific lumen output, installed on specific heights at few headlamps direction options. Complete performance characteristics for all models, all installation heights and all headlamp direction options can be derived by the use of the LTD files available on request.*

# Beam lights

## BeamTech Small PSU, 2 Light Heads




- High flux luminaire with configuration of two directional LED lamp heads
- E-focus programming
- Narrow and Wide light distribution, programmed by the user
- One product applicable for Escape Route or Open area illumination
- Flexible and modular design, wall and ceiling mounted

### Light Source:

12 LEDs Wide, (4W max)
12 LEDs Narrow, (4W max)
500lm & 1000lm variants

### Materials:

Body IP65, polycarbonate
Lamp Head IP65, polycarbonate

### Installation:

Suitable for wall and ceiling mounting

Installation up to 25m (30m) with optimum spacing of 36.8m (43.1m) for 1lux (0.5lux) illumination

Cable entries from side & back

Locking mechanism on Light Heads

### Applications:

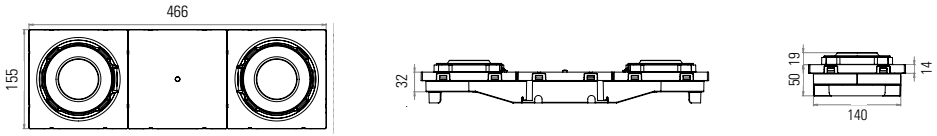
Suitable for use in large open areas (supermarkets, warehouses, cinemas, theatres, factories, shopping malls, industrial units, stadiums etc..)

Eaton's BeamTech, high intensity double light sources, provide efficient illumination of long, narrow escape routes, but can also provide general wide coverage of a specific area when positioned at any degree specified to each other, in locations where higher illumination is required.

Designed as an aesthetic alternative to traditional solutions, the battery and configurable light heads are contained in the same unit making it a good choice for public areas. Equally its IP65 ingress protection and IK07 impact resistance makes it perfect for even the harshest of industrial environments.

This range of beam light self-contained luminaires is composed of 1h and 3h versions, from 500 to 1000lm light output.

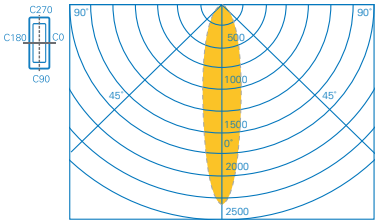
The light output and the narrow and wide light distribution can be configured by the user (e-focus) in order to provide ease of installation and adopt the product into all relevant emergency applications.

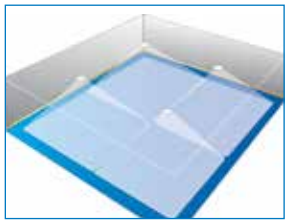



| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| BT2SL-D3-M | BeamTech Small 2x250lm | 5VA/4.5W* | 500 lm | 3h | LiFePo4 6.4V / 3.2Ah | Non-Maintained |

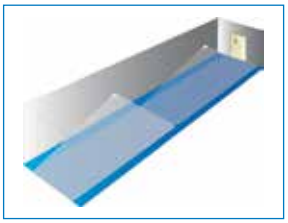
* While charging, less than 1W in standby

BeamTech 2 Light Heads
Narrow beam at 0°-0° slope



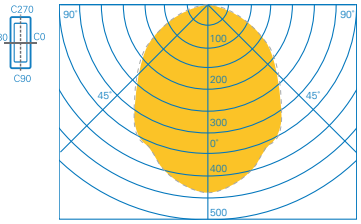



Open area for 0.5 lux



Escape route for 1 lux

BeamTech 2 Light Heads
Wide beam at 0°-0° slope




**Planning help for BeamTech with 2 Light Heads with Narrow & Wide beam 1.0 lx (0.5lx)**

Maintenance factor MF = 80 %, battery operation and distances in m

| Luminaire type | Height (m) | Distance for 1 Lux (0.5 Lux) | | | |
|---|---|---|---|---|---|
| | | | | | |
| Ceiling mounting<br>Escape route centre<br>2 Light Heads 2x250lm<br>Narrow beam at 0°-0° | 5,00 | 4,7 (---) | 11,61 (---) | 4,7 (---) | 11,61 (---) |
| | 7,50 | 5,2 (5,28) | 13,51 (14,05) | 5,2 (5,28) | 13,51 (14,08) |
| | 10,00 | 5,26 (5,61) | 14,53 (16,11) | 5,32 (5,66) | 14,53 (16,01) |
| | 12,50 | 5,05 (5,74) | 14,87 (17,43) | 5,18 (5,88) | 15,02 (17,33) |
| | 15,00 | 4,8 (5,79) | 14,79 (18,61) | 4,8 (5,79) | 14,96 (18,51) |
| | 20,00 | 3,89 (5,38) | 13,77 (19,72) | 3,98 (5,5) | 13,97 (19,83) |
| Ceiling mounting<br>Escape route centre<br>2 Light Heads 2x500lm<br>Narrow beam at 0°-0° | 7,50 | 6,75 (---) | 16,81 (---) | 6,75 (---) | 16,95 (---) |
| | 10,00 | 7,27 (7,15) | 18,81 (19,41) | 7,27 (7,15) | 18,81 (19,31) |
| | 12,50 | 7,44 (7,56) | 20,06 (21,62) | 7,51 (7,63) | 20,06 (21,52) |
| | 15,00 | 7,4 (7,82) | 20,81 (23,21) | 7,48 (7,9) | 20,81 (23,11) |
| | 20,00 | 6,89 (7,97) | 21,05 (25,73) | 6,98 (8,07) | 21,27 (25,63) |
| | 25,00 | 6,12 (7,73) | 20,2 (27,25) | 6,12 (7,73) | 20,71 (27,42) |

| Luminaire type | Height (m) | Distance for 1 Lux (0.5 Lux) | | | |
|---|---|---|---|---|---|
| | | | | | |
| Ceiling mounting<br>Escape route centre<br>2 Light Heads 2x250lm<br>Wide beam at 0°-0° | 2,50 | 4,46 (---) | 10,6 (---) | 4,42 (---) | 10,85 (---) |
| | 3,00 | 4,75 (4,64) | 11,53 (11,57) | 4,8 (4,68) | 11,9 (11,2) |
| | 4,00 | 5,36 (5,18) | 13,18 (13,06) | 5,31 (5,14) | 13,18 (13,4) |
| | 5,00 | 5,65 (5,62) | 14,55 (14,89) | 5,6 (5,57) | 14,55 (14,64) |
| | 7,50 | 5,65 (6,14) | 16,09 (18,01) | 5,65 (6,14) | 15,95 (17,91) |
| | 10,00 | 5,04 (6,21) | 16,05 (19,88) | 4,99 (6,14) | 16,2 (19,6) |
| Ceiling mounting<br>Escape route centre<br>2 Light Heads 2x500lm<br>Wide beam at 0°-0° | 3,00 | 5,76 (---) | 14,14 (---) | 5,95 (---) | 13,8 (---) |
| | 4,00 | 6,59 (6,24) | 15,87 (15,91) | 6,59 (6,24) | 16,4 (15,42) |
| | 5,00 | 7,28 (6,81) | 17,86 (17,44) | 7,28 (6,81) | 17,67 (17,75) |
| | 7,50 | 8,04 (7,97) | 21,03 (21,37) | 7,97 (7,9) | 21,03 (21,06) |
| | 10,00 | 8,03 (8,39) | 22,61 (24,65) | 8,1 (8,46) | 22,41 (24,55) |
| | 12,50 | 7,81 (8,6) | 22,71 (27,38) | 7,81 (8,6) | 22,71 (27,04) |
| | 15,00 | 6,29 (8,49) | 22,61 (28,39) | 6,29 (8,49) | 22,61 (28,05) |

** Spacing tables above are examples of performance of certain models with specific lumen output, installed on specific heights at few headlamps direction options. Complete performance characteristics for all models, all installation heights and all headlamp direction options can be derived by the use of the LTD files available on request.*

# 4.3 Beam lights

## BeamTech Large PSU, 2 Light Heads




- High flux luminaire with configuration of one directional LED lamp head
- E-focus programming
- Narrow and Wide light distribution, programmed by the user
- One product applicable for Escape Route or Open area illumination
- Flexible and modular design, wall and ceiling mounted

### Light Source:

12 LEDs Wide, (4W max)
12 LEDs Narrow, (4W max)
500lm & 1000lm variants

### Materials:

Body IP65, polycarbonate
Lamp Head IP65, polycarbonate

### Installation:

Suitable for wall and ceiling mounting

Installation up to 25m (30m) with optimum spacing of 36.8m (43.1m) for 1lux (0.5lux) illumination

Cable entries from side & back

Locking mechanism on Light Head

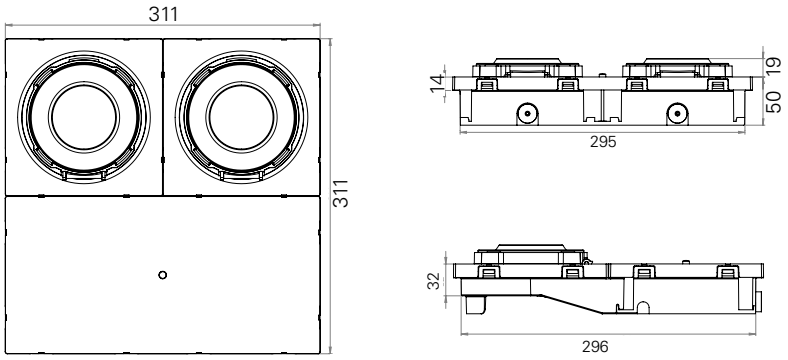
### Applications:

Suitable for use in large open areas (supermarkets, warehouses, cinemas, theatres, factories, shopping malls, industrial units, stadiums etc..)

Eaton's BeamTech, high intensity single light source, provides efficient illumination of long, narrow escape routes, but can also provide general wide coverage of a specific area when positioned at any degree specified to each other, in locations where higher illumination is required.

Designed as an aesthetic alternative to traditional solutions, the battery and configurable light heads are contained in the same unit making it a good choice for public areas. Equally its IP65 ingress protection and IK07 impact resistance makes it perfect for even the harshest of industrial environments.

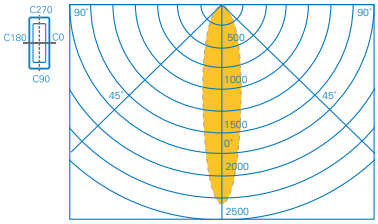
This range of beam light self-contained luminaires is composed of 3h versions, from 500 to 1000lm light output.

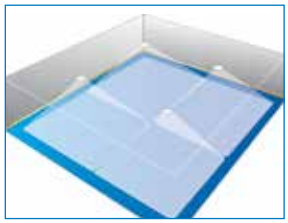



| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| BT2LL-D3 | BeamTech Large 2x250lm | 5VA/4.5W* | 500lm | 3h | LiFePo4 6.4V / 3.2Ah | Non-Maintained |
| BT2LL-D3CGL | BeamTech Large 2x250lm CGL | 5VA/4.5W* | 500lm | 3h | LiFePo4 6.4V / 3.2Ah | Non-Maintained |
| BT2LL-F3 | BeamTech Large 2x500lm | 10VA/9W** | 1000lm | 3h | 2x LiFePo4 6.4V / 3.2Ah | Non-Maintained |
| BT2LL-F3CGL | BeamTech Large 2x500lm CGL | 10VA/9W** | 1000lm | 3h | 2x LiFePo4 6.4V / 3.2Ah | Non-Maintained |
| BT2LL-F3DL | BeamTech Large 2x500lm DL | 10VA/9W** | 1000lm | 3h | 2x LiFePo4 6.4V / 3.2Ah | Non-Maintained |

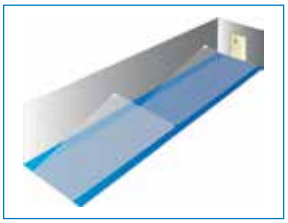
* While charging, less than 1W in standby
** While charging, less than 2W in standby

BeamTech 2 Light Heads
Narrow beam at 0°-0° slope



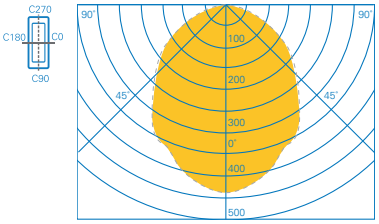



Open area for 0.5 lux



Escape route for 1 lux

BeamTech 2 Light Heads
Wide beam at 0°-0° slope




**Planning help for BeamTech with 2 Light Heads with Narrow & Wide beam 1.0 lx (0.5lx)**

Maintenance factor MF = 80 %, battery operation and distances in m

| Luminaire type | Height (m) | Distance for 1 Lux (0.5 Lux) | | | |
|---|---|---|---|---|---|
| Ceiling mounting Escape route centre 2 Light Heads 2x250lm Narrow beam at 0°-0° | 5,00 | 4,7 (---) | 11,61 (---) | 4,7 (---) | 11,61 (---) |
| | 7,50 | 5,2 (5,28) | 13,51 (14,05) | 5,2 (5,28) | 13,51 (14,08) |
| | 10,00 | 5,26 (5,61) | 14,53 (16,11) | 5,32 (5,66) | 14,53 (16,01) |
| | 12,50 | 5,05 (5,74) | 14,87 (17,43) | 5,18 (5,88) | 15,02 (17,33) |
| | 15,00 | 4,8 (5,79) | 14,79 (18,61) | 4,8 (5,79) | 14,96 (18,51) |
| | 20,00 | 3,89 (5,38) | 13,77 (19,72) | 3,98 (5,5) | 13,97 (19,83) |
| Ceiling mounting Escape route centre 2 Light Heads 2x500lm Narrow beam at 0°-0° | 7,50 | 6,75 (---) | 16,81 (---) | 6,75 (---) | 16,95 (---) |
| | 10,00 | 7,27 (7,15) | 18,81 (19,41) | 7,27 (7,15) | 18,81 (19,31) |
| | 12,50 | 7,44 (7,56) | 20,06 (21,62) | 7,51 (7,63) | 20,06 (21,52) |
| | 15,00 | 7,4 (7,82) | 20,81 (23,21) | 7,48 (7,9) | 20,81 (23,11) |
| | 20,00 | 6,89 (7,97) | 21,05 (25,73) | 6,98 (8,07) | 21,27 (25,63) |
| | 25,00 | 6,12 (7,73) | 20,2 (27,25) | 6,12 (7,73) | 20,71 (27,42) |

| Luminaire type | Height (m) | Distance for 1 Lux (0.5 Lux) | | | |
|---|---|---|---|---|---|
| Ceiling mounting Escape route centre 2 Light Heads 2x250lm Wide beam at 0°-0° | 2,50 | 4,46 (---) | 10,6 (---) | 4,42 (---) | 10,85 (---) |
| | 3,00 | 4,75 (4,64) | 11,53 (11,57) | 4,8 (4,68) | 11,9 (11,2) |
| | 4,00 | 5,36 (5,18) | 13,18 (13,06) | 5,31 (5,14) | 13,18 (13,4) |
| | 5,00 | 5,65 (5,62) | 14,55 (14,89) | 5,6 (5,57) | 14,55 (14,64) |
| | 7,50 | 5,65 (6,14) | 16,09 (18,01) | 5,65 (6,14) | 15,95 (17,91) |
| | 10,00 | 5,04 (6,21) | 16,05 (19,88) | 4,99 (6,14) | 16,2 (19,6) |
| Ceiling mounting Escape route centre 2 Light Heads 2x500lm Wide beam at 0°-0° | 3,00 | 5,76 (---) | 14,14 (---) | 5,95 (---) | 13,8 (---) |
| | 4,00 | 6,59 (6,24) | 15,87 (15,91) | 6,59 (6,24) | 16,4 (15,42) |
| | 5,00 | 7,28 (6,81) | 17,86 (17,44) | 7,28 (6,81) | 17,67 (17,75) |
| | 7,50 | 8,04 (7,97) | 21,03 (21,37) | 7,97 (7,9) | 21,03 (21,06) |
| | 10,00 | 8,03 (8,39) | 22,61 (24,65) | 8,1 (8,46) | 22,41 (24,55) |
| | 12,50 | 7,81 (8,6) | 22,71 (27,38) | 7,81 (8,6) | 22,71 (27,04) |
| | 15,00 | 6,29 (8,49) | 22,61 (28,39) | 6,29 (8,49) | 22,61 (28,05) |

** Spacing tables above are examples of performance of certain models with specific lumen output, installed on specific heights at few headlamps direction options. Complete performance characteristics for all models, all installation heights and all headlamp direction options can be derived by the use of the LTD files available on request.*

# Beam lights

## Beamlite II




- High flux luminaire with configuration of two directional LED lamp heads
- E-focus programming
- Narrow and Wide light distribution, programmed by the user
- One product applicable for Escape Route or Open area illumination
- Industrial design, wall mounted

### Light Source:

12 LEDs Wide, (4W max) 12 LEDs Narrow, (4W max) 200lm, 400lm & 800lm variants

### Materials:

Body IP65, polycarbonate
Lamp Head IP65, polycarbonate

### Installation:

Suitable for wall and ceiling mounting

Installation up to 25m (30m) with optimum spacing of 34.6m (40.28m) for 1lux (0.5lux) illumination

Cable entries from side & back and BESA entry

Locking mechanism on Light Heads

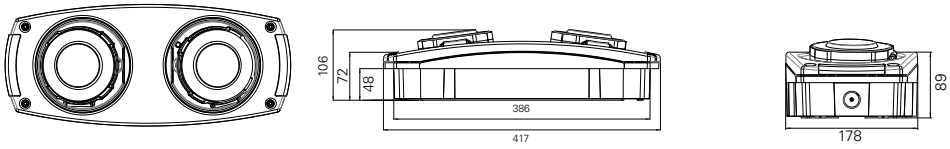
### Applications:

Suitable for use in large open areas (supermarkets, warehouses, factories, shopping malls, industrial units, stadiums etc..)

Eaton's BeamLite II, high intensity double light sources, provide efficient illumination of long, narrow escape routes, but can also provide general wide coverage of a specific area when positioned at any degree specified to each other, in locations where higher illumination is required. Also provides a complete solution from a single luminaire, whether you are providing lighting for a large factory floor, a shopping centre or an entertainment venue.

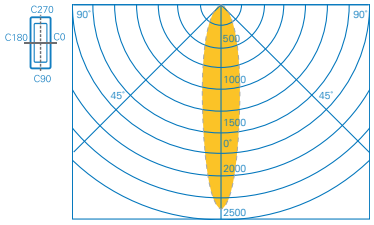
Rated at IP65 ingress protection and with IK07 impact resistance, BeamLite II can be used in even the harshest of environments while the new design, with compact efficient batteries and LED light heads contained in the same unit, also makes these emergency light fittings applicable for commercial applications.

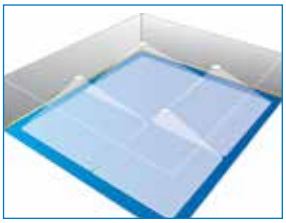
This range of beam light self-contained luminaires is composed of 1h and 3h duration versions, from 200 to 800lm light output.



