TM TECHNOLOGIE

only one way

the best **emergency lighting** solutions

catalogue **2020/1**

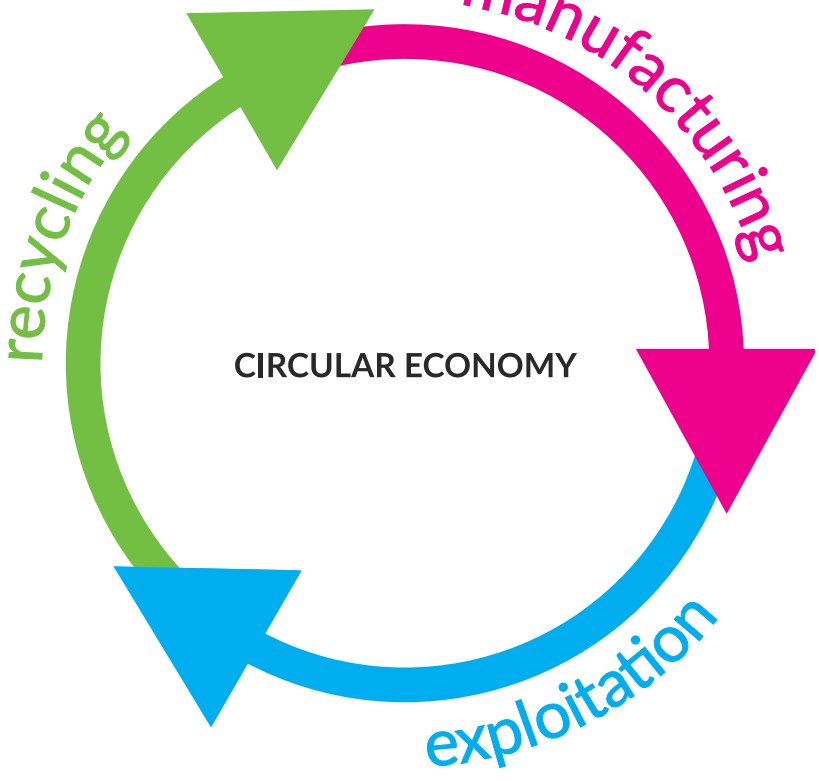
The actual offer may slightly differ from presented in the catalogue.
This publication is not an offer under the Article of the Civil Code.

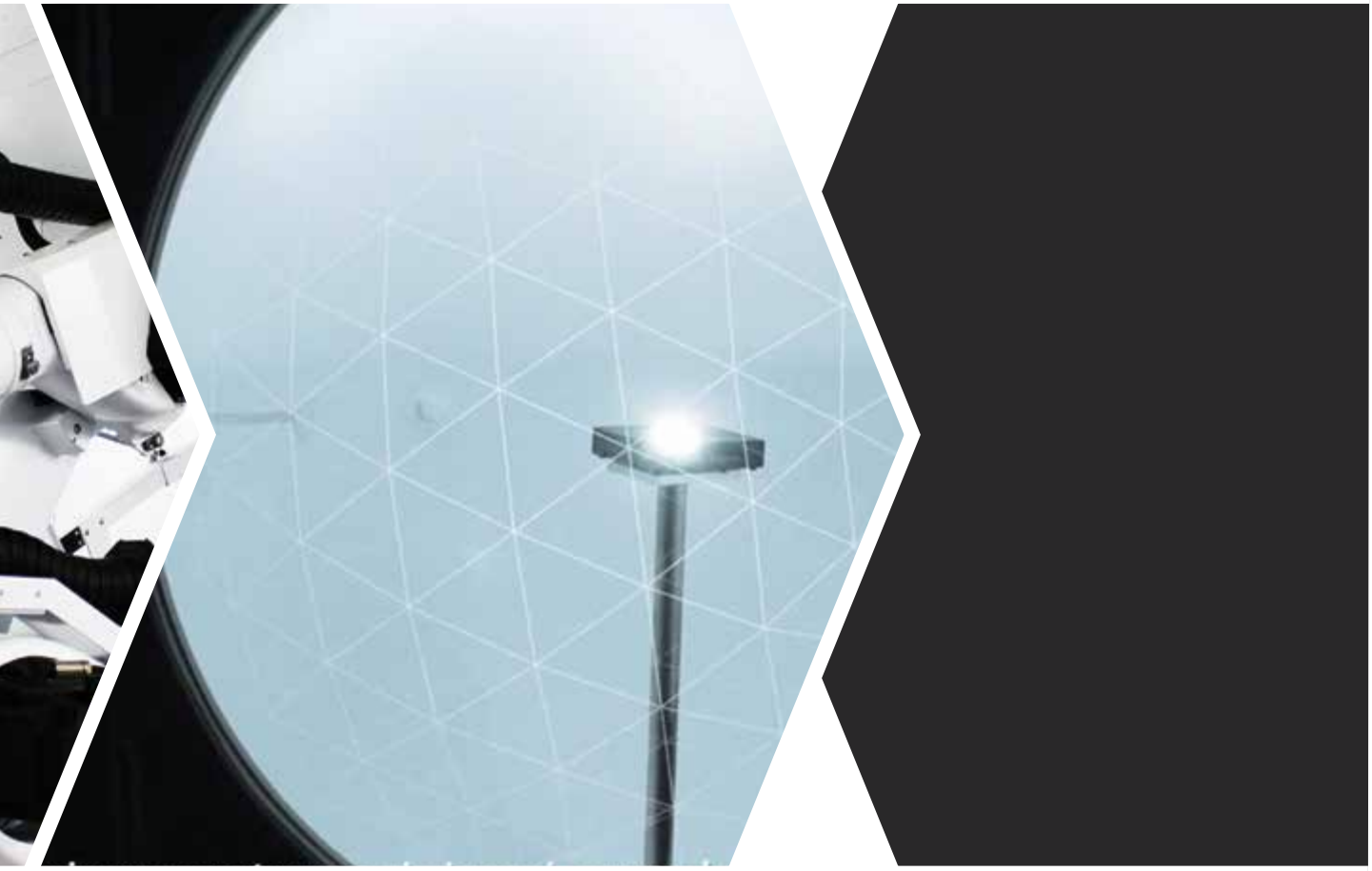

TM TECHNO

TM TECHNOLOGIE

MANUFACTURER OF EMERGENCY LIGHTING


TM TECHNOLOGIE


manufacturing
exploitation
recycling
CIRCULAR ECONOMY



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

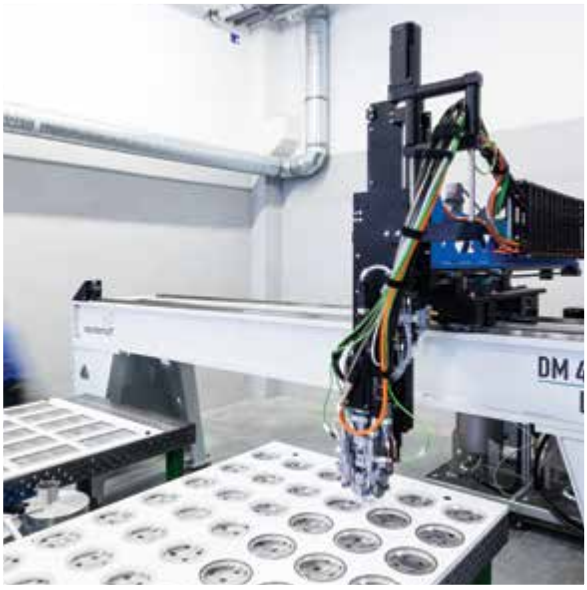
Production halls, hotels, museums, shopping centres and other public buildings are just some of the examples of places for which we design our products. Our engineers and designers use the latest CAD/CAM programs to create high quality products that meet all expectations for aesthetics, ergonomics and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

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.

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

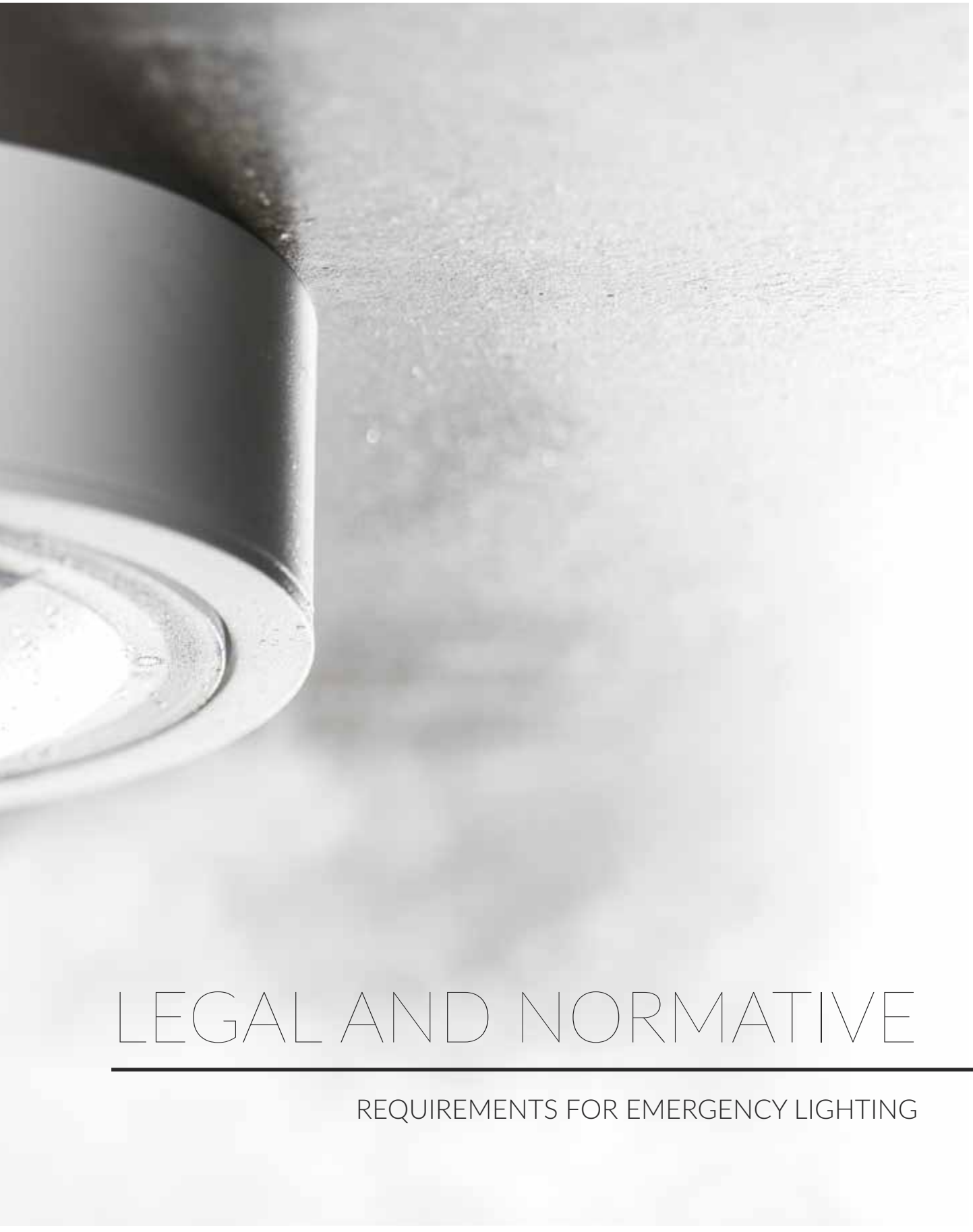
Warsaw | Light

» Germany

Frankfurt | Light&Building

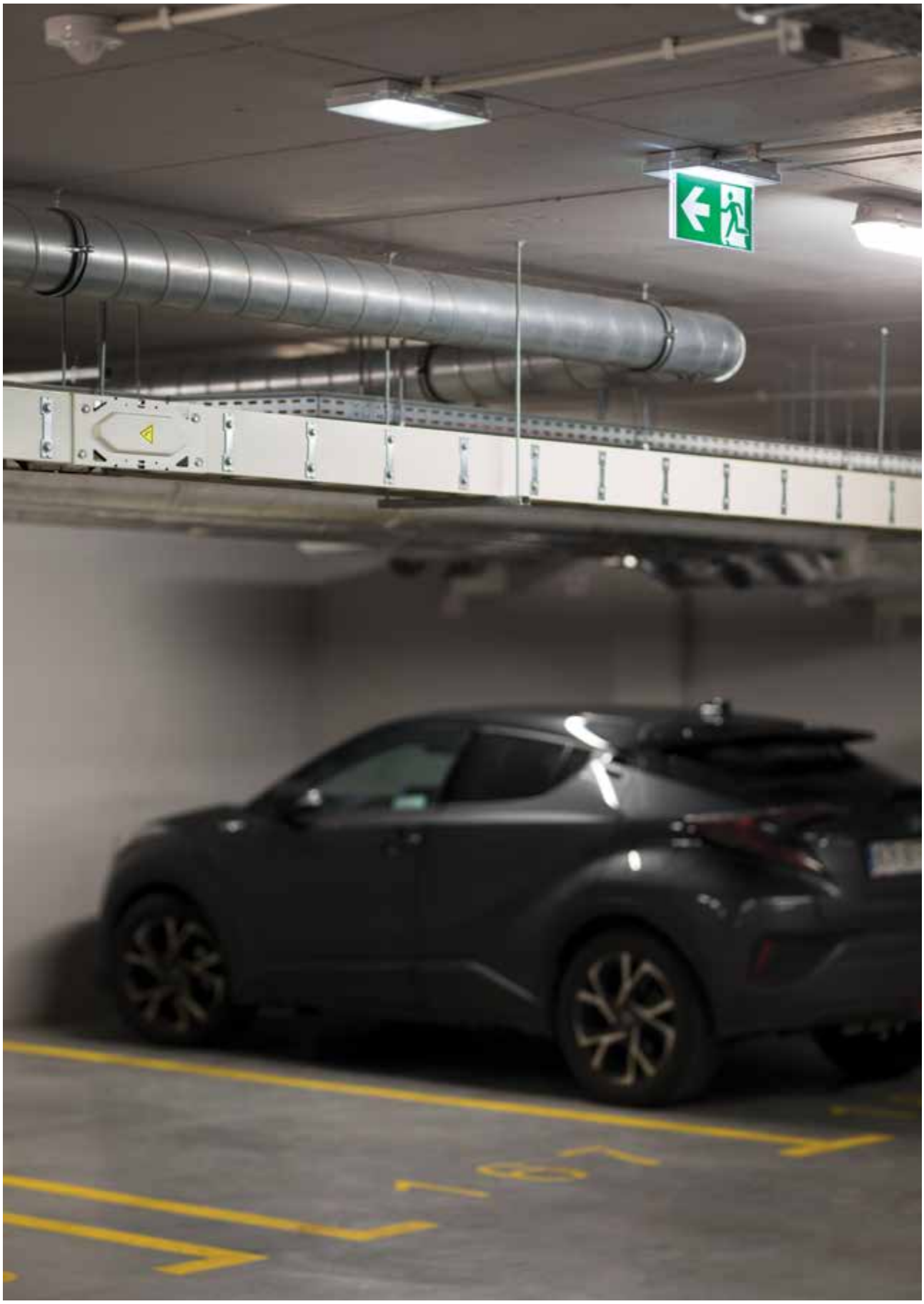
» United Arab Emirates

Dubai | Intersec



LEGAL AND NORMATIVE

REQUIREMENTS FOR EMERGENCY LIGHTING



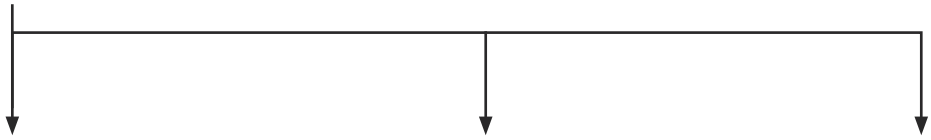
EMERGENCY LIGHTING

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.

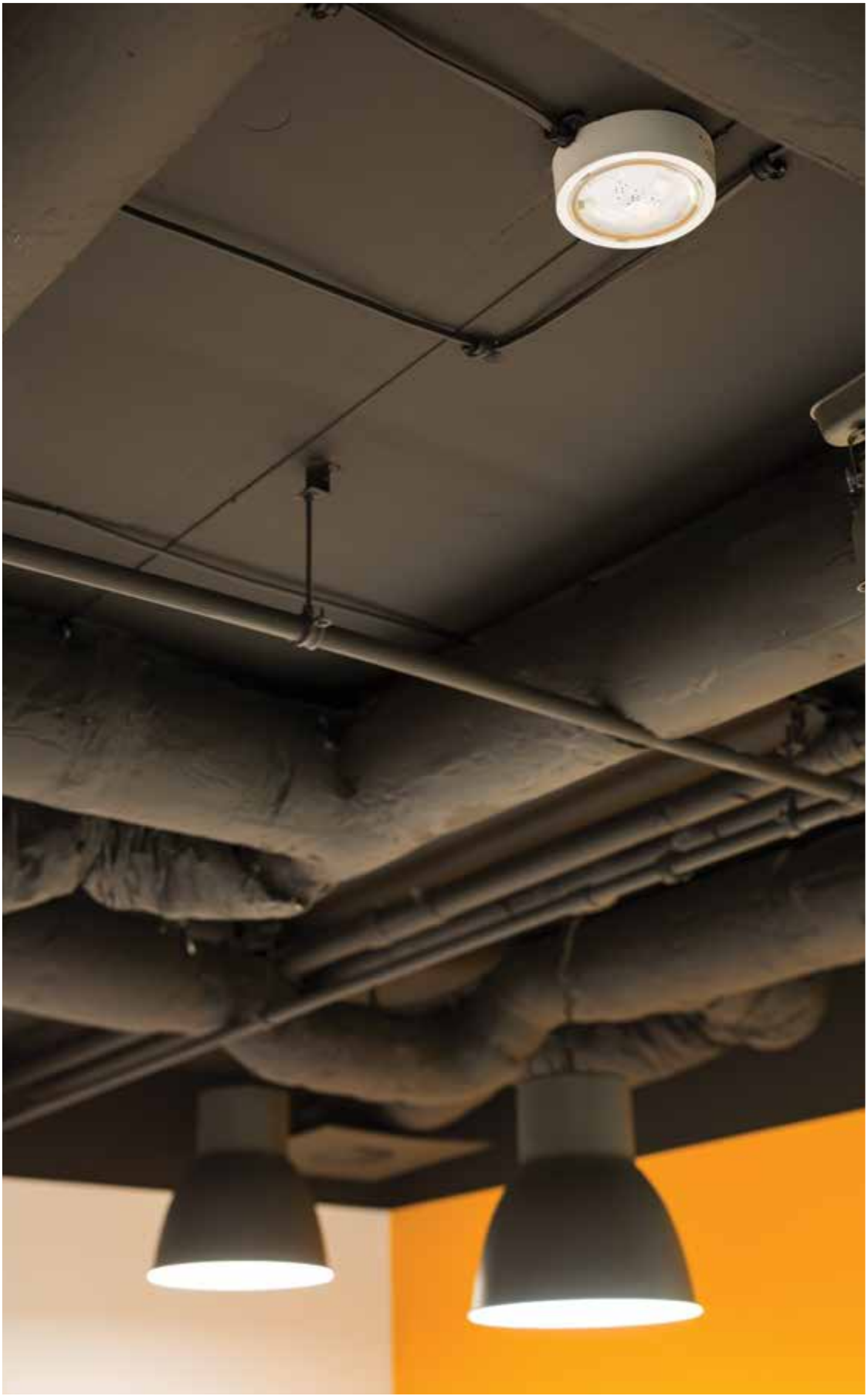
HIGH RISK TASK AREA LIGHTING

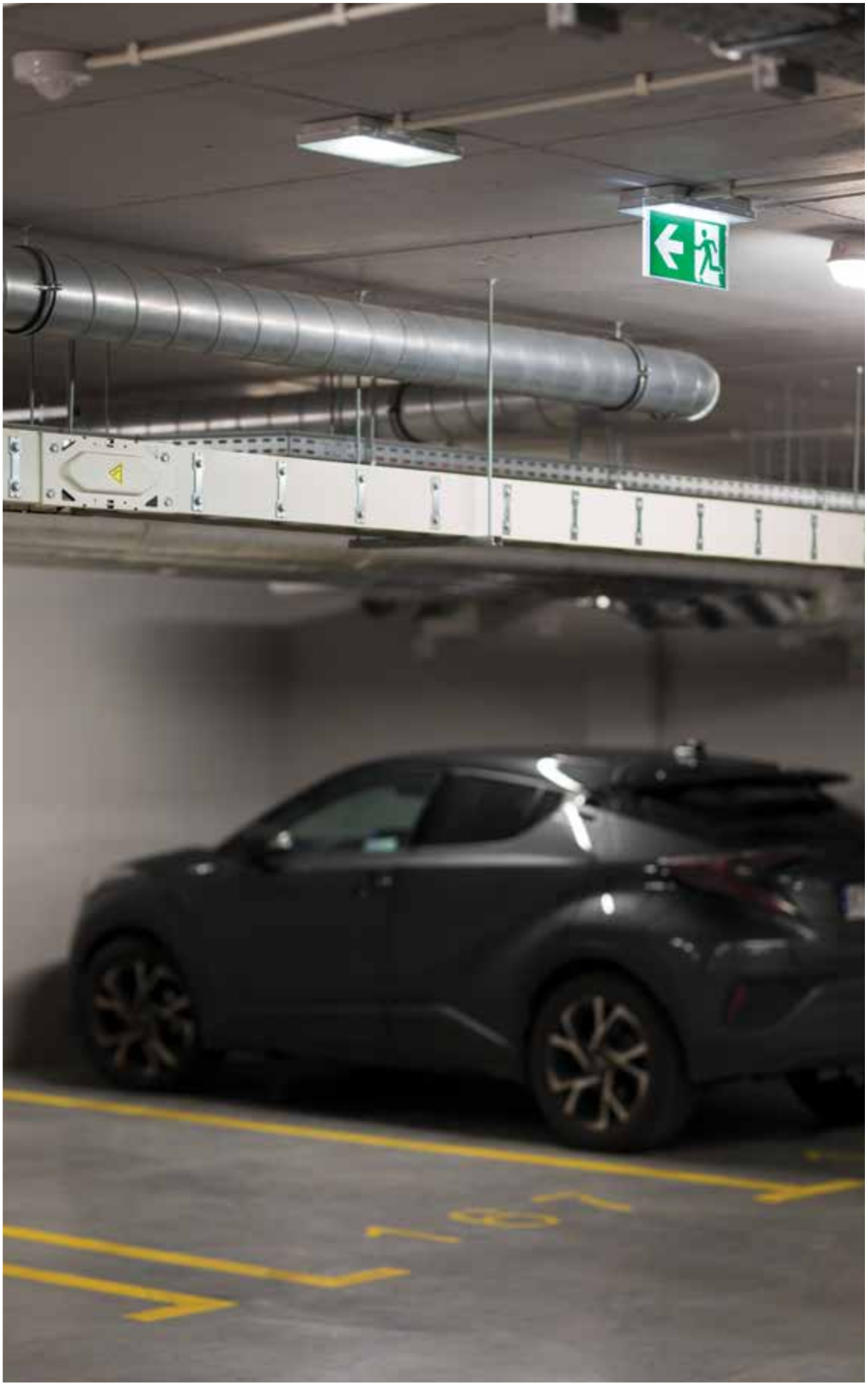
Part of emergency lighting that provides illumination for the safety of people involved in a potentially dangerous process or situation and to enable proper shut down procedures for the operator and other occupants of the premises.

