



NBOX

PROJECT DESIGN GUIDE FOR YOUR EMERGENCY ESCAPE LIGHTING SYSTEM



UNIQUE

A group battery system with dimensions as small as this is rare. Yet the nBox effortlessly outshines similar systems. With 48V low voltage, state-of-the-art communication technologies and handy apps, technical variety is seen in its best light:
Secure. Simple. And reliable.

NBOX APP

The nBox app converts your smartphone into a handy remote control for:

- Commissioning
- Access during operation
- Convenient maintenance
- Calling up documentation easily





TABLE OF CONTENTS

Project design principles	Tasks of the emergency escape lighting	7
	Escape and rescue plan	8
	Risk assessment	9
Luminaire project design	Step 1: Positioning of the escape-sign luminaires	10
	Step 2: Design of the emergency escape lighting	11
	Step 3: Escape routes	12
	Step 4: Areas and anti-panic	13
	Step 5: First aid equipment	14
nBox system information	System limits	16
	Key data	17
	Line topologies	18
	System bus	20
	Maximum expansion	22
	Special functions	24
	Detail view	26
	Product overview	28
	Dimensional drawings, cable entries, installation notes	29
Luminaires for nBox systems	Escape-sign luminaires	30
	Safety luminaires	31
nBox system project design	Step 6: System design	32
	Step 7: Plausibility check	34
Maintenance	Guarantee extension to 5 years	37



kunstraum wíkiup



TASKS OF EMERGENCY ESCAPE LIGHTING

Emergency escape lighting is prescribed
in buildings for specific reasons.

TO ENABLE PEOPLE TO EXIT THE BUILDING SAFELY

Such as

- if there is a large number of people in the building
- from a certain building size
- if there is a hazard potential
- from a certain building height
- from a certain building area
- if there is unclear escape route guidance

IF THERE IS AN INCREASED HAZARD

Such as

- in multi-storey building complexes
- due to a large number of people unfamiliar with the location
- due to a high share of people with limited mobility

IF THERE IS A HIGH RISK OF ACCIDENT

Such as

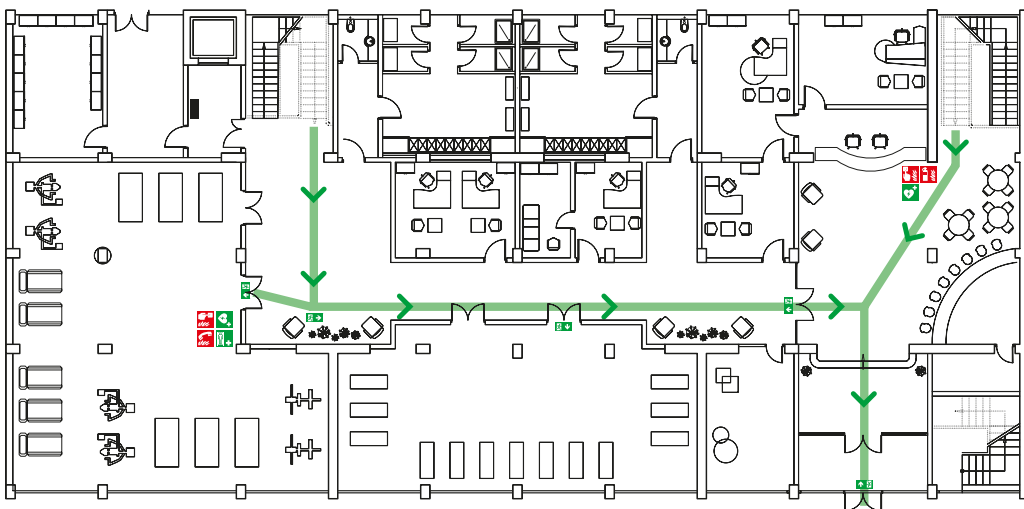
- in electrical operating rooms
- in laboratories
- on construction sites
- in areas with machines with a long after-run period
- in areas with control devices

In Europe, these points are regulated by EN 50172 Emergency escape lighting systems and the country-specific standards. Additional assistance is offered by the standards brochures provided by Zumtobel on the subject of emergency escape lighting.

ESCAPE AND RESCUE PLAN

For the emergency escape lighting project design, exact information about the course of the escape routes, the positions of the escape doors and the locations of the first aid equipment (defibrillator, fire extinguisher, stretcher, eye wash, etc.) is crucial. The escape and rescue plan is used as a template for this.

ESCAPE AND RESCUE PLAN



Escape signs



Defibrillator



Muster station



Emergency shower



Stretchers



Fire extinguisher



Central fire alarm system



Emergency call system



Fire alarms

What to do in the event of a fire

Stay calm

1. Report the fire



Activate the fire alarm
or
Where is the fire?
What is on fire?
How much is on fire?
What are the hazards?
Wait for feedback!

2. Move to safety



Take people who are in danger with you
Close doors
Follow the highlighted escape routes
Do not use the lift
Follow instructions

3. Try to extinguish the fire



Use the fire extinguisher

RISK ASSESSMENT

All facts are recorded and must be available in writing.

A risk assessment can either be performed independently by the employer or by specially commissioned persons with corresponding qualification. Commissioning of a risk assessment must always be done in writing and must include an exact description of the tasks and competencies being transferred.

The risk assessment is a key element of occupational health and safety. It includes a systematic assessment of all hazards and loads that exist for the employees at the place of work. It is therefore an essential basis for deriving targeted occupational health and safety measures.

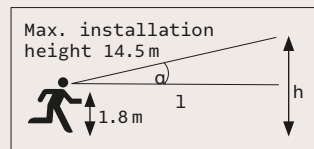
THE KEY POINTS:

- Preparation of the risk assessment
- Determination of the hazards
- Assessment of the hazards
- Definition of specific occupational health and safety measures
- Implementation of the measures
- Checking the implementation and effectiveness of the measures
- Continuation of the risk assessment

The standards brochure from Zumtobel provides information about the country-specific conditions.

POSITIONING OF THE ESCAPE-SIGN LUMINAIRES

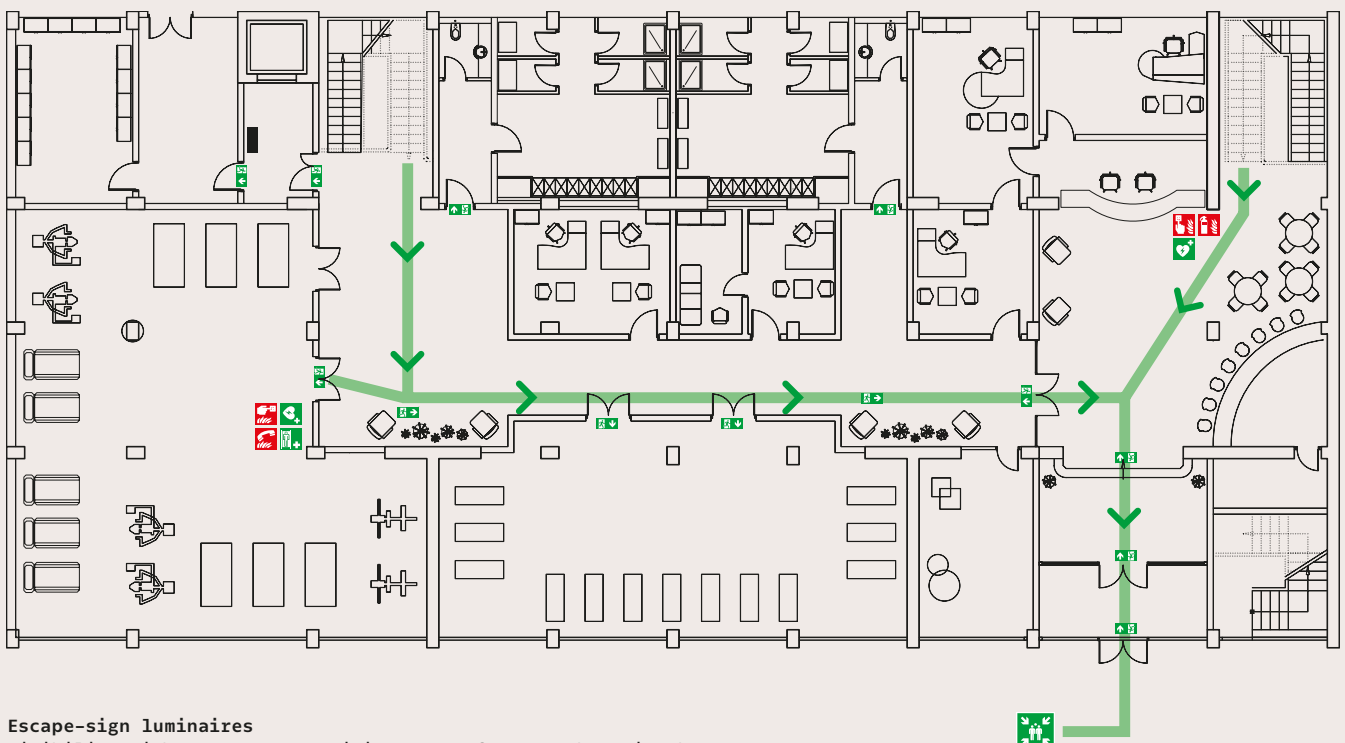
Escape-sign luminaires must be positioned directly above the highlighted escape doors as well as along longer escape routes. This ensures that an escape-sign luminaire is always in sight. The recognition range, sign symbol, safety colours and luminance are regulated in standards and must meet the country-specific requirements. In addition, it is specified that the luminaires must be installed at a height of at least 2 m. They must not exceed an angle of 20°.