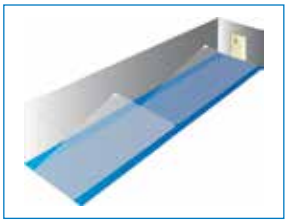

| Order code | Description | | | | | |
|---|---|---|---|---|---|---|
| BL2MC-A3-M | BeamLite II 2x100lm | 2.3 VA / 1.6W | 200 lm | 3h | 4Cs NiCd 4.8V / 1.7Ah | Non-Maintained |
| BL2MD-C3-M | BeamLite II 2x200lm | 5VA / 4.5W | 400 lm | 3h | 6D NiCd 7.2V / 4Ah | Non-Maintained |
| BL2MD-E3-M | BeamLite II 2x400lm | 5VA / 4.5W | 800 lm | 3h | 6D NiCd 7.2V / 4Ah | Non-Maintained |

BeamLite II
Narrow beam at 0°-0° slope



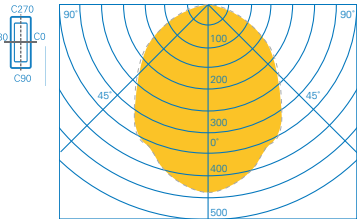



Open area for 0.5 lux



Escape route for 1 lux

BeamLite II
Wide beam at 0°-0° slope




**Planning help for BeamLite II with 2 Light Heads with Narrow & Wide beam 1.0 lx (0.5lx)**

Maintenance factor MF = 80 %, battery operation and distances in m

| Luminaire type | Height (m) | Distance for 1 Lux (0.5 Lux) | | | |
|---|---|---|---|---|---|
| | | | | | |
| Ceiling mounting<br>Escape route centre<br>2 Light Heads 2x200lm<br>Narrow beam at 0°-0° | 5,00 | 4,35 (4,36) | 10,91 (10,62) | 4,35 (4,36) | 10,91 (10,62) |
| | 7,50 | 4,69 (4,89) | 12,48 (13,4) | 4,73 (4,93) | 12,48 (13,3) |
| | 10,00 | 4,66 (5,15) | 13,24 (14,99) | 4,72 (5,21) | 13,24 (14,89) |
| | 12,50 | 4,37 (5,22) | 13,29 (16,27) | 4,43 (5,28) | 13,43 (16,17) |
| | 15,00 | 3,95 (5,13) | 13,04 (17) | 4,02 (5,21) | 13,2 (17,06) |
| | 20,00 | --- (4,69) | --- (17,93) | --- (4,69) | --- (18,03) |
| | 25,00 | --- (4,02) | --- (18,1) | --- (4,02) | --- (18,25) |
| Ceiling mounting<br>Escape route centre<br>2 Light Heads 2x400lm<br>Narrow beam at 0°-0° | 7,50 | 6,24 (6,09) | 15,81 (15,57) | 6,24 (6,09) | 15,81 (15,61) |
| | 10,00 | 6,62 (6,65) | 17,39 (18,41) | 6,62 (6,65) | 17,39 (18,31) |
| | 12,50 | 6,65 (6,95) | 18,33 (20,18) | 6,72 (7,01) | 18,33 (20,26) |
| | 15,00 | 6,52 (7,15) | 18,75 (21,68) | 6,6 (7,23) | 18,93 (21,58) |
| | 20,00 | 5,83 (7,12) | 18,65 (23,84) | 5,92 (7,22) | 18,87 (23,74) |
| | 25,00 | 4,97 (6,69) | 17,46 (24,87) | 5,09 (6,83) | 17,71 (25,03) |
| | 30,00 | --- (6,18) | --- (25,5) | --- (6,18) | --- (25,7) |

| Luminaire type | Height (m) | Distance for 1 Lux (0.5 Lux) | | | |
|---|---|---|---|---|---|
| | | | | | |
| Ceiling mounting<br>Escape route centre<br>2 Light Heads 2x200lm<br>Wide beam at 0°-0° | 2,50 | 4,16 (4,08) | 9,92 (10,05) | 4,16 (4,08) | 10,37 (9,59) |
| | 3,00 | 4,49 (4,41) | 10,94 (10,83) | 4,49 (4,41) | 11,05 (10,86) |
| | 4,00 | 4,94 (4,87) | 12,32 (12,52) | 4,9 (4,84) | 12,44 (12,68) |
| | 5,00 | 5,09 (5,3) | 13,51 (13,92) | 5,04 (5,26) | 13,39 (13,82) |
| | 7,50 | 5,01 (5,58) | 14,49 (16,89) | 5,01 (5,58) | 14,36 (16,79) |
| | 10,00 | 3,49 (5,54) | 14,27 (18,25) | 3,49 (5,54) | 14,13 (17,99) |
| Ceiling mounting<br>Escape route centre<br>2 Light Heads 2x400lm<br>Wide beam at 0°-0° | 3,00 | 5,47 (---) | 13,17 (---) | 5,53 (---) | 13,32 (---) |
| | 4,00 | 6,16 (5,85) | 15,05 (14,96) | 6,22 (5,9) | 15,37 (14,68) |
| | 5,00 | 6,76 (6,41) | 16,64 (16,24) | 6,7 (6,36) | 16,64 (16,87) |
| | 7,50 | 7,24 (7,38) | 19,37 (20,3) | 7,18 (7,32) | 19,37 (20,2) |
| | 10,00 | 7,13 (7,73) | 20,35 (23,4) | 7,07 (7,66) | 20,18 (23,09) |
| | 12,50 | 6,51 (7,76) | 20,24 (25,05) | 6,44 (7,68) | 20,43 (24,73) |
| | 15,00 | 4,02 (7,59) | 20,05 (26,09) | 4,02 (7,59) | 20,05 (25,76) |

** Spacing tables above are examples of performance of certain models with specific lumen output, installed on specific heights at few headlamps direction options. Complete performance characteristics for all models, all installation heights and all headlamp direction options can be derived by the use of the LTD files available on request.*

# Conversion kits

# 5.1 Conversion kits

## Conversion kit LED



- For LED modules with a forward voltage of 3 – 180V.
- Selectable operating time (jumper).
- Output power limitation and SELV classified.
- Polarity reversal protection from battery connector.
- Automatic shutdown of output if LED load is out of range.
- Low profile casing (35x23x185 mm).
- Charging indicator included and optional test button

### Light Source:

Emergency lighting LED Driver

Low Voltage for 3-33Vdc LED lamps. Output open voltage 40Vdc (SELV).

Medium Voltage for 20-55Vdc LED lamps. Output open voltage 60Vdc (SELV).

High Voltage for 40-180Vdc LED lamps. Output open voltage 200Vdc.

### Materials:

Body white polycarbonate

Comes equipped with LED charging indicator to be

fixed to the body appliance

Batteries sealed nickel cadmium and LiFePo

### Operation:

Non-Maintained operation

Autonomy of 1h and 3h (jumper selectable) or constant voltage output mode (12Vdc, 24Vdc, 48Vdc)

### Installation:

Suitable for fitting integral to host luminaire, where thermal and electro-magnetic test results permit

Remote mounting of complete kit, or of batteries only.

Supplied complete with low profile end caps for mounting batteries and LED with 1000mm lead

### Applications:

Universities, supermarkets, warehouses, offices and where emergency lighting is required.

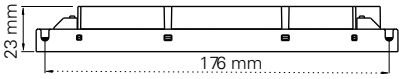
Lighting of escape routes and open areas.

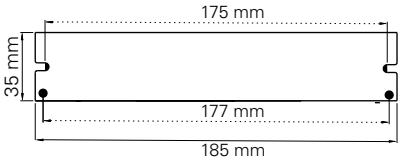
The Conversion Kit LED range is designed for converting mains LED lighting into emergency lighting in conjunction with LED modules and LED control gears. It is compatible with the majority of all dimmable and non-dimmable constant current mains LED Drivers for linear/area as well as down light applications. It also can be used with normal fixed output or dimming LED control gear from 2,5W up to 4,1W emergency output power.

It is designed in a very small 35x23x185mm housing, making it ideal for use in compact LED luminaires where space is at a premium. This range is certified to conform with IEC61347-2-7 standard which makes the converted luminaries easily achieve compliance to IED60598-2-22 standard.

All models available are programmable by a jumper to an emergency operation of either 1 hour and 3 hours duration. The output forward voltage range of 3Vdc to 180Vdc makes this product range an ideal choice for driving most LED modules from mains lighting manufacturers available in the market today.

### Conversion kit body




1. For LED modules with a forward voltage of 3 – 180V.
2. Selectable operating time (jumper).
3. Output power limitation and SELV classified.
4. Polarity reversal protection from battery connector.
5. Automatic shutdown of output if LED load is out of range.
6. Low profile casing (35x23x185 mm).

### Battery dimensions (in mm)

| Type | L | W | H | Fixing centers |
|---|---|---|---|---|
| 4AA | 100 (140) | 30 (34) | 15 (20) | (125) |
| 3Cs | 130 (160) | 25 (26) | 25 (26) | (150) |
| 4Cs | 173 (203) | 25 (26) | 25 (26) | (193) |
| 5Cs | 215 (245) | 25 (26) | 25 (26) | (235) |
| 3D | 182 (225) | 34 (35) | 34 (35) | (210) |
| 4D | 242 (285) | 34 (35) | 34 (35) | (270) |
| LifePo4 | 134 (173) | 31 (32) | 31 (32) | (157) |

## Technical specification

| | | |
|---|---|---|
| System Mode | non-maintained | |
| Mains input voltage | 230 V AC ±5% (218,5 - 241,5 V AC) | |
| Mains frequency / Mains consumption | 50/60Hz - 20mA AC @ AA & L cell battery or 30mA AC @ Cs & D cell battery | |
| Power factor | 0,47 | |
| Recharge period | 24 hours | |
| Charging monitor | green LED with cable 1m, bi-color green/yellow LED with cable 1m for CGL+ bus | |
| Test facility | by Normally Closed Push button<br>by Normally Open Push button (not applicable on CGL+)<br>by Telecommand signal | |
| Duration | 1 or 3h, selectable by jumper, 3h only variants available | |
| Permissible ambient temperature (ta) | 5..40°C | |
| Case temperature max (tc) | converter: 60°C / battery: 50°C | |
| Housing material | polycarbonate | |
| Housing colour | white | |
| Mounting | M4 screws (2 options) | |
| Terminals | mains (L/N unswitched) (L1 switched in/out)<br>up to 1,5 mm screwless pushwire & multicore | |
| Battery | 4AA Ni-Cd 4,8V 0,8Ah 2x2pack<br>3Cs Ni-Cd 3,6V 1,7Ah 3x1pack<br>3D Ni-Cd 3,6V 4Ah 3x1pack<br>4D Ni-Cd 4,8V 4Ah 4x1pack | 2LiFePo4 6,4V 3,2Ah 2x1pack<br>4Cs NiCD 4,8V 1,7Ah 4x1pack<br>5Cs NiCD 6V 1,7Ah 5x1pack |
| IP rating | 20 | |
| Overheating protection | 110°C | |
| Short circuit protection | Non-inherently short circuit proof | |
| Weight | 125gr<br>225gr with 4AA cell battery<br>275gr with 3Cs cell battery<br>505gr with 3D cell batteries | 685gr with 4D cell batteries<br>305gr with LiFePo4 cell battery<br>325gr with 4Cs cell battery<br>375gr with 5Cs cell battery |

| Order code | Description | Battery |
|---|---|---|
| O-LVLD-4AA-M | Led Kit Low Voltage Driver 3-33Vdc (12Vdc) | 4AA Ni-Cd 4,8V 800Ah 2x2pack |
| O-LVLD-3CS -M | Led Kit Low Voltage Driver 3-33Vdc (12Vdc) | 3Cs Ni-Cd 3,6V 1700Ah 3x1pack |
| O-MVLD-4AA-M | Led Kit Medium Voltage Driver 20-55Vdc (24Vdc) | 4AA Ni-Cd 4,8V 800Ah 2x2pack |
| O-MVLD-4CS-M | Led Kit Medium Voltage Driver 20-55Vdc (24Vdc) | 4Cs Ni-Cd 4,8V 1700Ah 4x1pack |
| O-HVLD-4AA-M | Led Kit High Voltage Driver 40-180Vdc (24Vdc) | 4AA Ni-Cd 4,8V 800Ah 2x2pack |
| O-HVLD-5CS-M | Led Kit High Voltage Driver 40-180Vdc (24Vdc) | 5Cs Ni-Cd 6V 1700Ah 5x1pack |
| CGLine+ versions | | |
| O-LVLD-2L-CGL-M | Led Kit Low Voltage Driver 3-33Vdc (12Vdc), CGL+ | 2LiFePo4 6,4V 3200Ah 2x1pack |
| O-MVLD-2L-CGL-M | Led Kit Medium Voltage Driver 20-55Vdc (24Vdc), CGL+ | 2LiFePo4 6,4V 3200Ah 2x1pack |
| O-HVLD-2L-CGL-M | Led Kit High Voltage Driver 40-180Vdc (24Vdc), CGL+, with Test button | 2LiFePo4 6,4V 3200Ah 2x1pack |
| Accessory | | |
| O-CKL-TB | Conversion Kit LED Test Button, Normally Close, with LED charging indicator, 35 cm | |
| O-CKL-TB-CGL | Conversion Kit LED CGL+ Test Button, Normally Close, with LED charging indicator, 35 cm | |

# 5.2 Conversion kits

## Conversion kit fluorescent range




- Easy to install
- Certificated by ENEC Kema Keur EN61347 and EN60925-2-4
- Compatible with T5 fluorescent lamps
- Suitable for electronic and electromagnetic ballasts
- LED indicator
- Charging time of 24 hours
- High temperature batteries Ni-Cd
- Fully compatible with high frequency circuits
- Extensive range, covering a diverse choice of fluorescent lamps
- Low profile design for easy integration

### Light Source:

Series compatible with most flourescent lamps (linear and compact)

### Materials:

Body white ABS

Comes with LED status to be fixed to the body appliance

NiCd batteries

### Operation:

Non-Maintained

Autonomy of 1h and 3h

### Installation:

Suitable for fitting integral to host luminaire, where thermal and electro-magnetic test results permit

Remote mounting of complete kit, or of batteries only.

Supplied complete with low profile end caps for mounting batteries and LED with 1000mm lead

### Applications:

Universities, supermarkets, warehouses, offices and where emergency lighting is required.

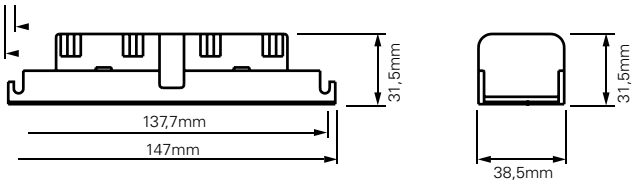
Lighting of escape routes and open areas.

This conversion kit range is aiming for the transformation of fluorescent lamp mains lighting apparatus to perform as emergency lighting in an emergency situation. Solutions like these are ideal for large venues such as universities, supermarkets, warehouses, offices and open spaces which are integrated with the existing ordinary lighting.

Low profile modules and unique chamfered battery end caps easing integration into swallow luminaries are standard throughout the whole range of the conversion kits particularly useful in the newest ranges of T5 lamp.

The range is available with 1h and 3h duration versions. The latest version of conversion kits delivers optimum performance for a diverse choice of fluorescence lamp types and wattages

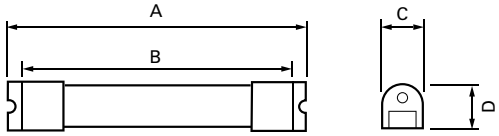
### Conversion kit body




### Technical specification

| | |
|---|---|
| System Mode | Maintained or Non-Maintained |
| Normal light output (Maintained) | Full rated output of lamp |
| Recharge period | 24 hours |
| Charging monitor | Green LED with cable 1m |
| Mains input voltage | 230V ac / 50Hz |
| Power Consumption | Max 3VA@1H, 5VA@3H |
| Temperature ratings | Module 50oC - Battery 50oC |
| Dimensions L x W x H | 148x39x31mm |
| Fixing centers of module | 137-139mm |
| Certified to | EN 61347-2-7 & EN60925 |

### Battery




| Type of battery | A | B | C | D |
|---|---|---|---|---|
| 3.6 1.5Ah | 155 | 145 | 26 | 26 |
| 3.6 4.0Ah | 210 | 200 | 35 | 35 |
| 4.8 1.5Ah | 200 | 190 | 26 | 26 |
| 4.8 4.0Ah | 280 | 270 | 35 | 35 |
| 6.0 1.5Ah | 245 | 235 | 26 | 26 |
| 6.0 4.0Ah | 340 | 330 | 35 | 35 |

| Lamp / Battery | | BK1 | BK3 | max 36W | | CK1 | CK3 | max 58W | | DK1 | DK3 | max 70W | | TK1 | max 80W | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3,6V/1,7Ah | 3,6V/4Ah | | | 4,8V/1,7Ah | 4,8V/4Ah | | | 6V/1,7Ah | 6V/4Ah | | | 4,8V/4Ah | | |
| Watts | Diameter / Holder | Minimum Duration | | Discharge Current mA | Emergency Ballast Lumen Factor % | Minimum Duration | | Discharge Current mA | Emergency Ballast Lumen Factor % | Minimum Duration | | Discharge Current mA | Emergency Ballast Lumen Factor % | Minimum Duration | Discharge Current mA | Emergency Ballast Lumen Factor % |
| TLD 18W | T8-60cm | 1h | 3h | 700 | 11 | 2h | 3h | 600 | 12 | 2h | 3h | 510 | 12 | - | - | - |
| TLD 30W | T8-90cm | 1h | 3h | 990 | 9 | 1,5h | 3h | 790 | 10 | 2h | 3h | 700 | 10 | - | - | - |
| TLD 36W | T8-120cm | 1h | 3h | 1010 | 8 | 1h | 3h | 810 | 9 | 1,5h | 3h | 760 | 13 | - | - | - |
| TLD 58W | T8-150cm | - | - | - | - | 1h | 3h | 990 | 7,5 | 1h | 3h | 810 | 9 | - | - | - |
| TLD 70W | T8-180cm | - | - | - | - | - | - | - | - | 1h | 3h | 1040 | 6 | - | - | - |
| TL5 24W | T5-55cm | 1h | 3h | 1000 | 7 | 1,5h | 3h | 750 | 7 | 2h | 3h | 600 | 7 | 2h | 1200 | 22 |
| TL5 39W | T5-85cm | - | 2h | 1350 | 7 | - | 2,5h | 1050 | 7 | 1,5h | 3h | 820 | 7 | 1,5h | 1720 | 18 |
| TL5 54W | T5-115cm | - | - | - | - | - | 2,5h | 1150 | 5 | 1h | 3h | 950 | 6 | 1h | 2050 | 16 |
| TL5 80W | T5-145cm | - | - | - | - | - | - | - | - | - | - | - | - | 1h | 2400 | 12 |
| PLS 11W | 2G7 | 1,5h | 3h | 730 | 11 | 2h | 3h | 600 | 15 | 2,5h | 3h | 450 | 16 | - | - | - |
| PLC 13W | G24q-1 | 1,5h | 3h | 780 | 15 | 2h | 3h | 624 | 19 | 2h | 3h | 500 | 20 | - | - | - |
| PLC 18W | G24q-2 | 1,5h | 3h | 870 | 12 | 1,5h | 3h | 725 | 16 | 2h | 3h | 580 | 18 | - | - | - |
| PLC 26W | G24q-3 | 1h | 3h | 920 | 10 | 1,5h | 3h | 830 | 13 | 2h | 3h | 690 | 15 | - | - | - |
| PLL 18W | 2G11 | 2h | 3h | 670 | 12 | 2h | 3h | 540 | 14 | 2,5h | 3h | 430 | 15 | - | - | - |
| PLL 24W | 2G11 | 1h | 3h | 885 | 11 | 2h | 3h | 680 | 12 | 2h | 3h | 550 | 13 | - | - | - |
| PLL 36W | 2G11 | - | 2,5h | 1021 | 9 | 1,5h | 3h | 820 | 10 | 2h | 3h | 690 | 11 | - | - | - |
| PLL 40W | 2G11 | - | - | - | - | 1h | 3h | 950 | 7 | 1,5h | 3h | 760 | 8 | - | - | - |
| PLL 55W | 2G11 | - | - | - | - | - | - | - | - | 1h | 3h | 920 | 7 | | | |
| 2D 16W | GR10q | 1,5h | 3h | 860 | 12 | 2h | 3h | 670 | 15 | 2h | 3h | 540 | 16 | - | - | - |
| 2D 28W | GR10q | 1h | 3h | 950 | 9 | 1,5h | 3h | 730 | 11 | 2h | 3h | 680 | 13 | - | - | - |
| 2D 38W | GR10q | - | - | - | - | 1,5h | 3h | 833 | 8 | 1,5h | 3h | 750 | 9 | - | - | - |

**Note:** Make sure that the terminals on the module cannot be touched when changing the lamp or starter by shrouding them with earthed metal or thermoplastic insulation kit

| Order code | Description | | | |
|---|---|---|---|---|
| O-BK1 | Conversion kit, BK1 | up to 36W | 1h | 3.6V-1.5Ah |
| O-CK1 | Conversion kit, CK1 | up to 58W | 1h | 4.8V-1.5Ah |
| O-DK1 | Conversion kit, DK1 | up to 70W | 1h | 6.0V-1.5Ah |
| O-TK1 | Conversion kit, TK1 | up to 80W | 1h | 4.8V-1.5Ah |
| O-BK3 | Conversion kit, BK3 | up to 36W | 3h | 3.6V-1.5Ah |
| O-CK3 | Conversion kit, CK3 | up to 58W | 3h | 4.8V-1.5Ah |
| O-DK3 | Conversion kit, DK3 | up to 70W | 3h | 6.0V-1.5Ah |

# Customization

# Custom-made products for your projects



To be completely integrated into a project, it is necessary to know how to merge in the universe of a creator while adapting itself to the particular architectural requirements.

Eaton created a core range of custom-made products and accessories to echo the diversity of your talents and the needs of your customers, without altering the certified features of the product.

- Specific pictograms
- Colored self-contained emergency lighting luminaires
- Colored recessed bases

We stay at your disposal to study any specific need for customized accessories or finishing.


BRANDBLUSSER

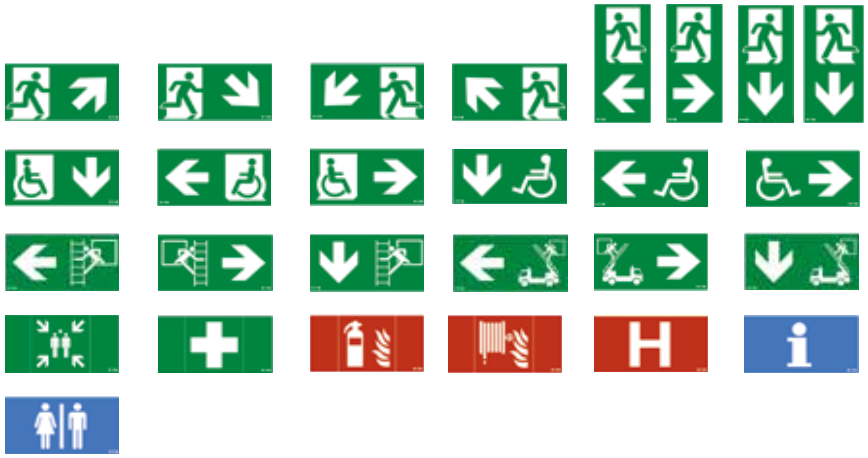
# Pictogram Customization



The role of exit sign luminaires may not always be showing the escape route. Sometimes, it is necessary to easily identify the location of safety equipement, refuge, assembly point, etc.

Eaton developed a core range of specific pictograms for several product families to cover most of those signage requirements.

Want to find out more or don't see the pictogram you require? Contact our sales team and they'll be happy to discuss the specific needs of a project with you.



