Product description
- Emergency lighting LED Driver with DALI interface and automatic test function
- For self-contained emergency lighting
- SELV for output voltage < 60 V DC
- Low profile casing (21 x 30 mm cross-section)
- 5 years guarantee (conditions at www.tridonic.com)

Properties
- Non maintained operation
- DALI interface for controlled testing and monitoring
- Constant current mode
- With either screw or clip fastening (clip-fix)
- 1, 2 or 3 h rated duration
- Selectable operating time (jumper)
- Output power limitation
- Two-colour status display LED
- Automatic restart after LED replacement
- Electronic multi-level charge system
- SELV (outputs powerLED, battery, status LED, test switch)
- Polarity reversal protection for battery
- Deep discharge protection
- Very low energy consumption from the battery after activation of the deep discharge protection
- Short-circuit-proof battery connection
- Emergency lighting LEDs available

Tests:
- Status of the battery
- Status of the LED
- Charge condition
- Function test
- Duration test

Batteries
- High-temperature cells
- NiCd or NiMH batteries
- 4-year design life
- 1-year guarantee
- For battery compatibility refer to table „Battery selection“

Standards, page 4
Wiring diagrams and installation examples, page 5
EM powerLED PRO EZ-3, 4 W
Combined emergency lighting LED Driver 1 – 4 W

Technical data

<table>
<thead>
<tr>
<th></th>
<th>EM powerLED 4 W PRO EZ-3</th>
<th>EM powerLED 4 W PRO EZ-3 NiMH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated supply voltage</td>
<td>220 – 240 V</td>
<td></td>
</tr>
<tr>
<td>Mains frequency</td>
<td>50 / 60 Hz</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>EM powerLED PRO EZ-3</td>
<td>EM powerLED PRO EZ-3 NiMH</td>
</tr>
<tr>
<td>Rated duration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mains current in charging operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial charge</td>
<td>275 mA</td>
<td>275 mA</td>
</tr>
<tr>
<td>Fast recharge</td>
<td>324 mA</td>
<td>324 mA</td>
</tr>
<tr>
<td>Trickle charge</td>
<td>21.0 mA</td>
<td>21.0 mA</td>
</tr>
<tr>
<td>Mains power in charging operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial charge</td>
<td>2.0 W</td>
<td>2.0 W</td>
</tr>
<tr>
<td>Fast recharge</td>
<td>3.0 W</td>
<td>3.0 W</td>
</tr>
<tr>
<td>Trickle charge</td>
<td>1.2 W</td>
<td>1.2 W</td>
</tr>
<tr>
<td>Time to light</td>
<td>0.23 s</td>
<td></td>
</tr>
</tbody>
</table>

Specific technical data

<table>
<thead>
<tr>
<th>Type</th>
<th>Rated duration</th>
<th>Mains current in charging operation</th>
<th>Mains power in charging operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM powerLED 4 W PRO EZ-3</td>
<td>1 h</td>
<td>Initial charge 210 mA</td>
<td>Initial charge 2.0 W</td>
</tr>
<tr>
<td>EM powerLED 4 W PRO EZ-3</td>
<td>2 h</td>
<td>Fast recharge 275 mA</td>
<td>Fast recharge 3.0 W</td>
</tr>
<tr>
<td>EM powerLED 4 W PRO EZ-3</td>
<td>3 h</td>
<td>Trickle charge 15.2 mA</td>
<td>Trickle charge 1.2 W</td>
</tr>
<tr>
<td>EM powerLED 4 W PRO EZ-3 NiMH</td>
<td>1 h</td>
<td>Initial charge 190 mA</td>
<td>Initial charge 1.7 W</td>
</tr>
<tr>
<td>EM powerLED 4 W PRO EZ-3 NiMH</td>
<td>2 h</td>
<td>Fast recharge 24.0 mA</td>
<td>Fast recharge 3.1 W</td>
</tr>
<tr>
<td>EM powerLED 4 W PRO EZ-3 NiMH</td>
<td>3 h</td>
<td>Trickle charge 13.0 mA</td>
<td>Trickle charge 3.2 W</td>
</tr>
</tbody>
</table>

