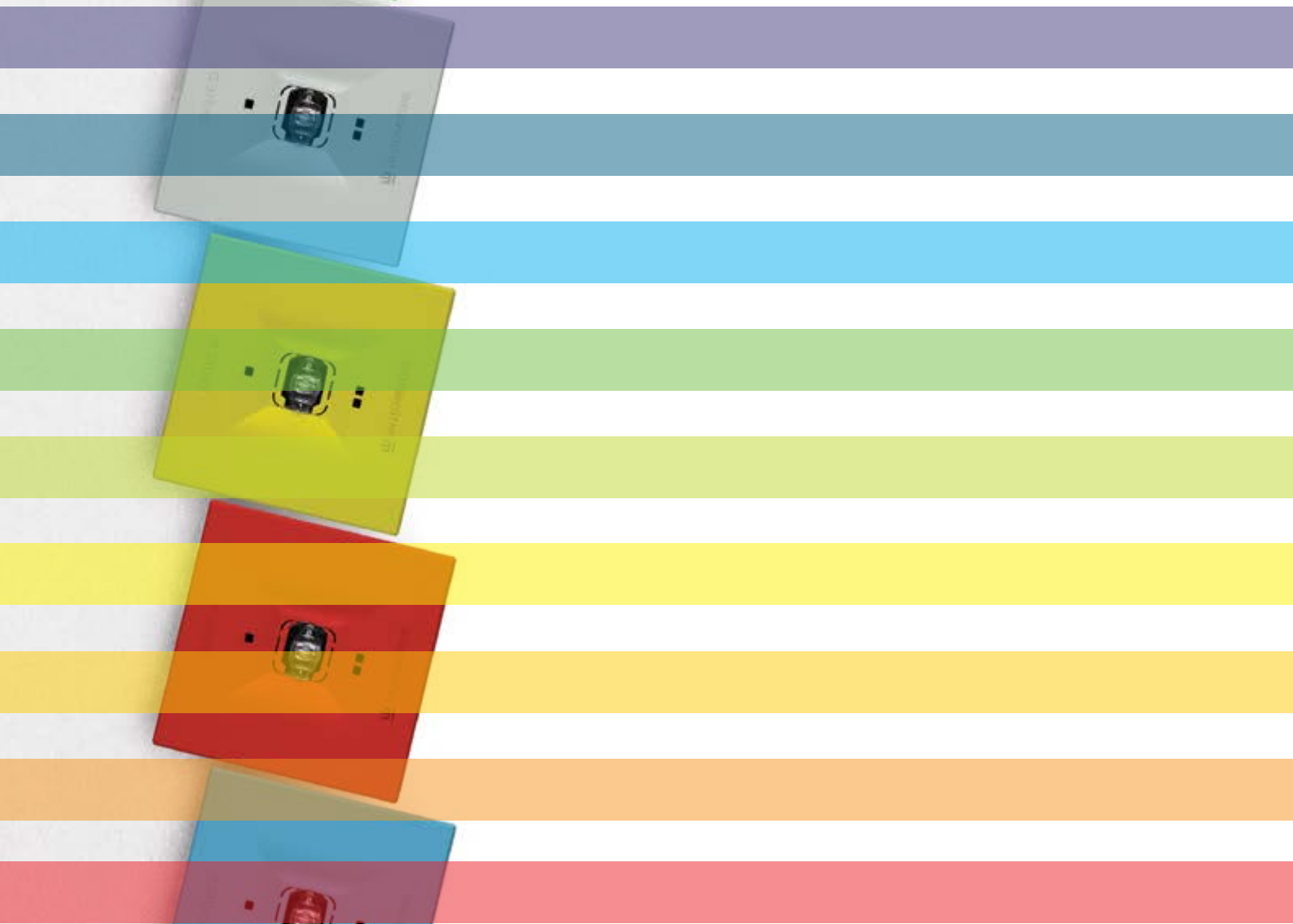




Catalogue 2019/1

 TM TECHNOLOGIE



The actual offer may slightly differ from presented in the catalogue.
This publication is not an offer under the Article of the Civil Code.



TM TECHNOLOGIE - ABOUT THE COMPANY

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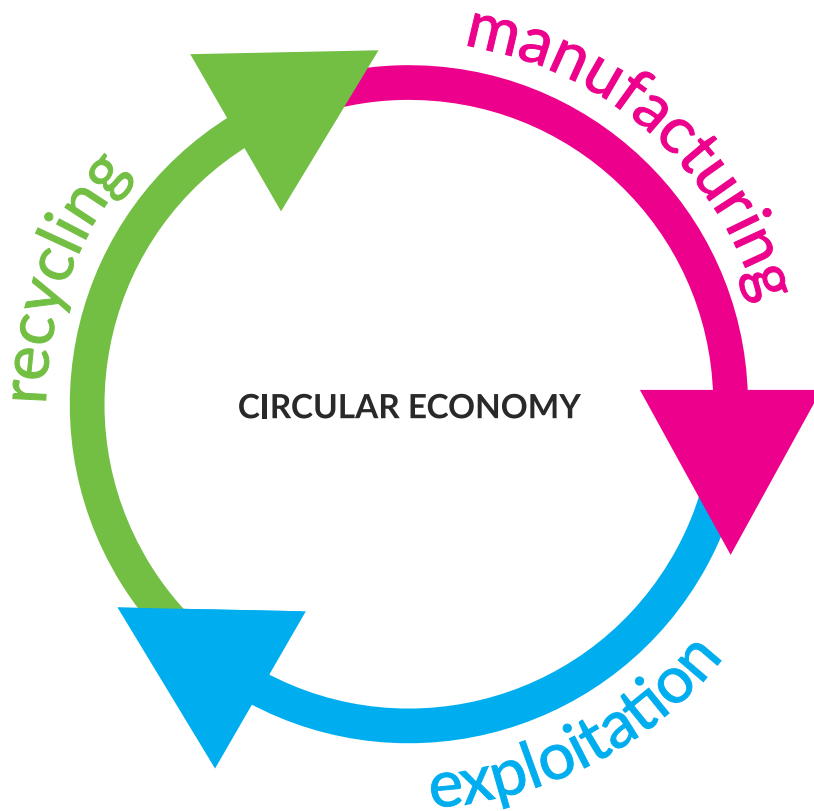
130

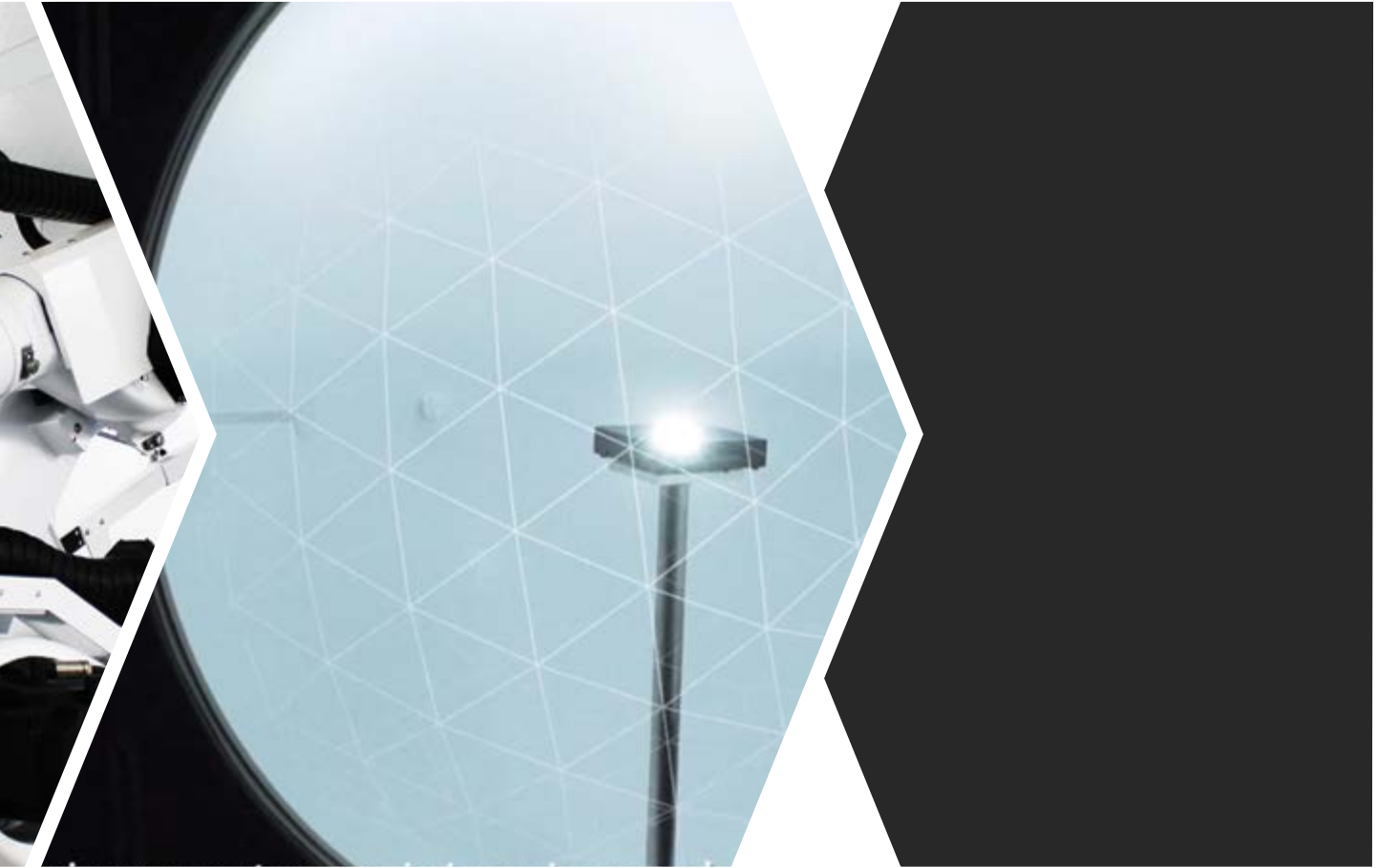


TM TECHNOLOGIE

MANUFACTURER OF EMERGENCY LIGHTING







INTEGRATED MANAGEMENT SYSTEM

Conscious and ethical action is an integral part of our business. We care about the natural environment, which is why TM TECHNOLOGIE has implemented the EN ISO 14001:2015 standard, i.e. the environmental management system. Being aware of the importance of taking care of the ecosystem, we make every effort to ensure that our company constantly minimises its negative impact on the environment.

Our priority at TM TECHNOLOGIE is to provide the highest quality products and services. We have introduced a quality management system compliant with the EN ISO 9001:2015 standard and we can boast of constantly maintained high operation standard. We use the cutting-edge technologies and employ the best specialists, constantly focusing on the development of the company and its employees.

We appreciate people in our company. We believe that employees are important company capital and for years we have been taking care of compliance with the standards of the occupational health and safety management system. Our company employs experienced and qualified specialists, who are valued for their extensive knowledge and skills in the field.

Together we create a friendly and developmental work environment. Together we create a company that takes care of the highest standards of products and services.



DESIGN

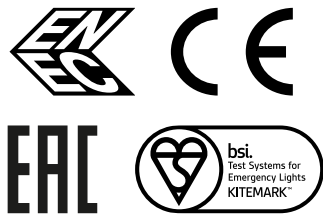
Production halls, hotels, museums, shopping centres and other public buildings are just some of the examples of places for which we design our products. Our engineers and designers use the latest CAD/CAM programs to create high quality products that meet all expectations for aesthetics, ergonomics and functionality.



8

LEGAL REQUIREMENTS

TM TECHNOLOGIE has necessary certificates and meets all the requirements for introducing the products on the market.



ELECTRONIC DEVICES PRODUCTION

We carry out long and short-term projects. We manufacture more than 6,000 electronic devices per day, with more than 90% of components assembled automatically. For this purpose we use modern SMT and THT automatic electronic components assembly line.





MECHANICAL PART PRODUCTION

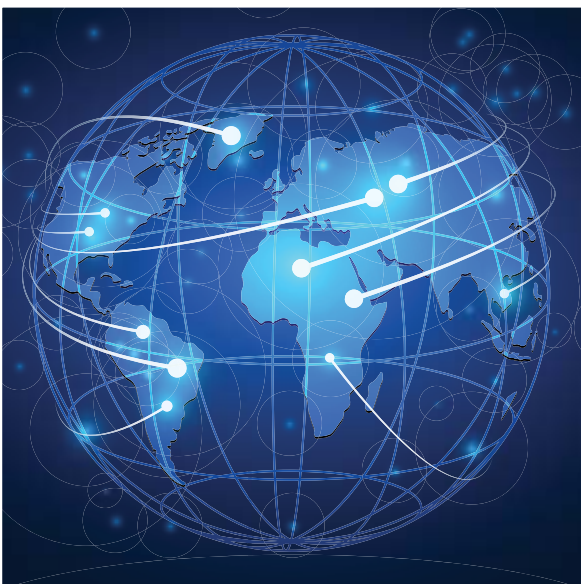
We own a robotised machine park equipped with all the necessary and up-to-date technologies. Moreover, we have a system for gasket casting and injecting plastic parts (ABS, PC, PS) with cutting plotter and engraving machines.



SHEET METAL PROCESSING

We have a specialised line for processing metal materials:

- punching,
- cutting,
- bending,
- welding.



SALE

TM TECHNOLOGIE products reach both Polish and international customers. Export sales amount to approx. 40% of the company's total production.



TM AKADEMIA

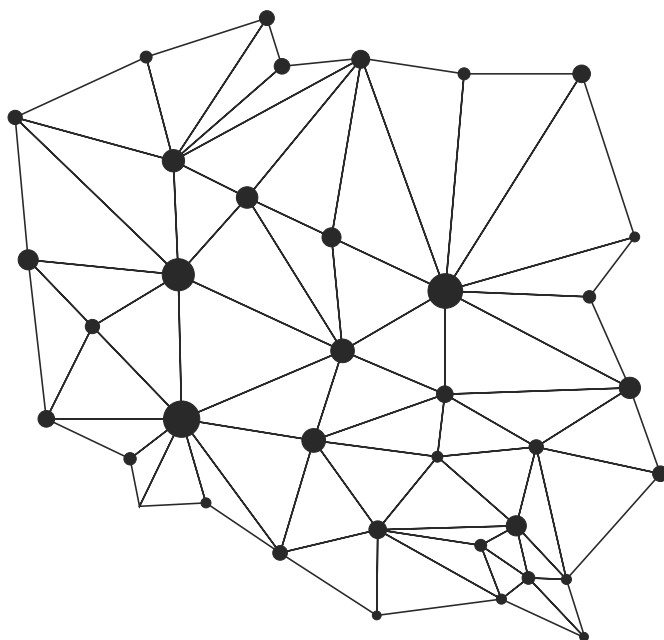
TM AKADEMIA = SUBSTANTIVE TRAINING

As a leading company in the emergency lighting sector, we play a special role in educating the industry and the market. In order to implement it effectively, we have launched TM TECHNOLOGIE Academy - a nationwide training project aimed at improving the qualifications of specialists in the emergency and escape lighting industry. Its participants broaden knowledge, develop skills and gain valuable hints helping in the implementation of professional undertakings.

The need to transfer new knowledge has been and remains particularly important. It was the knowledge that became a direct impulse for the introduction of specialised trainings, which - thanks to a comprehensive offer and the highest quality - will meet the expectations of the most demanding participants.



TOGETHER for SECURITY



PROJECTS

The company is active on the global market, joining not only projects in almost all EU Member States, but also in the Middle East, Africa and South America.





INDUSTRY TRADE FAIRS

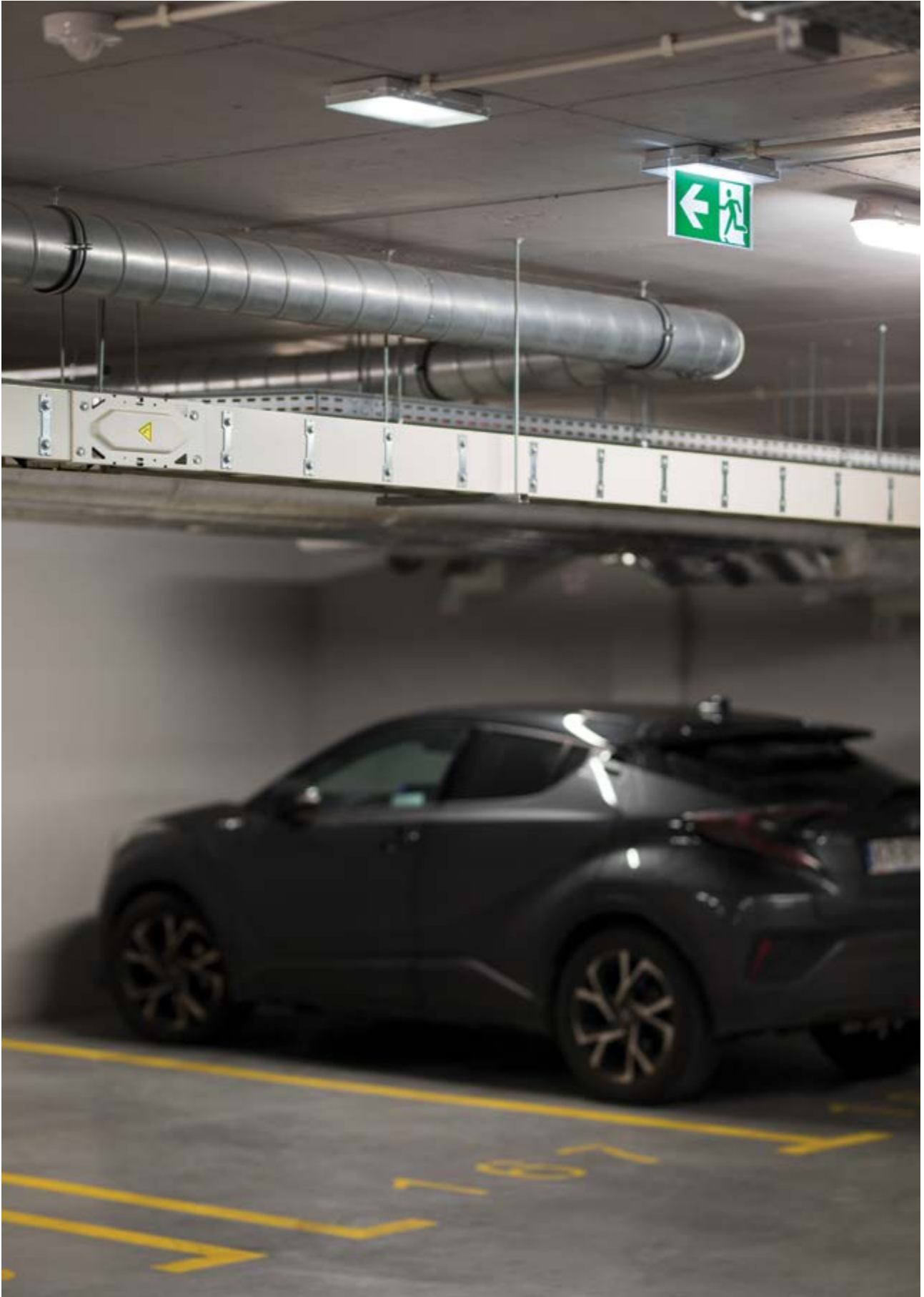
Meet us:

- » Poland
Bielsko-Biala | Energetab
Warsaw | Light
- » Germany
Frankfurt | Light&Building
- » Sweden
Göteborg | Elfact
- » United Arab Emirates
Dubai | Intersec



LEGAL AND NORMATIVE

REQUIREMENTS FOR EMERGENCY LIGHTING



EMERGENCY LIGHTING

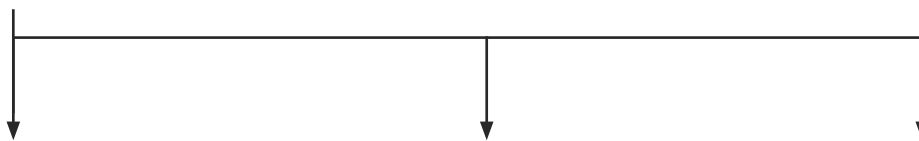


ESCAPE LIGHTING

Part of the emergency lighting that ensures safe escape from the high risk task area or that ensures possibility to attempt to finish the dangerous process in advance.

STANDBY LIGHTING

Part of emergency lighting provided to enable normal activities to continue substantially unchanged.



ESCAPE ROUTE LIGHTING

Part of emergency lighting provided to ensure that the routes of escape can be effectively identified and safely used by persons leaving their location.

OPEN AREA LIGHTING

(anti-panic lighting)

Part of emergency lighting provided to avoid panic and to provide illumination allowing people to reach a place where an escape route can be identified.

HIGH RISK TASK AREA LIGHTING

Part of emergency lighting that provides illumination for the safety of people involved in a potentially dangerous process or situation and to enable proper shut down procedures for the operator and other occupants of the premises.



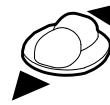
SAFETY SIGNS

Sign obtained by a combination of colour and geometric shape, which by the addition of a graphic symbol, communicates a particular safety message.



ESCAPE ROUTE LIGHTING

- » The average illuminance at the centre line of the escape route on the floor should be not less than 1 lx.
- » At the route centre line covering not less than half of the width, the illuminance should be at least 50% of the desired value.
- » The ratio of maximum to minimum illuminance on the floor along the centre line of the route should not exceed 40:1.
- » The escape route emergency lighting should reach 50% of required level of illuminance within 5 seconds and full illuminance within 60 seconds.
- » The minimum permissible battery life for escape route lighting is 1 hour.



