

#### EM powerLED PRO CPS

Emergency lighting supply units

#### Product description

- Emergency lighting LED driver
- To be used in conjunction with the Schuster SETLON control and monitoring system

#### Properties

- Mains and emergency operation
- DALI interface for controlled testing and monitoring in conjunction with Schuster SETLON system
- DALI switchable in mains operation (on/off);
- Low-profile casing (21 x 30 mm cross-section)
- Constant current mode
- With screw fastening
- 2 W version
- Automatic restart after LED replacement
- SELV classified (output powerLED)
- Emergency lighting LEDs available
- For emergency lighting systems as per EN 50172

Tests:

- Status of the LED

#### Batteries

- Central battery system



**Standards**, page 3

**Wiring diagrams and installation examples**, page 3



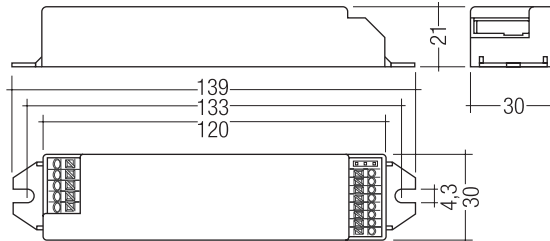


### EM powerLED PRO CPS

Emergency lighting supply units

#### Technical data

Rated supply voltage	220 – 240 V
Frequency	50 / 60 / 0 Hz
Overvoltage protection	320 V (for 1 h)
Leakage current (PE)	< 0.5 mA
Ambient temperature $t_a$	-25 ... +50 °C
Max. casing temperature $t_c$	70 °C
Ingress protection	IP20
Protection class	I



#### Ordering data

Type	Article number	Max. number of LEDs	Wattage	Packaging carton	Packaging pallet	Weight per pcs.
<b>Screw fastening version</b>						
EM powerLED 2 W PRO CPS	89800067	2	2.0 W	25 pc(s).	1,200 pc(s).	0.065 kg

#### Specific technical data

Type	Output current	Output power
<b>1 x LED</b>		
EM powerLED 2 W PRO CPS	600 mA	2.0 W
<b>2 x LED</b>		
EM powerLED 2 W PRO CPS	350 mA	2.4 W

**1. Standards**

- CE
- Suitable for emergency installations according to EN 50172
- according to EN 60598-2-22

**1.1 Insulation and electric strength testing of luminaires**

Electronic devices can be damaged by high voltage. Take this into consideration during the routine testing of the luminaires in production.

According to IEC 60598-1 Annex Q (informative only!) or ENEC 303-Annex A, submit each luminaire to an insulation test with 500 V<sub>DC</sub> for 1 second. Connect this test voltage 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<sub>AC</sub> (or 1,414 x 1,500 V<sub>DC</sub>). Do not conduct this test to avoid damage to the electronic devices.

**2. Thermal details and lifetime**

**2.1 Lifetime**

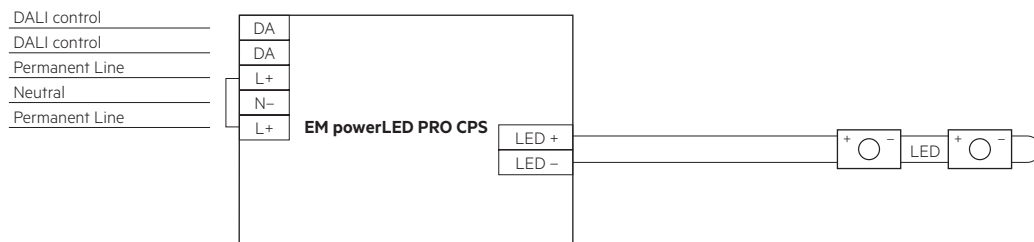
Average lifetime 50,000 hours under rated conditions with a failure rate of less than 10 %. Average failure rate of 0.2 % per 1000 operating hours.

