

LPS 230

Installation and Operating Instruction



Deutsch

English

Français

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1. General Information and Introduction

1.1 General information

Please note the installation principles and the associated operating instruction before mounting the system. Only those with appropriate training or electricians are permitted to install, operate and service the system.

1.2 Exclusion from liability and warranty

We assume no warranty or liability for damage or sequential damage brought about by the following:

- Incorrectly implemented installation or operation of the system
- Accessing the LPS device
- Operating products and/or components not suited for the emergency lighting
- Non-adherence to regulations for fail-safe system operations
- System operated by those with no due authorisation (incorrect operation)

1.3 Warnings

The LPS device operates on two different voltages - the mains and the battery voltage. That is why attention is to be paid to both the mains power supply and the battery voltage when working on the unit. Both voltages need to be isolated for the de-energized status of the system. Only trained electricians are to undertake work when the system is energized.

Follow the operations for use of the battery. Wear or use appropriate protective equipment when working on the battery. Ensure that the battery continues to be supplied with voltage if the system is not to be operated for an extended period (mains power supply interrupted). Permanent damage to the battery can come from not continuing to charge it. In such an instance, the battery is to be immediately replaced.

In replacing LPS device or battery parts, only those of the same type and with the same characteristics or manufacturer approved replacement types are to be used. Operating incorrect or faulty parts can result in non-functioning emergency lighting.

2. Transport and storage

2.1 Product delivery

On receipt of the LPS device, check that all its contents are on hand for any obvious damage. Report any damage immediately to the forwarder and bear in mind the following:

- Leave the product and its packing as it is after opening
- Report the damage to the forwarder
- Then contact the seller
- After examination by the forwarder and receipt of the damage confirmation return the defective product to the seller

2.2 Storage

Do not store the LPS device and the batteries outdoors up to mounting - they must be kept where it is dry and dust-free. The temperature there is to be between 5°C and 30°C.

Without charging, the batteries are to be stored for a maximum 90 days. The batteries must be re-charged after this time to avoid any damage. A test at the system can only be triggered once the batteries have been charged for a minimum 20 hrs after their fitting in the system.

3. Product Description

The LPS device (Low Power System) is for implementing emergency lighting systems according to DIN EN 50172 and systems complying with DIN VDE 0100-718 and E DIN VDE 0108-0100. In addition, it can be used for supplying safety and escape sign luminaires (230 V AC/220 V DC) according to DIN EN 50171 and BGV A3.

The overall system is controlled using a multi-touch-capable display. There, the system displays the operating status conditions of the individual luminaires, luminaire circuits and system components as messages in text form and as message LEDs. Semi-automation commissioning is also possible once the start button is activated

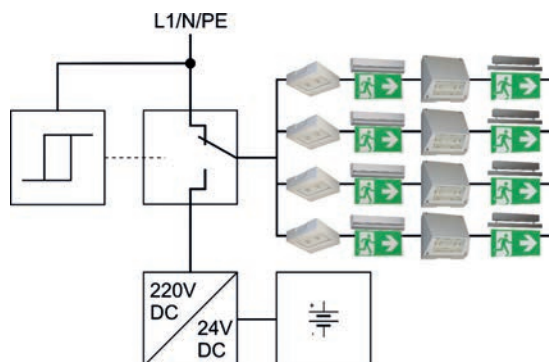


Fig. 1: Diagram of the LPS device

The luminaires can be operated in a mix mode for each output circuit, i.e. luminaires for both the maintained mode (MM) and non-maintained mode (NMM) can be run in a circuit. The operation mode of the individual luminaire can be changed after the installation or at any time at the main control unit. The luminaire does not need to be opened to change the operation mode.

Setting up in mix mode also reduces the amount of time and effort need for your installation (routing cables/fire load) in the fire compartment. All the connected luminaires are automatically monitored on the basis of DIN EN 62034. For mix mode and individual luminaire monitoring, you need a corresponding SET010 luminaire module in the luminaires.

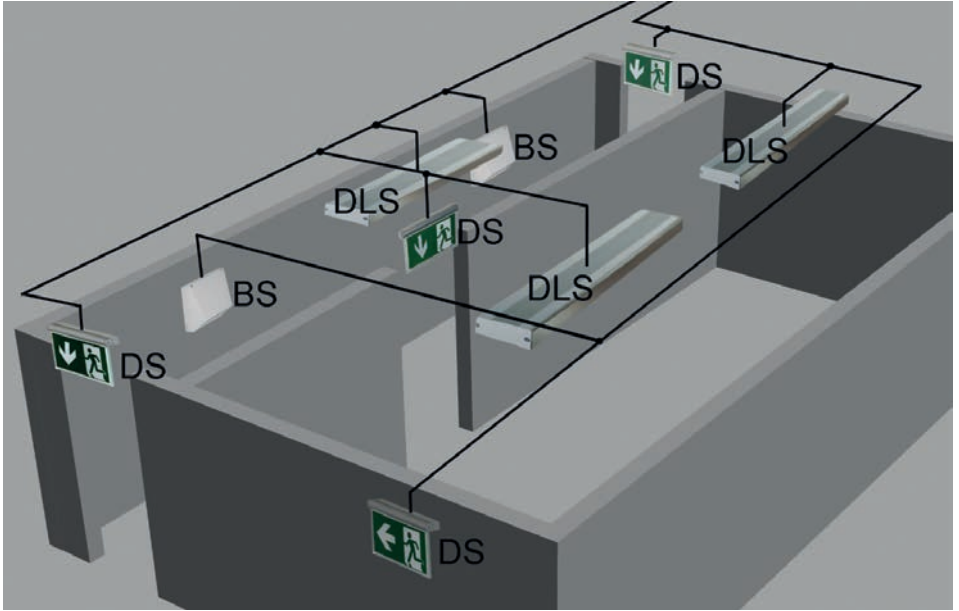


Fig. 2: Diagram of the luminaire circuit

BS = Non maintained mode (NMM)

DS = Maintained mode (MM)

DLS = Switched maintained mode (SMM)

A high-quality, sealed lead-acid battery with an expected service life of more than 12 years is used as the battery. The design of the battery and with this the max. connected load in the battery mode includes the ageing correction factor of the batteries. The SAFEBOX 230 complies with the requirements of EN 60950 and DIN EN 50272.

3.1 Equipment

Variants

- **LPS 230-200:**
max. output 200 W/1 h, 200 W/3 h or 70 W/8 h (including ageing correction factor)
- **LPS 230-500-S:**
max. output 500 W/1 h, 250 W/3 h or 100 W/8 h (including ageing correction factor)
- **LPS 230-500-M:**
max. output 500 W/3 h or 200 W/8 h (including ageing correction factor)

General

- Four load circuits for a max. 20 luminaires (max. 125 W) per output
- Circuit monitoring and single luminaire monitoring
(prerequisite being the appropriate SET010 address module in the luminaires)
- Luminaires freely programmable via the LPS and/or luminaire module in MM or NMM
(prerequisite being the appropriate SET010 address module in the luminaires)
- All load circuits are designed as double terminals
- 4 non-floating inputs (230 V) for querying light switch position (readily programmable)
- 4 floating control inputs (freely programmable)
- 4 relay outputs for messages/GLT (freely programmable)
- Separate connection for status panel
- Monitored current loop for an external phase monitor
- Freely programmable groups or group assignment
- Multi-touch-enabled colour display incl. a USB port for connecting external storage, USB printer, a keyboard or a mouse
- Status display of the system by means of signalling LEDs and in plain text
(on the display)
- TCP-IP network connection via integrated Web server for monitoring and control

3.2 Technical data

3.2.1 LPS 230 - 200-S

Connected load	1/N/PE AC 50 Hz 230 V
External back-up fuse on the mains side	16 A
System voltage	24 V/230 V AC/DC
Output terminals	1.5 mm ² to 2.5 mm ²
Housing / Paint	Sheet steel RAL 7016
Weight not including batteries	17.6 kg
Ambient temperature	0 °C to 35 °C
Safety class	I
Protection class	IP20
Dimensions (W × H × D)	454 × 675 × 172 mm
Cable entry point	from top and back

Max. design life of the batteries at + 20°C : 12 years

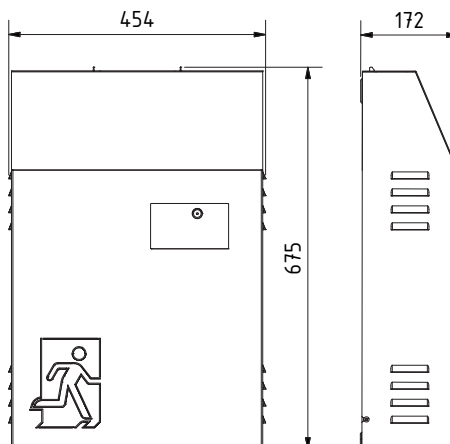


Fig. 3: Dimensional drawing LPS 230-200

3.2.2 LPS 230 - 500-S

Connected load	1/N/PE AC 50 Hz 230 V
External back-up fuse on the mains side	16 A
System voltage	24 V/230 V AC/DC
Output terminals	1.5 mm ² to 2.5 mm ²
Housing / Paint	Sheet steel RAL 7016
Weight not including batteries	17.6 kg
Ambient temperature	0 °C to 35 °C
Safety class	I
Protection class	IP20
Dimensions (W × H × D)	454 × 675 × 172 mm
Cable entry point	from top and back

Max. design life of the batteries at + 20 °C : 12 years

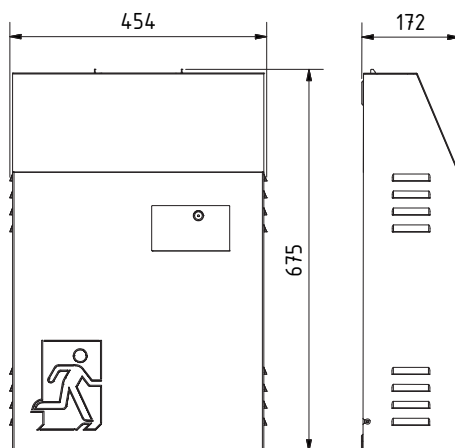


Fig. 4: Dimensional drawing LPS 230-500-S

3.2.3 LPS 230 - 500-M

Connected load	1/N/PE AC 50 Hz 230 V
External back-up fuse on the mains side	16 A
System voltage	24 V/230 V AC/DC
Output terminals	1.5 mm ² to 2.5 mm ²
Housing / Paint	Sheet steel RAL 7016
Weight not including batteries	24 kg
Ambient temperature	0°C to 35 °C
Safety class	I
Protection class	IP20
Dimensions (W × H × D)	454 × 959 × 172 mm
Cable entry point	from top and back

Max. design life of the batteries at + 20°C : 12 years

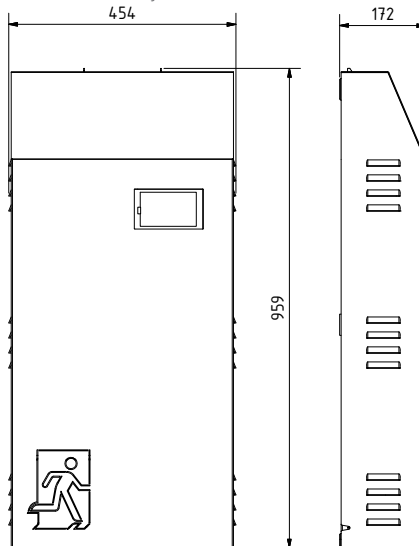


Fig. 5: Dimensional drawing LPS 230-500-M

3.3 Variants

LPS 230 - 200-S		Time	Output
LPS 230 - 200-S	LPS SAFEBOX 230-200-S / 1 h / 100 W	1 h	100 W
	LPS SAFEBOX 230-200-S / 1 h / 200 W	1 h	200 W
	LPS SAFEBOX 230-200-S / 3 h / 35 W	3 h	35 W
	LPS SAFEBOX 230-200-S / 3 h / 80 W	3 h	80 W
	LPS SAFEBOX 230-200-S / 3 h / 135 W	3 h	135 W
	LPS SAFEBOX 230-200-S / 3 h / 200 W	3 h	200 W
	LPS SAFEBOX 230-200-S / 8 h / 24 W	8 h	24 W
	LPS SAFEBOX 230-200-S / 8 h / 42 W	8 h	42 W
	LPS SAFEBOX 230-200-S / 8 h / 70 W	8 h	70 W
	LPS SAFEBOX 230-200-S / 1 h, 3 h max. 200 W / 8 h max. 70 W	1h/3h 8h	200 W 70 W

LPS 230 - 500-S		Time	Output
LPS 230 - 500-S	LPS SAFEBOX 230-500-S / 1 h / 250 W	1 h	250 W
	LPS SAFEBOX 230-500-S / 1 h / 375 W	1 h	375 W
	LPS SAFEBOX 230-500-S / 1 h / 500 W	1 h	500 W
	LPS SAFEBOX 230-500-S / 3 h / 250 W	3 h	250 W
	LPS SAFEBOX 230-500-S / 8 h / 100 W	8 h	100 W
	LPS SAFEBOX 230-500-S / 1 h max. 500 W / 3 h max. 250 W / 8 h max. 100 W	1 h	500 W
		3 h 8 h	250 W 100 W

LPS 230 - 500-M		Time	Output
LPS 230 - 500-M	LPS SAFEBOX 230-500-M / 3 h / 315 W	3 h	315 W
	LPS SAFEBOX 230-500-M / 3 h / 375 W	3 h	375 W
	LPS SAFEBOX 230-500-M / 3 h / 440 W	3 h	440 W
	LPS SAFEBOX 230-500-M / 3 h / 500 W	3 h	500 W
	LPS SAFEBOX 230-500-M / 8 h / 125 W	8 h	125 W
	LPS SAFEBOX 230-500-M / 8 h / 150 W	8 h	150 W
	LPS SAFEBOX 230-500-M / 8 h / 175 W	8 h	175 W
	LPS SAFEBOX 230-500-M / 8 h / 200 W	8 h	200 W
	LPS SAFEBOX 230-500-M / 3 h max. 500 W / 8 h max. 200 W	3 h 8 h	500 W 200 W

Battery	Housing	Batt. weight	Housing weight
2 x 12 V / 12 Ah (12 Ah) Akku	S	7.6 kg	17.6 kg
4 x 12 V / 12 Ah (24 Ah) Akku	S	15.2 kg	17.6 kg
2 x 12 V / 12 Ah (12 Ah) Akku	S	7.6 kg	17.6 kg
4 x 12 V / 12 Ah (24 Ah) Akku	S	15.2 kg	17.6 kg
6 x 12 V / 12 Ah (36 Ah) Akku	S	22.8 kg	17.6 kg
8 x 12 V / 12 Ah (48 Ah) Akku	S	30.4 kg	17.6 kg
4 x 12 V / 12 Ah (24 Ah) Akku	S	15.2 kg	17.6 kg
6 x 12 V / 12 Ah (36 Ah) Akku	S	22.8 kg	17.6 kg
8 x 12 V / 12 Ah (48 Ah) Akku	S	30.4 kg	17.6 kg
without battery	S	–	17.6 kg

Battery	Housing	Batt. weight	Housing weight
4 x 12 V / 12 Ah (24 Ah) Akku	S	15.2 kg	17.6 kg
6 x 12 V / 12 Ah (36 Ah) Akku	S	22.8 kg	17.6 kg
8 x 12 V / 12 Ah (48 Ah) Akku	S	30.4 kg	17.6 kg
8 x 12 V / 12 Ah (48 Ah) Akku	S	30.4 kg	17.6 kg
8 x 12 V / 12 Ah (48 Ah) Akku	S	30.4 kg	17.6 kg
without battery	S	–	17.6 kg

Battery	Housing	Batt. weight	Housing weight
10 x 12 V / 12 Ah (60 Ah) Akku	M	38 kg	24 kg
12 x 12 V / 12 Ah (72 Ah) Akku	M	45.6 kg	24 kg
14 x 12 V / 12 Ah (84 Ah) Akku	M	53.2 kg	24 kg
16 x 12 V / 12 Ah (96 Ah) Akku	M	60.8 kg	24 kg
10 x 12 V / 12 Ah (60 Ah) Akku	M	38 kg	24 kg
12 x 12 V / 12 Ah (72 Ah) Akku	M	45.6 kg	24 kg
14 x 12 V / 12 Ah (84 Ah) Akku	M	53.2 kg	24 kg
16 x 12 V / 12 Ah (96 Ah) Akku	M	60.8 kg	24 kg
without battery	M	–	24 kg

3.4 Line lengths

Connected rating at the load circuit	Charging current	Line cross-section	max. line lengths
50 W	0.22 A	1.5 mm ²	1.333 m
	0.22 A	2.5 mm ²	2.222 m
75 W	0.33 A	1.5 mm ²	889 m
	0.33 A	2.5 mm ²	1.481 m
100 W	0.43 A	1.5 mm ²	667 m
	0.43 A	2.5 mm ²	1.111 m
125 W	0.54 A	1.5 mm ²	555 m
	0.54 A	2.5 mm ²	926 m

maximum voltage drop: 3 % (DIN 18015) | For copper K = 56 m/Ω * mm²
Forward and return lines considered in the calculation.

3.5 Ventilating and venting electrical equipment compartments

Electrical equipment compartments need to be ventilated and vented in acc. with DIN EN 50272-2. The idea behind ventilating a battery compartment or cabinet is to keep the hydrogen concentration under the 4% full hydrogen proportion limit. Battery compartments are not considered to be at risk from explosions when the hydrogen concentration - either through natural or technical ventilation - remains under this safety figure. An additional technical ventilation is only necessary should natural ventilation not be guaranteed where the LPS device is set up.

Battery capacity	12 Ah	24 Ah	36 Ah	48 Ah	60 Ah	72 Ah	84 Ah	96 Ah
Ventilation cross-section (cm ²) ¹⁾ of the supply and exhaust air port of the installation room	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6
Air flow (l/h) ¹⁾ for ventilating the installation room	7.2	14.4	21.6	28.8	36	43.2	50.4	57.6

¹⁾ The assumption behind the figures in the table is that in instances of where the boost charge only occurs now and again (e.g. monthly), the float charge voltage may be drawn upon to calculate the air flow of the ventilation.

4. Devices Installation

4.1 Assembly

Remove the packing from the LPS device and place it down on its back. Unscrew the two side screws. Then take off the hood by moving it upwards.

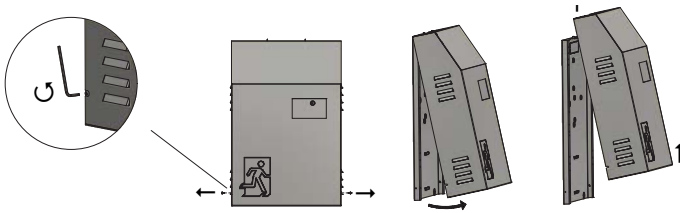


Fig. 6: Opening the housing

For marking purposes when mounting, you can read off the dimensions from the corresponding mounting plate. Please note that the wall together with the screws and plugs used need to support the weight of the LPS device.

LPS 230 - 200-S / LPS 230 - 500-S

Fully equipped, the unit incl. batteries weighs approx. 50 kg.

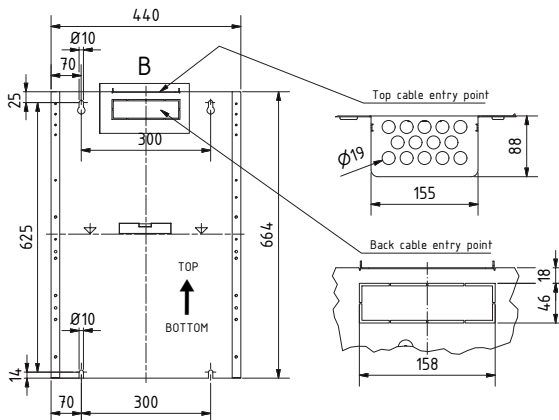


Fig. 7: LPS mounting plate from the front (dimensions without cover)

LPS 230 – 500-M

Fully equipped, the unit incl. batteries weighs approx. 80 kg.

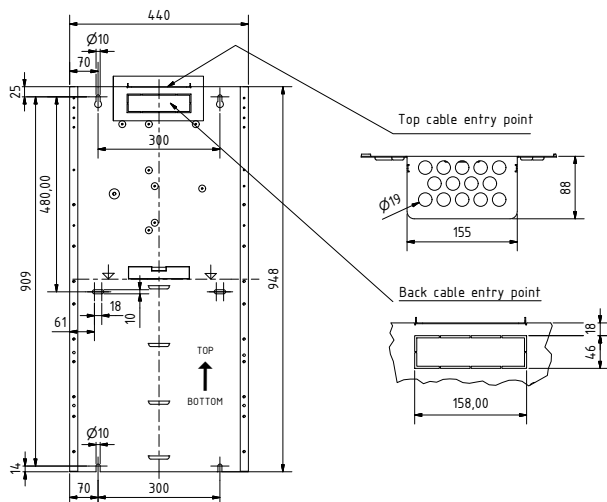


Fig. 8: LPS mounting plate from the front
(dimensions without cover)

4.2 Battery set-up and battery connection

The number of the battery blocks to be mounted is on the unit rating plate. A standard cable harness for all variants is used in the system. Fit the batteries in keeping with the system configuration. Please note that any non-used connections of the battery leads remain unassigned. Ensure that the connections are of the correct polarity when connecting the battery.

4.2.1 Battery fuse

The battery fuse for the F11/F10 LPS devices is in the lower section of the printed circuit board.