C LENS

optimal for escape routes up to 7 m high



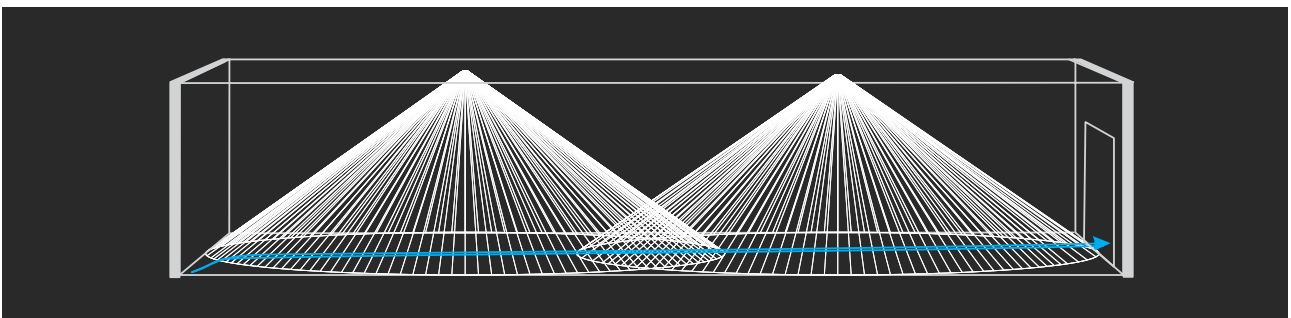
F LENS

optimal for escape routes with a height above 7 m



W LENS (asymmetrical)

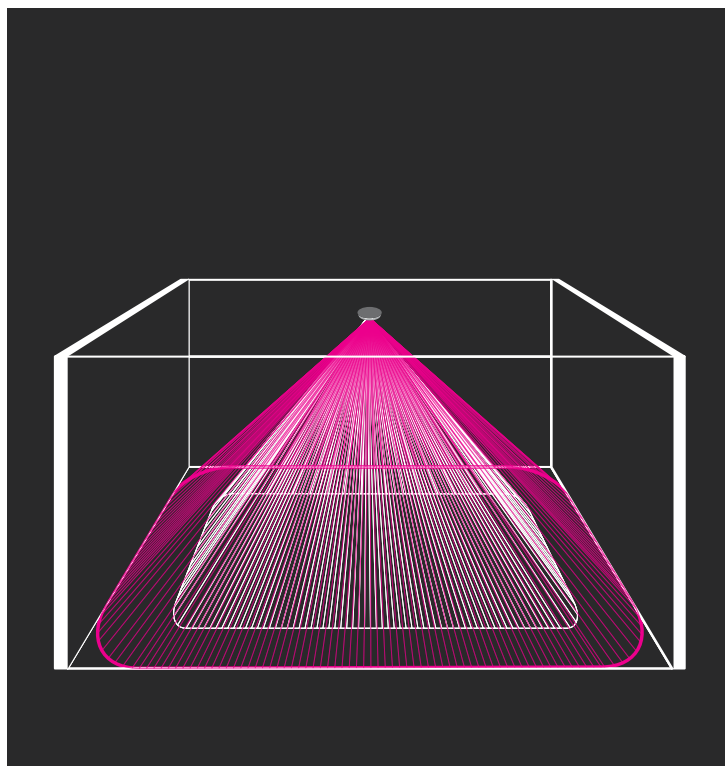
illumination of fire points and the end of the escape route





ANTI-PANIC LIGHTING

- » The illuminance should not be less than 0.5 lx at the floor level in an unoccupied active field of the open area, except for a 0.5 m wide stripe to be excluded from this zone.
- » The ratio of the maximum illuminance to the minimum illuminance in the open area should not exceed 40:1.
- » In an open area, 50% of the required illuminance should be produced within 5 seconds and the full illuminance level within 60 seconds.
- » The minimum permissible battery life for the open area is 1 hour.

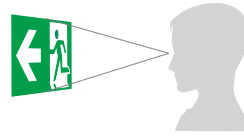


- » It is necessary to use emergency lighting in toilets for the disabled with a value of 5 lx illuminance at floor.



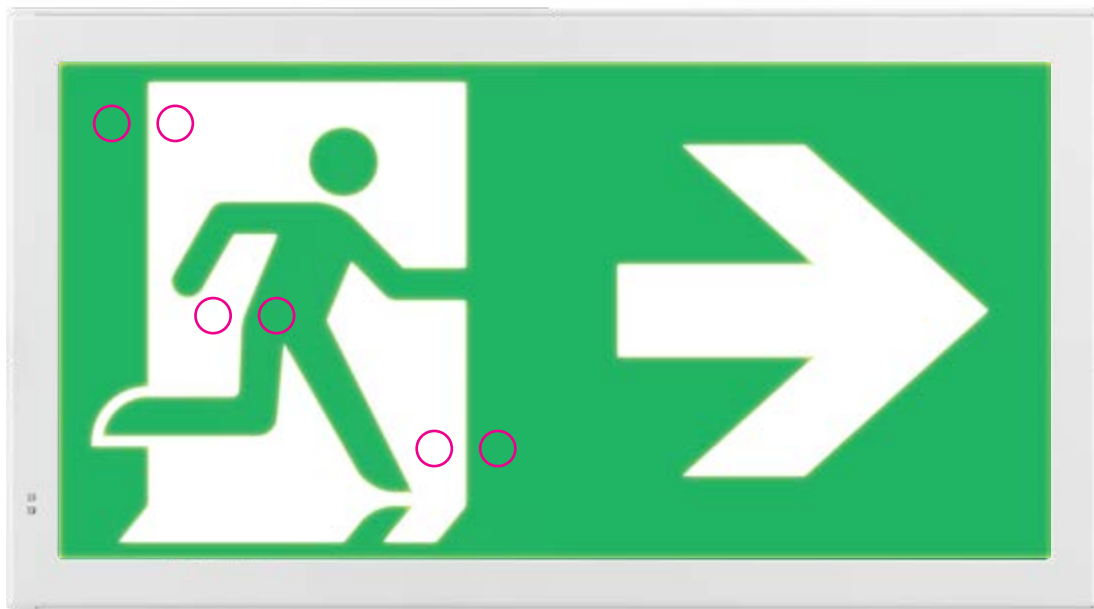
INTERNALLY ILLUMINATED SIGN

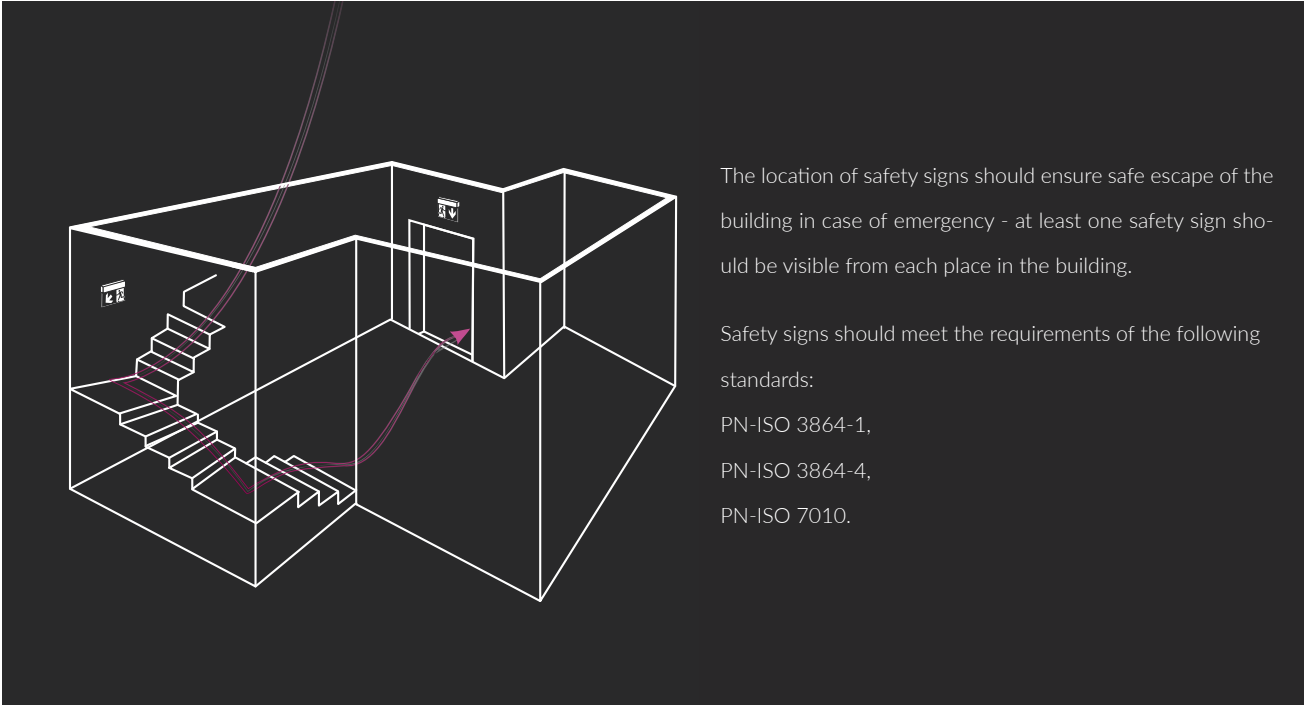
For internally illuminated signs, the distance from the sign may be 200 times the vertical dimension of the sign.



- » Maximum luminance ratio for the minimum luminance of both white and coloured parts of safety signs, should not exceed 10:1.
- » The ratio of the luminance of the white part of the sign to the luminance of the colour part of the sign should not be less than 5:1 and greater than 15:1.
- » The luminance of each colour part of the sign depend of country regulation should be at least:
 - min. 2 cd/m² (recommended minimum 200 cd/m²)
 - min. 500 cd/m²

According to EN ISO 7010.





The location of safety signs should ensure safe escape of the building in case of emergency - at least one safety sign should be visible from each place in the building.

Safety signs should meet the requirements of the following standards:

- PN-ISO 3864-1,
- PN-ISO 3864-4,
- PN-ISO 7010.



According to PN-EN 1838:2013, emergency fittings should be placed:

- » at each exit door,
- » near stairs so that each tread receives direct light,
- » near any floor level change,
- » near externally illuminated safety signs,
- » at each change of direction,
- » at each intersection of corridors,
- » near each final exit and outside the building, all the way to a safe place,
- » the term "near" means a distance of up to 2 m.





VADEMECUM

SPHERES OF ILLUMINATION



LED

We care about the environment not only locally, but also globally. This idea is accomplished with our specific actions. We have implemented an environmental management system compliant with the requirements of EN ISO 14001:2015, and our emergency lighting luminaries are equipped with LED technologies that are not only effective, but also eco-friendly. They use much less energy than incandescent bulbs and can also be recycled.

The use of LiFePO4 battery allows us to maintain long life, no memory effect, stable capacity and long period between service maintenance in wide temperature range.

| Battery | Ni-MH | Ni-Cd | LiFePO4 |
|---|------------|------------|--------------------|
| Life-span | 4 years | 4 years | 6-8 years |
| Cycle life time | 300 cycles | 500 cycles | 1500 cycles |
| Safety | high | high | high |
| Meeting the requirements of emergency lighting applications | low | medium | high |



Benefits for people in healthy buildings due to lighting

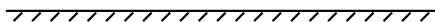
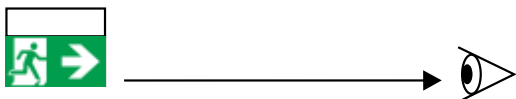
| | | | |
|--|---|--|--|
| | | | |
| <p>Employees in office perform up to 12% better</p> | <p>Workers productivity increases by up to 18%</p> | <p>Students achieve up to 14% higher scores</p> | <p>up to 25% increase in retail sales</p> |

Source of information: <https://www.lightingeurope.org/>



LUMINANCE

A photometric quantity that is a measure of the intensity of light falling in a given direction. It describes the amount of light that passes through or is emitted by a given area and fits within a given solid angle. This is a measure of the visual impression that the eye perceives from a shining surface. The unit of luminance is the candela per square metre [cd/m²].



CONTRAST

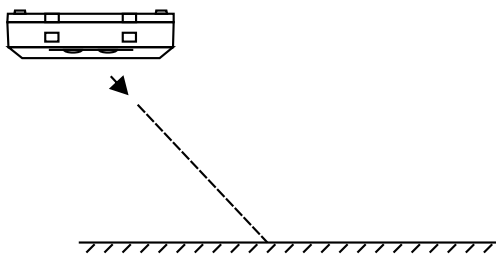
A "greensignal" and "whitesignal" are used for a safety colour and a contrast colour, respectively - for the contrast colour.





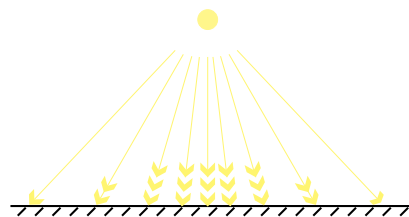
LUMINOUS FLUX

The part of the optical radiation emitted by a light source which is perceived by human eye in a time unit. For example, a bulb emits a large amount of infrared radiation, i.e. thermal radiation, in addition to visible radiation, which is visible to the eye. The same is true of the halogen bulb, which emits both infrared and ultraviolet radiation - both invisible to the eye. The unit of luminous flux is the lumen [lm].



ILLUMINATION INTENSITY

The surface density of the light flux falling on a given plane, i.e. the ratio of the light flux falling on a plane to its surface area. The unit of illumination intensity is the lux [lx], where: $lx = lm/m^2$.



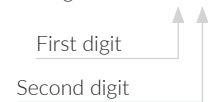


PROTECTION DEGREE

The ingress protection class is a technical parameter of the luminaire concerning protection against solids and liquid penetration into the luminaire's interior. We produce as many as 3 types of luminaires: IP20, IP44, IP65. They provide the highest level of safety, regardless of the space in which the luminaire is to be mounted.

28

The marking of the degree of ingress protection consists of two digits. They are interpreted in accordance with the following tables: IP XX



FIRST DIGIT

Protection against penetration of solids:

| | | |
|---|--|---------------------------------|
| 0 | | no protection |
| 1 | | with a diameter of ≥ 50 mm |
| 2 | | a diameter $\geq 12,5$ mm |
| 3 | | with a diameter $\geq 2,5$ mm |
| 4 | | with a diameter ≥ 1 |
| 5 | | limited protection against dust |
| 6 | | dustproof |

SECOND DIGIT

Liquid ingress protection:

| | | |
|---|--|---|
| 0 | | no protection |
| 1 | | dripping water (condensation) |
| 2 | | dripping water at an angle $\leq 15^\circ$ |
| 3 | | sprayed at an angle $\leq 60^\circ$ |
| 4 | | falling from all directions |
| 5 | | poured from all directions |
| 6 | | poured with a strong stream from all directions |
| 7 | | short immersion |
| 8 | | long immersion |

OPERATING MODE

We specify two modes of operation of the emergency luminaire:

- NM mode - a single-function luminaire - it lights up only when the primary power supply fails,
- M Mode - a dual-function luminaire - it operates both during power failure and during normal operation. Such a solution works well in illuminated evacuation signs or as night lighting in galleries.



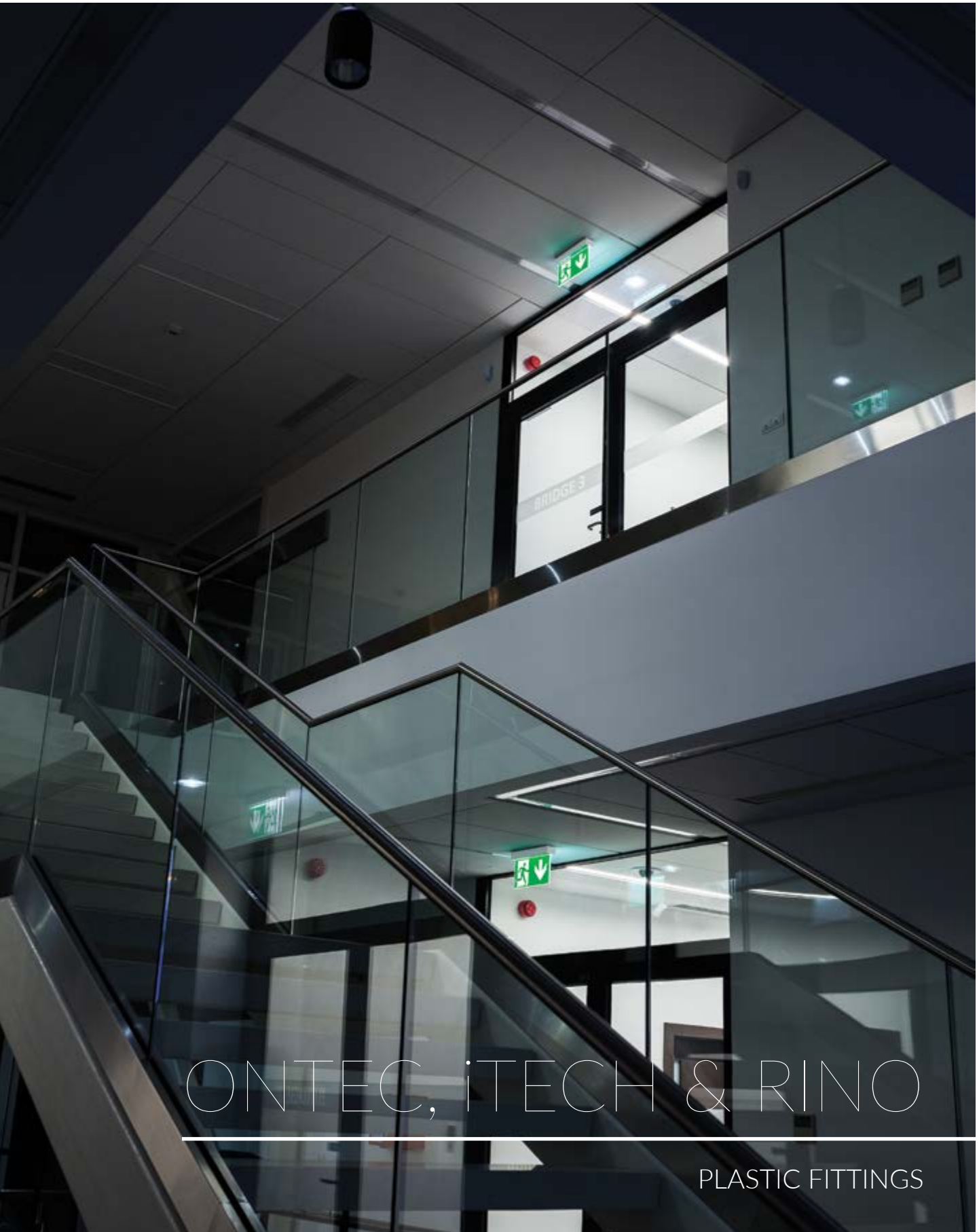
INSULATION CLASS

Protection class is the degree of protection against electric shock. There are four classes of protection: 0, I, II and III.

- » Class I equipment has basic insulation that provides protection against direct contact. To provide protection against indirect contact (interference protection or additional protection), a protective earthing conductor (PE) or a conductor combining the functions of a both protective earthing and a neutral conductor (PEN) is connected to the device's protective terminal.
- » Class II equipment has reinforced insulation that provides protection against direct and indirect contact. Another way to provide protection against electric shock in class II equipment is to use basic and additional insulation.
- » Class III protection is distinguished by a very low voltage power supply.







