

IP20 SELV                                           

Specific technical data

Type	Output current ^①	Typ. power consumption (at 230 V, 50 Hz, full load)	Power factor at full load ^①	Efficiency at full load ^①	Power factor at min. load ^①	Efficiency at min. load ^①	Min. forward voltage ^①	Max. forward voltage ^①	Max. output voltage	Max. peak output current at full load ^{①②}	Max. peak output current at min. load ^{①②}
LCI 20W 350mA TEC SR	350 mA	23.0 W	0.95	86 %	0.89C	83 %	26 V	57 V	66 V	660 mA	810 mA
LCI 20W 500mA TEC SR	500 mA	23.0 W	0.95	86 %	0.87C	82 %	18 V	40 V	46 V	940 mA	1,120 mA
LCI 20W 700mA TEC SR	700 mA	23.5 W	0.95	85 %	0.86C	80 %	13 V	29 V	33 V	1,330 mA	1,580 mA

^① Test result at 230 V, 50 Hz.

^② The trend between min. and full load is linear.

^③ Output current is mean value.

Standards

EN 55015
EN 60598-1
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-13
EN 61547
EN 62384

Overload protection

If the output voltage range is exceeded the LED control gear reduces the LED output current. After elimination of the overload the nominal operation is restored automatically.

Overtemperature protection

The LED control gear is protected against temporary thermal overheating. If the temperature limit is exceeded the LED control gear is switched off. It restarts automatically. The temperature protection is activated between 6 °C and 12 °C above t_c max.

Short-circuit behaviour

In case of a short circuit on the secondary side (LED) the LED control gear switches into hic-cup mode. After elimination of the short circuit the nominal operation is restored automatically.

No-load operation

The LED control gear works in constant voltage mode. In no-load operation the output voltage will not exceed the specified max. output voltage (see page 2).

Installation instructions

The LED module and all contact points within the wiring must be sufficiently insulated against 3.5 kV surge voltage.
Air and creepage distance must be maintained.

Replace LED module

1. Mains off
2. Remove LED module
3. Wait for 30 seconds
4. Connect LED module again

Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs.

Expected life-time

Type	t_a	40 °C	50 °C	60 °C
LCI 20W xxxmA TEC SR	t_c	65 °C	75 °C	x
	Life-time	50,000 h	30,000 h	x

The LED Drivers are designed for a life-time stated above under reference conditions and with a failure probability of less than 10 %.

Maximum loading of automatic circuit breakers

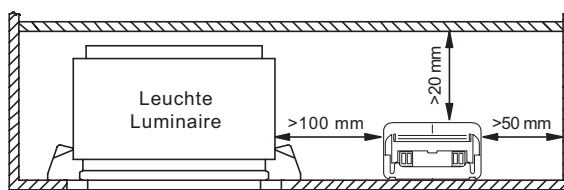
Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20	Inrush current	
Installation Ø	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²	I_{max}	Time
LCI 20W 350mA TEC SR	60	90	120	140	30	45	60	70	10 A	100 µs
LCI 20W 500mA TEC SR	60	90	120	140	30	45	60	70	10 A	100 µs
LCI 20W 700mA TEC SR	60	90	120	140	30	45	60	70	10 A	100 µs

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

	THD	3.	5.	7.	9.	11.
LCI 20W 350mA TEC SR	20	6	2	3	2	2
LCI 20W 500mA TEC SR	20	6	2	3	2	2
LCI 20W 700mA TEC SR	20	5	2	3	3	2

Fixing conditions

Dry, acidfree, oilfree, fatfree. It is not allowed to exceed the maximum ambient temperature (t_a) stated on the device. Minimum distances stated below are recommendations and depend on the actual luminaire. Is not suitable for fixing in corner.