Example: Person viewing is 2m tall
 Recognition range 20m > $h_{\max.} = 8.8\text{m}$
 Recognition range 35m > $h_{\max.} = 14\text{m}$



For easy project design, you can use the Zumtobel Sign Web-App:
signwebapp.zumtobel.com



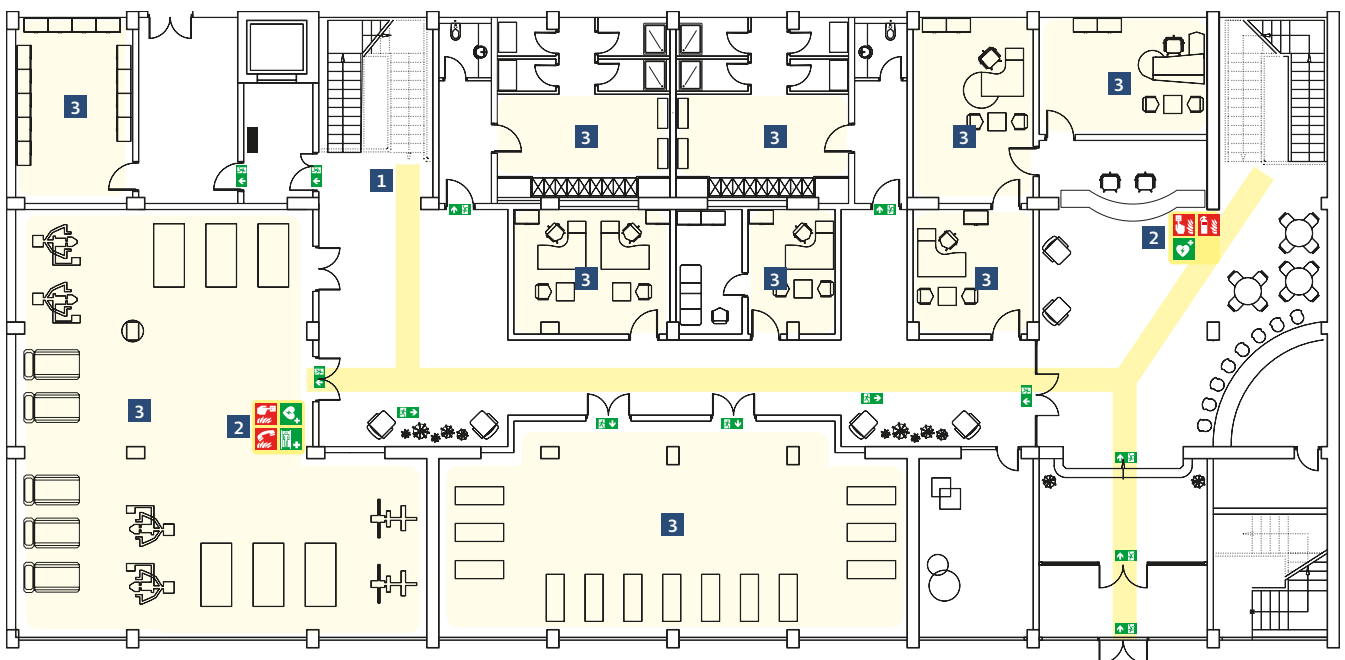
Escape-sign luminaires
 Visibility with correct recognition range from anywhere in the room

DESIGN OF THE EMERGENCY ESCAPE LIGHTING

The aim of emergency escape lighting is to enable people to safely escape from a room or building. For this purpose, adequate visual conditions and orientation towards escape routes and in special areas must be ensured so that fire fighting and first aid equipment can be found easily and put to use.



The Zumtobel RESCLITE PRO web app automatically selects the right safety luminaire for every light distribution:
resclitewebapp.zumtobel.com



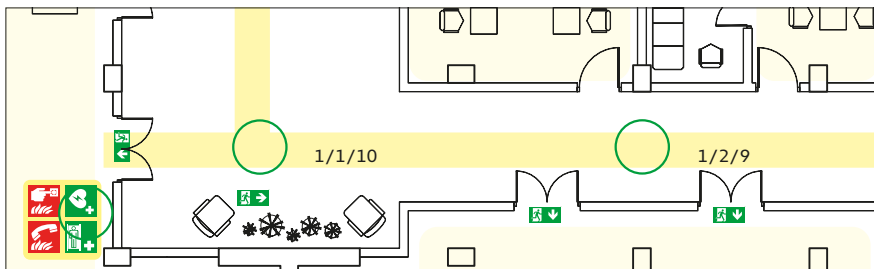
1 Escape
Escape route lighting
1lx centre line

2 Spot
First aid equipment
5lx vertical

3 Anti-panic
Areas, emergency escape
lighting
0.5lx wide-area

ESCAPE ROUTES

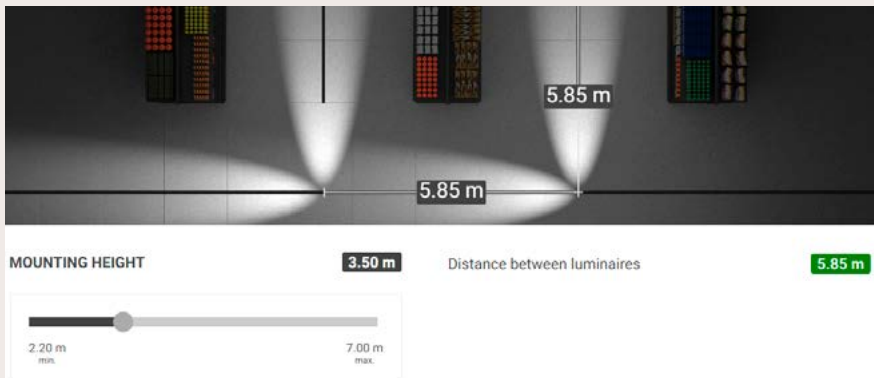
Special emergency luminaires with the suffix “ELP” (Emergency Low-voltage Powerline) for 48 V \approx are available for the nBox. The designated escape route needs to be illuminated with a minimum illuminance of 1 lx, taking account of maximum glare reference values on the centre line. The measurement plane is fixed at 2 cm, and a maintenance factor of 0.8 needs to be taken into account (which implies a planning design of at least 1.25 lx).



RESCLITE PRO ELP for illumination of escape routes

Possible designs:

- Standard size in IP40 for recessed mounting or surface mounting on the ceiling
- Mini in IP40 for recessed mounting on the ceiling or TECTON
- IP65 for surface mounting on the ceiling



Example 1

1/1/10 RESCLITE PRO MRCR MINI ESC90 ELP WH (art. no. 42 934 331) ESCAPE:

- 1.25 lx at 2 cm measurement level
- Ideal up to 6 m mounting height
- 48 V DC 3.2 W



Example 2

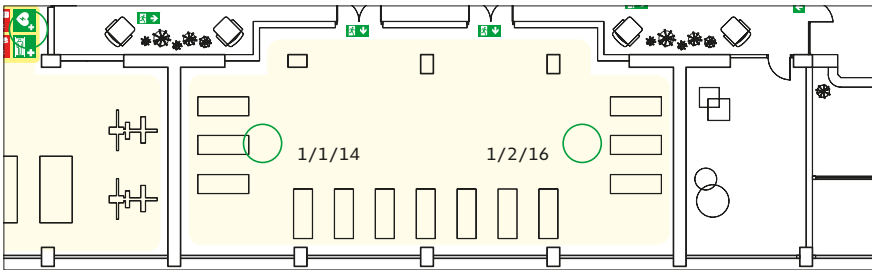
1/2/9 RESCLITE PRO MRCR MINI ESC ELP WH (art. no. 42 934 330) ESCAPE:

- 1.25 lx at 2 cm measurement level
- Ideal up to 6 m mounting height
- 48 V DC 3.2 W



AREAS AND ANTI-PANIC

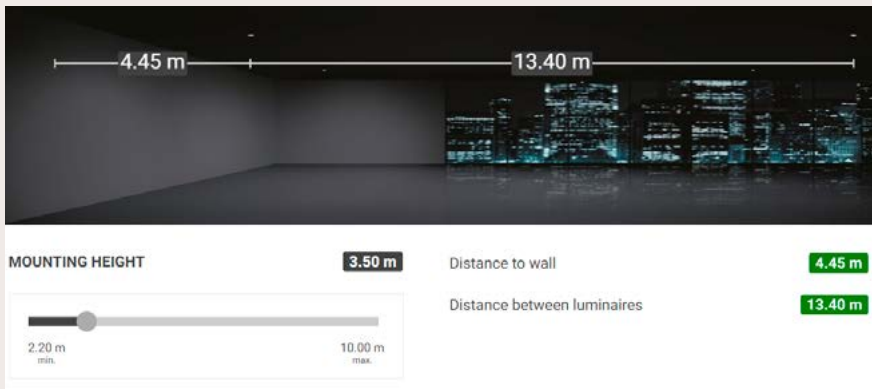
Anti-panic areas are illuminated with a minimum illuminance of 0.5 lx, which is designed for the respective mounting height (measurement height 2 cm). The maintenance factor of + 25% is already taken into account by the nBox Planning web app. The minimum illuminance of 0.5 lx is based on EN 1838. However, the favourable light distribution of the anti-panic luminaires also enables 1 lx and more. A higher illuminance reduces the area and must be taken into account in the Resclite PRO web app.