ONTEC, ITECH & RINO

PLASTIC FITTINGS

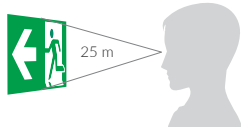
ONTEC E

DISCRETE AND EFFICIENT



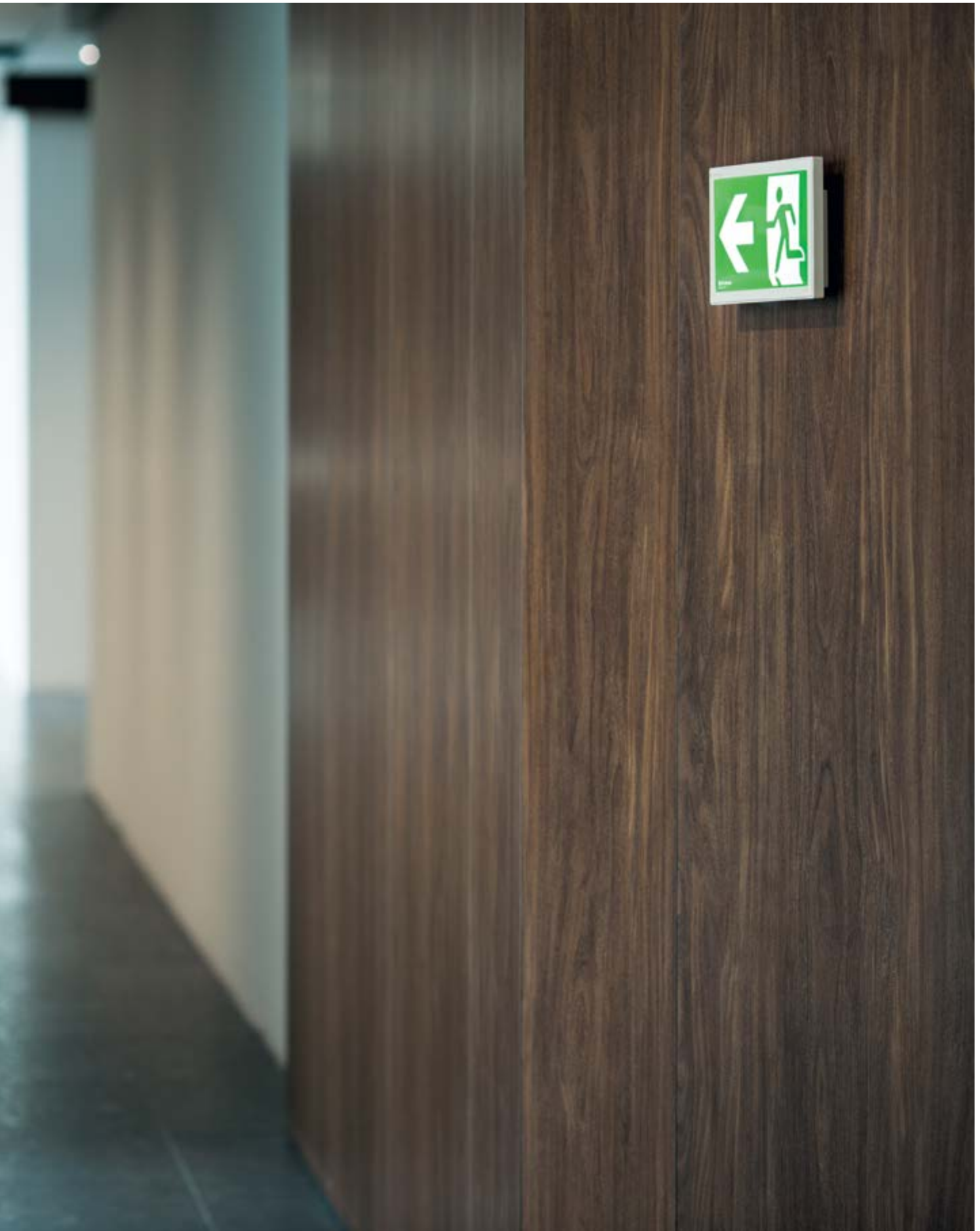
32


- » high luminance – up to 500 cd/m²
- » visibility up to 25 meters



- » extended lifetime thanks to LiFePO₄ packages
- » maintain (M) or non-maintain (NM) operation mode
- » lamination uniformity thanks to LED light source + edge light gate

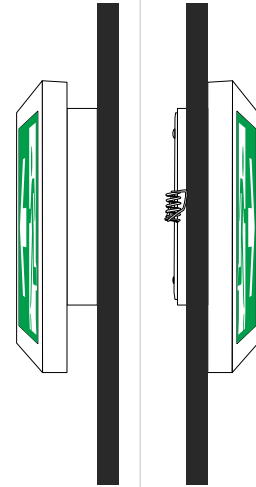




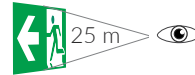
| | |
|-----------------------------|---|
| Application | evacuation road direction (evacuation sign) |
| Type | one-sided fitting |
| Light source | LED  |
| Visibility | 25 m |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable: CB4 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB1: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB4: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input checked="" type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |

» surface mounted

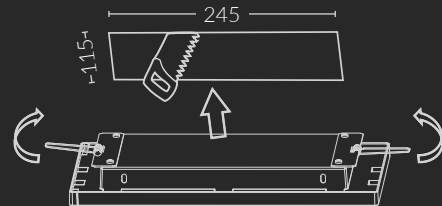
» TM-AKC.OE001
recessed installation



Pictograms in the set:



Dimensions [± 2 mm]



| Model | Luminance | Mode | Time | Battery | Testing |
|-------------|-------------------------|--------|---------|---------|-----------------------|
| ONTEC E E1A | ≥ 200 cd/m ² | NM | 1 / 3 h | Ni-Cd | ST |
| ONTEC E E1B | ≥ 200 cd/m ² | M / NM | 1 / 3 h | Ni-Cd | ST / AT / DATA / DALI |
| ONTEC E E1E | ≥ 200 cd/m ² | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC E E1P | ≥ 400 cd/m ² | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC E E1E | ≥ 200 cd/m ² | - | - | - | CB1, CB4 |
| ONTEC E E1P | ≥ 400 cd/m ² | - | - | - | CB1, CB4 |

For pictogram luminance > 500 cd/m² (PRO version) is necessary to order a special extension kit [OE +500 cd].



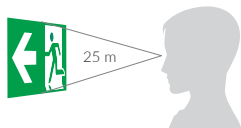
ONTEC G

ONE FITTING - MANY APPLICATIONS




36

- » high luminance - up to 500 cd/m²
- » visibility up to 25 meters



- » extended lifetime thanks to LiFePO₄ packages
- » easy and quick installation
- » maintain (M) or non-maintain (NM) operation mode
- » one-sided or double-sided view fitting



| | |
|-----------------------------|---|
| Application | evacuation road direction (evacuation sign) |
| Light source | LED  |
| Visibility | 25 m |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB2 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB1: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB2: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |

» ceiling installation



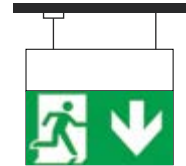
» recessed mounting TM-AKC.OG003



» wall installation



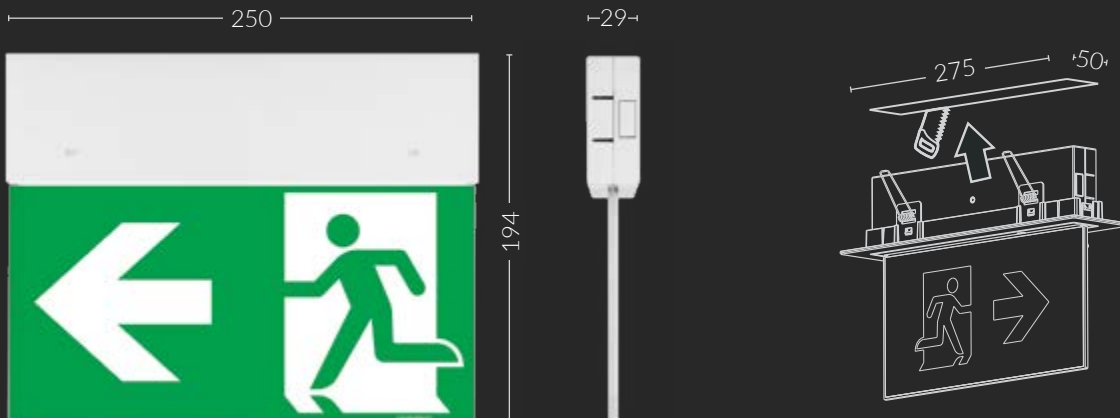
» suspension bracket TM-AKC.OG010 + MC.ZAW.OG.001



Pictograms in the set:



Dimensions [± 2 mm]



| Model | Luminance | Mode | Time | Battery | Testing |
|-------------|-------------------------|--------|---------|---------|-----------------------|
| ONTEC G E1A | ≥ 200 cd/m ² | NM | 1 / 3 h | Ni-Cd | ST |
| ONTEC G E1B | ≥ 200 cd/m ² | M / NM | 1 / 3 h | Ni-Cd | ST / AT / DATA / DALI |
| ONTEC G E1E | ≥ 200 cd/m ² | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC G E1P | ≥ 400 cd/m ² | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC G E1E | ≥ 200 cd/m ² | - | - | - | CB1, CB2 |
| ONTEC G E1P | ≥ 400 cd/m ² | - | - | - | CB1, CB2 |

For pictogram luminance > 500 cd/m² (PRO version) is necessary to order a special extension kit [OG +500 cd].



The housings come in different color options.



ONTEC R E1


RELIABILITY AND ELEGANCE

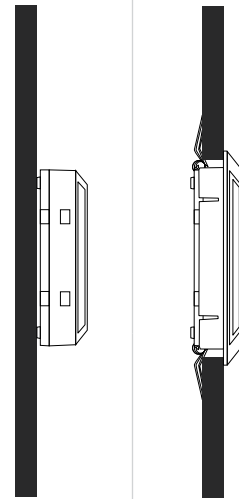


40

- » extended lifetime thanks to LiFePO4 packages
- » minimalistic design
- » surface and recessed mounting
- » maintain (M) or non-maintain (NM) operation mode



| | |
|-----------------------------|---|
| Application | identification of fire - protection devices evacuation road direction (evacuation sign) |
| Light source | LED  |
| Testing for self-contained | non-addressable: ST - for bottom test non-addressable: AT - auto-test / self-test addressable: DATA - with addressable module for DATA system addressable: DALI - with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 - without addressable module addressable : CB3 - with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB1: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB3: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |



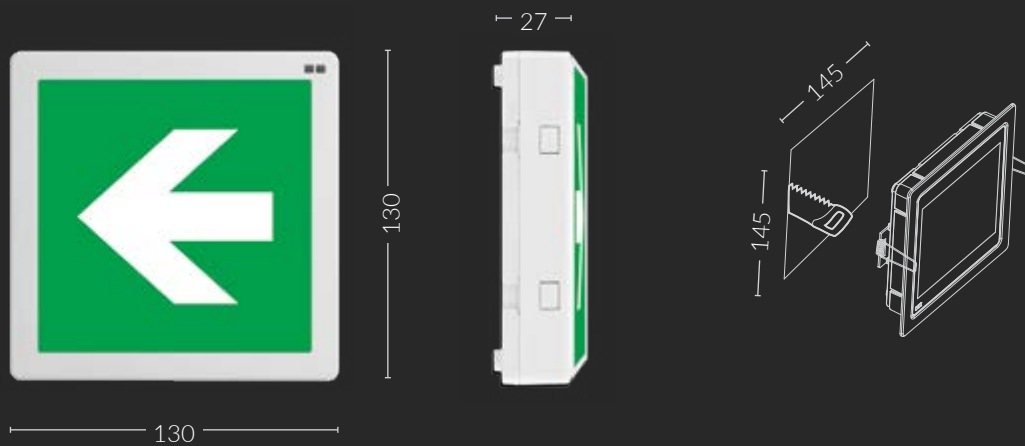
» surface mounted

» TM-AKC.OR001
set for recessed
mounting

Pictograms in the set:

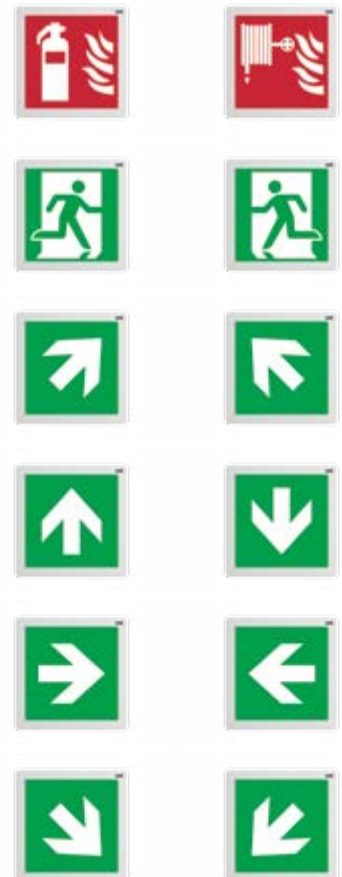


Dimensions [± 2 mm]



| Model | Luminance | Mode | Time | Battery | Testing |
|-------------|-------------------------|--------|---------|---------|-----------------------|
| ONTEC R E1P | ≥ 400 cd/m ² | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC R E1P | ≥ 400 cd/m ² | - | - | - | CB1 / CB3 |

For pictogram luminance > 500 cd/m² is necessary to order a special extension kit [OR +500 cd].

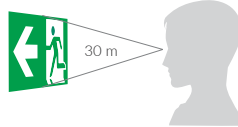


ITECH Z

ONE FITTING - MANY APPLICATIONS



» visibility up to 30 meters



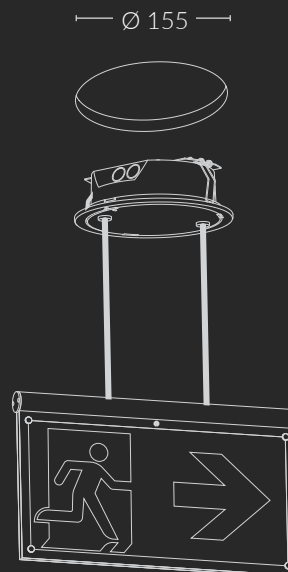
» plug-in connection – when the fitting is opened, the voltage on its active elements is cut off


» high protection degree – IP65

» ability to operate in low-temperature environments thanks to the COLD version

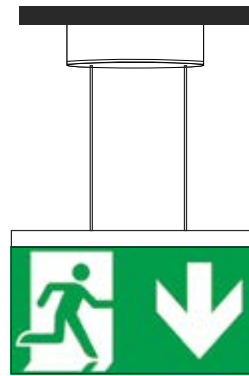
» moulded high-resilience polyurethane gasket

» one-sided or double-sided view fitting



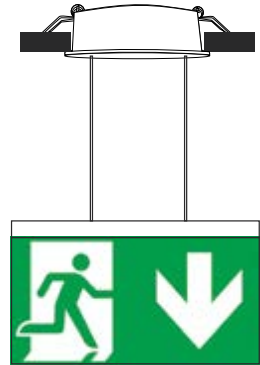
| | |
|-----------------------------|--|
| Application | evacuation road direction (evacuation sign) |
| Light source | LED  |
| Type | double-sided fitting |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB3 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP65 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +40^{\circ}\text{C}$ CB1: $t_a -25^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB3: $t_a -15^{\circ}\text{C} \div +40^{\circ}\text{C}$ COLD: $t_a -15^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |

» surface mounted

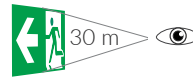


» TM-AKC.IT003

set for recessed mounting



Pictograms in the set:



| Model | Mode | Time | Battery | Testing |
|----------------|--------|------|---------|-----------------------|
| iTECH Z E2 ECO | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| iTECH Z E2 PRO | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| iTECH Z E2 ECO | - | - | - | CB1, CB3 |
| iTECH Z E2 PRO | - | - | - | CB1, CB3 |

For pictogram luminance > 500 cd/m² is necessary to order a special extension kit [IT +500 cd].



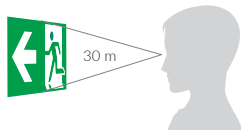
ONTEC AP

CLEAR DIRECTION



46


» visibility up to 30 meters



- » ceiling installation, surface mounted
- » easy and quick installation
- » one-sided or double-sided view fitting



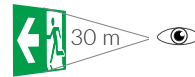


| | |
|-----------------------------|---|
| Application | evacuation road direction (evacuation sign) |
| Type | double-sided fitting |
| Light source | LED  |
| Visibility | 30 m |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable: CB2 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB1: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB2: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |

» surface mounted



Pictograms in the set:



Dimensions [± 2 mm]



| Model | Mode | Time | Battery | Testing |
|--------------|--------|------|---------|-----------------------|
| ONTEC AP ECO | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC AP PRO | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC AP ECO | - | - | - | CB1, CB2 |
| ONTEC AP PRO | - | - | - | CB1, CB2 |

For pictogram luminance > 500 cd/m² (PRO version) is necessary to order a special extension kit [AP +500 cd].



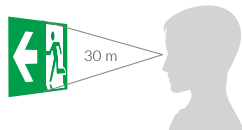
ONTEC PP

MINIMALIST DESIGN HIDING MAXIMUM POWER



50

» visibility up to 30 meters




» recessed installation

» easy and quick installation

» one-sided or double-sided view fitting



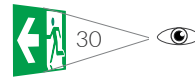


| | |
|-----------------------------|---|
| Application | evacuation road direction (evacuation sign) |
| Type | double-sided fitting |
| Light source | LED  |
| Visibility | 30 m |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB2 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB1: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB2: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |

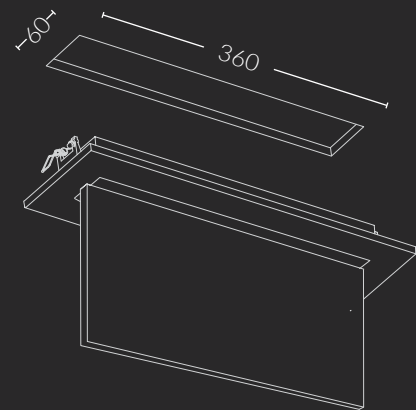
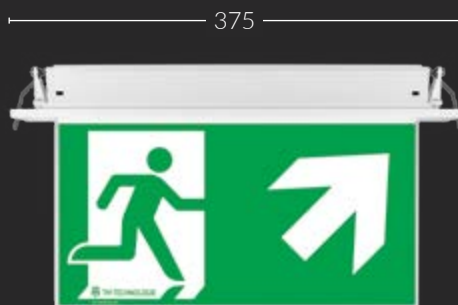
» recessed installation



Pictograms in the set:



Dimensions [± 2 mm]



| Model | Mode | Time | Battery | Testing |
|--------------|--------|------|---------|-----------------------|
| ONTEC PP ECO | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC PP PRO | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC PP ECO | - | - | - | CB1, CB2 |
| ONTEC PP PRO | - | - | - | CB1, CB2 |

For pictogram luminance > 500 cd/m² (PRO version) is necessary to order a special extension kit [PP +500 cd].



ONTEC A

MINIMALIST DESIGN HIDING MAXIMUM POWER




54

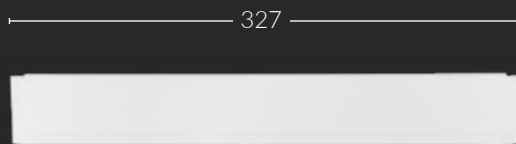
- » ceiling installation, surface mounted
- » easy and quick installation





| | |
|-----------------------------|---|
| Application | anti-panic lighting escape route lighting |
| Light source | LED  |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB2 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB1: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB2: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |

» surface mounted



61



46

| Model | Mode | Time | Battery | Testing |
|------------|--------|------|---------|-----------------------|
| ONTECA ECO | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTECA PRO | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTECA ECO | - | - | - | CB1, CB2 |
| ONTECA PRO | - | - | - | CB1, CB2 |



ONTEC P

INVISIBLE FITTING




58

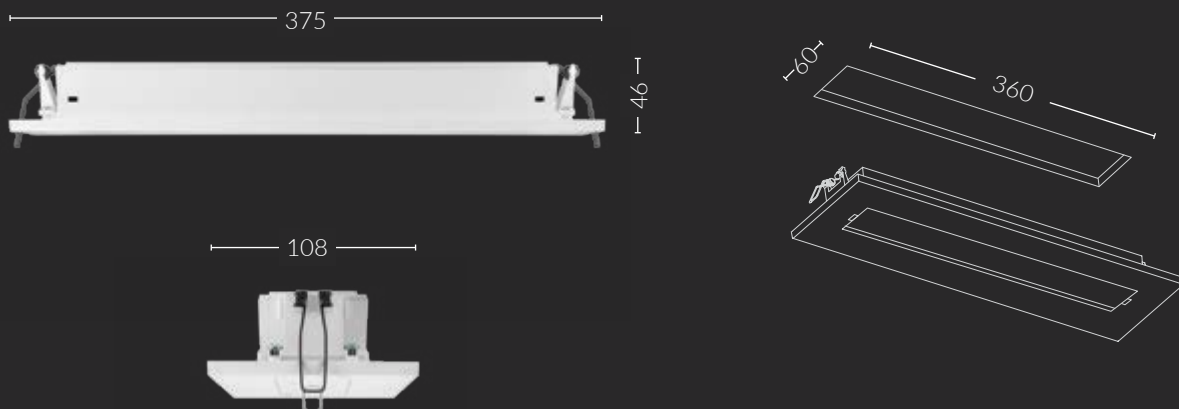
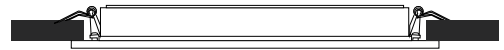
- » recessed installation
- » easy and quick installation





| | |
|-----------------------------|---|
| Application | anti-panic lighting escape route lighting |
| Light source | LED  |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB2 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | II |
| Temperatue range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB1: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB2: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |

» recessed installation



| Model | Mode | Time | Battery | Testing |
|-------------|--------|------|---------|-----------------------|
| ONTEC P ECO | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC P PRO | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC P ECO | - | - | - | CB1, CB2 |
| ONTEC P PRO | - | - | - | CB1, CB2 |



ONTEC C

DISCRETE PROTECTION




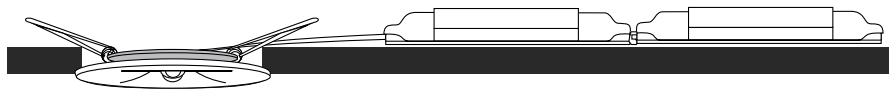
62

- » recessed installation
- » extended lifetime thanks to LiFePO4 packages
- » minimalistic design
- » easy installation thanks to the modular electronics design



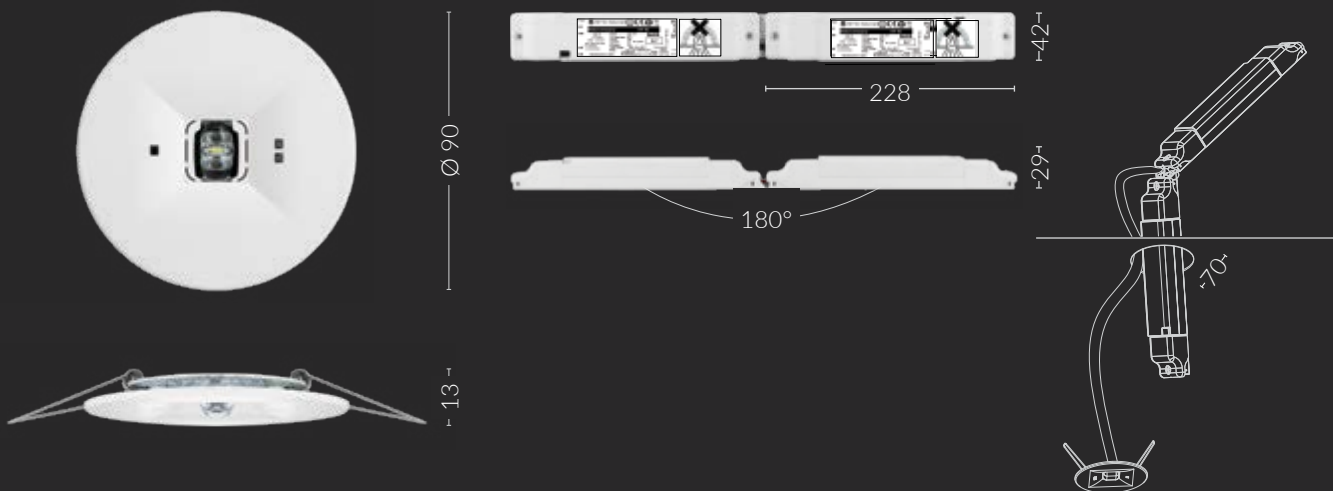


| | |
|-----------------------------|---|
| Application | anti-panic lighting escape route lighting |
| Light source | LED  |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB4 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB1: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB4: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |



