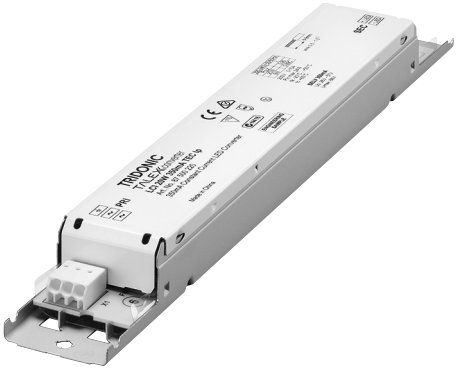
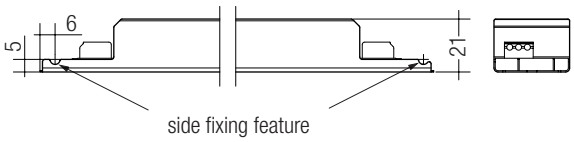
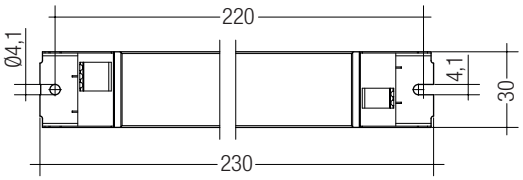
IP20 SELV RoHS

TALEXdriver LCI 20 W 350/500/700 mA TEC lp

TEC series







Product description

- Fixed output built-in LED Driver
- Constant current LED Driver
- Output current 350, 500 or 700 mA
- Max. output power 20 W
- Nominal life-time up to 50,000 h
- For luminaires of protection class I and protection class II
- Temperature protection as per EN 61347-2-13 C5e
- 5-year guarantee

Properties

- Low-profile metal casing with white cover
- Type of protection IP20

Functions

- Overtemperature protection
- Overload protection
- Short-circuit protection
- No-load protection

Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Typ. rated current (at 230 V, 50 Hz, full load)	0.1 A
Mains frequency	50 / 60 Hz
Overvoltage protection	300 V AC, 1 h
Leakage current (at 230 V, 50 Hz, full load)	< 400 µA
Max. input power	24 W
Output power	20 W
THD (at 230 V, 50 Hz, full load)	< 20 %
Output current tolerance	± 7.5 %
Turn on time (at 230 V, 50 Hz, full load)	≤ 0.7 s
Turn off time (at 230 V, 50 Hz, full load)	≤ 0.7 s
Hold on time at power failure	0 s
Ambient temperature ta	-20 ... +50 °C
Ambient temperature ta (at life-time 50,000 h)	40 °C
Max. casing temperature tc	65 °C
Storage temperature ts	-40 ... +80 °C
Dimensions L x W x H	230 x 30 x 21 mm

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Wiring diagrams and installation examples, page 4

Ordering data

Type	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LCI 20W 350mA TEC lp	87500220	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.144 kg
LCI 20W 500mA TEC lp	87500221	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.141 kg
LCI 20W 700mA TEC lp	87500222	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.137 kg

Specific technical data

Type	Output current	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[1][2]	Max. peak output current at min. load[1][2]	Typical output LF current ripple at full load
LCI 20W 350mA TEC lp	350 mA	22.5 W	0.97	88 %	0.89C	84 %	26 V	57 V	66 V	540 mA	640 mA	± 25 %
LCI 20W 500mA TEC lp	500 mA	22.5 W	0.97	88 %	0.87C	83 %	18 V	40 V	48 V	740 mA	890 mA	± 25 %
LCI 20W 700mA TEC lp	700 mA	23.0 W	0.97	86 %	0.86C	81 %	13 V	29 V	35 V	1,160 mA	1,310 mA	± 30 %

[1] Test result at 230 V, 50 Hz.

[2] The trend between min. and full load is linear.

Standards
EN 55015
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 Driver reduces the LED output current. After elimination of the overload the nominal operation is restored automatically.