Ordering data

<table>
<thead>
<tr>
<th>Type</th>
<th>Article number</th>
<th>Packaging, carton</th>
<th>Packaging, pallet</th>
<th>Weight per pc.</th>
<th>Max. number of LED</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM powerLED 4 W PRO EZ-3</td>
<td>89800126</td>
<td>25 pc(s)</td>
<td>1,200 pc(s)</td>
<td>0.068 kg</td>
<td>4 W</td>
<td></td>
</tr>
<tr>
<td>EM powerLED 4 W PRO EZ-3 NiMH</td>
<td>89800446</td>
<td>25 pc(s)</td>
<td>1,200 pc(s)</td>
<td>0.068 kg</td>
<td>4 W</td>
<td></td>
</tr>
</tbody>
</table>

Screw fastening version

<table>
<thead>
<tr>
<th>Type</th>
<th>Article number</th>
<th>Packaging, carton</th>
<th>Packaging, pallet</th>
<th>Weight per pc.</th>
<th>Max. number of LED</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM powerLED 4 W PRO EZ-3</td>
<td>89800126</td>
<td>25 pc(s)</td>
<td>1,200 pc(s)</td>
<td>0.068 kg</td>
<td>4 W</td>
<td></td>
</tr>
<tr>
<td>EM powerLED 4W PRO EZ-3 NiMH</td>
<td>89800446</td>
<td>25 pc(s)</td>
<td>1,200 pc(s)</td>
<td>0.068 kg</td>
<td>4 W</td>
<td></td>
</tr>
</tbody>
</table>

Data sheet 05/22-EM001-34
Subject to change without notice. Information provided without guarantee.
www.tridonic.com
**Product description**

- For connection to the emergency lighting unit
- For checking the device function

**Ordering data**

<table>
<thead>
<tr>
<th>Type</th>
<th>Article number</th>
<th>Packaging, bag</th>
<th>Packaging, carton</th>
<th>Weight per pc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test switch EM 2</td>
<td>89805277</td>
<td>25 pc(s)</td>
<td>600 pc(s)</td>
<td>0.011 kg</td>
</tr>
</tbody>
</table>

---

**Product description**

- Two-colour status display LED
- Green: system OK, red: fault

**Ordering data**

<table>
<thead>
<tr>
<th>Type</th>
<th>Article number</th>
<th>Packaging, bag</th>
<th>Packaging, carton</th>
<th>Weight per pc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED EM bi-colour</td>
<td>89899720</td>
<td>25 pc(s)</td>
<td>200 pc(s)</td>
<td>0.017 kg</td>
</tr>
<tr>
<td>LED EM bi-colour, high brightness</td>
<td>89899753</td>
<td>25 pc(s)</td>
<td>800 pc(s)</td>
<td>0.013 kg</td>
</tr>
</tbody>
</table>
1. Standards

- EN 61347-2-7
- EN 61347-2-13
- EN 62384
- EN 55015
- EN 60100-3-2
- EN 61000-3-3
- EN 61547
- EN 60068-2-64
- EN 60068-2-29
- EN 60068-2-30
- EN 62386 (according to DALI standard V1)
- according to EN 50172
- according to EN 60598-2-22
- according to EN 62034

1.2 Insulation and electric strength testing of luminaires

Electronic devices can be damaged by high voltage. This has to be considered during the routine testing of the luminaires in production.

According to IEC 60598-1 Annex Q (informative only!) or ENEC 303-Annex A, each luminaire should be submitted to an insulation test with 500 V DC for 1 second. This test voltage should be connected between the interconnected phase and neutral terminals and the earth terminal. The insulation resistance must be at least 2 MΩ.

As an alternative, IEC 60598-1 Annex Q describes a test of the electrical strength with 1,500 V AC (or 1.414 x 1,500 V DC). To avoid damage to the electronic devices this test must not be conducted.