# 6.1 Customization

CrystalWay

## CrystalWay 20, 30m specific pictograms

- Non adhesive polycarbonate pictograms to be inserted in the diffuser for a perfect finish
- Tested at high temperature
- UV proof
- Premium quality for long life service
- All exit legends comply with EN 60598-2-22
- Professional solution provided by EL manufacturer
- 20m & 30m viewing distance versions
- Single-sided pictograms

| Pictogram | Order code 20m | Order code 30m |
|---|---|---|
| | LUM10577 | LUM10591 |
| | LUM10573 | LUM10587 |
| | LUM10574 | LUM10588 |
| | LUM10575 | LUM10589 |
| | LUM10595 | LUM10972 |
| | LUM10596 | LUM10973 |
| | LUM10597 | LUM10974 |
| | LUM10598 | LUM10975 |
| | LUM10585 | LUM10593 |
| | LUM10586 | LUM10594 |
| | LUM10584 | LUM10592 |
| | LUM10581 | LUM10981 |
| | LUM10582 | LUM10982 |
| | LUM10583 | LUM10983 |
| | LUM10950 | LUM10976 |

| Pictogram | Order code 20m | Order code 30m |
|---|---|---|
| | LUM10951 | LUM10977 |
| | LUM10952 | LUM10978 |
| | LUM10958 | LUM10988 |
| | LUM10959 | LUM10989 |
| | LUM10960 | LUM10990 |
| | LUM10961 | LUM10991 |
| | LUM10962 | LUM10992 |
| | LUM10963 | LUM10993 |
| | LUM10964 | LUM10994 |
| | LUM10965 | LUM10995 |
| | LUM10966 | LUM10996 |
| | LUM10967 | LUM10997 |
| | LUM10968 | LUM10998 |
| | LUM10969 | LUM10999 |
| | LUM10971 | LUM11125 |

## Painted versions of CrystalWay luminaires

- Warranty period equal to standard product
- Ready to use
- Perfect finish
- Premium quality for long life service
- No modification of safety features (dielectric test, glow wire test, range of temperature, lighting performance,…)
- Professional solution provided by EL manufacturer



| Designation | Black mat RAL9005 | Dark Grey RAL7015 | Silver gloss RAL9007 |
|---|---|---|---|
| Menvier-CrystalWay 20m CGLine+ | Part numbers on demand | | |
| Menvier-CrystalWay 30m CGLine+ | | | |

## Painted accessories for CrystalWay luminaires

| Designation | Black mat RAL9005 | Dark Grey RAL7015 | Silver gloss RAL9007 |
|---|---|---|---|
| Recessed base CrystalWay 20m | LUM10561B | LUM10561DG | LUM10561S |
| Recessed base CrystalWay 30m | LUM10562B | LUM10562DG | LUM10562S |
| Recessed base with cover CrystalWay 20m | LUM10563B | LUM10563DG | LUM10563-S |
| Reces. C.Way 20m for Suspension kit | LUM10563SB | LUM10563SDG | LUM10563SS |
| Recessed base with cover CrystalWay 30m | LUM10564B | LUM10564DG | LUM10564-S |
| Reces. C.Way 30m for Suspension kit | LUM10564SB | LUM10564SDG | LUM10564SS |

# 6.2 Customization

Velos

## Velos specific pictograms

- LED pictograms
- Tested at high temperature
- UV proof
- Premium quality for long life service
- All exit legends comply with EN 60598-2-22
- Professional solution provided by EL manufacturer
- Single and Double-sided pictograms

| Pictogram | Order code 30m | Order code 40m |
|---|---|---|
| | O-ESP-IUU | O-ESP40-IUU |
| | O-ESP-IU | O-ESP40-IU |
| | O-ESP-IDD | O-ESP40-IDD |
| | O-ESP-ID | O-ESP40-ID |
| | O-ESP-ILR | O-ESP40-ILR |
| | O-ESP-IL | O-ESP40-IL |
| | O-ESP-IR | O-ESP40-IR |
| | O-ESP-I2R | - |
| | O-ESP-I2W | - |

| Pictogram | Order code 30m | Order code 40m |
|---|---|---|
| | O-ESP-ILE | - |
| | O-ESP-IRE | - |
| | O-ESP-IDE | - |
| | O-ESP-IFA | - |
| | O-ESP-H | - |
| | O-ESP-FHD | - |
| | O-ESP-INFO | - |

## Painted versions of Velos luminaires

- Warranty period equal to standard product
- Ready to use
- Perfect finish
- Premium quality for long life service
- No modification of safety features (dielectric test, glow wire test, range of temperature, lighting performance,…)
- Professional solution provided by EL manufacturer



| Pictogram 30m | Black mat RAL9005 | Dark Grey RAL7015 | Silver gloss RAL9007 |
|---|---|---|---|
| | O-ESP-IUUB | O-ESP-IUUDG | O-ESP-IUUS |
| | O-ESP-IUB | O-ESP-IUDG | O-ESP-IUS |
| | O-ESP-IDDB | O-ESP-IDDDG | O-ESP-IDDS |
| | O-ESP-IDB | O-ESP-IDDG | O-ESP-IDS |
| | O-ESP-ILRB | O-ESP-ILRDG | O-ESP-ILRS |
| | O-ESP-ILB | O-ESP-ILDG | O-ESP-ILS |
| | O-ESP-IRB | O-ESP-IRDG | O-ESP-IRS |
| | O-ESP-I2RB | O-ESP-I2RDG | O-ESP-I2RS |
| | O-ESP-I2WB | O-ESP-I2WDG | O-ESP-I2WS |
| | O-ESP-FHDB | O-ESP-FHDDG | O-ESP-FHDS |
| | O-ESP-HB | O-ESP-HDG | O-ESP-HS |
| **Pictogram 40m** | | | |
| | O-ESP40-IUB | O-ESP40-IUDG | O-ESP40-IUS |
| | O-ESP40-IUUB | O-ESP40-IUUDG | O-ESP40-IUUS |
| | O-ESP40-IDB | O-ESP40-IDDG | O-ESP40-IDS |
| | O-ESP40-IDDB | O-ESP40-IDDDG | O-ESP40-IDDS |
| | O-ESP40-ILRB | O-ESP40-ILRDG | O-ESP40-ILRS |
| | O-ESP40-ILB | O-ESP40-ILDG | O-ESP40-ILS |
| | O-ESP40-IRB | O-ESP40-IRDG | O-ESP40-IRS |

## Painted accessories for Velos luminaires

| Designation | Black mat RAL9005 | Dark Grey RAL7015 | Silver gloss RAL9007 |
|---|---|---|---|
| Velos Wall FLEXI Joint | O-ESA-FLEXB | O-ESA-FLEXDG | O-ESA-FLEXS |
| Velos Pipe Suspension 48cm (ISO30061) | O-ESA-PS30B | O-ESA-PS30DG | O-ESA-PS30S |
| Velos Recessed Base | O-ESA-RBB | O-ESA-RBDG | O-ESA-RBS |
| Velos Rope Suspension adjustable | O-ESA-RSAB | O-ESA-RSADG | O-ESA-RSAS |
| Velos Rope Suspension adjustable 5M | O-ESA-RSA-5MB | O-ESA-RSA-5MDG | O-ESA-RSA-5MS |
| Velos PSU 3h Ni-Cd | | | |
| Velos PSU 3h Ni-Cd CGLine+ | | Part numbers on demand | |

# 6.3 Customization

NexiTech

## NexiTech single-sided specific pictograms

- Non adhesive polycarbonate pictograms to be inserted in the diffuser for a perfect finish.
- Tested at high temperature
- UV proof
- Premium quality for long life service
- All exit legends comply with EN 60598-2-22
- Single-sided pictograms
- Professional solution provided by EL manufacturer

| Pictogram | Order code 20m |
|---|---|
| | NEXI-PICTO-U |
| | NEXI-PICTO-D |
| | NEXI-PICTO-L |
| | NEXI-PICTO-R |
| | NEXI-PICTO-UR |
| | NEXI-PICTO-DR |
| | NEXI-PICTO-DL |
| | NEXI-PICTO-UL |
| | NEXI-PICTO-VL |
| | NEXI-PICTO-VR |
| | NEXI-PICTO-VD |
| | NEXI-PICTO-DMD |

| Pictogram | Order code 20m |
|---|---|
| | NEXI-PICTO-DML |
| | NEXI-PICTO-DMR |
| | NEXI-PICTO-DML1 |
| | NEXI-PICTO-DMR1 |
| | NEXI-PICTO-DMD1 |
| | NEXI-PICTO-MP |
| | NEXI-PICTO-CR |
| | NEXI-PICTO-FEX |
| | NEXI-PICTO-FHO |
| | NEXI-PICTO-INFO |
| | NEXI-PICTO-WC |

## NexiTech edge light double-sided specific pictograms

- Non adhesive polycarbonate pictograms to be inserted in the diffuser for a perfect finish.
- Tested at high temperature
- UV proof
- Premium quality for long life service
- All exit legends comply with EN 60598-2-22
- Double-sided pictograms
- Professional solution provided by EL manufacturer

| Pictogram | Order code 30m | Pictogram | Order code 30m |
|---|---|---|---|
| | NEXI-PLEX-UU | | NEXI-PLEX-DMDD |
| | NEXI-PLEX-DD | | NEXI-PLEX-DMLR |
| | NEXI-PLEX-LR | | NEXI-PLEX-DMLR1 |
| | NEXI-PLEX-DB | | NEXI-PLEX-DMDD1 |
| | NEXI-PLEX-ULR | | NEXI-PLEX-FEX |
| | NEXI-PLEX-DLR | | NEXI-PLEX-FHO |
| | NEXI-PLEX-VLR | | NEXI-PLEX-INFO |
| | NEXI-PLEX-VDD | | NEXI-PLEX-WC |

## Painted versions of NexiTech luminaires

- Warranty period equal to standard product
- Ready to use
- Perfect finish
- Premium quality for long life service
- No modification of safety features (dielectric test, glow wire test, range of temperature, lighting performance,…)

| Designation | Black mat RAL9005 | Dark Grey RAL7015 | Silver gloss RAL9007 |
|---|---|---|---|
| MENVIER-NEXITECH LED 100 3H AT | | | |
| MENVIER-NEXITECH LED 150 3H AT | | | |
| MENVIER-NEXITECH LED 150LM 3H CGLINE+ | | | |
| MENVIER–NEXITECH LED 250 3H AT | | | |
| MENVIER–NEXITECH LED 300LM 3H CGLINE+ | | | |

Part numbers on demand

## Painted accessories for NexiTech luminaires

| Designation | Black mat RAL9005 | Dark Grey RAL7015 | Silver gloss RAL9007 |
|---|---|---|---|
| Frame for Nexitech LED | NEXI-FRB | NEXI-FRDG | NEXI-FRS |

# 6.4 Customization

GuideLed

## GuideLed 20, 30m specific pictograms

- Silk screen LED pictograms
- Tested at high temperature
- UV proof
- Premium quality for long life service
- All exit legends comply with EN 60598-2-22
- Single-sided pictograms
- Professional solution provided by EL manufacturer

| Pictogram | Order code 20m | Order code 30m |
|---|---|---|
| | 40071354500 | 40071354530 |
| | 40071354501 | 40071354531 |
| | 40071354502 | 40071354532 |
| | 40071354515 | 40071354545 |
| | 40071355300 | 40071355340 |
| | 40071355301 | 40071355341 |
| | 40071355302 | 40071355342 |
| | 40071355303 | 40071355343 |
| | 40071355304 | 40071355344 |
| | 40071355305 | 40071355345 |
| | 40071355306 | 40071355346 |
| | 40071355307 | 40071355347 |
| | 40071355308 | 40071355348 |

| Pictogram | Order code 20m | Order code 30m |
|---|---|---|
| | 40071355309 | 40071355349 |
| | 40071355310 | 40071355350 |
| | 40071355311 | 40071355351 |
| | 40071355312 | 40071355352 |
| | 40071355313 | 40071355353 |
| | 40071355314 | 40071355354 |
| | 40071353048 | 40071353348 |
| | 40071353049 | 40071353349 |
| | 40071355315 | 40071355355 |
| | 40071355316 | 40071355356 |
| | 40071355317 | 40071355357 |


H3.3

# Monitoring systems

# All safety luminaires are important. They help protect the life and health of people.

## Emergency lighting must be fully functional to provide protection in case of failure of the general lighting.

Even if a single safety luminaire or exit sign luminaire fails, depending on the particular local conditions, there is a significant risk of accidents, for example in a stairway. For this very reason legislation requires continuous testing of the emergency lighting. The operation of the luminaires in battery mode for example (function test) must be verified at least once a week.

### Self-contained luminaires without an automatic test function

The function test is performed in case of single self-contained luminaires by pressing a button on the luminaire, and the result must be recorded by hand in a log book. An additional duration test for the duration of the rated operating time (1, 3 or 8 hours) must be performed once a year. This test checks whether there is still sufficient battery capacity available. All log book entries must be kept on file for 4 years. If there are a large number of luminaires, manual testing is an extremely laborious process and therefore involves significant costs.

### Automatic testing simplifies the process

Eaton has implemented automatic test functions in all CGLine+ self-contained luminaires. A microprocessor monitors and controls all functions of the luminaires automatically. The required tests, the function test and the duration test, are performed automatically. The test results are shown on site on the luminaire by a status indicator. Without a central monitoring device, the results must be recorded by hand in the log book and kept on file in paper form for at least 4 years.

LUX Awards 2016 WINNER

Self-contained exit sign luminaire CrystalWay, Emergency Lighting Product of the Year (Lux Awards 2016)

### Central controller provides more safety

The new CGLine+ Web-Controller initiates the tests, displays the results centrally and stores them with ease in a paperless form in an electronic log book. The electronic log book can be printed off and shown on demand. This process ensures the safe operation of the building, and the building operator meets his duty of documentation.

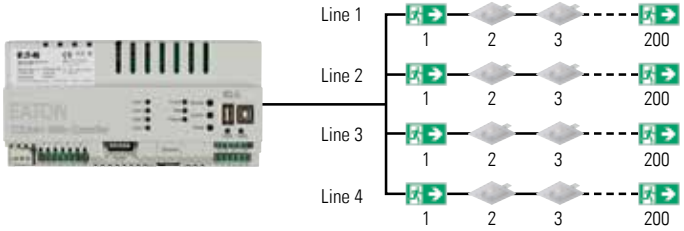
# CGLine+: More luminaires. More convenience. More safety!

The new CGLine+ Web-Controller

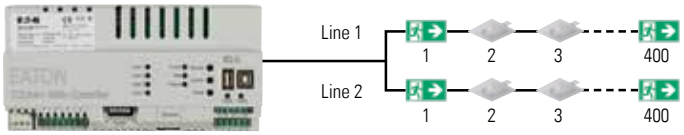
The tried and tested self-contained luminaire system CGLine 400 has been used since 2004 for the safe monitoring of self-contained luminaires. The new CGLine+ system is a more powerful system to make the operation of self-contained luminaire systems safer and even more convenient.

## Now up to 800 luminaires monitored

The new CGLine+ Web-Controller can visualise a total of 800 CGLine+ luminaires (four lines of maximum 200 luminaires each or two lines of maximum 400 luminaires each). The number of luminaires is doubled as compared to the monitoring capacity of a controller of the CGLine 400 system. This lowers investment costs for larger-scale projects.



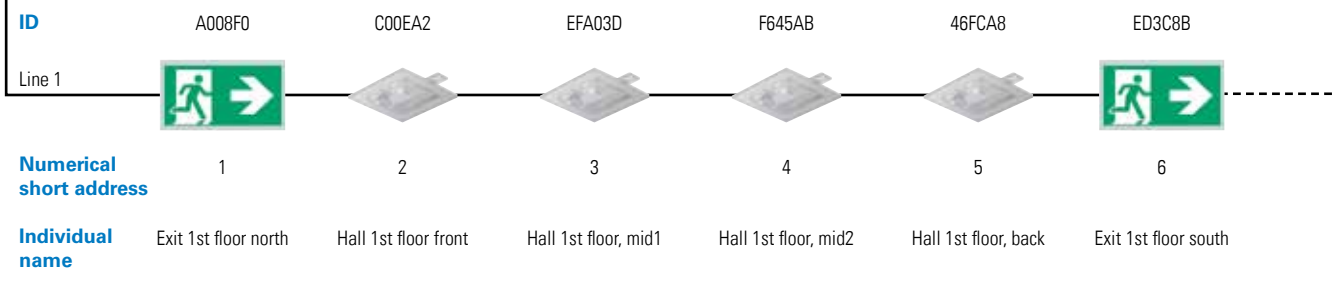
Typical installation with max. 4 lines of 200 luminaires each (above) or 2 lines of 400 luminaires each (below).




## Addressing CGLine+ luminaires

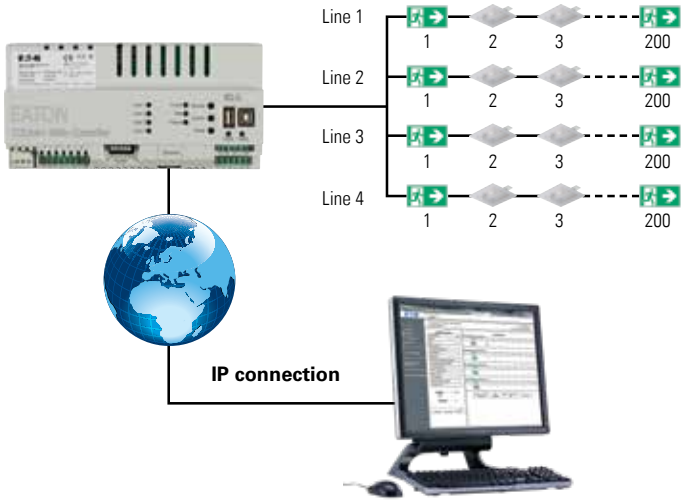
Luminaires do not need to be manual addressed in the CGLine+ system. CGLine+ luminaires are fitted with a unique address by the manufacturer consisting of a six-digit ID number in hex code format. Using this address the Web-Controller identifies the luminaires automatically when the system is launched.

In addition, each luminaire can be configured to receive a short digital address and an individual name with a maximum of 20 characters. Hence it is possible to use a name which corresponds to the name of the location according to the planning documents. This simplifies the localisation of luminaires in the building and additional repair procedures can even be remotely planned in case of failure.



## Safety under control worldwide

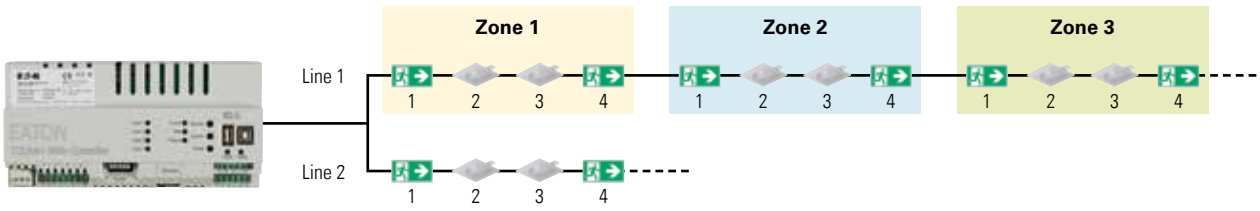
An integrated web server is available for convenient visualisation, control and monitoring of all connected CGLine+ luminaires. The controller can be accessed from any PC with an IP connection and a regular web browser without requiring any special software. The controller provides an overview of faulty luminaires, regardless of where the maintenance personnel are located. Safety issues caused by failed luminaires can be evaluated and the relevant correct measures can be implemented. Regardless of location, completed maintenance works can then be conveniently checked. This means greater efficiency for the building operator, making it simpler to meet his obligations to eliminate any safety hazards as quickly as possible.




Presentation of zones on the first page in a browser view

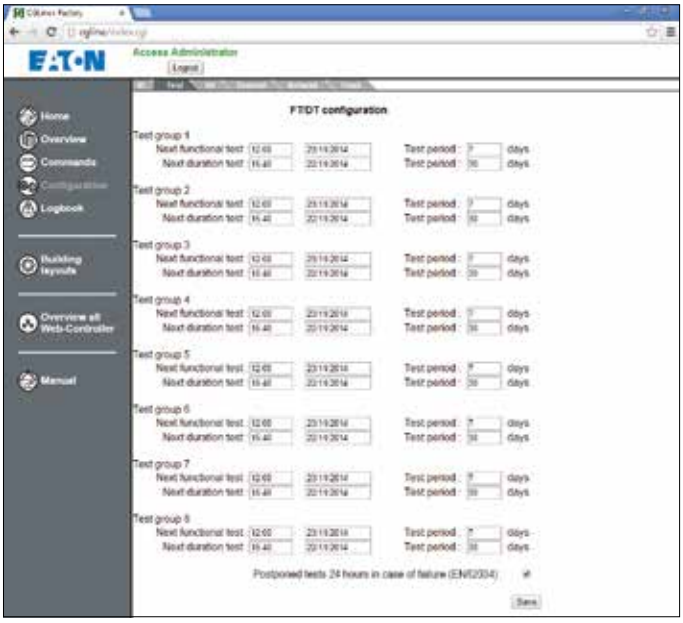
## Maintain an overview: Allocate the luminaires to zones

Maintaining an overview is important if there are a large number of luminaires. Luminaires of each line can be allocated to up to 8 zones (up to 16 zones in case of installing only two lines). The zones can be areas where the luminaires need be brought together, for example on a floor, in an area or in a room. The exit sign luminaires can be switched off or blocked in different parts of a building which are not being used at certain times. By doing this, energy costs are reduced. By blocking the signs, unintentionally discharging batteries when the mains power is switched off is avoided, for example when maintenance work is being carried out. The zone can be used immediately after turning on the mains power, because batteries have not been discharged and the luminaires can perform their safety function immediately being unblocked.

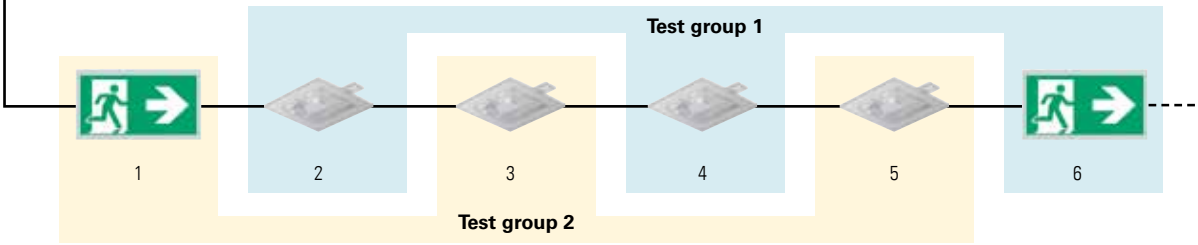


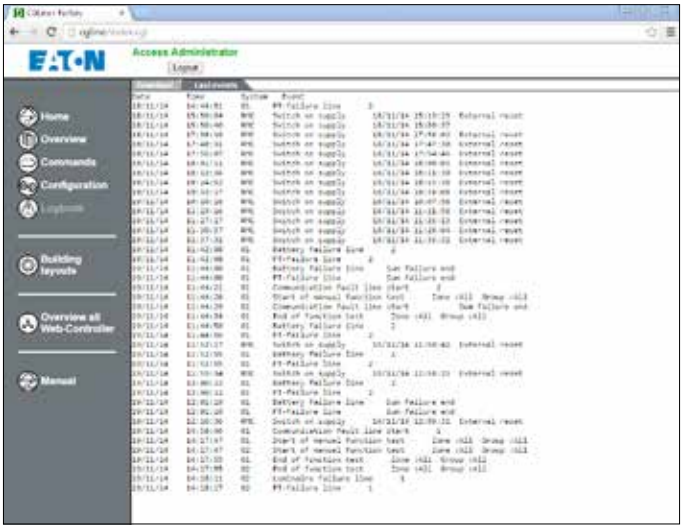
## Tests are not forgotten, and are carried out at the right intervals for maximum safety

The timing and the intervals of regular function and duration tests can be conveniently and precisely set down to the minute, ensuring that the equipment is ready for operation at any time during the operating hours of the building. This allows luminaires to be grouped into up to eight test groups for this purpose, for example to ensure that duration testing of luminaires installed next to each other is not started at the same time. The image below shows the luminaires of a floor allocated into two test groups. The period between tests is completely adjustable.