RESCLITE PRO for surface and anti-panic lighting

Possible designs:

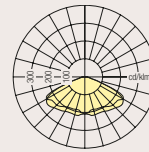
- Standard size in IP40 for recessed mounting or surface mounting on the ceiling
- Mini in IP40 for recessed mounting on the ceiling or TECTON
- IP65 for surface mounting on the ceiling



Example:

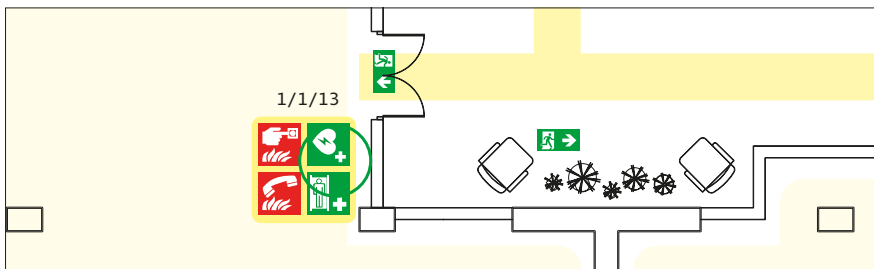
1/1/14 and 1/2/16 RESCLITE PRO MRCR MINI ANT ELP WH (art. no.: 42 934 329):

- 0.5 lx at 2 cm measurement level
- Ideal up to 6 m mounting height
- 48 V DC 3.2 W



FIRST AID EQUIPMENT

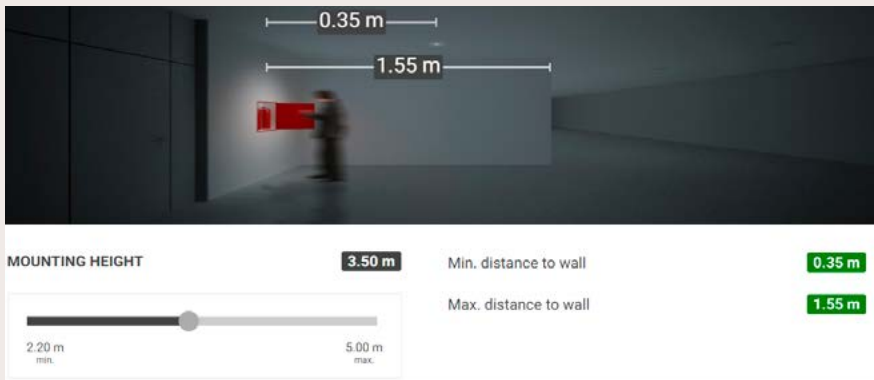
According to EN 1838, first aid equipment such as fire extinguishers, fire alarm buttons, fire alarm devices, eye washes or defibrillators must be illuminated vertically with a minimum illuminance of 5 lx. The maintenance factor of +25% is already taken into account by the nBox Planning web app.



RESCLITE PRO xx ELP for illumination of first aid equipment

Possible designs:

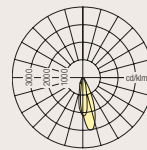
- Standard size in IP40 for recessed mounting or surface mounting on the ceiling
- Mini in IP40 for recessed mounting on the ceiling or TECTON
- IP65 for surface mounting on the ceiling



Example:

1/1/13 RESCLITE PRO MRCR MINI SPOT ELP WH (art. no.: 42 934 332):

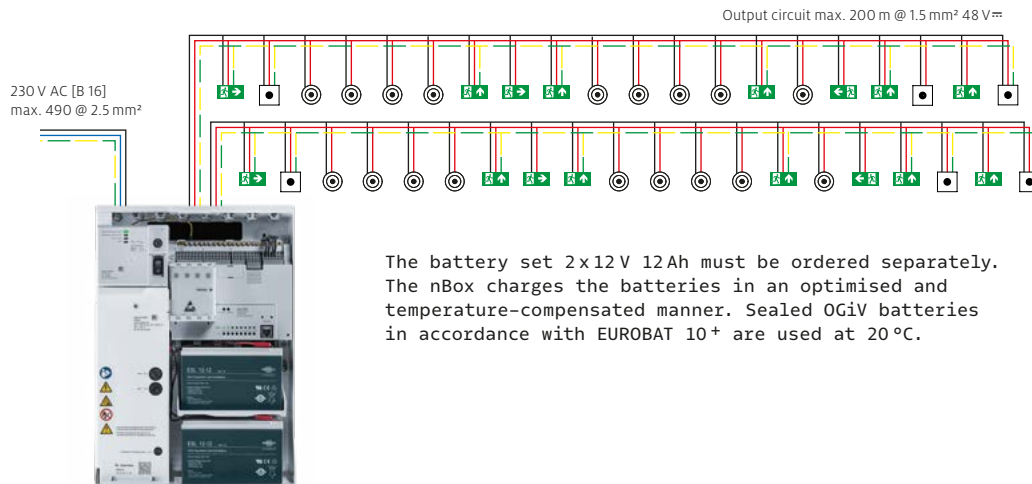
- 5 lx vertical
- Ideal up to 5 m mounting height
- 48 V DC 3.2 W





SYSTEM LIMITS

The nBox has a maximum mains power draw of 300 VA at 230 V 50/60 Hz mains voltage. A device is protected by a type B 16 A circuit breaker (cable connection L/N/PE max. 2.5 mm²). The maximum output power of the nBox S is 200 W. The system is equipped with an OCM-ELP* module as standard. This includes two autarkic final circuits with 50 W maximum power each. The circuit output is routed to dual connectors and designed for 1.5 mm². The output voltage is 48 V DC (FLEV), the maximum line length of the line topology is 200 m with a line diameter of 1.5 mm² Cu. Depending on the protection class of the luminaire, the earth must be carried in the final circuit, +/-PE. So, for example, with protection class I, the polarity of the direct voltage must be noted. Taking into account the maximum available total power, the nBox S can be extended to up to eight final circuits. Each final circuit allows individual mixed operation of continuous and stand-by luminaires of max. 20 safety luminaires.



The battery set 2x12 V 12Ah must be ordered separately. The nBox charges the batteries in an optimised and temperature-compensated manner. Sealed OGiV batteries in accordance with EUROBAT 10+ are used at 20 °C.

Battery set 2 x 12 V	12 Ah
Nominal duration	Output power
DC output power nBox for 1 h	100.5 W
DC output power nBox for 2 h	49.8 W
DC output power nBox for 3 h	31.6 W

Output availability example

The maximum output power for the required nominal operating duration can be found in the table. The power reserve of 25% required by the norms is already included in this. This means, for example, that a constant power of 100.5 W is available for safety luminaires with a 1 h nominal operating duration. The total power must be split across the respective final circuits.

