IP20 SELV RoHS

TALEXconverter LCI 10 W 350/500/700 mA TEC SR

TEC series

Product description

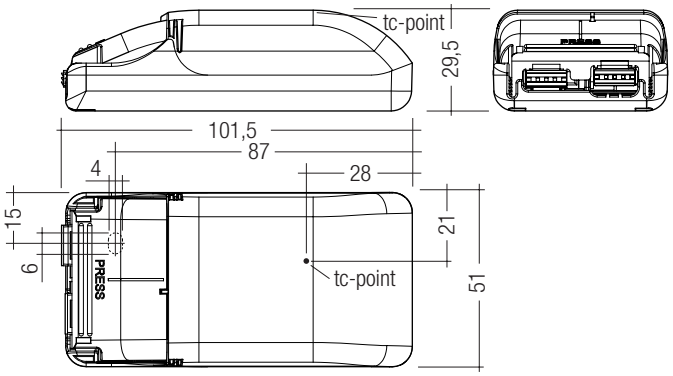
- Independent fixed output LED control gear
- Constant current LED control gear
- Output current 350, 500 or 700 mA
- Max. output power 10 W
- Nominal life-time up to 50,000 h
- For luminaires of protection class I and protection class II
- For luminaires with M and MM as per EN 60598, VDE 0710 and VDE 0711
- Temperature protection as per EN 61347-2-13 C5e
- 5-year guarantee

Properties

- Casing: polycarbonat, white
- 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
Input current (at 230 V, 50 Hz, full load)	0.07 A
Mains frequency	50 / 60 Hz
Overvoltage protection	300 V AC, 1 h
Typ. power consumption (at 230 V, 50 Hz, full load)	11.5 W
Max. input power	12.5 W
Typ. output power	10 W
Output current tolerance②	± 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	101.5 x 51 x 29.5 mm

Ordering data

Type	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LCI 10W 350mA TEC SR	87500240	20 pc(s).	280 pc(s).	3,360 pc(s).	0.057 kg
LCI 10W 500mA TEC SR	87500242	20 pc(s).	280 pc(s).	3,360 pc(s).	0.059 kg
LCI 10W 700mA TEC SR	87500244	20 pc(s).	280 pc(s).	3,360 pc(s).	0.059 kg

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Wiring diagrams and installation examples, page 4

Specific technical data

Type	Output current[2]	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[1]	Typ. current ripple (at 230 V, 50 Hz, full load)
LCI 10W 350mA TEC SR	350 mA	0.75C	83 %	0.70C	79 %	13.0 V	29.0 V	33 V	460 mA	± 20 %
LCI 10W 500mA TEC SR	500 mA	0.75C	82 %	0.70C	78 %	9.0 V	20.0 V	27 V	700 mA	± 25 %
LCI 10W 700mA TEC SR	700 mA	0.75C	81 %	0.70C	76 %	6.5 V	14.5 V	21 V	980 mA	± 25 %

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

[2] 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 output current is reduced to limit tc at a certain level. It restarts automatically.
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 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 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 30 seconds
4. Connect LED module again

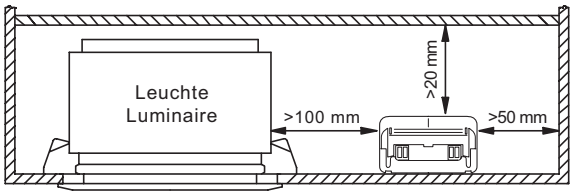
Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs.

Expected life-time

Type	ta	40 °C	50 °C	60 °C
LCI 10W xxxmA TEC SR	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 %.

Fixing conditions
Dry, acidfree, oilfree, fatfree. It is not allowed to exceed the maximum ambient temperature (ta) 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 %)

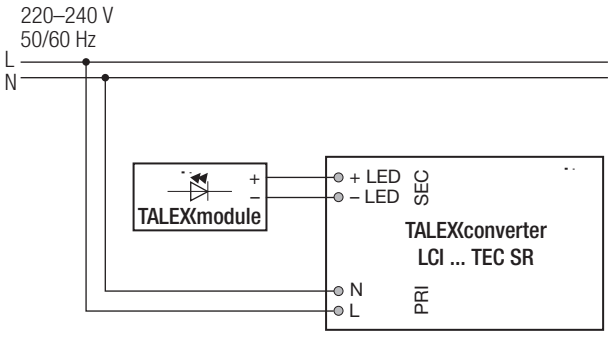
Storage temperature: -40 °C up to max. +80 °C