The advantages of test groups: Up to eight test groups can be created for testing in order to guarantee the operational readiness of the entire system.




The log book is available at any time using a web browser. Data are stored for at least four years in compliance with standards.

## The electronic log book saves the need for manual logging

All test results are stored in the electronic log book for at least four years, in compliance with standards. The data is available directly using a web browser. The log book can be downloaded directly from the controller through a web server for further analysis of the log book in TXT or DAT file format. The DAT file can then be stored and transported using a regular USB memory stick. The CGLine+ PC software is used for reading the log book in DAT format, providing efficient and convenient analysis of the test results.

The electronic log book simplifies the requirement for the building operator to provide documentation, and it removes the need for laborious, manual logging.

# CGLine+ self-contained luminaire system

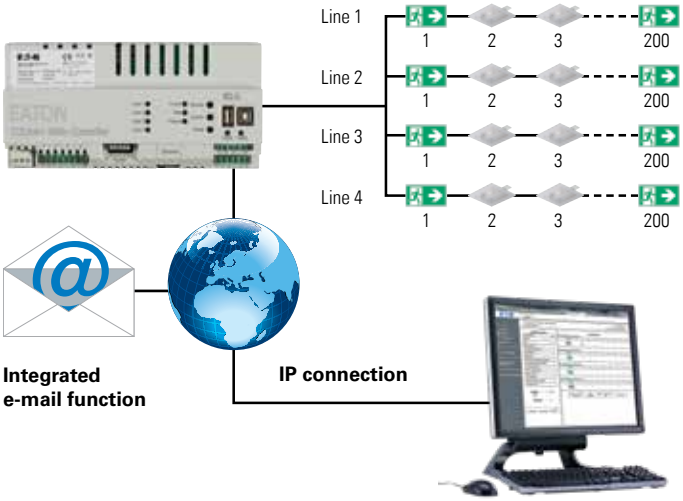
Enhanced safety by providing reliable and efficient monitoring



## Automatic e-mail notification in case of faults

The integrated e-mail service automatically sends e-mails to up to ten recipients in case of allocatable events, for example in case of a luminaire failure being detected following an automatic function test. The aim of this function is to actively notify without delay those persons responsible for building safety about any faults, even if they have no direct connection with the controller at that point in time.

E-mail addresses can be divided into two groups to implement hierarchical escalation. This ensures that when a recipient in the first group is unexpectedly absent, other people are informed to ensure the safety of visitors of the building.





## Selective assignment of commands

The web browser interface is useful for

- Blocking/unblocking instructions
- Manual starting/stopping the function test and duration tests
- Switching on/off maintained light

This can be done in detail for all luminaires, for a line, for a zone and down to individual luminaires.

Furthermore this view offers a system status overview with the most important status messages and the operating condition of the input and output contacts.


## Keep your bearings in complex buildings

The programming of building layout function offers new opportunities. Building layouts can be loaded in the program to display the status of luminaires at the installation location on the floor. Up to 30 different building layouts can be displayed for each controller. Luminaires are displayed with colour codes according to their current status. By touching a luminaire with the mouse pointer, a status window opens up with more information about the luminaire.

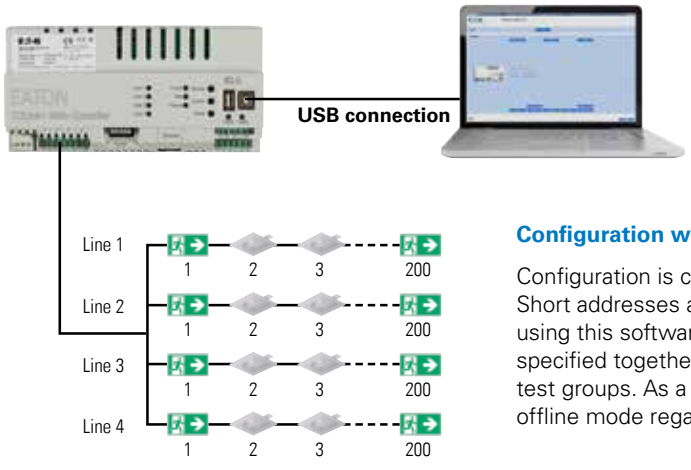
The overview helps provide better orientation in the building. The situation can be judged more effectively and repairs better prioritised.

## Compatibility with the CGLine 400 System

The comprehensive functionality of the CGLine+ controller can only be used in conjunction with CGLine+ luminaires. But of course CGLine+ luminaires and CGLine 400 luminaires can be connected to the CGLine+ controller in a straightforward manner in a mixed setup . In this set-up the controller operates in CGLine 400 mode only. The extended CGLine+ functions can be used only when only unmixed CGLine+ luminaires are installed. The new CGLine+ luminaires can also be used together with the proven CG controller CGLine 400 in CGLine 400 mode.

| | CGLine+ luminaires | CGLine 400 luminaires |
|---|---|---|
| **CGLine+ Controller** | CGLine+ mode | CGLine 400 mode |
| **CGLine 400 Controller** | CGLine 400 mode | CGLine 400 mode |

Comprehensive CGLine+ functions using CGLine+ luminaires connected to a CGLine+ controller




## Configuration with PC software

Configuration is carried out using the CGLine+ PC software. Short addresses and unique names of luminaires can be assigned using this software; the time and interval of automatic tests are specified together with the zone assignment and the definition of test groups. As a result, the entire system can be configured in offline mode regardless of whether the IT network is available.

## CGLine+ Bus

The communication of all data and commands takes place using the CGLine+ bus installed in a free topology using a two-wire unshielded cable. Should there be a possible break in the bus cable, the additional integrated test function of each CGLine+ luminaire ensures that the tests required are performed automatically, and this is displayed on site at the luminaire. The required cross-section of the bus cable depends on the length of the wire.

### Cable length of a line

| Cross-section | Length | For 4 lines in total |
|---|---|---|
| 0.5 mm²* | 260 m | 660 m |
| 1.0 mm² | 520 m | 1.320 m |
| 1.5 mm² | 800 m | 2.000 m |

* e.g. J-Y(ST)Y 2x2x0,8

### Electrical data per line/bus

| Supply voltage Bus | Max. allowable voltage drop | Bus current |
|---|---|---|
| 25 V DC | 6 V | 400 mA |

## Set-up of the CGLine+ Web-Controller


**1 LEDs for line 1 to line 4:**
It signals the sending or receiving of data between the CGLine+ Web-Controller and the CGLine+ self-contained luminaires.
- Green LED = Receiving of data by the Web-Controller
- Yellow blinking LED = Sending data to the luminaires

**2 Power LED:**
The green light is lit as soon as the controller is connected to the 230V/AC supply voltage.

**Test LED:**
- Rapid green blinking if at least 1 luminaire is undergoing a function test
- Rapid green blinking if at least 1 luminaire is undergoing an duration test

**LED failure:**
Showing a sum failure. Red LED light is lit if at least 1 luminaire is faulty, for example the battery has failed

**3 Button**:
- Service = Starts a function test for example
- System = Starts a USB connection using the USB2 port
- Reset = Hardware reset of the device

**4 USB1 port (Host)** for connecting a regular USB memory stick

**5 USB2 port (Device),** for connecting to a PC

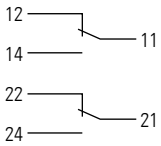
**6 PE/N/L 230V 50/60Hz**

**7 Connections for the CGLine+ bus,** line 1 to line 4

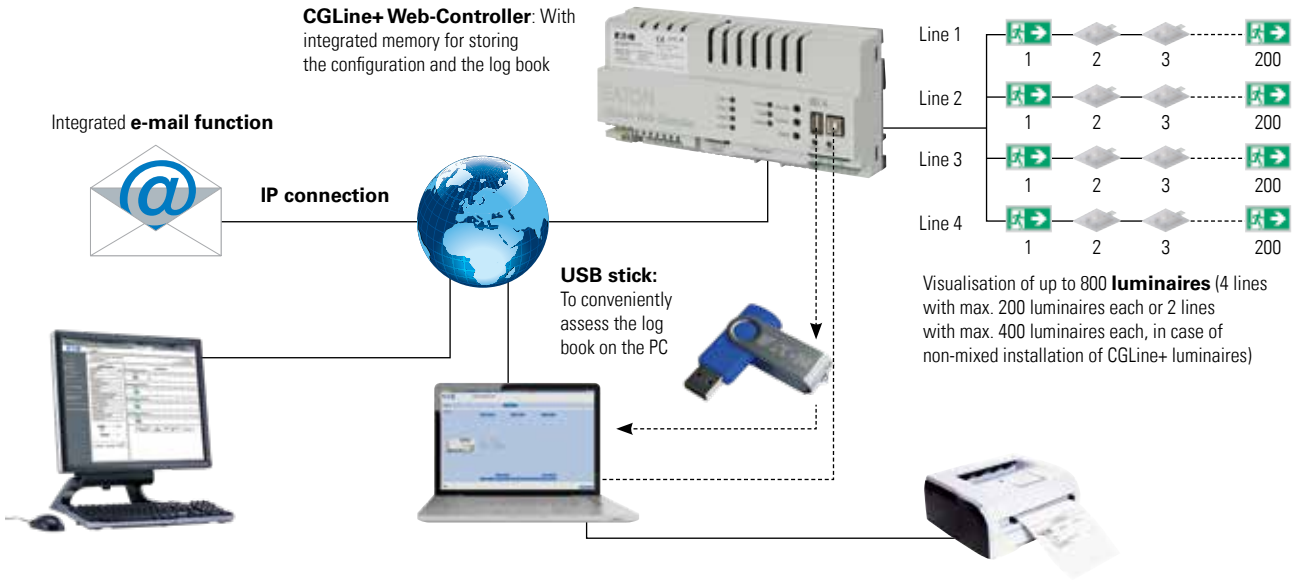
**8 RS485**

**9 LAN (RJ45)** with LED display
- yellow = connected (link)
- green = data transfer (traffic)

**10 Digital inputs and outputs:**
- S1/S2 = Blocking input
- In1, In2 = 2 x digital inputs
- 11, 12, 14 / 21, 22, 24 = 2 x relay outputs




## CGLine+ in operation



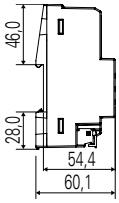

**PC connected to the network or an optional CGLine+ Wireless Monitoring Set:** Access using the integrated web interface

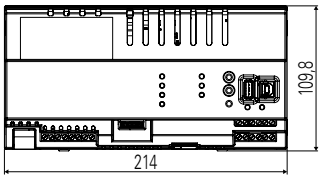
**CGLine+ PC software** for configuration

**Printer:** Printing out the log book

CGLine+ Web-Controller with integrated web server

Dimensional drawings, data in mm




## CGLine+ Web-Controller

- For connecting up to 800 luminaires in max. 4 lines
- The integrated web server enables there to be convenient visualisation, control and monitoring
- Unique ID per luminaires assigned by the manufacturer
- Automatic luminaire search function requiring no manual addressing
- Simple sorting using unrestricted short address assignment
- Unrestricted entry of target location names for the luminaires with up to 20 characters
- Clearly-shown allocation of luminaires to up to 8 zones per line
- Automatic function test and duration test
- Up to 8 test groups per luminaire can be defined for the function test (FT) and duration test (DT)
- Electronic log book storage for a period of minimum 4 years
- E-mail service for sending automatic e-mail in case of malfunctions to up to 10 e-mail addresses, assignable to 2 escalation groups
- Blocking the emergency lighting function during non-operational periods (all / per bus line/ per zone / per luminaire)
- Luminaires in maintained mode switchable (all / per bus line / per zone / per luminaire)
- Password protected access as an administrator or user
- Visualisation of luminaires in up to 30 different building layouts
- Efficient and convenient analysis of the log book using the CGLine+ PC software

| | |
|---|---|
| Dimensions | 214 x 109.8 x 60.1 mm |
| Housing type | For DIN rail 12 TE |
| Power supply | 230 V AC, 50/60 Hz |
| Power consumption | < 4 W in standby, < 21 W at full load |
| Connection terminals | max. 2.5 $mm^2$ |
| Permissible ambient temperature | 0 °C … 35 °C |
| Storage temperature | -20 °C … 70 °C |
| Degree of protection | IP20 |

## Ordering details

| Type | Scope of supply | Order No. |
|---|---|---|
| CGLine+ Web-Controller | Module in installation housing for DIN rails | 40071361440 |

## Accessories

| Type | Scope of supply | Order No. |
|---|---|---|
| CGLine+ PC software | on CD-ROM | 40071361178 |

# CGLine+ Touchscreen Controller

The CGLine+ Touchscreen Controller combines the Web Controller and a 10-inch touchscreen in a single housing.

This product combines the power of the Web-Controller (monitoring of up-to 800 self-contained luminaires) with the ease of using an intuitive touchscreen interface.

This enables visualisation of the status of all luminaires connected to the system.

This Touchscreen package allows full configuration and visualisation of a single CGLine+ system.

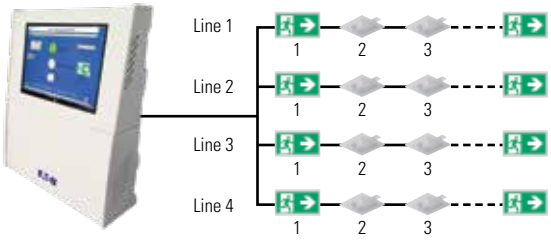
**CGL+ CGVision Touchscreen G/Controller**

- CGLine+ Web-Controller
- Ethernet connection
- 10.1 Inch Touchscreen
- CGVision Touchscreen software

This Touchscreen package allows full configuration and visualisation of the intergrated CGLine+ Web-Controller and up-to 9 external Web-Controllers via ethernet.

Building layouts can be uploaded for enhanced identification of luminaires.

## 1. Stand-alone visualisation

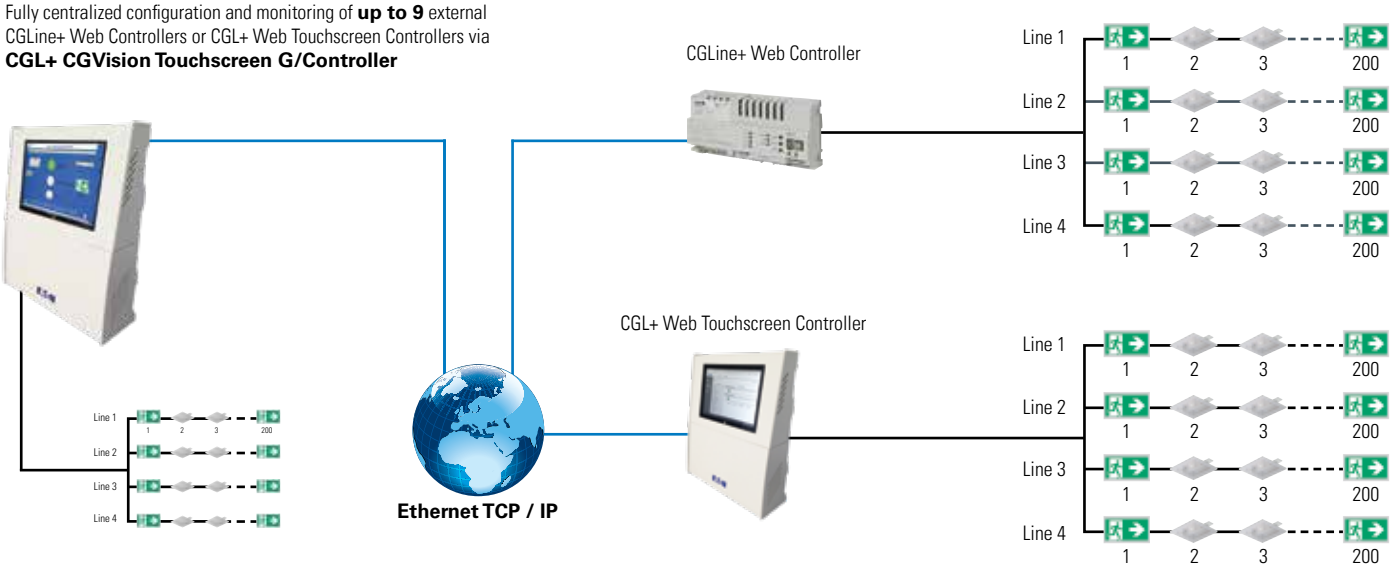



**CGL+ CGVisionTouchscreen**

- Visualisation with CGVision Touchscreen software

## 2. Group visualisation with CGL+ Touchscreen G/Controller

Fully centralized configuration and monitoring of **up to 9** external CGLine+ Web Controllers or CGL+ Web Touchscreen Controllers via **CGL+ CGVision Touchscreen G/Controller**



# 7.3 Ease of Visualisation

CGLine+ Touchscreen Controller

## CGLine+ Web-based visualisation

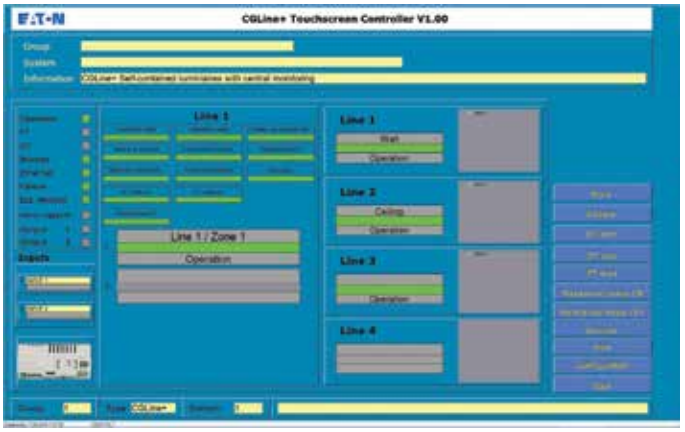
**Fully centralized monitoring of up to 10 CGLine+ Web Controllers and Web Touchscreen Controllers:**

- Secure access with username and password
- Building layout display
- Blocking / Rest mode function for all luminaires
- Manual function and duration tests (all, group or single luminaire)
- Logbook stores events and test results for a minimum of 4 years in compliance with standards.
- Customisable automatic E-Mail dispatch if faults occur
- Full description of the system : See page 136 to 141

## CGVision Touchscreen software

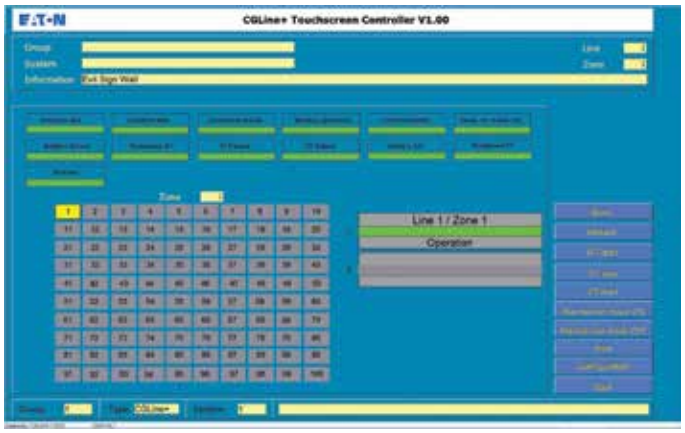

**Home screen:**

- Sum status display of up to 10 CGLine+ Web-Controller and all luminaires (Operation, Battery operation, Sum Failure)
- Blocking / Rest mode function for all luminaires with PIN code protection
- Manual function and duration test of all luminaires
- Logbook stores events and test results for a minimum of 4 years in compliance with standards.
- Easy selection between 19 user languages




**System screen:**

- Overview of the system




**Zone screen:**

- Overview of the zone

CGLine+ Touchscreen Controller

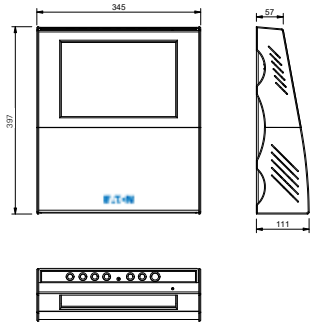
## CGLine+ Touchscreen Controller

- 10,1 inch Touchscreen IPS display with WIN10
- For connecting up to 800 luminaires in max. 4 lines
- Unique ID per luminaire assigned by the manufacturer
- Automatic luminaire search function requiring no manual addressing
- Simple sorting using unrestricted short address assignment
- Unrestricted entry of target location names for the luminaires with up to 20 characters
- Clearly-shown allocation of luminaires to up to 16 zones per line
- Automatic function and duration test of luminaires, with customisable time/date settings
- Up to 8 test groups per luminaire can be defi ned for the function test (FT) and duration test (DT)
- Electronic log book storage for a period of minimum 4 years
- Blocking the emergency lighting function during non-operational periods (all / per bus line/ per zone / per luminaire)
- Luminaires in maintained mode switchable (all / per bus line / per zone / per luminaire)
- Password protected access as an administrator or user
- Visualisation of luminaires in up to 30 different building layouts
- Efficient and convenient analysis of the log book using the CGLine+ PC software

## CGL+ CGVision Touchscreen G/Controller - Specific features :

- Ethernet connection
- CGVision Touchscreen Software allows full configuration and visualisation of the integrated CGLine+ Web Controller and up to 9 external controllers/installations via ethernet.
- E-mail service for sending automatic e-mail in case of malfunctions to up to 10 e-mail addresses, assignable and 2 escalation groups

Dimensional drawing Controller, data in mm




| | |
|---|---|
| Dimensions in mm (H × W × D) | 345 × 397 × 111 |
| Housing type | Plastic, wall-mounted housing |
| Power supply | 230 V AC, 50/60 Hz |
| Power consumption | < 12 watts standby<br>< 38 watts full load |
| Connection terminals | max. 2.5 mm² flexible |
| Permissible Ambient temperature | 0 ° to 35 °C |
| Storage temperature | 0 ° to 35 °C |
| Degree of protection | IP 20 |

## Ordering details

| Type | Scope of supply | Order No. |
|---|---|---|
| CGL+ CGVision Touchscreen G/Controller | CGL+ CGVision Touchscreen G/Controller: Group visualisation with full configuration and monitoring of up to 9 external CGL+ Controllers | 40071777999-M |

## Accessory

| Type | Scope of supply | Order No. |
|---|---|---|
| CGLine+ PC software | on CD-ROM | 40071361178 |

# CGVision in the CGLine+ Web-Controller



The Web-Controller can be connected to CGVision, the powerful visualisation software, to create the largest configuration level of the CGLine+ system. In this set-up, up to 32 CGLine+ Web-Controllers can be visualised at once.