* OCM-ELP = Output circuit module - Emergency Low voltage Powerline



Dimensions HxWxD	428,2 x 307,6 x 147,9 mm
Weight without battery	7.6 kg
Installation	Wall cabinet
Housing	V2A steel sheet, powder-coated in white (RAL 9016)
Cover	Polycarbonate, halogen-free
Degree of protection	IP20, IP54 from top
Protection class	SK 1 ⌋
Nominal voltage	220 – 240 V 50/60 Hz
Fuse protection on-site	B 16 A
Power	max. 300 VA [full expansion, load-dependent]
Ambient temperature	Permissible for 0 °C to +40 °C Max. battery life time at 20 °C
Cable entry	16 grommets, cable diameter min. 6 mm / max. 13 mm
Opening on rear side	150 x 30 mm
Output voltage	48 V (FELV)
Output power	200 W total / 50 W per circuit
Output circuits	2, extendable to 8 circuits
Slots	for 4 nBox OCM ELP 48 V=
Final circuit	Line length 200 m in one line, max. 300 m total length in tree topology
Battery	Battery to be ordered separately 2 x 12 V-OGiV or 1 x 24 V-LiFeP04-batteries

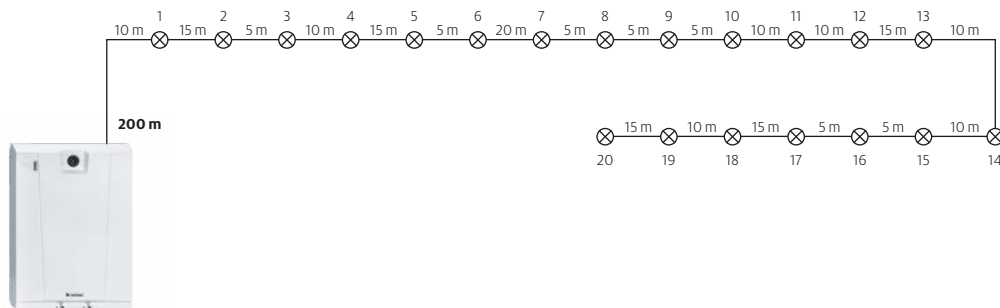


nBox product video

LINE TOPOLOGIES

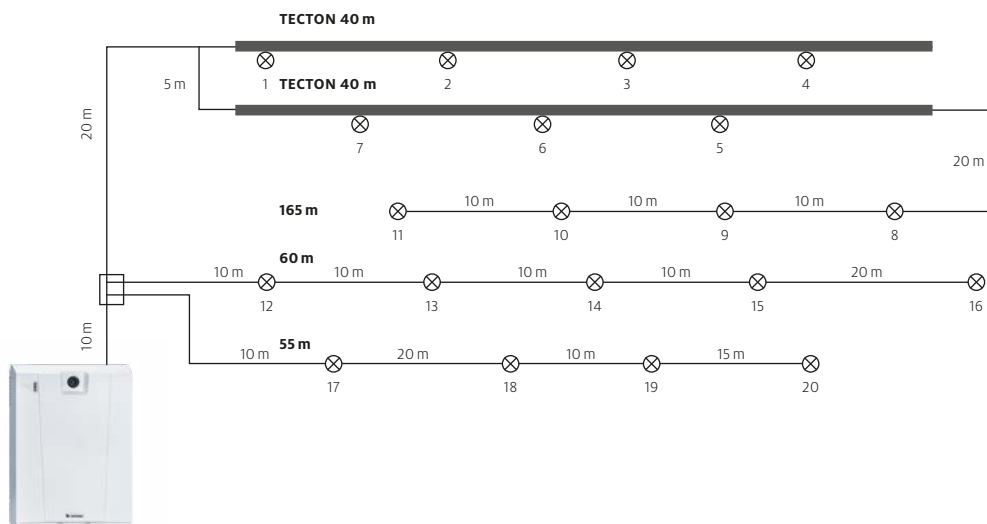
LINE TOPOLOGY

- Typical line topology for 200 m 1.5 mm² Cu
- The individual safety luminaires are looped through
- Maximum of 20 luminaires per final circuit at 50 W



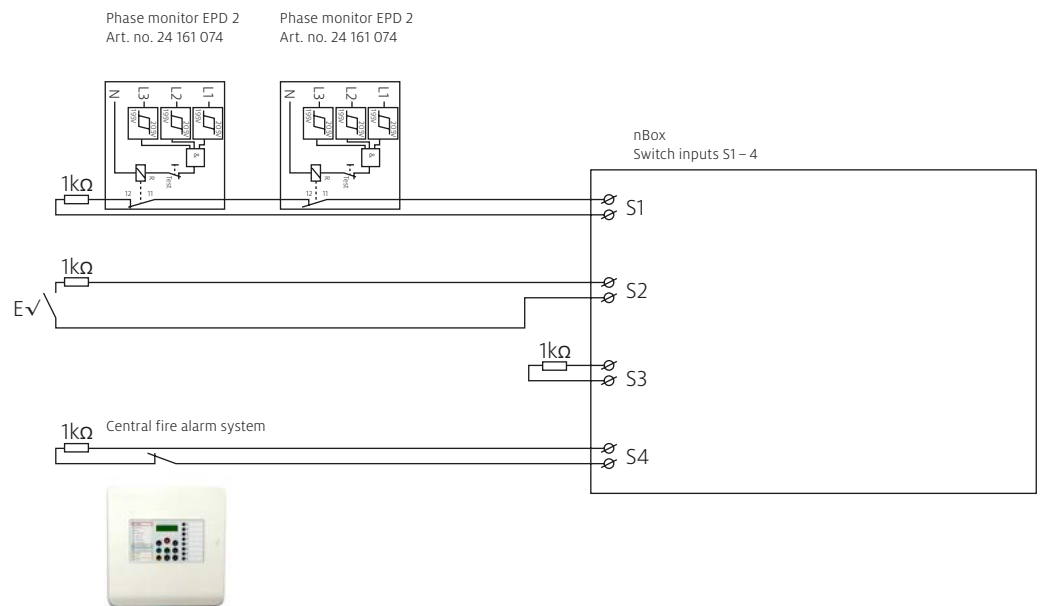
TREE TOPOLOGY

- Maximum, total line expansion: 300 m for 1.5 mm² Cu
- The individual safety luminaires are looped through
- The bottom example shows the use of continuous rows such as TECTON and TRINOS
- Maximum of 20 luminaires per final circuit at 50 W



CENTRAL SWITCH INPUTS

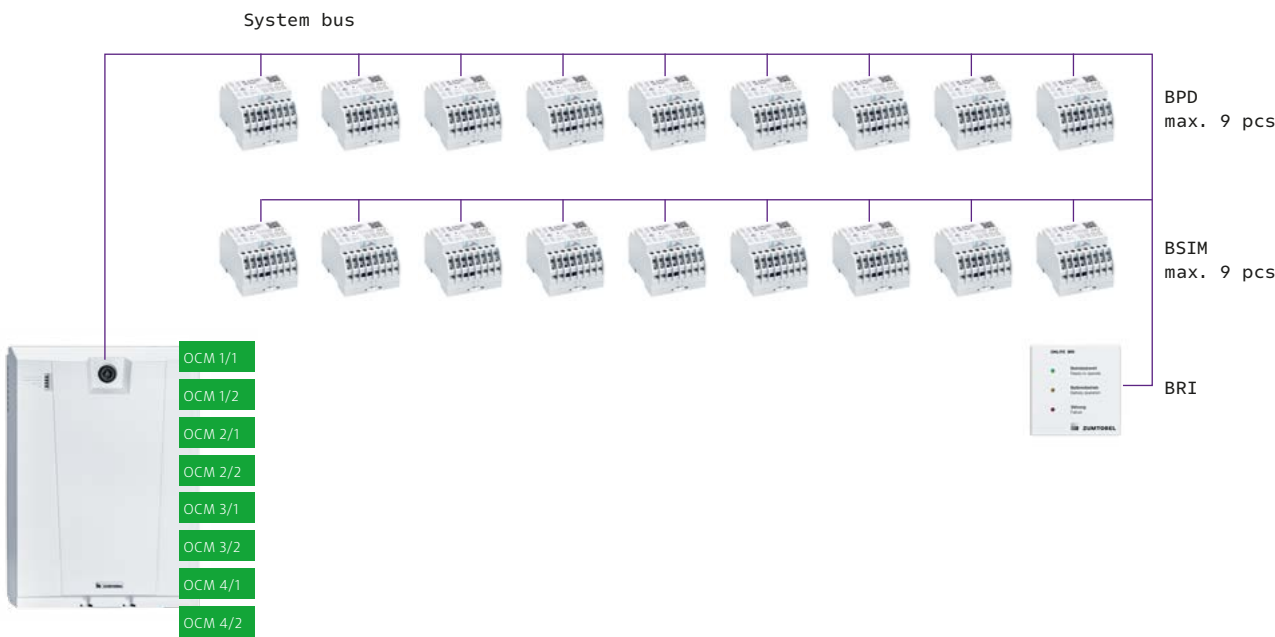
Functions can be selected and assigned via four current-characterised inputs with 1 kOhm. This enables assignment of luminaire circuits, luminaire groups and individual luminaire functions.