Overtemperature protection
The LED Driver is protected against temporary thermal overheating. If the temperature limit is exceeded the LED Driver shuts down and recovers after over temperatur is removed.
The temperature protection is activated typically at 10 °C above tc max.

Short-circuit behaviour
In case of a short circuit on the secondary side (LED) the LED Driver switches into hic-cup mode. After the removal of the short-circuit fault the LED Driver will recover automatically.

No-load operation
The LED Driver works in constant voltage mode. In no-load operation the output voltage will not exceed the specified max. output voltage (see page 1).

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 can be operated.

Expected life-time

Type	ta	40 °C	50 °C	60 °C
LCI 20W xxx mA TEC lp	tc	55 °C	65 °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 mm²	1.5 mm²	1.5 mm²	2.5 mm²	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²	I_{max}	Time
LCI 20W 350mA TEC lp	60	90	120	140	30	45	60	70	10 A	100 µs
LCI 20W 500mA TEC lp	60	90	120	140	30	45	60	70	10 A	100 µs
LCI 20W 700mA TEC lp	60	90	120	140	30	45	60	70	10 A	100 µs

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

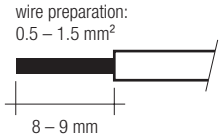
	THD	3.	5.	7.	9.	11.
LCI 20W 350mA TEC C	20	5	3	3	3	2
LCI 20W 500mA TEC C	20	4	2	2	2	2
LCI 20W 700mA TEC C	20	4	3	2	2	2

Installation instructions
The LED module and all contact points within the wiring must be sufficiently insulated against 2.5 kV surge voltage.
Air and creepage distance must be maintained.

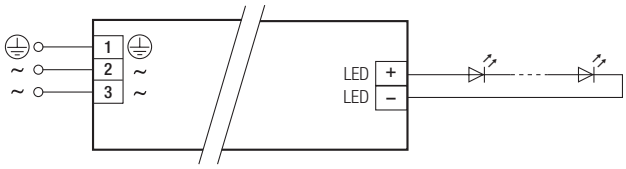
Replace LED module
1. Mains off
2. Remove LED module
3. Wait for 40 seconds
4. Connect LED module again

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

Wiring type and cross section
Solid wire with a cross section of 0.5 – 1.5 mm². Strip 8 – 9 mm of insulation from the cables to ensure perfect operation of terminals.



Wiring diagram



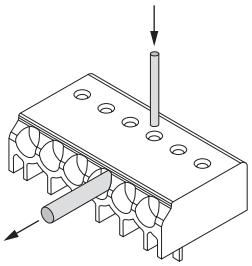
Wiring guidelines
- All connections must be kept as short as possible to ensure good EMI behaviour.
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Max. lenght of output wires is 2 m.
- Secondary switching is not permitted.
- Incorrect wiring can demage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

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.

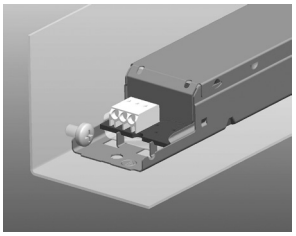
According to IEC 60598-1 Annex Q (informative only!) or ENEC 303-Annex A, each luminaire should be submitted to an isolation test with 500 V_{DC} for 1 second. This test voltage should be connected between the interconnected phase and neutral terminals and the earth terminal.
The isolation resistance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

Release of the wiring
Loosen wire through twisting and pulling or using a Ø 1 mm release tool.