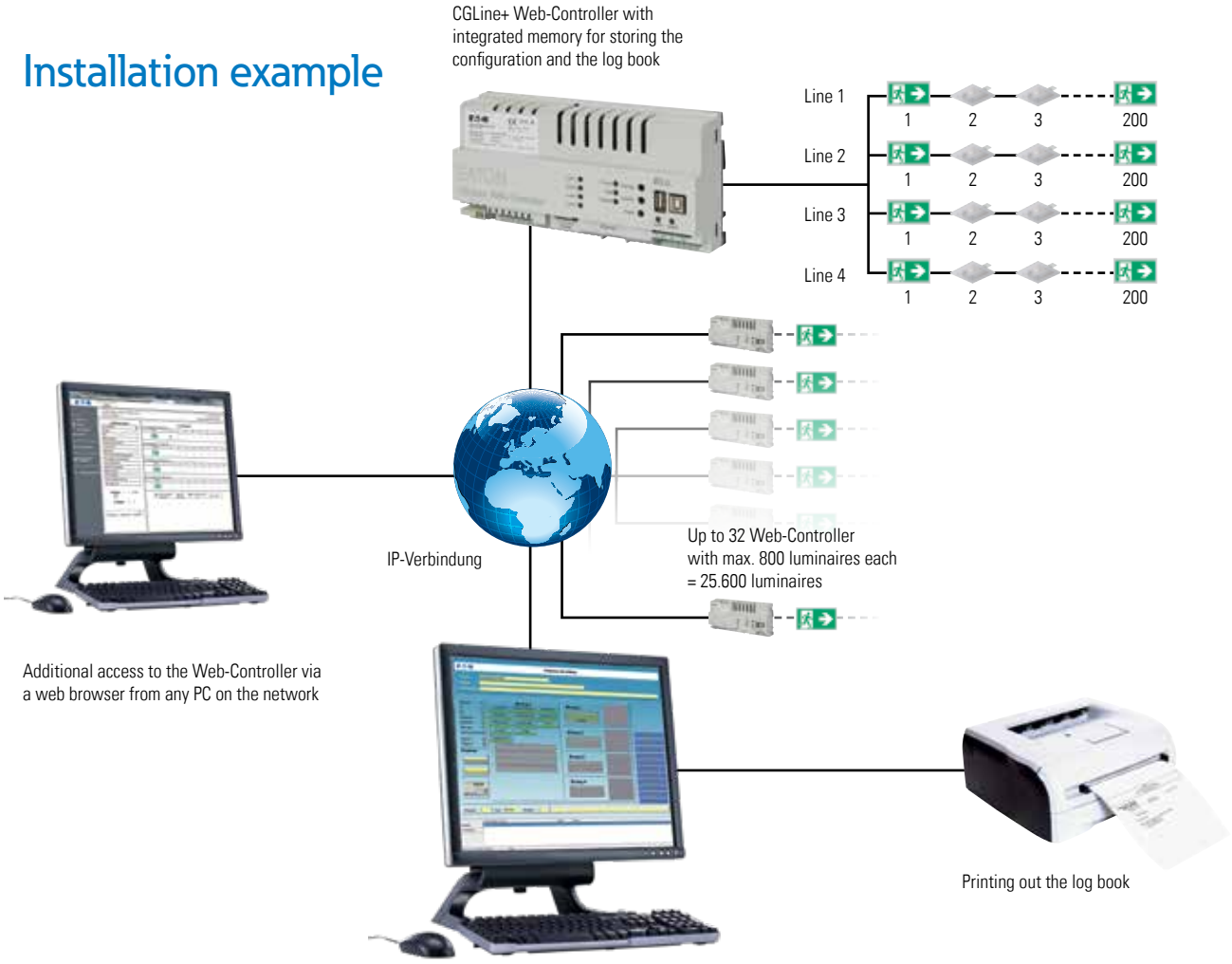
Using CGVision both CGLine+ luminaire systems and other emergency lighting systems (for example ZB-S, LP-STAR, AT-S+) can be monitored with a single software. There is no difficulty in extending an existing system.

CGVision takes over all the control and test functions, and it generates a comprehensive electronic log book for all connected systems - and does so completely automatically.

In order to keep an eye on a large amount of equipment, for example at a large plant or an airport, the state of the individual emergency lighting systems can be presented on an aerial photo or a site plan. The building layout helps visualise individual luminaires.

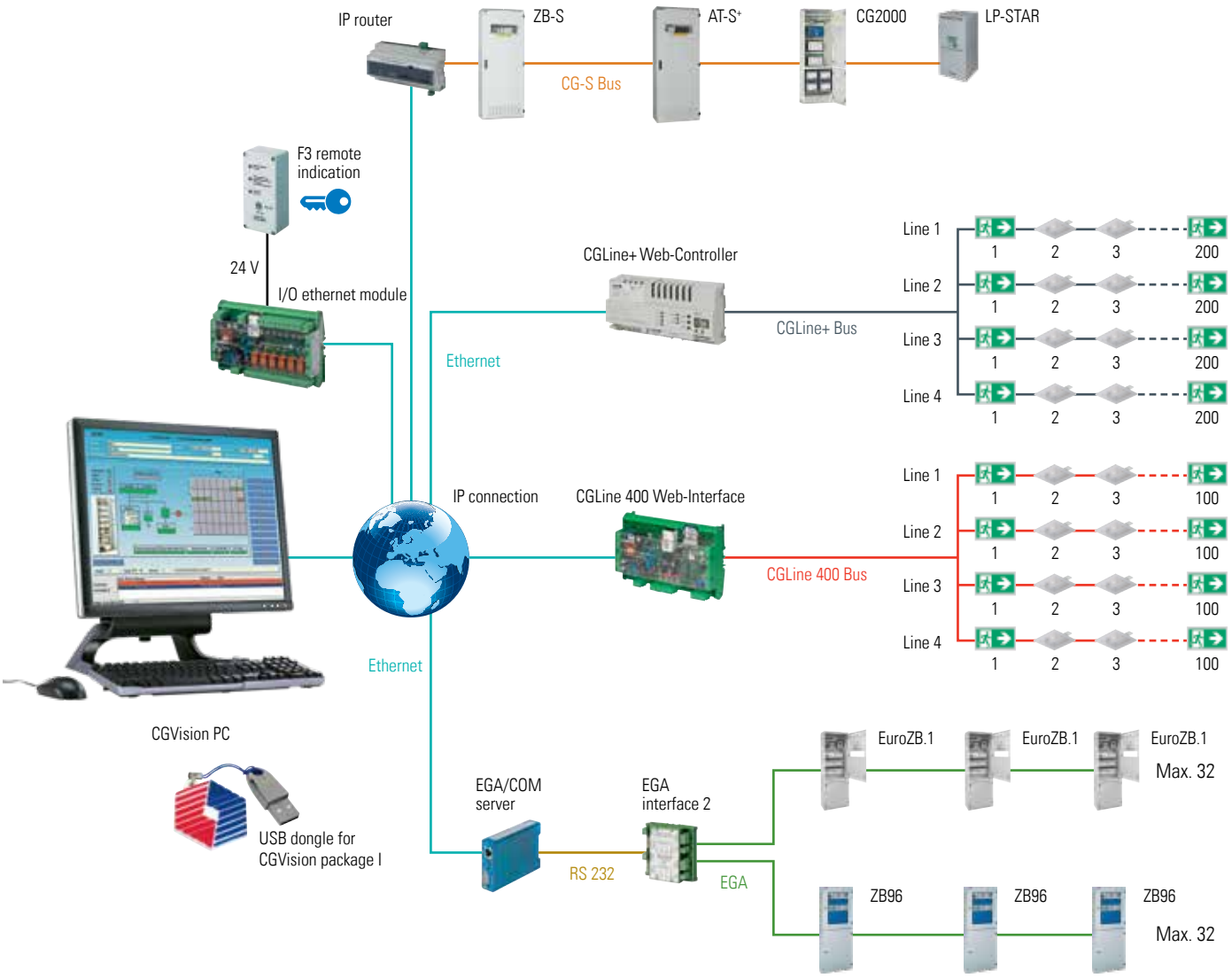
Access of any PC via the web server of the CGLine+ Web-Controller can also be carried out if it is connected to CGVision. Thus for example, large, multi-building facilities can be configured and monitored centrally using CGVision. Additionally service technicians can have an overview of areas of interest to them using the Web-Controller.

## Installation example




CGVision: Configuration und complete visualisation of all luminaires

## Example for use of CGVision Package I




### CGVision ordering details

| Scope of supply | Order No. |
|---|---|
| CGVision Basic Package I (with CG-S/IP interface) | 40071361020 |
| CGVision Basic Package II (EGA components to be ordered separately) | 40071361022 |
| CGVision Basic Package III (with 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/IP-Interface and visualisation in a building layout, EGA components to be ordered separately) | 40071361025 |
| PC-Anywhere remote maintenance software, 2nd licence 1 x host, 1 x remote | 40071347151 |

For a detailed description and ordering information, see section CGVision in the emergency lighting main catalogue.

# OPC Server for BMS
# For easy facility management

A building management system (BMS) is a computer-based control system usually installed in large buildings in order to control and monitor the building's mechanical and electrical equipement such as ventilation, power systems, fire systems, lighting, etc. BMS systems are important tools for managing energy consumption and improve reliability and life safety.

In order to support facility managers in their effort of monitoring and targeting energy consumption, improve life safety, save time and money during maintenance, Eaton enables its CGLine+ systems to communicate with their BMS through an OPC server.

**Features:**

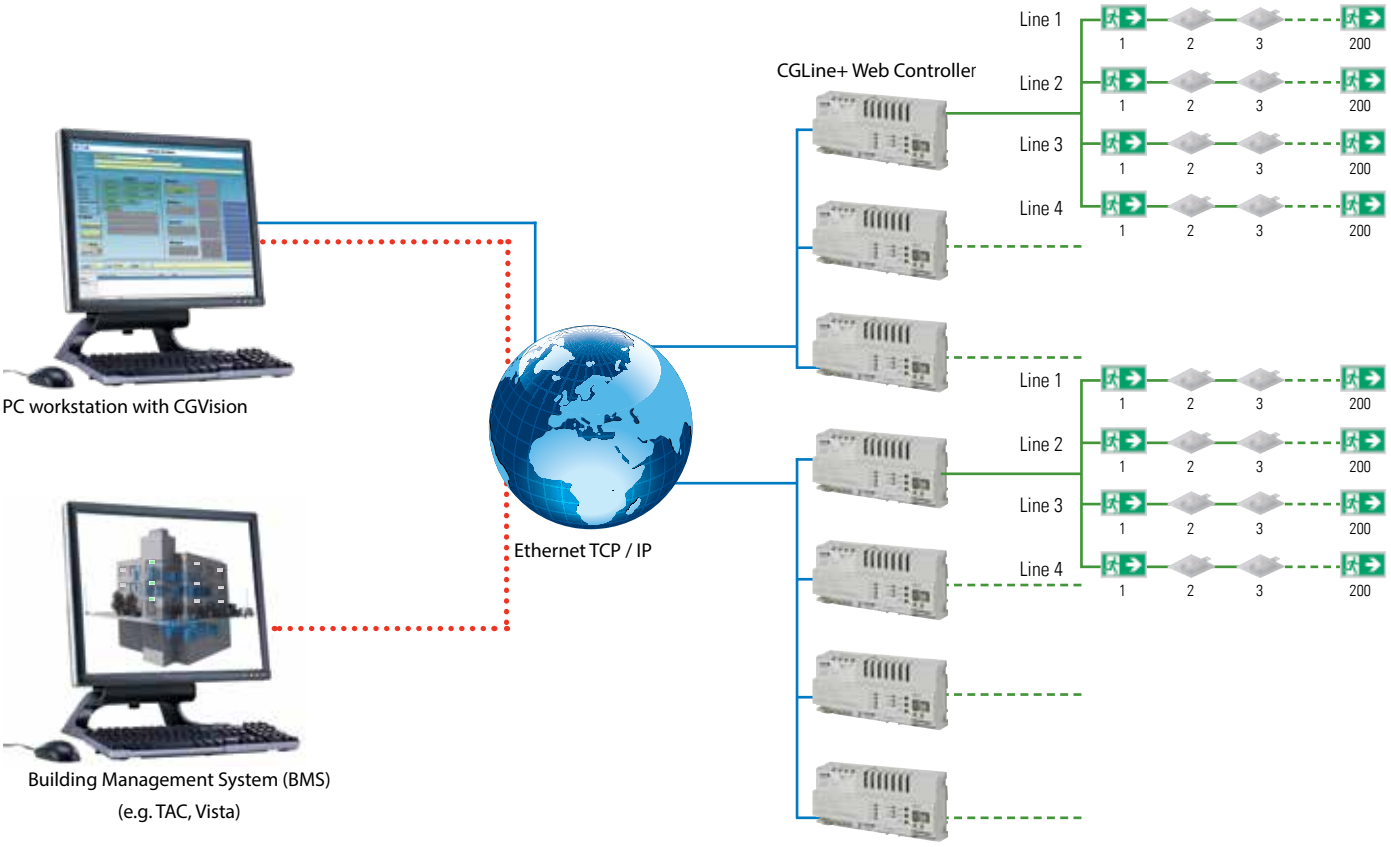
- Easy BMS connection via IP based OPC DA2.0
- One OPC-Server for up to 32 CGLine+ Web-Controller
- 20 sum status information of each CGLine+ Web-Controller
- 10 commandos from BMS to each CGLine+ Web-Controller
- Definition of up to 8 function test groups & 8 duration test groups
- 20 sum status information of each single lines 1-4
- 20 sum status information of each single zone 1-16
- 16 status information of each single luminaire 1-800

## Schematic overview:

LAN (RJ45)

LAN connection between PC with CGVision and PC with BMS Software

CGLine+ Bus



## Increased Affordance

The evacuation of commercial buildings can be inhibited by people's failure to recognise standard emergency exit signs.

To improve the visibility of signs, Eaton has introduced an Increased Affordance capability to its emergency lighting range, which enables exit signs to flash or pulse when activated manually or through automated connection to other evacuation triggers.

# Increased Affordance

# 8.1 Increased Affordance

## Increased Affordance portfolio

The Increased Affordance functionality has been added to selected emergency luminaires within Eaton's lighting range, including CrystalWay and Nexitech.

This fully programmable function can be activated manually or automated to respond to a preset trigger such as a fire alarm, panic button or other system. Eaton's Increased Affordance solution has been developed and tested by an engineering team with decades of expertise in emergency lighting.



CrystalWay IA

(see order codes on page 138)

NexiTech IA

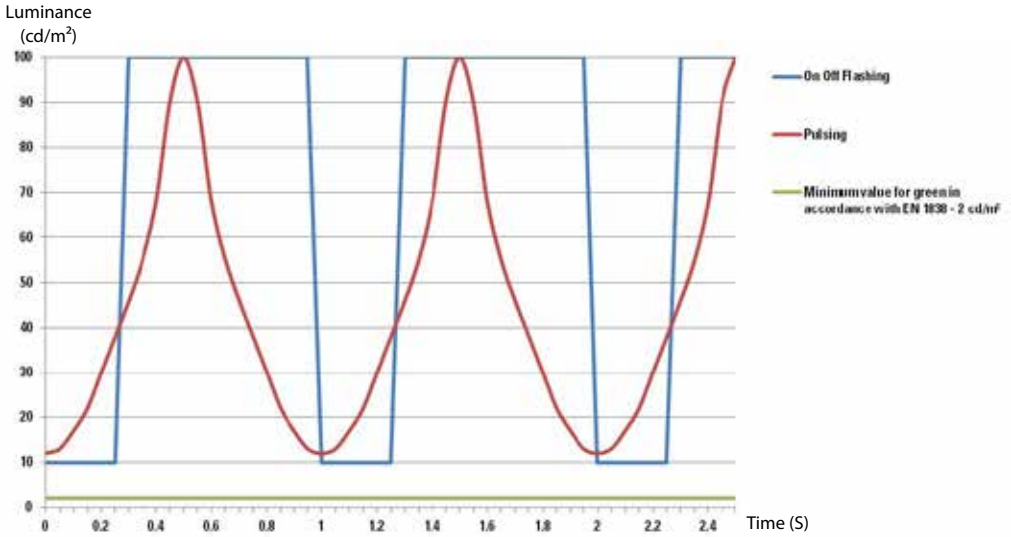
(see order codes on page 140)

CGLine+ Web-Controller

CGLine+ Touchscreen Web-Controller

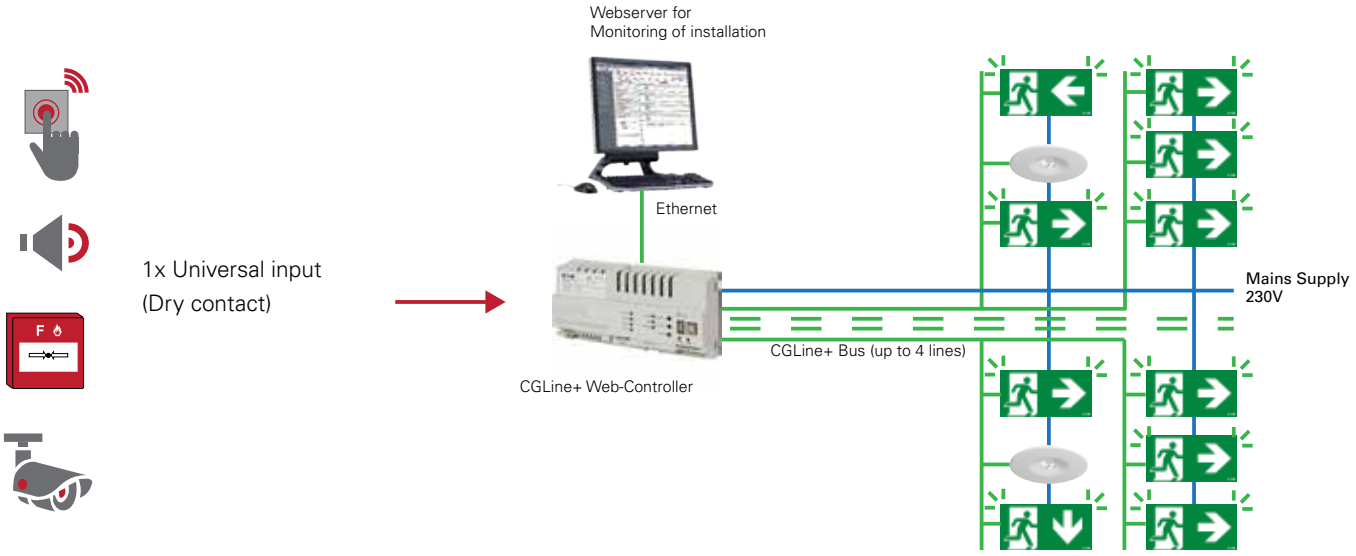
When connected to Eaton's monitoring and control system for emergency lighting, CGLine+, the exit sign luminaires are able to provide either soft pulsing or on-and-off flashing. In their normal mode, the luminaires offer excellent visibility thanks to a high level of contrast that exceeds the minimum requirement in most countries. When activated, Increased Affordance enables even better recognition by flashing or pulsing but never dipping below the minimum level of luminescence that is established in industry standards, thus achieving full compliance. The IA function can be started either in normal maintained mode or in emergency lighting mode because an evacuation is not necessarily linked to a mains failure. The IA function will remain activated for 30 minutes (typical evacuation times are lower) before the luminaire switches back to normal operation.