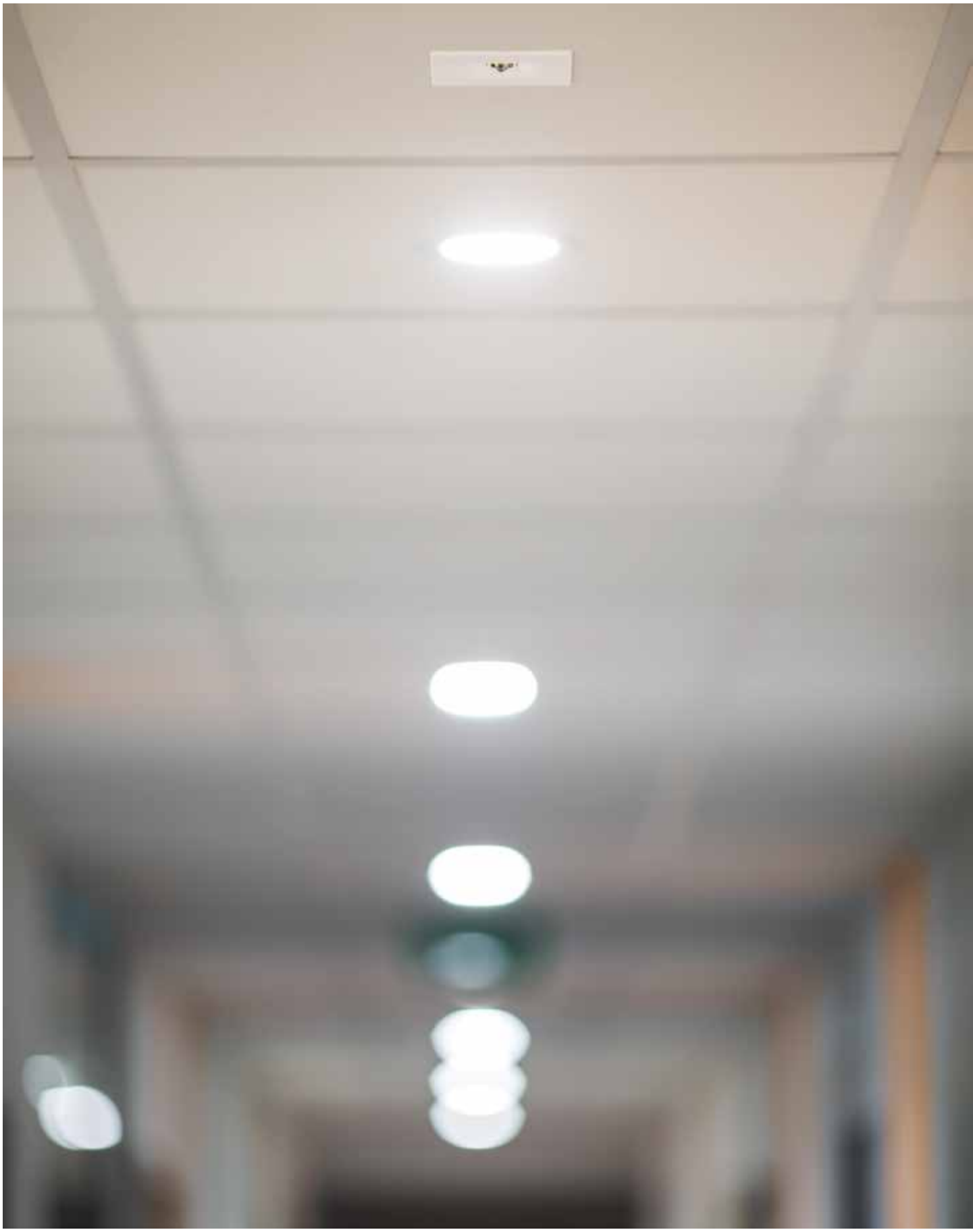
SAFETY SIGNS

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

Division of emergency lighting according to PN-EN 1838.







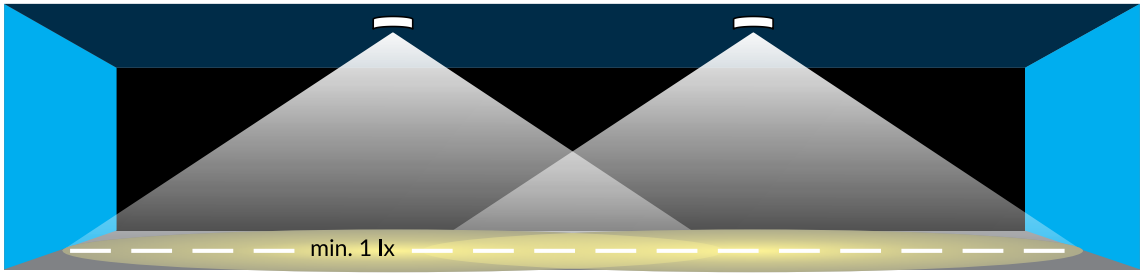
ESCAPE ROUTE LIGHTING

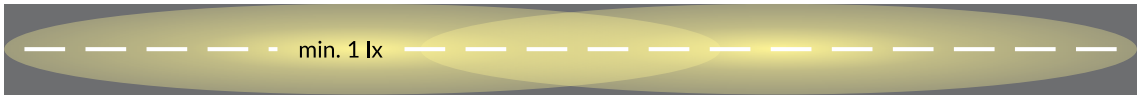
- The average illuminance at the centre line of the escape route on the floor should be not less than 1 lx.
- At the route centre line covering not less than half of the width, the illuminance should be at least 50% of the desired value.
- The ratio of maximum to minimum illuminance on the floor along 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

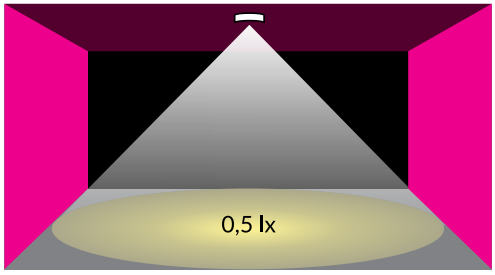
W LENS (asymmetrical)
illumination of fire points and the
end of the escape route

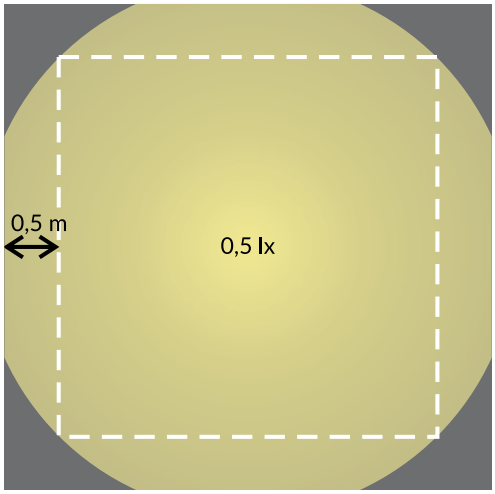




ANTI-PANIC LIGHTING

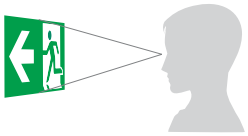
- The illuminance should not be less than 0.5 lx at the floor level in an unoccupied active field of the open area, except for a 0.5 m wide stripe to be excluded from this zone.
- The ratio of the maximum illuminance to the minimum illuminance in the open area should not exceed 40:1.
- In an open area, 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.





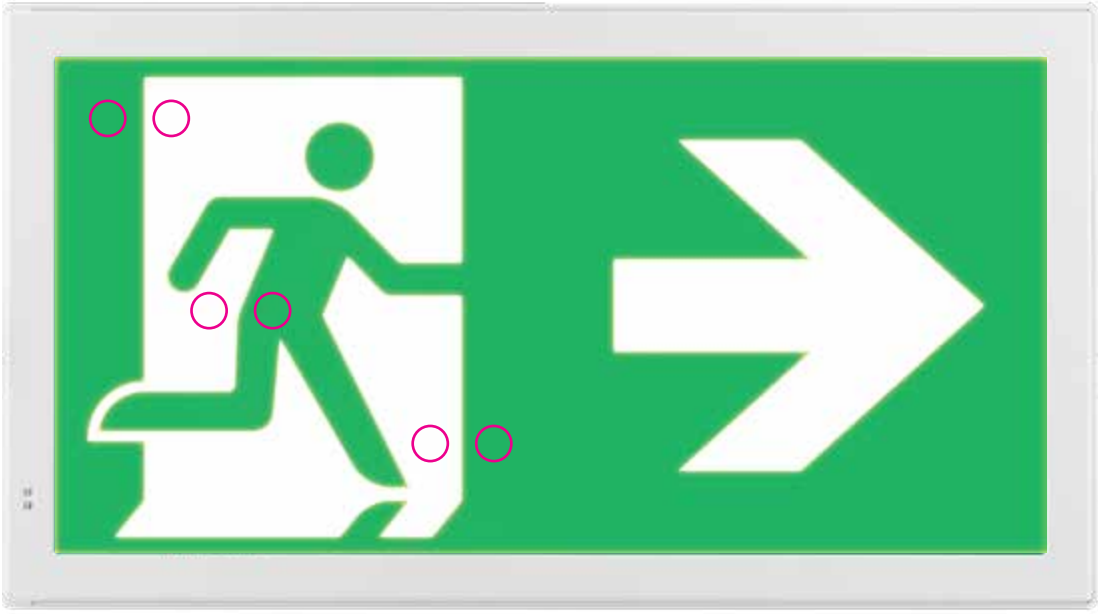
INTERNALLY ILLUMINATED SIGN

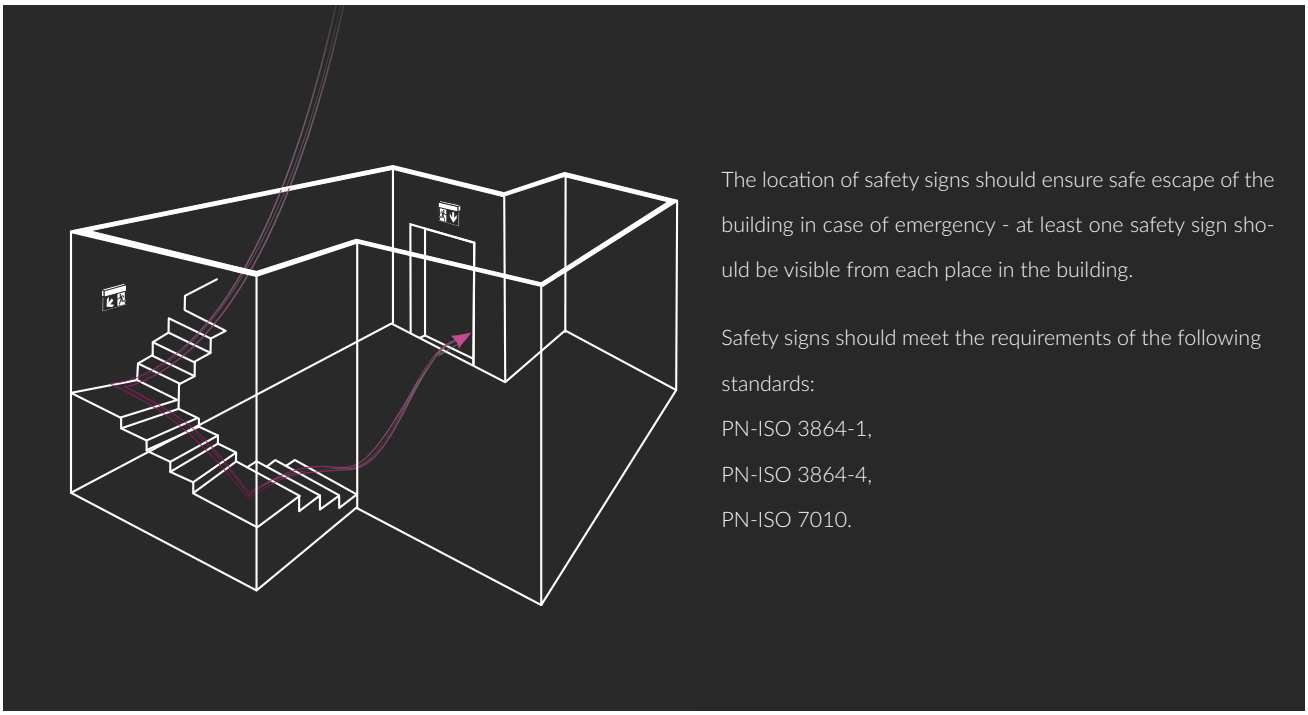
For internally illuminated signs, the distance from the sign may be 200 times the vertical dimension of the sign.



- 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/m^2 (recommended minimum 200 cd/m^2)
  - min. 500 cd/m^2

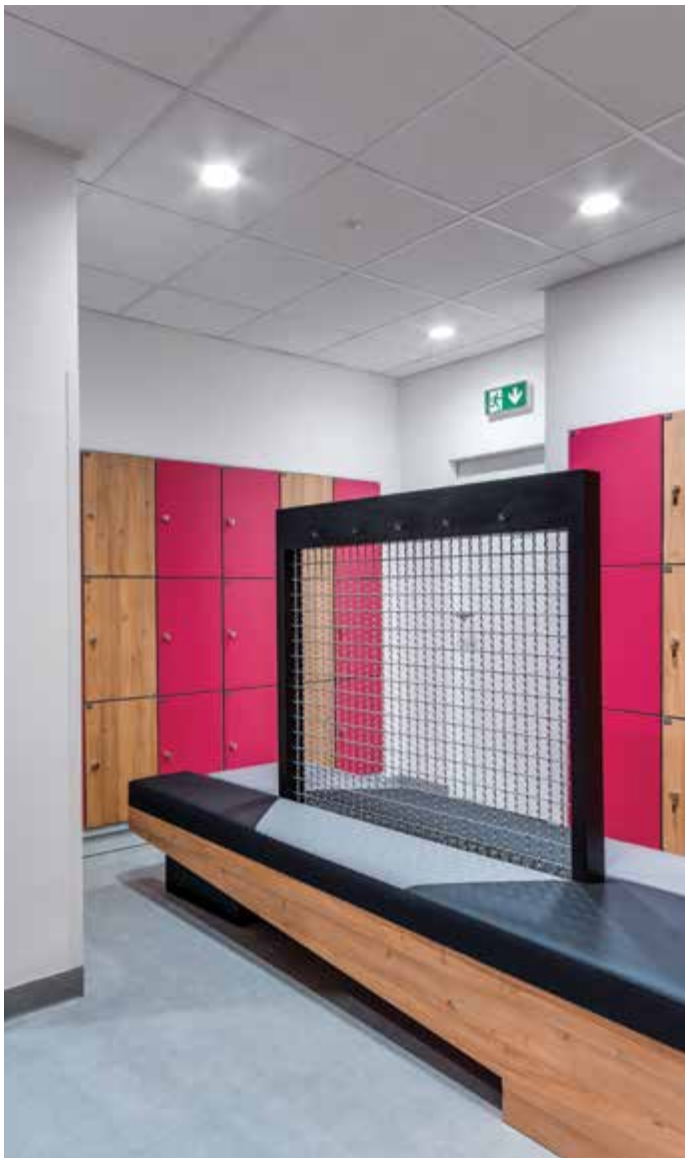
According to EN ISO 7010.





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

Employees in office perform up to **12%** better

Workers productivity increases by up to **18%**

Students achieve up to **14%** higher scores

up to **25%** increase in retail sales

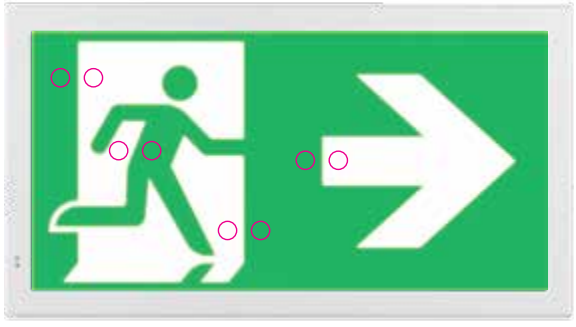
Source of information: https://www.lightingeurope.org/

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/m^2].

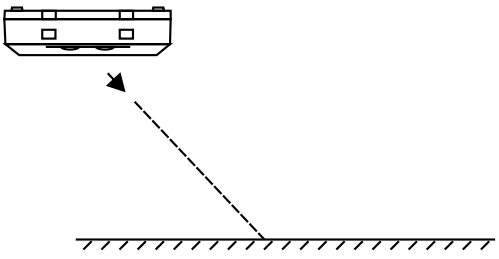
CONTRAST

A “greensignal” and “whitesingal” 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: $1x = 1m/m^2$.

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.

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

Second digit

FIRST DIGIT

Protection against penetration of solids:

0	no protection
1	with a diameter of ≥50 mm
2	a diameter ≥ 12,5 mm
3	with a diameter ≥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 ≤ 15°
3	sprayed at an angle ≤ 60°
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.