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

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 10W 350mA TEC SR	120	160	200	240	60	80	100	120	10 A	100 µs
LCI 10W 500mA TEC SR	120	160	200	240	60	80	100	120	10 A	100 µs
LCI 10W 700mA TEC SR	120	160	200	240	60	80	100	120	10 A	100 µs

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

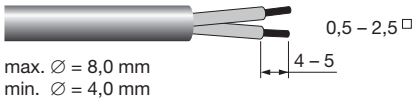
Guarantee conditions at www.tridonic.com → Services

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

Wiring type and cross section

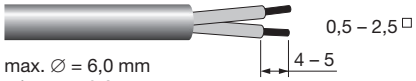
The wiring can be in stranded wires with ferrules or solid. For perfect function of the cage clamp terminals the strip length should be 4 – 5 mm for the input terminal.
The max. torque at the clamping screw (M3) is 0.2 Nm.

Input terminal (D2)



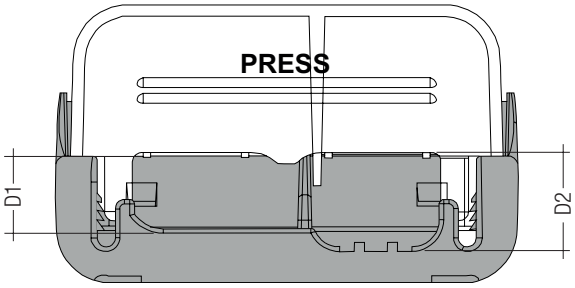
max. ∅ = 8,0 mm
min. ∅ = 4,0 mm

Output terminal (D1)



max. ∅ = 6,0 mm
min. ∅ = 2,0 mm

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:

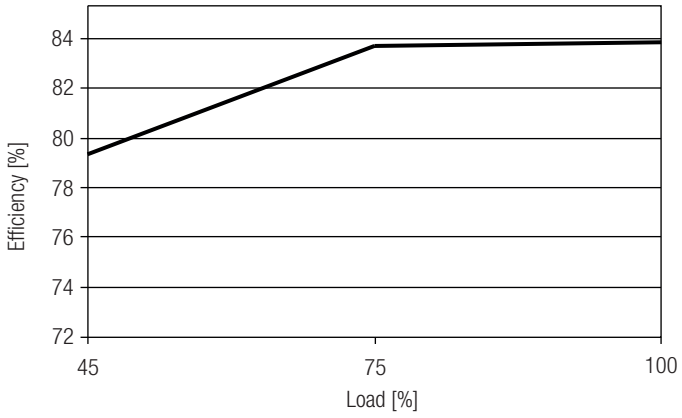
Side D1				Side D2		
Housing bottom		Cover terminal				Difference D2 - D1
With flap	Without flap	With flap	Without flap	With flap	Without flap	
x	–	x	–	x	–	3.5 mm
x	–	x	–	–	x	5.5 mm
x	–	–	x	–	x	3.5 mm
–	x	x	–	–	x	3.5 mm
–	x	–	x	–	x	1.5 mm
x	–	–	x	x	–	1.5 mm
–	x	x	–	x	–	1.5 mm
–	x	–	x	x	–	-0.5 mm

Wiring guidelines

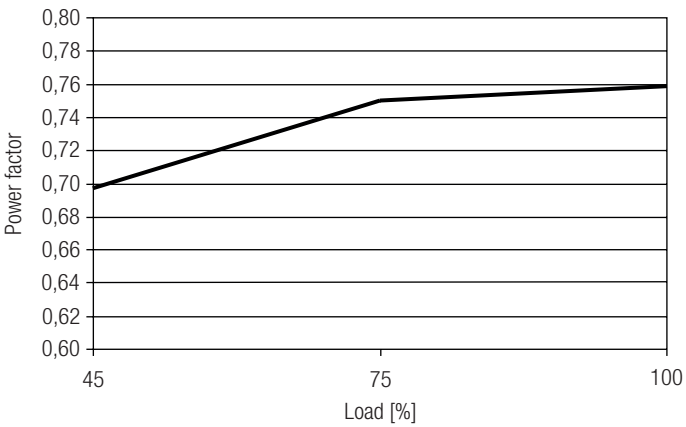
- All connections must be kept as short as possible to ensure good EMI behaviour.
- Mains leads should be kept apart from LED control gear and other leads (ideally 5 – 10 cm distance)
- Max. lenght of output wires is 2 m.
- Secondary switching is not permitted.
- Incorrect wiring can demage LED modules.
- Through wiring of mains is connecting additional LED Driver only. Max. permanent current of 8 A may not be exceeded.
- The wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.).