Luminance in the green zone of an IA luminaire (flashing or pulsing) compared with the minimum luminance in battery mode defined by EN1838:



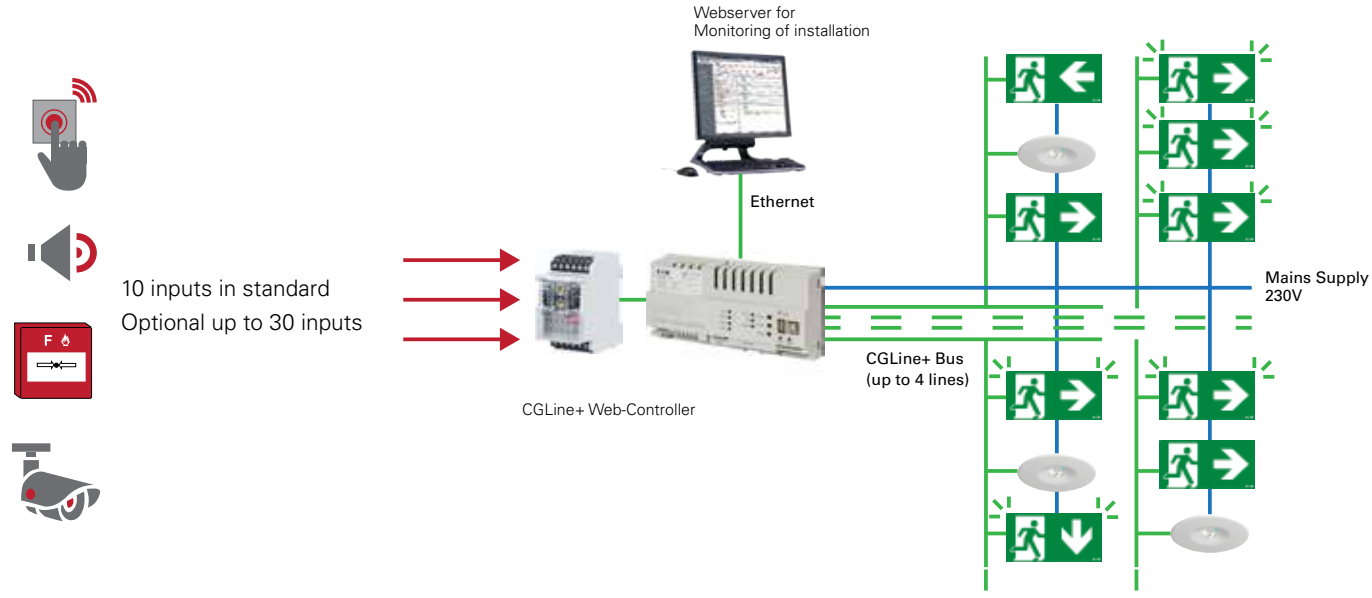
## Basic configuration with Controller

- One input signal will activate blinking of all luminaires connected to a line
- Select activation of all lines or single lines
- One controller for both: Standard CGLine+ and IA luminaires can be controlled via the same controller




## Advanced configuration

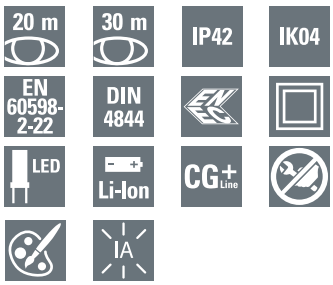
- Scenarios will be activated via inputs (switch contacts)
- The programming will be via the PC Software
- Every single luminaire can be assigned to IA scenarios
- One controller for both: Standard CGLine+ and IA luminaires can be controlled via the same controller



**CrystalWay IA**

The CrystalWay design combines LED Lightguide technology with a highly transparent frame. Also thanks to optimal illumination, this achieves excellent recognition of the escape sign and a concise, discreet appearance. The standard scope of supply for CrystalWay already contains all accessories for mounting to walls or ceilings and a pictogram set. For planning and purchasing, a differentiation must only be made between viewing distances of 20 m and 30 m. Further accessories are also available for additional mounting methods such as recessed ceiling or cable suspension.

The CrystalWay incorporates high performance components and the newest Lithium-Ion battery technology to create a low profile yet robust emergency lighting solution which performs to a high standard while providing a long operating life.




## CrystalWay IA 19821, 19822 CGLine+

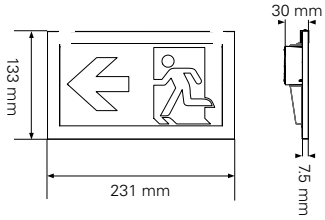
- Self-contained LED luminaire with CGLine+ functionality for reduced inspection effort
- With Increased Affordance (IA) function: Triggered by a CGLine+ Web-controller or TL CGLine+ the product flashes in order to improve perceptibility. This way, evacuation can be quicker and safer.
- The IA CGLine+ Webcontroller enables users to program in which situation the luminaire will go to IA function and choose between blinking and pulsing (smooth blinking) depending on the application and surrounding
- Perfect homogeneity and uniformity of the pictogram's illuminance
- 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
- Frameless design with pictogram integrated in acrylic glass
- Unobtrusiveness , thin and slim electronic base (Height: only 22mm)
- Brightness selectable in mains operation (eg. standard: 500 cd/m² or theater: 50 cd/m²)
- Selectable operating time (1h, 3h, 5h, 8h operation)
- Environmentally-friendly due to modern lithium-ion technology
- Low operating costs thanks to low connected load
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Simple fault analysis and status display via bicolor LED and testing button
- Blocking function prevents unintended discharge during idle operating times (only with CGLine+ Web-controller)
- Configurable product for wall or ceiling mounting
- Delivered with non adhesive pictograms to suit most existing configurations (single & double sided signage)

Wall-surface mounting

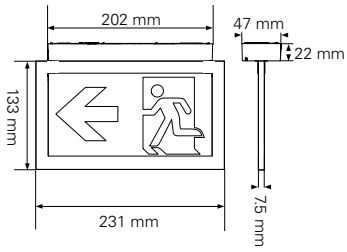
Ceiling-surface mounting

CrystalWay 19821

Wall-surface mounting

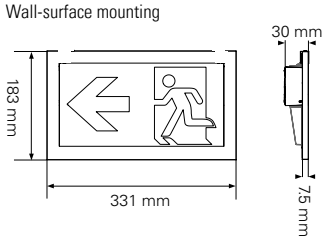



Ceiling-surface mounting

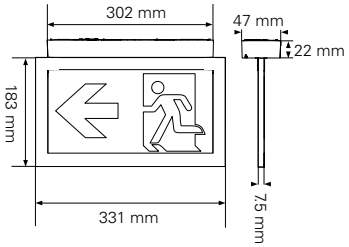



CrystalWay 19822

Wall-surface mounting




Ceiling-surface mounting




| | |
|---|---|
| Pictogram | |
| Viewing distance | 20m and 30m |
| Included labels | Included pictograms: Up, down, left, right, blind |
| Luminous flux $\Phi_E/\Phi_N$ at end of rated operating time | 100 % at 1 h; 45 % at 3 h; 25 % at 5 h; 18 % at 8 h |
| Testing system | Automatic test in compliance with EN 62034<br>Connection possible to the CGLine+ monitoring system |
| Housing | |
| Type of mounting | Wall surface-mounting, Ceiling surface-mounting |
| Material | Polycarbonate |
| Colour | RAL9003 |
| Degree of protection | IP 42 & IK 04 |
| Terminals | Screwless terminals (L, L', N, PE, GGLine+ bus) for flexible and rigid wires<br>From 0.5 to 2.5 mm² |
| Connection voltage | 220-240 V AC 50-60 Hz |
| Permissible ambient temperature | +5°C to +35°C |
| Battery | CrystalWay19821 : Li-Ion 3.6 V/620 mAh<br>CrystalWay19822 : Li-Ion 3.6 V/1240 mAh |
| Light source | LED strip |
| Weight | CrystalWay19821 : 0.4 kg<br>CrystalWay19822 : 0.7 kg |

## Ordering details

| Product | Viewing distance | Picto (mm) | Duration | Consumption Max 500 Cd | 50 Cd | Order N° |
|---|---|---|---|---|---|---|
| CrystalWay IA CGLine+ 20m | 20m | 100 x 200 | 1/3/5/8h | 4.1 W | 2.3 W | LUM17122IA-M |
| CrystalWay IA CGLine+ 30m | 30m | 150 x 300 | 1/3/5/8h | 5.8 W | 2.5 W | LUM17124IA-M |

## Ordering details - accessories

| Product | Order N° CrystalWay 19821 | Order N° CrystalWay 19822 |
|---|---|---|
| Wire suspension kit | LUM10560 | LUM10560 |
| Recessed base, for ceiling mounting | LUM10561 | LUM10562 |
| Recessed base with cover, for ceiling mounting | LUM10563 | LUM10564 |
| Recessed base with cover, for combination with wire suspension kit | LUM10563S | LUM10564S |
| Concrete box (suitable for recessed base with cover) | LUM10565 | LUM10566 |
| Add-on housing for expanded spatial conditions for wiring and cable infeed | LUM10567 | |
| Horizontal pictogram Arrow Down, ISO 7010 | LUM10573 | LUM10587 |
| Horizontal pictogram Arrow Left, ISO 7010 | LUM10574 | LUM10588 |
| Horizontal pictogram Arrow Right, ISO 7010 | LUM10575 | LUM10589 |
| Horizontal pictogram Arrow Up, ISO 7010 | LUM10577 | LUM10591 |
| Vertical pictogram Arrow Down, ISO 7010 | LUM10584 | LUM10592 |
| Vertical pictogram Arrow Left PL, ISO 7010 | LUM10585 | LUM10593 |
| Vertical pictogram Arrow Right PR, ISO 7010 | LUM10586 | LUM10594 |


**NexiTech IA**

NexiTech LED™ was created with the aim of simplifying the work of the installer. No tools are needed to open or close the product and installation is further simplified by the presence of a quick plug-in screwless terminal block.

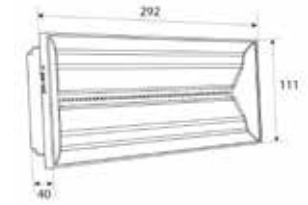
NexiTech LED™ can be installed on walls, ceilings, recessed walls or false recessed ceilings. Although it is particularly suitable for interiors such as offices, schools, universities and hospitals, NexiTech LED™ can be quickly turned into an outdoor unit with the simple addition of an IP65 protection kit. This kit makes it possible to use NexiTech LED™ even in humid and dusty environments such as underground car parks and light industrial plants.

## NexiTech LED IA CGLine+

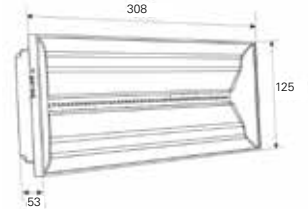
- Self-contained LED exit sign luminaire with automatic test for reduced inspection effort connected to TL CGLine+ or the CGLine+ monitoring system
- With Increased Affordance (IA) function : Triggered by a CGLine+ Web-controller or TL CGLine+ the product flashes in order to improve perceptibility. With this evacuation can be quicker and safer.
- Via the IA CGLine+ Web-controller it is possible to programme the scenario in which the luminaire will go to IA function. Users can be choose between a blinking and pulsing (smooth blinking) mode depending on the application and surrounding.
- In combination with TL CGLine+ the luminaire will work only in pulsing mode
- High quality pictogram foils with special printing for improved uniformity
- The pictograms are easy to position while they are well-protected behind the cover
- Low operating costs thanks to low connected load
- Minimum maintenance effort and increased safety via use of LEDs with high service life (50,000 hours)
- Optimal recognition via high luminance of white contrast colour > 500 cd/m² according to DIN 4844-1 / ISO 3864-1 (for bright surroundings)
- Simple fault analysis and status display via bicolor LED and testing button
- Blocking function prevents unintended discharge during idle operating times
- Configurable product for wall or ceiling mounting

NexiTech LED IA

Dimensions - IP42 version




Dimensions - IP65 version




Finishing frame

Recessed base for bricks wall

False ceiling adapter

| | |
|---|---|
| Pictogram<br>Viewing distance | 20m |
| Luminous flux $\Phi_E/\Phi_N$<br>at end of rated operating time | 100% |
| Housing<br>Type of mounting<br>Material<br>Colour | <br>Wall surface-mounting<br>Polycarbonate<br>RAL9003 |
| Degree of protection | IP 40 & IK 03 (IK07 for IP65) |
| Terminals | Screwless terminals (L, L', N, PE, GGLine+ bus) for flexible and rigid wires<br>From 0,5 to 2,5 mm² |
| Connection voltage | 230 V AC 50/60 Hz |
| Permissible ambient temperature | +5°C to +30°C |
| Battery | 7.2 V 1.7 Ah Ni-Cd |
| Light source | LED strip |
| Weight | NexiTech IA IP40 : 0.630 kg<br>NexiTech IA IP65 : 0.770 kg |

## Ordering details

| Product | Viewing distance | Degree of protection | Duration | Consumption 500 Cd | Consumption 50 Cd | Order N° |
|---|---|---|---|---|---|---|
| NexiTech LED 3h IA CGLine+ IP40 | 20m | IP40 | 3 h | 8.2VA/4W | 5.4VA/2.5W | NEXI3HIA-CGL-M |
| NexiTech LED 3h IA CGLine+ IP65 | 20m | IP65 | 3 h | 8.2VA/4W | 5.4VA/2.5W | NEXI3HIACGLIP-M |

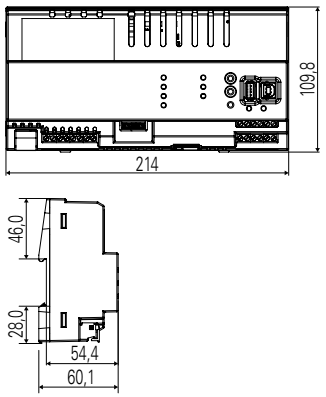
Pictograms not included

## Ordering details - Accessories

| Order N° | Product |
|---|---|
| NEXI-PICTO-D | Pictogram Down ISO7010 single-side 20m |
| NEXI-PICTO-L | Pictogram Left ISO7010 single-side 20m |
| NEXI-PICTO-R | Pictogram Right ISO7010 single-side 20m |
| NEXI-PICTO-U | Pictogram Up ISO7010 single-side 20m |
| NEXI-RB | Bricks wall recessed base (cut-out 277x100 mm) |
| NEXI-FC | False ceiling adapter (cut-out 272x95 mm) |
| NEXI-FR | Finishing frame NexiTech LED |

CGLine+ Web-Controller with integrated web server

Dimensional drawings, data in mm




Advanced IA CGLine+ system

## CGLine+ Web-Controller

- Connection of up to 800 luminaires in max. 4 lines
- The integrated web server enables convenient visualisation, control and monitoring
- With Increased Affordance (IA) functionality: In case of an evacuation the controller can send an IA command to all connected Exit signs with IA CGLine+ functionality. With this command the luminaire will start to flash (on/off or smooth pulsing)
- The IA function can help to increase the visibility of the signs and therefore lead to a faster and safer evacuations. This also increases safety for hearing impaired or deaf people, under the two-sense-principle.
- Selection of blinking scheme and line to start with the IA function can be programmed via the PC. The IA function is triggered by closing a potential free contact at the controller.
- For more complex situations an Advanced IA CGLine+ system can be used which includes an input module for 10 scenarios. This enables an individual programming of which luminaires will react to a scenario. By that the IA be started individually e.g. for different building sections. The system can be extended with up to 30 inputs (optional).
- The communication between the input module and the controller is constantly monitored and any failure is reported at the Web-Controller, as well as being delivered by email report.
- Within a CGLine+ system standard CGLine+ luminaires can easily be combined with IA CGLine+ luminaires
- Each luminaire is assigned with a unique ID by the manufacturer
- Automatic luminaire search function requires no manual addressing
- Simple sorting using unrestricted short address assignment
- Unrestricted entry of target location names for the luminaires with up to 20 characters
- Allocation of luminaires - up to 8 zones per line – is clearly displayed
- Automatic function test and duration test
- Web-Controller tested and approved by BSI: KM No. 636748 - Automatic test system for Battery Powered Emergency lighting to EN 62034
- Up to 8 test groups per luminaire can be defined for the function test (FT) and duration test (DT)
- Electronic logbook storage for a period of minimum 4 years
- Email service for sending automatic email (in case of malfunction) to up to 10 e-mail addresses, assignable to 2 escalation groups
- Blocking of the emergency lighting function during non-operational periods (all / per bus line/ per zone / per luminaire)
- Luminaires in maintained mode switchable (all / per bus line / per zone / per luminaire)
- Password protected access as an administrator or user
- Visualisation of luminaires in up to 30 different building layouts
- Efficient and convenient analysis of the log book using the CGLine+ PC software

| | Web-Controller | Advanced IA CGLine+ system (without backup) |
|---|---|---|
| Dimensions | 214 x 109.8 x 60.1 mm | 310 x 145 x 436 mm |
| Housing type | For DIN rail 12 HP | ABS |
| Power supply | 230 V AC, 50/60 Hz | 230 V AC, 50/60 Hz |
| Power consumption | < 4 W in standby,<br>< 21 W at full load | 22 W (max load) |
| Connection terminals | max. 2.5 mm² | max. 2.5 mm²<br>(CGLine+ bus: 1.5 mm²) |
| Permissible ambient temperature | 0 °C … 35 °C | 0 °C … 35 °C |
| Storage temperature | -20 °C … 70 °C | |
| Degree of protection | IP20 | IP65 |

### Ordering details

| Type | Scope of supply | Order No. |
|---|---|---|
| CGLine+ Web-Controller | Controller, for DIN rail mounting | 40071361440 |
| Advanced AE/IA CGLine+ System, 10 inputs | Including Advanced CGLine+ Web-Controller, input module for 10 trigger inputs, wall mount housing (plastic) | 40071777980 |

### Accessories

| Type | Scope of supply | Order No. |
|---|---|---|
| CGLine+ PC software | on CD-ROM | 40071361178 |


MARKET

# Adaptive Evacuation

# 9.1 Adaptive Evacuation

From Static to Adaptive Evacuation

## Static Emergency lighting (current state)

During an emergency situation, panic is heightened and decision-making can be impaired. This can lead to congestion, delays and, in some instances, guide people to unsafe places.

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.

Shops

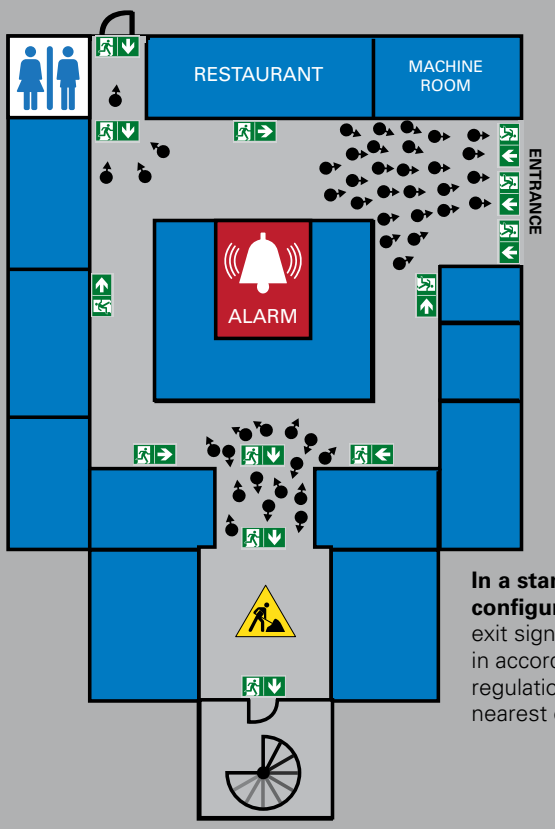
Emergency exit

Blinking luminaire

Public

High risk area

**1. Evacuation situation with one exit blocked by works**




**In a standard configuration,** the exit signs positioned in accordance with the regulations indicate nearest exit.

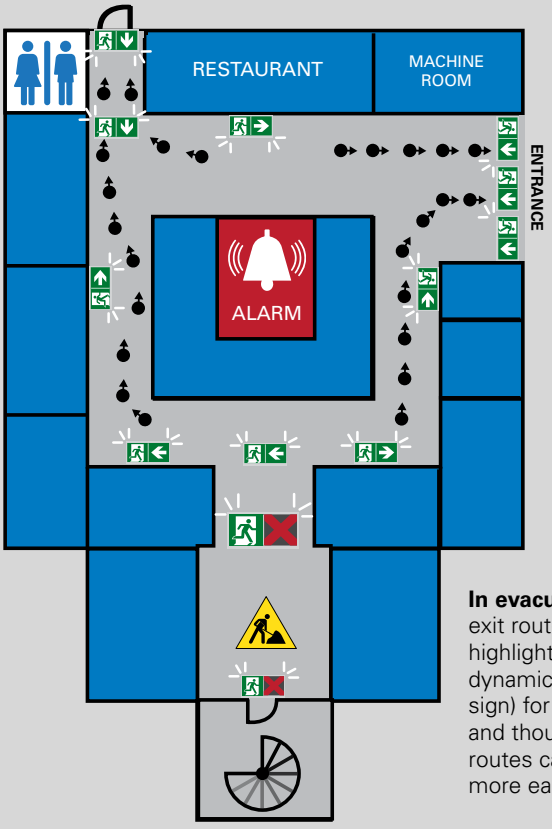
## Adaptive Evacuation

Eaton has developed an **Adaptive Evacuation** System that is capable of switching between a number of predefined routes and guiding people towards the safest exit.

The Matrix luminaire can show either different arrow directions or a red cross depending on predefined scenarios.

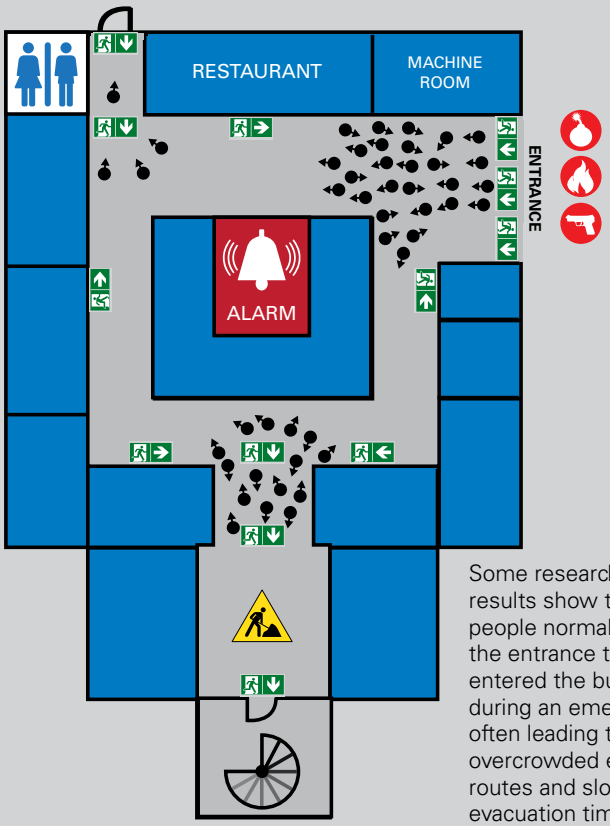
The red cross functionality is particularly effective when keeping people confined to one place is the safest option (such as during attacks in schools).

Matrix is equipped with a new **Increased Affordance** functionality (IA) which enables even better recognition by flashing or animated arrows.