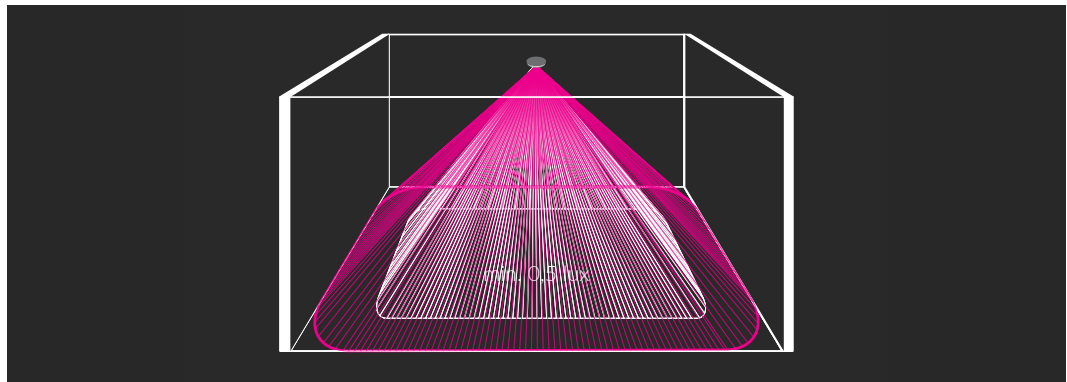
» recessed installation

Dimensions [± 2 mm]



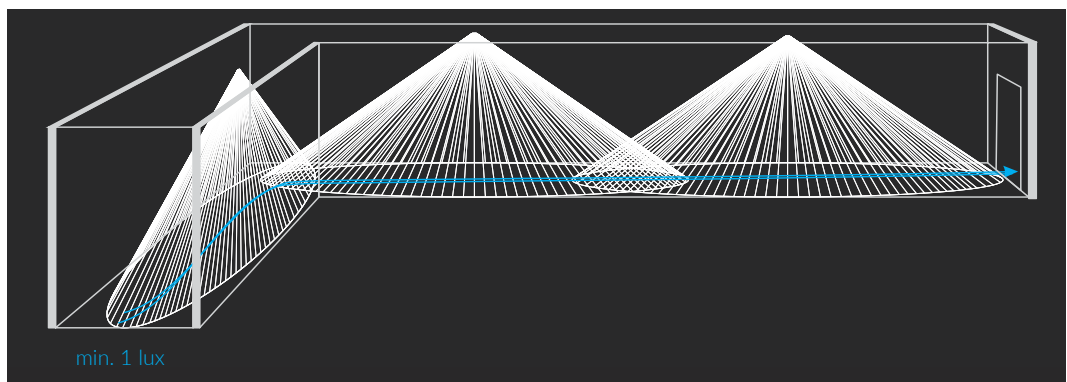
ANTI-PANIC LIGHTING | OPEN SPACE

| Model | Luminous flux | Time | Mode | Battery | Testing |
|-------------|---------------|---------|--------|---------|-----------------------|
| ONTEC C M1U | 150 lm | 1 / 3 h | NM | Ni-Cd | ST |
| ONTEC C M1 | 133 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC C M2 | 274 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC C M2H | 374 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC C M1 | 133 lm | - | - | - | CB1, CB4 |
| ONTEC C M2 | 274 lm | - | - | - | CB1, CB4 |
| ONTEC C M2H | 374 lm | - | - | - | CB1, CB4 |



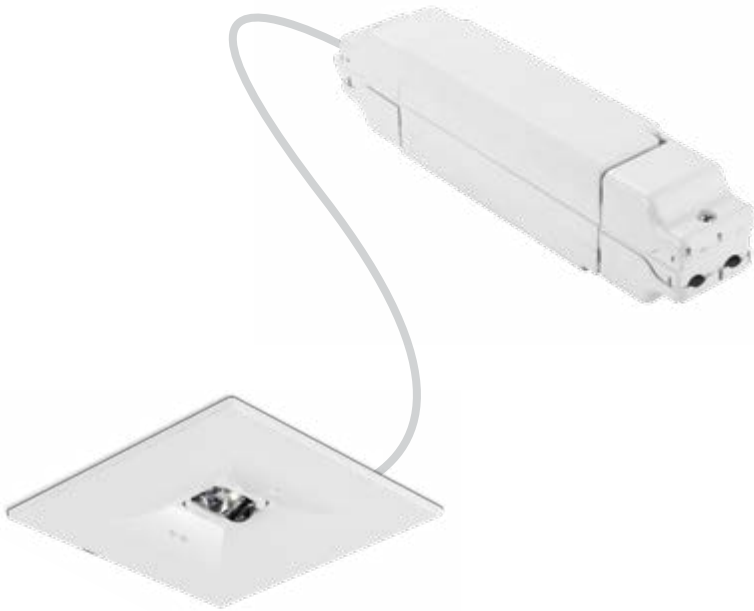
ESCAPE ROUTE LIGHTING | OPTIMAL FOR ESCAPE ROUTES UP TO 7 M HIGH

| Model | Luminous flux | Time | Mode | Battery | Testing |
|-------------|---------------|---------|--------|---------|-----------------------|
| ONTEC C C1U | 134 lm | 1 / 3 h | NM | Ni-Cd | ST |
| ONTEC C C1E | 121 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC C C1 | 247 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC C C1H | 336 lm | 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC C C1E | 121 lm | - | - | - | CB1, CB4 |
| ONTEC C C1 | 247 lm | - | - | - | CB1, CB4 |
| ONTEC C C1H | 336 lm | - | - | - | CB1, CB4 |



ONTEC D

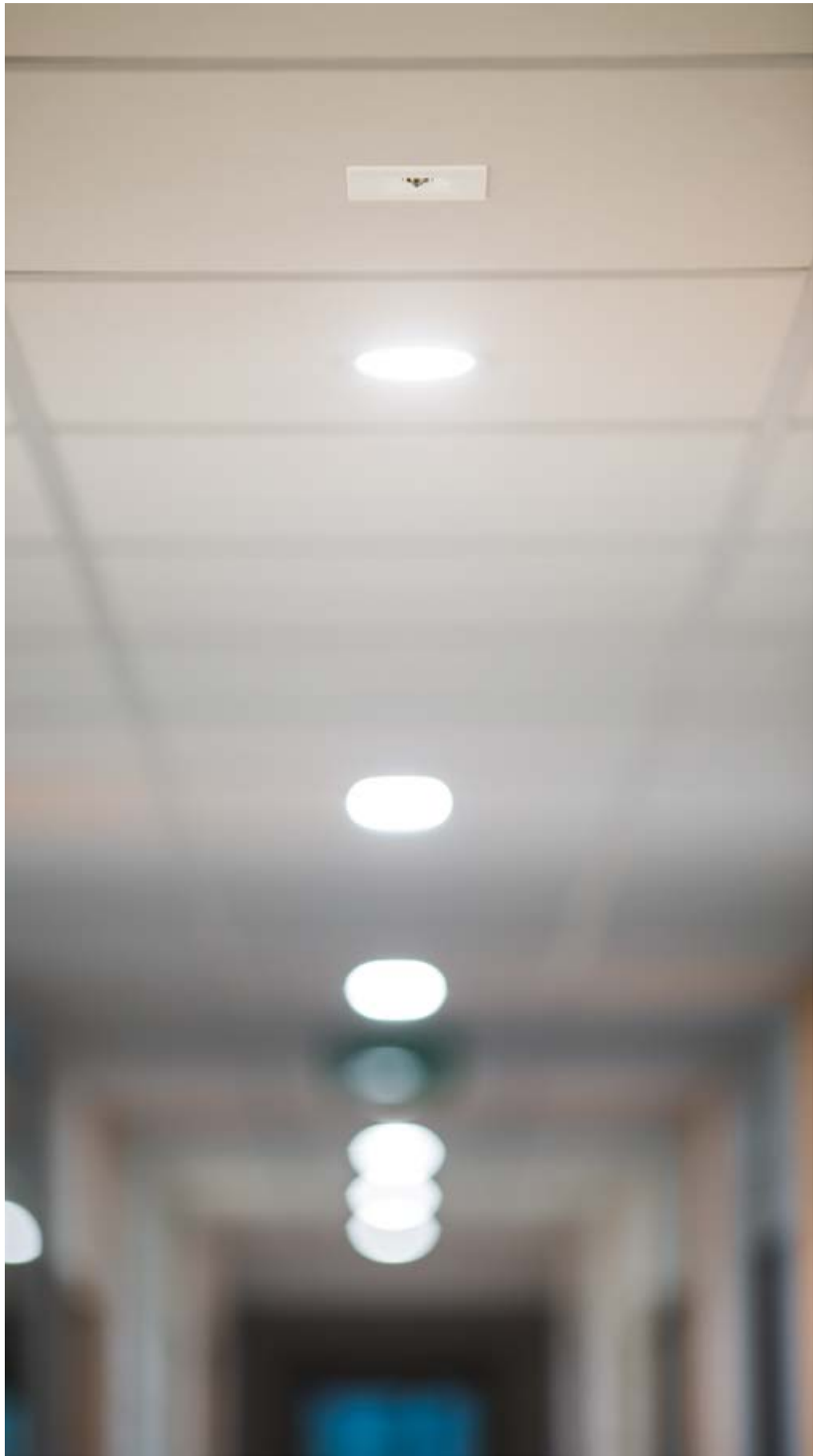
DISCRETE PROTECTION




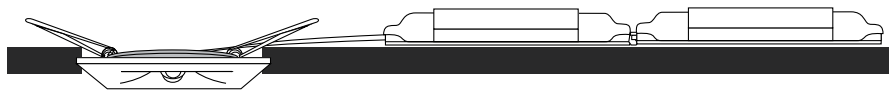
66

- » recessed installation
- » extended lifetime thanks to LiFePO4 packages
- » minimalistic design
- » easy installation thanks to the modular electronics design



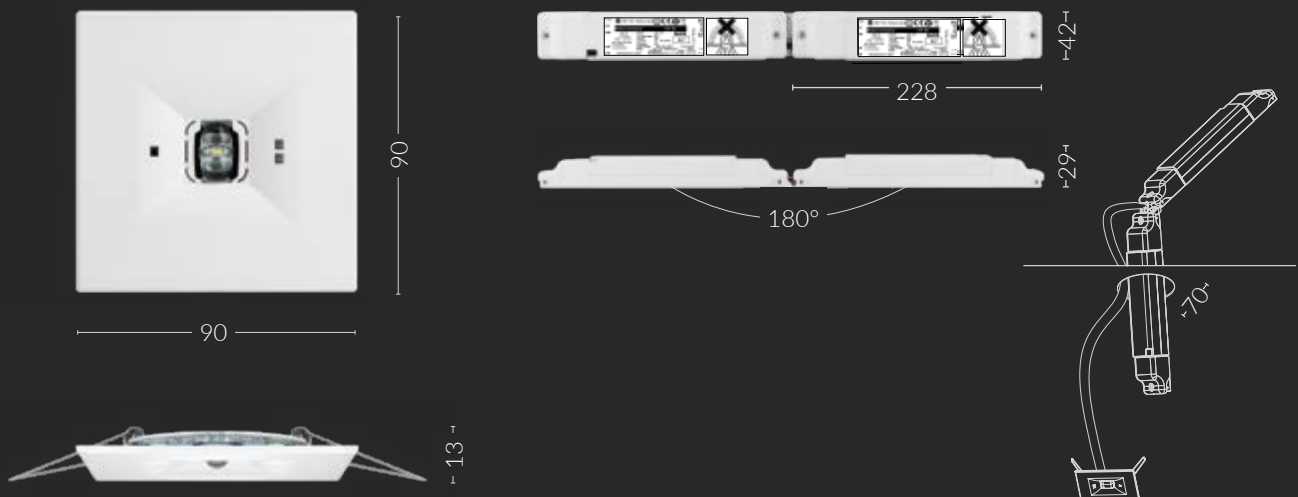


| | |
|-----------------------------|---|
| Application | anti-panic lighting escape route lighting |
| Light source | LED  |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable: CB4 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB1: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB4: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input checked="" type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |



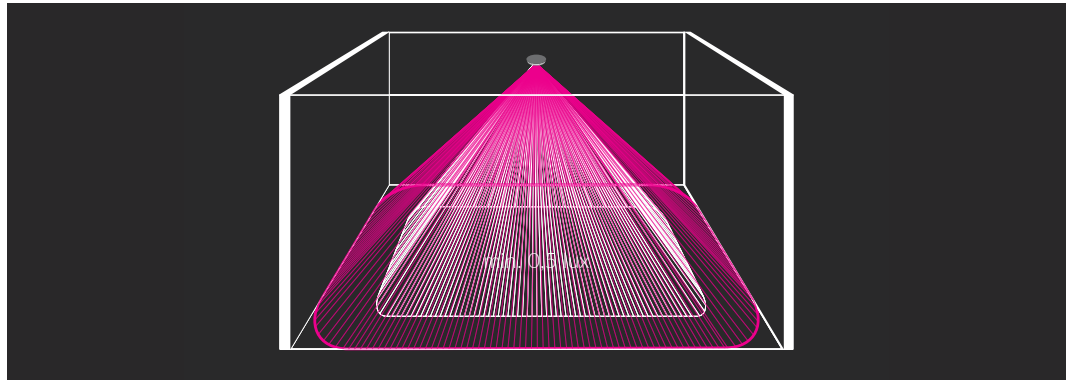
» recessed installation

Dimensions [± 2 mm]



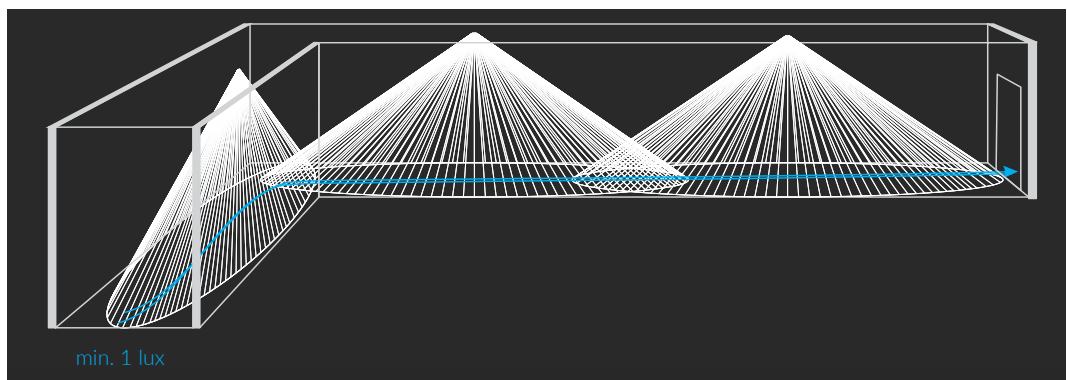
ANTI-PANIC LIGHTING | OPEN SPACE

| Model | Luminous flux | Time | Mode | Battery | Testing |
|-------------|---------------|---------|--------|---------|-----------------------|
| ONTEC D M1U | 150 lm | 1 / 3 h | NM | Ni-Cd | ST |
| ONTEC D M1 | 133 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC D M2 | 274 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC D M1 | 133 lm | - | - | - | CB1, CB4 |
| ONTEC D M2 | 274 lm | - | - | - | CB1, CB4 |



ESCAPE ROUTE LIGHTING | OPTIMAL FOR ESCAPE ROUTES UP TO 7 M HIGH

| Model | Luminous flux | Time | Mode | Battery | Testing |
|-------------|---------------|---------|--------|---------|-----------------------|
| ONTEC D C1U | 134 lm | 1 / 3 h | NM | Ni-Cd | ST |
| ONTEC D C1E | 121 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC D C1 | 247 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC D C1H | 336 lm | 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC D C1E | 121 lm | - | - | - | CB1, CB4 |
| ONTEC D C1 | 247 lm | - | - | - | CB1, CB4 |
| ONTEC D C1H | 336 lm | - | - | - | CB1, CB4 |



ONTEC R


ROBUSTNESS AND ELEGANCE

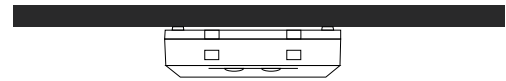


70

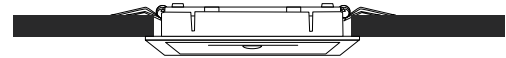
- » ceiling and wall mounting, surface mounted or recessed
- » easy and quick installation
- » versions of lenses
- » extended lifetime thanks to LiFePO4 packages
- » compact fitting design



| | |
|-----------------------------|---|
| Application | anti-panic lighting escape route lighting lighting of the final exit / fire-protection devices |
| Light source | LED  |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB3 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB1: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB3: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS |

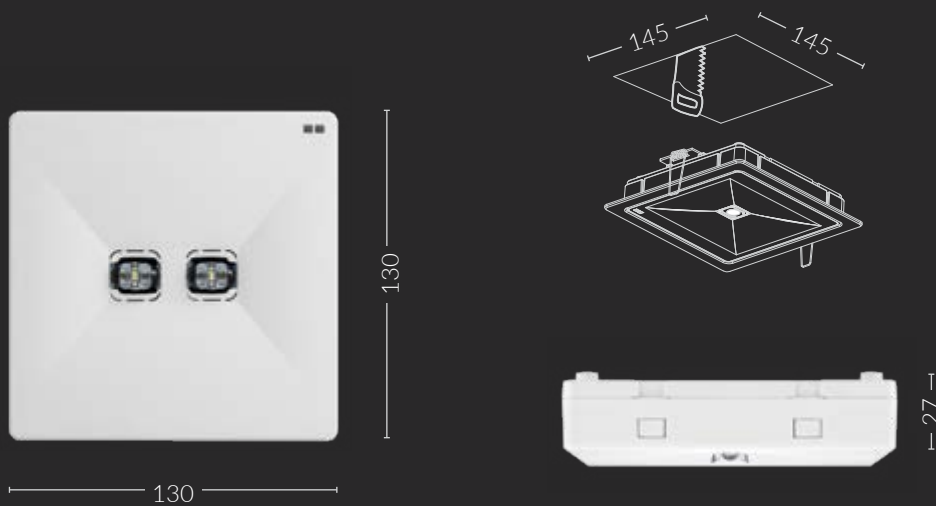


» surface mounted



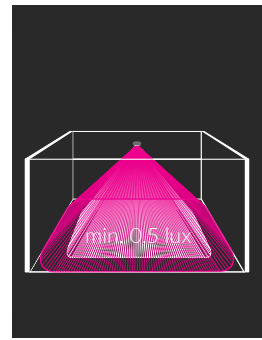
» TM-AKC.OR001
set for recessed mounting

Dimensions [± 2 mm]



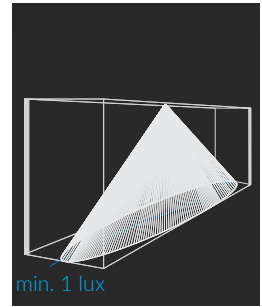
ANTI-PANIC LIGHTING

| Model | Luminous flux | Time | Mode | Battery | Testing |
|--------------------|---------------|---------|--------|---------|-----------------------|
| ONTEC R M1U | 150 lm | 1 / 3 h | NM | Ni-Cd | ST |
| ONTEC R M2 | 274 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC R M5 | 528 lm | 1 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC R M2 | 274 lm | - | - | - | CB1, CB3 |
| ONTEC R M5 | 528 lm | - | - | - | CB1, CB3 |



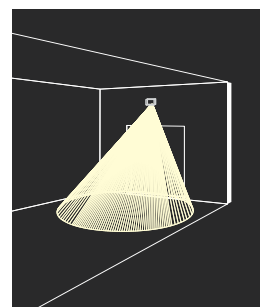
**ESCAPE ROUTE LIGHTING
OPTIMAL FOR ESCAPE ROUTES UP TO 7 M HIGH**

| Model | Luminous flux | Time | Mode | Battery | Testing |
|--------------------|---------------|---------|--------|---------|-----------------------|
| ONTEC R C1U | 128 lm | 1 / 3 h | NM | Ni-Cd | ST |
| ONTEC R C1 | 234 lm | 1 / 3 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC R C2 | 442 lm | 1 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC R C1 | 234 lm | - | - | - | CB1, CB3 |
| ONTEC R C2 | 442 lm | - | - | - | CB1, CB3 |



LIGHTING OF THE FINAL EXIT / FIRE-PROTECTION DEVICES

| Model | Luminous flux | Time | Mode | Battery | Testing |
|-------------------|---------------|------|--------|---------|-----------------------|
| ONTEC R W1 | 245 lm | 1 h | M / NM | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC R W1 | 245 lm | - | - | - | CB1, CB3 |



ONTEC S

UNIVERSAL WITH HIGH PROTECTION TYPE IP65




74

- » ability to operate in low-temperature environments thanks to the COLD version
- » high protection degree – IP65
- » mechanical strength class: IK08
- » universal application – antipanic and emergency escape lighting, escape route direction
- » double-sided version with the use of a diffuser
- » light source covered with a lampshade
- » moulded high-resilience polyurethane gasket





| | |
|-----------------------------|---|
| Application | anti-panic lighting escape route lighting evacuation road direction |
| Light source | LED  |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB7 – with addressable module |

Power supply
210÷250 V AC 50÷60 Hz
186÷254 V DC

Protection degree
IP65

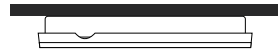
Insulation class
II

Temperature range
ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +40^{\circ}\text{C}$
CB1: $t_a -25^{\circ}\text{C} \div +55^{\circ}\text{C}$
CB7: $t_a -15^{\circ}\text{C} \div +40^{\circ}\text{C}$
COLD: $t_a -15^{\circ}\text{C} \div +40^{\circ}\text{C}$