LPS devices	Fuse size
230 -200	20 A
230 – 500-S / 500-M	40 A

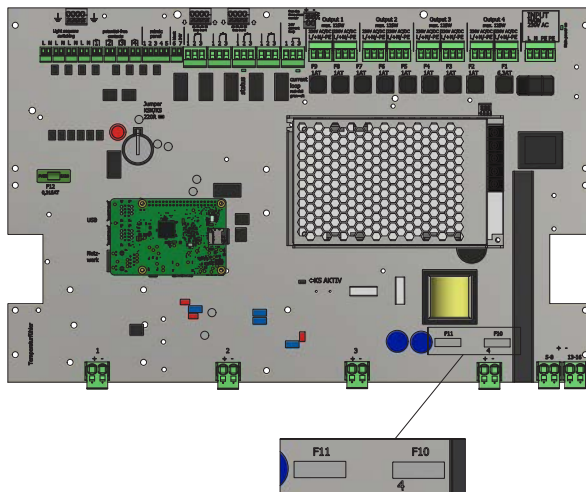


Fig. 9: Battery fuses

4.2.2 Setting-up the battery for a 12 Ah to 48 Ah capacity

The set-up plans below are for the LPS variants - LPS 230-200, LPS 230-500-S and LPS 230-500-M.

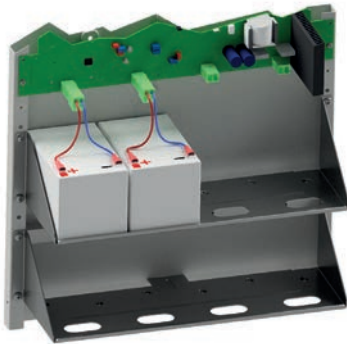


Fig. 10: Battery set-up 12 Ah

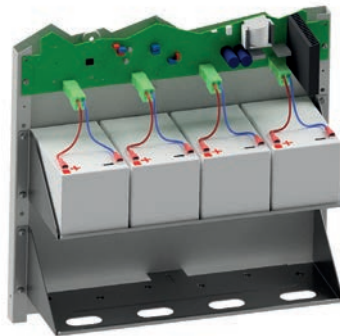


Fig. 11: Battery set-up 24 Ah

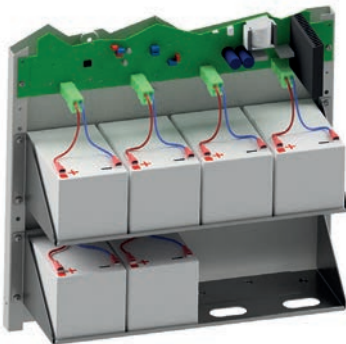


Fig. 12: Battery set-up 36 Ah

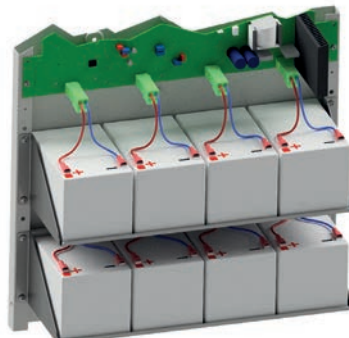


Fig. 13: Battery set-up 48 Ah

4.2.3 Setting-up the battery for a 60 Ah to 96 Ah capacity

The set-up plans below are for the LPS variant - LPS 230-500-M.



Fig. 14: Battery set-up 60 Ah

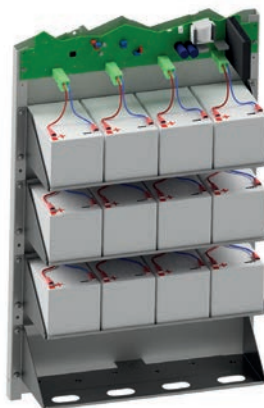


Fig. 15: Battery set-up 72 Ah

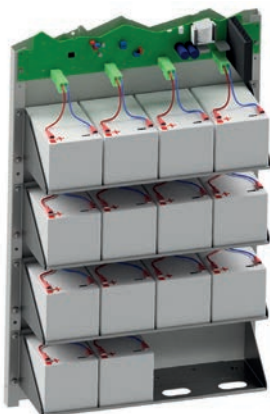


Fig. 16: Battery set-up 84 Ah

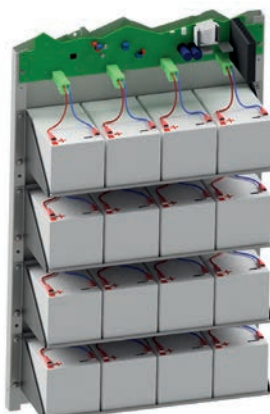


Fig. 17: Battery set-up 96 Ah

4.3 Electrical connection

At the LPS device, you can insert the connecting cables from top and back (top) into the housing. Remove the appropriate cover at the LPS device when the connecting cables are mounted at the back.

Only the supplied connecting terminals are to be used for connecting the lines. **No warranty is assumed on the LPS device if you use other terminals or use the terminals for voltage actuation.**

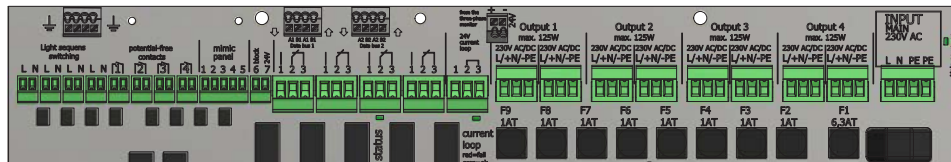


Fig. 18: Main board connection panel

4.3.1 Mains connection

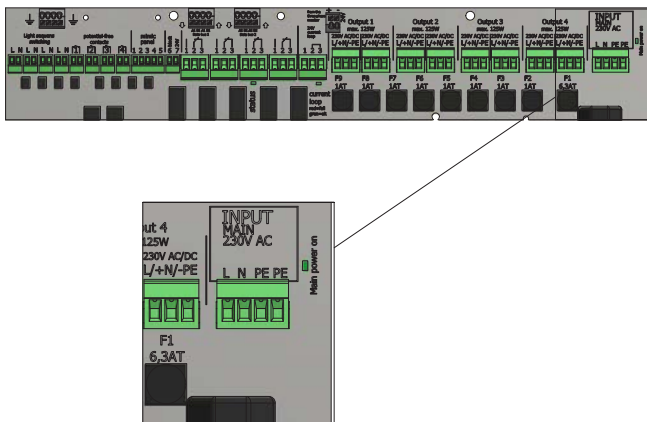


Fig. 19: Power supply connection

230 V AC power supply connection at the input.

- Terminals for L, N, PE
- Mains input fuse F1 Size 6 A

4.3.2 Load circuits

The LPS device has four load circuits for monitoring a max. 20 luminaires per load circuit. The max. power per circuit is 125 W and is loadable to a max. 0.6 A. The load circuit is fuse-protected with two poles each of 1 A. The installed fuses must be suitable for DC! Ensure that the max. output of the system in acc. with the unit documentation is not exceeded. All load circuits each have two outputs for the consumers.

The luminaires need to have an appropriate luminaire module (SET010) when the system is used in the mix mode or for single luminaire monitoring. Moreover, a clear-cut address needs to be set for each luminaire in the circuit.

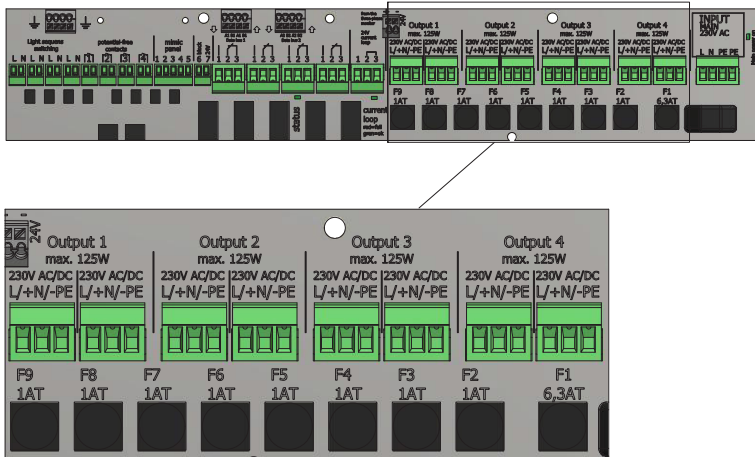


Fig. 20: Connection - Load circuits

Fuse list

Load circuit 1	Output 1	Fuses F9/F8	1 A
Load circuit 2	Output 2	Fuses F7/F6	1 A
Load circuit 3	Output 3	Fuses F5/F4	1 A
Load circuit 4	Output 4	Fuses F3/F2	1 A

4.3.3 External phase monitors with control

In the event of a partial mains failure in the fire compartment, all escape route luminaires must switch themselves on. To ensure the availability of this function, an external three-phase or single-phase phase monitor can be connected to the LPS device. Several phase monitors can be actuated in series. A 24 V loop controls the phase monitors.

It is controlled for short-circuits and breaks by a loop controller. For this, an R=220 Ω terminator is activated into the respective loop at the end.

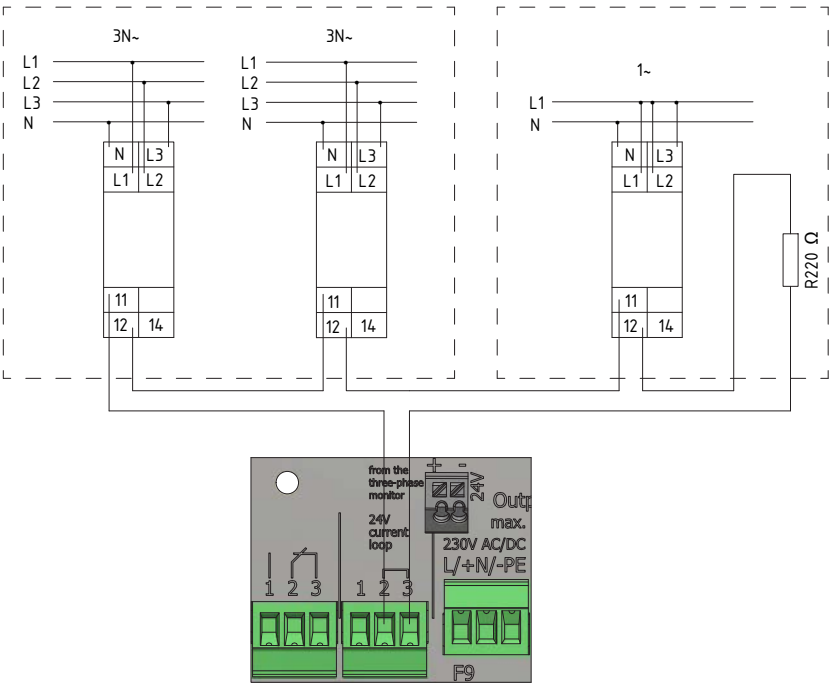


Fig. 21: Connection given control

In the supplied state, the control loop is fitted out with a bridge in the unit and the jumper for the control is set. To activate the function, fit the loops in accordance with the local wiring system and remove the jumper on the main board (see Fig. 22).

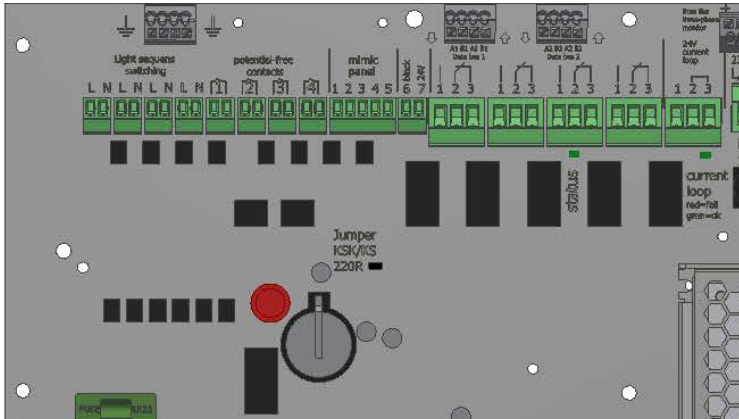


Fig. 22: Jumper on main board

The recommendation during the construction phase is to leave the bridge in the terminals and only place the loop in service once the construction work is over.

4.3.4 Relay outputs for messages (freely programmable)

There are four relay outputs at the LPS device (see Fig. 23) which in keeping with the requirements are readily programmable. The following messages can be selected:

- Mains operation
- Battery mode
- Function test
- Operation test
- Exhaustive discharge
- Fault in charger
- Fault in battery circuit
- Fault in battery symmetry
- External phase outage
- Fault in luminaires

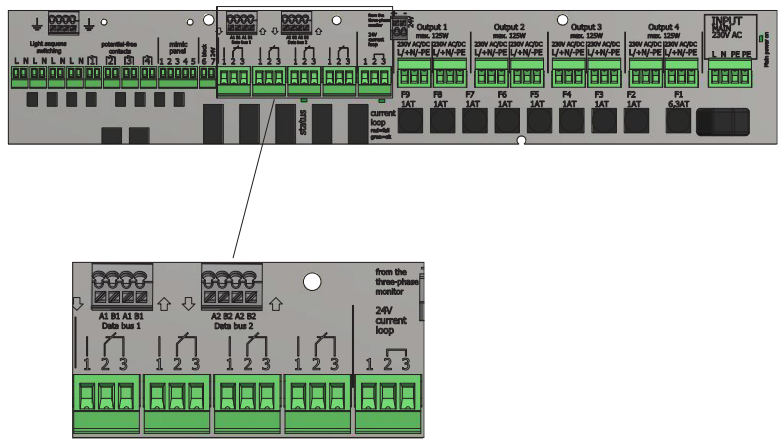


Fig. 23: Relay outputs

Read through Section 6.7.6.3 for the programming.

4.3.5 Emergency lighting blocking (switching input floating)

Given a mains failure, the LPS device does not go onto the emergency mode when the „Emergency lighting blocking“ function is activated.

That is why the function should only be activated when it is impossible for anyone to be in the fire compartment.

The function is active as soon as the contact is made at the LPS device. The function is inactive when the contact at the LPS device is broken.

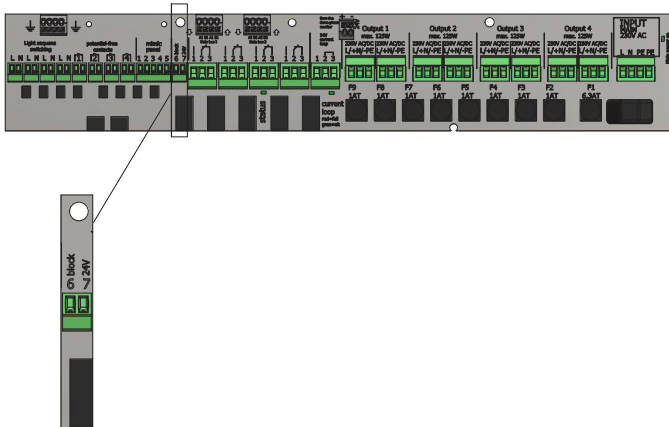


Fig. 24: Emergency light blocking



Fig. 25: Emergency lighting blocking display

No further entries are possible on the display since the LPS device is blocked for as long as the function is activated.

To save on energy, you can switch off the luminaires in the maintained mode beforehand by way of an status panel or the "MM off" function at the LPS device.

4.3.6 Status and control panel MFT4 connection (optional)

You can attach an optionally available status panel at the LPS device. This panel is fully integrated and is automatically detected once it is connected at the LPS device. It has three LED displays: „Error“, „Battery mode“ and „System ready for use“.

A key-operated switch is also integrated with which switching into an input is possible (e.g. switching into the maintained or non-maintained mode). This rules out any actuation by non-authorized persons.

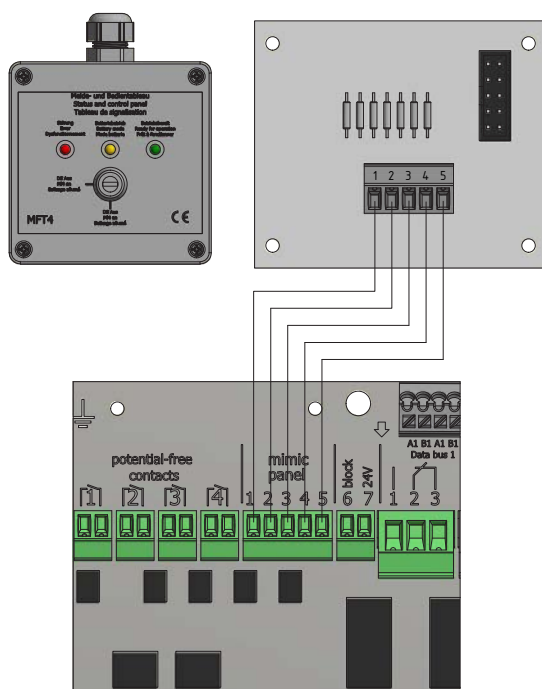


Fig. 26: Connection of the MFT4 status panel

Up to 200 m can separate the LPS device from the MFT4 panel
(cable: $4 \times 2 \times 0.8 \text{ mm}^2$).

4.3.7 Floating control inputs (readily programmable)

The control inputs are available as contacts. The function is activated when the contact is made and rendered inactive when broken.

The following functions can be selected:

- MM/NMM Electrical circuit 1 – 4 (multiple selection possible)
- Start function test
- Switch lighting groups (only under „Single luminaire monitoring“ option)
- External fan fault
- Fault signal contact - external

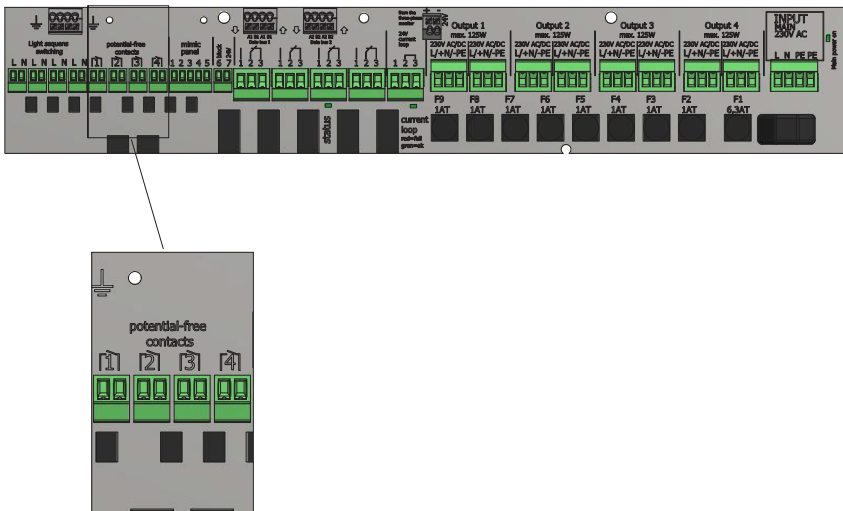


Fig. 27: Control inputs at the LPS device

Read through Section 6.7.6.2 for the programming.

4.3.8 Light control inputs Light switch position query (readily programmable)

The inputs of the light switch position query are available as contacts. The function is activated when the contact is made and rendered inactive when broken. A voltage of 230 V AC needs to be on at the input for its activation.

The following functions can be selected:

- MM/NMM Electrical circuit 1 - 4 (multiple selection possible)
- NMM manual acknowledge (additional activation in the menu needed for this function)
- Switch lighting groups (only under „Single luminaire monitoring“ option)
- External fan fault
- Fault signal contact - external

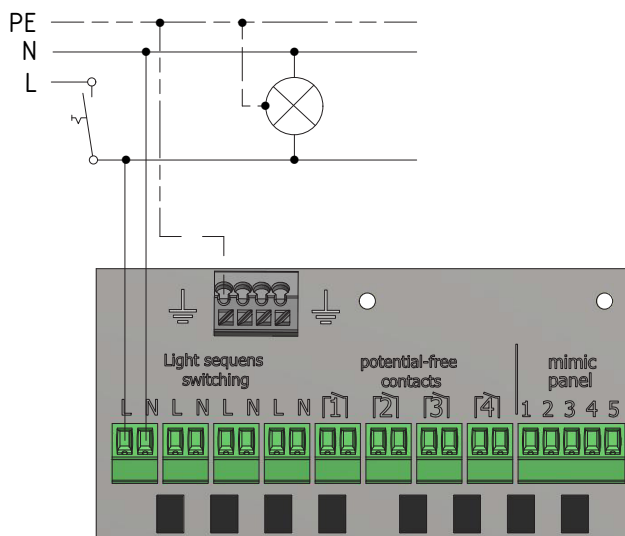


Fig. 28: Light control inputs

Read through Section 6.7.6.1 for the programming.

4.3.9 Network connection

The LPS device on its delivery can be connected to a network. There are two options for activating the connection:

1. You have already acquired the option when purchasing the system. This can be referred under the „Service“ menu item under “Devices - options”.
2. Or you can subsequently purchase the option and supplement the LPS device with this function.

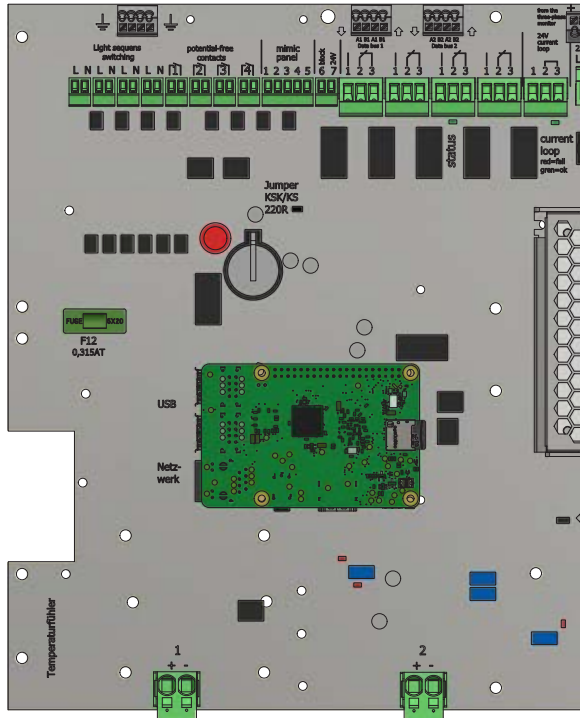


Fig. 29: Network connection at the main board

4.3.10 External USB connection

The LPS device has a number of USB connections. There are USB connections on the main board envisaged for fixed installations. There is a further connection at the LPS device next to the display.