N BOX SYSTEM BUS

FUNCTIONS

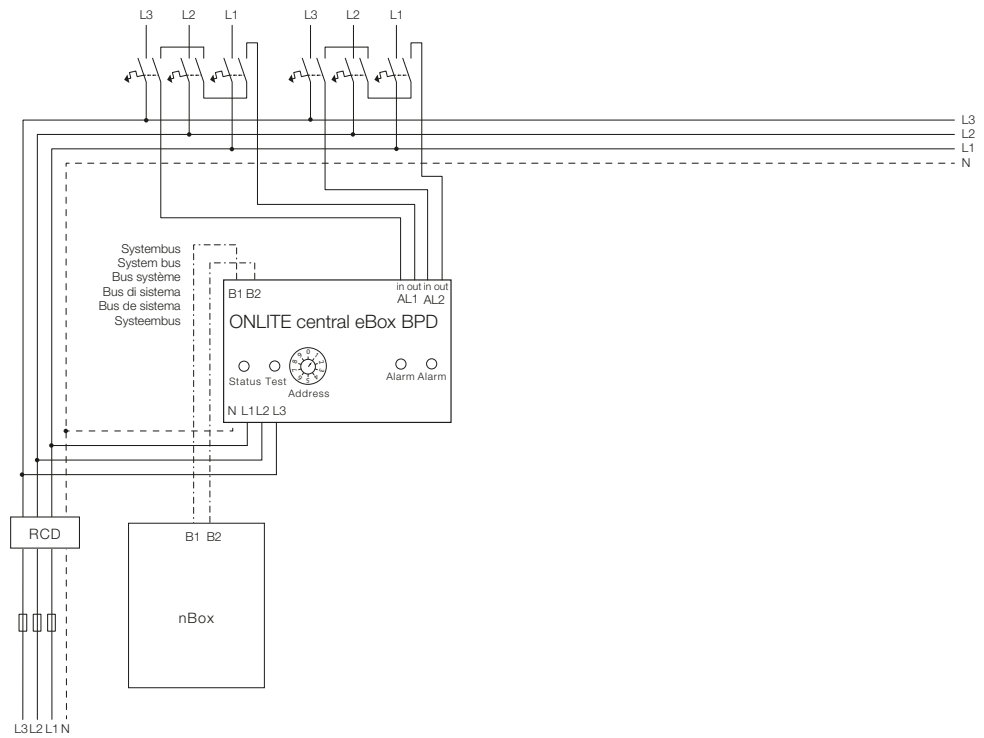
The 2-wire line provides the system bus for up to nine bus phase monitors (BPD) and bus switch input modules (BSIM). In addition, a central monitoring module BRI can be connected, which displays the current state of the system via three LEDs. The ONLITE central BPDs have a heartbeat control, which also monitors the function of the phase monitor and system bus. This means there is no need for a functional integrity cable.



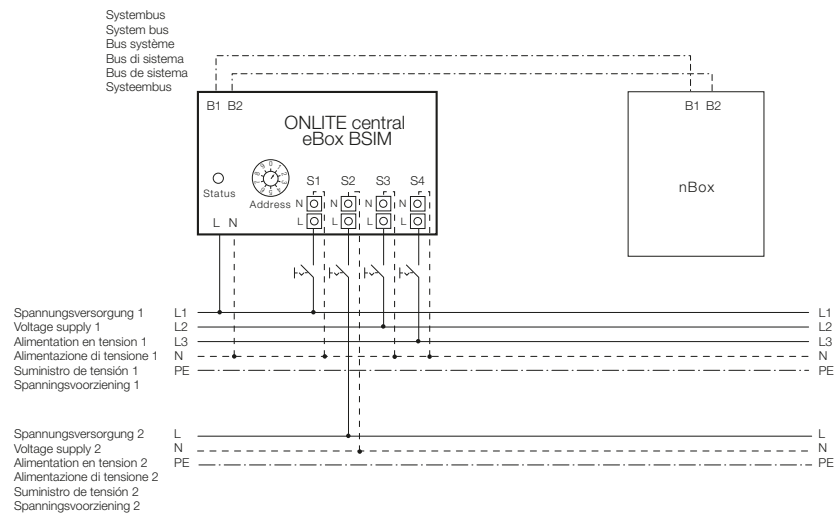
System bus design	Conductor cross-section 2 x 0.75 mm ²	Conductor cross-section 2 x 1.50 mm ²
Line length	350 m	500 m

NBOX SYSTEM INFORMATION

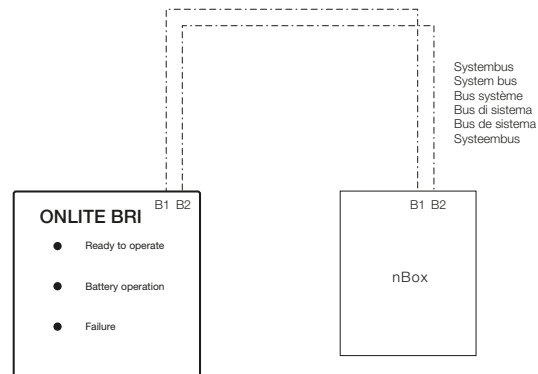
BPD bus phase monitor



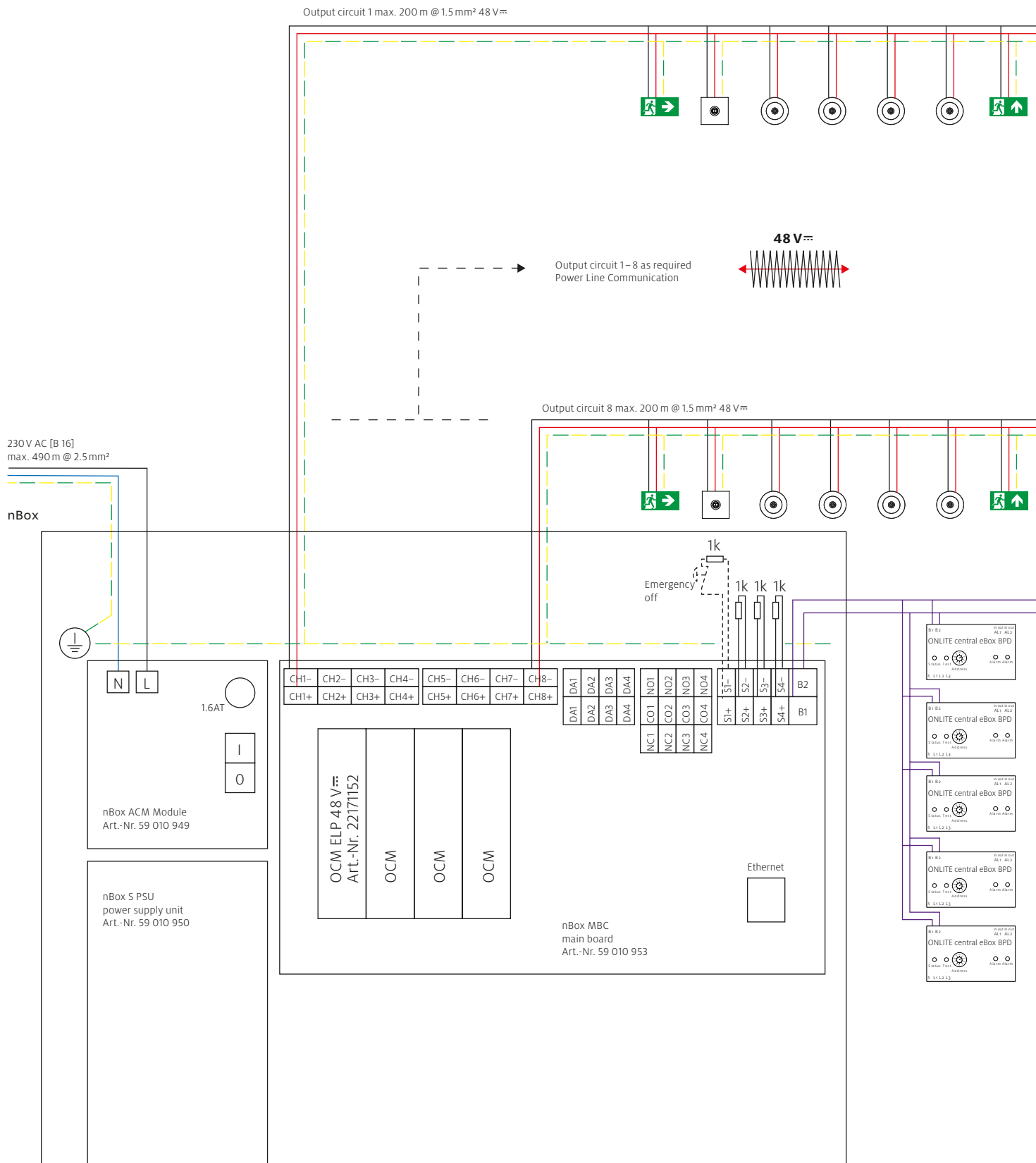
BSIM switch inputs



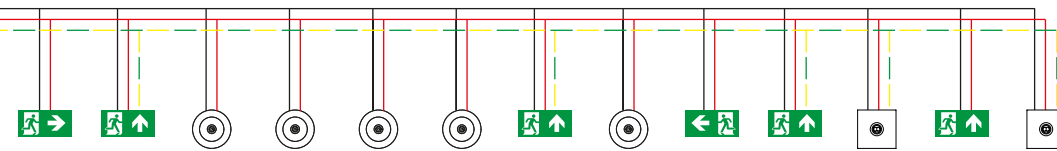
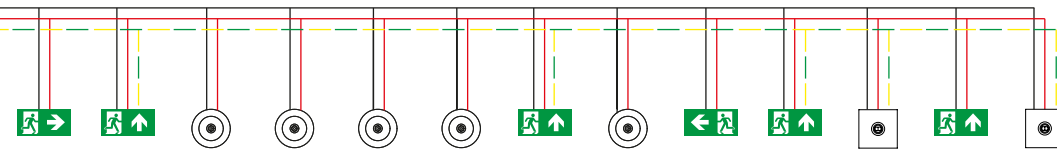
BRI remote display