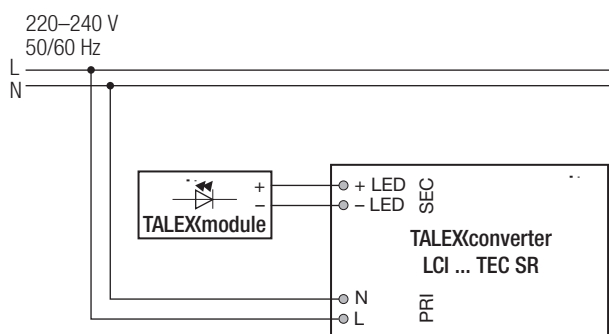
Storage conditions

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 (t_a) before they can be operated.

Wiring diagram



Glow wire test

according to EN 60598-1 with increased temperature of 960 °C passed.

Isolation 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 isolation 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 isolation resistance must be at least 2 MΩ.

As an alternative, IEC 60598-1 Annex Q describes a test of the electrical strength with 1500 V_{AC} (or 1.414 x 1500 V_{DC}). To avoid damage to the electronic devices this test must not be conducted.

Additional information

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

Guarantee conditions at
www.tridonic.com → Services

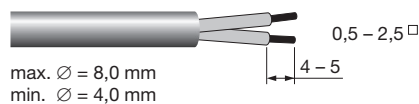
No warranty if device was opened.

Wiring type and cross section

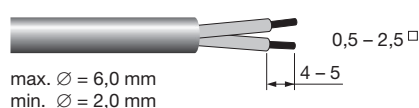
The wiring can be in stranded wires with ferrules or solid. For perfect function of the cage clamp terminals the strip length should be 4 – 5 mm for the input terminal.

The max. torque at the clamping screw (M3) is 0.2 Nm.

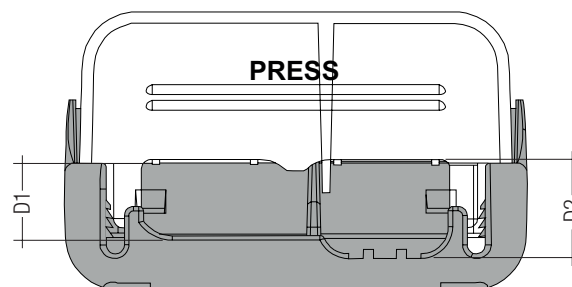
Input terminal (D2)



Output terminal (D1)



To get a proper working strain relief it is recommended that the cable jacket diameter of the side D2 is 2 mm bigger than the diameter of the side D1. (This can vary if the used cable jacket material varies from side D2 to D1 in pinching property).



Depending on the used flaps of the terminal following cable jacket diameter difference between the side D2 and D1 terminals is recommended:

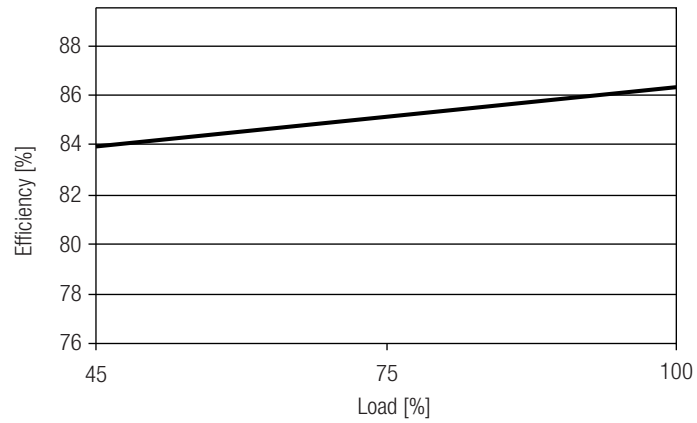
Side D1		Side D2		Cover terminal		Difference D2 - D1
Housing bottom		With flap	Without flap	With flap	Without flap	
With flap	Without flap	With flap	Without flap	With flap	Without flap	
x	—	x	—	x	—	3.5 mm
x	—	x	—	—	x	5.5 mm
x	—	—	x	—	x	3.5 mm
—	x	x	—	—	x	3.5 mm
—	x	—	x	—	x	1.5 mm
x	—	—	x	x	—	1.5 mm
—	x	x	—	x	—	1.5 mm
—	x	—	x	x	—	-0.5 mm