The connections can be used to back up the data, configuration and test logbook. You can, as an option, also connect up a keyboard, mouse or USB printer.

USB sticks need to be of the FAT32 format for use at the LPS device.

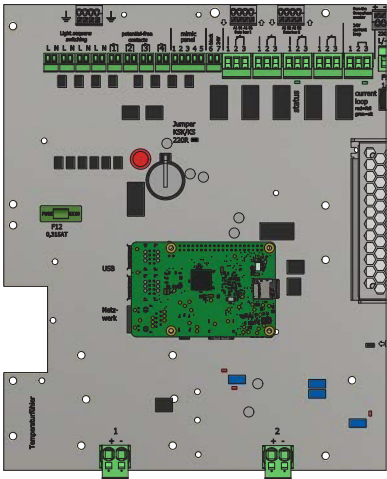


Fig. 30: USB connection at the main board

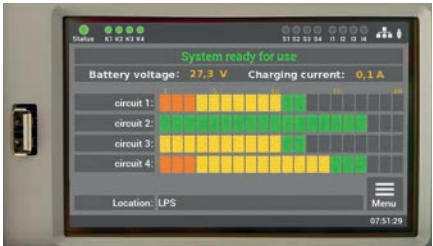


Fig. 31: USB connection at the display/front

5. System Commissioning

Only qualified and trained electricians are allowed to commission the system. The manual takes you through system commissioning step-by-step and supports you in the process. During the commissioning, the LPS device goes through a fixed routine which cannot be aborted via the display. The routine re-starts and entries need to be repeated should the charging current fail during the commissioning.

Once terminated the commissioning can only be re-activated via the “Reset to factory settings” function.

Test the following before switching on:

- All electrical connections at the LPS device
- Battery connections and polarity
- Fuses, mains, battery and load circuits
- The device no. on the rating plate of the system (see Fig. 32)
(this is needed for the commissioning)

Device number:	XXXX XXXX
Device name:	LPS 230
Serial number:	00A7007011110006
Supply voltage:	230V 50Hz
Connected load:	XXXVA
Intermediate circuit voltage:	24V DC
No. of batteries:	2
Protection class:	IP20
Safety class:	I
Temperature range:	0°C to 35°C
Stored energy time:	Xh
Max. output power:	XXXW
Manufactured:	12/99



Fig. 32: Device number on rating plate

5.1 Switching on the system

Keep to the following order when switching on the system:

1. Insert fuses of the load circuits
2. De-isolate the mains
3. Insert battery fuse

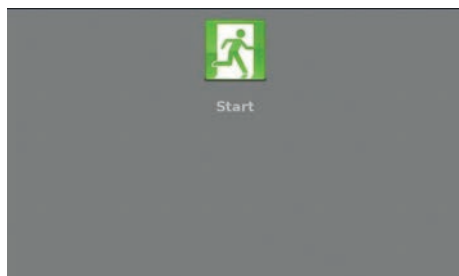


Fig. 33: Start

Step 1: Switching on the LPS device results in a sequence routine being started for the commissioning. At a number of points, this routine requests you as the user to enter certain values. All entries are system-confirmed.



Fig. 34: Language choice

Step 2: You can choose the language of the device here. The choice can also be subsequently changed in the menu.



Fig. 35: Read through the manual

Step 3: You are now called upon to read through the system manual to ensure correct installation.

First installation
Serial number: 00A8 0030 1076 0015

Please enter device number

****_****

7	8	9	←
4	5	6	DEL
1	2	3	0

Enter

Fig. 36: Entering the device number

Step 4: Read off the device number from the device's rating plate when you are requested to enter it (see Fig. 32) and enter the number in the envisaged box. The number is precisely 8 digits in length.

First installation
Please select monitoring

Electrical circuit monitoring

SET010 monitoring

next

Back

Fig. 37: Entry of monitoring type

Step 5: There are two variants available for monitoring the connected luminaires:

- Circuit monitoring
- Single luminaire monitoring SET010 (prerequisite being the appropriate SET010 address module in the luminaires)

Please choose a variant.

First installation
are 6 batteries correctly installed?

Yes

No

Back

Fig. 38: Confirmation of the installed batteries

Step 6: As the next step, confirm installation of the batteries in acc. with the output at the LPS device. The number of batteries shown results from the configuration of the system when delivered and this, in turn, from the back-up time and connected output (see Chapter 3.3).

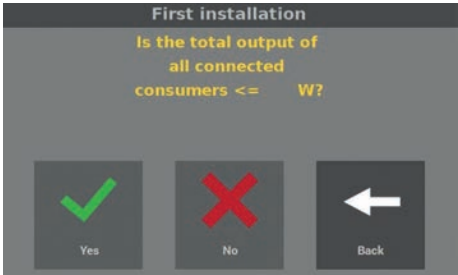


Fig. 39: Confirmation of the connected total output

Step 7: You then need to confirm the connected output at the LPS device. The total output is the result of the back-up time and connected output (see Chapter 3.3).

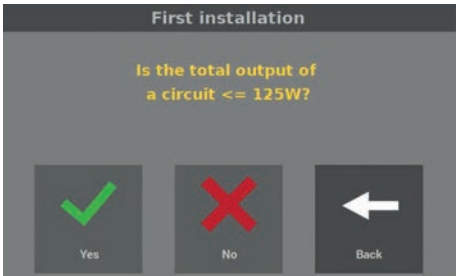


Fig. 40: Confirmation of the maximum power per circuit

Step 8: After the total output, confirm the connected output of the load circuits. The max. output power per circuit is 125 W. A load at a load circuit which is higher is to be reduced.

If you have connected a higher output than 125 W at a load circuit, the latter can be ruined. The need is then to change the installation set-up so that the max. output per load circuit is not exceeded.



Fig. 41: Enquiring into DC

Step 9: Only direct current (DC) suitable consumers are to be connected to the LPS device. Your entry in this mask confirms the suitability of all consumers for DC as well.



Fig. 42: Query into individual batteries

Step 10: No self-contained luminaires are to be connected to the load circuits of the LPS device. These luminaires are not suitable for direct voltage and may become ruined. That is why the query is made as to whether the individual luminaires are to be connected to output circuits.

From this commissioning point onwards, there is now a difference in the sequences for the circuit monitoring option (see Chapter 5.2) and the single luminaire monitoring option (see Chapter 5.3).

5.2 Circuit monitoring option

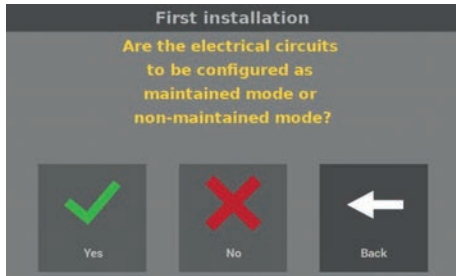


Fig. 43: Query into operation mode

Step 1: With the „Circuit monitoring“ option selected, the mask enquires into whether you want to configure the operation modes of the load circuits here.

Step 2: Answering with „Yes“ to the above query allows you to configure the load circuits in the next mask.

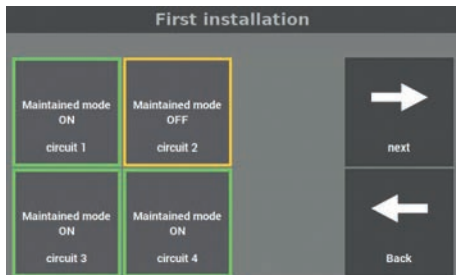


Fig. 44: Operation mode selection

Step 3: You can set the function of the load circuits in the mask. By selecting the circuit wanted, the load circuit changes its function from maintained to a non-maintained mode („Maintained mode OFF“).

The operation mode can be adapted at a later stage through the „Settings“ menu item.



Fig. 45: Conclusion of the commissioning (circuit monitoring)

Step 4: With the operation mode set, the end of commissioning is indicated in the mask. The LPS device then checks on the mounted battery and calibrates the individual consumer circuits. **This can take a few minutes.**

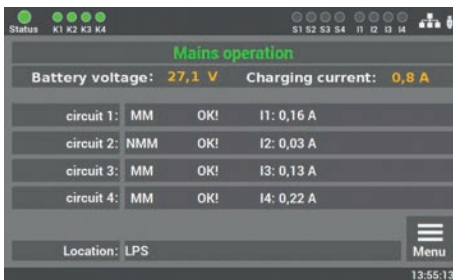


Fig. 46: Start mask (electrical circuit monitoring)

Commissioning of the system is thus concluded.

For further operations and programming, please read through Chapter 6 of the operating manual.

5.3 Single luminaire monitoring option

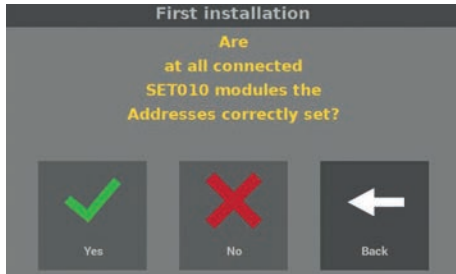


Fig. 47: Query into luminaire addresses

Step 1: With the single luminaire monitoring option you need to confirm the correct setting of the addresses for all the luminaires.

**You can connect a max. of 20 luminaires for each load circuit.
Connecting more than 20 luminaires means they will not be monitored.**



Fig. 48: Conclusion of commissioning (single luminaire monitoring)

Step 2: Once the luminaire addressees are set, the end of commissioning is indicated on the mask. The LPS device then checks on the mounted battery and calibrates the individual luminaires in the consumer circuits. **This can take a few minutes.**

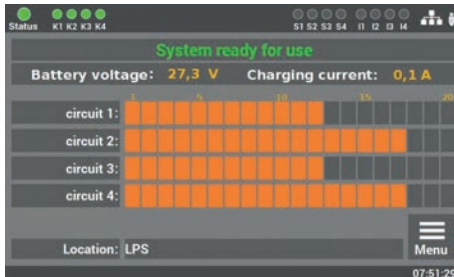


Fig. 49: Start mask
(Single luminaire monitoring)

Commissioning of the system is thus concluded. The luminaires are activated in keeping with the luminaire module programming (SET010 DIP switch).

For further operations and programming, please read through Chapter 6 of the operating manual.

6. Operating and Programming

The design of the LPS device is such that a touch display is used for operating and programming. As an alternative, inputs can follow by way of a USB mouse and/or USB keyboard.

Under various menu items you can correct the settings of the data with the arrow keys. Note that when pressing the keys just once the data changes in single steps. The data changes automatically when the key is pressed that much longer.

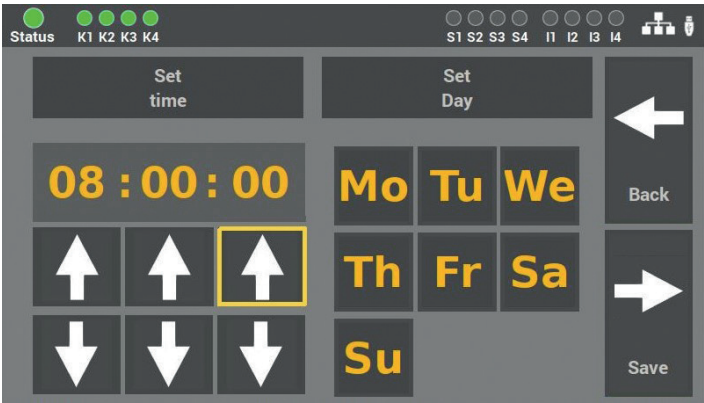


Fig. 50: Arrow key mask example

A yellow surround is displayed around the activated functions to signal to the user which function in the LPS device menu is activated.

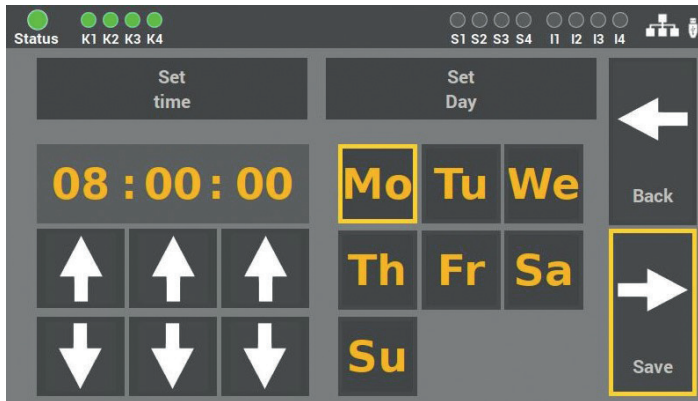


Fig. 51: Mask example of an active function

The important thing is that all changes are saved!

6.1 Operating the display

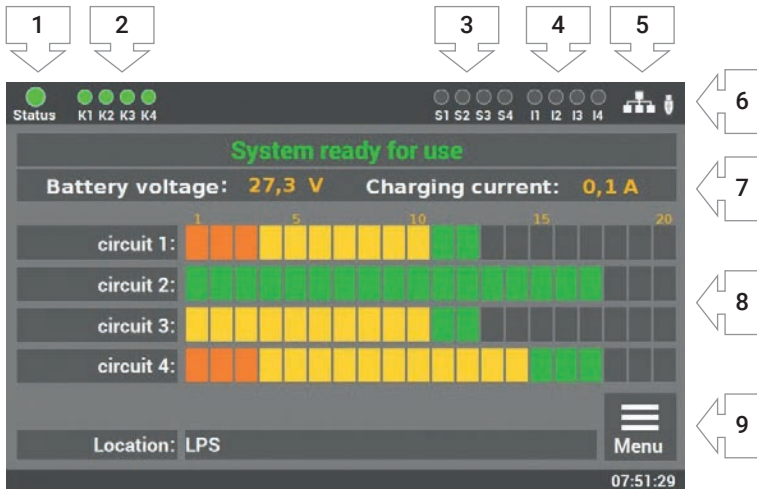


Fig. 52: Display operating

1. Display: System status
2. Display: Status of the load circuits
3. Display: Input - Light switch position query
4. Display: Input - Control inputs
5. Display: Network connection - when connected
6. Display: USB stick - when connected
7. Display: System state (operation/battery)
8. Display: Circuits and luminaire states
9. Access to menu

1. The system status display incorporates the following states:

-  **Green** System with no faults
-  **Yellow** System in the battery mode
-  **Red** System with error/failure message

2. The load circuit display has two messages:

-  **Green** Luminaires in the load circuit **without** failure
-  **Red** Luminaires in the load circuit **with** failure

Failures in the load circuit are not displayed as faults in the system status.

The display indicates a difference in the message between luminaire fault and system fault.

3. Display S1 - S4 indicates allocation of the light switch position query (LSSA). As soon as a signal (voltage 230 V +/- 5% AC) is there at the inputs, the corresponding LED lights up in **green**.
4. Display I1 – I4 indicates the allocation of the control inputs. As soon as a signal is there at the inputs, the corresponding LED lights up in **green**.
5. The symbol for the network  appears when there is a connection to the network.
6. The symbol for the USB stick  appears after a USB stick is inserted at the front display. The USB stick needs to be formatted with FAT32.
7. The display indicates the state of the system and battery (battery voltage and charging current).
8. The individual luminaires in the circuits are shown as tiles with a tile symbolising the corresponding luminaire in the load circuit. The coloured allocation helps one in programming the system. The following states are:
 -  **Orange** Luminaire is operated as a function of the DIP switch (SET010)
 -  **Green** Luminaire is operated in the maintained mode (LPS programming)
 -  **Yellow** Luminaire is operated in the non-maintained mode (LPS programming)
 -  **Red** Luminaire with error
9. Access to the LPS device main menu.

6.1.1 Accessing the menu

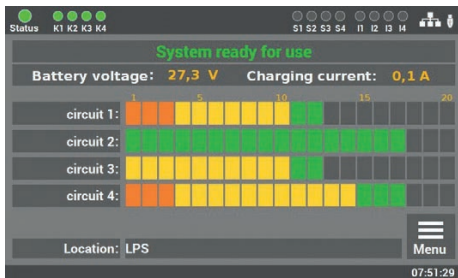


Fig. 53: Menu access

Step 1: The user can open the main menu when the „Menu“ key on the main display screen is opened. A password is needed to enter the main menu to protect the LPS device from unauthorised interventions.

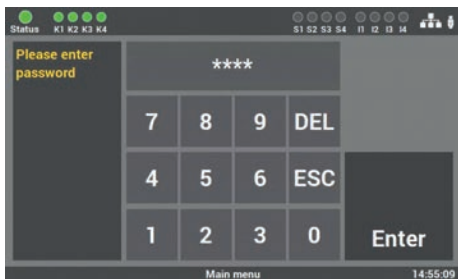


Fig. 54: Menu - enter password

Step 2: In the delivery status, the access code for the system is: „0000“. Entering the code is not necessary. You automatically get into the main menu with the “Enter” key.

You can create a code of your own in the menu at a later stage.

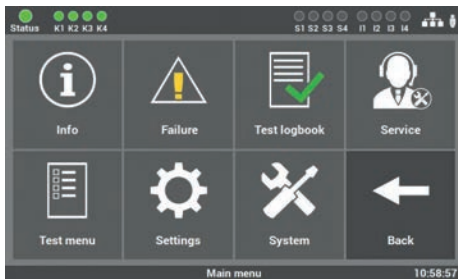


Fig. 55: Main menu mask

Step 3: After entering the access code, the main menu of the LPS device opens up. You can get to all of the other sub-items from this menu.

6.1.2 Menu structure overview

6.1 Menu



6.2 Info

- 6.2.1 Ongoing messages
- 6.2.2 Location of the luminaires
- 6.2.3 Device info



6.3 Failure



6.4 Test logbook

- 6.4.1 Display test logbook
- 6.4.2 Display of the last function test
- 6.4.3 Display of the last operating duration test
- 6.4.4 Manual documentation
- 6.4.5 Export test logbook



6.5 Service



6.6 Test menu

- 6.6.1 Manual function test
- 6.6.2 Manual operating duration test
- 6.6.3 Function test settings



6.7 Settings

- 6.7.1 Luminaire circuits
- 6.7.2 Luminaire data
- 6.7.3 Groups
- 6.7.4 LPS location input
- 6.7.5 Timers
- 6.7.6 Inputs/outputs
- 6.7.7 Actuate luminaires



6.8 System

- 6.8.1 Changing date and time
- 6.8.2 Devices - Options
- 6.8.3 Network settings
- 6.8.4 Changing the language
- 6.8.5 Changing system data
- 6.8.6 Changing passwords

6.2 Menu item „Info“



Fig. 56: Menu item „Info“

A general overview is provided in this menu item of the LPS device and the connected luminaires. Here you can see all the ongoing system messages, the mounting locations of the luminaires and you are provided with an overview of the LPS device status. The menu item is only for information purposes. No data can be changed here.

6.2.1 Ongoing messages



Fig. 57: Mask „Ongoing messages“

A general overview is provided in this mask of the state of the entire emergency lighting system at the LPS device.

6.2.2 Location of the luminaires

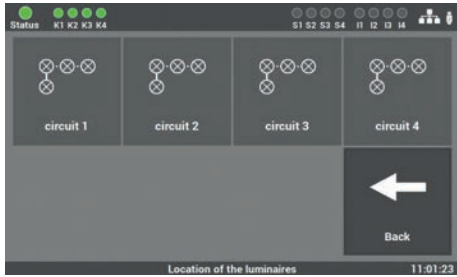


Fig. 58: Mask „Location of the luminaires“

Mask 1: This is where you select the load circuit you want so as to see where the luminaires of the load circuits are mounted.



Fig. 59: Location of the luminaires – in detail

Mask 2: Here you can view where the luminaires of each load circuit are mounted.

Selection of luminaire No.: 1 – 10

Selection of luminaire No.: 11 – 20

6.2.3 Device info



Fig. 60: Mask „Device info“

All important data and state of the LPS device can be seen in this mask.

6.3 Menu item „Failure“

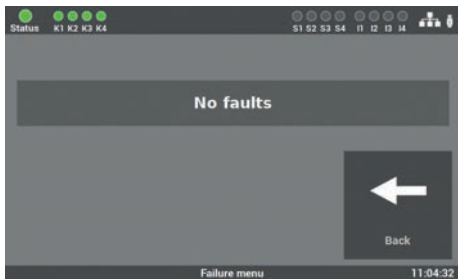


Fig. 61: Menu item „Failure“

This mask displays all the upcoming fault messages and/or faults in plain text.

6.4 Menu item „Test logbook“



Fig. 62: Menu item „Test logbook“

In this mask you obtain an insight into all the logged recordings of the system. Here you can document all the work carried out and export all data on a USB stick.

6.4.1 Display test logbook

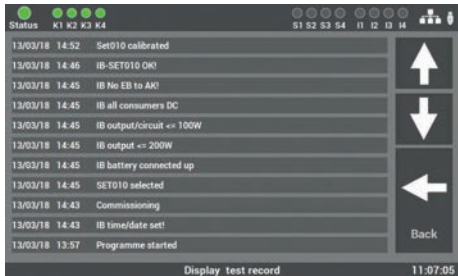


Fig. 63: Mask „Display test logbook“

All entries and messages are documented in this mask. Operating is one with the arrow keys. Press the „Back“ key to get back to the Test logbook menu item.

6.4.2 Result of the last function test



Fig. 64: Mask „Result of the last function test“

This mask provides a compact overview of the result of the last function test.

6.4.3 Result of the last operating duration test



Fig. 65: Mask „Result of the last operating duration test“

The data of the last operating duration test are shown here. A change-over can be made between the view of the values of the „Table“ key and the „Scope“ key diagram view.