Side fixing feature



Screw M4, screw head diameter 8–10 mm

Additional information

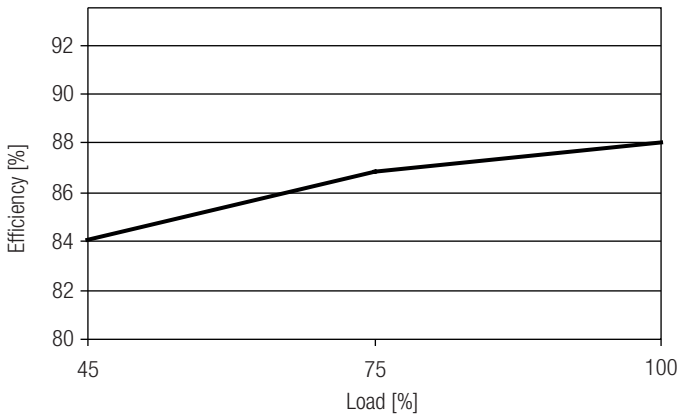
Additional technical information at www.tridonic.com → Technical Data

Guarantee conditions at www.tridonic.com → Services

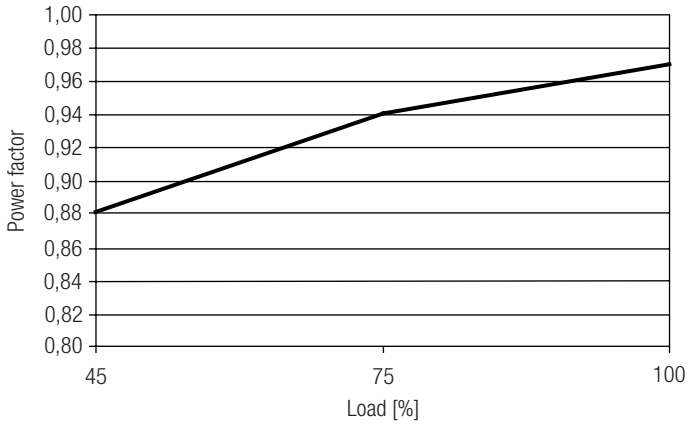
Life-time declarations are informative and represent no warranty claim.
No warranty if device was opened.