2. Thermal details and lifetime

2.1 Lifetime

Average lifetime 50,000 hours under rated conditions with a failure rate of less than 10 %. Average failure rate of 0.2 % per 1000 operating hours.
3. Installation / Wiring

3.1 Wiring diagrams

3.1.1 Serial wiring with one or two LED modules

Take care that the LED is connected with the right polarity. LED that are connected to the EM powerLED PRO EZ-3 devices should have a reverse polarity protection device such as a schottky diodes fitted, otherwise irreversible damage could occur if the LED is connected in reverse polarity. Any protection device must be capable of handling in excess of 1,000 mA.

Note: Please ensure that at the terminal of the EM powerLED module the battery negative is not connected to the negative of the LED load.

3.1.2 Parallel wiring with multiple LED modules (3 – 12)

Take care that the LED is connected with the right polarity.

3.1.3 Manually tested emergency lighting with combined LED modules for general and emergency lighting

Due to the fact that independent circuits are used for general and emergency lighting it is important that the normal supply of the mains LED Driver is switched off together with the permanent emergency supply prior to checking the operation of the emergency LEDs. If this is not done then it may not be possible to see that the emergency LEDs are operating.

Use a circuit similar to that shown below.

* Use 230 V Test switch
3.1.4 Wireless set-up

1) Use 230 V Test switch
2) For further information see basicDIM Wireless datasheet at www.tridonic.com

3.2 Wiring type and cross section

**Wiring**
- mains (SL, N, L)
- LED (LED +, LED –)

**Wiring**
- batteries (Bat +, Bat –)
- test switch (switch)
- status indication LED (status K, A)

Use one wire for each terminal connector only.

3.3 Release of the wiring

Press down the “push button” and remove the cable from front.

3.4 Wiring instructions

- The EM powerLED terminals, battery, indicator LED and test switch terminals are classified as SELV. Keep the wiring of the DALI and the input terminals separated from the wiring of the SELV terminals or consider special wiring (double insulation, 6 mm creepage and clearance) when these connections should be kept SELV.
- The output to the LED is DC but has high frequency content at 125 kHz, which should be considered for good EMC compliance.
- EM powerLED leads should be separated from the mains and DALI connections and wiring for good EMC performance. With some luminaires it may be necessary to add a ferrite bead inductor to obtain satisfactory EMC performance.
- Maximum lead length on the EM powerLED terminals is 3 m. For a good EMC performance keep the LED wiring as short as possible.

3.5 Max. lead insulation diameter

- Battery 2.1 mm
- Test switch 2.1 mm
- Indicator LED 2.1 mm

3.6 Maximum lead length

- Battery 1 m
- LED 3 m
- status indication LED 1 m
4. Mechanical details

Case manufactured from polycarbonate.

LED bi-colour status indicator
• Green / red
• Mounting hole 6.5 mm diameter, 1 – 1.6 mm thickness
• Lead length 1,000 mm
• Insulation rating: 90 °C

Test switch
• Mounting hole 7.0 mm diameter
• Lead length 550 mm

Battery leads
• Quantity: 1 red and 1 black
• Length: 1,300 mm
• Wire type: 0.5 mm² solid conductor
• Insulation rating: 90 °C

Battery end termination
Push on 4.8 mm receptacle to suit battery spade fitted with insulating cover

Module end termination
80 mm stripped insulation

Two-piece batteries are supplied with a 200 mm lead with 4.8 mm receptacles at each end and insulating covers to connect the separate sticks together.

4.1 Recommended fixing details for clip fixing

Max. torque at the clamping screw: 0.5 Nm / M4

5. Electrical values

5.1 Maximum loading of automatic circuit breakers

<table>
<thead>
<tr>
<th>Automatic circuit breaker type</th>
<th>B10</th>
<th>C10</th>
<th>B13</th>
<th>C13</th>
<th>B16</th>
<th>C16</th>
<th>B20</th>
<th>C20</th>
<th>Inrush current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation Ø</td>
<td>1.5 mm²</td>
<td>1.5 mm²</td>
<td>1.5 mm²</td>
<td>1.5 mm²</td>
<td>2.5 mm²</td>
<td>2.5 mm²</td>
<td>2.5 mm²</td>
<td>2.5 mm²</td>
<td>I_max time</td>
</tr>
<tr>
<td>EM powerLED 4 W PRO EZ-3</td>
<td>90</td>
<td>180</td>
<td>130</td>
<td>260</td>
<td>130</td>
<td>260</td>
<td>130</td>
<td>260</td>
<td>10 A 120 μs</td>
</tr>
<tr>
<td>EM powerLED 4 W PRO EZ-3 NiMH</td>
<td>90</td>
<td>180</td>
<td>130</td>
<td>260</td>
<td>130</td>
<td>260</td>
<td>130</td>
<td>260</td>
<td>10 A 120 μs</td>
</tr>
</tbody>
</table>