If necessary, you can export the data onto a USB stick.
The function is such that the data from both views is transferred.

6.4.4 Manual documentation

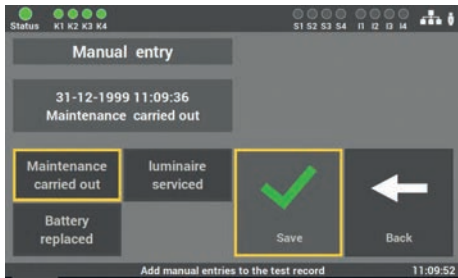


Fig. 66: Mask „Manual documentation – Maintenance LPS“

All the work carried out at the LPS device can be documented in the test logbook: „Maintenance carried out“, „Battery replaced“ or „Luminaire serviced“.

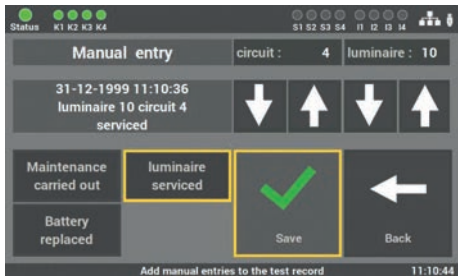


Fig. 67: Mask „Manual documentation – Maintenance luminaires“

The „Luminaire serviced“ mask allows you to select the load circuit and the luminaire. The work entered is documented in the test logbook.

6.4.5 Export test logbook



Fig. 68: Export test logbook

Through the „Export test logbook“ you can export the data from the LPS device onto a USB stick.

6.5 Menu item „Service“

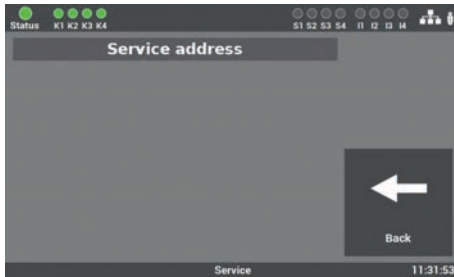


Fig. 69: Menu item „Service“

In this mask you will find the device manufacturer's contact data and the appropriate failure message should system faults arise.

6.6 Menu item „Test menu“

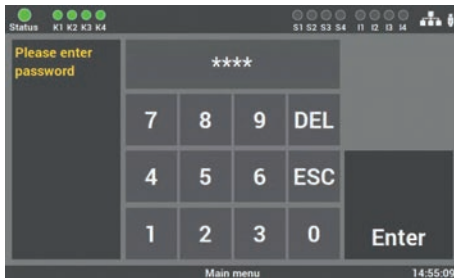


Fig. 70: Password entry at the „Main menu“ item

Access to the „Test menu“ item is password-protected.

You need a separate password to access this menu item. In the delivery status it is: **„1234“**.

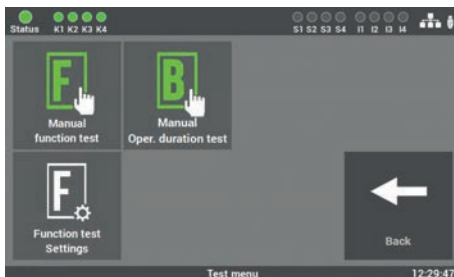


Fig. 71: Menu item „Test menu“

You can start the function test and the operating duration test in this mask. Through the „Function test settings“ item, you can also configure the settings for the automatic function test.

6.6.1 Manual function test

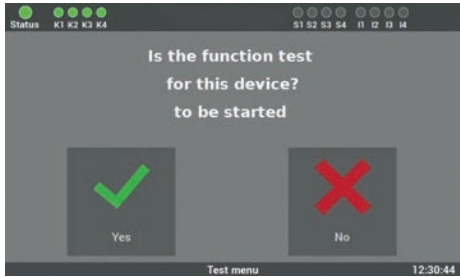


Fig. 72: Mask „Manual function test“

You can manually start a function test at the LPS device in this mask. In the delivery condition, the function test is set to a time of 3 min.

6.6.2 Manual operating duration test

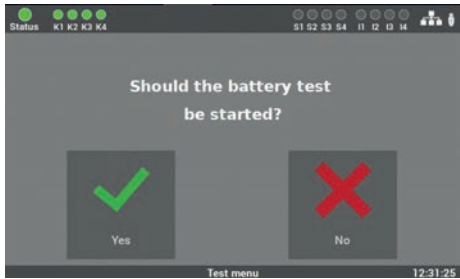


Fig. 73: Mask „Manual operating duration test“

You can manually start an operating duration test at the LPS device in this mask. You can find the back-up time on the LPS device rating plate.

6.6.3 Automatic function test setting

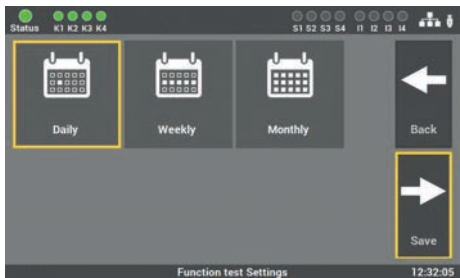


Fig. 74: First Mask „Automatic function test“

The function test can be set to reflect the requirement and local circumstances. Firstly select the interval required (daily, weekly or monthly) and confirm with „Save“. The Back” key returns you to the selection menu for the tests.

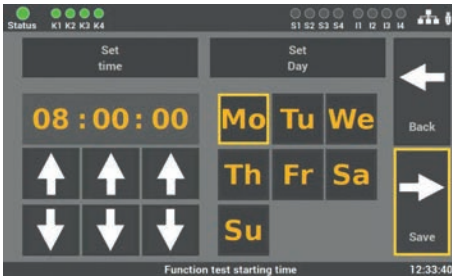


Fig. 75: Second mask „Automatic function test“

The time and date for the function test is set in the second mask. It is recommended planning the test in the non-operating periods. The „Save“ key concludes the process. The „Back“ key gets you back to the previous screen (without saving).

6.7 Menu item „Settings“

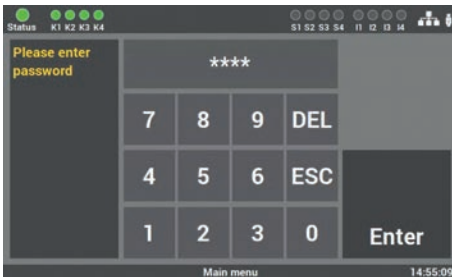


Fig. 76: Password entry at the „Settings“ menu item“

Access to the „Settings“ menu item is password-protected.

You need a separate password to access this menu item. In the delivery status it is: „1234“.

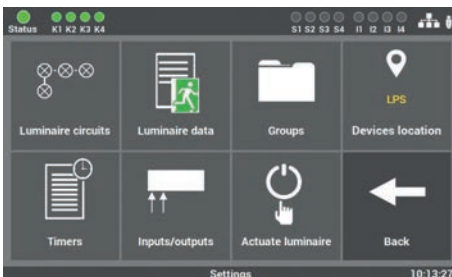


Fig. 77: Menu item „Settings“

This mask has a number of options to allow you to programme the connected luminaires and the LPS device.

6.7.1 Luminaire circuits

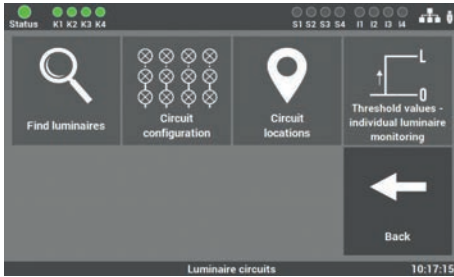


Fig. 78: Mask „Luminaire circuits”

The functions affecting the individual load circuits are selected under „Luminaire circuits”.

The following functions can be selected:

- Find luminaires (single luminaire monitoring)/Configure current (electrical circuit monitoring)
- Circuit configuration
- Circuit locations
- Threshold values of single luminaire monitoring/Electrical circuit monitoring

6.7.1.1 Find luminaires

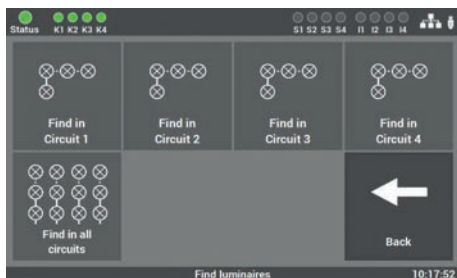


Fig. 79: Mask „Find luminaires”
(single luminaire monitoring)

The single luminaire monitoring mask searches for all connected luminaires either in the load circuits or in all circuits and establishes the reference values for the threshold values of the individual luminaires. These values are compared later on with those from the function test/operation duration test.

This can take a few minutes and cannot be interrupted.

6.7.1.2 Circuit configuration

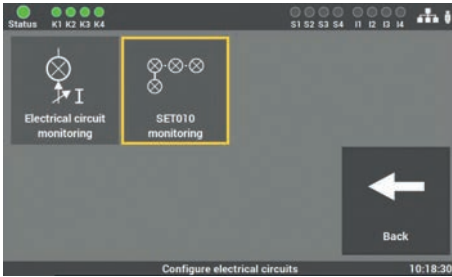


Fig. 80: Mask „Electrical circuit configuration“
(single luminaire monitoring)

Single luminaire monitoring: The effect of placing into service the LPS device with the „Single luminaire monitoring“ option results in the individual monitoring and switching of the connected luminaires.

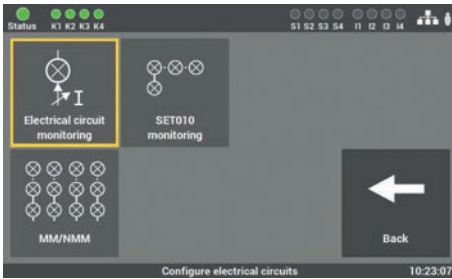


Fig. 81: Mask „Electrical circuit configuration“
(electrical circuit monitoring)

Electrical circuit monitoring: On the other hand, the effect of placing into service the LPS device with the „Electrical circuit monitoring“ option results in the monitoring and switching of the connected load circuits.

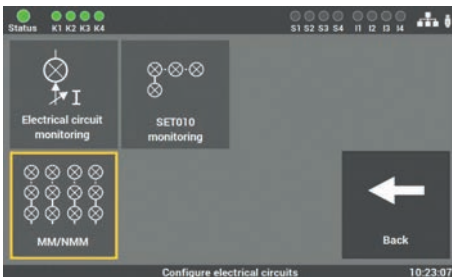


Fig. 82: Mask „Electrical circuit configuration“ 2
(electrical circuit monitoring)

Electrical circuit monitoring: The „Electrical circuit monitoring“ option also includes the „MM/MMM“ menu item. Here a selection can be made as to which connection the circuits are to be programmed in.

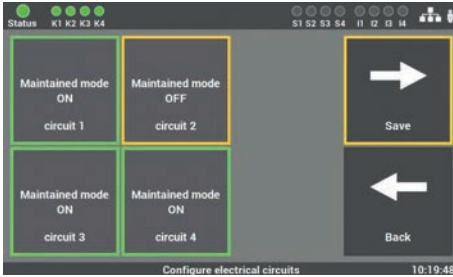


Fig. 83: Mask „MM/NMM”
(electrical circuit monitoring)

Electrical circuit monitoring: In the „MM / NMM” function mask, the load circuits can be programmed in keeping with their function as maintained lighting “(MM)” Maintained mode ON” or as non-maintained lighting (NMM) “Maintained mode OFF”.

6.7.1.3 Circuit locations



Fig. 84: Mask „Circuit locations”

The four load circuits can be named in this „Settings” menu item. These names then appear where the circuit designations had previously been.

The entry is limited to 12 characters.

Avoid any double names! This makes finding the individual circuits or luminaires in the load circuit that much more difficult. Select the circuit that you want to name in this mask.

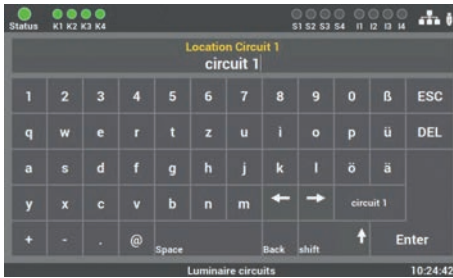
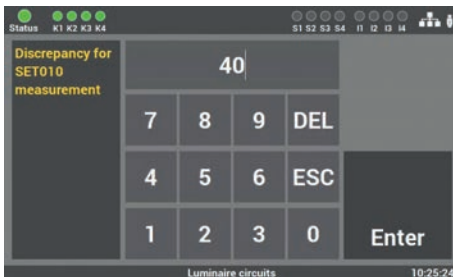


Fig. 85: Mask „Circuit locations – Keyboard“

In the following mask you can directly enter the names by way of the indicated keyboard. This accepted by pressing the Enter key.

6.7.1.4 Single luminaire monitoring threshold values

Fig. 86: Mask „Threshold values“
(single luminaire monitoring)

For fault detection purposes, enter the discrepancy values in this mask which appear under „Circuit configuration“ of the single luminaire monitoring. The default value is set to 40.

You should not change this value without consulting Service. Incorrect operating can result in incorrect system functions.

6.7.1.5 Threshold value - electrical circuit



Fig. 87: Mask „Threshold values“ (electrical circuit monitoring)

For fault detection purposes, enter the discrepancy values in this mask which appear under „Circuit configuration“ of the electrical circuit monitoring. The tolerance value is set to 800.

You should not change this value without consulting Service. Incorrect operating can result in incorrect system functions.

6.7.2 Luminaire data (single luminaire monitoring)

The luminaires need to have a SET010 luminaire module with regards to the following items.

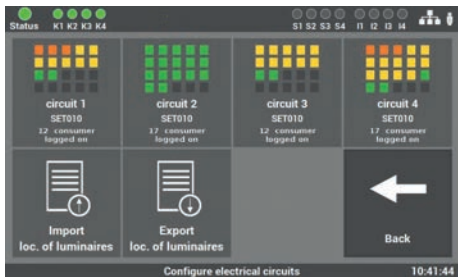


Fig. 88: Mask „Luminaire data“

Regarding luminaires with single luminaire monitoring, the „Luminaire data“ mask allows you to allocate the individual mounting locations of the luminaires, select the function of the luminaires (MM, NMM or DIP switch) and to log on other luminaires at a later stage.

6.7.2.1 Function selection

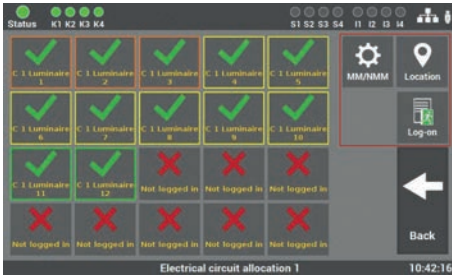


Fig. 89: Mask „Luminaire data – Function selection“

To continue with luminaire programming, you need to select the function wanted for the programming after selecting the circuits.

The following functions can be selected:

- Location (default value)
- NMM/MM (switch state of the luminaires in the circuit)
- Log-on (log on additional luminaires in the circuit)

6.7.2.2 Location entry



Fig. 90: Mask „Luminaire data – Location“

Select the individual luminaire to change their mounting locations. Following commissioning the luminaires are specified according to the position in the electrical circuit. Select the corresponding luminaire to change its location.



Fig. 91: Mask „Location – Keyboard“

The location is entered in this mask. Confirmation with the Enter key accepts your entry.

The entry is limited to 30 characters.

6.7.2.3 Programming the switch function (MM/MMM) of the individual luminaires



Fig. 92: Mask „Luminaire data – Switch function“

To activate the function, select the „MM / NMM“ key. Only then can you change the operation mode of the luminaires in the load circuit without having to change the DIP switch position at the luminaire.

You can choose the following operation modes for the individual luminaire:

- NMM (non-maintained mode)
- MM (maintained mode)
- DIP switch (SET010 module)

Both the entire circuit and each individual luminaire can be re-programmed. The „all MM“, „all NMM“ and „all DIP“ keys are available for programming the entire circuit. For individual programming, select the luminaire on the display and change the operation mode with each press of the key on the luminaire.

Change in this sequence: NMM → DIP switch → MM

6.7.2.4 Inserting additional luminaires

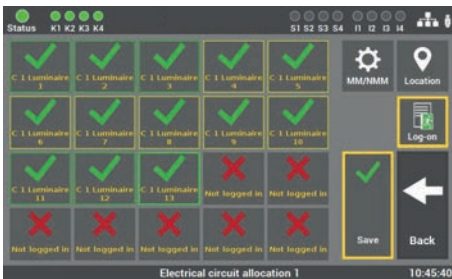


Fig. 93: Mask
„Luminaire data – Add luminaires“

To activate the function, select the „Log-on“ key.

Mount and programme the luminaires (luminaire with SET010 module) in the corresponding electrical circuit and directly add the luminaire to the configuration via the menu item.

6.7.2.5 Import and export location of the luminaires

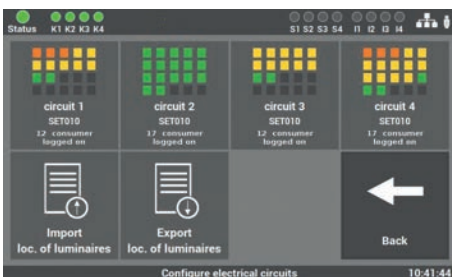


Fig. 94: Mask
„Luminaire data – Location of the luminaires“

The LPS device can read in the mounting locations as a file and/or secure the configured locations through an export function. The USB interface at the device's display interchanges the data (see Fig. 31).

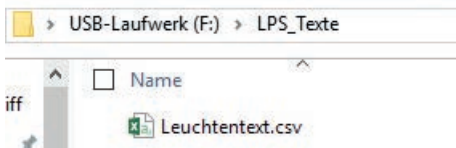


Fig. 95: Folder structure

To read in the data, it must be in the CSV format and the following folder structure must be on the USB stick:

**USB_Laufwerk(F:)\LPS_Texte\Leuchten-
texte.csv**

The recommendation after reading out the data onto the USB stick is to secure it on a PC / laptop.

There is an import template for the data in the annex under Templates. The data is then imported with the „Import location of the luminaires“ key.

The mounting locations saved in the LPS device are also read out in the CSV format. To activate the backup, press the „Location of the luminaires“ key. The file is then in the corresponding folder.

6.7.3 Groups (Single luminaire monitoring)

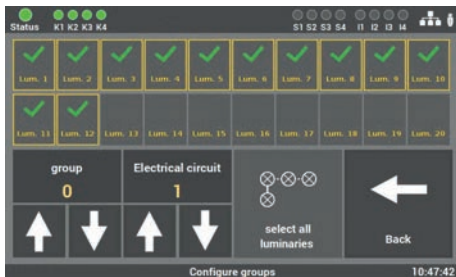


Fig. 96: Mask „Groups“

Following commissioning, the luminaires are allocated to the „0“ group. This mask allows you to change or re-set group allocations. Do note, however, that a luminaire can only be allocated to one group.

To edit, select the group wanted and allocate it to the electrical circuit of the required luminaire. The luminaire can then be allocated to the group. Confirmation is with the „Save“ key.

A luminaire can only be allocated to one group.

6.7.4 LPS device location



Fig. 97: Mask „Location“

Only „LPS“ as the default value stands here as the location. By selecting this menu item you adjust the devices location. Entry is via the keyboard and confirm with the Enter key.

The entry is limited to 12 characters.

6.7.5 Timers

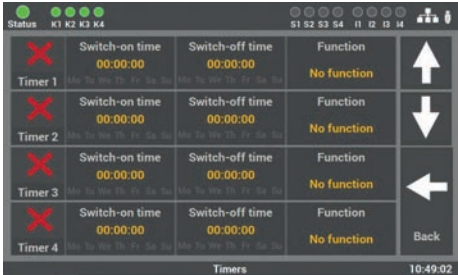


Fig. 98: Mask „Timers“

In the „Timers“ ,menu item you can programme various time functions for the system. 24 timers for this programming are available.

6.7.5.1 Programming sequence

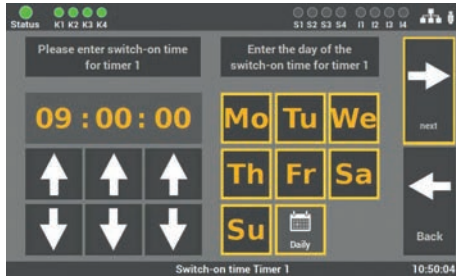


Fig. 99: Mask „Timers – Switch-on time“

Step 1: With this mask the time and day is firstly set on which the step established in Step 3 is to begin.

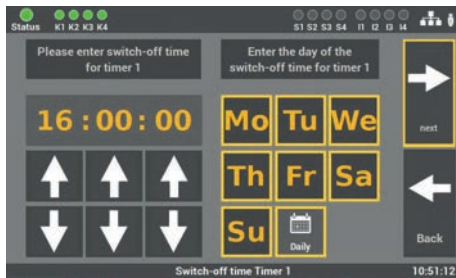


Fig. 100: Mask „Timers – Switch-off time“

Step 2: This can be followed up by establishing the time and day on which the step is to be terminated.



Fig. 101: Mask „Timers – Step selection“

Step 3: Finally that step to be carried out is selected:

- Actuates all luminaires
- Actuates MM circuit
- Actuates group
- No function (switch off function)

The group to be actuated or the load circuit can be selected with the arrow keys. Only one function can be selected for each timer.

6.7.6 Inputs/outputs

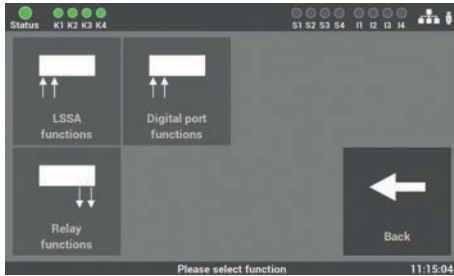


Fig. 102: Mask „Inputs/outputs“

The LPS device has the following inputs and outputs.