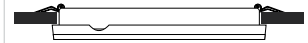
Glow wire test
850°C

Colour
 RAL 9003 RAL 7035 RAL 9004
 special color

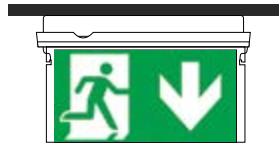
Material
housing: PC/ABS
cover: PC transparent



» surface mounted



» TM-AKC.OS001
set for recessed mounting



» TM-AKC.OS002
diffuser



» TM-AKC.OS004
protective mesh

Dimensions [± 2 mm]





surface mounted

+







TM-AKC.OS001
set for recessed mounting

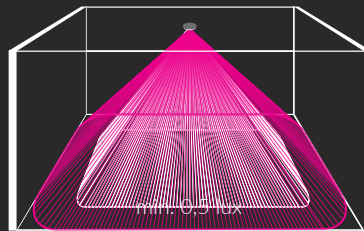
=



recessed installation

ANTI-PANIC LIGHTING

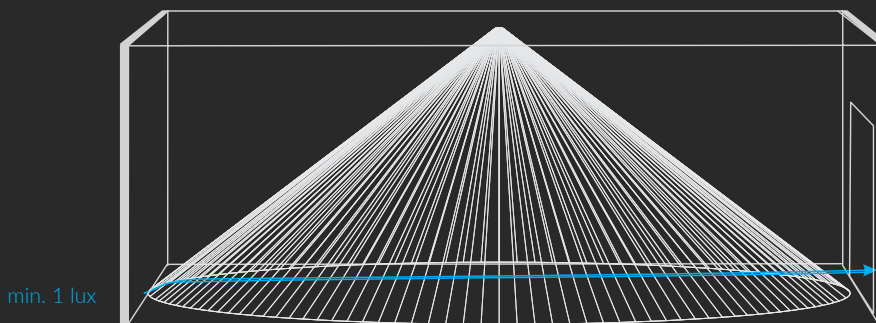
| Model | Luminous flux | IP | Mode | Time | Battery | Testing |
|---|---------------|-------------|--------|---------|---------|-----------------------|
| ONTEC S M1U | 134 lm | IP44 / IP65 | NM | 3 h | Ni-Cd | ST |
| ONTEC S M1 | 134 lm | IP44 / IP65 | M / NM | 3 h | Ni-Cd | ST / AT / DATA / DALI |
| ONTEC S M2 | 229 lm | IP65 | M / NM | 1 / 3 h | Ni-Cd | ST / AT / DATA / DALI |
| ONTEC S M5 | 548 lm | IP65 | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC S M1 | 203 lm | IP65 | - | - | - | CB1, CB7 |
| ONTEC S M2 | 247 lm | IP65 | - | - | - | CB1, CB7 |
| ONTEC S M5 | 548 lm | IP65 | - | - | - | CB1, CB7 |
|  ONTEC S M2 COLD | 229 lm | IP65 | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
|  ONTEC S M5 COLD | 548 lm | IP65 | M / NM | 1 h | LiFePO4 | ST / AT / DATA / DALI |
|  ONTEC S M2 COLD | 247 lm | IP65 | - | - | - | CB1, CB7 |
|  ONTEC S M5 COLD | 548 lm | IP65 | - | - | - | CB1, CB7 |







78

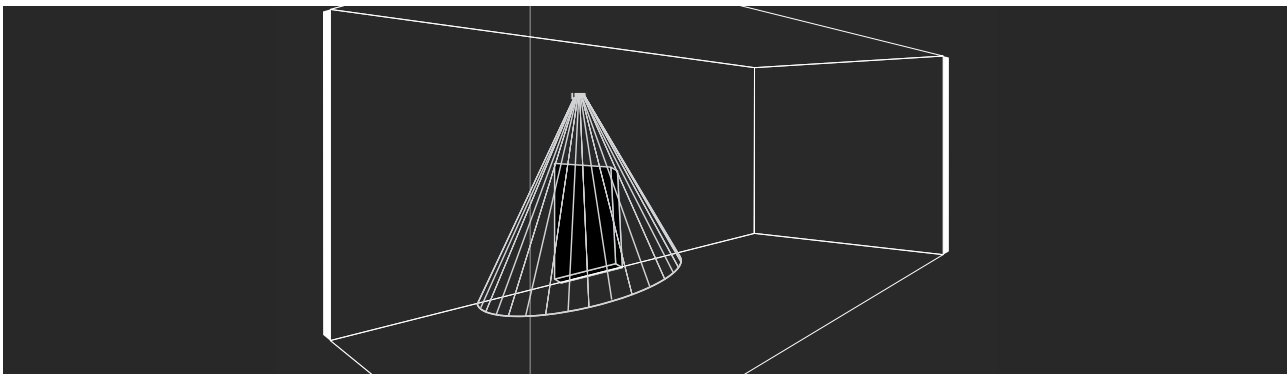
ESCAPE ROUTE LIGHTING | OPTIMAL FOR ESCAPE ROUTES WITH A HEIGHT ABOVE 7 M

| Model | Luminous flux | IP | Mode | Time | Battery | Testing |
|------------|---------------|------|--------|---------|---------|-----------------------|
| ONTEC S F1 | 215 lm | IP65 | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC S F2 | 418 lm | IP65 | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC S F1 | 215 lm | IP65 | - | - | - | CB1, CB7 |
| ONTEC S F2 | 418 lm | IP65 | - | - | - | CB1, CB7 |





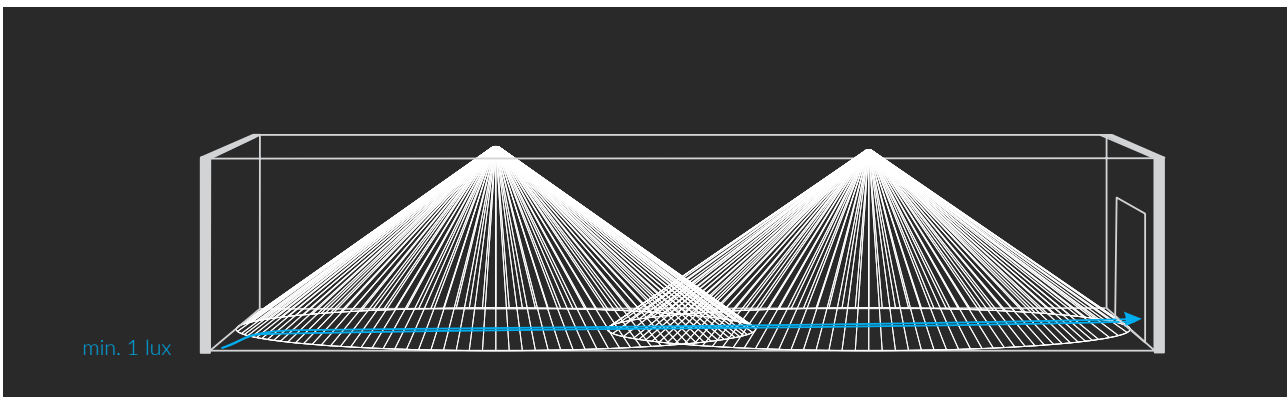
LIGHTING OF THE FINAL EXIT / FIRE-PROTECTION DEVICES

| Model | Luminous flux | IP | Mode | Time | Battery | Testing |
|---|---------------|------|--------|---------|---------|-----------------------|
| ONTEC S W1 | 194 lm | IP65 | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC S W2 | 396 lm | IP65 | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC S W1 | 194 lm | IP65 | - | - | - | CB1, CB7 |
| ONTEC S W2 | 396 lm | IP65 | - | - | - | CB1, CB7 |
|  ONTEC S W1 COLD | 194 lm | IP65 | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
|  ONTEC S W2 COLD | 396 lm | IP65 | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
|  ONTEC S W1 COLD | 194 lm | IP65 | - | - | - | CB1, CB7 |
|  ONTEC S W2 COLD | 396 lm | IP65 | - | - | - | CB1, CB7 |



ESCAPE ROUTE LIGHTING | OPTIMAL FOR ESCAPE ROUTES UP TO 7 M HIGH

| Model | Luminous flux | IP | Mode | Time | Battery | Testing |
|---|---------------|------|--------|---------|---------|-----------------------|
| ONTEC S C1 | 214 lm | IP65 | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC S C2 | 430 lm | IP65 | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| ONTEC S C1 | 214 | IP65 | - | - | - | CB1, CB7 |
| ONTEC S C2 | 430 lm | IP65 | - | - | - | CB1, CB7 |
|  ONTEC S C1 COLD | 214 lm | IP65 | M / NM | 3 h | LiFePO4 | ST / AT / DATA / DALI |
|  ONTEC S C1 COLD | 214 lm | IP65 | - | - | - | CB1, CB7 |



ITECH

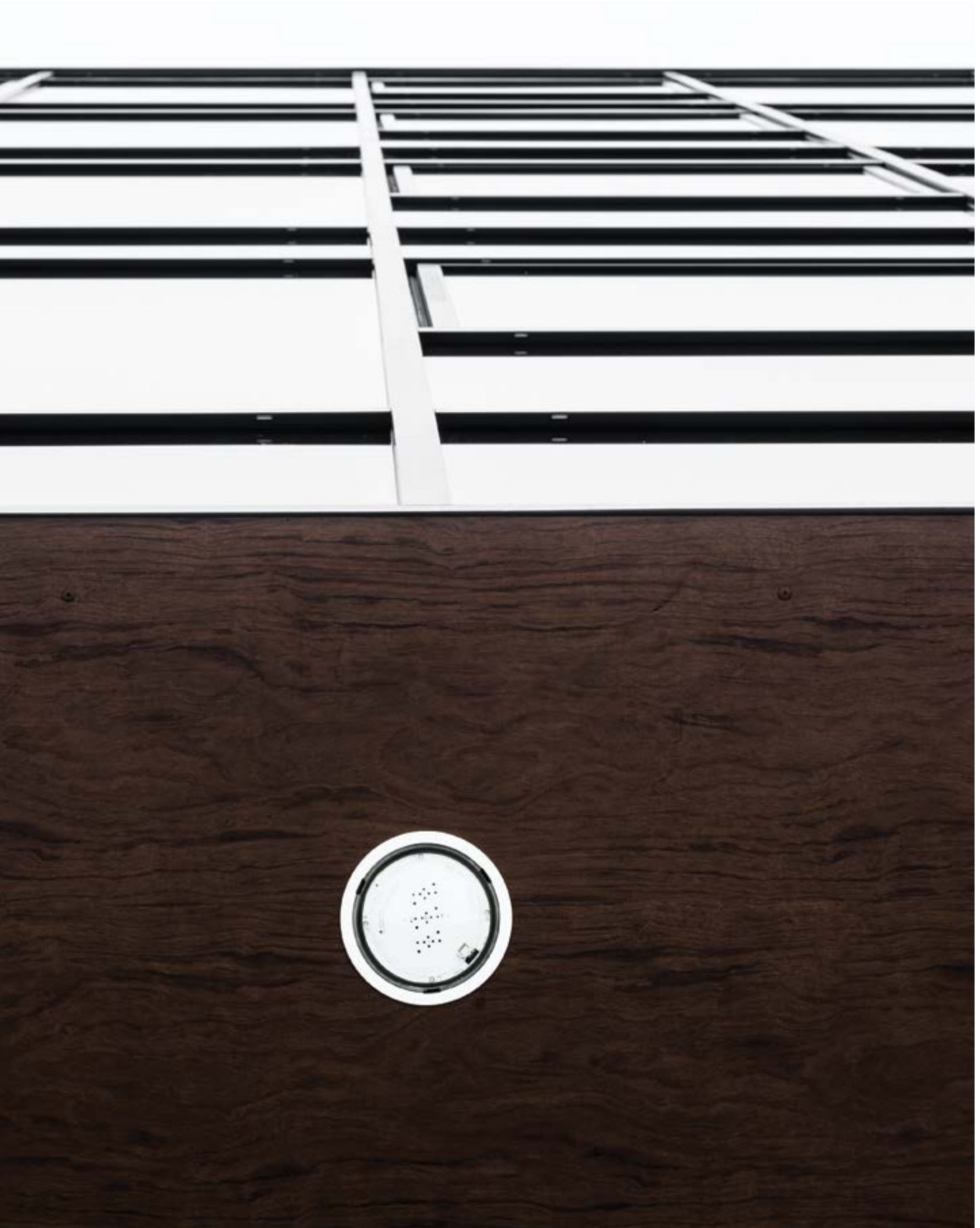
IMPRESSIVE LIGHTING AREA




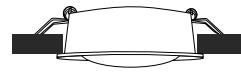
80

- » ability to operate in low-temperature environments thanks to the COLD version
- » plug-in connection – when the fitting is opened, the voltage on its active elements is cut off
- » universal application – antipanic and emergency escape lighting
- » light source covered with a lampshade
- » moulded high-resilience polyurethane gasket





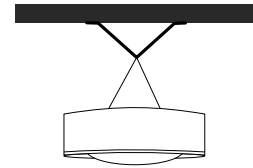
| | |
|-----------------------------|--|
| Application | anti-panic lighting escape route lighting |
| Light source | LED  |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB3 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP65 |
| Insulation class | II |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +40^{\circ}\text{C}$ CB1: $t_a -25^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB3: $t_a -15^{\circ}\text{C} \div +40^{\circ}\text{C}$ COLD: $t_a -15^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 7035 <input checked="" type="checkbox"/> RAL 9004 <input type="checkbox"/> special color |
| Material | housing: PC/ABS cover: PC transparent |



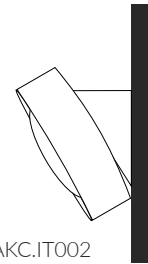
» TM-AKC.IT003
set for recessed mounting



» surface mounted

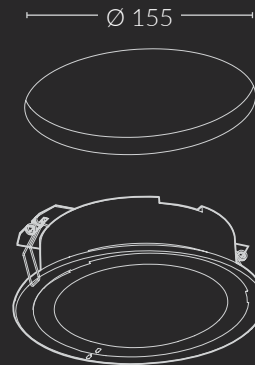


» TM-AKC.IT001
suspension bracket



» TM-AKC.IT002
mounting option with 30°
bracket applied

Dimensions [± 2 mm]





surface mounted

+



TM-AKC.IT003

set for recessed mounting

=



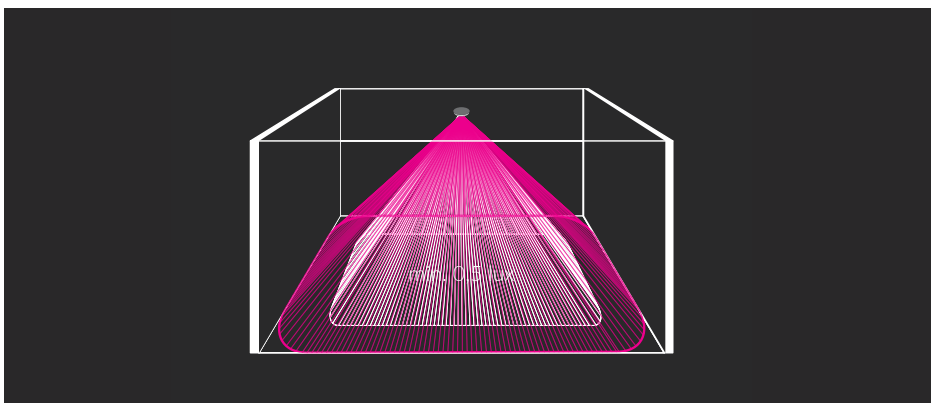
recessed installation

ANTI-PANIC LIGHTING

| Model | Luminous flux | Mode | Time | Testing |
|----------|---------------|--------|---------|-----------------------|
| iTECH M2 | 257 lm | M / NM | 3 h | ST / AT / DATA / DALI |
| iTECH M5 | 499 lm | M / NM | 1 / 3 h | ST / AT / DATA / DALI |
| iTECH M2 | 257 lm | - | - | CB1, CB3 |
| iTECH M5 | 499 lm | - | - | CB1, CB3 |

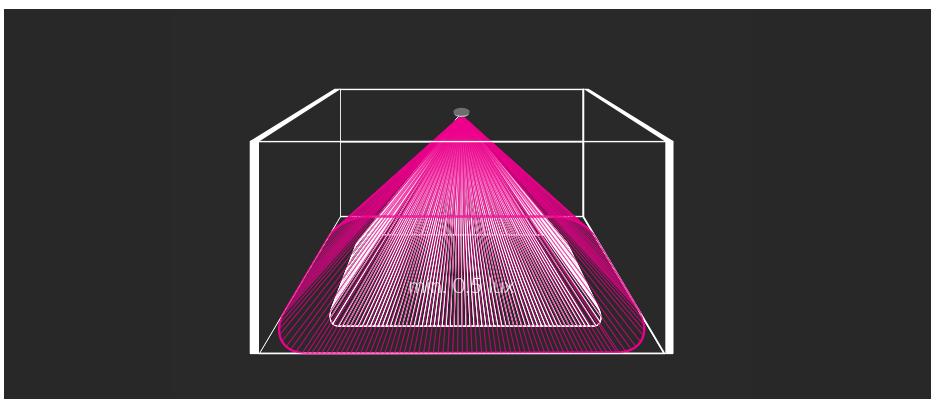
| | | | | |
|---|--------|--------|-----|-----------------------|
|  iTECH M2 COLD | 257 lm | M / NM | 1 h | ST / AT / DATA / DALI |
|  iTECH M5 COLD | 499 lm | M / NM | 1 h | ST / AT / DATA / DALI |

| | | | | |
|---|--------|---|---|----------|
|  iTECH M2 COLD | 257 lm | - | - | CB1, CB3 |
|  iTECH M5 COLD | 499 lm | - | - | CB1, CB3 |



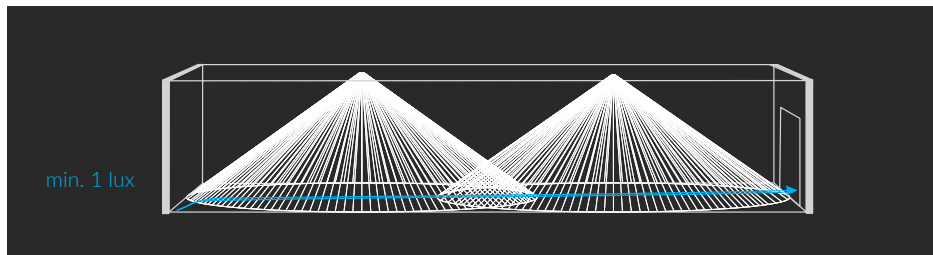
ANTI-PANIC LIGHTING - HIGH OPEN SPACE AREAS

| Model | Luminous flux | Mode | Time | Testing |
|----------|---------------|--------|------|-----------------------|
| iTECH S1 | 233 lm | M / NM | 3 h | ST / AT / DATA / DALI |
| iTECH S2 | 439 lm | M / NM | 1 h | ST / AT / DATA / DALI |
| iTECH S1 | 233 lm | - | - | CB1, CB3 |
| iTECH S2 | 439 lm | - | - | CB1, CB3 |



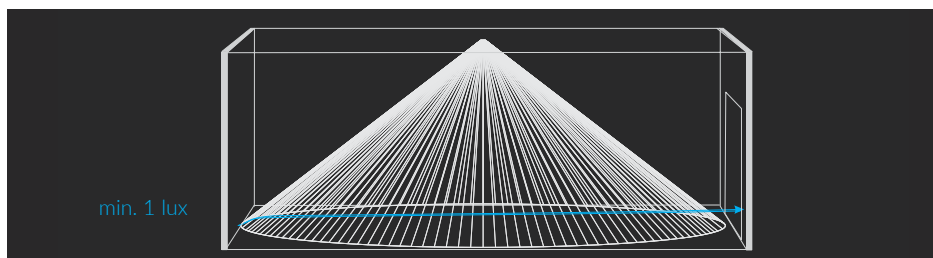
ESCAPE ROUTE LIGHTING | OPTIMAL FOR ESCAPE ROUTES UP TO 7 M HIGH

| Model | Luminous flux | Mode | Time | Testing |
|----------|---------------|--------|---------|-----------------------|
| iTECH C1 | 226 lm | M / NM | 3 h | ST / AT / DATA / DALI |
| iTECH C2 | 455 lm | M / NM | 1 / 3 h | ST / AT / DATA / DALI |
| iTECH C1 | 226 lm | - | - | CB1, CB3 |
| iTECH C2 | 455 lm | - | - | CB1, CB3 |



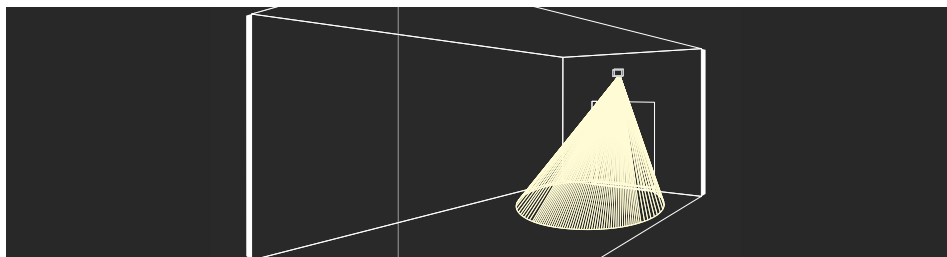
ESCAPE ROUTE LIGHTING | OPTIMAL FOR ESCAPE ROUTES WITH A HEIGHT ABOVE 7 M

| Model | Luminous flux | Mode | Time | Testing |
|----------|---------------|--------|---------|-----------------------|
| iTECH F1 | 256 lm | M / NM | 3 h | ST / AT / DATA / DALI |
| iTECH F2 | 475 lm | M / NM | 1 / 3 h | ST / AT / DATA / DALI |
| iTECH F1 | 256 lm | - | - | CB1, CB3 |
| iTECH F2 | 475 lm | - | - | CB1, CB3 |