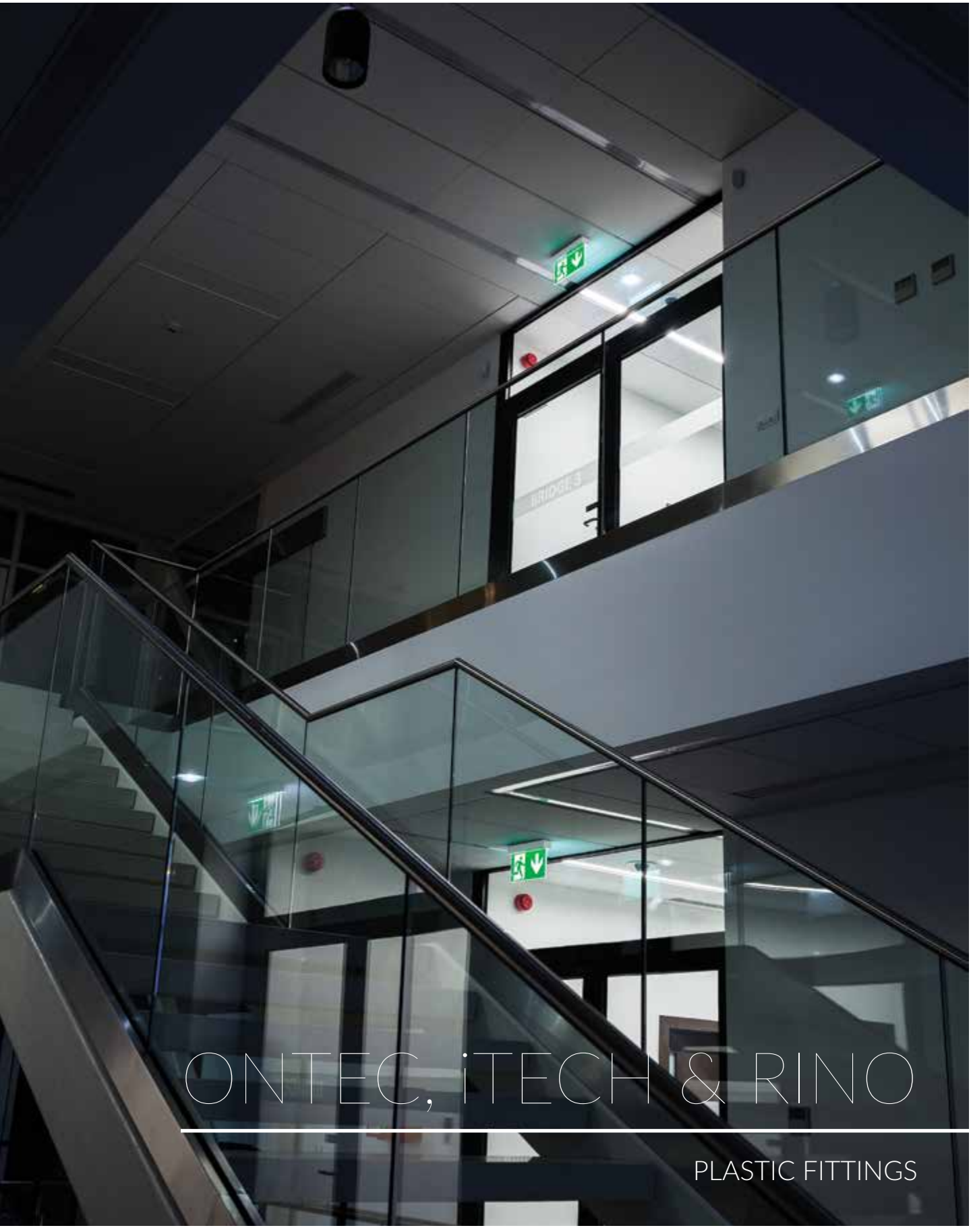
INSULATION CLASS

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.



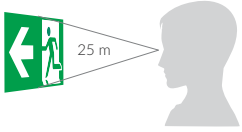
ONTEC, iTECH & RINO

PLASTIC FITTINGS

TM.ONTEC E

DISCRETE AND EFFICIENT

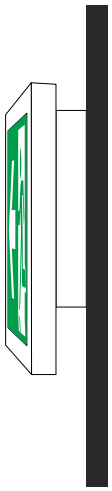
- high luminance – up to 500 cd/m^2
- visibility up to 25 meters



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

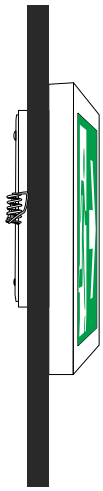
Application	evacuation road direction (evacuation sign)
Type	one-sided fitting
Light source	LED
Visibility	25 m
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 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
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +35°C CB1: t_a -15°C ÷ +55°C CB4: t_a -10°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ☐ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS

» surface mounted

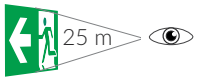


» TM-AKC.OE001

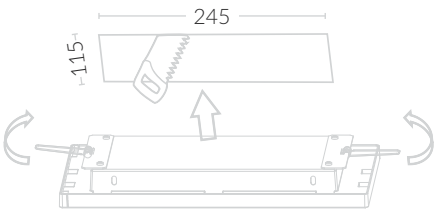
recessed installation



Pictograms in the set:



Dimensions [± 2 mm]



Model	Luminance	Mode	Time	Battery	Testing
TM.ONTEC E E1A	≥ 150 cd/m²	NM	1 / 3 h	Ni-Cd	ST
TM.ONTEC E E1B	≥ 150 cd/m²	M / NM	1 / 3 h	Ni-Cd	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC E E1E	≥ 150 cd/m²	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC E E1P*	≥ 300 cd/m²	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC E E1E	≥ 150 cd/m²	-	-	-	CB1, CB4
TM.ONTEC E E1P*	≥ 300 cd/m²	-	-	-	CB1, CB4

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

surface mounted

TM-AKC.OE001

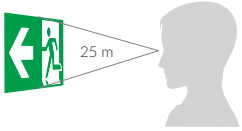
set for recessed mounting

recessed installation

TM.ONTEC G

ONE FITTING – MANY APPLICATIONS

- 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

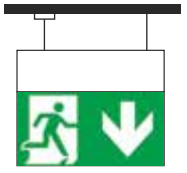
Application	evacuation road direction (evacuation sign)
Light source	LED
Visibility	25 m
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 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
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +35°C CB1: t_a -15°C ÷ +55°C CB2: t_a -10°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ▢ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS

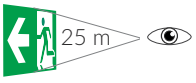
» celling installation

» recessed mounting TM-AKC.OG001

» wall installation

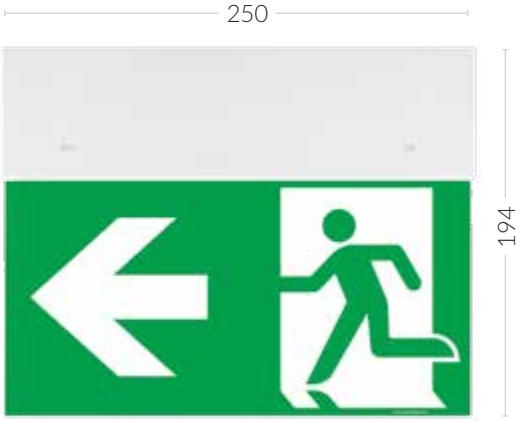
» suspension bracket TM-AKC.OG010 + MC.ZAW.OG.001

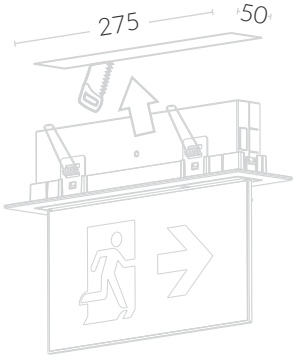




Pictograms in the set:

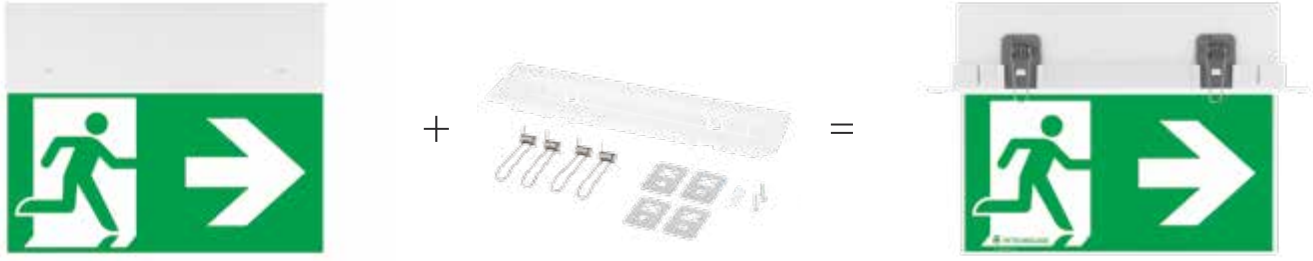
Dimensions [± 2 mm]





Model	Luminance	Mode	Time	Battery	Testing
TM.ONTEC G E1A	≥ 150 cd/m²	NM	1 / 3 h	Ni-Cd	ST
TM.ONTEC G E1B	≥ 150 cd/m²	M / NM	1 / 3 h	Ni-Cd	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC G E1E	≥ 150 cd/m²	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC G E1P*	≥ 300 cd/m²	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC G E1E	≥ 150 cd/m²	-	-	-	CB1, CB2
TM.ONTEC G E1P*	≥ 300 cd/m²	-	-	-	CB1, CB2

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



surface mounted

TM-AKC.OG001

set for recessed mounting

recessed installation

The housings come in different color options.

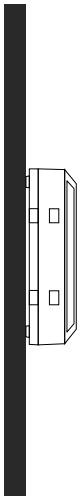
TM.ONTEC R E1

RELIABILITY AND ELEGANCE

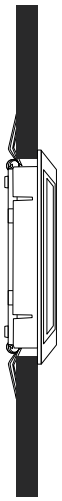
- extended lifetime thanks to LiFePO4 packages
- minimalistic design
- surface and recessed mounting
- maintain (M) or non-maintain (NM) operation mode


TM TECHNOLOGIE

Application	identification of fire - protection devices evacuation road direction (evacuation sign)
Light source	LED
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 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
Temeprature range	ST, AT, DATA, DALI, DATA 2: t_a +10°C ÷ +35°C CB1: t_a -15°C ÷ +55°C CB3: t_a -10°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ☐ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS



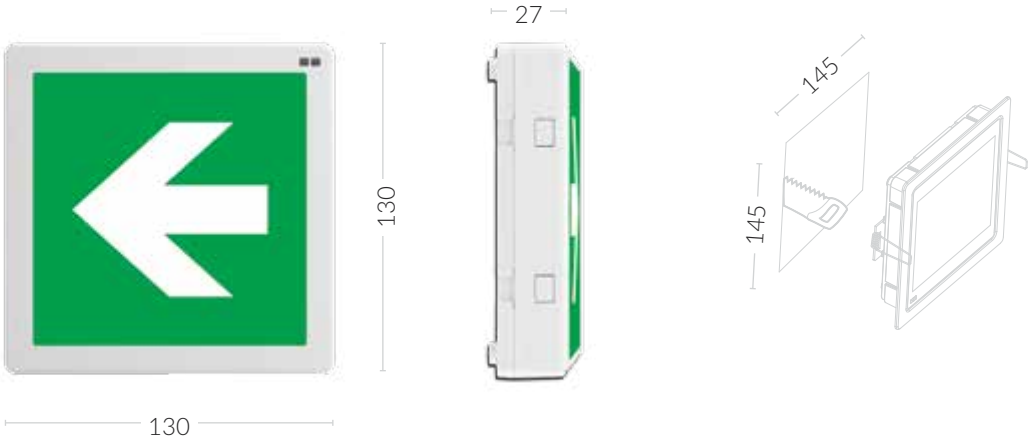
» surface mounted



» TM-AKC.OR001
set for recessed
mounting

Pictograms in the set:

Dimensions [± 2 mm]



Model	Luminance	Mode	Time	Battery	Testing
TM.ONTEC R E1*	≥ 300 cd/m²	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC R E1*	≥ 300 cd/m²	-	-	-	CB1 / CB3

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

surface mounted

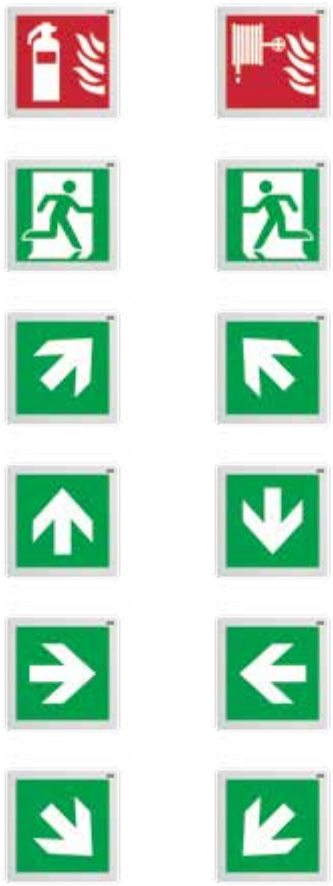
+

TM-AKC.OR001

set for recessed mounting

=

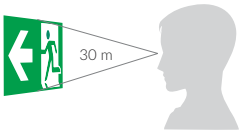
recessed installation



ITECH Z

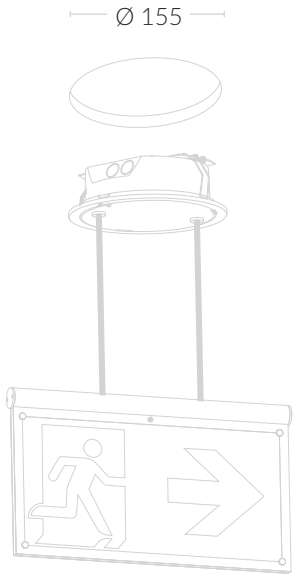
ONE FITTING – MANY APPLICATIONS

- visibility up to 30 meters



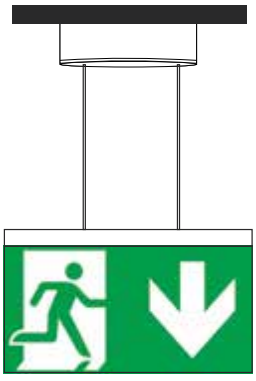
- plug-in connection – when the fitting is opened, the voltage on its active elements is cut off
- high protection degree – IP65
- moulded high-resilience polyurethane gasket
- one-sided or double-sided view fitting

Dimensions [± 2mm]



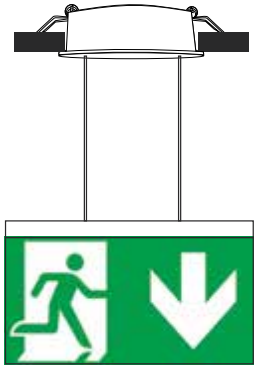
Application	evacuation road direction (evacuation sign)
Light source	LED
Type	double-sided fitting
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 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
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +40°C CB1: t_a -25°C ÷ +55°C CB3: t_a -15°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ▩ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS

» surface mounted

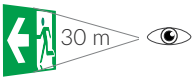


» TM-AKC.IT003

set for recessed mounting



Pictograms in the set:

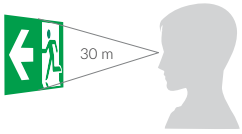


Model	Mode	Time	Luminance	Battery	Testing
iTECH Z E2	M / NM	3 h	≥ 150 cd/m²	LiFePO4	ST / AT / DATA / DATA 2 / DALI
iTECH Z E2	-	-	≥ 150 cd/m²	-	CB1, CB3

ONTEC APN

CLEAR DIRECTION

- visibility up to 30 meters

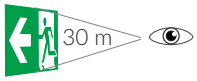


- ceiling installation, surface mounted
- easy and quick installation
- one-sided or double-sided view fitting

Application	evacuation road direction (evacuation sign)
Type	double-sided fitting
Light source	LED
Visibility	30 m
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 system addressable: DALI – with addressable module for DALI systems
Testing for central battery	non-addressable: CB – without addressable module addressable : CBA – with addressable module
Power supply	210÷250 V AC 50÷60 Hz 186÷254 V DC
Protection degree	IP20
Insulation class	II
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +35°C CB1: t_a -15°C ÷ +55°C CB2: t_a -10°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ▢ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS

» surface mounted

Pictograms in the set:



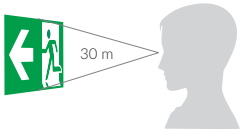
Dimensions [± 2 mm]

Model	Luminance	Mode	Time	Battery	Testing
ONTEC APN 31P	≥ 150 cd/m²	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC APN 31P	≥ 150 cd/m²	-	-	-	CB, CBA

ONTEC PPN

MINIMALIST DESIGN HIDING MAXIMUM POWER

- visibility up to 30 meters



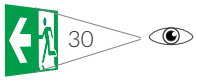
- recessed installation
- easy and quick installation
- one-sided or double-sided view fitting


50

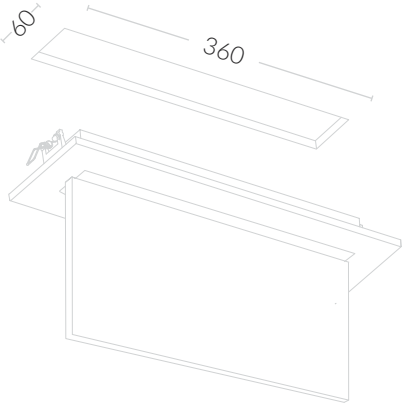
Application	evacuation road direction (evacuation sign)
Type	double-sided fitting
Light source	LED
Visibility	30 m
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 system addressable: DALI – with addressable module for DALI systems
Testing for central battery	non-addressable: CB – without addressable module addressable : CBA – with addressable module
Power supply	210÷250 V AC 50÷60 Hz 186÷254 V DC
Protection degree	IP20
Insulation class	II
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +35°C CB1: t_a -15°C ÷ +55°C CB2: t_a -10°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ☐ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS

» recessed installation

Pictograms in the set:



Dimensions [± 2 mm]



Model	Luminance	Mode	Time	Battery	Testing
ONTEC PPN 31P	≥ 150 cd/m²	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC PPN 31P	≥ 150 cd/m²	-	-	-	CB, CBA

ONTEC AN

MINIMALIST DESIGN HIDING MAXIMUM POWER

» celling 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 button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 system addressable: DALI – with addressable module for DALI systems
Testing for central battery	non-addressable: CB – without addressable module addressable : CBA – with addressable module
Power supply	210÷250 V AC 50÷60 Hz 186÷254 V DC
Protection degree	IP20
Insulation class	II
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +35°C CB1: t_a -15°C ÷ +55°C CB2: t_a -10°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ▩ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS

» surface mounted

Dimensions [± 2 mm]

Model	Luminous flux	Mode	Time	Battery	Testing
ONTEC AN 302	> 220 lm	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC AN 305	> 500 lm	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC AN 302	> 220 lm	-	-	-	CB, CBA
ONTEC AN 305	> 500 lm	-	-	-	CB, CBA

ONTEC PN

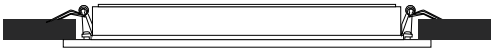
INVISIBLE FITTING

» recessed installation

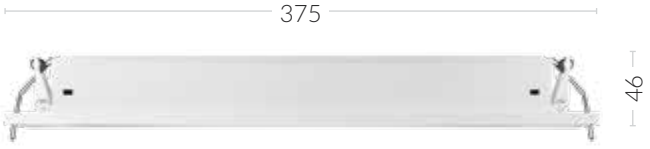
» easy and quick installation

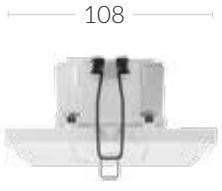
Application	anti-panic lighting escape route lighting
Light source	LED
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 system addressable: DALI – with addressable module for DALI systems
Testing for central battery	non-addressable: CB – without addressable module addressable : CBA – with addressable module
Power supply	210÷250 V AC 50÷60 Hz 186÷254 V DC
Protection degree	IP20
Insulation class	II
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +35°C CB1: t_a -15°C ÷ +55°C CB2: t_a -10°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ▩ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS

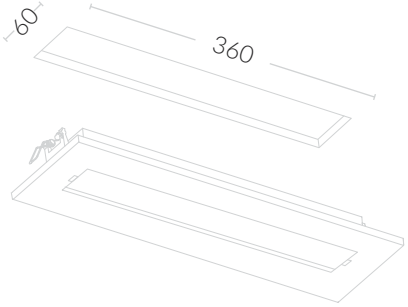
» recessed installation



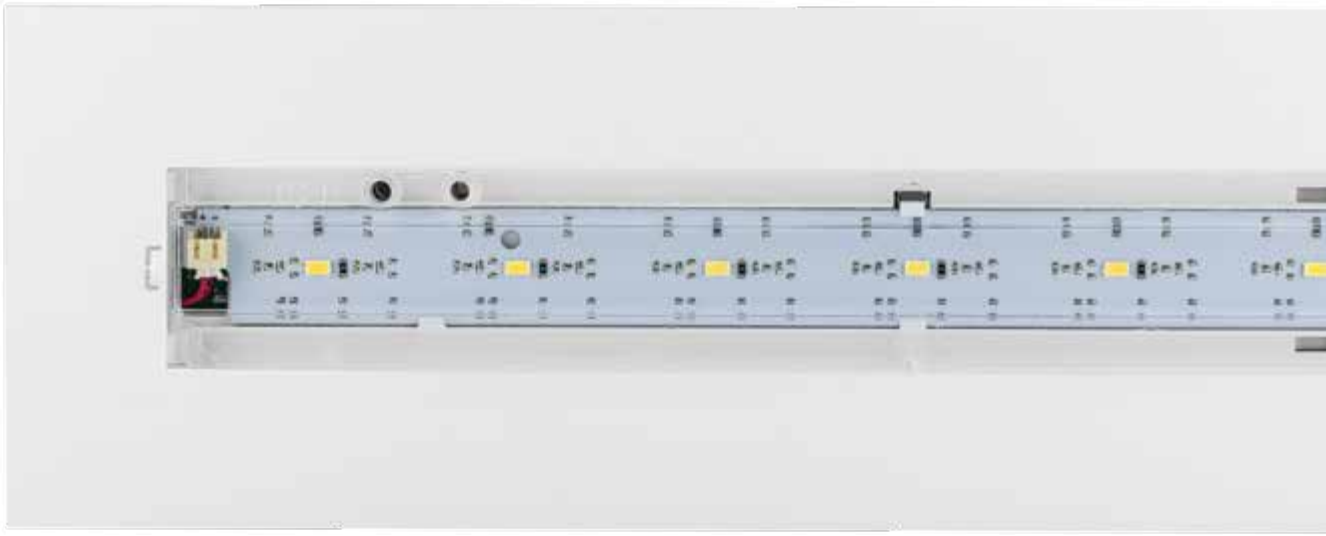
Dimensions [± 2 mm]







Model	Luminous flux	Mode	Time	Battery	Testing
ONTEC PN 302	> 220 lm	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC PN 305	> 500 lm	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC PN 302	> 220 lm	-	-	-	CB, CBA
ONTEC PN 305	> 500 lm	-	-	-	CB, CBA

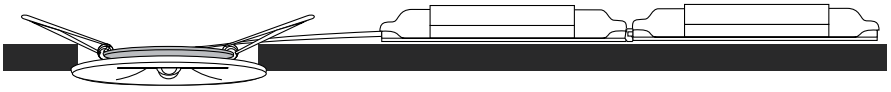


TM.ONTEC C

DISCRETE PROTECTION

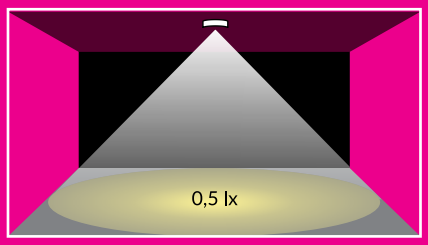
- recessed installation
- extended lifetime thanks to LiFePO4 packages
- minimalistic design
- easy installation thanks to the modular electronics design

Application	anti-panic lighting escape route lighting
Light source	LED
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 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
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +35°C CB1: t_a -15°C ÷ +55°C CB4: t_a -10°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ▩ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS



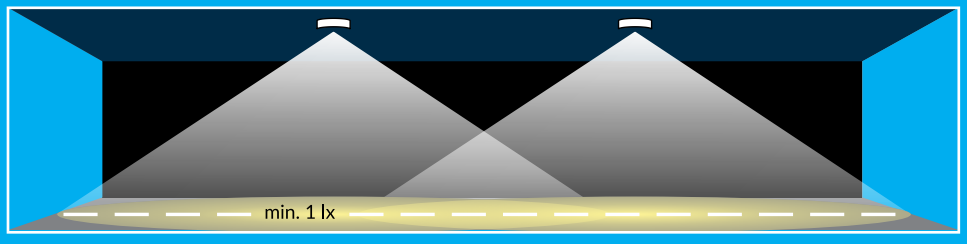
» recessed installation

Dimensions [± 2 mm]



ANTI-PANIC LIGHTING | OPEN SPACE

Model	Luminous flux	Time	Mode	Battery	Testing
TM.ONTEC C M1U	158 lm	1 / 3 h	NM	Ni-Cd	ST
TM.ONTEC C M1	140 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC C M2	288 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC C M2H	393 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC C M1	140 lm	-	-	-	CB1, CB4
TM.ONTEC C M2	288 lm	-	-	-	CB1, CB4
TM.ONTEC C M2H	393 lm	-	-	-	CB1, CB4

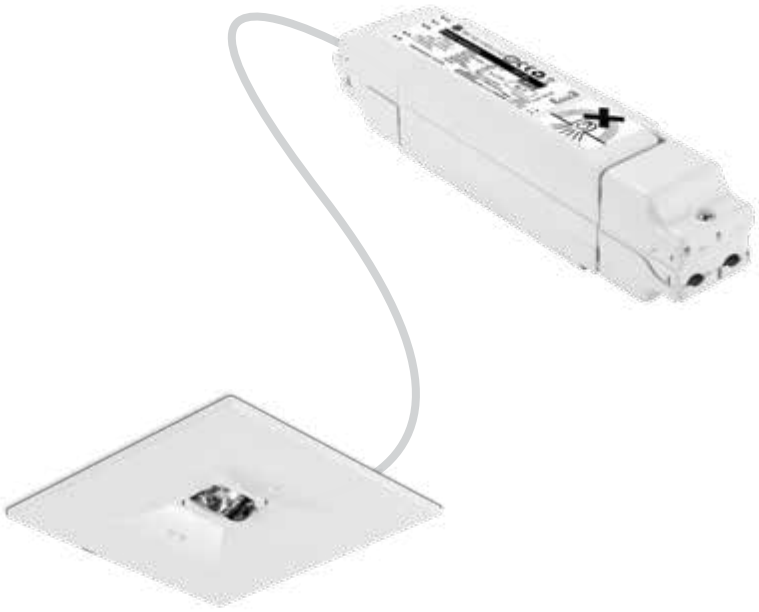


ESCAPE ROUTE LIGHTING | OPTIMAL FOR ESCAPE ROUTES UP TO 7 M HIGH

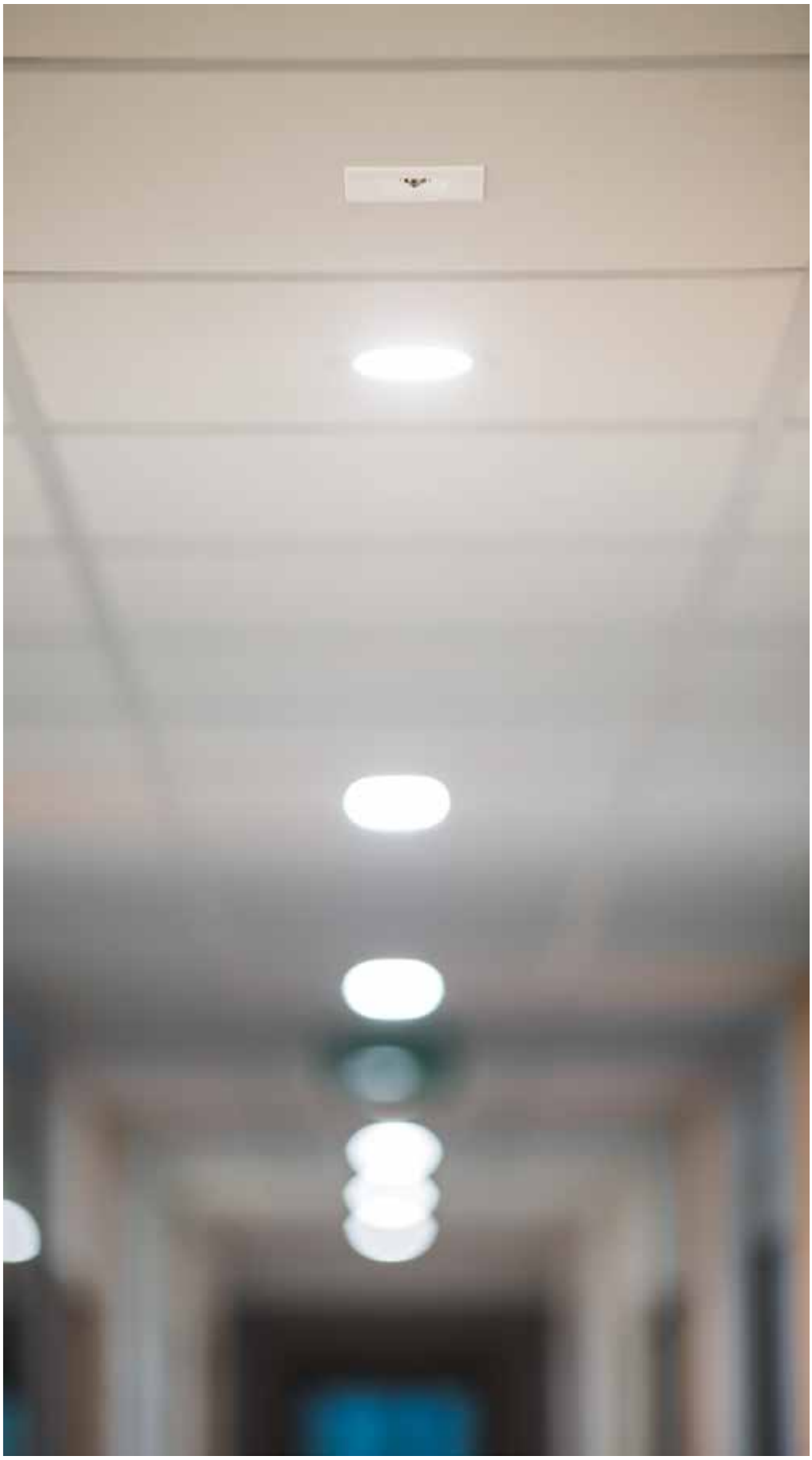
Model	Luminous flux	Time	Mode	Battery	Testing
TM.ONTEC C C1U	141 lm	1 / 3 h	NM	Ni-Cd	ST
TM.ONTEC C C1E	128 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC C C1	260 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC C C1H	353 lm	3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC C C1E	128 lm	-	-	-	CB1, CB4
TM.ONTEC C C1	260 lm	-	-	-	CB1, CB4
TM.ONTEC C C1H	353 lm	-	-	-	CB1, CB4

TM.ONTEC D

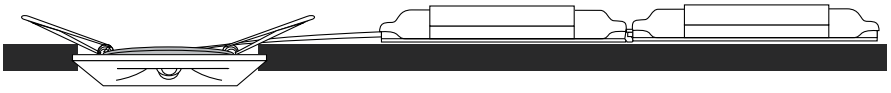
DISCRETE PROTECTION



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

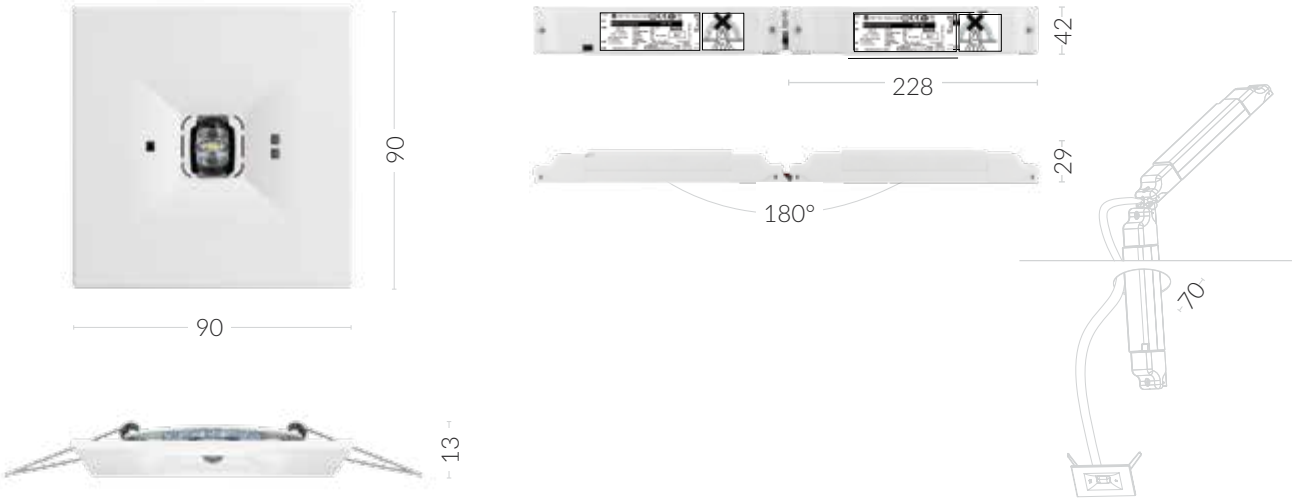


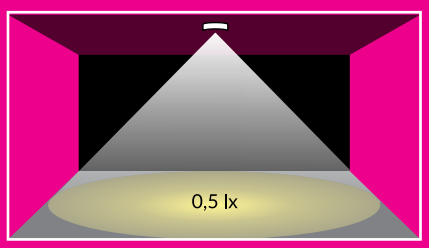
Application	anti-panic lighting escape route lighting
Light source	LED
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 system 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
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +35°C CB1: t_a -15°C ÷ +55°C CB4: t_a -10°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ▢ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS



» recessed installation

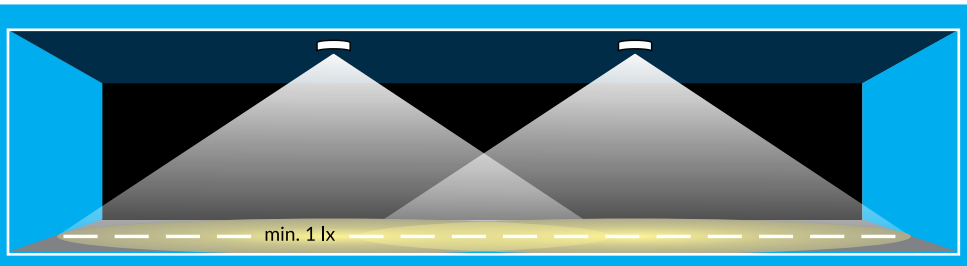
Dimensions [± 2 mm]





ANTI-PANIC LIGHTING | OPEN SPACE

Model	Luminous flux	Time	Mode	Battery	Testing
TM.ONTEC D M1U	158 lm	1 / 3 h	NM	Ni-Cd	ST
TM.ONTEC D M1	140 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC D M2	288 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC D M1	140 lm	-	-	-	CB1, CB4
TM.ONTEC D M2	288 lm	-	-	-	CB1, CB4



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

Model	Luminous flux	Time	Mode	Battery	Testing
TM.ONTEC D C1U	141 lm	1 / 3 h	NM	Ni-Cd	ST
TM.ONTEC D C1E	128 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC D C1	260 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC D C1H	353 lm	3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC D C1E	128 lm	-	-	-	CB1, CB4
TM.ONTEC D C1	260 lm	-	-	-	CB1, CB4
TM.ONTEC D C1H	353 lm	-	-	-	CB1, CB4

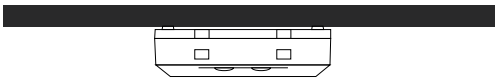
TM.ONTEC R

ROBUSTNESS AND ELEGANCE

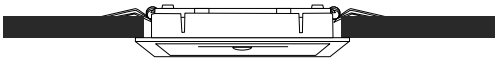
- ceiling and wall mounting, surface mounted or recessed
- easy and quick installation
- versions of lenses
- extended lifetime thanks to LiFePO4 packages
- compact fitting design


TM TECHNOLOGIE

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 button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 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
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +35°C CB1: t_a -15°C ÷ +55°C CB3: t_a -10°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ▩ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS



» surface mounted

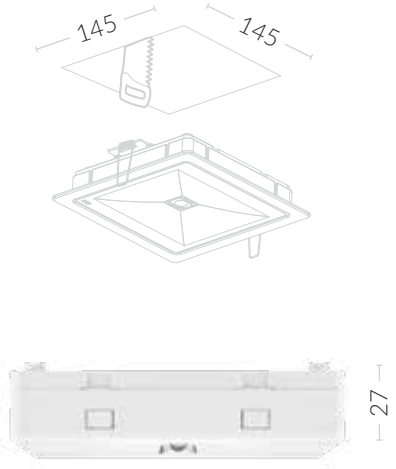


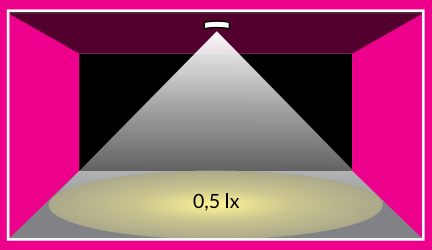
» TM-AKC.OR001

set for recessed mounting

surface mounted | TM-AKC.OR001 set for recessed mounting | recessed installation

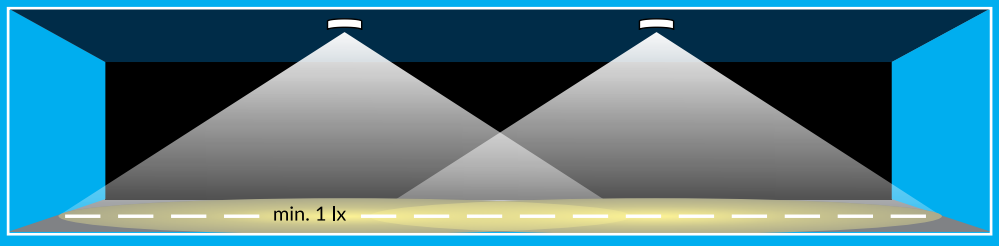
Dimensions [± 2 mm]





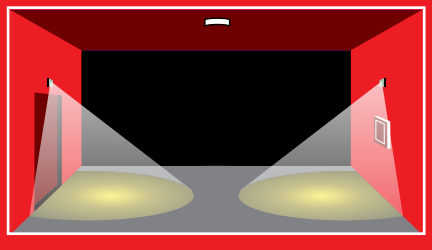
ANTI-PANIC LIGHTING

Model	Luminous flux	Time	Mode	Battery	Testing
TM.ONTEC R M1U	158 lm	1 / 3 h	NM	LiFePO4	ST
TM.ONTEC R M2	288 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC R M5	555 lm	1 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC R M2	288 lm	-	-	-	CB1, CB3
TM.ONTEC R M5	555 lm	-	-	-	CB1, CB3



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

Model	Luminous flux	Time	Mode	Battery	Testing
TM.ONTEC R C1U	135 lm	1 / 3 h	NM	LiFePO4	ST
TM.ONTEC R C1	246 lm	1 / 3 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC R C2	465 lm	1 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC R C1	246 lm	-	-	-	CB1, CB3
TM.ONTEC R C2	465 lm	-	-	-	CB1, CB3



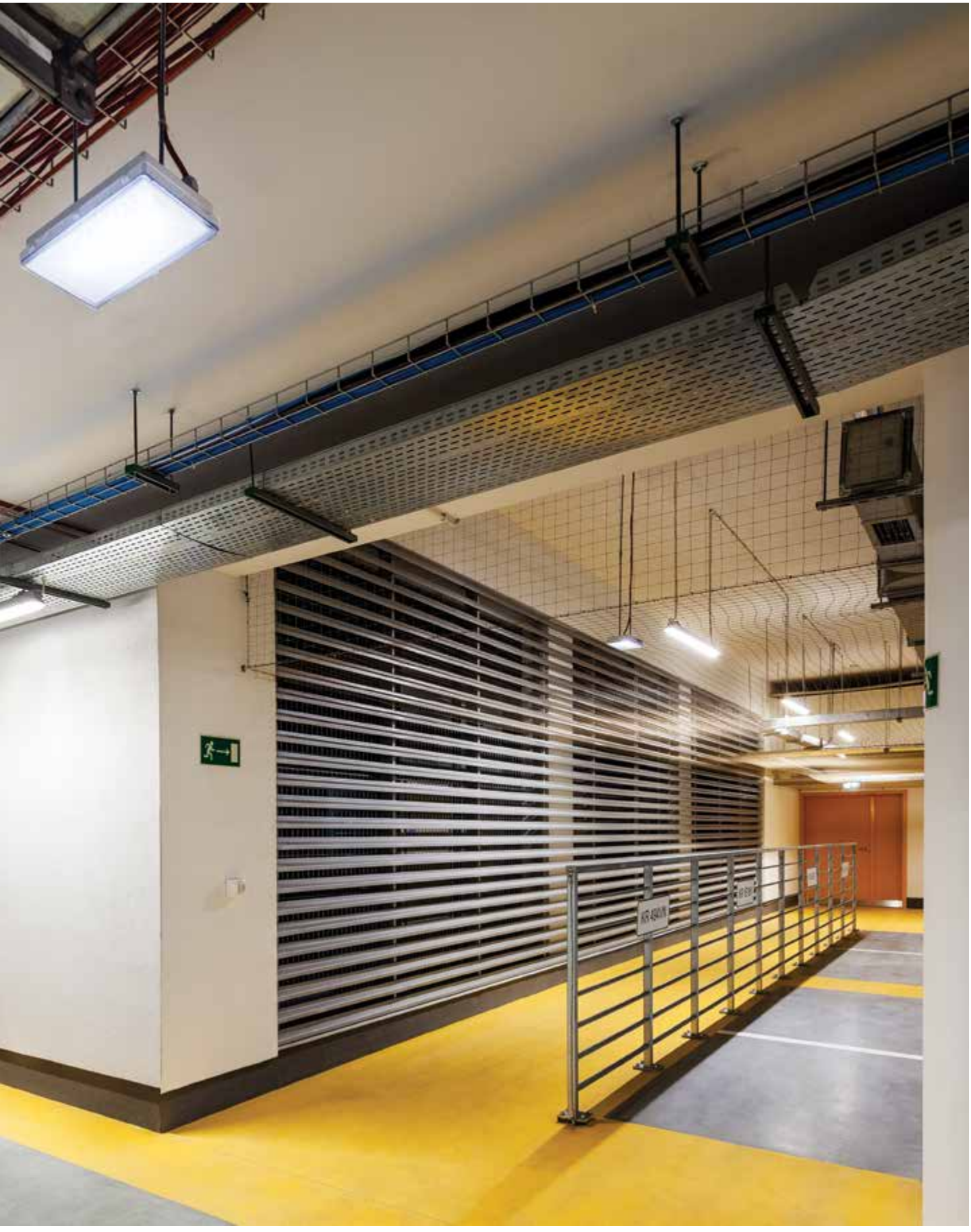
LIGHTING OF THE FINAL EXIT / FIRE-PROTECTION DEVICES

Model	Luminous flux	Time	Mode	Battery	Testing
TM.ONTEC R W1	258 lm	1 h	M / NM	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.ONTEC R W1	258 lm	-	-	-	CB1, CB3