They are:

- 4 non-floating inputs (230 V) for querying light switch position (readily programmable)
- 4 floating control inputs (digital port function, readily programmable)
- 4 relay outputs for messages (readily programmable)

6.7.6.1 LSSA (light switch position queries) – Selection of inputs

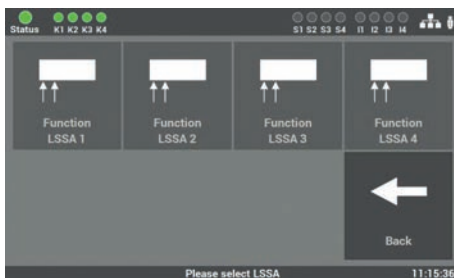


Fig. 103: Mask „Inputs/outputs – LSSA“

You have four inputs available for selection which you can readily programme. As input signal, the inputs require a voltage of 230V AC+/- 5%.



Fig. 104: LSSA function

The function is selected in this mask after selecting the input.

The following functions can be selected:

- MM/NMM Electrical circuit 1 - 4
(multiple selection possible, switches MM luminaires on/off)
- NMM manual acknowledge
(the function must be activated in the Settings menu item)
- Start function test
- Switch lighting groups
(only with the „Single luminaire monitoring“ option)
- Ext. fan error
- Fault signal contact - extern

6.7.6.2 Floating control inputs (digital port functions)

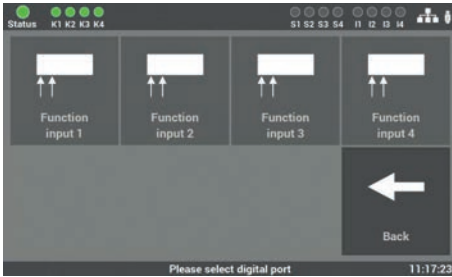


Fig. 105: Mask „Inputs/outputs – Floating control inputs“

Four inputs are available for selection which you can readily programme. They involve floating inputs on which no voltage is to be generated.

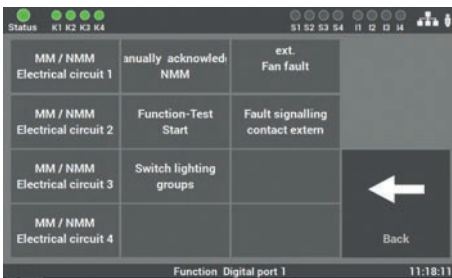


Fig. 106: Control inputs - functions

The function is selected in this mask after selecting the input.

The following functions can be selected:

- MM/NMM Electrical circuit 1 - 4
(multiple selection possible, switches MM luminaires on/off)
- NMM manual acknowledge
(the function must be activated in the Settings menu item)
- Start function test
- Switch lighting groups (only with the „Single luminaire monitoring“ option)
- Ext. fan error
- Fault signal contact - extern

6.7.6.3 Relay outputs – Selection

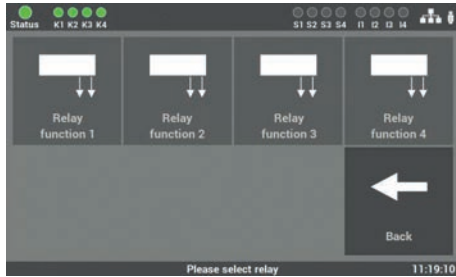


Fig. 107: Mask „Inputs/outputs – Relay outputs“

There are four relay outputs at the LPS device for various messages which can be readily programmed.

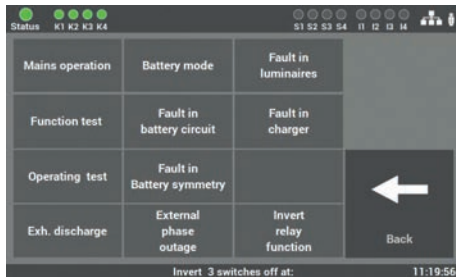


Fig. 108: Relay outputs function

The function is selected in this mask after selecting the input.

The following functions can be selected:

- Mains operation
- Function test
- Operating test
- Exhaustive discharge
- Fault in charger
- Battery mode
- Fault in battery circuit
- Fault in battery symmetry
- External phase outage
- Fault in luminaires
- Relay function inverted

The functions can be correspondingly adjusted with the Selection menu. Several functions on one relay output is possible.

6.7.6.4 Option „Status panel connection“

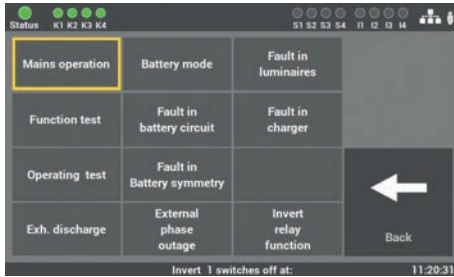


Fig. 109: Mask „Inputs/outputs – Status panel“

The LPS device can connect up an status panel. You can either use our MFT4 status panel or connect an external one to the relay outputs.

Relay output 1 as the default setting has the function: Mains operation.

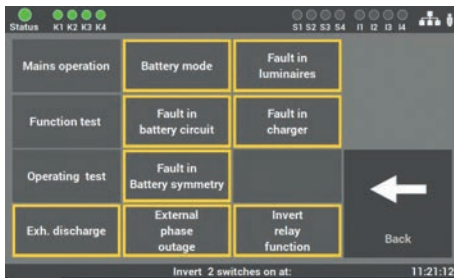


Fig. 110: Status panel - Faults

Relay output 2 reports the up-coming faults to the status panel.

The following faults can be signalled:

- Battery mode
- Fault in charger
- Fault in battery circuit
- Fault in battery symmetry
- Exhaustive discharge
- External phase outage
- Fault in luminaires
- Relay function inverted

Relay outputs 1 and 2 are programmed for the MFT4 status panel as default values.

6.7.7 Actuate luminaires



Fig. 111: NMM manual acknowledge

There are a number of possibilities at the LPS device of actuating luminaires via the main control unit. **The following actuating commands can be carried out:**

- MM on / off
- NMM off / on
- Block system
- NMM manual acknowledge

6.7.7.1 Maintained mode - Actuating MM

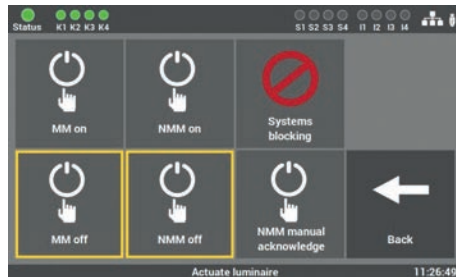


Fig. 112: Actuate luminaires – MM

On the system being delivered, the function is activated such that all luminaires in the maintained mode are in “MM on”.

Pressing the “MM off” key switches off these luminaires.

6.7.7.2 Non-maintained mode - Actuating NMM

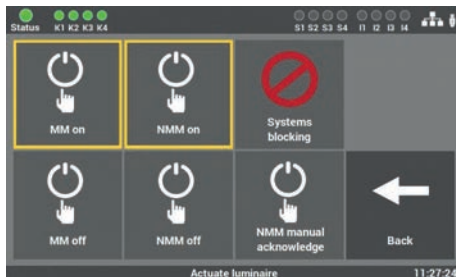


Fig. 113: Actuate luminaires – NMM

In the delivery status the function is activated such that all luminaires in the non-maintained mode are in “NMM off”.

Pressing the “NMM on” function switches on these luminaires.

6.7.7.3 Blocking emergency light

This function should only be activated when it is impossible for anyone to be in the fire compartment.

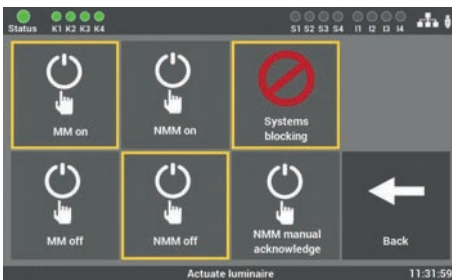


Fig. 114: Systems blocking

The system function is activated by selecting the „Systems blocking“ key. The batteries of the system will continue to be charged and monitored.



Fig. 115: Systems blocking

Press the „acknowledge“ key to return the system to the operating state. The LPS device then switches back to the operating state.

As the switching input is also deactivated, it cannot be used for the acknowledgement.

Switch off the luminaires in the maintained mode with the “MM off” command before turning them off by activating the “Block emergency light” function. Activate again the luminaires in the maintained mode with “MM on” after deactivating the “Block emergency light” function.

6.7.7.4 Manually acknowledge the non-maintained mode (NMM)



Fig. 116: NMM manual acknowledge

The „NMM manual acknowledge“ function is for not automatically turning off the non-maintained mode given spaces normally darkened under operations after a mains failure and subsequent mains return.

Only turn off the standby light when the function of the general lighting is secured. Actuation must then be carried out by those who have been duly instructed.



Fig. 117: Mask „Request to acknowledge“

This function (i.e. non-maintained mode off) is either acknowledged by way of the LPS device display or allocating one of the switching inputs at the LPS device.

6.8 Menu item „System“

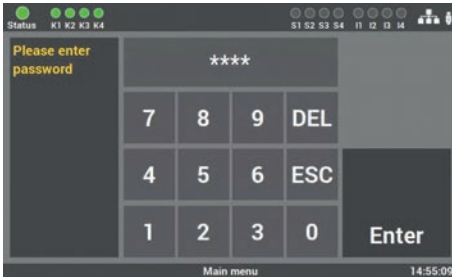


Fig. 118: Password entry under menu item „System“

Access to the „System“ menu item is password-protected.

You need a separate password to access this menu item. In the delivery status it is: „1234“.

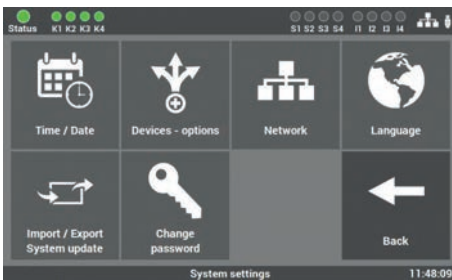


Fig. 119: Menu item „System“

You can undertake settings affecting the LPS device in the mask of menu item „System“.

They are the following settings:

- Date / time
- Devices - Options
- Network (optional)
- Language
- Import/Export
- System update
- Change passwords

6.8.1 Changing date and time

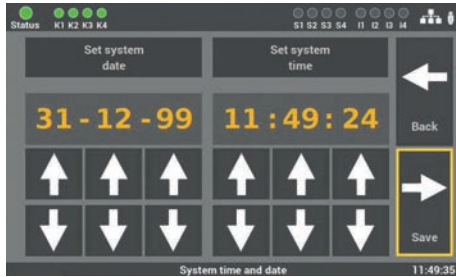


Fig. 120: Mask „Date / time“

You can set the date and time with the arrow keys in this mask.

6.8.2 Devices - Options



Fig. 121: Mask „Devices - Options“

You can additionally equip your LPS device with various options. This mask shows you which option is already activated. You can also extend the options at any time. You can acquire these extensions from the manufacturer of the system. Activation is carried out with an activation code.

6.8.3 Network settings

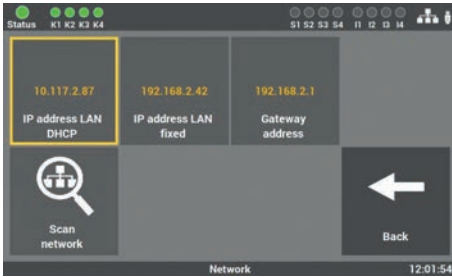


Fig. 122: Mask „Network settings“

With this mask you can view settings at the network and also change them, if needed.

The following settings can be selected:

- | | |
|-------------------------|-----------------------|
| IP address DHCP | (see Chapter 6.8.3.1) |
| IP address LAN fixed | (see Chapter 6.8.3.2) |
| Gateway address | (see Chapter 6.8.3.3) |
| Scan network (optional) | (see Chapter 6.8.3.4) |

6.8.3.1 DHCP-Address



Fig. 123: DHCP address

All LPS devices are delivered as standard with the DHCP setting. The software automatically obtains an IP address from the DHCP server.

There is no need for an address to be issued by the network administrator for integration into the network on hand.

6.8.3.2 Change static IP address

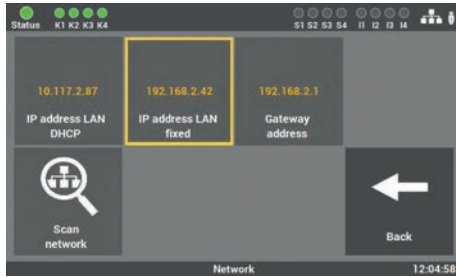


Fig. 124: IP address

You can manually allocate an IP address under this menu item if you want to assign a certain address to the LPS device. The specifications for this are obtainable from the operator / network administrator.

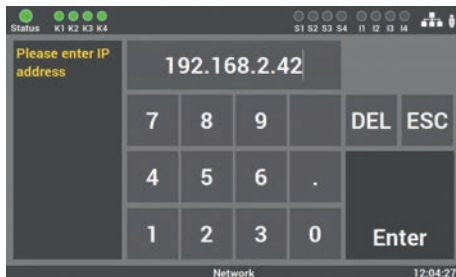


Fig. 125: Mask „Change IP address“

You can directly enter the required IP address in the LPS device via the keyboard of this mask and save it using the „Enter“ key.

6.8.3.3 Change gateway address

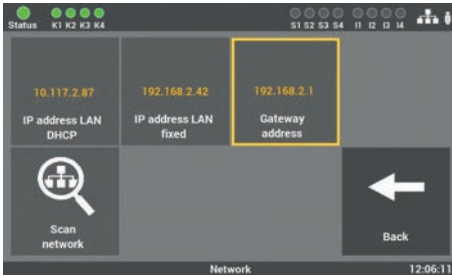


Fig. 126: Gateway address

The input is only needed if you use the static IP address option. The gateway establishes the Internet connection. The specifications for this are obtainable from the operator / network administrator.

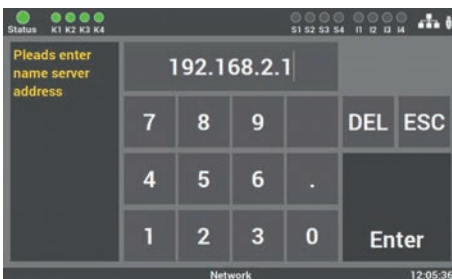


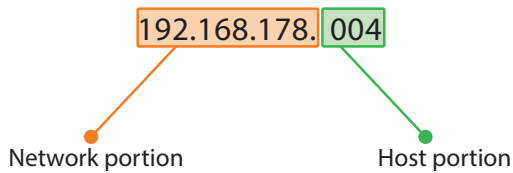
Fig. 127: Mask „Change gateway address“

You can directly enter the address in the LPS device via the keyboard of this mask and save it using the „Enter“ key.

6.8.3.4 Network scan

The network scan is needed for the communication of several LPS devices and web visualisation. Only after the commissioning of all LPS devices should you start the scan.

Only LPS devices in the same address range of the network addresses will be found. The IP address is divided into a network portion - i.e. the first 3 digit blocks - and a host portion - i.e. the last digit box.



All LPS devices in the network whose first 3 digit blocks of the IP address are identical belong to the same network.

An example: the LPS devices have the network address range from **192.168.178.1** to **192.168.178.254**. An LPS device the IP address of which is not identical inside the first 3 digit blocks (network portion) is not part of the same network. For example, an LPS device with the 192.168.**128**.1 IP address does not belong to this network. The device would not appear in the list under a network scan.



Fig. 128: Start scan

You have a number of functions available for the network scan:

- Start address
- End address
- Start scan
- Devices in the network

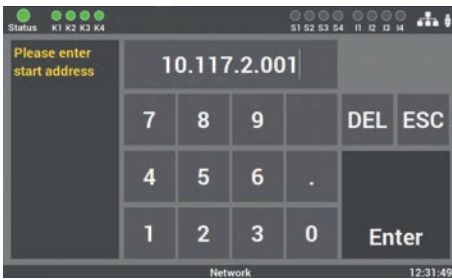


Fig. 129: Enter start address

Step 1: Firstly the start address is entered to establish the start area for the scan.

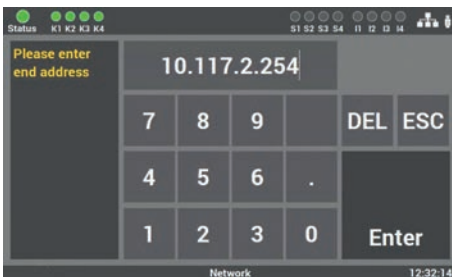


Fig. 130: Enter end address

Step 2: Then the end address is entered to establish the end for the scan.

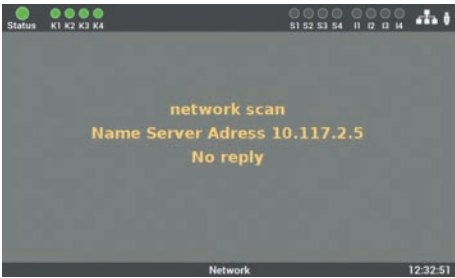


Fig. 131: Scan

Step 3: Following this, the scan is carried out in the network. This can take a little time and cannot be interrupted.



Fig. 132: Network scan result

Step 4: After the scan, all the addresses found are conveyed to all the LPS devices found. You thus see the same result at all the devices. Changing the name of the LPS device entails carrying out the scan again and saving the result once again. The name is not accepted beforehand.

6.8.4 Changing the language



Fig. 133: Mask „Language“

You can make a choice between the various languages in this mask. With the language changed, the LPS device then switches over the language in the device. No change is made to the entered texts for the mounting locations etc. These texts need to be adjusted by hand.

6.8.5 Changing system data („Import/Export“)

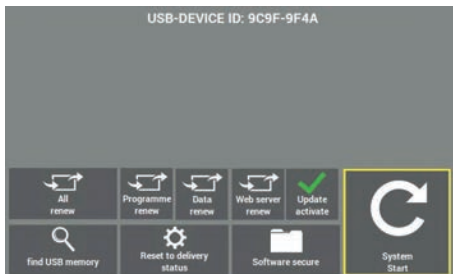


Fig. 134: Mask „Change system data“

An update routine having no direct connection to the LPS device user interface is opened here. Re-start the system to return to the user interface. Key “Start system”.

The re-start is necessary for all changes to be accepted.

6.8.5.1 Find USB memory

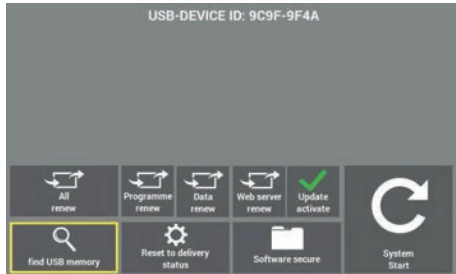


Fig. 135: Mask „Finding USB memory“

Should the USB stick not be automatically identified when plugged in, you can have the system search for it. This can be seen in the USB stick designation at the top of the image next to “USB-DEVICE ID:”

6.8.5.2 Reset to delivery status

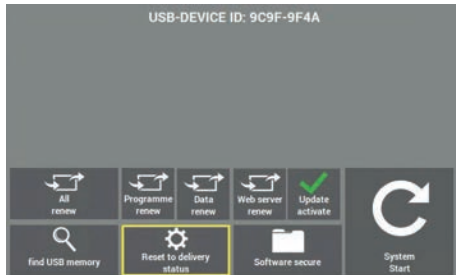


Fig. 136: Mask „Reset to delivery status“

All programmed values and data are deleted and the default values entered. After activating the key, the customer must place the system back into operation.

6.8.5.3 Software secure

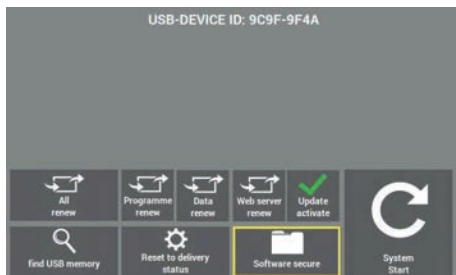


Fig. 137: Mask „Secure software“

All changed values, data and programmes are saved on the USB stick.

6.8.5.4 All renew



Fig. 138: Mask „All renew“

In this menu item you can reset the previously saved data (key „Software secure“) e.g after a „Factory Reset“. If you have saved the software several times over, then select the corresponding securing under “LPS_UP_XX-XX-XX_XX-XX-XX” from the USB stick.

6.8.5.5 Programme renew



Fig. 139: Mask „Programme renew“

Under this menu item an update is carried out on the device software.

If you have saved the software several times over, then select the corresponding securing under “LPS_UP_XX-XX-XX_XX-XX-XX” from the USB stick.

6.8.5.6 Data renew



Fig. 140: Mask „Data renew“

All previously saved values and data are read into the system. If you have saved the software several times over, then select the corresponding securing under “LPS_UP_XX-XX-XX_XX-XX-XX” from the USB stick.

6.8.5.7 Web server renew



Fig. 141: Mask „Web server renew“

Under this menu item an update is carried out on the Web and building visualisation. If you have saved the software several times over, then select the corresponding securing under “LPS_UP_XX-XX-XX_XX-XX-XX” from the USB stick.

6.8.5.8 Update activate

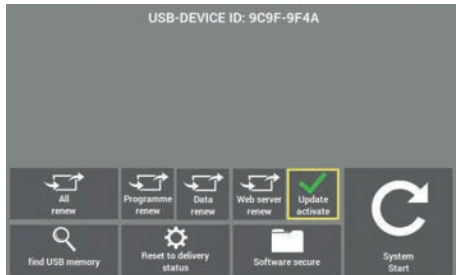


Fig. 142: Mask „Update activate“

Activate the update after renewing the corresponding data in the LPS device. The function activates the last installed update on the LPS device. Not activating the function results in non-acceptance of the replaced data.