LIGHTING OF THE FINAL EXIT / FIRE-PROTECTION DEVICES

| Model | Luminous flux | Mode | Time | Testing |
|----------|---------------|--------|---------|-----------------------|
| iTECH W1 | 219 lm | M / NM | 3 h | ST / AT / DATA / DALI |
| iTECH W2 | 447 lm | M / NM | 1 / 3 h | ST / AT / DATA / DALI |
| iTECH W1 | 219 lm | - | - | CB1, CB3 |
| iTECH W2 | 447 lm | - | - | CB1, CB3 |



RINO

INVISIBLE GUARDIAN ANGEL




86

- » recessed installation
- » minimalistic design
- » easy installation thanks to the modular electronics design



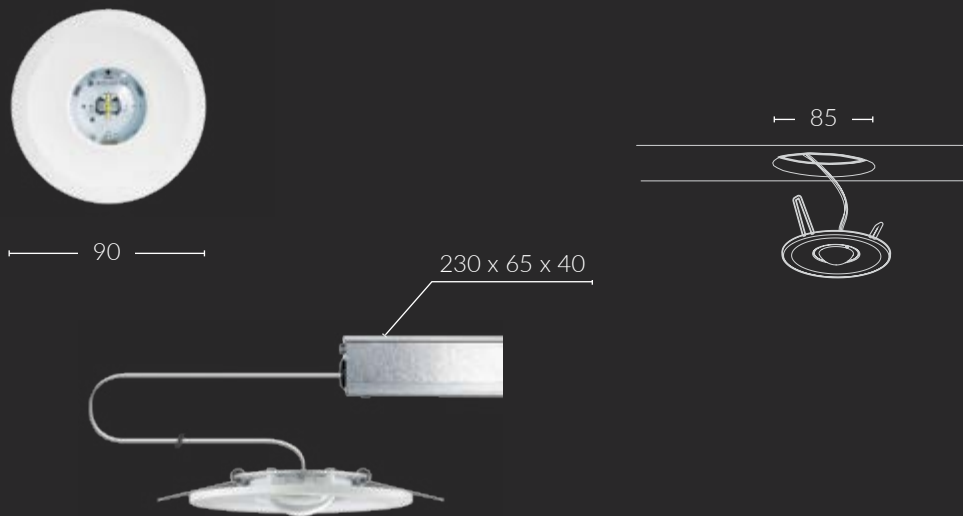


| | |
|-----------------------------|---|
| Application | anti-panic lighting escape route lighting |
| Light source | LED  |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB4 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | I |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +40^{\circ}\text{C}$ CB1: $t_a -25^{\circ}\text{C} \div +55^{\circ}\text{C}$ CB4: $t_a -15^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | - |
| Material | housing: PC/ABS + ALU / metal cover: PC transparent |

» cover Q

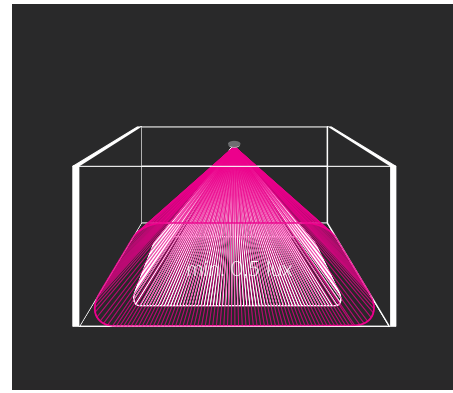


Dimensions [± 2 mm]



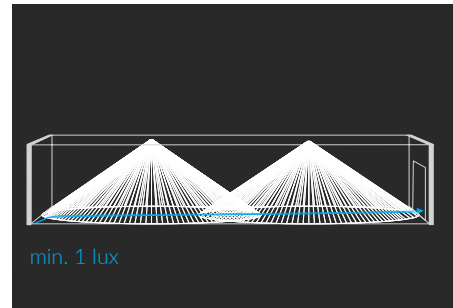
ANTI-PANIC LIGHTING - OPEN SPACE AREAS

| Model | Luminous flux | Mode | Time | Testing |
|---------|---------------|--------|---------|-----------------------|
| RINO M1 | 139 lm | M / NM | 1 / 3 h | ST / AT / DATA / DALI |
| RINO M2 | 229 lm | M / NM | 3 h | ST / AT / DATA / DALI |
| RINO M5 | 480 lm | M / NM | 1 / 3 h | ST / AT / DATA / DALI |
| RINO M1 | 139 lm | - | - | CB1, CB4 |
| RINO M2 | 229 lm | - | - | CB1, CB4 |
| RINO M5 | 480 lm | - | - | CB1, CB4 |



ESCAPE ROUTE LIGHTING

| Model | Luminous flux | Mode | Time | Testing |
|---------|---------------|--------|---------|-----------------------|
| RINO C1 | 197 lm | M / NM | 3 h | ST / AT / DATA / DALI |
| RINO C2 | 405 lm | M / NM | 1 / 3 h | ST / AT / DATA / DALI |
| RINO C1 | 197 lm | - | - | CB1, CB4 |
| RINO C2 | 405 lm | - | - | CB1, CB4 |







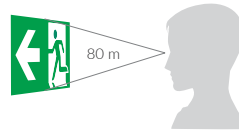
PRIMO

STAINLESS STEEL OR BLACK STEEL

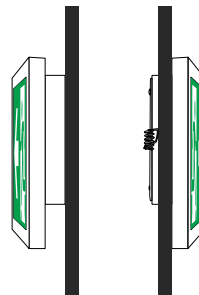
PRIMO E

TOUGH

- » high luminance – up to 500 cd/m²
- » visibility up to 80 meters



- » up to 5 sizes
- » modern design
- » even light distribution
- » extended lifetime thanks to LiFePO₄ packages



92

Dimensions [± 2 mm]



| | a | b |
|--------------|-----|-----|
| » ONTEC E 25 | 272 | 159 |
| » ONTEC E 30 | 322 | 184 |
| » ONTEC E 40 | 422 | 234 |
| » ONTEC E 60 | 622 | 334 |
| » ONTEC E 80 | 822 | 434 |

| | |
|-----------------------------|---|
| Application | evacuation road direction (evacuation sign) |
| Light source | LED |
| Battery | LiFePO4 |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB4 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | I |
| Temperature range | ST, AT, DATA, DALI: t_a +10°C ÷ +35°C CB: t_a -15°C ÷ +55°C CBA: t_a -10°C ÷ +40°C |
| Glow wire test | 850°C |
| Colour | <input checked="" type="checkbox"/> - stainless steel <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 9006 <input type="checkbox"/> RAL 9005 - black steel |
| Material | housing: stainless steel (polished/brushed) or RAL 9003 / RAL 9005 / RAL 9006 powder coated black steel |

Pictograms in the set:



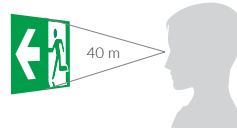
| Model | Visibility | Luminance | Mode | Time | Testing |
|-------------|------------|-------------------------|--------|------|-----------------------|
| PRIMO E 25E | 25 m | ≥ 200 cd/m ² | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO E 30E | 30 m | ≥ 200 cd/m ² | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO E 40E | 40 m | ≥ 200 cd/m ² | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO E 60E | 60 m | ≥ 200 cd/m ² | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO E 80E | 80 m | ≥ 200 cd/m ² | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO E 25P | 25 m | ≥ 400 cd/m ² | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO E 30P | 30 m | ≥ 400 cd/m ² | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO E 40P | 40 m | ≥ 400 cd/m ² | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO E 25E | 25 m | ≥ 200 cd/m ² | - | - | CB, CBA |
| PRIMO E 30E | 30 m | ≥ 200 cd/m ² | - | - | CB, CBA |
| PRIMO E 40E | 40 m | ≥ 200 cd/m ² | - | - | CB, CBA |
| PRIMO E 60E | 60 m | ≥ 200 cd/m ² | - | - | CB, CBA |
| PRIMO E 80E | 80 m | ≥ 200 cd/m ² | - | - | CB, CBA |
| PRIMO E 25P | 25 m | ≥ 400 cd/m ² | - | - | CB, CBA |
| PRIMO E 30P | 30 m | ≥ 400 cd/m ² | - | - | CB, CBA |
| PRIMO E 40P | 40 m | ≥ 400 cd/m ² | - | - | CB, CBA |

For pictogram luminance > 500 cd/m² (PRO version) is necessary to order a special extension kit [PE+500 cd].

PRIMO G

LEAVES NO DOUBT

- » high luminance – up to 500 cd/m²
- » up to 3 sizes
- » visibility up to 40 meters

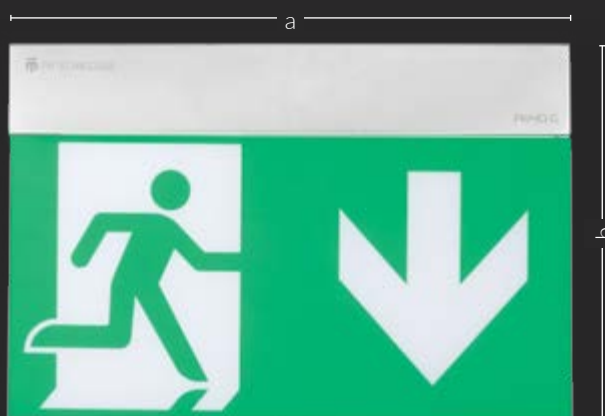


- » extended lifetime thanks to LiFePO₄ packages
- » one-sided or double-sided view fitting



94

Dimensions [± 2 mm]



±30*



| | a | b |
|--------------|-----|-----|
| » ONTEC G 25 | 250 | 306 |
| » ONTEC G 30 | 300 | 366 |
| » ONTEC G 40 | 400 | 466 |

| | |
|-----------------------------|---|
| Application | evacuation road direction (evacuation sign) |
| Light source | LED |
| Battery | LiFePO4 |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB4 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | I |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CBA: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | - stainless steel RAL 9003 RAL 9006 RAL 9005 - black steel |
| Material | housing: stainless steel (polished/brushed) or RAL 9003 / RAL 9005 / RAL 9006 powder coated black steel |

Pictograms in the set:



| Model | Type | Visibility | Luminance | Mode | Time | Testing |
|-------------|--------------|------------|---------------------------|--------|------|-----------------------|
| PRIMO G 25E | one-sided | 25 m | $\geq 200 \text{ cd/m}^2$ | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO G 30E | one-sided | 30 m | $\geq 200 \text{ cd/m}^2$ | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO G 40E | one-sided | 40 m | $\geq 200 \text{ cd/m}^2$ | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO G 25P | one-sided | 25 m | $\geq 400 \text{ cd/m}^2$ | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO G 30P | one-sided | 30 m | $\geq 400 \text{ cd/m}^2$ | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO G 40P | one-sided | 40 m | $\geq 400 \text{ cd/m}^2$ | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO G 25D | double-sided | 25 m | $\geq 400 \text{ cd/m}^2$ | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO G 30D | double-sided | 30 m | $\geq 400 \text{ cd/m}^2$ | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO G 40D | double-sided | 40 m | $\geq 400 \text{ cd/m}^2$ | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO G 25E | one-sided | 25 m | $\geq 200 \text{ cd/m}^2$ | - | - | CB, CBA |
| PRIMO G 30E | one-sided | 30 m | $\geq 200 \text{ cd/m}^2$ | - | - | CB, CBA |
| PRIMO G 40E | one-sided | 40 m | $\geq 200 \text{ cd/m}^2$ | - | - | CB, CBA |
| PRIMO G 25P | one-sided | 25 m | $\geq 400 \text{ cd/m}^2$ | - | - | CB, CBA |
| PRIMO G 30P | one-sided | 30 m | $\geq 400 \text{ cd/m}^2$ | - | - | CB, CBA |
| PRIMO G 40P | one-sided | 40 m | $\geq 400 \text{ cd/m}^2$ | - | - | CB, CBA |
| PRIMO G 25D | double-sided | 25 m | $\geq 400 \text{ cd/m}^2$ | - | - | CB, CBA |
| PRIMO G 30D | double-sided | 30 m | $\geq 400 \text{ cd/m}^2$ | - | - | CB, CBA |
| PRIMO G 40D | double-sided | 40 m | $\geq 400 \text{ cd/m}^2$ | - | - | CB, CBA |

For pictogram luminance > 500 cd/m² (PRO version) is necessary to order a special extension kit [PG+500 cd].

PRIMO R

MULTIFUNCTIONAL

- » universal application – antipanic and emergency escape lighting
- » extended lifetime thanks to LiFePO4 packages
- » compact fitting design



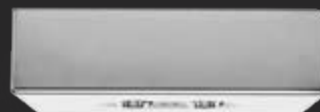
96

Dimensions [± 2 mm]


136



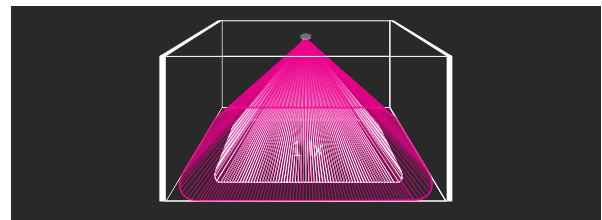
130



36

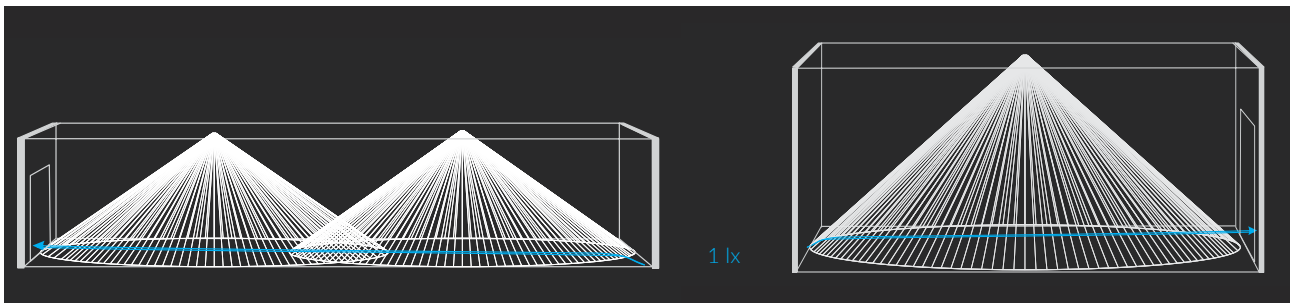
| | |
|-----------------------------|---|
| Application | anti-panic lighting escape route lighting |
| Light source | LED  |
| Battery | LiFePO4 |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB4 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | I |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CBA: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input checked="" type="checkbox"/> - stainless steel <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 9006 <input checked="" type="checkbox"/> RAL 9005 - black steel |
| Material | housing: stainless steel (polished/brushed) or RAL 9003 / RAL 9005 / RAL 9006 powder coated black steel |

| Model | Mode | Time | Testing |
|------------|--------|------|-----------------------|
| PRIMO R S2 | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO R S2 | - | - | CB, CBA |



| Model | Mode | Time | Testing |
|------------|--------|------|-----------------------|
| PRIMO R C2 | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO R C2 | - | - | CB, CBA |

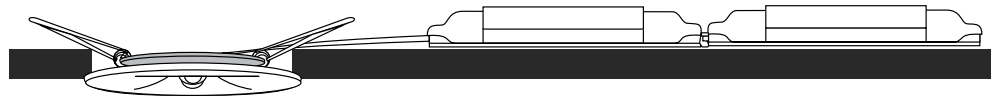
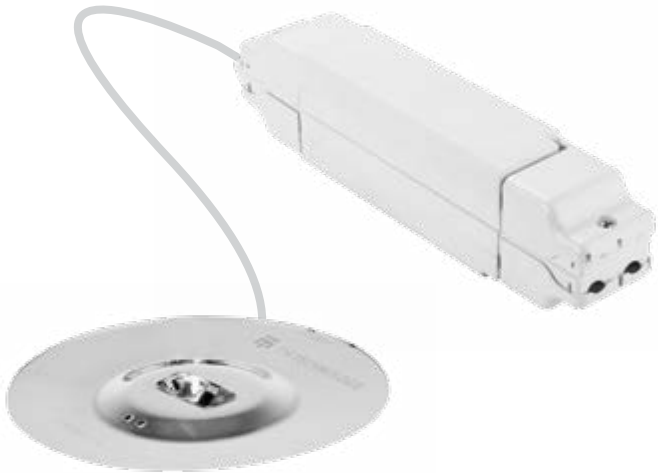
| Model | Mode | Time | Testing |
|------------|--------|------|-----------------------|
| PRIMO R F2 | M / NM | 3 h | ST / AT / DATA / DALI |
| PRIMO R F2 | - | - | CB, CBA |



PRIMO C

DISCREET PROTECTION

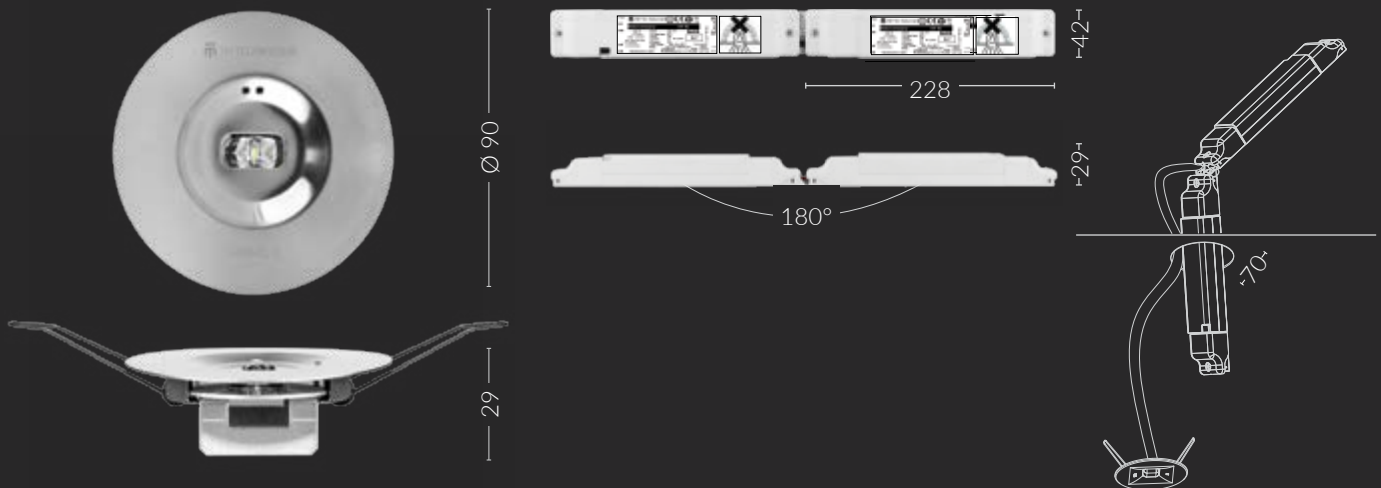
- » extended lifetime thanks to LiFePO4 packages
- » minimalistic design
- » easy installation thanks to the modular electronics design
- » easy and quick installation
- » recessed installation




» recessed installation

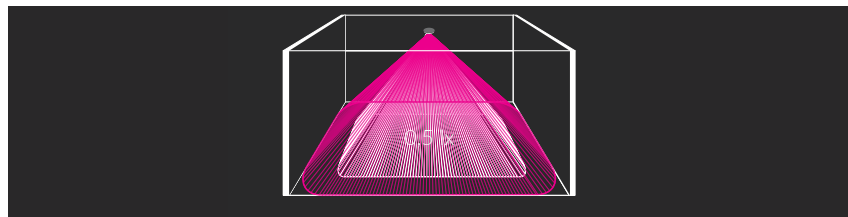
98

Dimensions [± 2 mm]

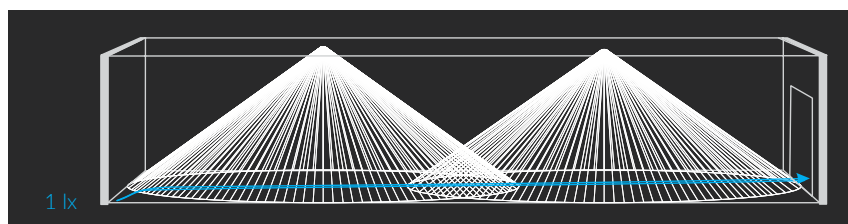


| | |
|-----------------------------|---|
| Application | anti-panic lighting escape route lighting |
| Light source | LED  |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB4 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | I |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CBA: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input type="checkbox"/> - stainless steel <input checked="" type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 9006 <input type="checkbox"/> RAL 9005 - black steel |
| Material | housing: stainless steel (polished/brushed) or RAL 9003 / RAL 9005 / RAL 9006 powder coated black steel |

| Model | Mode | Time | Battery | Testing |
|--------------------|--------|---------|---------|-----------------------|
| PRIMO C S1 | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| PRIMO C S1H | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| PRIMO C S1 | - | - | - | CB, CBA |
| PRIMO C S1H | - | - | - | CB, CBA |



| Model | Mode | Time | Battery | Testing |
|--------------------|--------|---------|---------|-----------------------|
| PRIMO C C1 | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| PRIMO C C1H | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| PRIMO C C1 | - | - | - | CB, CBA |
| PRIMO C C1H | - | - | - | CB, CBA |