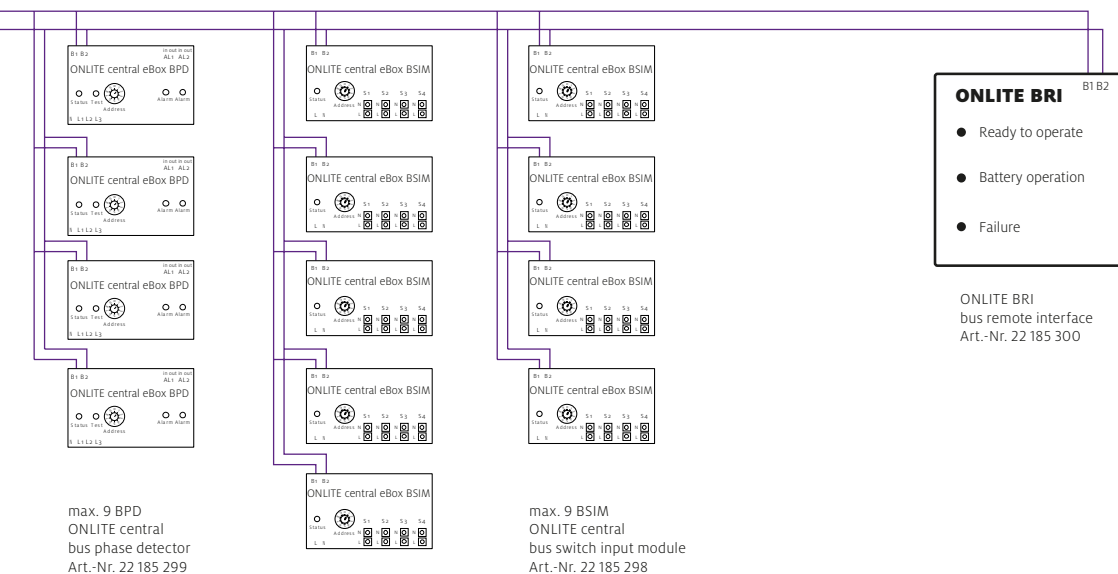
MAXIMUM EXTENSION



NBOX SYSTEM INFORMATION



Systembus max. 300m @ 1.5 mm²



SPECIAL FUNCTIONS

DALI-IN INPUTS

The standardised DALI interface is the perfect bridge to any DALI-based lighting management system. Each of the four available DALI-IN inputs is able to individually control an output circuit of luminaires. This function means it is possible to dim escape-sign luminaires infinitely together with the general lighting. For example, this is ideal for special cinema and theatre rooms.



Maintained light: 100 %



Dimmable to 10 %

No handshake is required thanks to the patented DMF (DALI Memory Function). The DALI commands are always logged and correctly updated after every event. This is not shown as an error in the nBox or in the DALI lighting management system.

ETHERNET TCP/IP CONNECTION

Via the integrated TCP/IP interface, up to 100 nBox systems can be linked with each other. This enables important functions, such as superordinate activation of the phase monitoring for different nBoxes. In addition, there is a central dashboard showing the aggregated system status. The network connection is established via the integrated RJ45 socket.



Housing

Sturdy V2A stainless steel,
powder-coated in white (RAL
9016), IP20, protection class I

Invisible port

Rear, 150 x 30 mm
opening for concealed
cable installation

AC module

For 230 V mains
connection with
main switch and
hardware protection

Mainboard controller

To control
the complete system

Test buttons

Clear status of the circuits
as well as manual operation
by push-button

Power supply unit with charger

For the clear technical
separation of 230V alternating
voltage from 48V extra-low
voltage in addition to the
supply and safe separation
of the batteries

Certified by TÜV Rheinland



QR code

Direct link to all nBox S
product information on
the Zumtobel website





Cable entry

16 grommets with strain relief for cables with diameters of 6-13 mm, for an IP54-protected upper side of the device

Switch inputs

1kOhm line-monitored, programmable functions for the assignment of luminaire circuits or luminaire groups and for individual luminaire functions

4 slots

To plug in the modular polar circuits (x2 as standard, extension to up to 8 circuits is possible)

Status LEDs

Green or red LEDs indicate the system status at a glance

RJ45 socket

TCP/IP networking for integration in LAN network technology

Battery space

To hold 2x12V OGiV or 1x24V LiFePO4 batteries



Housing cover

Made of halogen-free polycarbonate, for reliable protection of the system

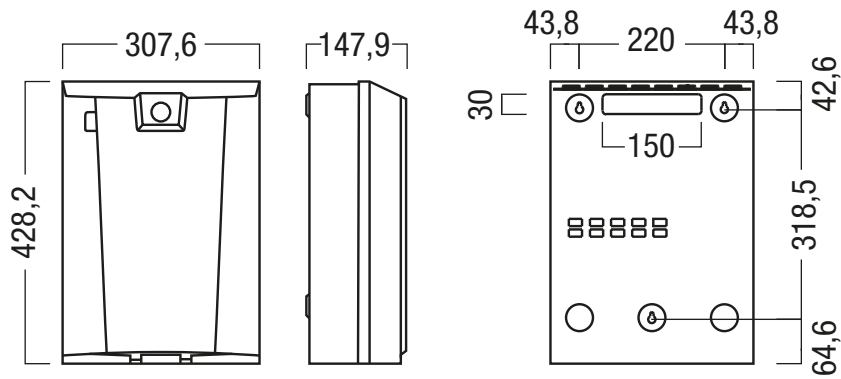


N BOX

PRODUCT OVERVIEW

Product	Article number	Product name	Description
	22171150	nBox S	nBox S with 2 output circuits
	22171152	nBox OCM ELP 48 V $\overline{\text{m}}$	nBox double output circuit module ELP 48 V $\overline{\text{m}}$
	22171154	nBox BATTERY SET PB 2 pcs 12 V/12 Ah	nBox OGiV battery SET 2 x 12 V/12 Ah
Optional spare parts			
	59010954	nBox X FS	nBox set of spare fuses
	59010957	nBox G IP54	nBox IP54 grommet with strain relief

DIMENSIONAL DRAWINGS



CABLE ENTRIES



View from top
16 grommets
[cable diameter min. 6mm max. 13mm]



Rear side
Opening 150 x 30 mm

INSTALLATION NOTES










For a comfortable working height of the terminals, it is recommended that the top mounting holes be made at a height of 1650 to 1700 mm.

To ensure adequate cooling of the device, a distance of at least 150 mm from the wall on the left and at least 50 mm from the wall on the right must be provided for.

ESCAPE-SIGN LUMINAIRES

The escape-sign luminaires are compliant with EN 1838 and DIN 4844.
The digitally printed escape route symbol corresponds to ISO 7010.
All luminaires can be addressed via the PROset Pen or PROset App.

- Luminaire connection max 1.5 mm² with double terminals for looping
- 48 V-DC connection with power line communication to nBox
- Power draw is used to calculate and design the nBox system

Product*	Article no.**	Product name	Power draw
	42934357	ARTSIGN 75 P MRC ELP SR SP-1D	1.50 W
	42934355	ARTSIGN 75 P MRC ELP SR SP-1L	1.50 W
	42934361	ARTSIGN 75 P MRC ELP SR SP-1R	1.50 W
	42934359	ARTSIGN 75 P MRC ELP SR SP-1UP	1.50 W
	42934358	ARTSIGN 75 P MRC ELP SR SP-2D	1.50 W
	42934362	ARTSIGN 75 P MRC ELP SR SP-2R	1.50 W
	42934356	ARTSIGN 75 P MRC ELP SR SP-2LR	1.50 W
	42934360	ARTSIGN 75 P MRC ELP SR SP-2UP	1.50 W
	42934363	ARTSIGN 75 P MRW ELP SR	1.50 W
	42934364	CROSSIGN 110 P MSC ELP WH	2.30 W
	42934367	CROSSIGN 110 P TEC-GP ELP WH	2.30 W
	42934368	CROSSIGN 110 P TEC-GP ELP BK	2.30 W
	42934365	CROSSIGN 160 P MSC ELP WH	3.50 W
	42934366	CROSSIGN 160 P MSC ELP WH IP54	3.50 W
	42934369	CROSSIGN 160 P TEC-GP ELP WH	3.50 W
	42934370	CROSSIGN 160 P TEC-GP ELP BK	3.50 W
	42934371	ECOSIGN 160 P MSC ELP WH IP65	3.90 W
	42934373	ECOSIGN 160 P TEC-GP ELP WH	3.90 W
	42934372	ECOSIGN 160 P TRINOS ELP WH IP65	3.90 W
	42934374	ERGOSIGN 80 P MSW ELP WH IP54	1.60 W
	42934375	PURESIGN 150 P MRW ELP WH	3.90 W
	42934376	PURESIGN 150 P MSW ELP WH	3.90 W
	42934377	PURESIGN 150 P TEC-GP ELP WH	3.90 W
	42934378	PURESIGN 150 P TEC-GP ELP BK	3.90 W
	42934379	PURESIGN/COMSIGN 150 P MRC ELP SR	3.90 W
	42934380	PURESIGN/COMSIGN 150 P MRW-WF15 ELP SR	3.90 W
	42934381	PURESIGN/COMSIGN 150 P MRC-WF15 ELP SR	3.90 W
	42934382	PURESIGN/COMSIGN 150 P MSC-WF15 ELP SR	3.90 W
	42934383	PURESIGN/COMSIGN 150 P MSC ELP SR	3.90 W

* Luminaire symbol photos

** Article numbers relate to the basic luminaire type, without pictograms and accessories

SAFETY LUMINAIRES

The safety luminaires are compliant with EN 1838. All luminaires can be addressed via the PROset Pen or PROset App.