6.8.5.9 System start

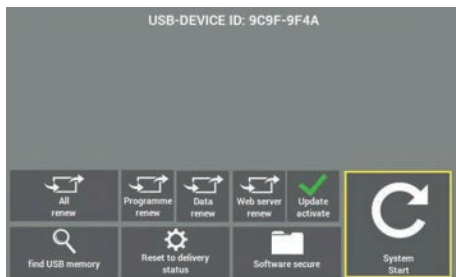


Fig. 143: Mask „System start“

You can restart the system with the function. The restart ends the update routine and you get back to the main menu.

Only use the software made available to you by the Service of the manufacturer/supplier. Any other software is not authorized and its use could place the system out of operation.

If you have received an update for the device software from the manufacturer/supplier of the system, then import the software into the LPS device via this programme item. Apply the following key sequence after reading in and activating the changes in order to transcribe the new values into the LPS device:

„Activate update“ → „System start“

6.8.6 Change password



Fig. 144: Mask „Change password“

Any password on hand can be changed in this mask. For this, you need to preselect the password required and enter the new password.

Password 1 = Accessing the main menu

(Level 1 delivery condition: “0000”)

Password 2 = Accessing the extended settings: Test menu and system

settings (Level 2 delivery condition: “1234”)

7. Web Visualisation

Using the WEB browser to enter the address



Fig. 145: LPS device and Web visualisation

By way of the LPS device’s web interface, a web browser can be used to depict the status information on the system. Accessing the LPS device and the additional scope for web visualisation at the LPS device depend on which options have been acquired in purchasing the LPS device. (see Chapter „Devices - options“).

Connection to the visualisation

For this, the LPS device is incorporated into a local network. The LPS device is selected by entering the IP address in the web browser address line.
This is to be found in the LPS device (see Chapter „Network settings“). Access to the LPS device in the network is to be administered and set up by an IRT department with due responsibility.

7.1 Overall view

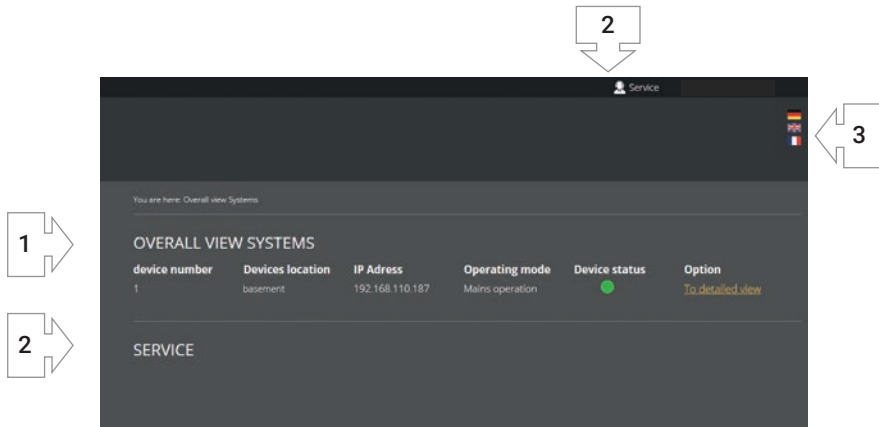


Fig. 146: Overall view

The first mask of the overall view has a list of all the systems logged on in the network (1), Service information (2) and language change (3).

1. For the purposes of differentiation and verification, the overview of all the systems logged on in the network indicates 5 different types of information:

- Device number
- Devices location
- IP address
- Operating mode
- Device status

The „to detailed view“ option takes you to the information and configuration menu of the chosen system.

2. Service has the device manufacturer's contact data.

3. You can set the web visualisation language regardless of the LPS device. Selection is done by way of the flag.

7.2 Detailed view

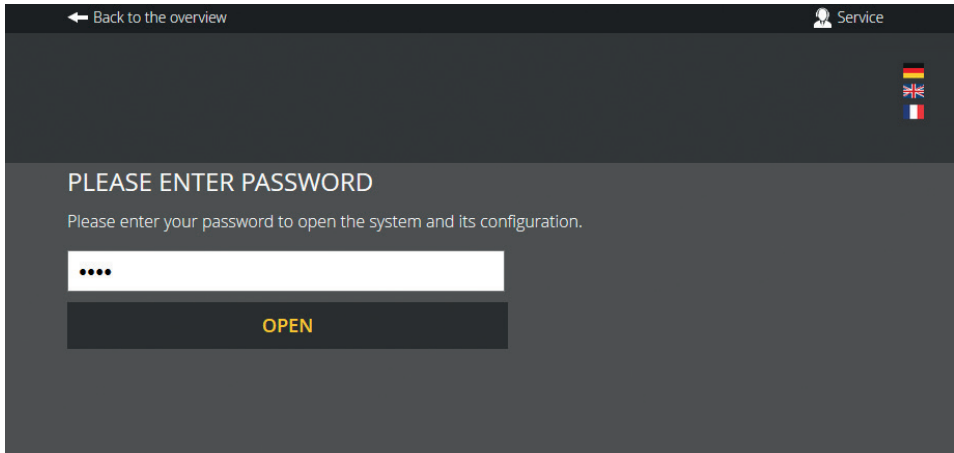


Fig. 147: Password request - detailed view

A password shields the detailed view from unauthorised interference. Enter the access code to get to the detailed information of the selected system.

The password you are inputting here is the same one that you directly entered at the LPS device on accessing the main menu (see Chapter „Menu access“).

7.2.1 Elements of the detailed view

You get to the detailed view on entering the correct accessing code.

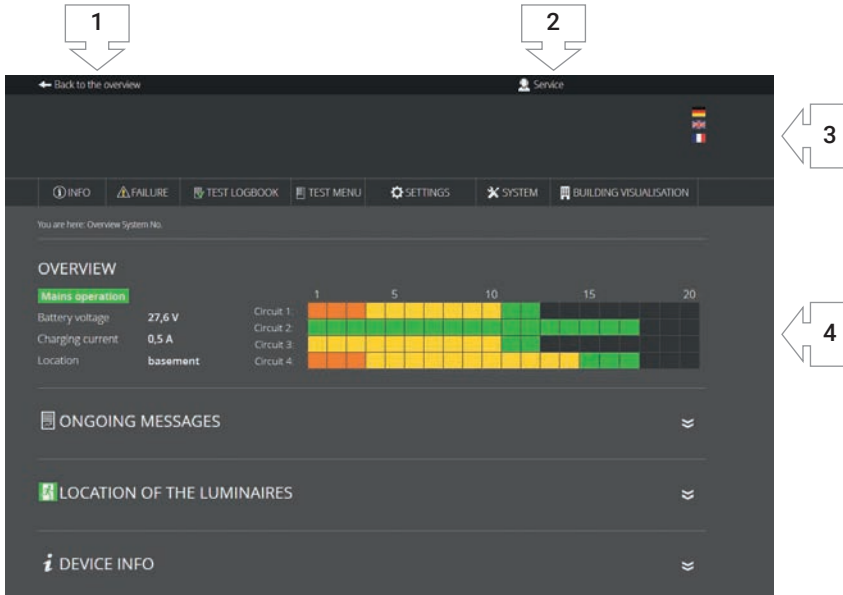


Fig. 148: Main menu - detailed view

The following elements can be seen throughout in the detailed view and are operable:

- 1. Back to the overall view:** This link takes you back to the overall view.
- 2. Service link:** Link to the contact data of the after-sales service and to the LPS device overall view.
- 3. Language choice:** The language selector allows you to change the web visualisation operating language. Click on the flag to choose between German, English and French as the operating language. Whilst the language in the user interface is changed, no change is made to the data in the LPS.
- 4. Status display:** Explanation in the „Status display“ chapter.

7.2.2 Status display

The status display can be seen throughout and is placed under the main menu. Here you have an overview of all information of importance on the system selected.

In the left-hand area of the status information, a general overview is provided of the state of the entire emergency lighting system at the LPS device.

In the right-hand area of the status information, you are provided with a horizontal listing of all the 80 luminaires (20 luminaires for each of the 4 electrical circuits). The luminaire numbers are listed in steps of 5 for orientation purposes. You can also run the mouse over the rectangles symbolically standing for the luminaires to obtain the luminaire names. Moreover, the luminaires are linked to the corresponding ones in the building visualisation. A luminaire allocated in the building visualisation and selected in the status display gets you directly to the building plan (see Chapter „Building visualisation“). The corresponding option at the LPS device needs to be activated.

All the logged in luminaires are marked in green, yellow, red or orange.

The colours in question signify the following:

-  **Orange** Luminaire is operated as a function of the DIP switch (SET010)
-  **Green** Luminaire is operated in the maintained mode (LPS programming)
-  **Yellow** Luminaire is operated in the non-maintained mode (LPS programming)
-  **Red** Luminaire with error

7.2.3 Main menu

The main menu consists of the following 7 areas:

- Info
- Failure
- Test logbook
- Test menu
- Settings
- System
- Building visualisation

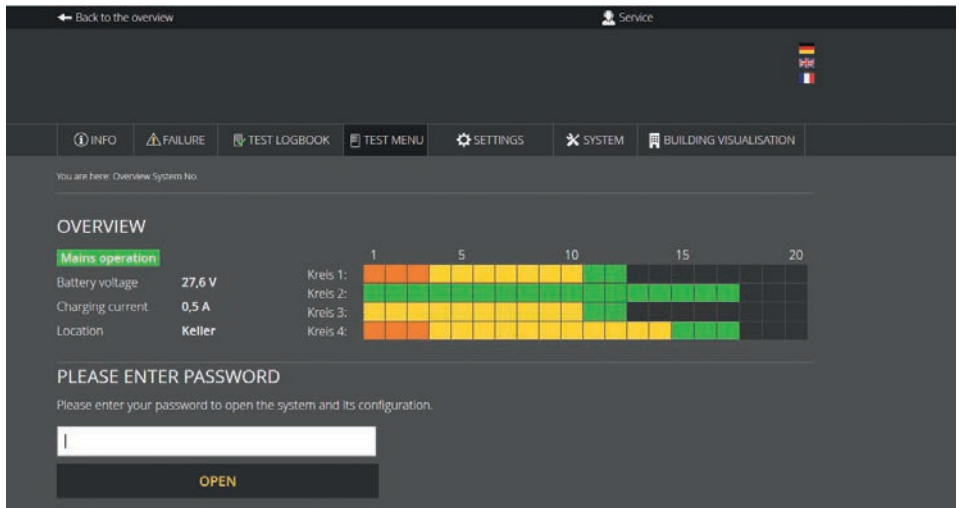


Fig. 149: Overview LPS Webvisu

A second password protects the menu items of Test menu, Settings, System and Building visualisation. In the delivery status it is: „1234“.

The password you are inputting here is the same one that you directly entered at the LPS device on accessing the Test menu, Settings and System (see Chapter „Test menu“, „Settings“ and „System“).

7.2.4 Sub-menu

Each of the main menu items of Info, Test logbook, Test menu, Settings and System have subordinate areas. You can open them by running the mouse across the menu item in question.

The areas of the menu items are folded in the normal state:

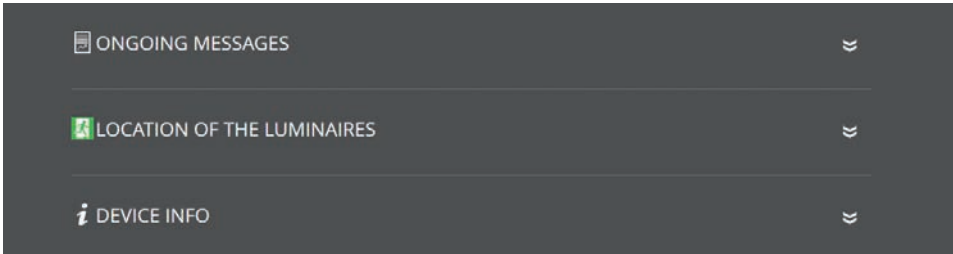


Fig. 150: Folded areas

The area on being clicked opens and all its contents become visible:

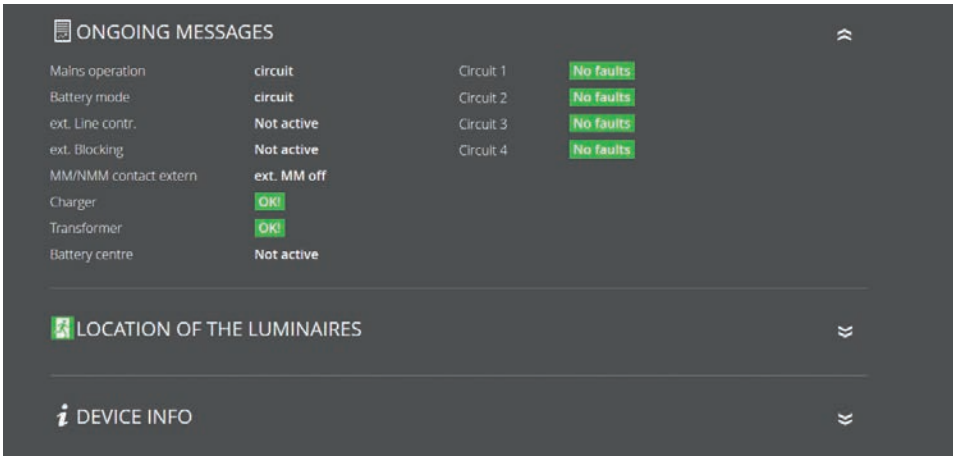


Fig. 151: Expanded areas

The contents are closed by again clicking the area.

7.2.5 Info

The Info menu item is the automatic home page of the detailed view (see Fig. 148).

A general overview is provided in this menu item of the LPS device and the connected luminaires. Here you can see all the ongoing system messages and the mounting locations of the luminaires and you are provided with an overview of the LPS device status. The menu item is only for information purposes. No data can be changed here.

Ongoing message

A general overview is provided here of the state of the entire emergency lighting system at the LPS device.

Location of the luminaires

Here you can view where the logged in luminaires of each load circuit are mounted.

Device info

All important data and state of the LPS device can be seen here.

7.2.6 Failure

This menu item gets you to the failure page displaying all the up-coming fault messages and/or faults in plain text.

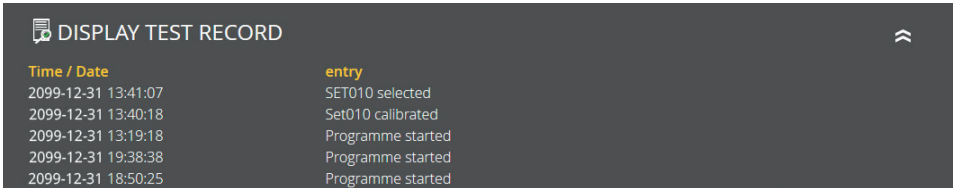


Fig. 152: Failure

7.2.7 Test logbook

Through this mask you obtain an insight into all the logged recordings of the system. Here you can also document work carried out and export all data as a CSV file.

7.2.7.1 Display test logbook



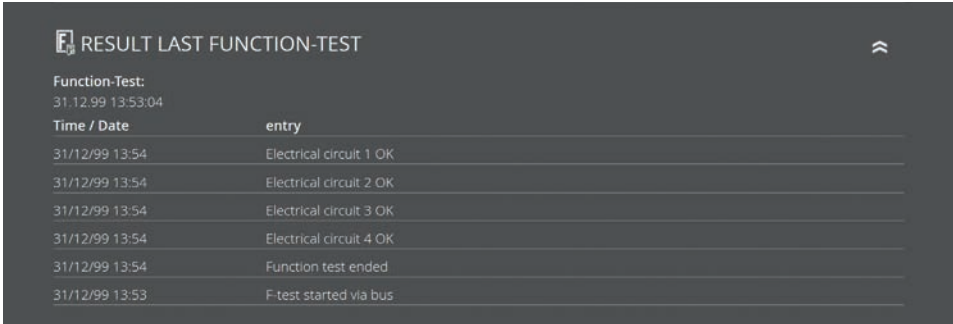
The screenshot shows a dark-themed interface titled "DISPLAY TEST RECORD" with a list icon on the left and a double arrow icon on the right. Below the title is a table with two columns: "Time / Date" and "entry".

Time / Date	entry
2099-12-31 13:41:07	SET010 selected
2099-12-31 13:40:18	Set010 calibrated
2099-12-31 13:19:18	Programme started
2099-12-31 19:38:38	Programme started
2099-12-31 18:50:25	Programme started

Fig. 153: Display test logbook

The last 20 entries and messages are documented in this area. The „Test logbook export“ menu item allows you to export all the entries and messages into a CSV file.

7.2.7.2 Result of the last function test



The screenshot shows a dark-themed interface titled "RESULT LAST FUNCTION-TEST" with a list icon on the left and a double arrow icon on the right. Below the title is a section labeled "Function-Test:" followed by a timestamp "31.12.99 13:53:04". Below this is a table with two columns: "Time / Date" and "entry".

Time / Date	entry
31/12/99 13:54	Electrical circuit 1 OK
31/12/99 13:54	Electrical circuit 2 OK
31/12/99 13:54	Electrical circuit 3 OK
31/12/99 13:54	Electrical circuit 4 OK
31/12/99 13:54	Function test ended
31/12/99 13:53	F-test started via bus

Fig. 154: Result of the last function test

This area provides a compact overview of the result of the last function test.

7.2.7.3 Result of the last operating duration test


RESULT LAST OPERATING TEST



Operating test:
31.12.99 00:48:37

Time / Date	Ubatt	lbatt
31.12.99 03:38:22	21,0	4,9
31.12.99 03:38:03	21,1	4,9
31.12.99 03:37:44	21,1	4,9
31.12.99 03:37:25	21,2	4,9
31.12.99 03:37:06	21,2	4,8
31.12.99 03:36:47	21,3	4,8
31.12.99 03:36:28	21,3	4,8

Export
Here you can export all the test logbook entries as a .csv file

RESULT TABLE EXPORT

Fig. 155: Result of the last operating duration test

This area provides a compact overview of the result of the last operating duration test. You can also export and download the results of the last test as a CSV file.

7.2.7.4 Manual documentation


MANUAL DOCUMENTATION



Maintenance carried out
31.12.1999 13:58:55
SAVE

Battery changed
31.12.1999 13:58:55
SAVE

Luminaire serviced
31.12.1999 13:58:55

Electrical circuit: ▼
Luminaire: 1 ▼

SAVE

Fig. 156: Manual documentation

All the work carried out at the LPS device can be documented here in the test logbook: „Maintenance carried out“, „Battery changed“ or „Luminaire serviced“.

The „luminaire service“ mask allows you to select the corresponding load circuit and the luminaire.

7.2.7.5 Export test logbook

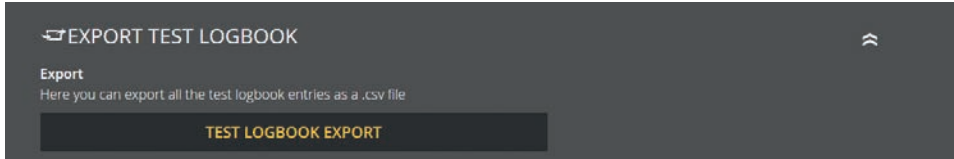


Fig. 157: Export test logbook

The „Test logbook export“ area allows you to export and download all the test logbook entries and messages into a CSV file.

7.2.8 Test menu

Through the „Test menu“ menu item you can manually start the function test and – by means of the „Function test settings“ – configure the settings for the automatic function start.

7.2.8.1 Manual function test

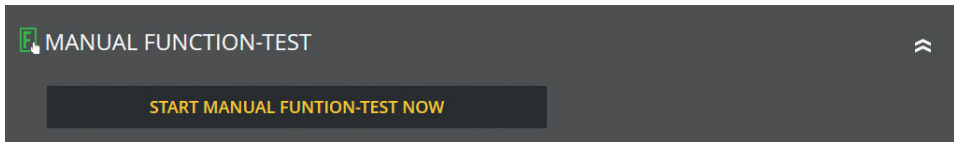


Fig. 158: Manual function test

You can manually start a function test by pressing the button in this area. You receive an info if the function test start is successful.

Please note that the function test takes some time.

7.2.8.2 Function test Settings

F FUNCTION-TEST SETTINGS ⌵

current settings :
 Monthly: 1., at 08:00:00

change settings:

☒ Monthly 1. ⌵
☐ Weekly Monday ⌵
☐ Daily

Time: 13 ⌵ : 59 ⌵

SAVE

Fig. 159: Function test Settings

Under the function test settings, you can view and edit the currently set interval for the automatic function test.

Please note the time must always be indicated. Under the „monthly“ selection as interval, the day in the month is needed and under the „weekly“ selection the need is for the day of the week.

7.2.9 Settings

Settings gives you a number of options to programme the connected luminaires and the LPS device.

7.2.9.1 Luminaire circuits

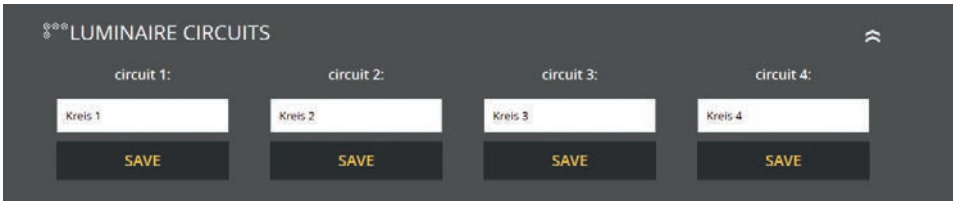


Fig. 160: Luminaire circuits

You can designate four load circuits in this area. These names then appear where the circuit designations had previously been. The entry is limited to 12 characters.