5.2 Insulation matrix

<table>
<thead>
<tr>
<th></th>
<th>Mains</th>
<th>Switched Live</th>
<th>Battery, LED, Test switch, Indicator LED</th>
<th>DALI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains</td>
<td>–</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Switched Live</td>
<td>•</td>
<td>–</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Battery, LED, Test switch, Indicator LED</td>
<td>• •</td>
<td>• •</td>
<td>–</td>
<td>•</td>
</tr>
<tr>
<td>DALI</td>
<td>•</td>
<td>•</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

• Represents basic insulation
• • Represents double or reinforced insulation

DALI terminals are not SELV. Wire the terminals in accordance with the requirements of low voltage installations.
6. Functions

6.1 Duration link selection

<table>
<thead>
<tr>
<th>Duration</th>
<th>Link Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 hr</td>
<td>without jumper</td>
</tr>
<tr>
<td>2 hr</td>
<td>position A</td>
</tr>
<tr>
<td>3 hr</td>
<td>position B</td>
</tr>
</tbody>
</table>

6.2 Jumper selection

Module supplied with jumper in 3 hours position (position B).

The position of the link will only be read on first power up. If it is changed afterwards both the battery and mains supply must be disconnected for 10 seconds to enable the EM powerLED EZ-3 to read the new link position on reconnection of the battery and mains. It will lead to a false battery failure indication if the link is changed after installation without this reset.

6.3 Status indication

System status is indicated by a bi-colour LED and by a DALI status flag.

<table>
<thead>
<tr>
<th>LED indication</th>
<th>Status</th>
<th>Kommentar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent green</td>
<td>System OK</td>
<td>AC mode</td>
</tr>
<tr>
<td>Fast flashing green</td>
<td>Function test</td>
<td></td>
</tr>
<tr>
<td>(0.1 sec on – 0.1 sec off)</td>
<td>underway</td>
<td></td>
</tr>
<tr>
<td>Slow flashing green</td>
<td>Duration test</td>
<td></td>
</tr>
<tr>
<td>(1 sec on – 1 sec off)</td>
<td>underway</td>
<td></td>
</tr>
<tr>
<td>Red LED on</td>
<td>Load failure</td>
<td></td>
</tr>
<tr>
<td>Slow flashing red</td>
<td>Battery failure</td>
<td>Battery failed the duration test or function / Battery is defect / Incorrect battery voltage</td>
</tr>
<tr>
<td>(0.1 sec on – 0.1 sec off)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast flashing red</td>
<td>Charging failure</td>
<td>Incorrect charging current</td>
</tr>
<tr>
<td>(0.1 sec on – 0.1 sec off)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Double pulsing green</td>
<td>Inhibit mode</td>
<td>Switching into inhibit mode via controller</td>
</tr>
<tr>
<td>Binary transmission of address</td>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>via green/red LED</td>
<td>identification</td>
<td>During address identification mode</td>
</tr>
<tr>
<td>Green and red off</td>
<td>DC mode</td>
<td>Battery operation (emergency mode)</td>
</tr>
</tbody>
</table>

If the EM powerLED is operated in non-maintained mode and an LED fault is detected, the red indicator LED will be illuminated and the output will be stopped. The unswitched mains supply must be switched off before the LED is changed in order that the new LED can be detected. A function or duration test will not reset the fault indication.

6.4 Testing

DALI Control

A DALI command from a suitable control unit can be used to initiate function and duration tests at individually selected times. Status flags are set for report back and data logging of results.