Wiring instructions

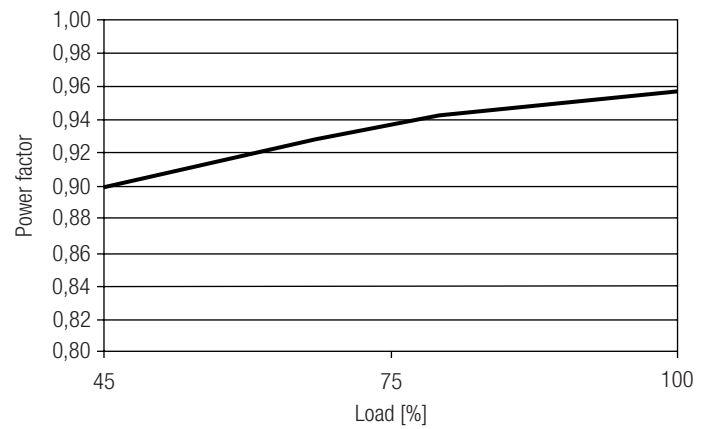
- All connections must be kept as short as possible to ensure good EMI behaviour
- Mains leads should be kept apart from LED control gear and other leads (ideally 5 – 10 cm distance)
- The maximum length of output wires is 2 m.
- Secondary switching is not permitted.
- Incorrect wiring can damage LED modules.
- Through wiring of mains is connecting additional LED Driver only. Max. permanent current of 10 A may not be exceeded.
- The wiring must be protected against short circuits to earth (sharp edged metals parts, metal cable clips, louver, etc.)