Avoid any double names! This makes finding the individual circuits or luminaires in the load circuit that much more difficult.

7.2.9.2 Input - mounting location

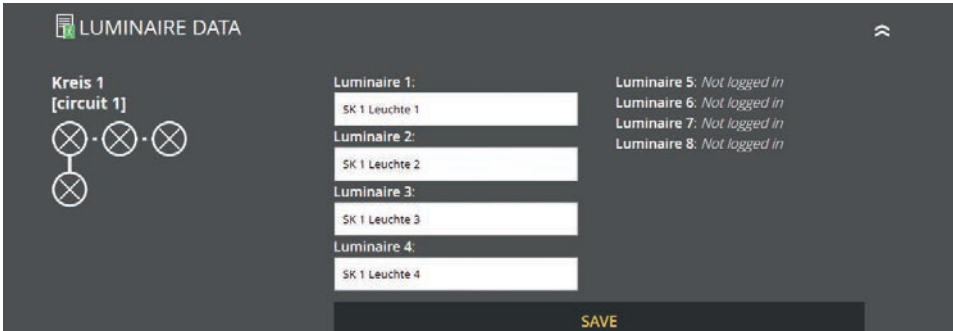


Fig. 161: Luminaire data

You can designate all logged in luminaires in this area. The entry is limited to 30 characters.

7.2.9.3 Import and export location of the luminaires

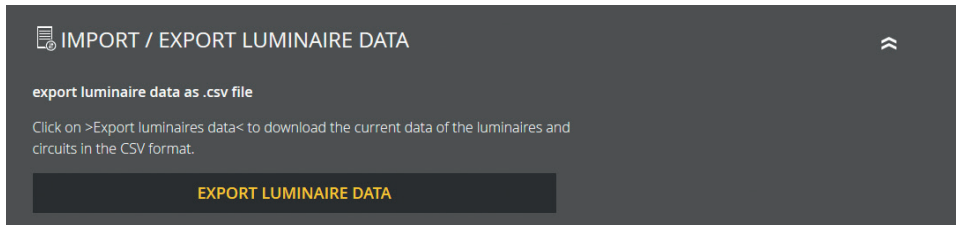


Fig. 162: Im-/Export luminaire data – export

You can export all the available luminaire data in this area. Pressing the „Export luminaire data“ button creates the file. In the next step, press the download button to download the created CSV file onto your computer.

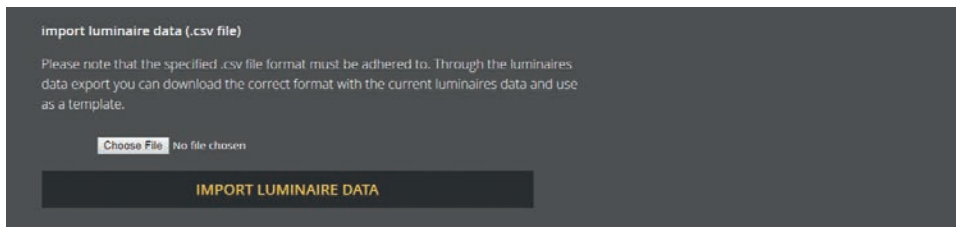


Fig. 163: Im-/Export Luminaire data – import

Furthermore, the luminaire data can be edited via the import function. It is important here that the prescribed format is adhered to! The best thing is to firstly export all the luminaire data and use them as a template. You can upload the edited data via the import. On activating the import button, the read-out data is written directly into the database i.e. the luminaire data is immediately edited and saved.

7.2.9.4 Groups (Single luminaire monitoring)

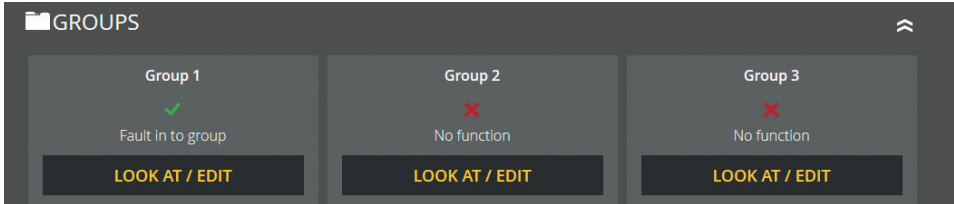


Fig. 164: Groups

You can manage all the 24 groups in this area. The required group can be edited with the button. You are provided with all the logged-in luminaires. Please note that each luminaire can only be assigned to one group.

7.2.9.5 LPS device location

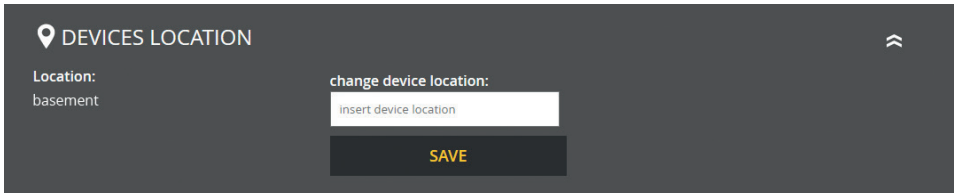
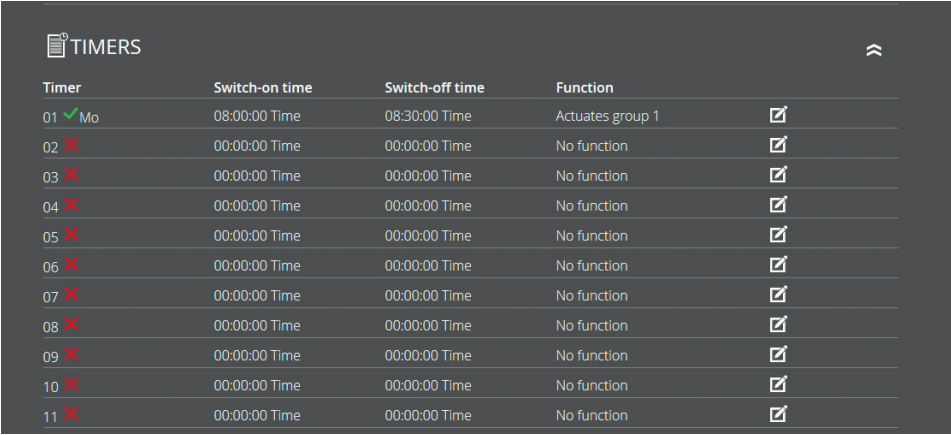


Fig. 165: Devices location

You can adjust the devices location in this area. Only „LPS“ as the default value stands here as the location.

The entry is limited to 12 characters.

7.2.9.6 Timers



Timer	Switch-on time	Switch-off time	Function	
01  Mo	08:00:00 Time	08:30:00 Time	Actuates group 1	
02 	00:00:00 Time	00:00:00 Time	No function	
03 	00:00:00 Time	00:00:00 Time	No function	
04 	00:00:00 Time	00:00:00 Time	No function	
05 	00:00:00 Time	00:00:00 Time	No function	
06 	00:00:00 Time	00:00:00 Time	No function	
07 	00:00:00 Time	00:00:00 Time	No function	
08 	00:00:00 Time	00:00:00 Time	No function	
09 	00:00:00 Time	00:00:00 Time	No function	
10 	00:00:00 Time	00:00:00 Time	No function	
11 	00:00:00 Time	00:00:00 Time	No function	

Fig. 166: Timers

In this area you can programme various time functions for the system. 24 timers for this programming are available.

All the active timers are marked with the green tick. Additional data on the timer (day of the week, switch-on time, switch-off time, function) can be taken from the corresponding line.

The red X signifies no function for the timer in question i.e. it is inactive.

You can edit or activate a timer by clicking the associated button. With the page re-loaded, you are now provided with various setting possibilities for the timer (s. 01 in figure 166). To deactivate an active timer, click on the button to be edited and select under Function „no function“ as the next step.

7.2.9.7 LSSA (light switch position queries) – Selection of inputs

The screenshot shows a web interface titled "LSSA INPUT" with a hamburger menu icon on the left and a double-up arrow icon on the right. Below the title is the section "LSSA functions". There are four panels, each titled "Function LSSA 1" through "Function LSSA 4". Each panel contains a list of functions with radio button selection options:

- Electrical circuit MM / NMM
- NMM manual acknowledge
- Function-Test Start
- ext. Fan fault
- Fault signalling contact
- extern
- Switch lighting groups

At the bottom of each panel is a "SAVE" button.

Fig. 167: LSSA inputs

In this area you can readily programme the four inputs of the light switch position queries.

The following functions can be selected:

- Electrical circuit MM/MMM 1 - 4
(multiple selection possible, switches MM luminaires on/off)
- NMM manual acknowledge
(the function must be activated in the „Settings“ menu item)
- Function-Test Start
- Switch lighting groups
(only with the „Single luminaire monitoring“ option)
- Ext. fan fault
- Fault signal contact - extern

7.2.9.8 Floating control inputs (digital port functions)

The screenshot shows a web interface titled "DIGITAL PORT INPUT" with a hamburger menu icon on the left and a double arrow icon on the right. Below the title is the section "Digital port functions". There are four columns, each representing a digital port input (1 to 4). Each column contains a list of functions with radio buttons for selection. At the bottom of each column is a "SAVE" button.

Function input 1	Function input 2	Function input 3	Function input 4
☐ Electrical circuit MM / NMM ☐ NMM manual acknowledge ☐ Function-Test Start ☐ ext. Fan fault ☐ Fault signalling contact ☐ extern ☐ Switch lighting groups	☐ Electrical circuit MM / NMM ☐ NMM manual acknowledge ☐ Function-Test Start ☐ ext. Fan fault ☐ Fault signalling contact ☐ extern ☐ Switch lighting groups	☐ Electrical circuit MM / NMM ☐ NMM manual acknowledge ☐ Function-Test Start ☐ ext. Fan fault ☐ Fault signalling contact ☐ extern ☐ Switch lighting groups	☐ Electrical circuit MM / NMM ☐ NMM manual acknowledge ☐ Function-Test Start ☐ ext. Fan fault ☐ Fault signalling contact ☐ extern ☐ Switch lighting groups
SAVE	SAVE	SAVE	SAVE

Fig. 168: Digital port inputs

In this area you can readily programme the four digital inputs.

The following functions can be selected:

- Electrical circuit MM/NMM 1 - 4
(multiple selection possible, switches MM luminaires on/off)
- NMM manual acknowledge
(the function must be activated in the „Settings“ menu item)
- Function-Test Start
- Switch lighting groups
(only with the „Single luminaire monitoring“ option)
- Ext. fan fault
- Fault signal contact - extern

7.2.9.9 Relay outputs – Selection

RELAY OUTPUTS

Relay functions

Relay 1

Operation: Mains operation

- ☐ Function test
- ☐ Operating test
- ☐ Exh. discharge
- ☐ Fault in battery circuit
- ☐ Fault in Battery symmetry
- ☐ External phase outage
- ☐ Fault in luminaires
- ☐ Fault in charger
- ☐ Invert relay function

SAVE

Relay 2

Operation: Battery mode

- ☐ Function test
- ☐ Operating test
- ☐ Exh. discharge
- ☒ Fault in battery circuit
- ☒ Fault in Battery symmetry
- ☐ External phase outage
- ☒ Fault in luminaires
- ☒ Fault in charger
- ☒ Invert relay function

SAVE

Relay 3

Operation: Please choose

- ☐ Function test
- ☐ Operating test
- ☐ Exh. discharge
- ☐ Fault in battery circuit
- ☐ Fault in Battery symmetry
- ☐ External phase outage
- ☐ Fault in luminaires
- ☐ Fault in charger
- ☐ Invert relay function

SAVE

Relay 4

Operation: Please choose

- ☐ Function test
- ☐ Operating test
- ☐ Exh. discharge
- ☐ Fault in battery circuit
- ☐ Fault in Battery symmetry
- ☐ External phase outage
- ☐ Fault in luminaires
- ☐ Fault in charger
- ☐ Invert relay function

SAVE

Fig. 169: Relay outputs

There are four relay outputs at the LPS device for various messages which can be readily programmed in this area.

The following functions can be selected:

- Mains operation/Battery mode
- Function test
- Operation test
- Exhaustive discharge
- Fault in charger
- Fault in battery circuit
- Fault in battery symmetry
- External phase outage
- Fault in luminaires
- Relay function inverted

The functions can be correspondingly adjusted with the Selection menu. Several functions can also be applied to one relay output.

7.2.9.10 Manually acknowledge the non-maintained mode (NMM)

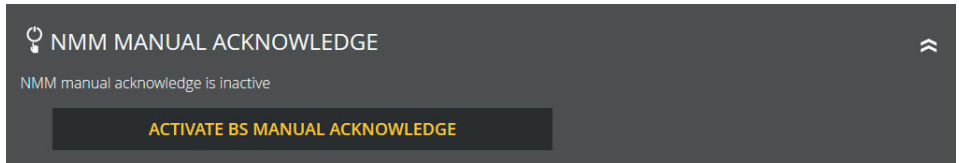


Fig. 170: NMM manual acknowledge

Here you can view the ongoing setting and switch „NMM manual acknowledge“ to active or inactive.

7.2.10 System

You can undertake settings affecting the LPS device in the „System“ menu item.

7.2.10.1 Time and date

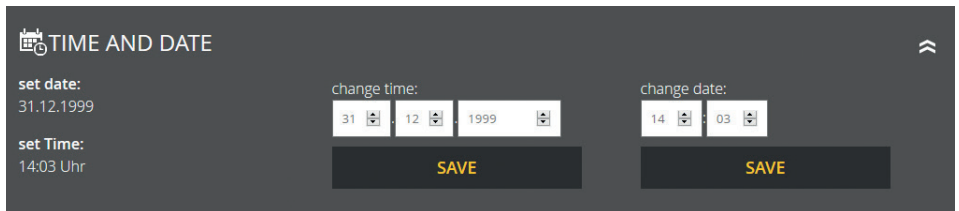


Fig. 171: Time and date

The set time and set date of the LPS device are indicated under „Time and date“. Use the boxes provided to change this data.

7.2.10.2 Network settings

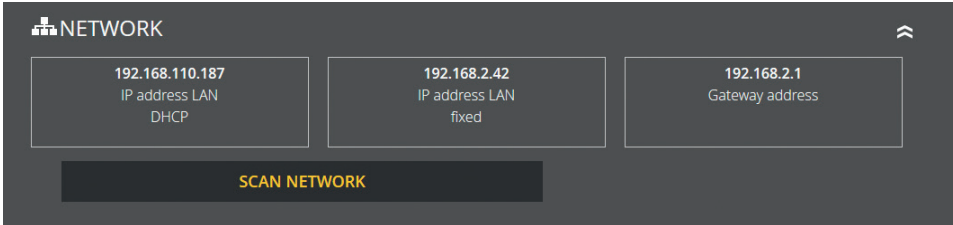


Fig. 172: Network

The IP address DHCP, IP address LAN fixed and gateway address are indicated in this area. You can also scan the network. The network scan is optional. It is needed for the communication of several LPS devices.

7.2.10.3 Change password

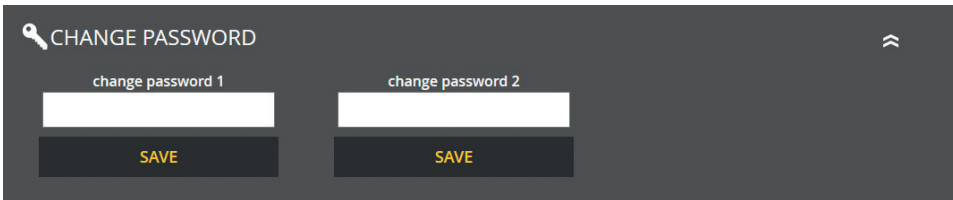


Fig. 173: Change password

Any password on hand can be changed here. For this, you need to preselect the password required and enter the new password.

- Password 1 = Accessing the main menu**
(Level 1 delivery condition: "0000")
- Password 2 = Accessing the extended settings: Test menu and system settings**
(Level 2 delivery condition: "1234")

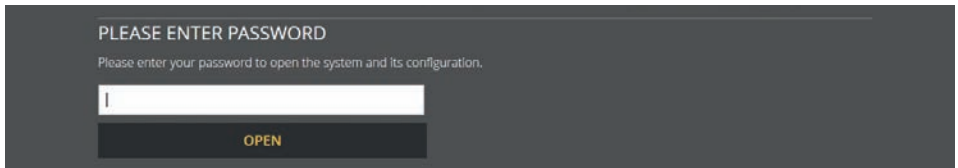
7.2.11 Building visualisation

Activating building visualisation presents you with the emergency lighting in the building. Visualisation provides the user with a rapid overview of all luminaires connected to the LPS device and of the LPS device itself. You can - at any time - glance over the status of the system and luminaires and immediately react in the event of a fault. Building visualisation also helps users (including those from outside) to quickly orientate themselves within the building.

To make use of building visualisation, you need a building layout plan (as jpg or png) in which the positions of the LPS device and luminaires are given.

Application is optimised for the Firefox browser. Problems may arise in depicting a number of functions in other browsers.

7.2.11.1 Setting up building visualisation



PLEASE ENTER PASSWORD

Please enter your password to open the system and its configuration.

OPEN

Fig. 174: Enter password

„Building visualisation“ is protected by Password 2. It needs to be activated by way of the corresponding option at the LPS device.

In the delivery condition, Password 2 „1234“ is saved from the LPS device.

Setting up building visualisation is as follows:

1. Designation of the building layout plan
2. Selection of the building layout plan wanted
3. Upload the layout plan (JPG or PNG format)

OVERVIEW - BUILDING LAYOUT PLANS

Description	Status	Info	Location	Option
corridor		✓ Luminaires assigned	basement	DELETE

Upload the new building layout plan

Please note that JPG and PNG are the permitted file formats and that a file must be no larger than 2 MB

Choose File No file chosen

UPLOAD

Fig. 175: Upload the building layout plan

A building layout plan can be added through the „Manage building layout plans“ menu item. For this, a name is entered for the plan and then the building layout plan is selected through the „Look through“ function in the directory.

The name and plan are accepted with the „Upload“ button. This is followed by the building layout plan being shown in the overview. Luminaires (see Chapter „Operating“) and the plans can now be deleted here.

7.2.11.2 Operating

With the „Look at, assign/edit luminaires“ menu item you can assign luminaires and their locations to a building layout plan.

OVERVIEW - BUILDING LAYOUT PLANS

Description	Status	Info	Location	Option
corridor		✓ Luminaires assigned	basement	LOOK AT / EDIT
office		✓ Luminaires assigned	basement	LOOK AT / EDIT

Fig. 176: Look at, assign/edit luminaires

Shown in the building layout plan overview of this menu item are the description, status, information on assigned luminaires, location and the editing options.

These editing options allow you to assign luminaires to the building layout plan (if not already undertaken), edit the luminaire assignment and look at the building layout plan. A new page on which the selected plan is indicated and can be edited is loaded for these options.

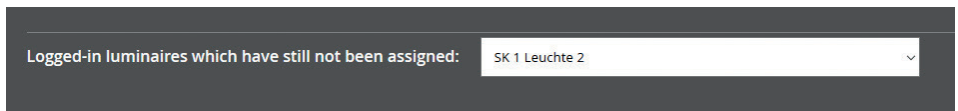


Fig. 177: Assign/edit luminaires

Luminaires not as yet assigned are selected in the upper area and positioned with a mouse click on the building layout plan.

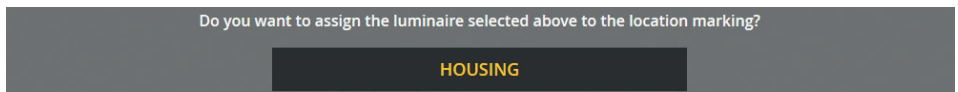


Fig. 178: Confirm allocation

Confirmation is then needed for the selected allocation. This then results in indication of the luminaire on the building layout plan. In addition, all assigned luminaires are listed under the building layout plan. Location markings can be deleted there.



Fig. 179: Deleting allocation

7.2.11.3 Specimen plan

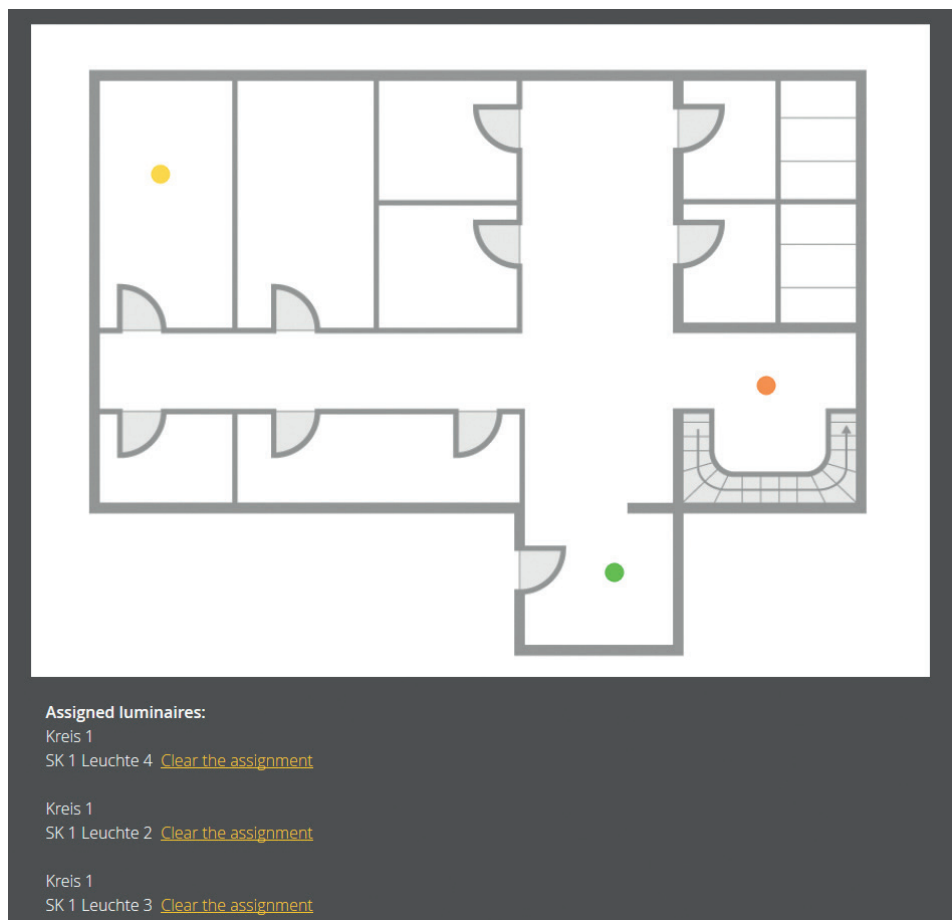


Fig. 180: Specimen plan

Figure 180 displays a specimen plan with three assigned luminaires and the location marking of the LPS device. The assigned luminaires are shown underneath the building layout plan. They can be deleted here. The colour of the luminaires is in line with the status display (see Chapter „Elements of the detailed view“, „Status display“). The effect of pointing to a luminaire in the plan with the mouse is for its location to be shown. To this end, the location of the luminaire needs to be entered in the LPS device. Otherwise only the circuit allocation and luminaire number appear.