When a DALI bus has not been connected or when a DALI bus is connected but the DALI default DELAY and INTERVAL times have not been re-set by sending appropriate DALI commands, then the EM powerLED PRO EZ-3 will conduct self-tests in accordance with the default times set within the EEPROM. These default times are factory pre-set, in accordance with the DALI standard EN 62386-20, to conduct an automatic function test every 7 days and a duration test every 52 weeks. Since the DELAY time is factory pre-set to 0, all units are tested at the same time. Test times can be changed with a command over the DALI bus.

The DELAY and INTERVAL time values must be re-set when the emergency system test times are to be scheduled by a DALI control and monitoring system.

Note that once the default values have been set to Zero, tests will only be conducted following a command from the control system. If the DALI bus is disconnected the EM powerLED PRO EZ-3 does not revert to self-testing mode.

Commissioning

After installation of the luminaire and initial connection of the mains supply and battery supply to the EM powerLED PRO EZ-3 the unit will commence charging the batteries for 20 hours (initial charge). Afterwards the module will conduct a commissioning test for the full duration. The 20 hours recharge occurs also if a new battery is connected or the module exits the rest mode condition. The following automatic commissioning duration test is only performed when a battery is replaced and fully charged (after 20 hrs) and the interval time is not set to zero, otherwise the system is expected to perform the testing.

Functional test

The time of day and frequency of the 5 seconds function test can be set by the DALI controller. The default setting is a 5 seconds test on a weekly basis.

Duration test

The time of day and frequency of the duration test can be set by the DALI controller. The default setting is a duration test conducted every 52 weeks.

Prolong time

Prolong time can be set by the DALI controller. This is the delay time between return of the mains supply and the end of the emergency operation. The default prolong time is set as 0 minutes as specified within the DALI standard.

Indicator LED will stay off for the duration of the prolong time.

Rest Mode / Inhibit Mode

Emergency operation is automatically started when the mains supply is switched off. If the Rest Mode is activated, the discharging of the battery will be minimized by switching off the LED output. If the Inhibit Mode has been activated before the mains supply is switched off, Rest Mode will be automatically switched on if the mains supply is switched off within 15 minutes. Rest Mode and Inhibit Mode can be initiated by the DALI controller. The REST command has to be sent after the mains supply has been disconnected and whilst the EM powerLED PRO is in emergency operation. The INHIBIT command has to be sent while the EM powerLED PRO is supplied by mains. After a mains reset the EM powerLED PRO exits the Rest Mode. Rest Mode and Inhibit Mode can both be disabled by sending the RE-LIGHT/RESET INHIBIT command.

Test switch

An optional test switch can be wired to each EM powerLED PRO EZ-3. This can be used to initiate a 5 seconds function test by a short press < 1 second.

DALI Controller

DALI controllers and hardware/software solutions are available from Tridonic. Please refer to the Lighting controls section.

6.5 Further technical data

The EM powerLED has a unique power regulation circuit; this is designed to limit the total power drawn from the battery in the event of using LED’s with a forward voltage (Vf) higher than 3.4 V.

In such cases the unit will reduce the LED current in order to maintain an acceptable drain current from the battery and hence meet the required duration time. This feature enables the EM powerLED PRO EZ-3 to have minimum battery count for a given range of LED’s.
7. Battery data

7.1 Battery selection

<table>
<thead>
<tr>
<th>Technology and capacity</th>
<th>Design</th>
<th>Number of cells</th>
<th>Type</th>
<th>Article no.</th>
<th>Assignable batteries</th>
</tr>
</thead>
<tbody>
<tr>
<td>NiCd 4 Ah D cells</td>
<td>stick</td>
<td>1 x 5</td>
<td>Accu-NiCd 5A S5</td>
<td>28002774</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>stick + stick</td>
<td>3 x 2</td>
<td>Accu-NiCd 5C S5</td>
<td>89800090</td>
<td>+</td>
</tr>
<tr>
<td>NiMH 2.2 Ah Cs cells</td>
<td>stick</td>
<td>1 x 5</td>
<td>Accu-NiMH 5A</td>
<td>28002090</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>side by side</td>
<td>5 x 1</td>
<td>Accu-NiMH 5B</td>
<td>28002093</td>
<td>*</td>
</tr>
<tr>
<td>NiMH 4 Ah LA cells</td>
<td>stick + stick</td>
<td>2 x 3</td>
<td>Accu-NiMH 4Ah SC CON</td>
<td>89800439</td>
<td>+</td>
</tr>
</tbody>
</table>

