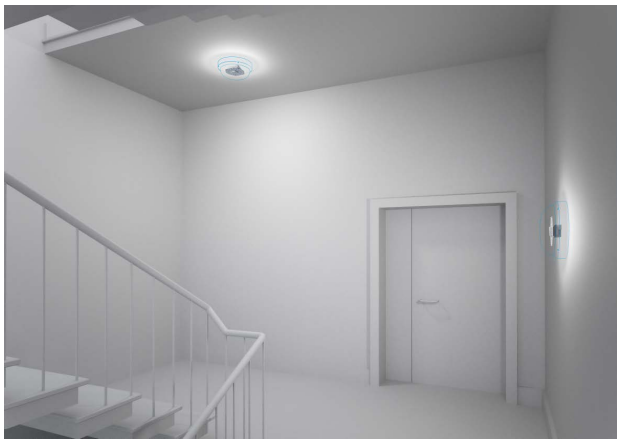
EM powerLED CLE CPS

LED Driver for AC and DC power supplies



Product description

- LED Driver for mains operation with integrated Simple CORRIDOR FUNCTION (CF)
- For use in central battery systems
- For luminaire installation
- For the use with STARK CLE 1500 EM
- 5 years guarantee

Properties

- Constant current LED Driver with 350 or 470 mA output current
- Simple CORRIDOR FUNCTION (CF) with 10 % light level
- Constant current mode
- Light output in DC operation (EoF_{DC}): 0.1 or 1
- SELV
- For emergency lighting systems as per EN 50172
- LED module and sensor available

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Wiring diagrams and installation examples, page 5

SELV EL RoHS

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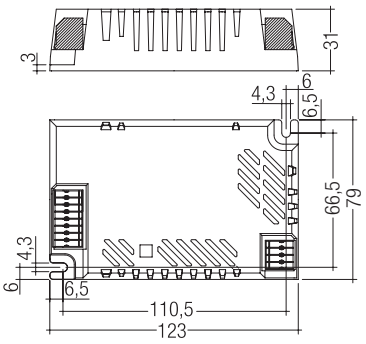


Technical data

Rated supply voltage	220 – 240 V
Voltage range AC	198 – 264 V
Voltage range DC	176 – 280 V
Mains frequency	0 / 50 / 60 Hz
Leakage current (PE)	0 mA
Overvoltage protection	320 V (for 1 h)
Max. permitted forward voltage LED	33 V
Turn on time (at 230 V, 50 Hz, full load)	100 ms
Changeover time between mains and emergency	< 380 ms
Changeover time between emergency and mains	< 100 ms
Ambient temperature ta	-25 … 55 °C
Max. casing temperature tc	75 °C
Dimensions LxBxH	123 x 79 x 31 mm
Type of protection	IP20

EM powerLED 12W CLE CPS	**89800527**	10 pc(s).	560 pc(s).	0.1 kg
EM powerLED 15W CLE CPS	**89800177**	10 pc(s).	560 pc(s).	0.1 kg

Specific technical data

Type	Output current	Output current tolerance	Min. output voltage[2]	Max. output voltage[2]	Typ. output power	Input power (at 230 V, 50 Hz, full load)	Input current (at 230 V, 50 Hz, full load)	Efficiency (at 230 V, 50 Hz)	λ (at 230 V, 50 Hz, full load)	Ambient temperature ta[1]	tc/ta for ≥ 50.000 h[1]
Normal operation											
EM powerLED 12W CLE CPS	350 mA	5 %	22 V	33 V	10.61 W	13.6 W	75 mA	78 %	0.8c	-5 … 55 °C	85 / 55 °C
EM powerLED 15W CLE CPS	470 mA	5 %	22 V	33 V	14.25 W	17.0 W	100 mA	83 %	0.8c	-5 … 55 °C	85 / 55 °C
CF operation											
EM powerLED 12W CLE CPS	29 mA	15 %	22 V	33 V	0.75 W	1.7 W	15 mA	44 %	0.5c	–	–
EM powerLED 15W CLE CPS	43 mA	15 %	22 V	33 V	1.12 W	2.0 W	18 mA	49 %	0.5c	–	–
Emergency operation 100 %											
EM powerLED 12W CLE CPS	350 mA	5 %	22 V	33 V	10.61 W	13.6 W	75 mA	78 %	–	–	–
EM powerLED 15W CLE CPS	470 mA	5 %	22 V	33 V	14.25 W	17.0 W	100 mA	83 %	–	–	–
Emergency operation 10 %											
EM powerLED 12W CLE CPS	29 mA	15 %	22 V	33 V	0.75 W	1.7 W	15 mA	44 %	–	–	–
EM powerLED 15W CLE CPS	43 mA	15 %	22 V	33 V	1.12 W	2.0 W	18 mA	49 %	–	–	–