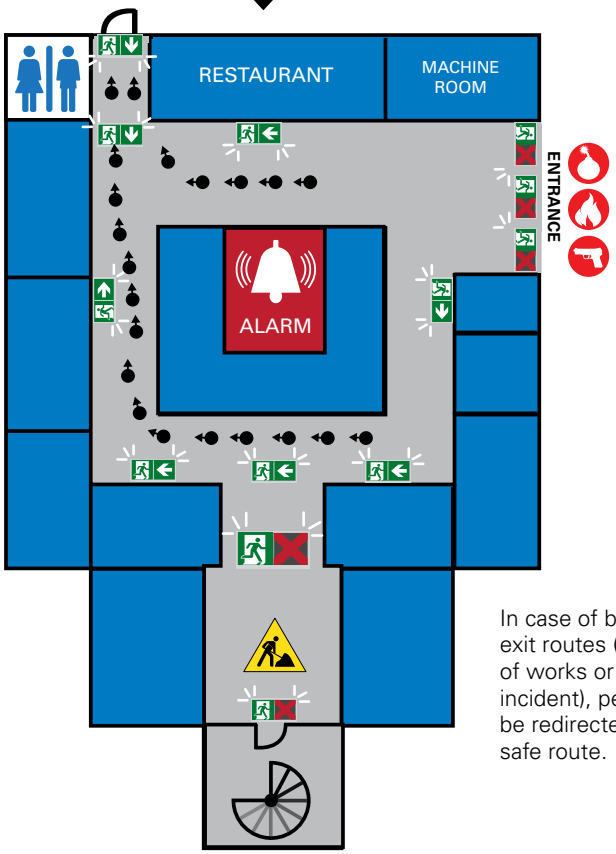



**In evacuation mode,** exit routes can be highlighted with a dynamic sign (blinking sign) for better visibility and though all exit routes can be found more easily.

**2. Evacuation situation**
**with one exit blocked by works and a high risk area**
**on the other side of the building**

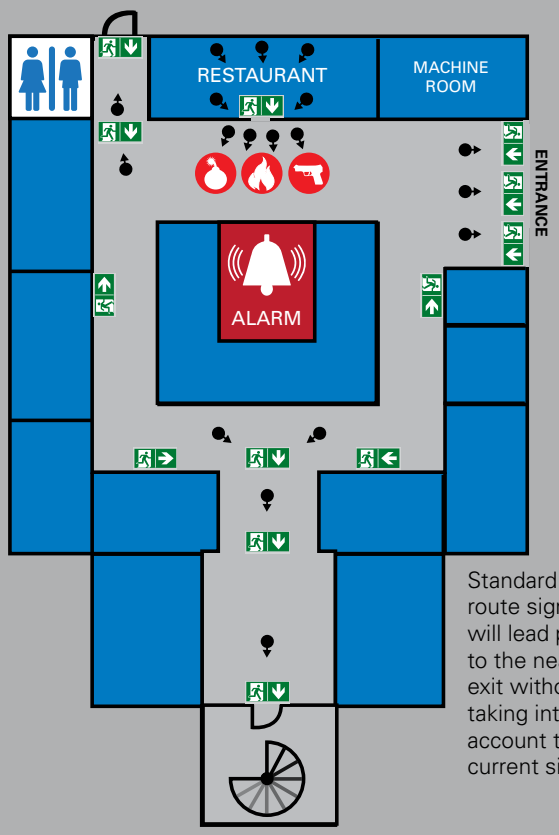



Some research results show that people normally use the entrance they entered the building during an emergency, often leading to overcrowded exit routes and slower evacuation time.

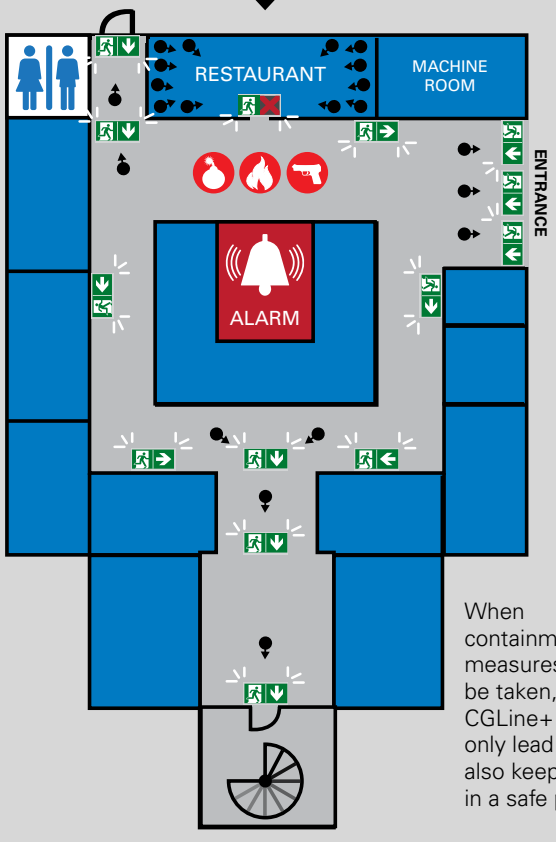



In case of blocked exit routes (because of works or any other incident), people will be redirected to the safe route.

**3. High risk situation**
**with need to contain people in a safe room**




Standard escape route signage will lead people to the nearest exit without taking into account the current situation.




When containment measures need to be taken, Matrix CGLine+ will not only lead to but also keep people in a safe place.

# 9.2 Adaptive Evacuation

Matrix CGLine+ luminaire

**The Matrix CGLine+ is an adaptive escape sign luminaire** that enables **real-time adjustment** of exit routes according to the nature and location of a hazard. Matrix CGLine+ can **adjust the direction of the arrow** it displays, with the aim of **improving the speed and safety of emergency evacuations** in commercial buildings.

The self-contained Matrix escape sign luminaire displays an arrow that can point in any one of four different directions. The additional ability to scroll the arrow from one side to the other **increases its visual impact** among the general population and helps to alert people with hearing impairments. It can also display a red cross to indicate that a particular exit route has become closed, blocked or dangerous.




### ...for flexible signage

Matrix is the first exit sign luminaire which can be configured in order to show a different evacuation direction (4 different arrows) or prohibit access to works zones or dangerous areas (red cross) without additional parts or pictogram foils.

The luminaire can work for 1 and 3 h emergency duration, this makes the planning easy and keeps the variance on stock low.

The luminaire is available with IP42 and IP65 and can therefore be used in normal indoor conditions and also in areas with higher level of dirt and humidity.

More of the capability of the Matrix will be used with the scenarios which can be activated locally with a universal switch input which can react e.g. on a contact at a fire sensor. With rotary switches the standard and the scenario pictogram can be chosen.

### ... for signage adapted to the situation

The full function of the Matrix is used in combination with the AE CGLine+ system. Here the arrow in standard mode and for up to 30 different scenarios can be easily programmed via the PC-software and will be applied via the AE CGLine+ web-controller.

AE CGLine+ Web-Controller

### ...for better visibility

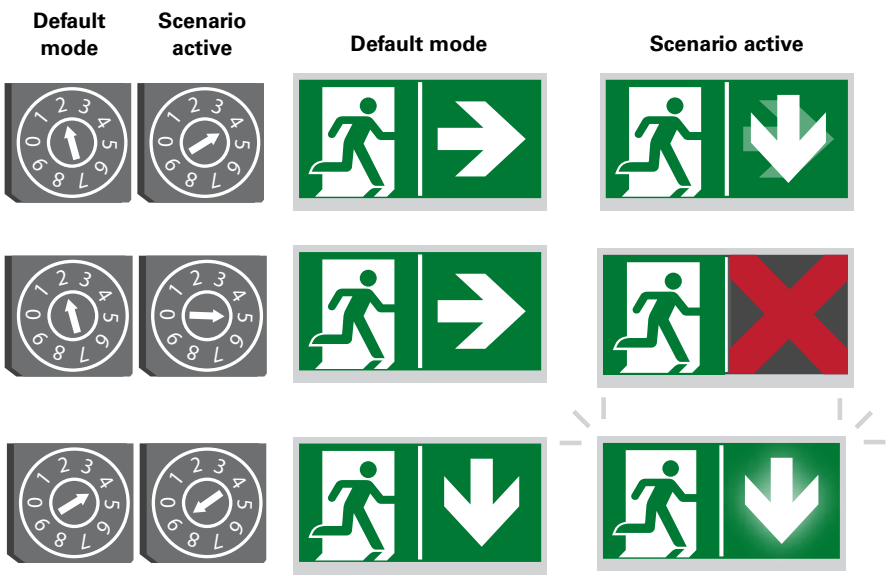
The scenario pictogram options include the dynamic sign, which means that the arrow can be animated or blinking and the red cross can bee static or blinking. This will make the luminaire more visible and help people in case of an evacuation to find the right way instinctively.

The luminaire has a high luminance of more than 1000 cd/m² and with that it can be easily recognised in bright surroundings.

### ...for low operation costs

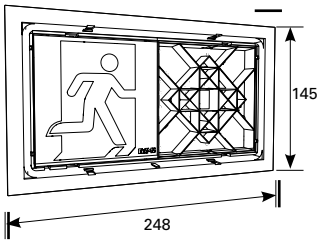
It is equipped with an eco-friendly and reliable Li-Ion battery with improved power consumption due to less self-discharge and optimized charging technology. The complete design is made for 10 years maintenance free operation.

**Rotary switches on the luminaire**




Matrix CGLine+

Dimensional drawings (mm)





## Matrix 20m CGLine+

- Escape sign luminaire with Matrix technology for changeable signage
- Can be used for standard exit route signage as an universal exit sign
- Without need for changing any pictogram foils or plates and with a selectable operating time (1 or 3h operation) it is an all-in-one solution in line with the European emergency lighting standards or for increased visibility by animated signage
- Especially for Adaptive Evacuation (AE) which means the luminaire can change its signage dependent on an event. With this the luminaire can redirect people to an safe exit route or block an unsafe route
- For connection to CGLine+ systems and Adaptive Evacuation AE CGLine+
- The signage can be changed via a switching contact at the luminaire connected to e.g. a smoke detector or panic switch or it can be programmed and controlled via AE CGLine+ system
- Reliable LED solution with high service lifetime and a very good perceptibility on account of high luminance of the white contrasting colour > 1000 cd/m²
- Environmentally-friendly due to modern lithium ion technology
- Robust design made from impact resistance polycarbonate with an IK grade of 07
- Available with IP42 and IP65 ingress protection (IP65 variant including two cable glands)
- Several cable entries on top and back for through-wiring of power and bus cable
- In addition to the automatic tests, manual tests can be started with a magnet
- Simple fault analysis and status display via bicolor LED
- Blocking function prevents unintended discharge during idle operating times (only with CGLine+ WEB-Controller)

| | |
|---|---|
| Luminous flux $\Phi_E/\Phi_N$<br>at end of rated operating time | 100% - 1 h<br>40% - 3 h |
| Testing system | Automatic test in compliance with EN 62034<br>Connection possible to the CGLine+ monitoring system |
| Type of mounting | Wall surface-mounting |
| Housing material | Polycarbonate |
| Housing colour | White |
| Weight | IP42 : 0,6<br>IP65 : 0,7 |
| Degree of protection | IP42, IP65 |
| Terminals | Screwless terminals (L, L', N, PE, CGLine+ bus) for flexible and rigid wires<br>From 0.5 to 2.5 mm² |
| Connection voltage | 230V ~ 50/60Hz |
| Permissible ambient temperature | +5°C to +35°C |
| Battery | 3.6 V / 3.3 Ah Li-Ion |
| Light source | LED array |

## Ordering details

| Order N° | Product | Viewing Distance | Duration | Consumption |
|---|---|---|---|---|
| 40071777013 | Matrix 1-3h CGLine+ IP42 | 20m | 1/3h | 6.6 W / 13.8 VA |
| 40071777014 | Matrix 1-3h CGLine+ IP65 | 20m | 1/3h | 6.6 W / 13.8 VA |

## Display possibilities with rotary switches:

**Options "Default mode"**

| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| ■ | ← | → | ↑ | ↓ | ✕ |

**Options "Scenario active"**

| | | | | | | Arrows animated (IA functionality)* | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| ■ | ← | → | ↑ | ↓ | ✕ | ← | → | ↑ | ↓ |

*In combination with AE CGLine+ Web-Controller the Matrix can also show blinking arrows

# 9.3 Adaptive Evacuation

AE CGLine+ system

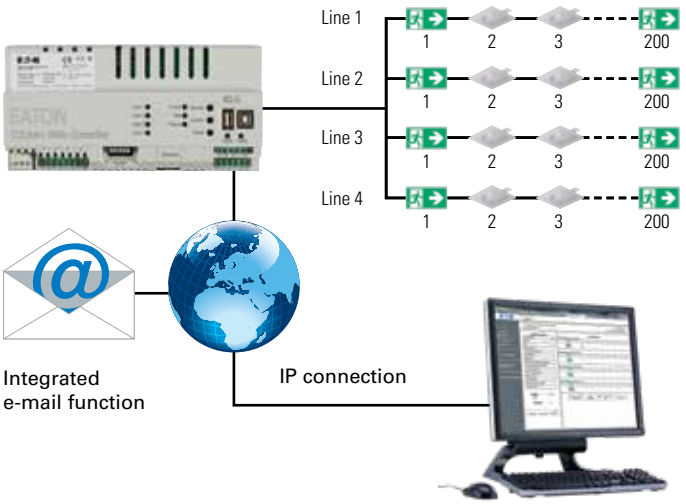
## Functions & Benefits

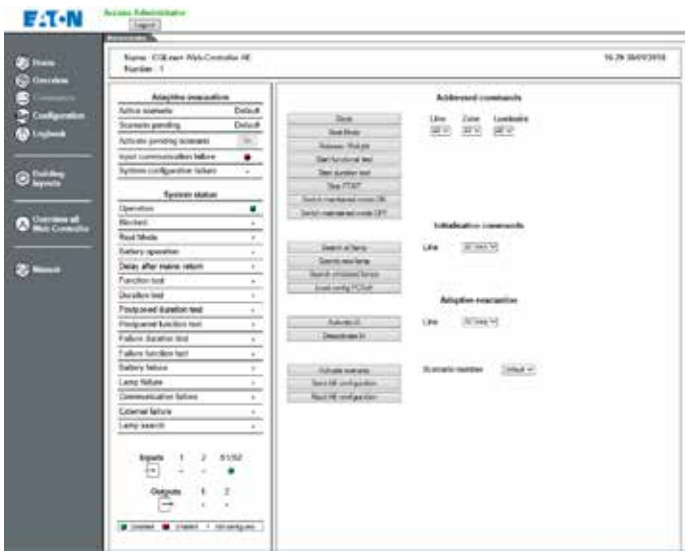
The CGLine+ system is a powerful system, perfectly in line with emergency lighting standards and regulations, that makes the operation of self-contained luminaire systems safe and convenient.The new CGLine+ Web-Controller can visualise a total of 800 CGLine+ luminaires.

Maintaining an overview is important if there are a large number of luminaires. Luminaires of each line can be allocated to up to 8 zones (up to 16 zones in case of installing only two lines).

The zones can be areas where the luminaires need to be brought together, for example on a floor, in an area or in a room.





### Safety under control worldwide

An integrated web server is available for convenient visualisation, control and monitoring of all connected CGLine+ luminaires. The controller can be accessed from any PC with an IP connection and a regular web browser without requiring any special software.

### Automatic e-mail notification in case of faults

The integrated e-mail service automatically sends e-mails to up to ten recipients in case of allocatable events, for example in case of critical status. The aim of this function is to actively notify without delay those persons responsible for building safety about any faults, even if they have no direct connection with the controller at that point in time.

### Tests are not forgotten, and are carried out at the right intervals for maximum safety

The timing and the intervals of regular function and duration tests can be conveniently and precisely set down to the minute,ensuring that the equipment is ready for operation at any time during the operating hours of the building. All test results are stored in the electronic log book for at least four years, in compliance with standards.

### CGLine+ Bus

The communication of all data and commands takes place using the CGLine+ bus installed in a free topology using a two-wire unshielded cable.

**Please ask for the dedicated CGLine+ brochure for detailed information about all features provided by the CGLine+ system.**

## Easy planning & commissioning

The AE CGLine+ system can combine standard CGLine+ luminaires and luminaires with Increased Affordance functionality or a flexible solution with a changeable display like the Matrix CGLine+. Thus, there is only one system for standard emergency lighting and Adaptive Evacuation which means less installation effort and less complexity when planning and commissioning.

## High range back-up

The system has an internal power back-up for the controller in order to be able to react to the trigger even though the mains supply might be broken.

The back-up supply is designed to keep the controller working for at least 3 hours with the maximum possible 800 luminaires connected to the 4 lines.

The function of the back-up is monitored and failure information will be submitted to the Controller if maintenance is required.

## Long life system and low operating cost

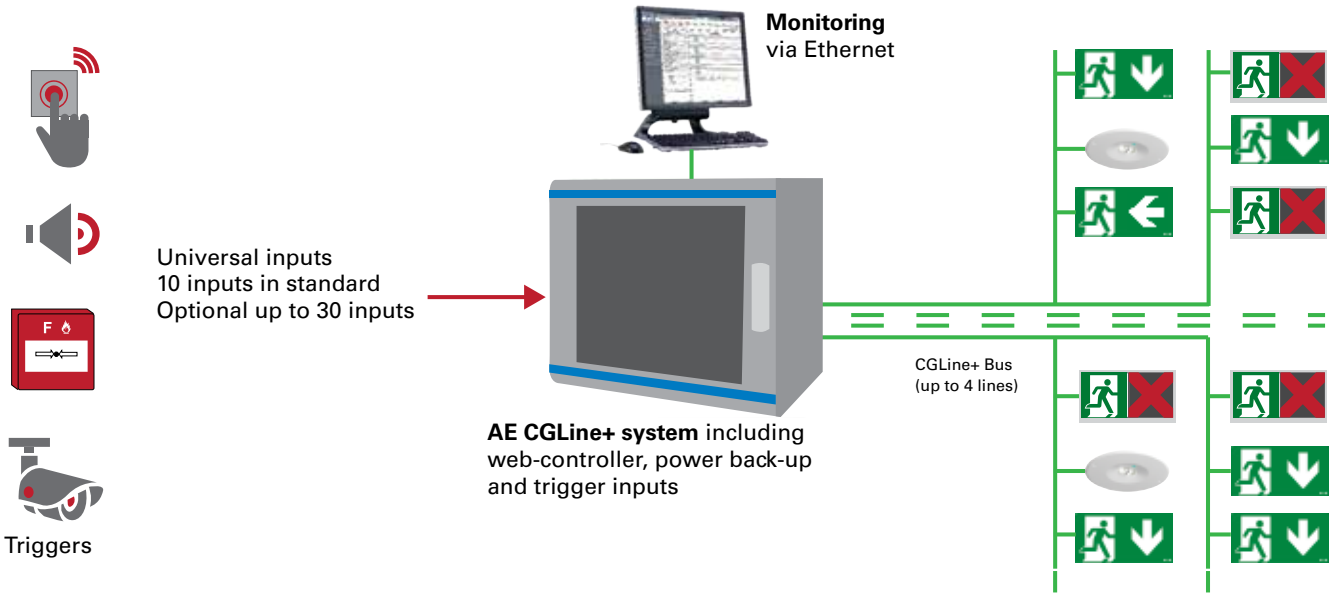
The battery and charging technology of the back-up power supply ensures a long life time of the system. The electronics are designed for lowest losses, resulting in low operating cost. The battery can be easily replaced in order to keep the system ready in the shortest time.

## Use any trigger you need

Dry contacts allow the connection of any trigger (Fire, CCTV, etc.) regardless the manufacturer, to the Eaton AE system. Commonly used, dry contacts are an easy and safe way of communication without the need for special protocols or gateways.



**AE CGLine+ System configuration:**



# 9.4 Adaptive Evacuation

## Planning & programming Adaptive Evacuation



Based on the risk analysis and the resulting evacuation concept the behaviour of the luminaires needs to be defined in a scenario table.

The table is the basis to program the AE CGLine+ system via the PC Software. It can also be used to define and document the structure of the CGLine+ system (i.e. defining the line, the test groups and local zones.)

### AE CGLine+ Scenario definition

| | |
|---|---|
| Project name | |
| Description | |

Name _____

Position _____

Signature _____

Date / Revision _____

| Adr.(1-800) | ID (Unique ID of luminaire) | Test Group | Zone | Name | Information (luminaire description) | Category (Standard, IA, Matrix) | Default | Scenario 1 | Scenario 2 | Scenario 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ED93EF | 1 | 1 | Luminaire 001 | Matrix 1-3h CGLine + | Matrix | SD | BR | SX | MD |
| 2 | BB48F8 | 2 | 1 | Luminaire 002 | Matrix 1-3h CGLine + | Matrix | SR | BR | SX | SX |
| 3 | ECFB8C | 1 | 1 | Luminaire 003 | Matrix 1-3h CGLine + | Matrix | BL | SX | BR | MR |
| 4 | ECFF6B | 2 | 1 | Luminaire 004 | CrystalWay 1-8h IA CGLine + | IA | B | B | B | B |
| 5 | BCFD67 | 1 | 1 | Luminaire 005 | NexiTech 3h IA CGLine+ | IA | S | B | B | B |

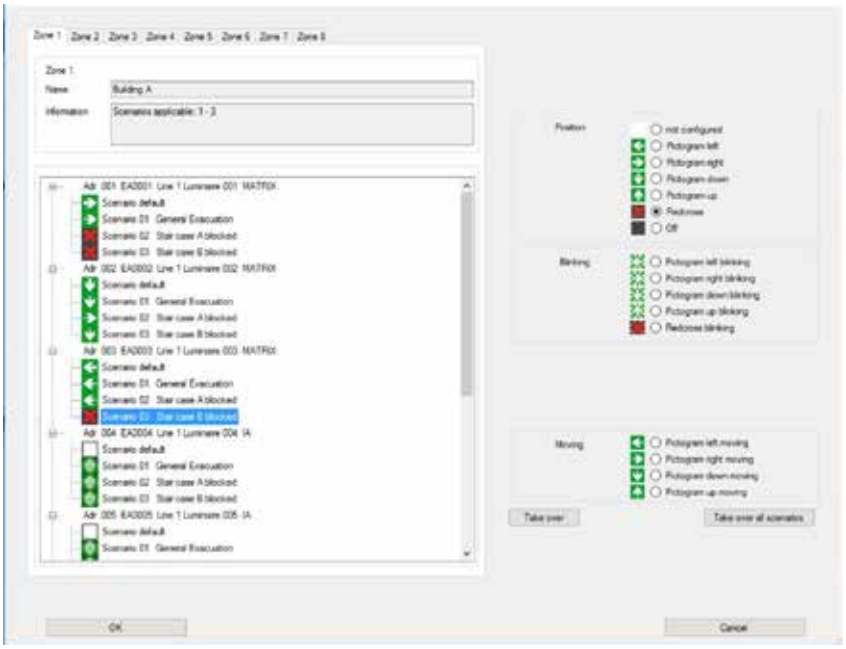
S : Static
B : Blinking
P : Pulsing
M : Moving
OFF : Blank

D : Down
L : Left
R : Right
U : Up
X : Red X

## Programming the scenarios with PC-Software

Configuration of the CGLine+ system is carried out using the CGLine+ PC software. Short addresses and unique names of luminaires can be assigned. Using this software, the time and interval of automatic tests are specified together with the zone assignment and the definition of test groups. As a result, the entire system can be configured in offline mode regardless of whether the IT network is available.