Diagrams LCI 10W 350mA TEC SR

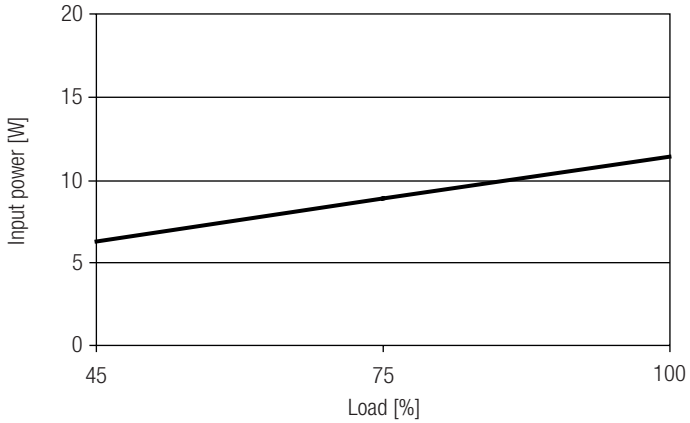
Efficiency vs load



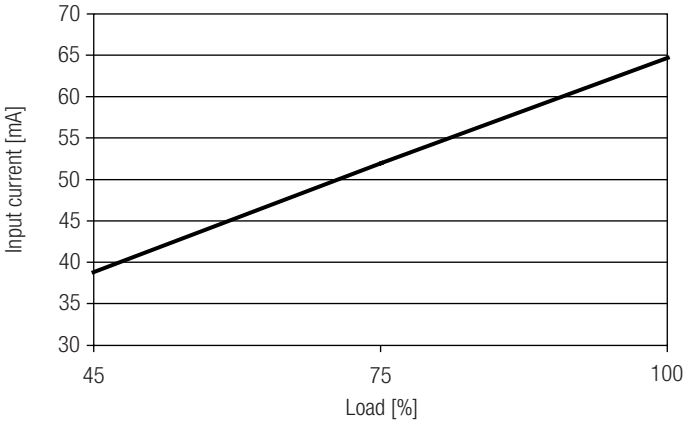
Power factor vs load



Input power vs load

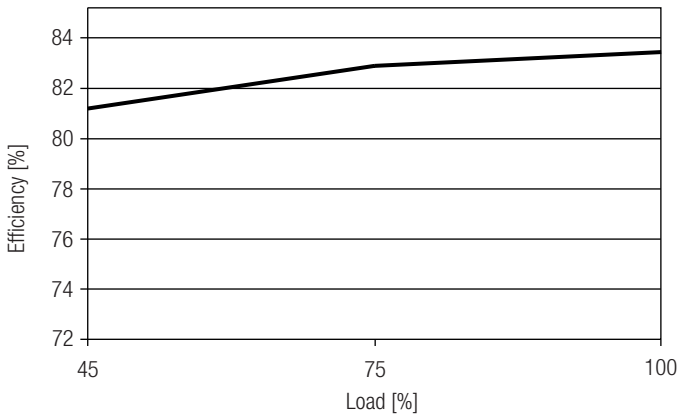


Input current vs load

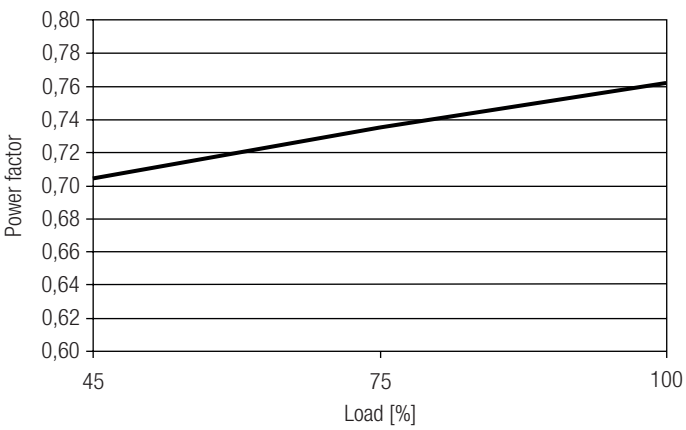


Diagrams LCI 10W 500mA TEC SR

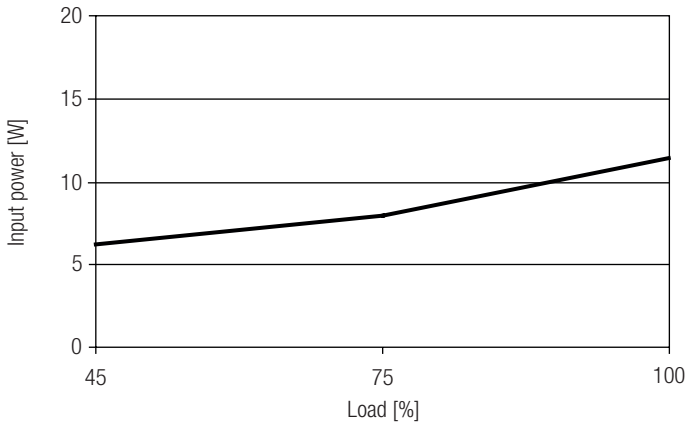