[1] Ambient temperature range ta defined in normal operation

[2] Output voltage range defined in normal operation. LED forward voltage will decrease in CF operation.

ACCES-SORIES

SWITCH Sensor HF 5BP

Automatic switching based on motion and light level

Product description

- Motion detector for luminaire installation
- Motion detection through glass and thin materials (except metal)
- For automatic on/off switching of electronic ballasts with corridorFUNCTION
- “Bright-Out” function: luminaire is not switched on if there is adequate brightness
- Delay time, detection range and light value for the “Bright-Out” function can be set via 3 potentiometers
- Max. installation height 5 m
- Infinitely variable range (0.5 – 5.0 m)

Ordering data

Type	Article number	Packaging, carton	Weight per pc.
SWITCH Sensor HF 5BP	**28000086**	4 pc(s).	0,079 kg

Standards
EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-13
EN 61547
EN 62384
according to EN 60598-2-22
according to EN 50172
EN 61347-2-7

Mechanichal details
Case manufactured from polycarbonate.

Glow-wire test according to EN 61347-1 with increased temperature of 850 °C passed.

Short-circuit behaviour
In case of a short circuit on the secondary side (LED) the LED ouput is switched off. After elimination of the short circuit the nominal operation is restored automatically.

No-load operation
The LED Driver is not damaged in the no-load operation. The max. output voltage can be obtained during no-load operation.

Storage conditions
Humidity: 5 % up to max. 85 %, not condensed (max. 56 days/year at 85 %)

Storage temperature: -40 °C up to max. +80 °C

The devices have to be within the specified temperature range (ta) before they are operated.

Expected life-time

Type		ta = 45 °C	ta = 55 °C
EM powerLED 12W CLE CPS	tc	65 °C	75 °C
	Life-time	100,000 h	50,000 h
EM powerLED 15W CLE CPS	tc	65 °C	75 °C
	Life-time	100,000 h	50,000 h

Maximum loading of automatic circuit breakers

Automatic circuit breaker type	B10	B13	B16	B20	Inrush current	
Installation Ø	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²	I_{max}	time
EM powerLED 12W CLE CPS	90	130	130	130	10 A	120 µs
EM powerLED 15W CLE CPS	90	130	130	130	10 A	120 µs

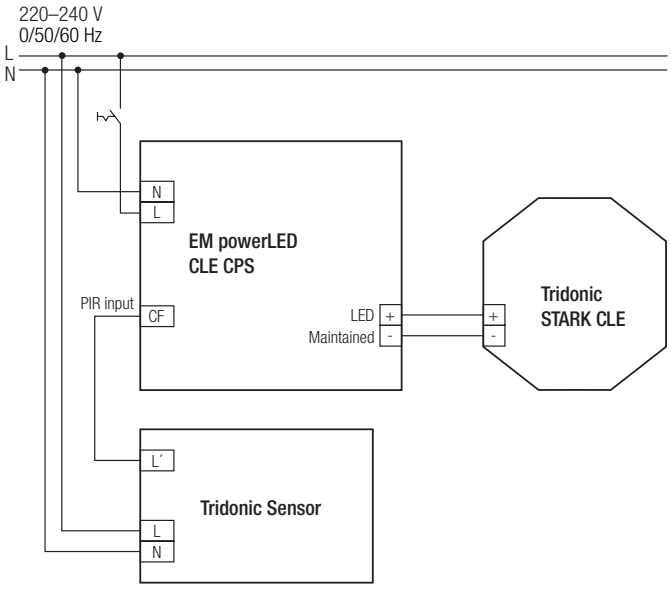
Harmonic distortion in the mains supply (at 230 V / 50 Hz and full load) in %