- Luminaire connection max 1.5 mm² with double terminals for looping
- 48 V DC connection with power line communication to nBox
- Power draw is used to calculate and design the nBox system

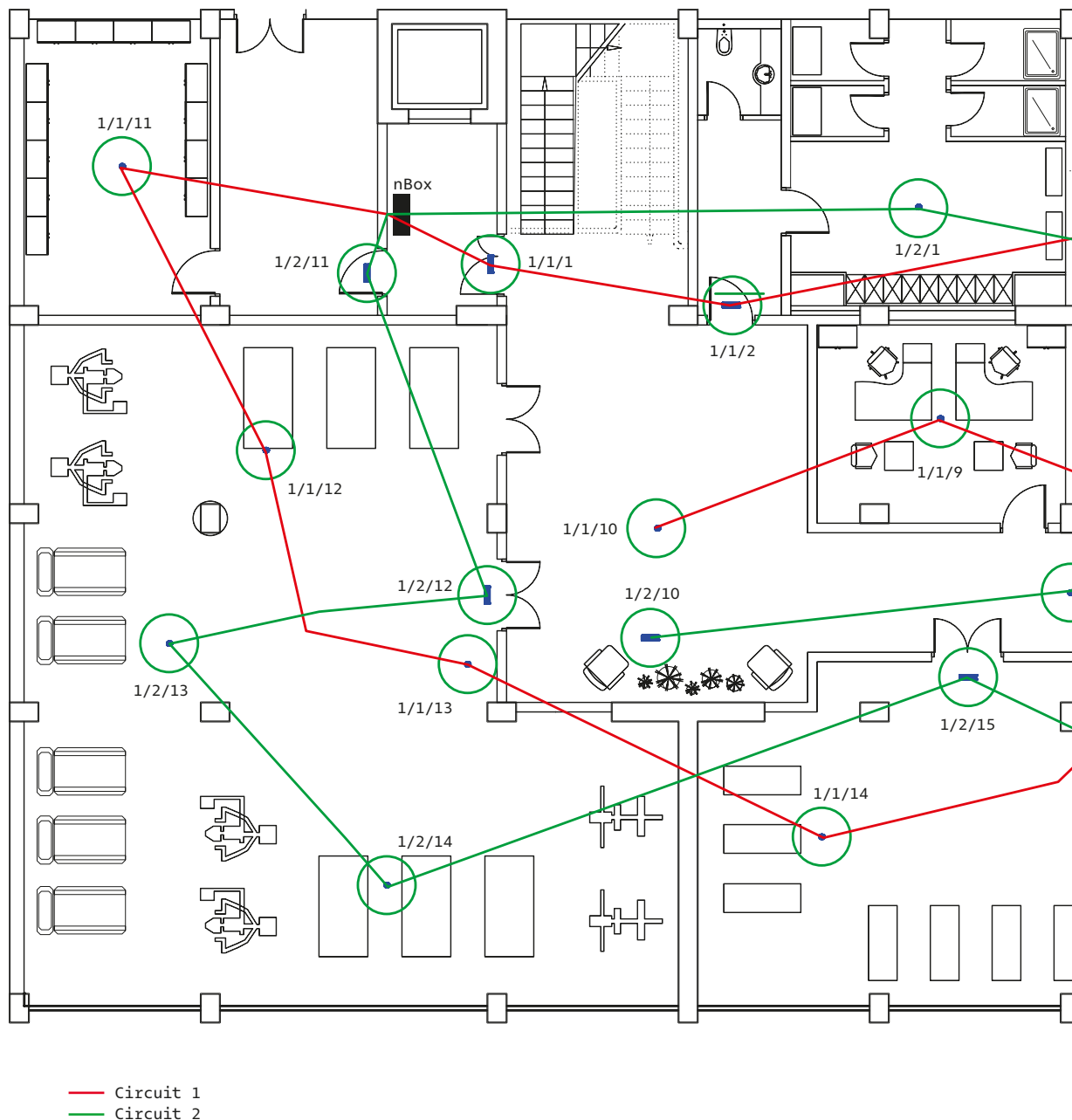
Product*	Article no.**	Product name	Power draw
  	42934325	RESCLITE PRO MRCR ANT ELP WH	3.20 W
	42934326	RESCLITE PRO MRCR ESC ELP WH	3.20 W
	42934327	RESCLITE PRO MRCR ESC90 ELP WH	3.20 W
	42934328	RESCLITE PRO MRCR SPOT ELP WH	3.20 W
	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.20 W
	42934330	RESCLITE PRO MRCR MINI ESC ELP WH	3.20 W
	42934331	RESCLITE PRO MRCR MINI ESC90 ELP WH	3.20 W
	42934332	RESCLITE PRO MRCR MINI SPOT ELP WH	3.20 W
	42934333	RESCLITE PRO MRWR ESCW ELP WH	3.20 W
	42934334	RESCLITE PRO MSC ANT ELP WH	3.20 W
	42934335	RESCLITE PRO MSC ESC ELP WH	3.20 W
	42934336	RESCLITE PRO MSC ESC90 ELP WH	3.20 W
	42934337	RESCLITE PRO MSC SPOT ELP WH	3.20 W
	42934338	RESCLITE PRO MSC ANT ELP WH IP65	3.20 W
	42934339	RESCLITE PRO MSC ESC ELP WH IP65	3.20 W
	42934340	RESCLITE PRO MSC ESC90 ELP WH IP65	3.20 W
	42934341	RESCLITE PRO MSC SPOT ELP WH IP65	3.20 W
	42934342	RESCLITE PRO MSW ESCW ELP WH	3.20 W
	42934343	RESCLITE PRO MSW ESCW ELP WH IP65	3.20 W
	42934344	RESCLITE PRO TEC-GP ANT ELP WH	3.20 W
 	42934345	RESCLITE PRO TEC-GP ESC ELP WH	3.20 W
	42934346	RESCLITE PRO TEC-GP ESC90 ELP WH	3.20 W
	42934347	RESCLITE PRO TEC-GP SPOT ELP WH	3.20 W
	42934353	RESCLITE PRO MSC ANT HC ELP WH IP65	3.70 W
	42934354	RESCLITE PRO MSC ESC HC ELP WH IP54	3.70 W
	42934351	RESCLITE PRO TEC-GP ANT HC ELP WH	3.70 W
	42934352	RESCLITE PRO TEC-GP ESC HC ELP WH	3.70 W
	42934348	RESCLITE PRO TRINOS ANT ELP WH	3.20 W
	42934350	RESCLITE PRO TRINOS SPOT ELP WH	3.20 W
	42934384	RESCLITE PRO TRINOS ANT HC ELP WH	3.70 W
	42934349	RESCLITE PRO TRINOS ESC HC ELP WH	3.70 W