**3. Installation / Wiring**

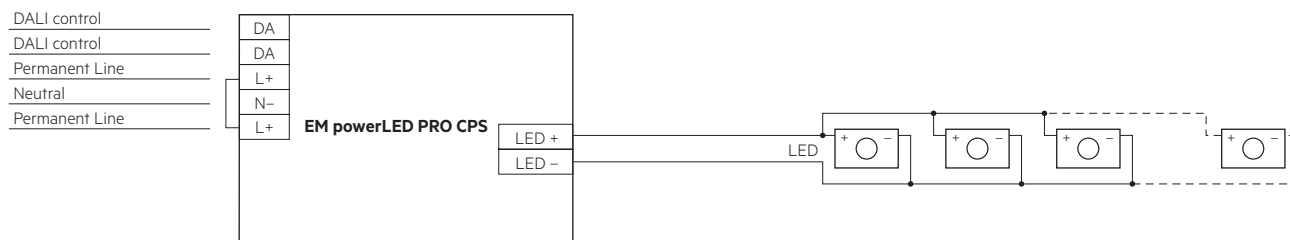
**3.1 Wiring diagram**

Note:  
Connect both permanent lines (L+) of the input terminals together.

**3.1.1 One LED or two LEDs in serial wiring**



**3.1.2 Multiple LEDs (3 – 12) in parallel wiring**



Connect the LEDs with the right polarity.  
LEDs that are connected to the EM powerLED devices need a reverse polarity protection device such as a Schottky diode.  
Otherwise with the connection of the LEDs in reverse polarity irreversible damage can occur. Any protection device must be capable of handling in excess of 700 mA.

**Note:**

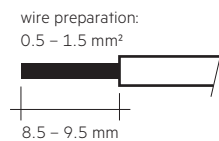
The Tridonic emergency LEDs are fitted with a protection diode in parallel with the EM powerLED.

### 3.2 Wiring type and cross section

For wiring use stranded or solid wires. Strip 8.5–9.5 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.

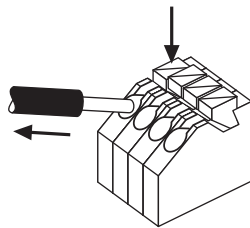
**Wiring**

mains (L+, N-, L+)  
DALI (DA)  
LED (LED +, LED -)



### 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 are classified as SELV. Keep the wiring of the DALI and the input terminals separated from the wiring of the SELV equivalent terminals or consider special wiring (double insulation, 6 mm creepage and clearance) to keep these connections SELV.
- The output to the LED is DC but has high frequency content at 125 kHz. Consider this for good EMC compliance.
- Separate the EM powerLED leads from the mains and DALI connections and wiring for good 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.
- Route the secondary wires (LED module) in parallel to ensure good EMC performance.
- DALI terminals are mains proof.

## 4. Mechanical values

- Casing manufactured from polycarbonate.
- Module end termination: 8.0 mm stripped insulation

**Status indication:**

System status is indicated by a DALI status flag.

## 5. Technical data

### 5.1 AC operation

Rated mains supply voltage: 220 – 240 V / 50 / 60 Hz  
With tolerance for performance: (-10%, +6%): 198 – 254 V / 50 / 60 Hz  
With tolerance for safety: (±10%): 198 – 264 V / 50 / 60 Hz

At 230 VAC:  
Mains current: 38 mA  
Power in mains operation: 5 W  
Power factor: 0.51

### 5.2 DC operation

Rated DC supply voltage: 220 – 240 V / 0 Hz  
Battery voltage for operating LED: 176 – 280 V / 0 Hz

At 220 VDC:  
Current: 20 mA  
Power: 4.5 W

### 5.3 Operation on DC voltage

The EM powerLED is designed to operate on DC voltage.  
It is NOT suitable to operate on pulsed DC voltage.

The EM powerLED is designed to be used only on the Schuster SETLON emergency control and monitoring system.

## 6. Miscellaneous

### 6.1 Additional information

Additional technical information at [www.tridonic.com](http://www.tridonic.com) → Technical Data

Guarantee conditions at [www.tridonic.com](http://www.tridonic.com) → Services

Lifetime declarations are informative and represent no warranty claim.  
No warranty if device was opened.