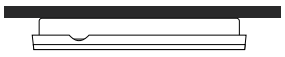
ONTEC S

UNIVERSAL WITH HIGH PROTECTION TYPE IP65

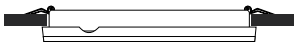
- ability to operate in low-temperature environments thanks to the COLD version
- high protection degree – IP65
- mechanical strength class: IK08
- universal application – antipanic and emergency escape lighting, escape route direction
- double-sided version with the use of a diffuser
- light source 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 button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 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
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +40°C CB1: t_a -25°C ÷ +55°C CB7: t_a -15°C ÷ +40°C COLD: t_a -15°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ☐ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS cover: PC transparent



» surface mounted

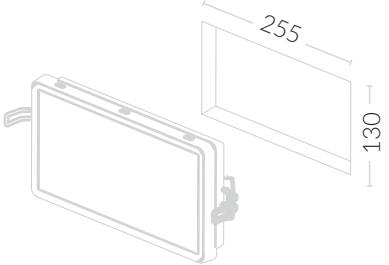


» TM-AKC.OS001
set for recessed mounting

» TM-AKC.OS002
diffuser

» TM-AKC.OS004
protective mesh

Dimensions [± 2 mm]

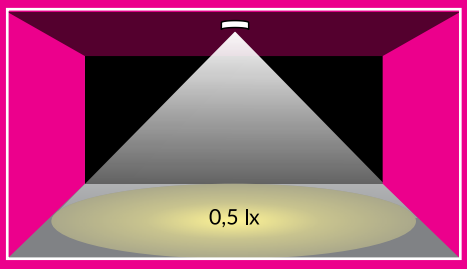


surface mounted

TM-AKC.OS001

set for recessed mounting

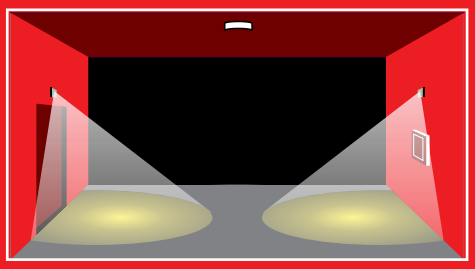
recessed installation



ANTI-PANIC LIGHTING - OPEN SPACE AREAS

Model	Luminous flux	Mode	Time	Testing		
ONTEC S M1U	141 lm	IP44 / IP65	NM	3 h	Ni-Cd	ST
ONTEC S M1	141 lm	IP44 / IP65	M / NM	3 h	Ni-Cd	ST / AT / DATA / DATA 2 / DALI
ONTEC S M2	241 lm	IP65	M / NM	1 / 3 h	Ni-Cd	ST / AT / DATA / DATA 2 / DALI
ONTEC S M2 COLD	241 lm	IP65	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC S M5	576 lm	IP65	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC S M5 COLD	576 lm	IP65	M / NM	1 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI

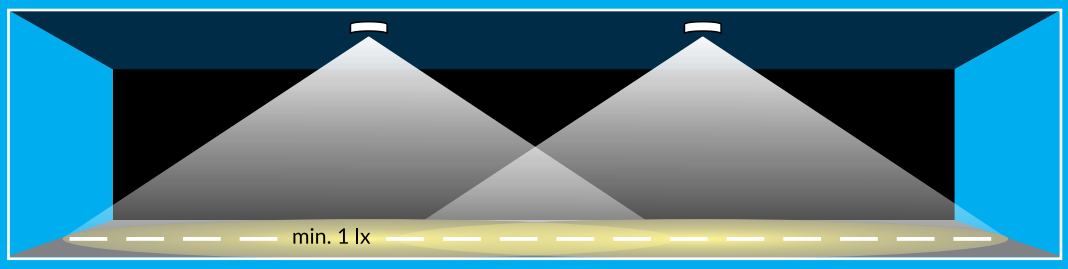
ONTEC S M1	141 lm	IP65	-	-	-	CB1, CB7
ONTEC S M2	241 lm	IP65	-	-	-	CB1, CB7
ONTEC S M2 COLD	241 lm	IP65	-	-	-	CB1, CB7
ONTEC S M5	576 lm	IP65	-	-	-	CB1, CB7
ONTEC S M5 COLD	576 lm	IP65	-	-	-	CB1, CB7



LIGHTING OF THE FINAL EXIT / FIRE-PROTECTION DEVICES

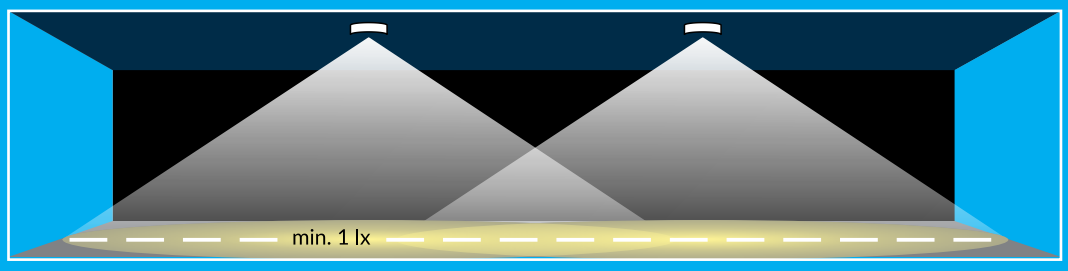
Model	Luminous flux	Mode	Time	Testing		
ONTEC S W1	204 lm	IP65	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC S W1 COLD	204 lm	IP65	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC S W2	388 lm	IP65	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC S W2 COLD	388 lm	IP65	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI

ONTEC S W1	204 lm	IP65	-	-	-	CB1, CB7
ONTEC S W1 COLD	204 lm	IP65	-	-	-	CB1, CB7
ONTEC S W2	388 lm	IP65	-	-	-	CB1, CB7
ONTEC S W2 COLD	388 lm	IP65	-	-	-	CB1, CB7



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

Model	Luminous flux	Mode	Time	Testing		
ONTEC S C1	225 lm	IP65	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC S C1 COLD	225 lm	IP65	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC S C2	453 lm	IP65	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC S C1	225 lm	IP65	-	-	-	CB1, CB7
ONTEC S C1 COLD	225 lm	IP65	-	-	-	CB1, CB7
ONTEC S C2	453 lm	IP65	-	-	-	CB1, CB7



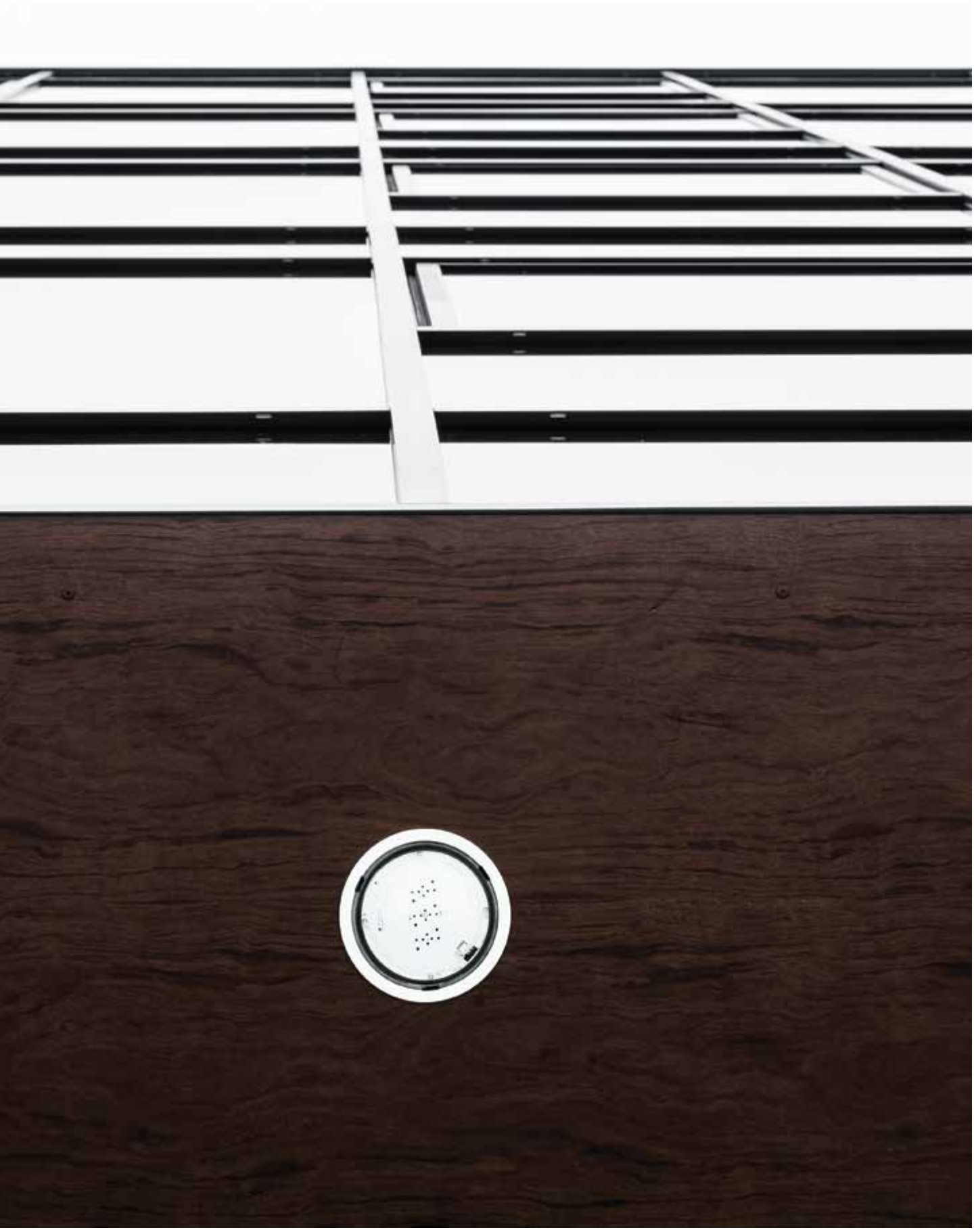
ESCAPE ROUTE LIGHTING | OPTIMAL FOR ESCAPE ROUTES WITH A HEIGHT ABOVE 7 M

Model	Luminous flux	Mode	Time	Testing		
ONTEC S F1	226 lm	IP65	M / NM	3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC S F2	439 lm	IP65	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
ONTEC S F1	226 lm	IP65	-	-	-	CB1, CB7
ONTEC S F2	439 lm	IP65	-	-	-	CB1, CB7

ITECH

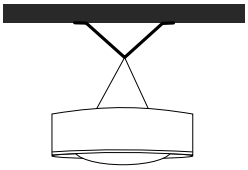
IMPRESSIVE LIGHTING AREA

- 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

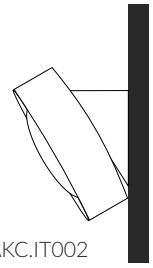


» TM-AKC.IT003
set for recessed mounting

» surface mounted



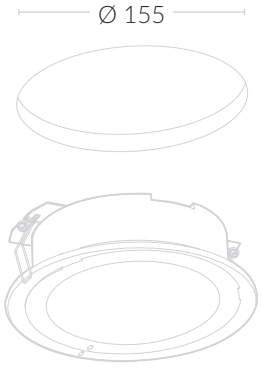
» TM-AKC.IT001
suspension bracket



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

Application	anti-panic lighting escape route lighting
Light source	LED
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 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
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +40°C CB1: t_a -25°C ÷ +55°C CB3: t_a -15°C ÷ +40°C COLD: t_a -15°C ÷ +40°C
Glow wire test	850°C
Colour	☐ RAL 9003 ▩ RAL 7035 ■ RAL 9004
Material	housing: PC/ABS cover: PC transparent

Dimensions [± 2 mm]



surface mounted

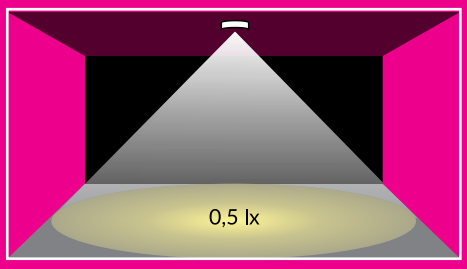
+

TM-AKC.IT003

set for recessed mounting

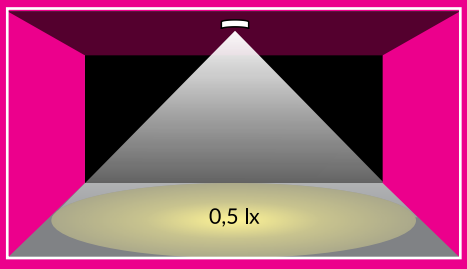
=

recessed installation



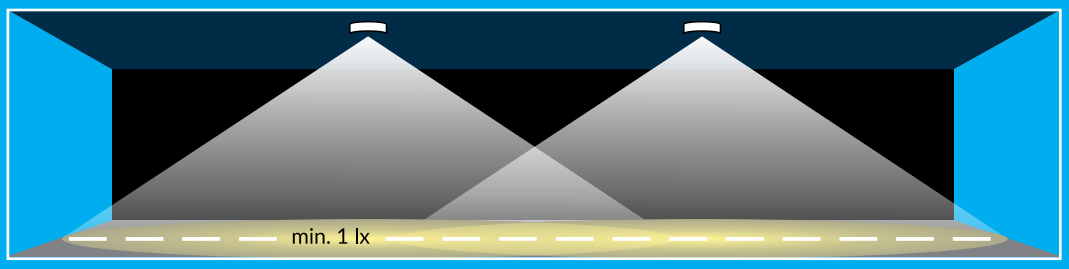
ANTI-PANIC LIGHTING - OPEN SPACE AREAS

Model	Luminous flux	Mode	Time	Testing
iTECH M2	270 lm	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
iTECH M2 COLD	270 lm	M / NM	1 h	ST / AT / DATA / DATA 2 / DALI
iTECH M5	524 lm	M / NM	1 / 3 h	ST / AT / DATA / DATA 2 / DALI
iTECH M5 COLD	524 lm	M / NM	1 h	ST / AT / DATA / DATA 2 / DALI
iTECH M2	270 lm	-	-	CB1, CB3
iTECH M2 COLD	270 lm	-	-	CB1, CB3
iTECH M5	524 lm	-	-	CB1, CB3
iTECH M5 COLD	524 lm	-	-	CB1, CB3
iTECH M2 COLD	257 lm	-	-	CB1, CB3
iTECH M5 COLD	499 lm	-	-	CB1, CB3



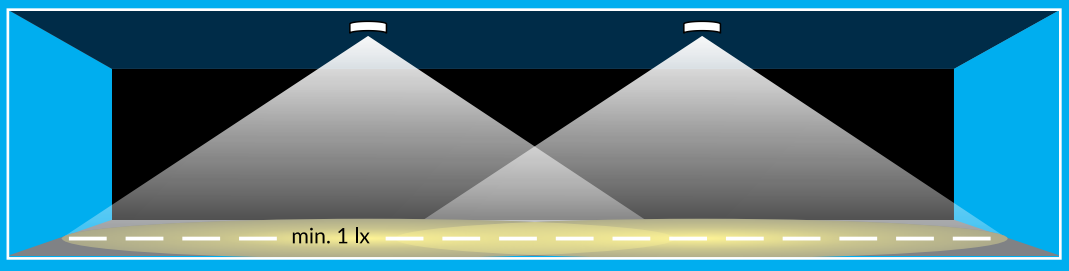
ANTI-PANIC LIGHTING - HIGH OPEN SPACE AREAS

Model	Luminous flux	Mode	Time	Testing
iTECH S1	245 lm	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
iTECH S2	461 lm	M / NM	1 h	ST / AT / DATA / DATA 2 / DALI
iTECH S1	245 lm	-	-	CB1, CB3
iTECH S2	461 lm	-	-	CB1, CB3



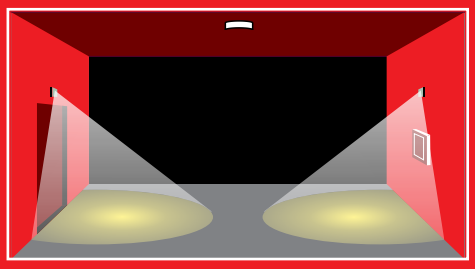
ESCAPE ROUTE LIGHTING | OPTIMAL FOR ESCAPE ROUTES UP TO 7 M HIGH

Model	Luminous flux	Mode	Time	Testing
iTECH C1	238 lm	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
iTECH C2	478 lm	M / NM	1 / 3 h	ST / AT / DATA / DATA 2 / DALI
iTECH C1	238 lm	-	-	CB1, CB3
iTECH C2	478 lm	-	-	CB1, CB3



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

Model	Luminous flux	Mode	Time	Testing
iTECH F1	269 lm	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
iTECH F2	499 lm	M / NM	1 / 3 h	ST / AT / DATA / DATA 2 / DALI
iTECH F1	269 lm	-	-	CB1, CB3
iTECH F2	499 lm	-	-	CB1, CB3



LIGHTING OF THE FINAL EXIT / FIRE-PROTECTION DEVICES

Model	Luminous flux	Mode	Time	Testing
iTECH W1	230 lm	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
iTECH W2	470 lm	M / NM	1 / 3 h	ST / AT / DATA / DATA 2 / DALI
iTECH W1	230 lm	-	-	CB1, CB3
iTECH W2	470 lm	-	-	CB1, CB3

RINO

INVISIBLE GUARDIAN ANGEL

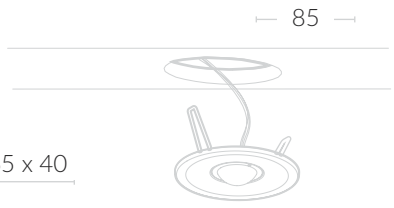
- protection degree IP44
- recessed installation
- minimalistic design
- easy installation thanks to the modular electronics design

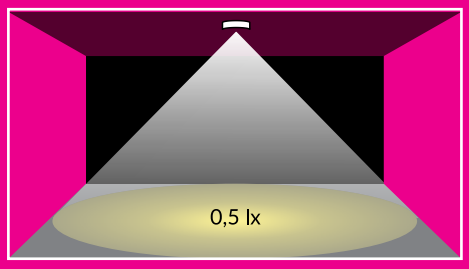

APTEKA
APTEKA
PHYTO

Application	anti-panic lighting escape route lighting
Light source	LED
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 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
Temeprature range	ST, AT, DATA, DATA 2, DALI: t_a +10°C ÷ +40°C CB1: t_a -25°C ÷ +55°C CB4: t_a -15°C ÷ +40°C
Glow wire test	850°C
Colour	-
Material	housing: PC/ABS + ALU / metal cover: PC transparent