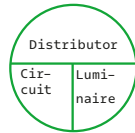
* Luminaire symbol photos

** Article numbers relate to the basic luminaire type, without pictograms and accessories

SYSTEM DESIGN

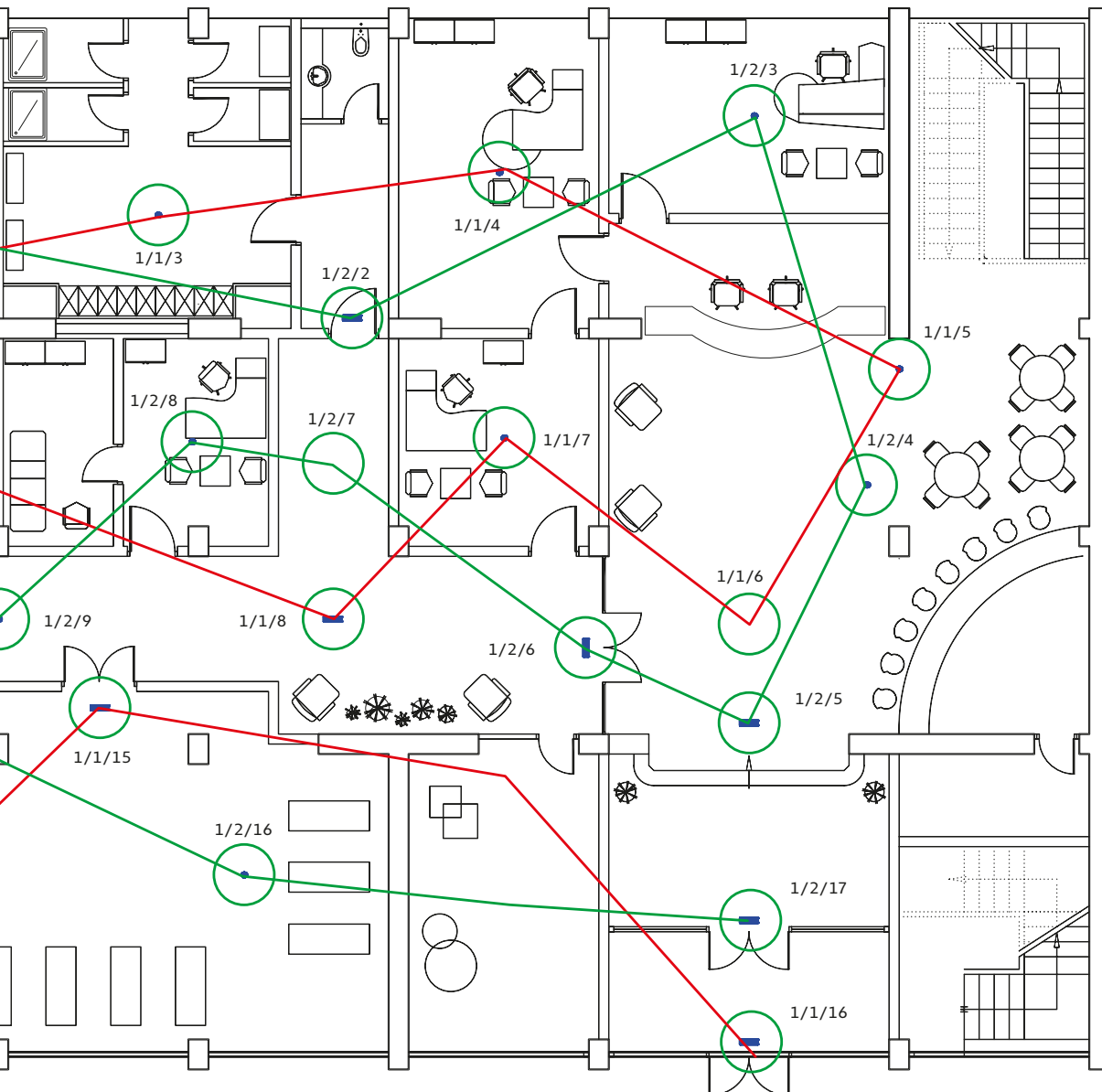
After the photometric design of the escape-sign luminaires and safety luminaires, the safety power supply is planned, taking into account the fire sections. If, as in the example below, no further fire sections are operated, the nBox group battery system is mounted directly in the fire section from which it supplies the individual safety luminaires. Installation with functional integrity is not necessary in this case. For Austria and Germany, two autonomous final circuits are required. For all other countries, at least one circuit with a maximum of 20 safety luminaires is required.





Assignment of safety luminaires

Each safety luminaire and escape-sign luminaire is – depending on the country – assigned to one or two final circuits. The maximum possible output power of 50 W per final circuit and 100.5 W for the 1 h emergency operation of an nBox S system with 2 x 12 V 12 Ah OGiV batteries must be taken into consideration.



PLAUSIBILITY CHECK

In the project design template, the required safety luminaires and escape-sign luminaires are listed by final circuit and checked for their system limits. If the total number of luminaires is determined, a counter-check with the total connected load and the available system load of the nBox is performed.

Plausibility check for our example from page 32/33

Circuit 1

No. according to plan	Art. no.	Designation	Performance
1/1/1	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
1/1/2	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
1/1/3	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/1/4	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/1/5	42934332	RESCLITE PRO MRCR MINI SPOT ELP WH	3.2 W
1/1/6	42934331	RESCLITE PRO MRCR MINI ESC90 ELP WH	3.2 W
1/1/7	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/1/8	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
1/1/9	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/1/10	42934331	RESCLITE PRO MRCR MINI ESC90 ELP WH	3.2 W
1/1/11	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/1/12	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/1/13	42934332	RESCLITE PRO MRCR MINI SPOT ELP WH	3.2 W
1/1/14	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/1/15	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
1/1/16	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
Total		16 luminaires	46.7 W
Check		16 pcs ≤ 20 safety luminaires / escape sign luminaires	✓
		46.7 ≤ 50 W	✓

Circuit 2

No. according to plan	Art. no.	Designation	Performance
1/2/1	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/2/2	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
1/2/3	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/2/4	42934330	RESCLITE PRO MRCR MINI ESC ELP WH	3.2 W
1/2/5	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
1/2/6	42934365	CROSSIGN 160 P MSC ELP WH	3.4 W
1/2/7	42934330	RESCLITE PRO MRCR MINI ESC ELP WH	3.2 W
1/2/8	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/2/9	42934330	RESCLITE PRO MRCR MINI ESC ELP WH	3.2 W
1/2/10	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
1/2/11	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
1/2/12	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
1/2/13	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/2/14	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/2/15	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
1/2/16	42934329	RESCLITE PRO MRCR MINI ANT ELP WH	3.2 W
1/2/17	42934364	CROSSIGN 110 P MSC ELP WH	2.3 W
Total		17 luminaires	48.3 W
Check		17 pcs ≤ 20 safety luminaires / escape sign luminaires	✓
		48.3 ≤ 50 W	✓

Grand total circuit 1 + 2		33 luminaires	95 W
Check		Maximum possible power nBox S with 1 hour nominal operating duration (2 x 12 V 12 Ah) = 100.5 W	
		95 W ≤ 100.5 W	✓

Circuit 1

No. according to plan	Art. no.	Designation	Note	Performance
1/1/1				W
1/1/2				W
1/1/3				W
1/1/4				W
1/1/5				W
1/1/6				W
1/1/7				W
1/1/8				W
1/1/9				W
1/1/10				W
1/1/11				W
1/1/12				W
1/1/13				W
1/1/14				W
1/1/15				W
1/1/16				W
1/1/17				W
1/1/18				W
1/1/19				W
1/1/20				W
Total		_____ Luminaires		_____ W
Check	<input type="text"/>	≤ 20 safety luminaires / escape sign luminaires	✓	
	<input type="text"/>	≤ 50 W	✓	

Circuit 2

No. according to plan	Art. no.	Designation	Note	Performance
1/2/1				W
1/2/2				W
1/2/3				W
1/2/4				W
1/2/5				W
1/2/6				W
1/2/7				W
1/2/8				W
1/2/9				W
1/2/10				W
1/2/11				W
1/2/12				W
1/2/13				W
1/2/14				W
1/2/15				W
1/2/16				W
1/2/17				W
1/2/18				W
1/2/19				W
1/2/20				W
Total		_____ Luminaires		_____ W
Check	<input type="text"/>	≤ 20 safety luminaires / escape sign luminaires	✓	
	<input type="text"/>	≤ 50 W	✓	

Grand total circuits 1 to 8	_____ Luminaires	_____ W
Check	Maximum possible power	
	<input type="text"/>	
	<input type="text"/> ≤ <input type="text"/>	✓





GUARANTEE EXTENSION THROUGH MAINTENANCE AGREEMENT

The scope of ONLITE Maintenance is based on EN 50172, the norm for safety lighting systems, as well as on other country-specific norms, and can be optionally extended with further maintenance activities that extend the life time of the safety lighting system.

Safety lighting systems are subject to cyclic maintenance, which is required in accordance with EN 50172. With a Zumtobel maintenance agreement for emergency lighting, a specially trained service engineer will carry out a professional inspection of the safety lighting. The added value: The manufacturer's guarantee for nBox is extended to 5 years.

Maintenance ONLITE	Gold	Silver
Services		
Direct access to the local Zumtobel hotline	•	•
Exclusive access to product-related knowledge base	•	•
Zumtobel service booklet with log book	•	•
Prioritised processing	•	•
Compliance with legal regulations and preventive services		
Proactive scheduling of the annual service	•	•
Annual service of the control unit	•	•
Visual check of the safety luminaires incl. documentation	•	
Privileges		
Special rates for Zumtobel spare parts	•	
Special rates for standard hourly rate and travel expenses	•	

T H E L I G H T

70 Z

#70YEARSZUMTOBEL

zumtobel.com/contact