With the new AE programming capability, it can be easily programmed by mouse click how each AE luminaire will react per scenario.

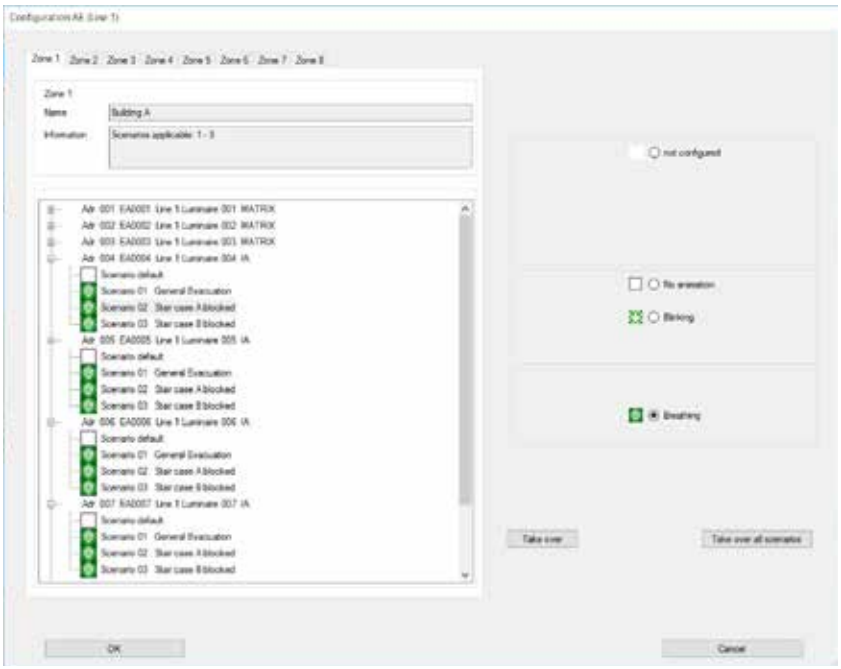


Configuration of an AE Matrix luminaire

In a tree structure all luminaires with AE and Increased Affordance (IA) capability are shown. For the currently selected luminaire it can be chosen which arrow direction will be displayed per scenario or if the luminaire will display a red cross (static or blinking) to block an unsafe route.

A scenario can be a mix of adaptive luminaires like the Matrix luminaire and other luminaires with IA functionality. Thus, in addition to the possibility to direct people in a safer direction, with the IA functionality the visibility of the exit signs can be increased and the urgency of the evacuation is emphasized.

For IA mode with the Matrix luminaire two different options are available: it can be chosen if the arrows will blink or move in the direction the arrows are directing.



Configuration of a luminaire with IA functionality

CGLine+ luminaires with IA function can be programmed in the same way. Here it is possible to choose between pulsing (a smoother on and off) or blinking.

For more convenience, configurations can be copied to luminaires with same behaviour, for example for an exit with several doors side by side often used in big buildings.

# 9.5 Adaptive Evacuation

Installation of AE CGLine+ system

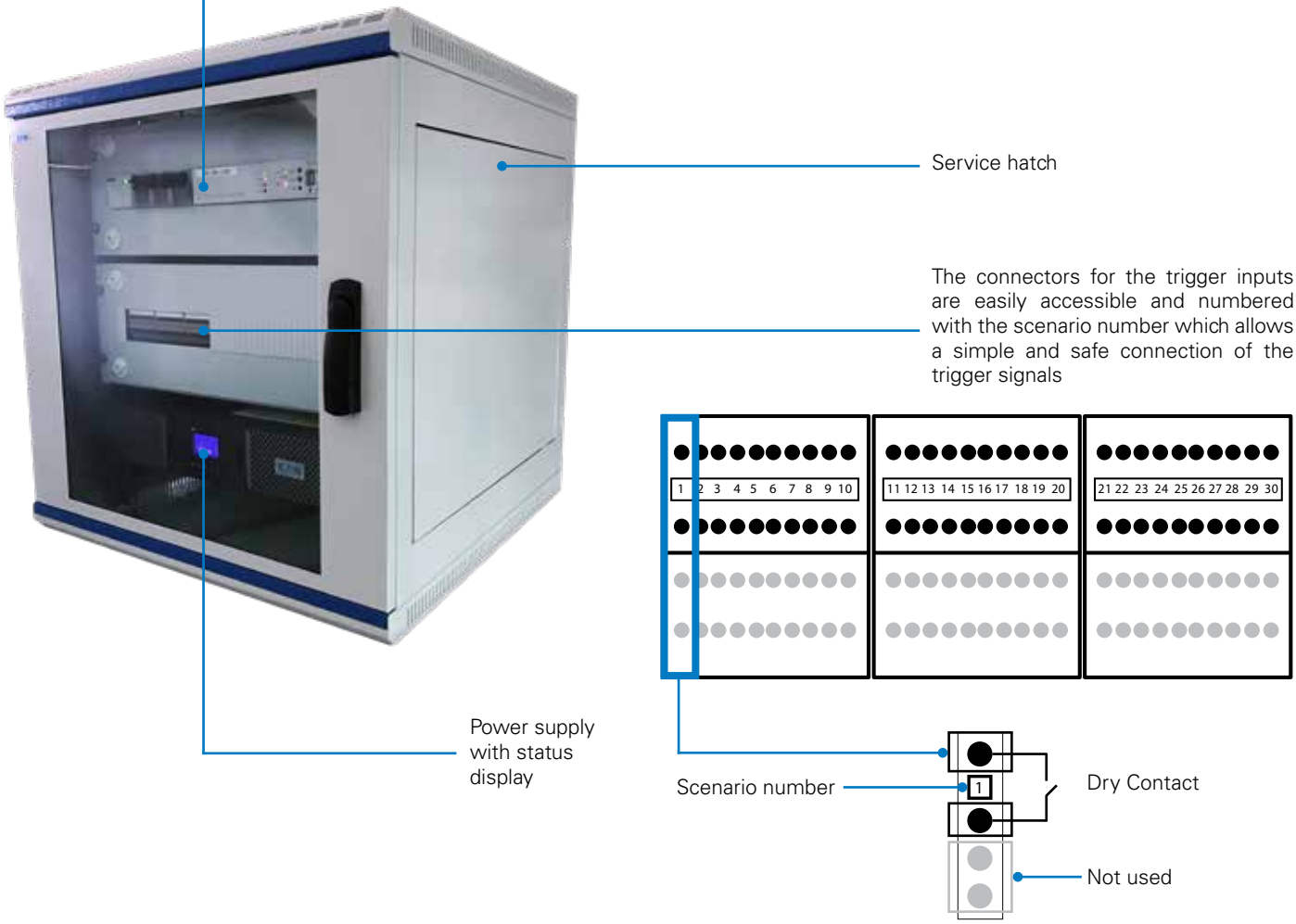
## Installation

The AE CGLine+ system is wall mounted and features a metal housing with a glass door providing quick visual inspection of the power back-up in addition to the web-monitoring function. There are provisions for cable entries from the top and additional openings in the back of the housing for connection of the inputs, the CGLine+ lines and the mains supply.

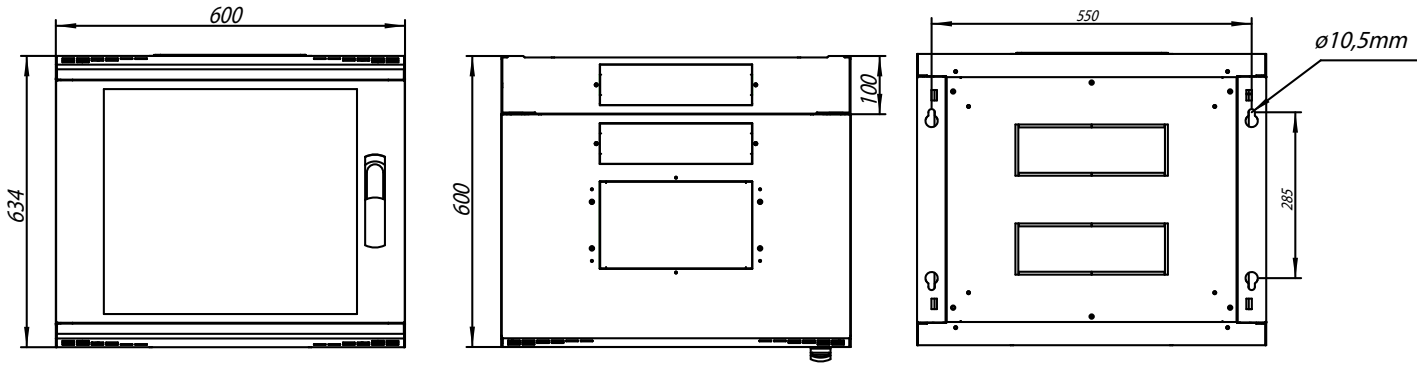
An additional service hatch helps accessing the cabling area during installation and commissioning.

The front door can be equipped with a key (optional accessory) to avoid unauthorized access to the system.





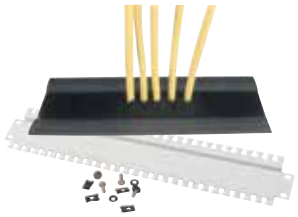

**Dimensional drawings:**



AE CGLine+ system

AE CGLine+ system without power back-up

Accessory kit for cable entry



## Adaptative Evacuation CGLine+ System

- System based on CGLine+ technology which enables controlling and monitoring of static emergency luminaires as well as luminaires for Adaptive Evacuation and Increased Affordance
- Including power back-up ensuring secure function of the controller in case of failure of controller's power supply. Optional available without power back-up in case of an existing secured mains supply on site
- With 10 to 30 universal switching contacts (dry contacts) which can be easily connected to triggers like fire systems, CCTV monitoring systems, etc.
- For connecting up to 800 luminaires ( 4 lines with 200 or 2 lines with 400 luminaires)
- Luminaires for Adaptive Evacuation, Increased Affordance and standard CGLine+ products can be freely mixed
- The integrated web server enables convenient visualisation, control and monitoring
- Automatic luminaire search function requiring no manual addressing. Unique ID per luminaires assigned by the manufacturer
- Simple sorting using unrestricted short address assignment
- Unrestricted entry of target location names for the luminaires with up to 20 characters
- Clearly-shown allocation of luminaires to up to 8 zones per line
- Automatic function test and duration test, test interval can be individually defined
- Up to 8 test groups per luminaire can be defined for function test (FT) and duration test (DT)
- Electronic log book storage for a period of minimum 4 years
- E-mail service for sending automatic e-mail in case of malfunctions to up to 10 e-mail addresses, assignable to 2 escalation groups
- Blocking the emergency lighting function during non-operational periods (all / per bus line/ per zone / per luminaire)
- Luminaires in maintained mode switchable (all / per bus line / per zone / per luminaire)
- Password protected access as an administrator or standard user
- Visualisation of luminaires in up to 30 different building layouts
- Efficient and convenient analysis of the log book using the CGLine+ PC software

| | |
|---|---|
| Dimensions (L x W x H) | With power back-up: 600 x 600 x 634 mm<br>Without power-backup (40071777994): 310 x 145 x 436 mm |
| Housing type and material | Wall mount –<br>With power back-up: Sheet metal<br>Without power-backup (40071777994): ABS |
| Degree of protection | With power back-up: IP30<br>Without power-backup (40071777994): IP65 |
| Power supply | 230 V AC, 50/60 Hz |
| Power consumption | With power back-up: 63 W (max load)<br>Without power-backup (40071777994): 22 W (max load) |
| Connection inputs | For mains supply: max 2.5 mm²<br>For CGLine+: max 1.5 mm²<br>For switch inputs (trigger): max. 2.5 mm² |
| Battery (powerback-up) | Lead-acid 4 x 12 V, 7 Ah |
| Permissible ambient temperature | 0 … 35°C |
| Weight | With power back-up: 55 kg<br>Without power-backup (40071777994): 3.6 kg |

## Ordering details

| Type | Order No. | Scope of supply |
|---|---|---|
| AE CGLine+ System, 3 h backup, 10 inputs | **40071777977** | Including Advanced CGLine+ Web-Controller and power back-up for up to 3 h emergency duration, connectors and input module for 10 trigger inputs, wall mount housing made from sheet metal |
| AE CGLine+ System, 3 h backup, 20 inputs | **40071777978** | Including Advanced CGLine+ Web-Controller and power back-up for up to 3 h emergency duration, connectors and input modules for 20 trigger inputs, wall mount housing made from sheet metal |
| AE CGLine+ System, 3 h backup, 30 inputs | **40071777979** | Including Advanced CGLine+ Web-Controller and power back-up for up to 3 h emergency duration, connectors and input modules for 30 trigger inputs, wall mount housing made from sheet metal |
| AE / IA CGLine+ System, 10 inputs *), (without power back-up) | **40071777980** | Including Advanced CGLine+ Web-Controller, input module for 10 trigger inputs, wall mount housing (plastic), for AE systems with an existing secured mains supply on site and for advanced IA system |
| PC Software CGLine+ | **40071361178** | CGLine+ PC Software, for programming of standard CGLine+ systems as well as AE and IA systems |
| Accessory kit for cable entry from top (Not for 40071777994) | **40071777996** | Brush strip for cable entry (EATON NWS-2/BUE/LEI/KF) and a cable tie rail for 19" inch housing (EATON NWS-KBL/B19/M) |

** 20 or 30 inputs on request*

# Index

## Safety luminaires



## Safety & exit signs



## Exit signs



## Beam lights

# Index

## Conversion kits



## Customization

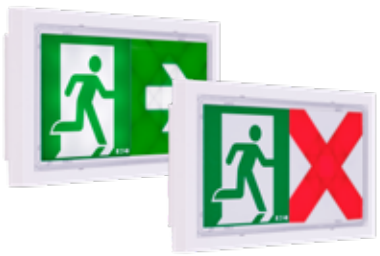


## Monitoring systems



## Increased Affordance





## Adaptive Evacuation

# Glossary

Adaptive Evacuation (AE) - In large and complex commercial buildings facing a growing diversity of safety risks from fire to terrorism, evacuation planning is pivotal. To promote safer evacuations, Eaton has developed an Adaptive Evacuation System that, unlike static exit signs, uses digital technology to switch between a number of predefined routes and guide people towards the safest available exit in a given scenario.

Anti-Panic (Open) - Area Lighting The part of emergency escape lighting provided to avoid panic and provide illumination allowing people to reach a place where an escape route can be identified.

Ballast - The component that controls the operation of a lamp from a specified low or high voltage AC or DC source (typically between 12 and 240 volts).

Ballast Lumen Factor - The ratio of the light output of the lamp in emergency operation compared with the light output of the same lamp operated by a reference ballast at its rated voltage and frequency.

Battery - Secondary cells providing the source of power during mains failure.

Battery Capacity - The discharge capability of a battery, being a product of average current and time, expressed as Ampere-hours (Ah) over a stated duration. Note: At fast rates of discharge the full ampere hour capacity of the battery is not available.

Candela (cd) - The unit of luminous intensity.

Central Power System - A system in which the batteries for a number of emergency luminaires are housed in one location. Usually for all the emergency luminaires on one lighting sub-circuit, but sometimes for all emergency luminaires in a complete building.

Colour Temperature (°K) - All materials emit light when heated (e.g. metal glows red through to white as the temperature increase). The temperature to which a full radiator (or 'black body') would be heated to achieve the same chromaticity (colour quality) of the light source being considered, defines the correlated colour temperature of the lamp, quoted in degrees Kelvin.

Combined Emergency Luminaire - A luminaire containing two or more lamps, at least one of which is energised from the emergency supply and the remainder from the normal supply (If the emergency lamp is only illuminated in a mains failure condition this luminaire is regarded for Fire Authority approval as Non-Maintained).

Design Voltage - The voltage declared by the manufacturer to which all the ballast characteristics are related.

Discomfort Glare - Glare which causes visual discomfort.

Emergency Lighting - The lighting provided for use when the supply to the normal mains lighting installation fails.

Escape Route Lighting - Lighting provided to ensure that the means of escape can be effectively identified and safely used when a location is occupied.

Emergency Exit - The way out of a building, which is intended to be used at any time whilst the premises are occupied.

Final Exit - The terminal point of an escape route, beyond which point persons are no longer in danger from fire or any other hazard requiring evacuation of the building.

Glare - The discomfort or disability that occurs when there is an excessive change of luminance in the field of vision.

High Risk Task Area - Lighting Emergency lighting provided to ensure the safety of people involved in a potentially dangerous process or situation and to enable proper shut down procedures for the safety of the operator and other occupants of the premises.

Housing 850°C - Test Mandatory test for emergency luminaires used on escape routes, to establish that materials do not burn at a given temperature. Self- extinguishing grades of plastic must be used, or alternatively glass and/or steel.

Illuminance (lux) - The luminous flux density at a surface, indicated in $lm/m^2$.

Increased Affordance (IA) - The evacuation of commercial buildings can be inhibited by people's failure to recognise standard emergency exit signs. To improve the safety and speed of evacuations through better visibility of signs, Eaton has introduced an Increased Affordance functionality to its emergency lighting range, which enables exit signs to flash or pulse when activated manually or through automated connection to other evacuation triggers.

Ingress Protection (IP) - Number classification of the degree of protection a luminaire provides against the entry of solid foreign bodies and moisture.

Isolux Diagram - Diagram showing contours of equal illuminance

K Factor - The ratio of the light output from the lamp in its worst condition, normally at end of discharge and with any cable volt drop, to the output at nominal voltage.

Light Output Ratio (LOR) - The ratio of the total light output of a luminaire, compared with total lamp light output.

Lumen (lm) - The unit of luminous flux used to describe the quantity of light emitted by a source or received by a surface.

Luminaire - Apparatus which distribute the light given by a lamp or lamps, including all the items necessary for fixing and protecting the lamps and for connecting them to the electrical supply.

Luminance (cd/m2) - The perceived brightness of a surface, measured by the intensity of light emitted or reflected from a surface area in a given direction.

Luminous Efficacy (lm/W) - The ratio of light emitted, to the power consumed by a lamp.

Luminous Flux (lm) - The total light emitted by a lamp, measured in lumens.

Luminous Intensity (cd) - The power of a light source or illuminated surface to emit light in a given direction, measured in candela.

Lux - The unit if illuminance, equal to one lumen per square metre ($lm/m^2$)

Maintained Emergency Luminaire - A luminaire containing one or more lamps, all of which operate from the normal supply or from the emergency supply at all material times.

Mounting Height - The vertical distance between the luminaire and the working plane. Note: For emergency lighting the floor is always taken to be the working plane.

Non-Maintained Emergency - Luminaire A luminaire containing one or more lamps, which operate from the emergency supply only upon failure of the normal mains supply.

Rated Duration - The manufacturers declared duration for a battery operated emergency lighting unit, specifying the time for which it will operate after mains failure. This may be for any reasonable period, but is normally one or three hours (when fully charged).

Rated Load - The maximum load which may be connected to the system which will be supplied for the rated duration.

Re-charge Period - The time necessary for the batteries to regain sufficient capacity to achieve their rated duration.

Self Contained Emergency Luminaire - A luminaire or sign providing Maintained or Non-Maintained emergency lighting, in which all the elements such as battery, the lamp and the control unit are contained within the housing or within 1 metre of the housing.

Single Point Luminaire - See self-contained emergency luminaire.

Slave Luminaire - An emergency luminaire without its own batteries, which is designed to work in conjunction with a central power system.

Spacing to Height Ratio (SHR) - The ratio of the distance between luminaire centres in relation to their height above the working plane. Maximum spacing to height ratio (SHRmax) is the maximum spacing of an array of luminaires that will achieve a ratio of min/max direct illuminance of at least 0.7.

Standby Lighting - The part of emergency lighting which may be provided to enable normal activities to continue in the event of a mains supply failure.

Sustained Emergency Luminaire - See combined emergency luminaire.

Uniformity - The ratio between minimum illuminance (or luminance) to average illuminance (or luminance), usually measured at the working plane.

# Emergency Lighting Central Power Systems

Most of the self-contained luminaires shown in this catalogue are also available for central power systems.

For more information, please ask your usual Eaton contact.

# Notes

# Notes

Eaton is a power management company with 2017 sales of $20.4 billion. We provide energy-efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. Eaton is dedicated to improving the quality of life and the environment through the use of power management technologies and services. Eaton has approximately 96,000 employees and sells products to customers in more than 175 countries.

For more information, visit **Eaton.com**.

**Eaton Industries Manufacturing GmbH**
Electrical Sector EMEA
Route de la Longeraie 7
1110 Morges, Switzerland
Eaton.eu

Middle East
Eaton FZE
Plot No. TP010505, Technopark
P.O. Box 261768
Dubai, United Arab Emirates
Tel. +971 4 8066100
Fax : +971 4 8894813
www.eaton.com





Powering Business Worldwide