Efficiency vs load



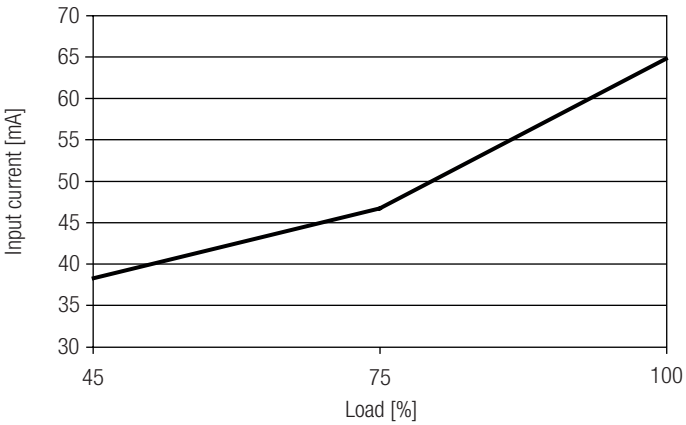
Power factor vs load



Input power vs load

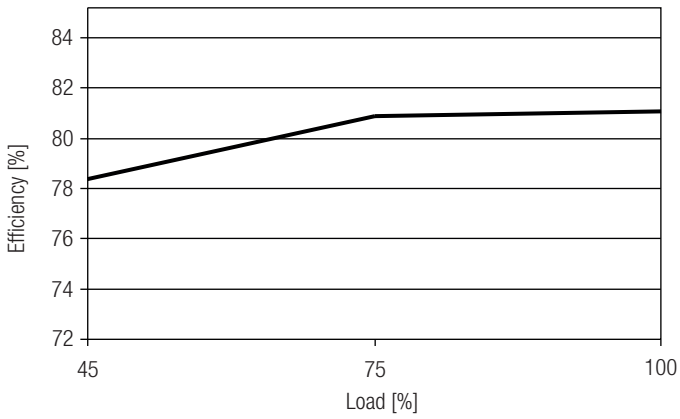


Input current vs load

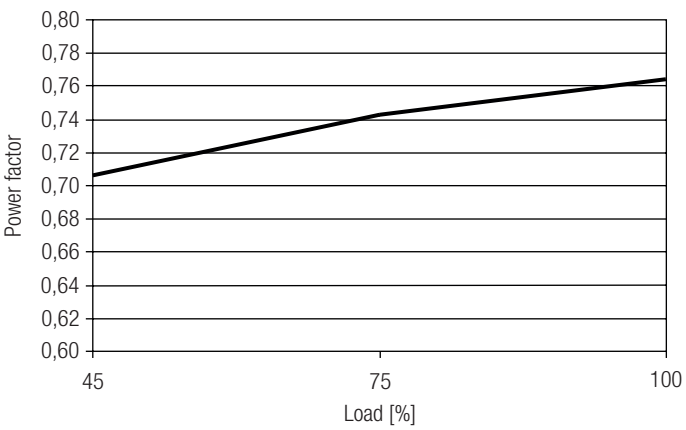


Diagrams LCI 10W 700mA TEC SR

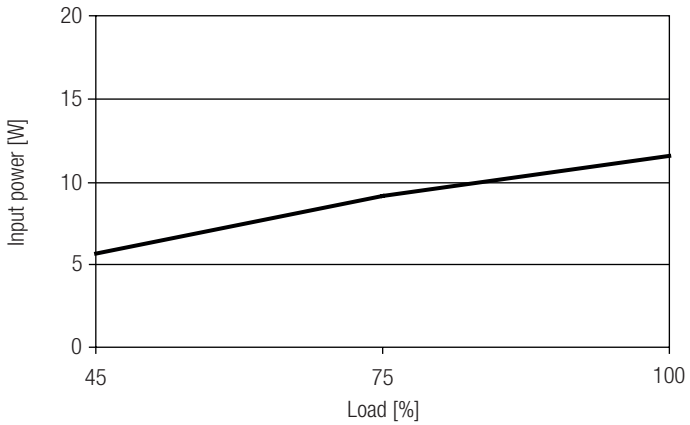
Efficiency vs load



Power factor vs load



Input power vs load



Input current vs load