Diagrams LCI 20W 350mA TEC Ip

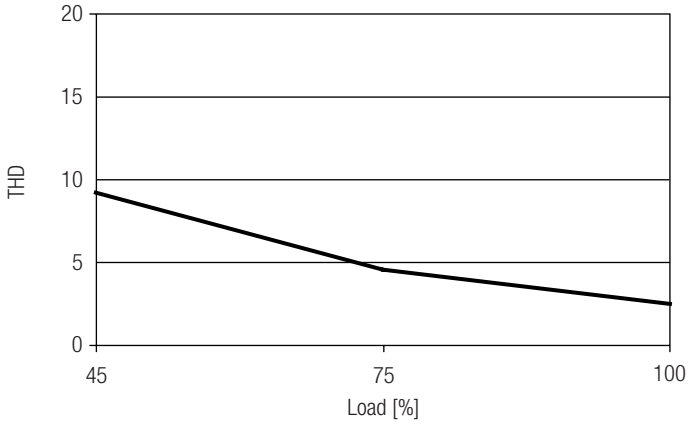
Efficiency vs load



Power factor vs load

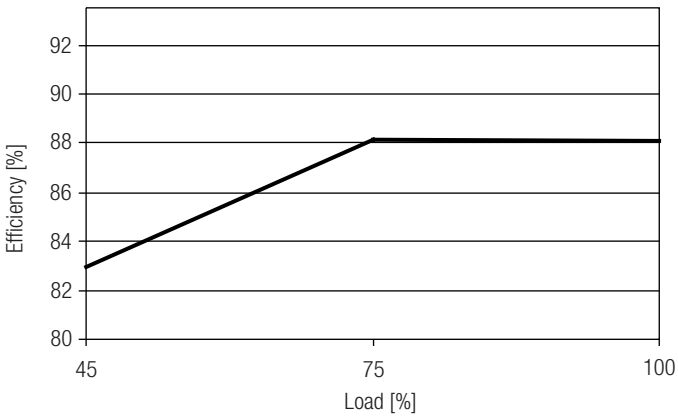


THD vs load

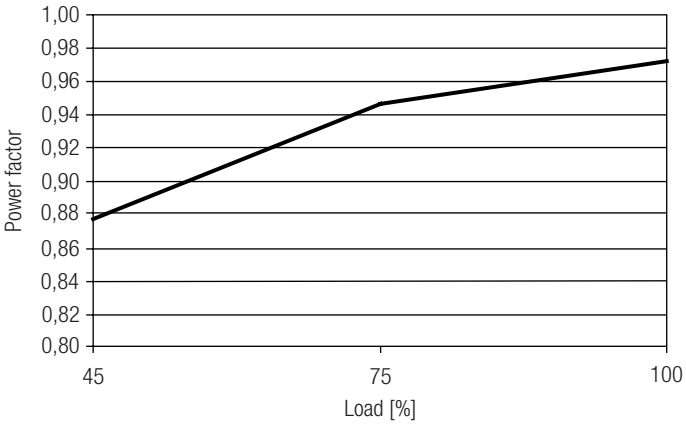


Diagrams LCI 20W 500mA TEC Ip

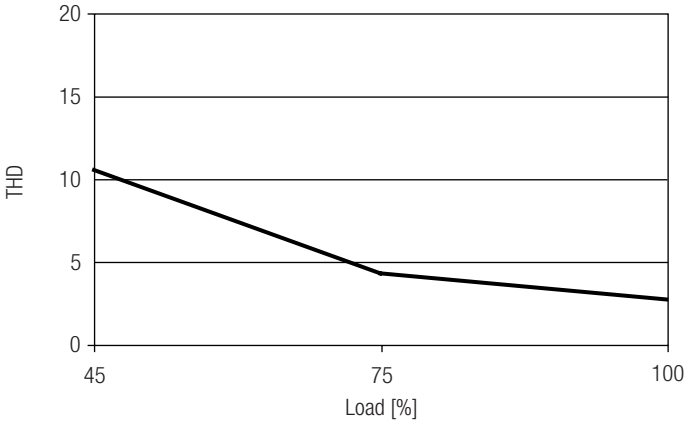
Efficiency vs load



Power factor vs load

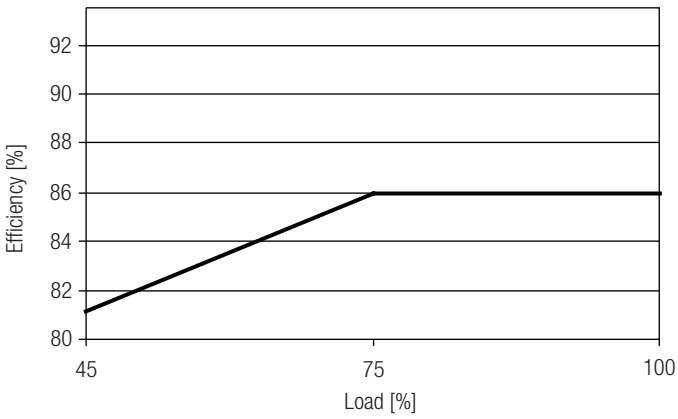


THD vs load

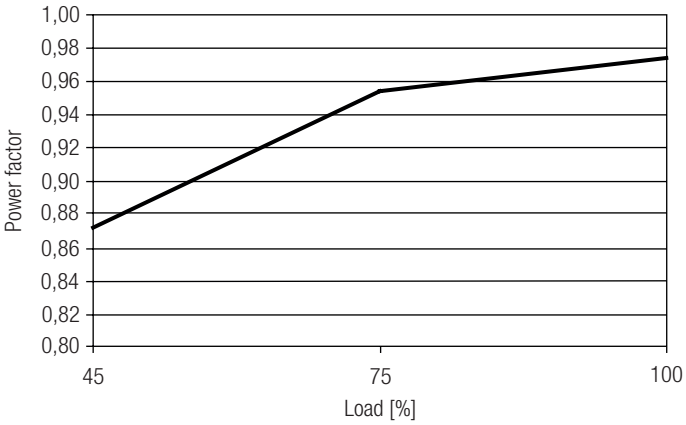


Diagrams LCI 20W 700mA TEC Ip

Efficiency vs load



Power factor vs load



THD vs load