» cover Q

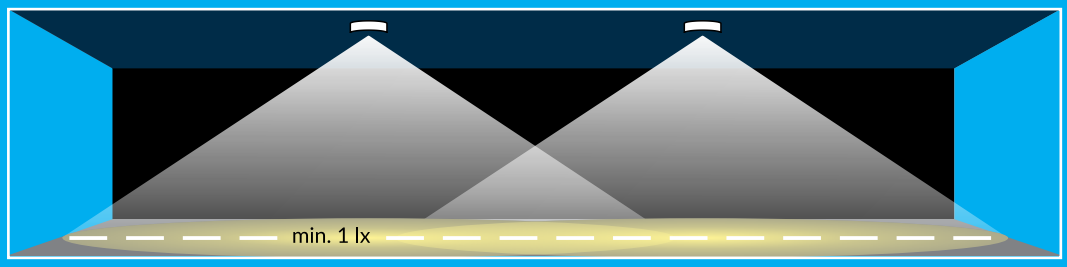
Dimensions [± 2 mm]





ANTI-PANIC LIGHTING - OPEN SPACE AREAS

Model	Luminous flux	Mode	Time	Testing
RINO M1	146 lm	M / NM	1 / 3 h	ST / AT / DATA / DATA 2 / DALI
RINO M2	240 lm	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
RINO M5	504 lm	M / NM	1 / 3 h	ST / AT / DATA / DATA 2 / DALI
RINO M1	146 lm	-	-	CB1, CB4
RINO M2	240 lm	-	-	CB1, CB4
RINO M5	504 lm	-	-	CB1, CB4



ESCAPE ROUTE LIGHTING

Model	Luminous flux	Mode	Time	Testing
RINO C1	207 lm	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
RINO C2	425 lm	M / NM	1 / 3 h	ST / AT / DATA / DATA 2 / DALI
RINO C1	207 lm	-	-	CB1, CB4
RINO C2	425 lm	-	-	CB1, CB4

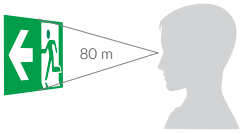
TM.PRIMO

STAINLESS STEEL OR BLACK STEEL

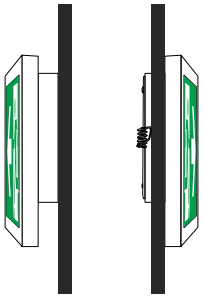
TM.PRIMO E

TOUGH

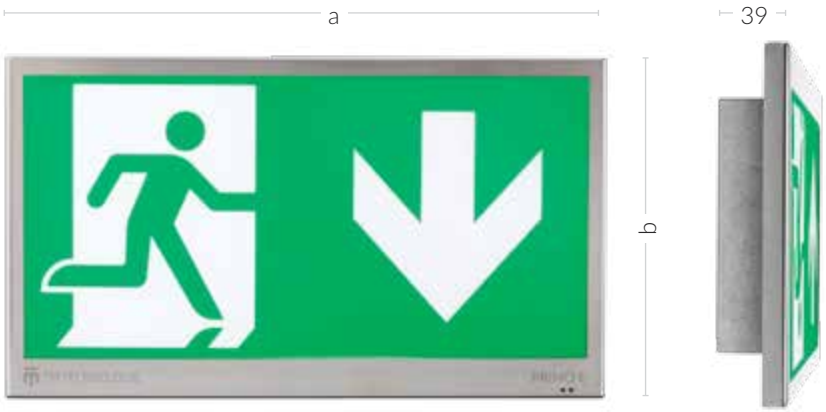
- high luminance – up to 500 cd/m²
- visibility up to 80 meters



- up to 4 sizes
- modern design
- even light distribution
- extended lifetime thanks to LiFePO4 packages



Dimensions [± 2 mm]



	a	b
» TM.PRIMO E 30	322	184
» TM.PRIMO E 40	422	234
» TM.PRIMO E 60	622	334
» TM.PRIMO E 80	822	434

Application	evacuation road direction (evacuation sign)
Light source	LED
Battery	LiFePO4
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 system addressable: DALI – with addressable module for DALI systems
Testing for central battery	non-addressable: CB – without addressable module addressable : CBA – with addressable module
Power supply	210÷250 V AC 50÷60 Hz 186÷254 V DC
Protection degree	IP20
Insulation class	I
Temeprature range	ST, AT, DATA, DATA 2, 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	☒ - stainless steel ☐ RAL 9003 ■ RAL 9005 - black steel
Material	housing: stainless steel (polished/brushed) or RAL 9003 / RAL 9005 powder coated black steel

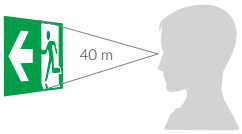
Pictograms in the set: (PRIMO E 30, PRIMO E 40)

Model	Visibility	Luminance	Mode	Time	Testing
TM.PRIMO E 30E	30 m	≥ 150 cd/m²	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO E 40E	40 m	≥ 150 cd/m²	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO E 60E	60 m	≥ 150 cd/m²	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO E 80E	80 m	≥ 150 cd/m²	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO E 30E	30 m	≥ 150 cd/m²	-	-	CB, CBA
TM.PRIMO E 40E	40 m	≥ 150 cd/m²	-	-	CB, CBA
TM.PRIMO E 60E	60 m	≥ 150 cd/m²	-	-	CB, CBA
TM.PRIMO E 80E	80 m	≥ 150 cd/m²	-	-	CB, CBA

TM.PRIMO G

LEAVES NO DOUBT

- high luminance – up to 500 cd/m²
- up to 2 sizes
- visibility up to 40 meters



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

Dimensions [± 2 mm]

	a	b
» TM.PRIMO G 30	301	219
» TM.PRIMO G 40	401	269

Application	evacuation road direction (evacuation sign)
Light source	LED
Battery	LiFePO4
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 system addressable: DALI – with addressable module for DALI systems
Testing for central battery	non-addressable: CB – without addressable module addressable : CBA – with addressable module
Power supply	210÷250 V AC 50÷60 Hz 186÷254 V DC
Protection degree	IP20
Insulation class	I
Temeprature range	ST, AT, DATA, DATA 2, 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	☒ - stainless steel ☐ RAL 9003 ■ RAL 9005 - black steel
Material	housing: stainless steel (polished/brushed) or RAL 9003 / RAL 9005 powder coated black steel

Pictograms in the set:

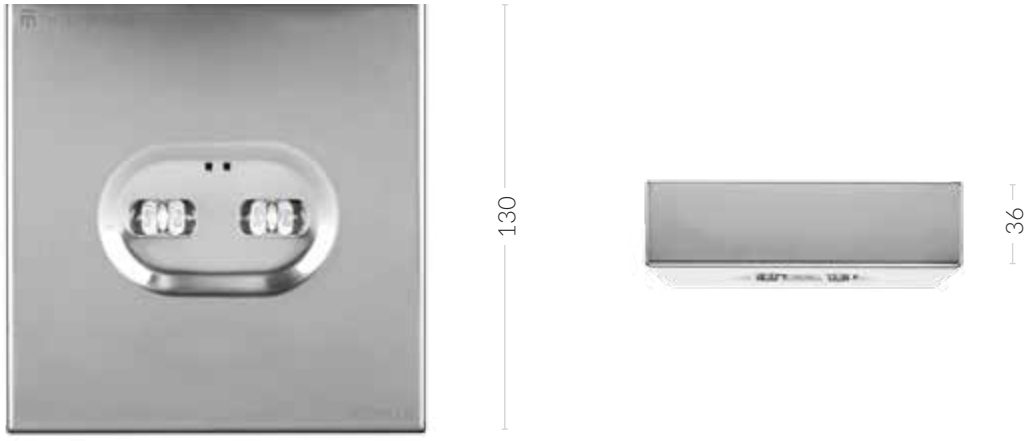
Model	Type	Visibility	Luminance	Mode	Time	Testing
TM.PRIMO G 30E	one-sided	30 m	≥ 150 cd/m²	M / NM	3 h	ST / AT / DATA / DALI
TM.PRIMO G 40E	one-sided	40 m	≥ 150 cd/m²	M / NM	3 h	ST / AT / DATA / DALI
TM.PRIMO G 30E	one-sided	30 m	≥ 150 cd/m²	-	-	CB, CBA
TM.PRIMO G 40E	one-sided	40 m	≥ 150 cd/m²	-	-	CB, CBA

TM.PRIMO R

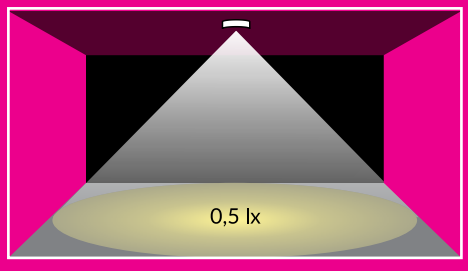
MULTIFUNCTIONAL

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

Dimensions [± 2 mm]

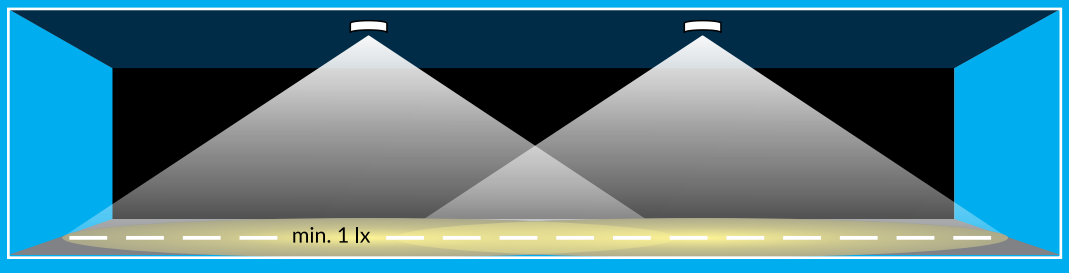


Application	anti-panic lighting escape route lighting
Light source	LED
Battery	LiFePO4
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 system addressable: DALI – with addressable module for DALI systems
Testing for central battery	non-addressable: CB – without addressable module addressable : CBA – with addressable module
Power supply	210÷250 V AC 50÷60 Hz 186÷254 V DC
Protection degree	IP20
Insulation class	I
Temeprature range	ST, AT, DATA, DATA 2, 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	☒ - stainless steel ☐ RAL 9003 ■ RAL 9005 - black steel
Material	housing: stainless steel (polished/brushed) or RAL 9003 / RAL 9005 powder coated black steel



ANTI-PANIC LIGHTING - OPEN SPACE AREAS

Model	Mode	Time	Testing
TM.PRIMO R S2	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO R S2	-	-	CB1, CB4

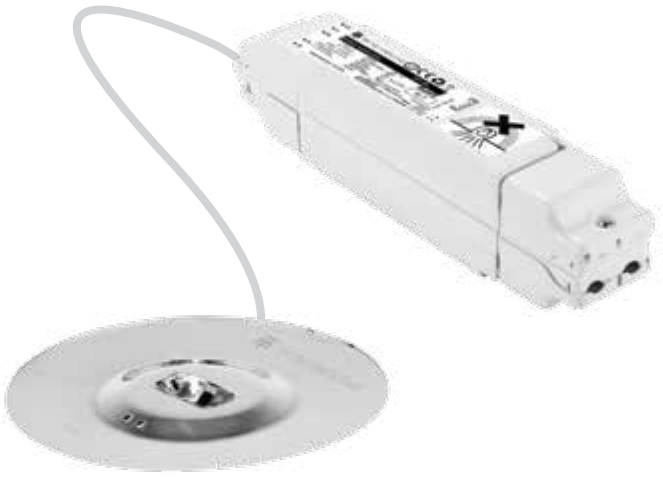


ESCAPE ROUTE LIGHTING

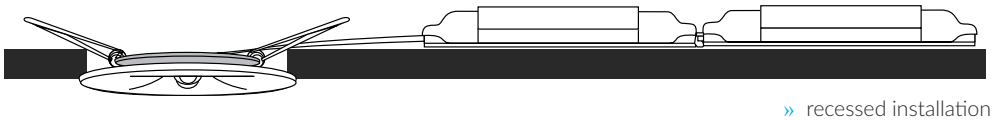
Model	Mode	Time	Testing
TM.PRIMO R C2	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO R F2	M / NM	3 h	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO R C2	-	-	CB, CBA
TM.PRIMO R F2	-	-	CB, CBA

TM.PRIMO C

DISCREET PROTECTION

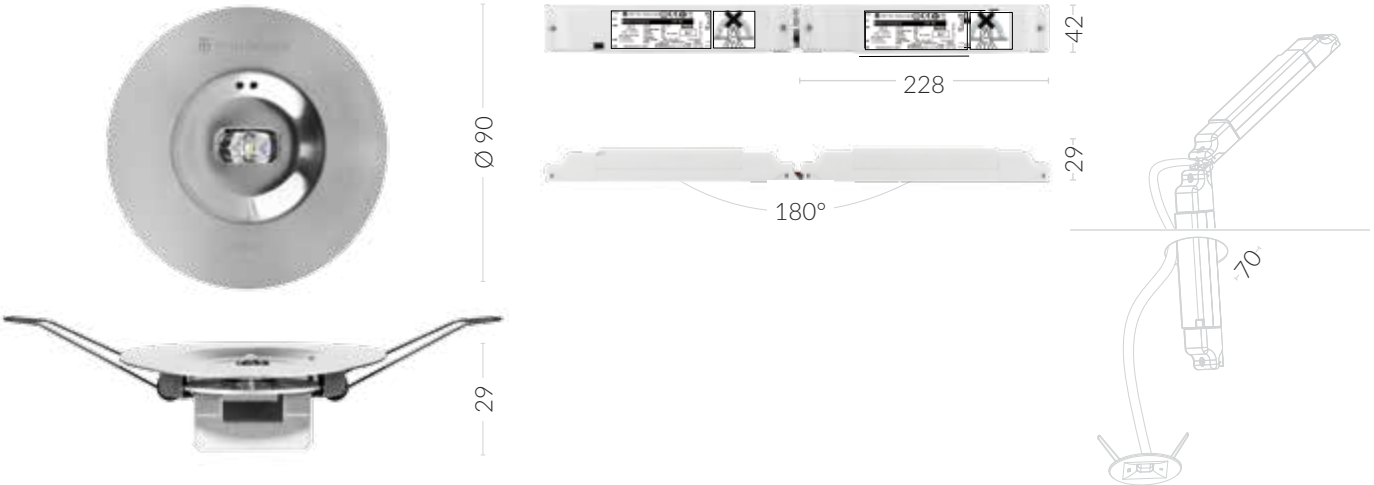


- extended lifetime thanks to LiFePO4 packages
- minimalistic design
- easy installation thanks to the modular electronics design
- easy and quick installation
- recessed installation

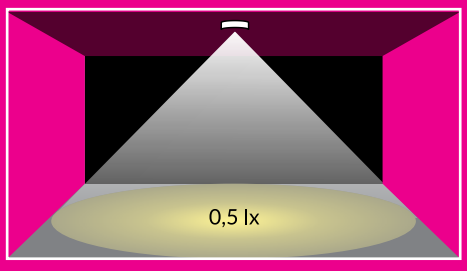


» recessed installation

Dimensions [± 2 mm]

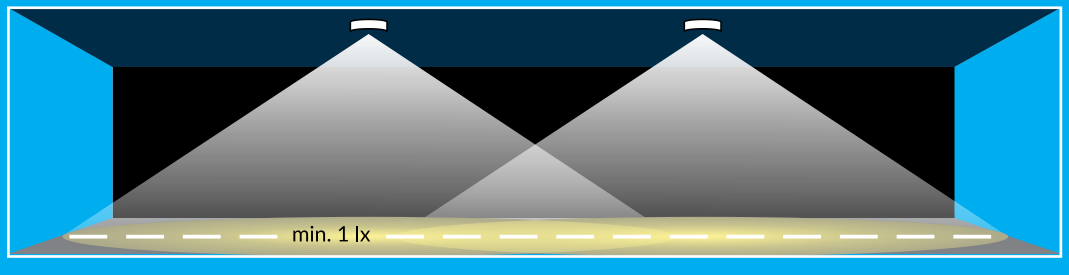


Application	anti-panic lighting escape route lighting
Light source	LED
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 system addressable: DALI – with addressable module for DALI systems
Testing for central battery	non-addressable: CB – without addressable module addressable : CBA – with addressable module
Power supply	210÷250 V AC 50÷60 Hz 186÷254 V DC
Protection degree	IP20
Insulation class	I
Temeprature range	ST, AT, DATA, DATA 2, 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	☒ - stainless steel ☐ RAL 9003 ■ RAL 9005 - black steel
Material	housing: stainless steel (polished/brushed) or RAL 9003 / RAL 9005 powder coated black steel



ANTI-PANIC LIGHTING - OPEN SPACE AREAS

Model	Mode	Time	Battery	Testing
TM.PRIMO C M2	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO C M2H	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO C M2	-	-	-	CB, CBA
TM.PRIMO C M2H	-	-	-	CB, CBA

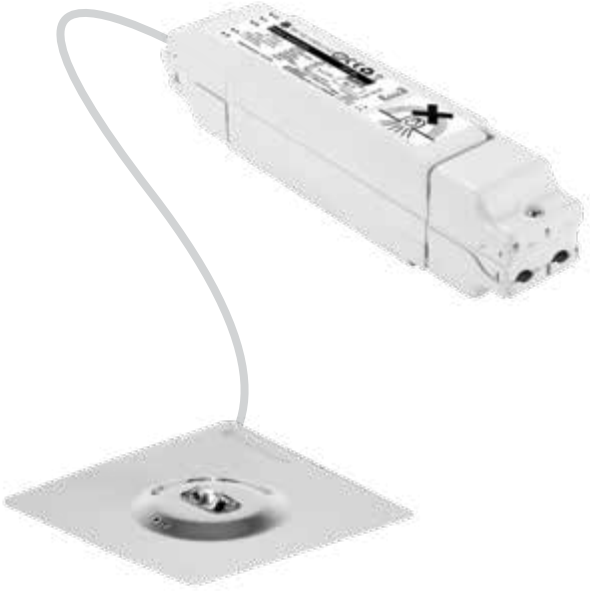


ESCAPE ROUTE LIGHTING

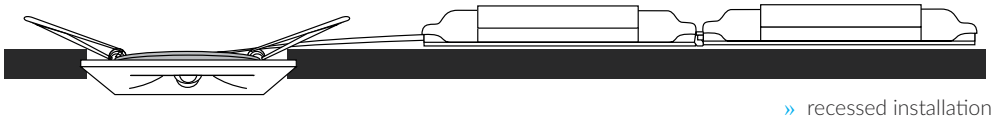
Model	Mode	Time	Battery	Testing
TM.PRIMO C C1	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DALI
TM.PRIMO C C1H	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DALI
TM.PRIMO C C1	-	-	-	CB, CBA
TM.PRIMO C C1H	-	-	-	CB, CBA

TM.PRIMO D

DISCREET PROTECTION

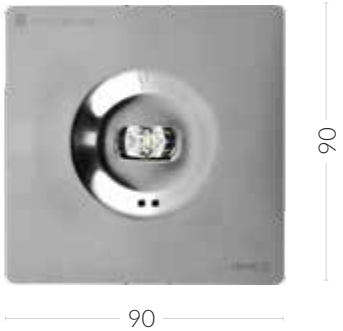


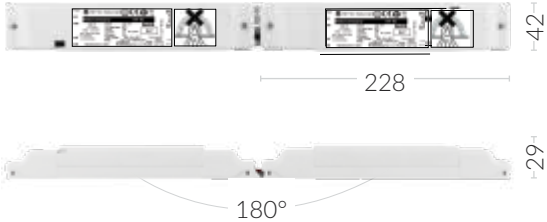
- extended lifetime thanks to LiFePO4 packages
- minimalistic design
- easy installation thanks to the modular electronics design
- easy and quick installation
- recessed installation

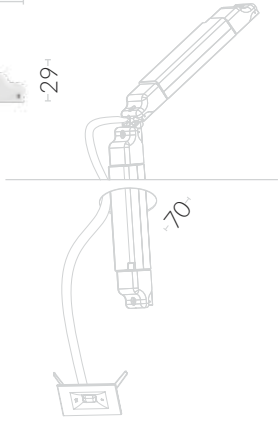


» recessed installation

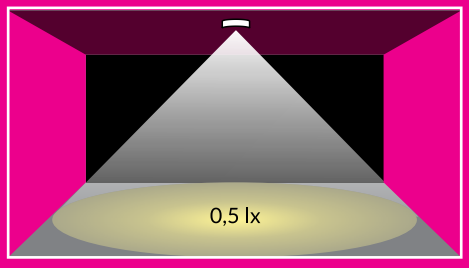
Dimensions [± 2 mm]





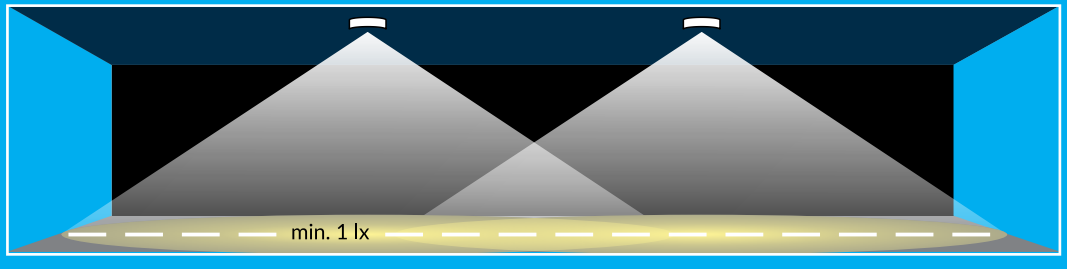


Application	anti-panic lighting escape route lighting
Light source	LED
Battery	LiFePO4
Testing for self-contained	non-addressable: ST – for button test non-addressable: AT – auto-test / self-test addressable: DATA – with addressable module for DATA system addressable: DATA 2 – with addressable module for DATA 2 system addressable: DALI – with addressable module for DALI systems
Testing for central battery	non-addressable: CB – without addressable module addressable : CBA – with addressable module
Power supply	210÷250 V AC 50÷60 Hz 186÷254 V DC
Protection degree	IP20
Insulation class	I
Temeprature range	ST, AT, DATA, DATA 2, 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	☒ - stainless steel ☐ RAL 9003 ■ RAL 9005 - black steel
Material	housing: stainless steel (polished/brushed) or RAL 9003 / RAL 9005 powder coated black steel



ANTI-PANIC LIGHTING - OPEN SPACE AREAS

Model	Mode	Time	Battery	Testing
TM.PRIMO C M2	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO C M2H	M / NM	1 / 3 h	LiFePO4	ST / AT / DATA / DATA 2 / DALI
TM.PRIMO C M2	-	-	-	CB, CBA
TM.PRIMO C M2H	-	-	-	CB, CBA



ESCAPE ROUTE LIGHTING

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

ELVIS

EMERGENCY LIGHTING VISUALISATION SYSTEM

ELVIS

EMERGENCY LIGHTING VISUALISATION SYSTEM

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.