8. Maintenance of the System

The LPS device is to be tested on the basis of the nationally valid regulations and provisions. The following details claim to be complete (subject to technical modifications without notice).

8.1 Initial inspections of the installation

The LPS device is to be tested on the basis of the following standards once set-up and installed:

- a. Examination of the lighting figures, EN 1838, DIN 5035-6
- b. EN 50172, VDE 0100-600, VDE 0100-560, VDE 0100-718, VDE 0108-100

8.2 Recurrent inspections

Recurrent inspections of the electrical system are for the sake of safety. The recurrent inspections are to be carried out along the lines of the nationally valid provisions. The checks are to be logged in the test logbook of the LPS device with both date of the inspection and the result. An automatic testing appliance must comply with ISO 62034.

Since following an operating duration test the battery does not have its full capacity available up to renewed charging and there is a risk of the power supply failing, then tests extending over a lengthy period are only to be carried during times of low-risk and/or safeguarding steps are taken until the battery is fully charged.

8.2.1 Daily inspections

A ready-to-operate state of the system is to be ensured from a daily visual check of the devices' displays. The LPS device need not be directly examined when during the operating-required time the state at a constantly monitored point is reported on (e.g. by a remote-controlled status panel). The following states are to be signalled:

- System ready for use
- System in the emergency light mode
- System ruined

8.2.2 Weekly inspections

A switch-over to the power source is to be done on a weekly basis for safety considerations and a test made on the function of the luminaires for the emergency lighting. An automatic testing appliance to be used must comply with EN 62034. Carry out a function test on the LPS device display to examine the switch-over and luminaires at the LPS device.

8.2.3 Monthly inspections

The function test must include a simulation of the power supply outage of the general lighting. Every luminaire of the emergency lighting is to be operated in the battery mode during the function test and every one checked for proper functioning. Power supply to the general lighting is to be restored after the inspection. Check on correct operation of the monitoring unit for the LPS device.

8.2.4 Yearly inspections

The yearly inspection must not be automatically triggered!

Along with the inspections under „Monthly inspections“, the following ones are to be carried out every year:

The rated duration of the system (operating duration test) is to be inspected on a yearly basis. This entails examining each LPS device as regards the required operating duration and ensuring the presence, cleanness and operability of the luminaires. The general lighting power supply needs to be restored and the charging unit checked for proper functioning. The required inspection (operation duration test) is to be done on the LPS device.

8.2.5 Inspections every three years

Every 3 years at the latest the illuminance of the emergency lighting is to be tested on the basis of EN 1838.

8.3 Battery inspection and control

The batteries and LPS devices are to be regularly checked for proper functioning in keeping with EN 50272-2. The following In accordance with the requirements of the manufacturers is to be checked on during an inspection:

- Voltage setting of the charging unit
- Voltages of the battery blocks and the overall battery
- Electrolyte specific gravity and the electrolyte level (if applicable)
- Clean state and tightness
- Firm fit of the connectors
- Ventilation
- Blockage of the valves
- Battery temperature

Refer to the operating manual of the battery manufacturer regarding any varying or particular inspection and control matters and their intervals.

Replace any defective battery blocks straight away!

8.4 Protocols on recurrent tests (Test protocols)

Recurrent test findings are to be documented in the test logbooks. The documentations are to be kept for at least 5 years. The operator of the safety unit is responsible for organizing and monitoring all the tests.

All work on the system is to be recorded in the protocol and presented, if need be.

9. Appendix

9.1 Fault notifications and failure correction

The points listed here are to help you in assigning any failures at the LPS device and to correcting them.

Error/Message	Failure at the device	Cause	Steps
Load circuit - no charging current/voltage		The output fuse is defective or No luminaires are connected up or Luminaires were connected after commissioning and no luminaire search was carried out	Check the fuses in the load circuit
Luminaire in the load circuit with monitoring module cannot be actuated		Polarity between the LPS device and driver (also in the luminaire) swapped over	
LPS device signals a defective luminaire (The signal appears after a luminaire test)	The state LED of the luminaire and the load circuit in the display is red	Failure in the load circuit/luminaire fault or Luminaires were connected after commissioning and no luminaire search was carried out	Test the luminaires in the load circuit
Over-low battery voltage		No charging functions. The F11/F10 battery fuse is defective or Test battery	Test the F11/F10 battery fuses Test charging voltage and off-load voltage and, if necessary, the battery
Display error	The LC display at the LPS device is dark	Cable connections from the display to the main board not connected or LC display defective	Check the connections Replace the printed circuit board
Connected load over-high at the LPS device	Message on the display „transformer over-loaded“	The connected load is too great	Reduce the number of connected luminaires

Table: Fault notification and failure correction

9.2 Calibrate luminaires

Tips for finding failures in luminaires which the load circuit search cannot find or detect.

- Only qualified electricians are to undertake any work
- Before starting the work, check that the electrical installation is in a proper state!
- Note the related safety regulations and the site-specific features
- It is forbidden to work on energized components without taking specific safety precautions

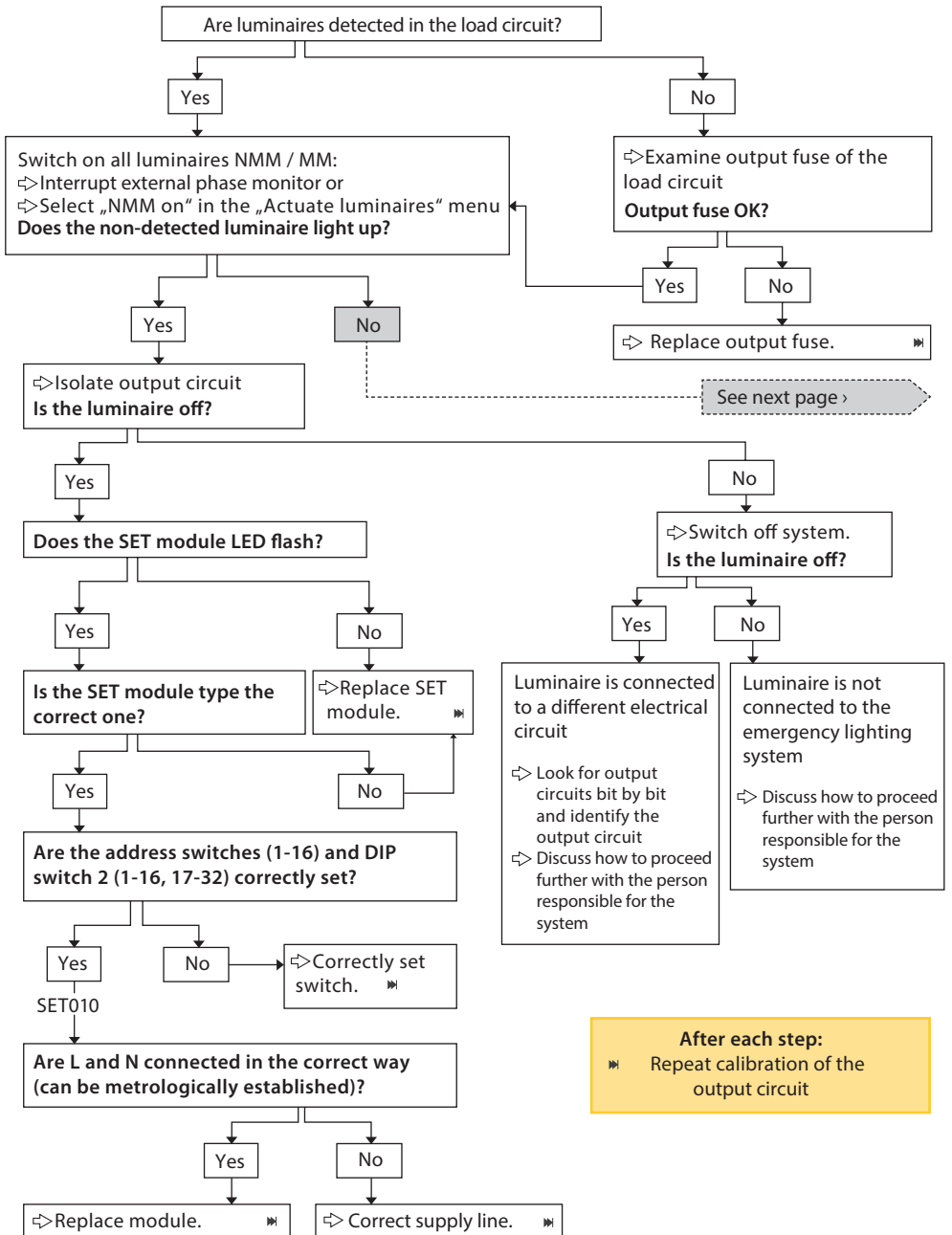
Requirement

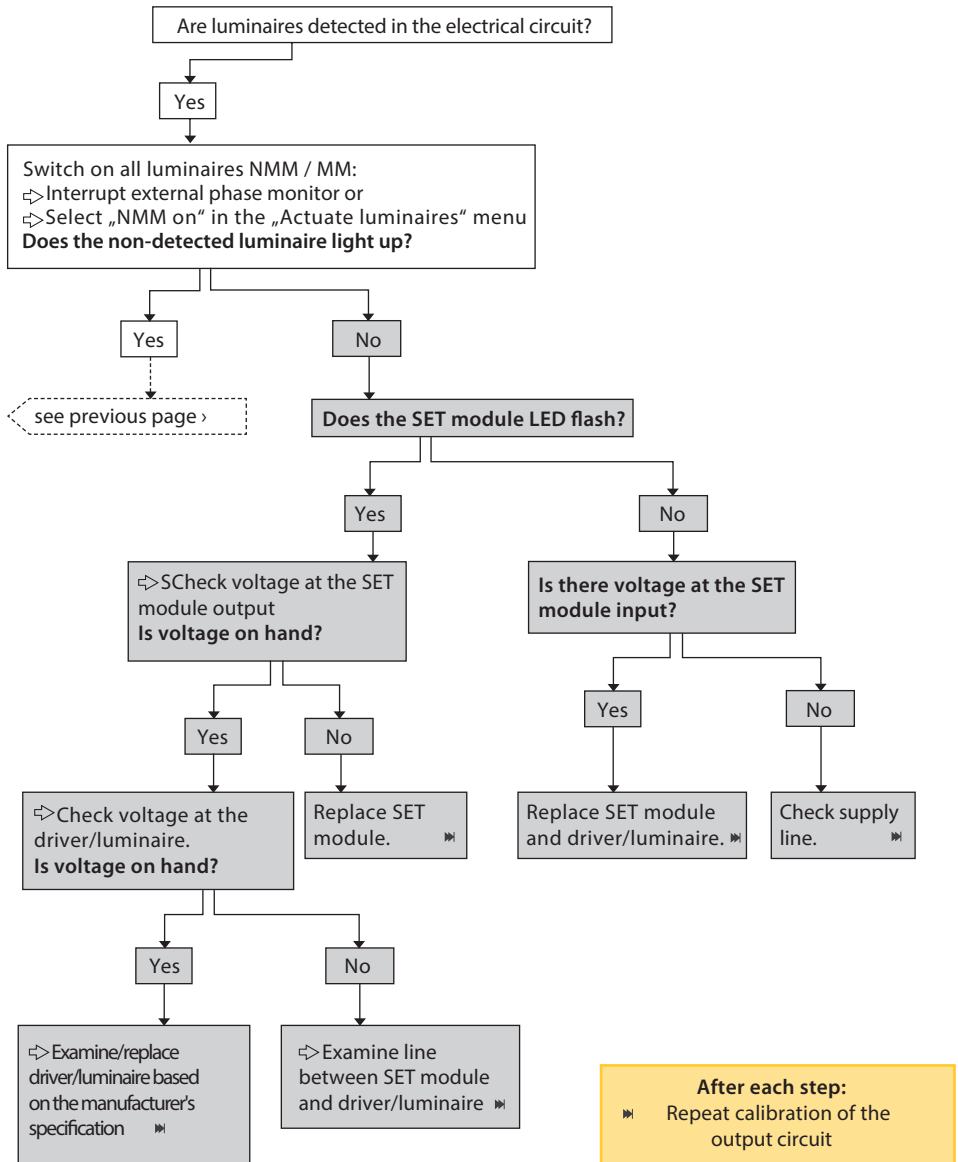
Please check that the points below have been met:

1. The monitoring system and load circuits are adapted to the correct types of luminaire modules (SET010)
2. Data transfer between module and LPS device functions
3. The limiting values of the monitoring system are set such as to permit detection of the output of the luminaires

When replacing SET modules make sure the type and the related switch positions are right!

When replacing LED drivers, adjust the output current and/or output voltage!





10. Templates

10.1 CSV file for luminaires import

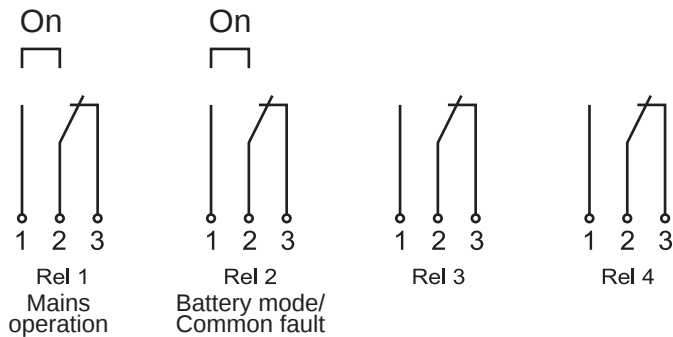
Stromkreis 1	Circuit 1	
Stromkreis 1 Leuchte 1	c 1 Luminaire 1	
Stromkreis 1 Leuchte 2	c 1 Luminaire 2	
Stromkreis 1 Leuchte 3	c 1 Luminaire 3	
Stromkreis 1 Leuchte 4	c 1 Luminaire 4	
Stromkreis 1 Leuchte 5	c 1 Luminaire 5	
Stromkreis 1 Leuchte 6	c 1 Luminaire 6	
Stromkreis 1 Leuchte 7	c 1 Luminaire 7	
Stromkreis 1 Leuchte 8	c 1 Luminaire 8	
Stromkreis 1 Leuchte 9	c 1 Luminaire 9	
Stromkreis 1 Leuchte 10	c 1 Luminaire 10	
Stromkreis 1 Leuchte 11	c 1 Luminaire 11	
Stromkreis 1 Leuchte 12	c 1 Luminaire 12	
Stromkreis 1 Leuchte 13	c 1 Luminaire 13	
Stromkreis 1 Leuchte 14	c 1 Luminaire 14	
Stromkreis 1 Leuchte 15	c 1 Luminaire 15	
Stromkreis 1 Leuchte 16	c 1 Luminaire 16	
Stromkreis 1 Leuchte 17	c 1 Luminaire 17	
Stromkreis 1 Leuchte 18	c 1 Luminaire 18	
Stromkreis 1 Leuchte 19	c 1 Luminaire 19	
Stromkreis 1 Leuchte 20	c 1 Luminaire 20	
Stromkreis 2	Circuit 2	
Stromkreis 2 Leuchte 1	c 2 Luminaire 1	
Stromkreis 2 Leuchte 2	c 2 Luminaire 2	
Stromkreis 2 Leuchte 3	c 2 Luminaire 3	
Stromkreis 2 Leuchte 4	c 2 Luminaire 4	
Stromkreis 2 Leuchte 5	c 2 Luminaire 5	
Stromkreis 2 Leuchte 6	c 2 Luminaire 6	
Stromkreis 2 Leuchte 7	c 2 Luminaire 7	
Stromkreis 2 Leuchte 8	c 2 Luminaire 8	
Stromkreis 2 Leuchte 9	c 2 Luminaire 9	
Stromkreis 2 Leuchte 10	c 2 Luminaire 10	
Stromkreis 2 Leuchte 11	c 2 Luminaire 11	
Stromkreis 2 Leuchte 12	c 2 Luminaire 12	
Stromkreis 2 Leuchte 13	c 2 Luminaire 13	
Stromkreis 2 Leuchte 14	c 2 Luminaire 14	
Stromkreis 2 Leuchte 15	c 2 Luminaire 15	
Stromkreis 2 Leuchte 16	c 2 Luminaire 16	
Stromkreis 2 Leuchte 17	c 2 Luminaire 17	
Stromkreis 2 Leuchte 18	c 2 Luminaire 18	
Stromkreis 2 Leuchte 19	c 2 Luminaire 19	
Stromkreis 2 Leuchte 20	c 2 Luminaire 20	

Stromkreis 3	Circuit 3	
Stromkreis 3 Leuchte 1	c 3 Luminaire 1	
Stromkreis 3 Leuchte 2	c 3 Luminaire 2	
Stromkreis 3 Leuchte 3	c 3 Luminaire 3	
Stromkreis 3 Leuchte 4	c 3 Luminaire 4	
Stromkreis 3 Leuchte 5	c 3 Luminaire 5	
Stromkreis 3 Leuchte 6	c 3 Luminaire 6	
Stromkreis 3 Leuchte 7	c 3 Luminaire 7	
Stromkreis 3 Leuchte 8	c 3 Luminaire 8	
Stromkreis 3 Leuchte 9	c 3 Luminaire 9	
Stromkreis 3 Leuchte 10	c 3 Luminaire 10	
Stromkreis 3 Leuchte 11	c 3 Luminaire 11	
Stromkreis 3 Leuchte 12	c 3 Luminaire 12	
Stromkreis 3 Leuchte 13	c 3 Luminaire 13	
Stromkreis 3 Leuchte 14	c 3 Luminaire 14	
Stromkreis 3 Leuchte 15	c 3 Luminaire 15	
Stromkreis 3 Leuchte 16	c 3 Luminaire 16	
Stromkreis 3 Leuchte 17	c 3 Luminaire 17	
Stromkreis 3 Leuchte 18	c 3 Luminaire 18	
Stromkreis 3 Leuchte 19	c 3 Luminaire 19	
Stromkreis 3 Leuchte 20	c 3 Luminaire 20	
Stromkreis 4	Circuit 4	
Stromkreis 4 Leuchte 1	c 4 Luminaire 1	
Stromkreis 4 Leuchte 2	c 4 Luminaire 2	
Stromkreis 4 Leuchte 3	c 4 Luminaire 3	
Stromkreis 4 Leuchte 4	c 4 Luminaire 4	
Stromkreis 4 Leuchte 5	c 4 Luminaire 5	
Stromkreis 4 Leuchte 6	c 4 Luminaire 6	
Stromkreis 4 Leuchte 7	c 4 Luminaire 7	
Stromkreis 4 Leuchte 8	c 4 Luminaire 8	
Stromkreis 4 Leuchte 9	c 4 Luminaire 9	
Stromkreis 4 Leuchte 10	c 4 Luminaire 10	
Stromkreis 4 Leuchte 11	c 4 Luminaire 11	
Stromkreis 4 Leuchte 12	c 4 Luminaire 12	
Stromkreis 4 Leuchte 13	c 4 Luminaire 13	
Stromkreis 4 Leuchte 14	c 4 Luminaire 14	
Stromkreis 4 Leuchte 15	c 4 Luminaire 15	
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Stromkreis 4 Leuchte 17	c 4 Luminaire 17	
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Stromkreis 4 Leuchte 20	c 4 Luminaire 20	

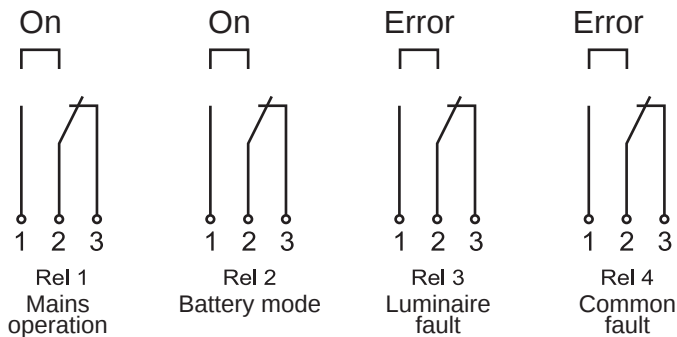
10.2 Templates for connections – Relay-outputs/GLT

Please consult the “Relay outputs – Selection” chapter for programming the connections.
The settings for the relay function can be programmed in the menu.

Setting - Factory deliveries



Configuration (example)



Status: December 2020

Subject to technical modifications, mistakes, sentence errors, printing errors and printing-induced colour variations.

Item No.: 670465-V02