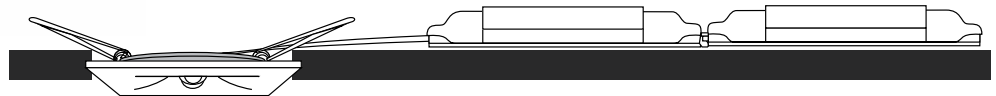


PRIMO D

DISCREET PROTECTION



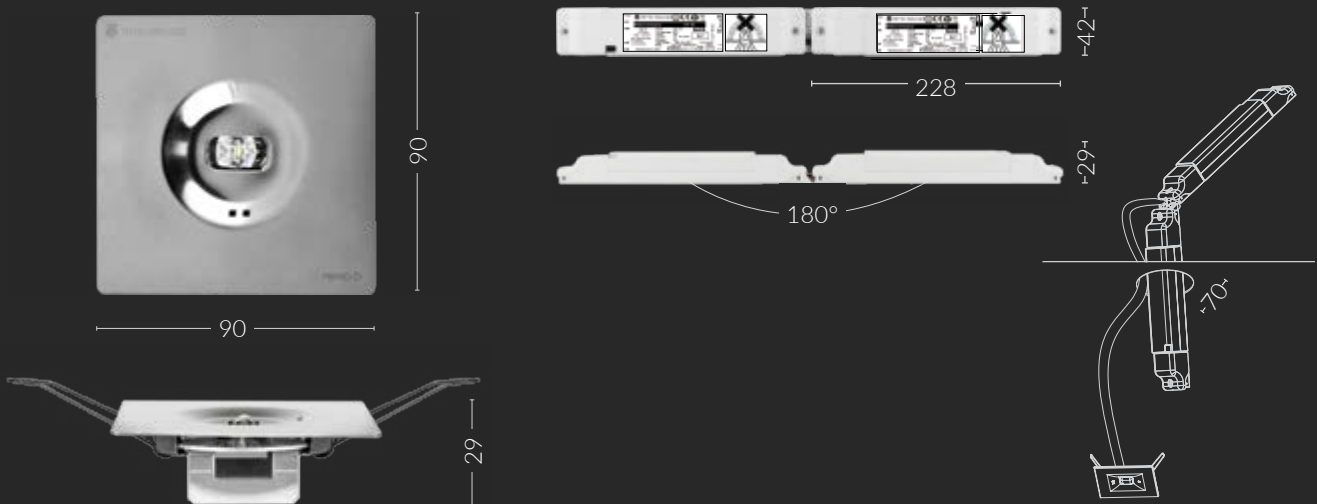
- » extended lifetime thanks to LiFePO4 packages
- » minimalistic design
- » easy installation thanks to the modular electronics design
- » easy and quick installation
- » recessed installation




» recessed installation

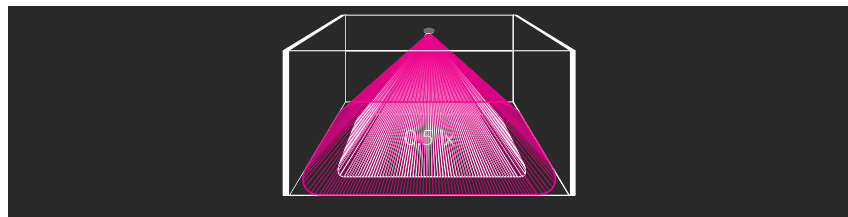
100

Dimensions [± 2 mm]

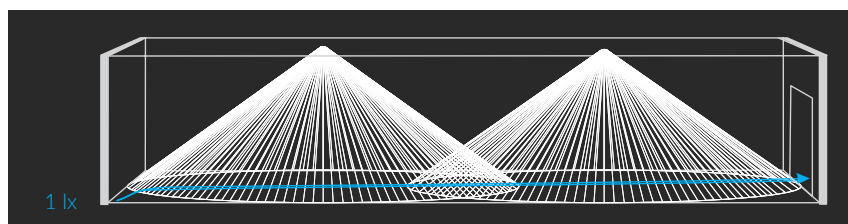


| | |
|-----------------------------|---|
| Application | anti-panic lighting escape route lighting |
| Light source | LED  |
| Battery | LiFePO4 |
| Testing for self-contained | non-addressable: ST – for bottom test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DALI – with addressable module for DALI systems |
| Testing for central battery | non-addressable: CB1 – without addressable module addressable : CB4 – with addressable module |
| Power supply | 210÷250 V AC 50÷60 Hz 186÷254 V DC |
| Protection degree | IP20 |
| Insulation class | I |
| Temperature range | ST, AT, DATA, DALI: $t_a +10^{\circ}\text{C} \div +35^{\circ}\text{C}$ CB: $t_a -15^{\circ}\text{C} \div +55^{\circ}\text{C}$ CBA: $t_a -10^{\circ}\text{C} \div +40^{\circ}\text{C}$ |
| Glow wire test | 850°C |
| Colour | <input checked="" type="checkbox"/> - stainless steel <input type="checkbox"/> RAL 9003 <input type="checkbox"/> RAL 9006 <input type="checkbox"/> RAL 9005 - black steel |
| Material | housing: stainless steel (polished/brushed) or RAL 9003 / RAL 9005 / RAL 9006 powder coated black steel |

| Model | Mode | Time | Battery | Testing |
|--------------------|--------|---------|---------|-----------------------|
| PRIMO D S1 | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| PRIMO D S1H | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| PRIMO D S1 | - | - | - | CB, CBA |
| PRIMO D S1H | - | - | - | CB, CBA |



| Model | Mode | Time | Battery | Testing |
|--------------------|--------|---------|---------|-----------------------|
| PRIMO D C1 | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| PRIMO D C1H | M / NM | 1 / 3 h | LiFePO4 | ST / AT / DATA / DALI |
| PRIMO D C1 | - | - | - | CB, CBA |
| PRIMO D C1H | - | - | - | CB, CBA |







ELVIS

EMERGENCY LIGHTING VISUALISATION SYSTEM

ELVIS

EMERGENCY LIGHTING VISUALISATION SYSTEM



104

Visualisation of the emergency lighting system, which allows you to see on projections of individual building floors the status of each installed emergency fitting. Additionally, reports can be generated using the application installed on the PC. ELVIS visualisation connects the TM-CB central battery system to the DATA 2 central monitoring system in one place, enabling the management of the entire emergency lighting system using a single application.



- » Filtering the list of fittings according to preset parameters: no power supply, test error, battery error, light source error.
- » Automatic creation of a simplified 3D plan, in which the view of all floors in the building is shown.
- » Detection of alarm conditions in the system and their quick location.
- » Informing of fitting(s) malfunction through illumination of floors in red.
- » Possibility to add your own custom 2D view / 3D view / projection / plan.
- » Separation of building sections and their assignment to the corresponding projections.
- » Function of automatic and regular sending of reports to the indicated e-mail address.







DATA 2

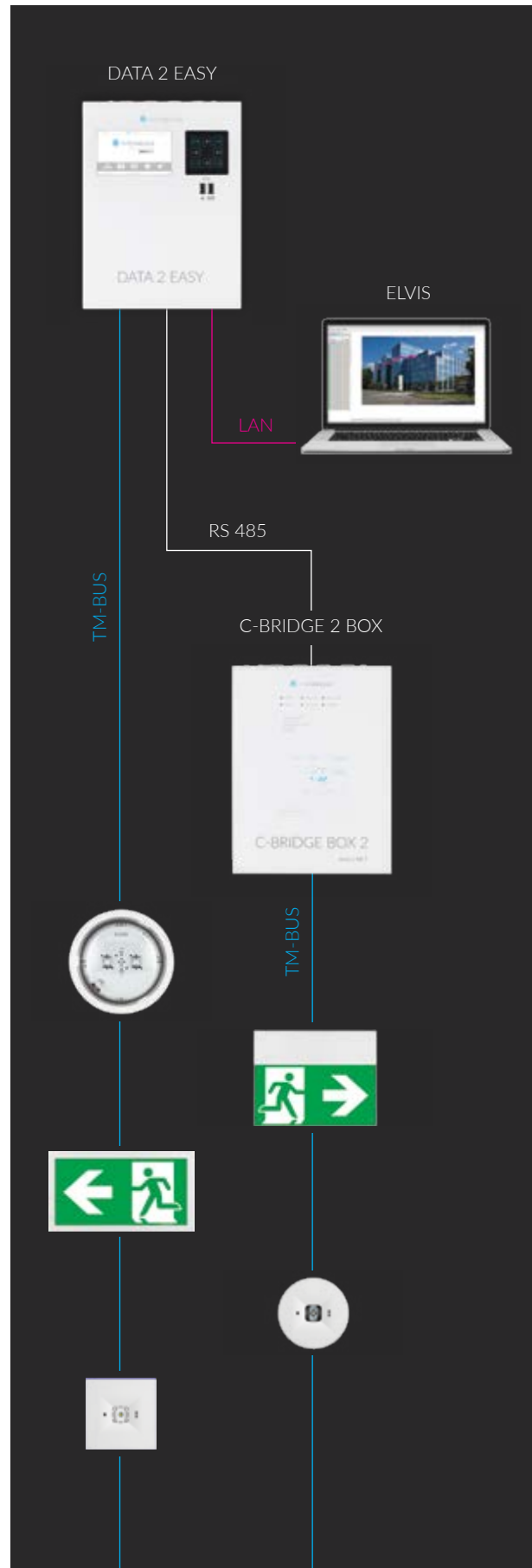
SELF-CONTAINED ADDRESSABLE SYSTEM

DATA 2 EASY

SELF-CONTAINED ADDRESSABLE SYSTEM



- » Monitoring of the configured system with up to 512 fittings - ideal for small and medium-sized investments.
- » All parameters of the fittings, the addresses of which are displayed in the control panel, are downloaded by the panel in a continuous manner.
- » Possibility to download reports and logs stored in the device's memory.
- » Software update via USB port.
- » Communication between the panel and fittings is carried out by means of the built-in C-BRIDGE 2 signal splitter, through the two-wire TM-Bus communication bus, which does not require polarisation maintenance.
- » Easy and intuitive navigation via keyboard and LCD display, additional possibility to connect the keyboard or mouse via USB port.



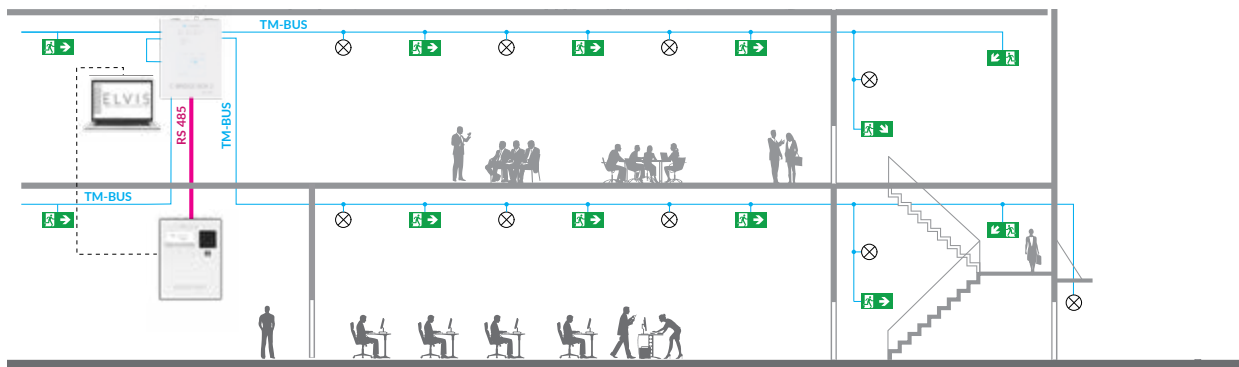
$$64 \times 4 \times 2 = 512$$

maximum number of emergency fittings / channel

maximum number of communication channels

maximum number of signal distributor

maximum number of emergency fittings in the system



central station



ELVIS / BMS / SCADA



BASIC SYSTEM PARAMETERS

| | |
|---|-----|
| Max. number of emergency fittings / channel | 64 |
| Maximum number of communication channels | 4 |
| Maximum number of C-Bridge 2 signal distributor | 2 |
| Max. number of emergency fittings in the system | 512 |



HOUSING DATA 2 EASY

| | |
|------------------------|------------------------------------|
| Dimensions (H x W x D) | 307 x 230 x 59 mm |
| Material | RAL 9003 powder coated black steel |
| Protection degree | IP20 |
| Insulation class | I |

WIRING

| | |
|---|--|
| Communication with controller | RS 485 port |
| Communication with ELVIS, WWW, MODBUS TCP | LAN |
| Communication with addressable devices | TM-BUS 2-wire data bus (without polarity) - communication cable for example: YTKSYekw 1 x 2 x 0.8 mm ² or other wires complying with the parameters: length: max. up to 1,000 m operating temperature: -15°C to + 70°C resistance: max. 75 Ω/km conductor capacity: max. 120 nF/km |



C-BRIDGE 2

Intermediary device for communication between the controller and DATA 2 series addressable devices. The control panel is equipped with one splitter as a standard, but optionally it is possible to connect a second signal splitter, thus increasing the maximum possible number of fittings to 512.



**C-BRIDGE 2
DATA 2 EASY DIN**

For DIN rail mounting in switching stations and shafts.

| | |
|-----------------------------|---|
| Supply voltage | 22-25 V DC |
| Number of fittings operated | < 64 / channel |
| Number of channels | 4 |
| Interface | RS-485 (for PC LAN connection, DATA 2 C-Panel control unit), TM-BUS |
| Bus voltage | 15-25 V |
| Bus communication speed | 5 kbit/s |
| Communication speed | RS-485: 19200 bit/s |
| Insulation class | III |
| Mounting | T-35 rail |

**C-BRIDGE 2
DATA 2 EASY**

For mounting in dedicated housings.

| | |
|-----------------------------|---|
| Supply voltage | 22-25 V DC |
| Number of fittings operated | < 64 / channel |
| Number of channels | 4 |
| Interface | RS-485 (for PC LAN connection, DATA 2 C-Panel control unit), TM-BUS |
| Bus voltage | 15-25 V |
| Bus communication speed | 5 kbit/s |
| Communication speed | RS-485: 19200 bit/s |
| Insulation class | III |

There is also available a version built in the **C-BRIDGE BOX 2**, allowing communication with emergency lighting fittings, while maintaining the parameters of C-BRIDGE DATA 2.

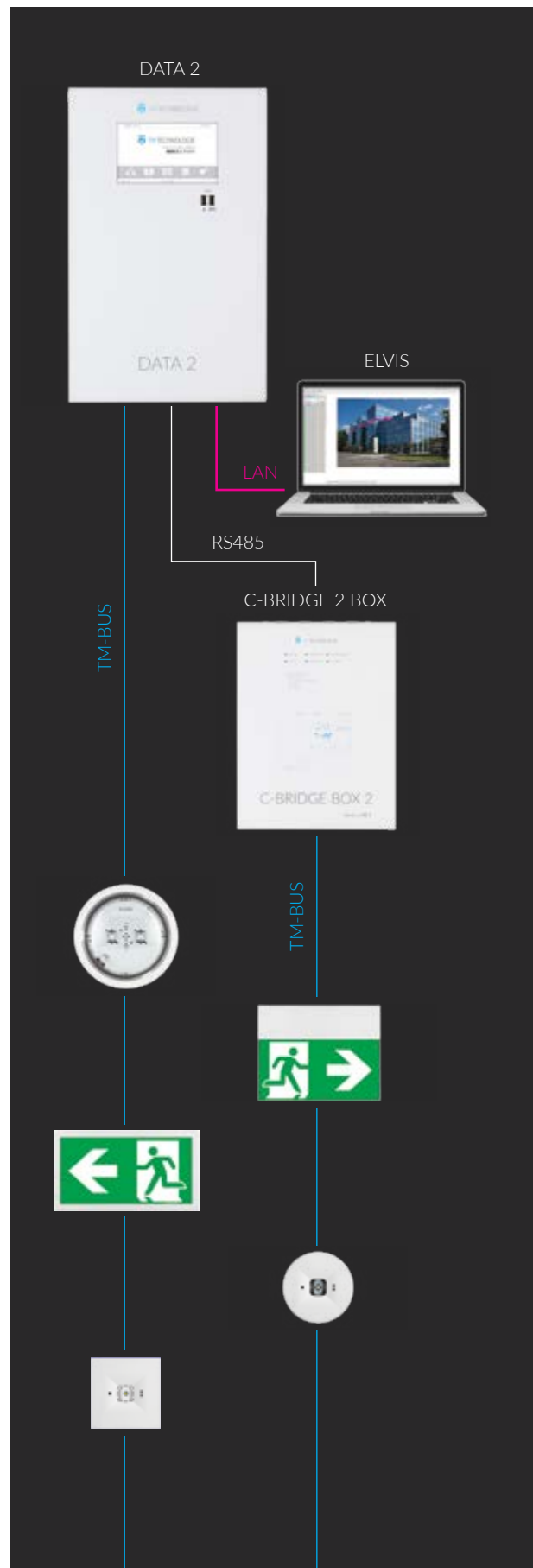


DATA 2

SELF-CONTAINED ADDRESSABLE SYSTEM



- » Monitoring of a configured system with up to 4096 fittings - ideal for medium-sized and large investments.
- » All parameters of the fittings, the addresses of which are displayed in the control panel, are downloaded by the panel in a continuous manner.
- » The control unit has a built-in rechargeable battery that allows to monitor the fittings even during a loss of primary power supply.
- » Possibility to download reports and logs stored in the device's memory.
- » Software update via USB port.
- » Communication between the panel and fittings is carried out by means of the built-in C-BRIDGE 2 signal splitter, through the two-wire TM-Bus communication bus, which does not require polarisation maintenance.
- » Password protection for different levels of rights.
- » Cooperation with smart building systems.



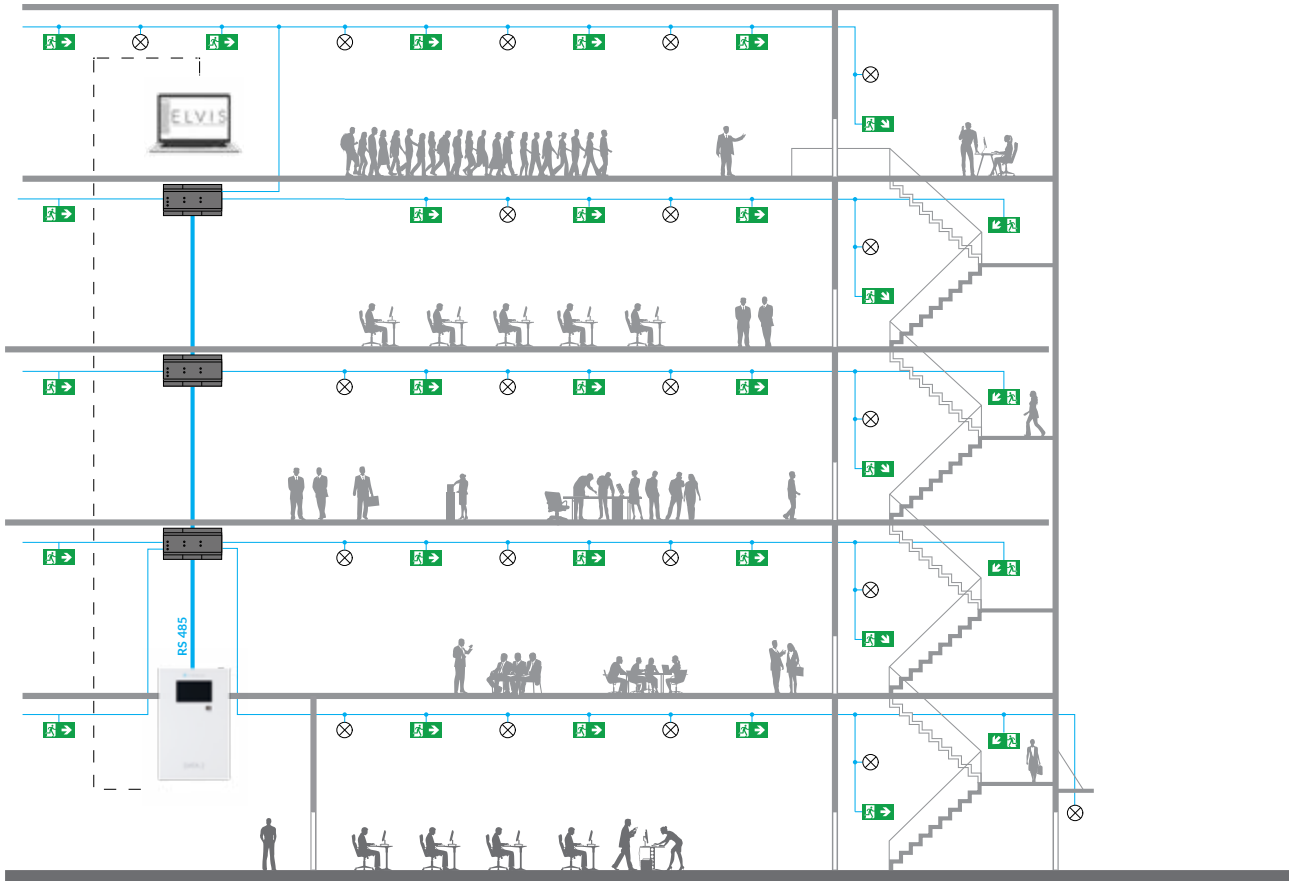
$$64 \times 4 \times 16 = 4096$$

maximum number of emergency fittings / channel

maximum number of communication channels

maximum number of signal distributor

maximum number of emergency fittings in the system



central station



ELVIS/BMS/SCADA



HOUSING DATA 2

| | |
|------------------------|------------------------------------|
| Dimensions (H x W x D) | 485 x 302 x 70 mm |
| Material | RAL 9003 powder coated black steel |
| Protection degree | IP20 |
| Insulation class | I |

BASIC SYSTEM PARAMETERS

| | |
|---|------|
| Max. number of emergency fittings / channel | 64 |
| Maximum number of communication channels | 4 |
| Maximum number of C-Bridge 2 signal distributor | 16 |
| Max. number of emergency fittings in the system | 4096 |

WIRING

| | |
|---|--|
| Communication with controller | RS 485 port |
| Communication with ELVIS, WWW, MODBUS TCP | LAN |
| Communication with addressable devices | TM-BUS 2-wire data bus (without polarity) - communication cable for example: YTKSYekw 1 x 2 x 0.8 mm ² or other wires complying with the parameters: length: max. up to 1,000 m operating temperature: -15°C to + 70°C resistance: max. 75 Ω/km conductor capacity: max. 120 nF/km |

CONTROLLER

Multifunctional device with touch panel. Controls emergency luminaires. Possibility to download reports on the flash drive and preview the system status through the website.

| | |
|-------------|--|
| Main menu | The following controls are available on the home page: system, luminaires, lighting groups, organiser, settings. |
| System | The "system" menu allows you to quickly determine the system status. |
| Fittings | The luminaires window allows you to view the status of luminaires installed in the system. |
| Test groups | The system allows you to add 128 test groups. The task of the groups is to automatically (regularly) trigger tests according to the preset schedule. |
| Organiser | After selecting the "Organiser" control it is possible to switch to the following modules: reports, logs, backups. |
| Settings | In the main menu, after selecting the settings control, it is possible to configure the panel settings: users, network, time panel, info. |

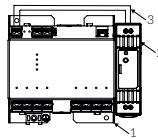
I/O MODULE

Device enabling control of emergency lighting groups, dedicated to DATA 2 and TM-CB emergency lighting systems. IN input and OUT output models are available. The DATA 2 and TM-CB system allows the connection of up to 16 I/O modules. The address of each module is set on DiP-switches on their housing. IN SW, IN 24, IN 230 version is used to control the night lighting, fire-emergency lighting groups, fire scenarios and has 8 inputs. The output module (OUT) is used to inform about the system status. It has 8 potential-free outputs.