Type	THD	3	5	7
EM powerLED 12W CLE CPS	43	32	9	12
EM powerLED 15W CLE CPS	38	33	20	8

Ballast lumen factor (BLF) in %

	Corridor mode	DC operation
EM powerLED 12W CLE CPS	10	10 / 100
EM powerLED 15W CLE CPS	10	10 / 100

Wiring diagram EM powerLED with sensor



PIR input ≙ 230 V

Switching behaviour:

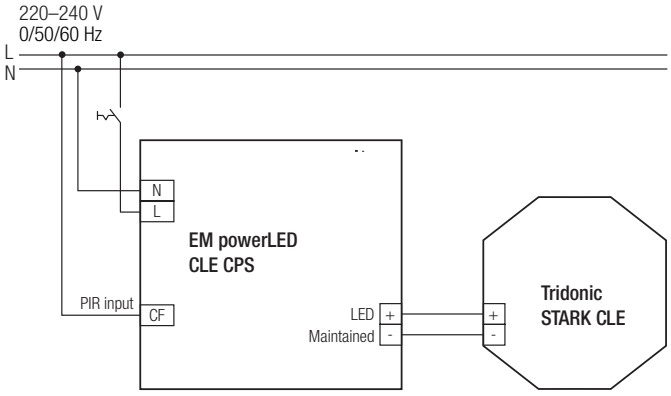
L	CF	Output LED
off	off	off
off	on	off
on	off	10 %
on	on	100 %

DC operation behaviour:

Emergency level EoF_i: 0.1

The sensor is not activ in DC operation.

Wiring diagram EM powerLED



PIR input ≙ 230 V

DC operation behaviour:

The emergency level EoF_i (0.1 or 1) depends on the polarity of the DC voltage.

Polarity of the DC voltage		
L	+	–
N	–	+
CF	+	–
Emergency level EoF_i	1	0.1

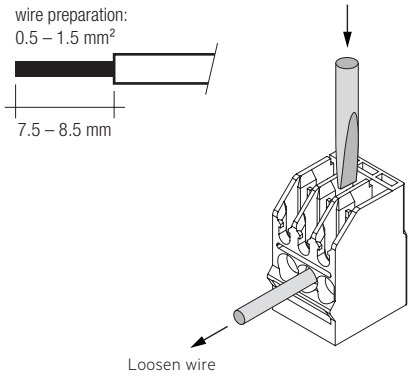
The mains power must be removed before changing the LED load.

Secondary switching of LEDs is not allowed and may cause damage to the LEDs. The hot plug-in of LEDs during normal operation may result in current peaks of up to 50% above the typical output current.

Wiring instructions
- The LED terminals are classified as SELV. Keep the wiring of the input terminals separated from the wiring of the SELV equivalent terminals or consider special wiring (double insulation, 6 mm creepage and clearance) when these connections should be kept SELV.
- LED leads should be separated from the mains connections and wiring for good EMC performance.
- Maximum lead length on the LED terminals is 3 m. For a good EMC performance keep the LED wiring as short as possible.

IDC interface
- solid wire with a cross section of 0.5 mm² according to the specification from WAGO

Horizontal interface
- solid wire with a cross section of 0.5–1.5 mm² according to the specification from WAGO
- strip 7.5–8.5 mm of insulation from the cables to ensure perfect operation of the terminals



Installation instruction
Max. torque for the mounting screws: 0.5 Nm / M4.

You must make sure that the LED is connected with the correct polarity. LEDs that are connected to EM powerLED should have polarity reversal protection such as a Schottky diode. There may be irreversible damage if the LED is connected with the wrong polarity. The protection device must be capable of handling a load of more than 700 mA.

Additional information

Additional technical information at www.tridonic.com → Technical Data

Guarantee conditions at www.tridonic.com → Services

Life-time declarations are informative and represent no warranty claim.
No warranty if device was opened.