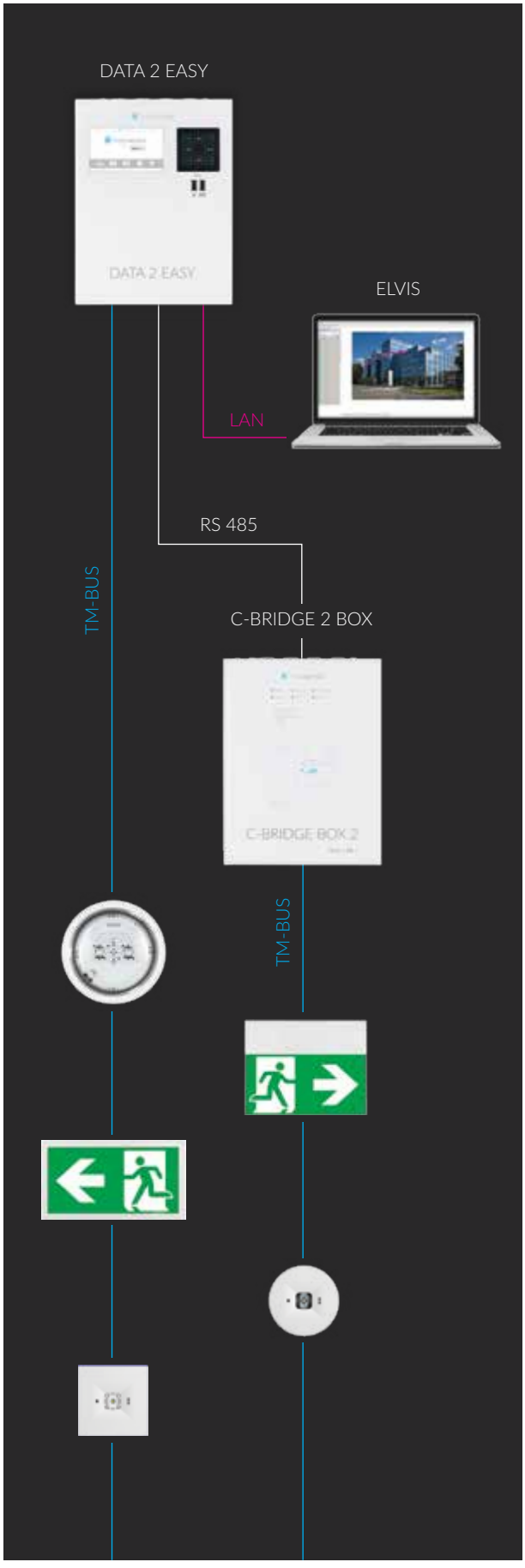

TM TECHNOLOGIE
DATA 2 EASY

DATA 2

SELF-CONTAINED ADDRESSABLE SYSTEM

DATA 2 EASY

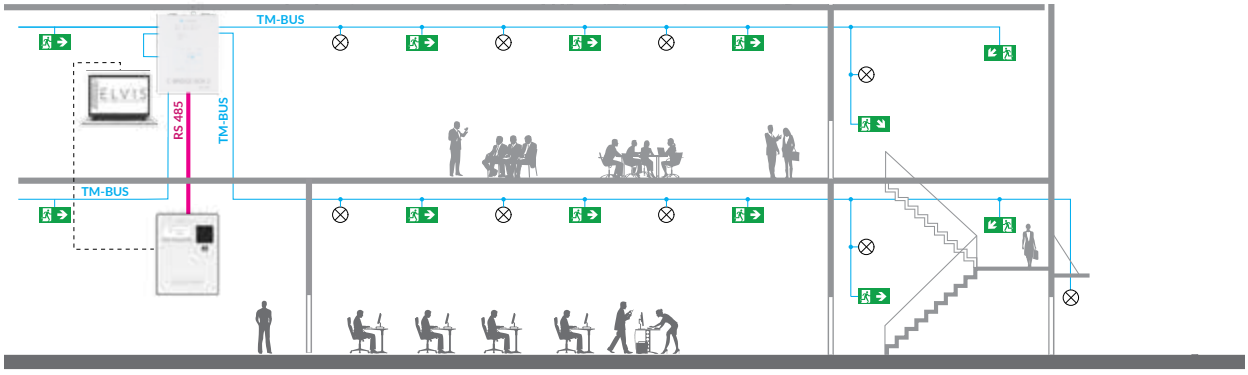
SELF-CONTAINED ADDRESSABLE SYSTEM



- 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.

63 x 4 x 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	63
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

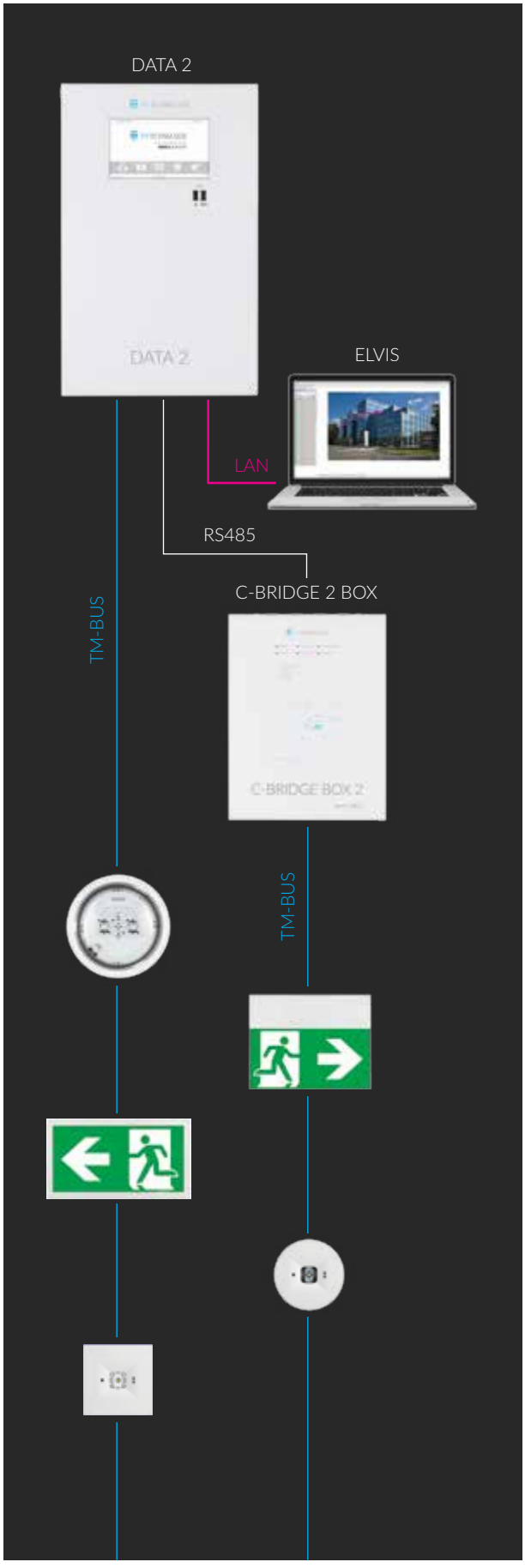
For mounting in dedicated housings.

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

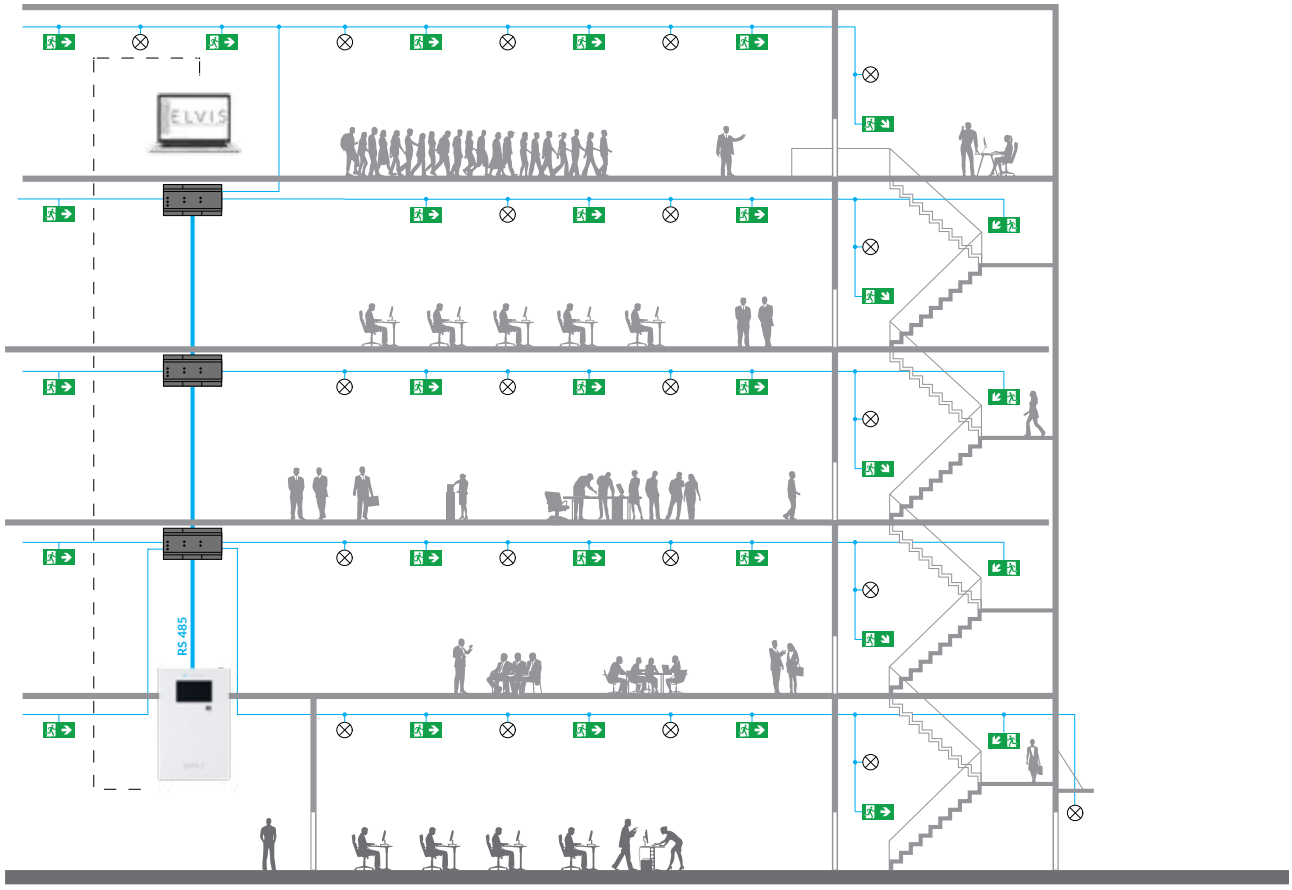
SELF-CONTAINED ADDRESSABLE SYSTEM



- 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.

63 x 4 x 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	63
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.

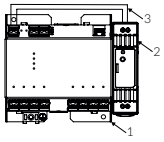
I/O MODULE

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 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 ±10%	2,4 W	170 mA	-	400 V AC / 250 V DC	6 A	⏚
IN SW	12 V DC ±10%	1,2 W	100 mA	-	-	-	⏛
IN 24	12 V DC ±10%	1,2 W	100 mA	30 V DC	-	-	⏛
IN 230	12 V DC ±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 4096.

C-BRIDGE 2 DATA 2

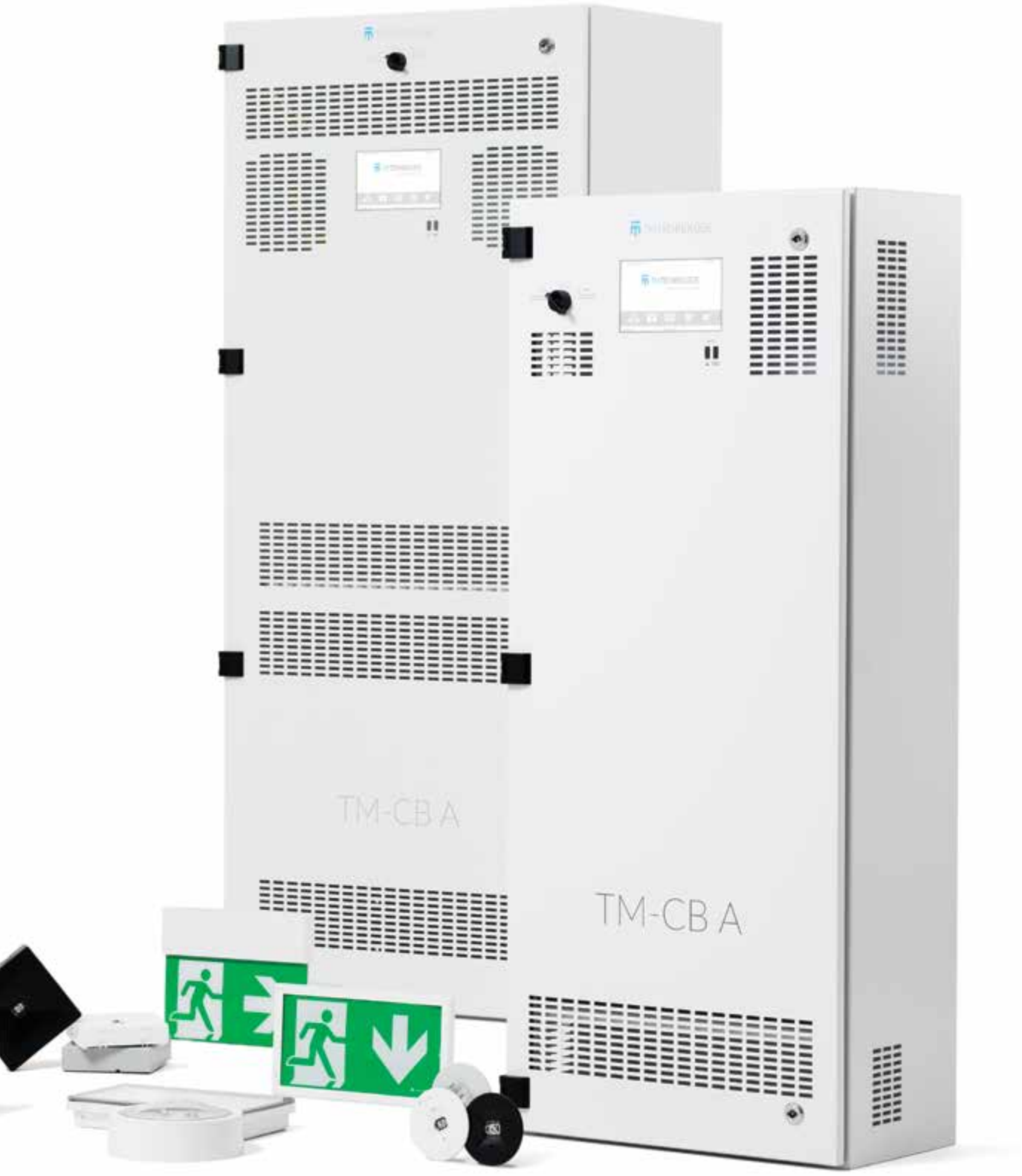
With battery for mounting in dedicated housings.

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
TM-CB A

TM CB-A

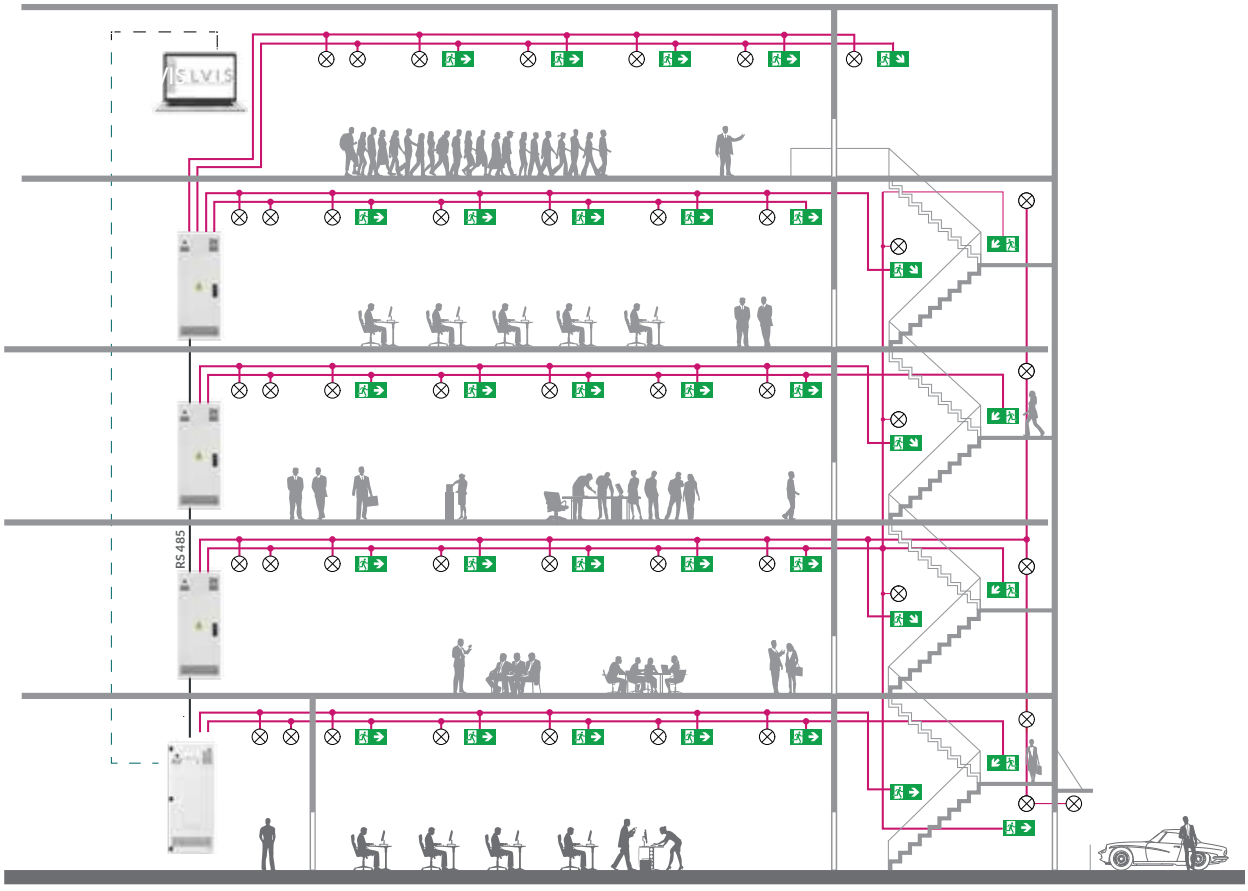
CENTRAL BATTERY SYSTEM

- 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.