Diagrams LCI 20W 350mA TEC SR

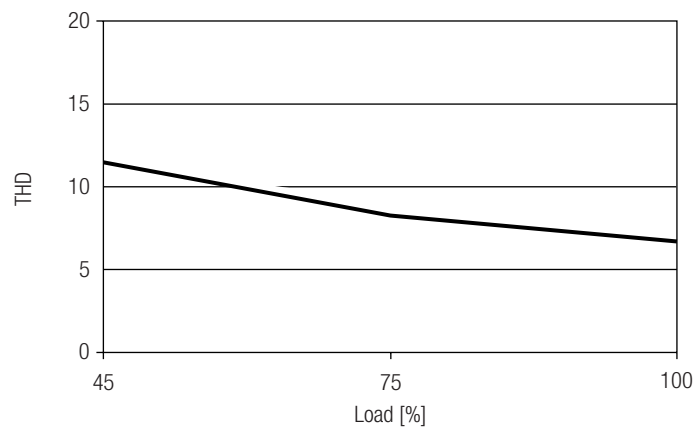
Efficiency vs load



Power factor vs load

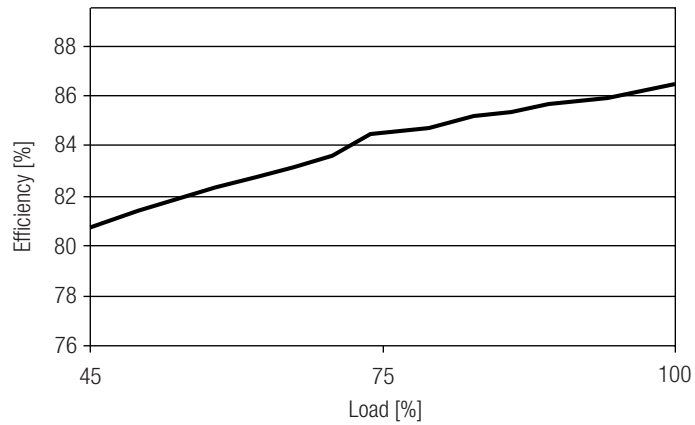


THD vs load

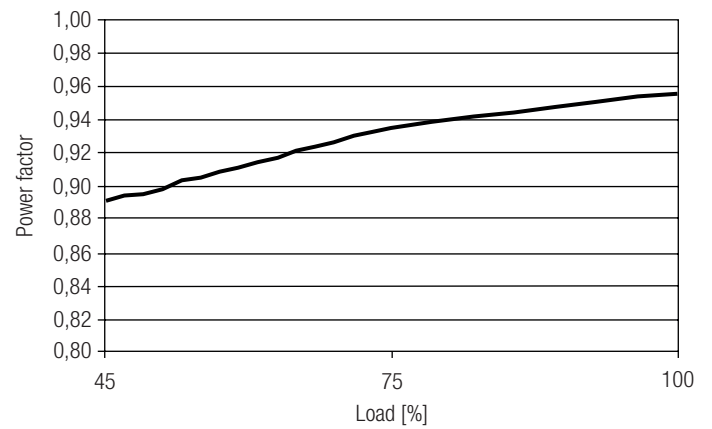


Diagrams LCI 20W 500mA TEC SR

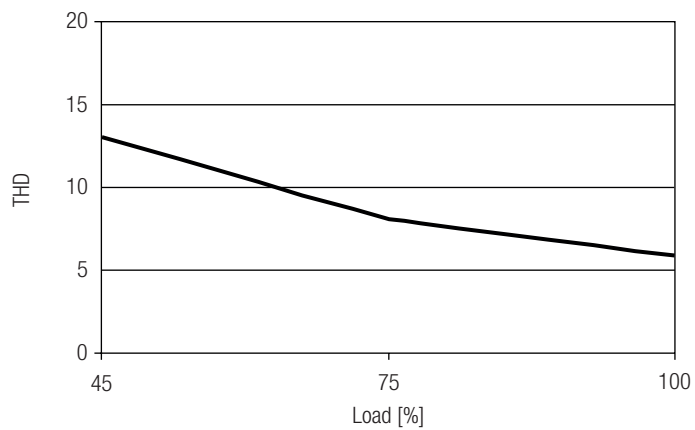
Efficiency vs load



Power factor vs load

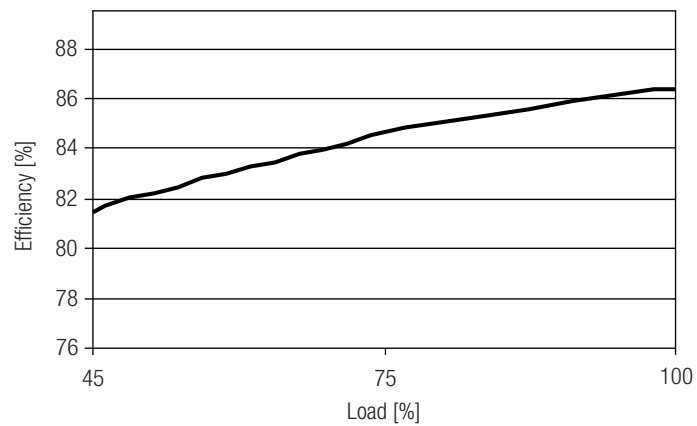


THD vs load

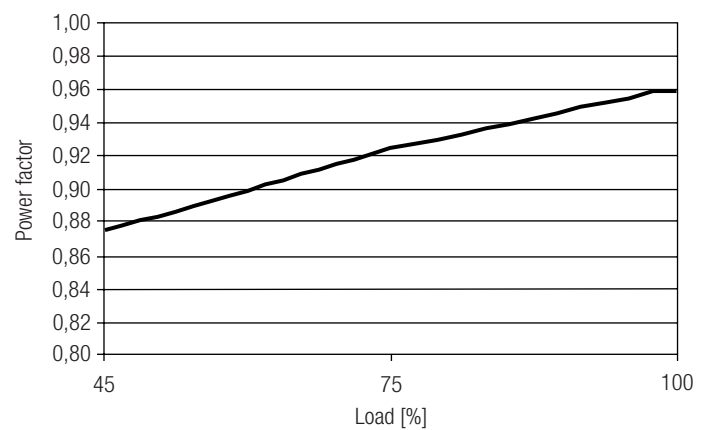


Diagrams LCI 20W 700mA TEC SR

Efficiency vs load



Power factor vs load



THD vs load