7.2 Battery charge / discharge data

<table>
<thead>
<tr>
<th>Type</th>
<th>EM powerLED 4W PRO EZ-3</th>
<th>EM powerLED 4W PRO EZ-3 NiMH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article no.</td>
<td>89800126</td>
<td>89800446</td>
</tr>
<tr>
<td>Cells</td>
<td>5 cells</td>
<td>5 cells</td>
</tr>
<tr>
<td>Duration</td>
<td>1 h</td>
<td>2 / 3 h</td>
</tr>
<tr>
<td>1 h</td>
<td>1 h</td>
<td>2 / 3 h</td>
</tr>
<tr>
<td>15 h</td>
<td>15 h</td>
<td>15 h</td>
</tr>
<tr>
<td>210 mA</td>
<td>210 mA</td>
<td>210 mA</td>
</tr>
<tr>
<td>201 mA / 4 min</td>
<td>201 mA / 4 min</td>
<td>201 mA / 4 min</td>
</tr>
<tr>
<td>127 mA / 16 min</td>
<td>127 mA / 16 min</td>
<td>127 mA / 16 min</td>
</tr>
<tr>
<td>1100 mA</td>
<td>1100 mA</td>
<td>1100 mA</td>
</tr>
<tr>
<td>107 – 16 V per cell</td>
<td>107 – 16 V per cell</td>
<td></td>
</tr>
<tr>
<td>1.6 – 10.7 V per cell</td>
<td>1.6 – 10.7 V per cell</td>
<td></td>
</tr>
</tbody>
</table>

7.3 Accu-NiCd

4.2 / 4.5 Ah
- Battery voltage/cell: 12 V
- Cell type: D
- Case temperature range to ensure 4 years design life: +5 °C to +55 °C
- Max. short term battery case temperature (shorter than 1 month over the battery lifetime): 70 °C
- Max. number discharge cycles: 4 cycles per year plus 4 cycles during commissioning
- Max. storage time: 6 months

7.4 Accu-NiMH

2.2 Ah
- Battery voltage/cell: 12 V
- Cell type: Cs
- Case temperature range to ensure 4 years design life: +5 °C to +50 °C
- Max. short term battery case temperature (shorter than 1 month over the battery lifetime): 70 °C
- Max. number discharge cycles: 4 cycles per year plus 30 cycles during commissioning
- Max. storage time: 12 months
4.0 Ah
Battery voltage/cell 12 V
Cell type LA
Case temperature range to ensure 4 years design life
When used with EM powerLED 4W PRO EZ-3 +5 °C to +45 °C
When used with EM powerLED 4W PRO EZ-3 NiMH +5 °C to +50 °C
Max. short term battery case temperature (shorter than 1 month over the battery lifetime) 70 °C
Max. number discharge cycles 4 cycles per year plus 30 cycles during commissioning
Max. storage time 12 months

7.5 Batteries
Connection method: 4.8 x 0.5 mm spade tag welded to end of cell
For stick packs this connection is accessible after the battery caps have been fitted.
To inhibit inverter operation disconnect the batteries by removing the connector from the battery spade tag.
For further information refer to corresponding battery datasheet.

7.6 Storage, installation and commissioning
Relevant information about storage conditions, installation and commissioning are provided in the battery datasheets.

8. Miscellaneous
8.1 Additional information
Additional technical information at www.tridonic.com → Technical Data
Lifetime declarations are informative and represent no warranty claim.
No warranty if device was opened.

8.2 Mains-connected transformers
The EM powerLED does not contain mains-connected windings of transformers.

8.3 FELV control terminals

⚠️ FELV control terminals marked „Risk of electric shock“ are not safe to touch. Insulate circuits connected to any FELV control terminal for the Low Voltage supply voltage of the control gear. Protect terminals connected to the FELV circuit against accidental contact.