VERSIONS

| | |
|--------|--|
| IN SW | potential-free input |
| IN 24 | 24 V voltage detection |
| IN 230 | 230 V voltage detection |
| OUT | potential-free output 400 V AC/ 250 V DC, maks. 6 A |

| | |
|-------------------------|-------|
| 1 TM-I/O | 2,4 W |
| 2 DR-15-12, 12 V 15 W | 1,2 W |
| 3 CCA 2x0,75 mm | 1,2 W |



I/O MODULE MODELS PARAMETERS

| Model | Power IN | P_{max} | I_{max} | $IN_{1-8} U_{max}$ | $K_{1-8} U_{max}$ | $K_{1-8} I_{max}$ | I,II,III |
|--------|--------------------|-----------|-----------|--------------------|---------------------|-------------------|----------|
| OUT | 12 V DC $\pm 10\%$ | 2,4 W | 170 mA | - | 400 V AC / 250 V DC | 6 A | ⊕ |
| IN SW | 12 V DC $\pm 10\%$ | 1,2 W | 100 mA | - | - | - | ⊕ |
| IN 24 | 12 V DC $\pm 10\%$ | 1,2 W | 100 mA | 30 V DC | - | - | ⊕ |
| IN 230 | 12 V DC $\pm 10\%$ | 1,2 W | 100 mA | 250 V AC | - | - | ⊕ |



C-BRIDGE 2

Intermediary device for communication between the controller and DATA 2 series addressable devices. The control panel is equipped with one splitter as a standard, but optionally it is possible to connect a second signal splitter, thus increasing the maximum possible number of luminaires to 512.

**C-BRIDGE 2
DATA 2 DIN**

With battery for DIN rail mounting in switching stations and shafts.

| | |
|-------------------------------|---|
| Supply voltage | 22-25 V DC |
| Battery | LiFePO4 Battery Pack 19.2 V 3Ah (18650) Balanced |
| Number of luminaires operated | < 64 / channel |
| Number of channels | 4 |
| Interface | RS-485 (for PC LAN connection, DATA 2 C-Panel control unit), TM-BUS |
| Bus voltage | 15-25 V |
| Bus communication speed | 5 kbit/s |
| Communication speed | RS-485: 19200 bit/s |
| Insulation class | III |
| Mounting | T-35 rail |

**C-BRIDGE 2
DATA 2**

With battery for mounting in dedicated housings.

| | |
|-------------------------------|---|
| Supply voltage | 22-25 V DC |
| Output voltage | 12 V DC 0,67 A |
| Number of luminaires operated | < 64 / channel |
| Number of channels | 4 |
| Interface | RS-485 (for PC LAN connection, DATA 2 C-Panel control unit), TM-BUS |
| Bus voltage | 15-25 V |
| Bus communication speed | 5 kbit/s |
| Communication speed | RS-485: 19200 bit/s |
| Insulation class | III |

There is also available a version built in the **C-BRIDGE BOX 2**, allowing communication with emergency lighting fittings, while maintaining the parameters of C-BRIDGE DATA 2.



CENTRAL BATTERY

CONTROL AND MONITORING SYSTEM





TM CB-A

CENTRAL BATTERY SYSTEM



- » Power supply of emergency luminaires from one point.
- » Monitoring of circuits, luminaires and grounding status.
- » Modular design for easy expansion.
- » Touch navigation, easy to use interface.
- » Correct configuration makes the system maintenance-free.
- » Building visualisation using the ELVIS program.

VERSIONS

Basic version

only monitoring of circuits

Only the current of the individual circuits is monitored. The system informs the user about the damage occurrence, giving the circuit number on which the failure occurred, e.g. ballast damage, fluorescent lamp burnout.

Extended version

monitoring of single luminaires

Each luminaire has a built-in addressable module that monitors the current. Thanks to this, the system can inform the user exactly which luminaire is a problem. Thanks to the use of addressed modules it is possible to flexibly configure the operation mode.

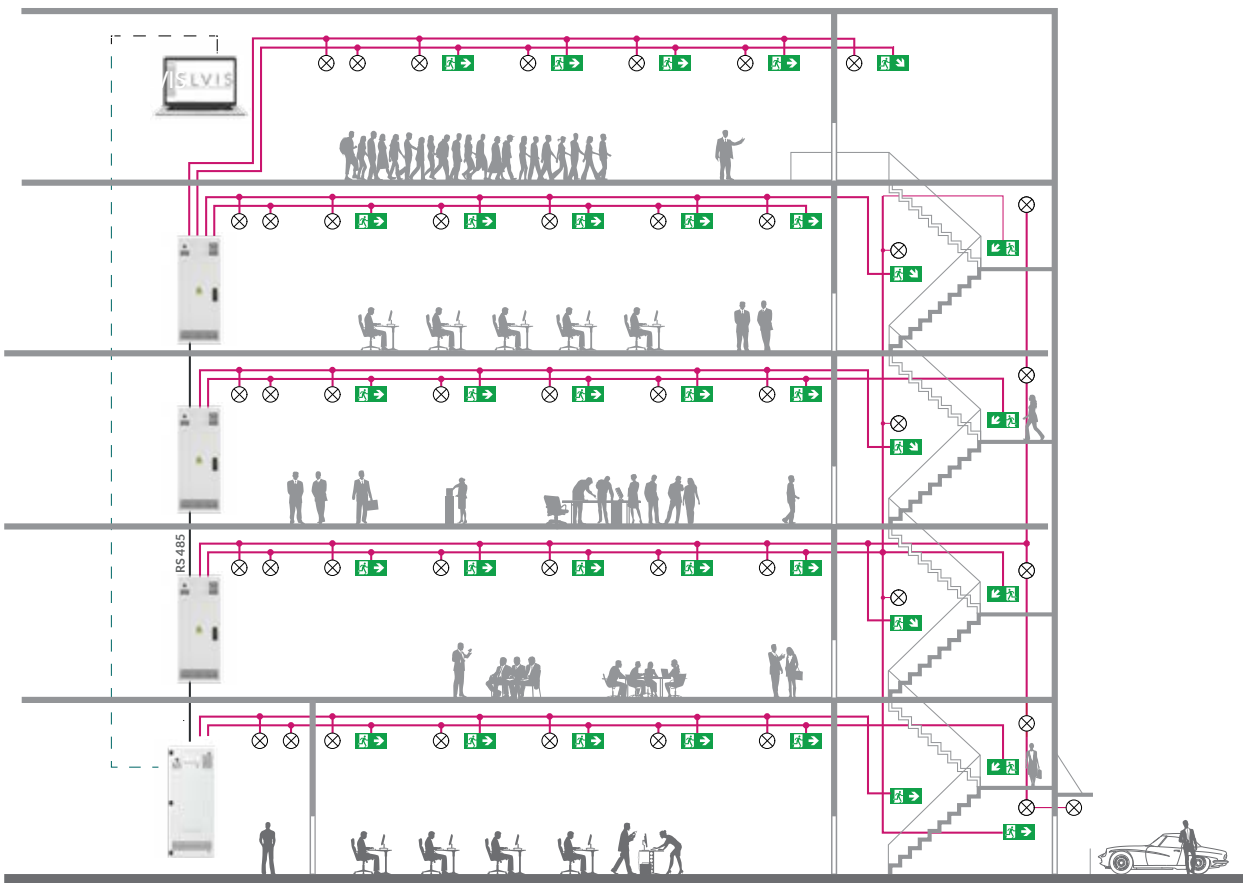
$$20 \times 24 \times 64 = 30720$$

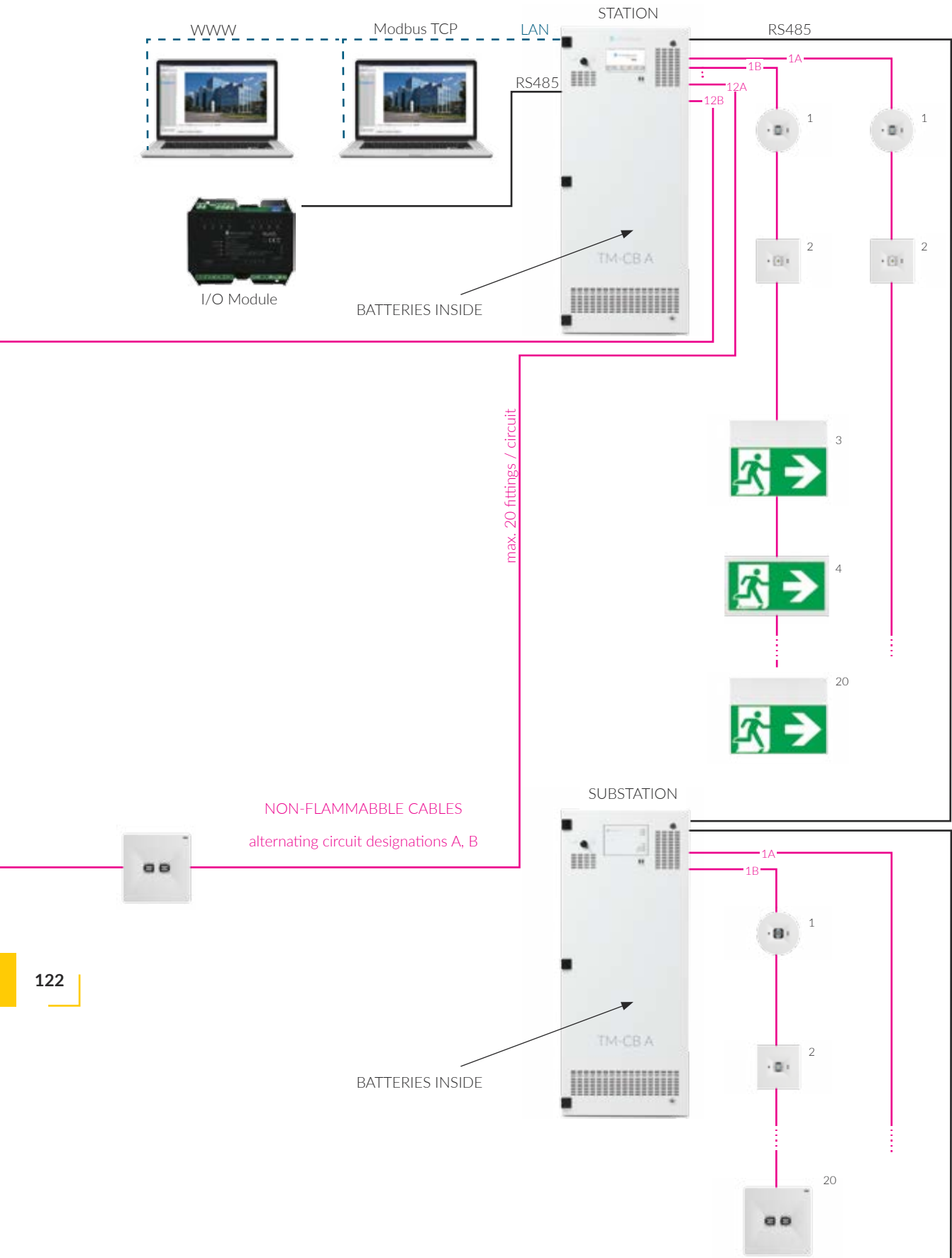
maximum number of emergency fittings / circuit

maximum number of circuits

maximum number of substations (63) + station (1)

maximum number of emergency fittings in the system





BASIC SYSTEM PARAMETERS

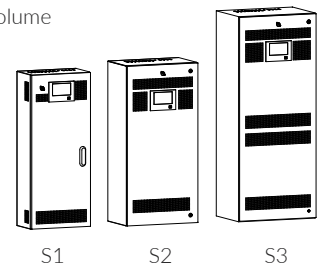
| | |
|---|--------|
| Max. number of emergency fittings / circuit | 20 |
| Maximum circuits number | 24 |
| Maximum number of stations | 1 |
| Maximum number of substations | 63 |
| Max. number of emergency fittings in the system | 30 720 |

HOUSING

| | |
|-------------------|------------------------------------|
| Material | RAL 9003 powder coated black steel |
| Protection degree | IP20 |
| Insulation class | I |

HOSUING DIMENSIONS

| Model | Dimensions | Power | Nominal volume |
|-------|---------------------|---------|----------------|
| S1 | 1208 x 501 x 321 mm | ≤1560 W | 7 Ah |
| S2 | 1253 x 601 x 412 mm | ≤2330 W | 22 Ah |
| S3 | 1553 x 646 x 502 mm | ≤4280 W | 33 Ah |



TM-CB A PARAMETERS

| | |
|-------------------|--|
| Power supply | 230 V AC / 50Hz |
| Nominal voltage | 216 V DC |
| Batteries | Maintenance-free lead-acid batteries, service life up to 12 years. |
| Charging | CC/CV |
| Power | 500 VA / circuit (max. 2,5 A) |
| Circuit operation | AC - mainmode / DC - battery mode |
| Mode | Flexible programming of individual circuits: mains, out-of-the-box, mixed. |

STATION

The control unit with touch panel. Station monitors the correct operation of emergency lighting devices. It determines their status through automatic function and autonomy tests and by checking the correctness of parameters. With this solution, information on all circuits and fittings installed in the building and connected to the system are readily and promptly available to the user at one location.

SUBSTATION

It has the same parameters as the station except for one feature - it is not equipped with a touch screen LCD panel. It has 9 diodes indicating the system status and operation correctness. TM-CB A Central Battery System enables connection of up to 63 substations.

CABLING

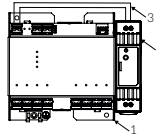
| | |
|---|---|
| RS 485 port | connection between station/substation with I/O module |
| RS 485 port | connection between station with substation |
| LAN | communication with vizualization ELVIS / BMS |
| cross-section 2,5 mm ² | AC main supply |
| cross-section 3 x 1,5 - 2,5 mm ² , fireproof | AC/DC for luminaires |

I/O MODULE

Device enabling control of emergency lighting groups, dedicated to DATA 2 and TM-CB emergency lighting systems. IN input and OUT output models are available. The DATA 2 and TM-CB system allows the connection of up to 16 I/O modules. The address of each module is set on DiP-switches on their housing. IN SW, IN 24, IN 230 version is used to control the night lighting, fire-emergency lighting groups, fire scenarios and has 8 inputs. The output module (OUT) is used to inform about the system status. It has 8 potential-free outputs.

VERSIONS

| | |
|-------------------------|--|
| IN SW | potential-free input |
| IN 24 | 24 V voltage detection |
| IN 230 | 230 V voltage detection |
| OUT | potential-free output 400 V AC / 250 V DC, max. 6 A |
| 1 TM-I/O | 2,4 W |
| 2 DR-15-12, 12 V 15 W | 1,2 W |
| 3 CCA 2×0,75 mm | 1,2 W |



I/O MODULE MODELS PARAMETERS

| Model | Power IN | P_{max} | I_{max} | $IN_{1-8} U_{max}$ | $K_{1-8} U_{max}$ | $K_{1-8} I_{max}$ | I,II,III |
|--------|-------------------|-----------|-----------|--------------------|---------------------|-------------------|----------|
| OUT | 12 V DC \pm 10% | 2,4 W | 170 mA | - | 400 V AC / 250 V DC | 6 A | ⊕ |
| IN SW | 12 V DC \pm 10% | 1,2 W | 100 mA | - | - | - | ⊕ |
| IN 24 | 12 V DC \pm 10% | 1,2 W | 100 mA | 30 V DC | - | - | ⊕ |
| IN 230 | 12 V DC \pm 10% | 1,2 W | 100 mA | 250 V AC | - | - | ⊕ |

CIRCUIT CONTROLLER

Device that controls the operation of the output circuits. Depending on the operation mode, it switches on the appropriate voltage type, controls monitor fittings, conducts current measurements, switches luminaires to modified mode. One circuit controller supports two output circuits.

COORDINATOR

Controller of the entire station. Performs all control and monitoring functions. LEDs on the front panel inform about the correct operation of the station in real time. It is responsible for: measurement of battery charging and discharging current, battery voltage, battery symmetry voltage, power supply voltage amplitude, internal system temperature and interaction with the user by displaying system status information.

CHARGER

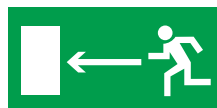
The charger continuously monitors charging current, battery voltage and temperature. It is a Plug&Play type device. The device charges by selecting charging voltages depending on the cell temperature. The correct operation of the charger, as well as errors are indicated by means of diodes.



PICTOGRAMS



TMP 1



TMP 2



TMP 5



TMP 6



TMP 7



TMP 8



TMP 9



TMP 10



TMP 11



TMP 12



TMP 67



TMP 68



TMP 13



TMP 14



TMP 15



TMP 16



TMP 17



TMP 18



TMP 50



TMP 51



TMP 22



TMP 23



TMP 20



TMP 19



TMP 23



TMP 25



TMP 24



TMP 22





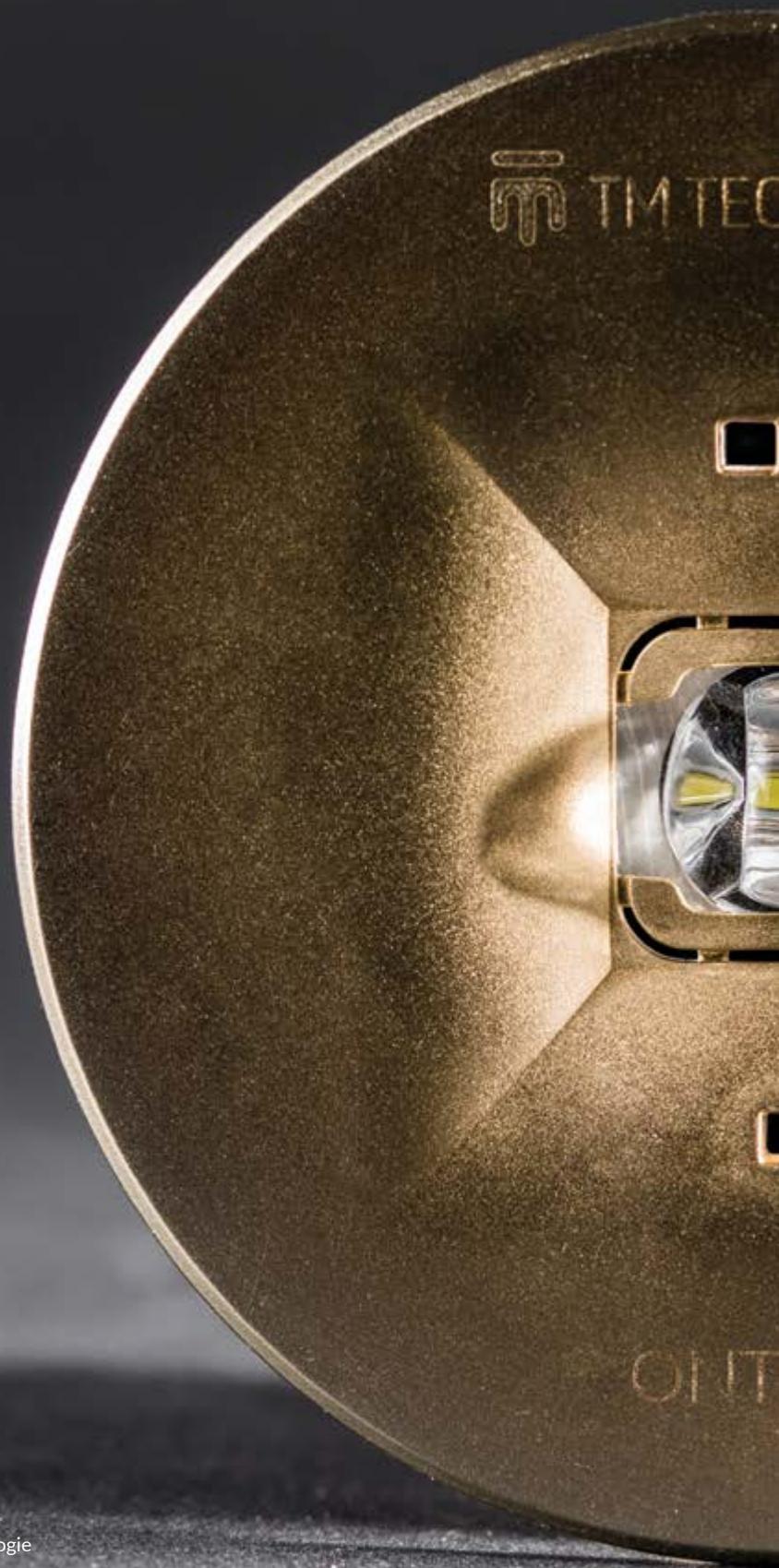


TM TECHNOLOGIE

ONTEC D

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