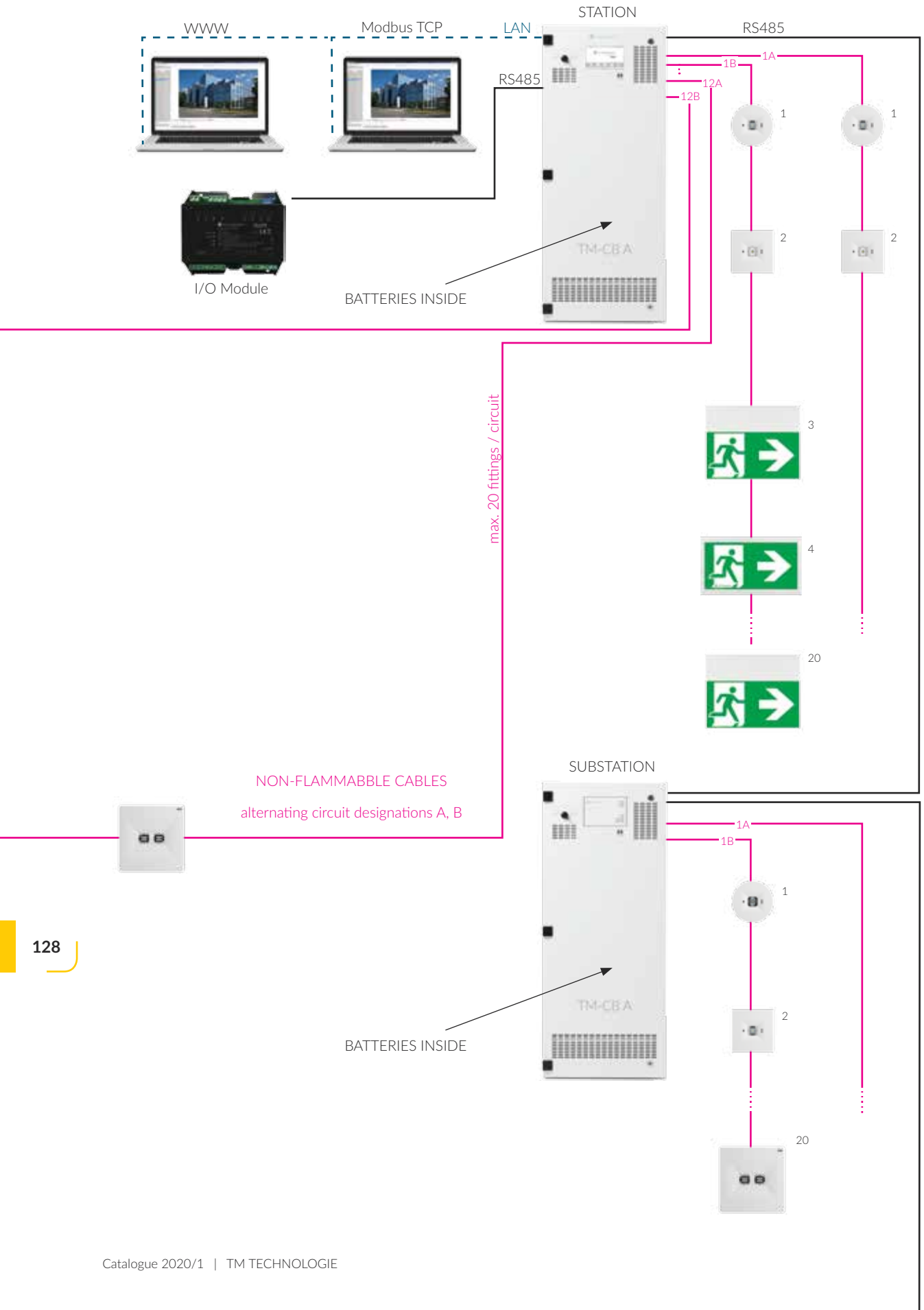
VERSIONS

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	X	24	X	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



central station substations fire-resistant cable


WWW
Modbus TCP
LAN
STATION
RS485
RS485
1A
1B
12A
12B
1
1
2
2
3
4
20
I/O Module
BATTERIES INSIDE
TM-CB A
max. 20 fittings / circuit
NON-FLAMMABBLE CABLES
alternating circuit designations A, B
SUBSTATION
1A
1B
1
2
20
BATTERIES INSIDE
TM-CB A

BASIC SYSTEM PARAMETERS

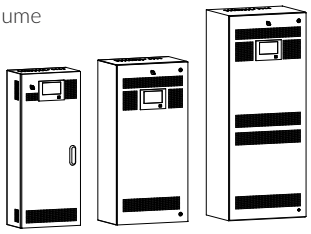
Max. number of emergency fittings / circuit	20
Maximum circuits number	24
Maximum number of stations	1
Maximum number of substations	63
Max. number of emergency fittings in the system	30 720

HOUSING

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

HOSUING DIMENSIONS

Model	Dimensions	Power	Nominal volume
S1	1205 x 501 x 307 mm	≤1560 W	7 Ah
S2	1250 x 600 x 398 mm	≤2330 W	22 Ah
S3	1550 x 646 x 487 mm	≤4280 W	33 Ah



S1 S2 S3

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

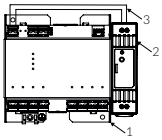
I/O MODULE

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

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 ±10%	2,4 W	170 mA	-	400 V AC / 250 V DC	6 A	⏚
IN SW	12 V DC ±10%	1,2 W	100 mA	-	-	-	III
IN 24	12 V DC ±10%	1,2 W	100 mA	30 V DC	-	-	III
IN 230	12 V DC ±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.

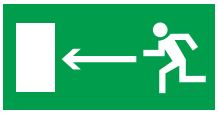
CHARGER

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.


TM TECHNOLOGIE
TM-CB A

PICTOGRAMS


TMP 1


TMP 2


TMP 5


TMP 6


TMP 7


TMP 8


TMP 9


TMP 10


TMP 11

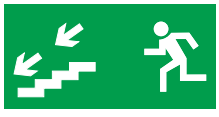

TMP 12


TMP 67

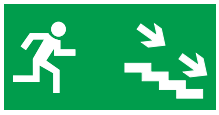

TMP 68

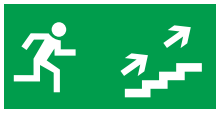
TMP 13

TMP 14


TMP 15


TMP 16


TMP 17


TMP 18

TMP 50

TMP 51


TMP 22


TMP 23


TMP 20


TMP 25


TMP 19


TMP 24


TMP 23


TMP 22


TM TECHNOLOGIE
TM TECHNOLOGIE
TM TECHNOLOGIE

ONTEC C & ONTEC D

ONTEC C/D M1U

[m] H	⟷	⟷
2,5	3,3	7,1
3,0	3,6	8,1
4,0	4,1	9,7
5,0	4,1	11,4
6,0	4,0	12,5
7,0	3,9	12,9
8,0	3,8	13,2
9,0	3,4	12,5
10,0	3,1	11,7

ONTEC C/D M1

[m] H	⟷	⟷
2,5	3,2	7,0
3,0	3,5	8,0
4,0	3,9	9,5
5,0	3,9	11,2
6,0	3,7	12,2
7,0	3,4	12,6
8,0	3,3	12,4
9,0	3,0	12,0
10,0	2,8	11,2

ONTEC C/D M2

[m] H	⟷	⟷
2,5	3,4	7,8
3,0	4,0	8,8
4,0	4,8	10,9
5,0	5,3	12,2
6,0	5,4	14,0
7,0	5,4	15,2
8,0	5,3	16,0
9,0	5,3	17,0
10,0	5,0	17,5

ONTEC C/D M2H

[m] H	⟷	⟷
2,5	3,7	8,2
3,0	4,2	9,2
4,0	5,0	11,4
5,0	5,7	13,3
6,0	6,0	15,5
7,0	6,3	16,8
8,0	6,4	18,3
9,0	6,3	18,6
10,0	6,2	19,4

ONTEC C/D C1U

[m] H	⟷	⟷
2,5	8,1	18,4
3,0	8,7	21,0
4,0	6,8	23,6
5,0	3,2	17,5
6,0	2,5	14,0
7,0		
8,0		
9,0		
10,0		

ONTEC C/D C1E

[m] H	⟷	⟷
2,5	7,8	18,2
3,0	8,4	20,5
4,0	5,9	21,5
5,0	2,1	17,5
6,0		
7,0		
8,0		
9,0		
10,0		

ONTEC C/D C1

[m] H	⟷	⟷
2,5	9,2	20,2
3,0	10,2	23,0
4,0	11,7	28,0
5,0	10,9	31,0
6,0	5,6	29,0
7,0	3,6	25,0
8,0	2,7	20,5
9,0		
10,0		

ONTEC C/D C1H

[m] H	⟷	⟷
2,5	9,7	21,0
3,0	10,9	24,0
4,0	12,9	29,6
5,0	14,1	34,3
6,0	11,5	36,0
7,0	6,5	36,5
8,0	4,9	28,0
9,0	4,7	23,5
10,0	4,5	15,5

ESCAPE ROUTE LIGHTING (c lens, f lens) for 1 lx.

ANTI-PANIC LIGHTING (without lens, s lens) for 0.5 lx

ONTEC R

ONTEC R M1U

[m] H	↔	↔
2,5	3,4	7,7
3,0	3,6	8,8
4,0	3,8	10,5
5,0	4,0	11,8
6,0	3,8	12,5
7,0	3,7	12,9
8,0	3,6	13,2
9,0	3,4	13,0
10,0	3,1	12,5

ONTEC R M2

[m] H	↔	↔
2,5	3,8	8,3
3,0	4,3	9,4
4,0	4,9	11,6
5,0	5.1	13,3
6,0	5,2	14,5
7,0	5,3	15,8
8,0	5,2	16,0
9,0	5,0	16,4
10,0	4,9	16,6

ONTEC R M5

[m] H	↔	↔
2,5	4,2	8,9
3,0	4,7	10,3
4,0	5,7	13,0
5,0	6,4	15,0
6,0	6,6	17,0
7,0	7,0	19,0
8,0	7,0	20,0
9,0	6,9	21,2
10,0	6,9	22,0

ONTEC R C1U

[m] H	↔	↔
2,5	7,8	17,6
3,0	8,5	20,0
4,0	7,6	23,2
5,0	2,9	17,0
6,0		
7,0		
8,0		
9,0		
10,0		

ONTEC R C1

[m] H	↔	↔
2,5	8,7	19,4
3,0	9,8	22,2
4,0	11,4	26,7
5,0	12,0	30,5
6,0	4,9	28,7
7,0	3,6	22,4
8,0	3,2	18,6
9,0		
10,0		

ONTEC R C2

[m] H	↔	↔
2,5	9,1	20,0
3,0	10,3	22,8
4,0	12,6	28,0
5,0	14,5	32,9
6,0	16,2	37,0
7,0	17,0	41,0
8,0	15,9	43,5
9,0	6,5	34,0
10,0	5,0	29,0

ONTEC R W1

[m] H	↔	↔
2,5	3,2	7,6
3,0	3,4	8,1
4,0	3,5	8,3
5,0	3,4	8,7
6,0		
7,0		
8,0		
9,0		
10,0		

ONTEC S

ONTEC S M1U/M1

[m] H		
2,5	3,0	8,3
3,0	3,2	9,0
4,0	3,4	10,3
5,0	3,6	11,0
6,0	3,6	11,8
7,0	3,4	12,2
8,0	3,0	12,0
9,0	2,6	11,7
10,0	2,4	11,5

ONTEC S M2

[m] H		
2,5	3,6	9,5
3,0	3,8	10,4
4,0	4,2	11,8
5,0	4,6	13,0
6,0	4,7	13,9
7,0	4,6	14,8
8,0	4,6	15,3
9,0	4,3	15,8
10,0	4,0	16,0

ONTEC S M5

[m] H		
2,5	4,7	11,6
3,0	5,1	13,0
4,0	5,9	14,8
5,0	6,2	16,4
6,0	6,6	17,8
7,0	6,7	19,2
8,0	6,8	20,0
9,0	6,9	20,9
10,0	7,0	22,0

ONTEC S F1

[m] H		
2,5	5,0	12,3
3,0	5,4	13,4
4,0	6,0	15,0
5,0	6,5	16,4
6,0	6,9	17,3
7,0	7,1	18,2
8,0	7,3	19,0
9,0	7,5	19,7
10,0	7,3	20,2

ONTEC S F2

[m] H		
2,5	6,3	15,0
3,0	6,8	16,6
4,0	7,7	18,7
5,0	8,4	20,6
6,0	8,9	22,3
7,0	9,3	23,6
8,0	9,6	24,5
9,0	9,9	25,3
10,0	10,2	26,0

ONTEC S C1

[m] H		
2,5	8,0	18,2
3,0	8,8	20,5
4,0	9,4	24,2
5,0	8,6	26,0
6,0	5,3	23,5
7,0	4,2	21,5
8,0	3,4	18,0
9,0		
10,0		

ONTEC S C2

[m] H		
2,5	9,0	20,2
3,0	10,2	23,0
4,0	12,3	28,2
5,0	13,7	32,7
6,0	13,2	36,0
7,0	12,6	37,5
8,0	10,1	34,0
9,0	6,8	33,0
10,0	5,4	31,0

ESCAPE ROUTE LIGHTING (c lens, f lens) for 1 lx.

ANTI-PANIC LIGHTING (without lens, s lens) for 0.5 lx

ITECH

ITECH M2

[m] H	⟷	⟷
2,5	4,0	9,3
3,0	4,2	10,5
4,0	4,5	12,0
5,0	4,7	13,5
6,0	4,9	14,4
7,0	4,8	15,0
8,0	4,8	15,7
9,0	4,7	16,0
10,0	4,5	16,2

ITECH M5

[m] H	⟷	⟷
2,5	4,6	11,5
3,0	5,0	12,8
4,0	5,6	14,4
5,0	6,0	15,6
6,0	6,5	17,0
7,0	6,6	18,6
8,0	6,7	19,5
9,0	6,6	20,5
10,0	6,6	21,3

ITECH S1

[m] H	⟷	⟷
2,5	6,2	13,6
3,0	6,6	15,0
4,0	3,5	15,5
5,0	3,0	14,0
6,0		
7,0		
8,0		
9,0		
10,0		

ITECH S2

[m] H	⟷	⟷
2,5	6,6	14,0
3,0	7,5	16,3
4,0	7,7	20,5
5,0	5,5	19,8
6,0	4,8	19,5
7,0	4,2	19,2
8,0	4,0	19,0
9,0	3,9	18,8
10,0	3,8	18,6

ITECH C1

[m] H	⟷	⟷
2,5	8,6	19,2
3,0	9,6	22,0
4,0	11,0	26,5
5,0	9,2	29,5
6,0	4,5	27,5
7,0	3,5	22,0
8,0		
9,0		
10,0		

ITECH C2

[m] H	⟷	⟷
2,5	8,9	19,8
3,0	10,1	22,7
4,0	12,6	28,2
5,0	14,2	33,0
6,0	15,4	37,2
7,0	14,6	40,5
8,0	10,5	33,2
9,0	5,8	29,0
10,0	5,2	27,0

ITECH F1

[m] H	⟷	⟷
2,5	5,1	12,8
3,0	5,5	13,8
4,0	6,0	15,4
5,0	6,7	16,7
6,0	7,0	17,8
7,0	7,1	18,9
8,0	7,5	19,6
9,0	7,9	19,8
10,0	8,1	20,0

ITECH F2

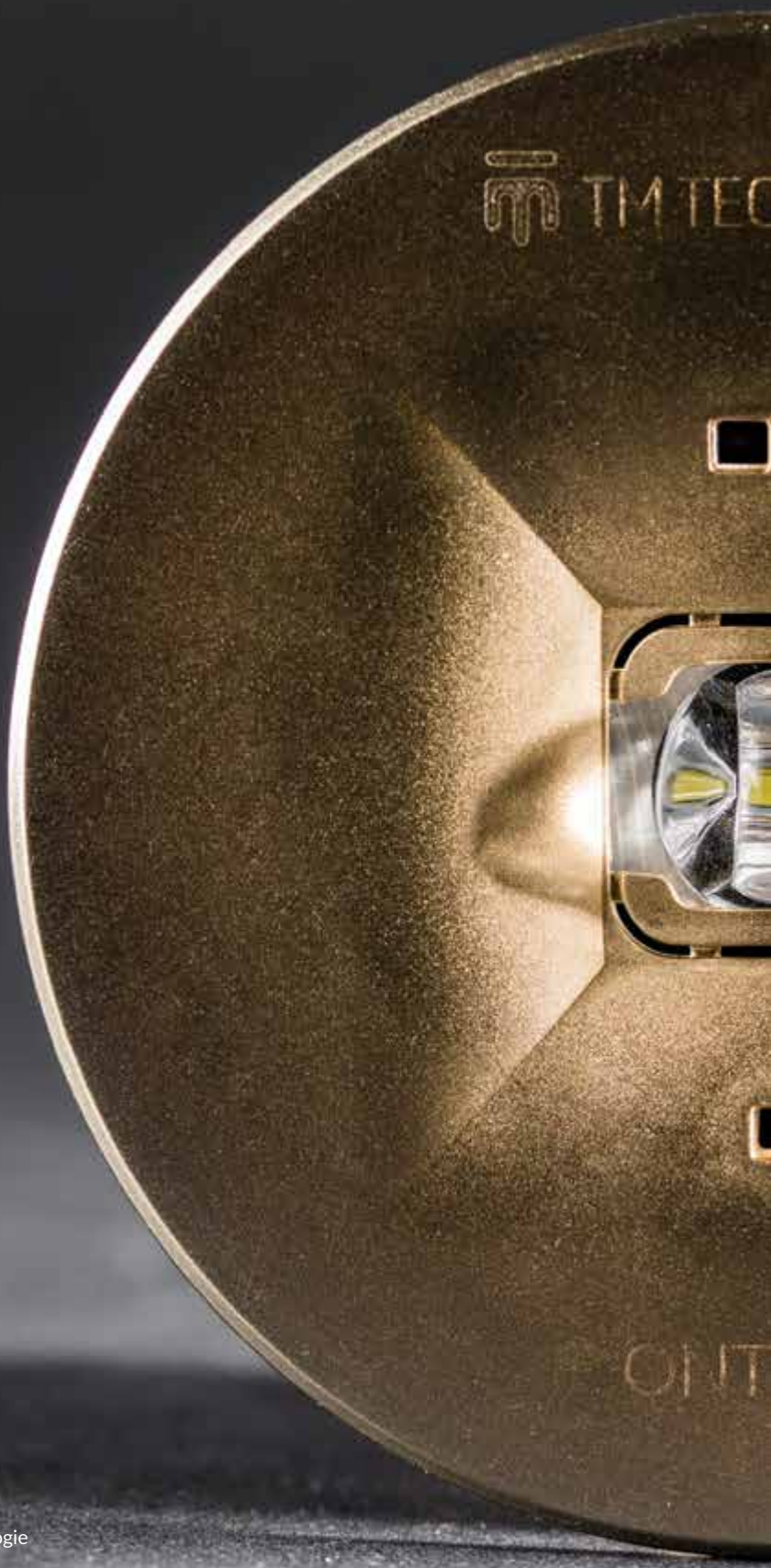
[m] H	⟷	⟷
2,5	6,1	14,5
3,0	6,8	16,2
4,0	7,6	18,9
5,0	8,3	20,5
6,0	8,8	22,2
7,0	9,3	23,5
8,0	9,7	24,5
9,0	10,0	25,7
10,0	10,2	26,5

ITECH W1

[m] H	⟷	⟷
2,5	3,3	7,9
3,0	3,5	8,4
4,0	3,4	8,6
5,0	3,4	8,7
6,0		
7,0		
8,0		
9,0		
10,0		

ITECH W2

[m] H	⟷	⟷
2,5	4,1	9,6
3,0	4,2	10,0
4,0	4,4	10,8
5,0	4,5	11,1
6,0	4,3	11,0
7,0		
8,0		
9,0		
10,0		



https://www.facebook.com/tmtechnologie/

https://pl.linkedin.com/company/tm-technologie


HNOLOGIE