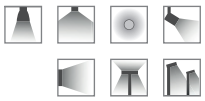


TALEXconverter LCI 100W 900mA–1750mA TOP SR

TOP series

Product description

- Independent fixed output LED control gear
- Constant current LED control gear
- Output current settable 900 – 1,750 mA
- Max. output power 100 W
- Suitable for mains voltage peaks (burst/surge) up to 4 kV (L–N) respectively 3 kV (L/N–PE)
- Nominal life-time up to 100,000 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
- 5-year guarantee

Properties

- Casing: polycarbonate, white
- Type of protection IP20
- No tools required for installation
- Through wiring possible
- Integrated terminal cover and strain relief
- 5 separate strain reliefs
- Accessory LCF 12V FAN DRIVER fits into the secondary wiring area of the LED control gear

Functions

- Intelligent Temperature Guard (overtemperature protection)
- Intelligent Temperature Management (temperature monitoring of LED module)
- Short-circuit proof
- Overload protection
- Suitable for emergency lighting units acc. to EN 50172

→

Standards, page 4

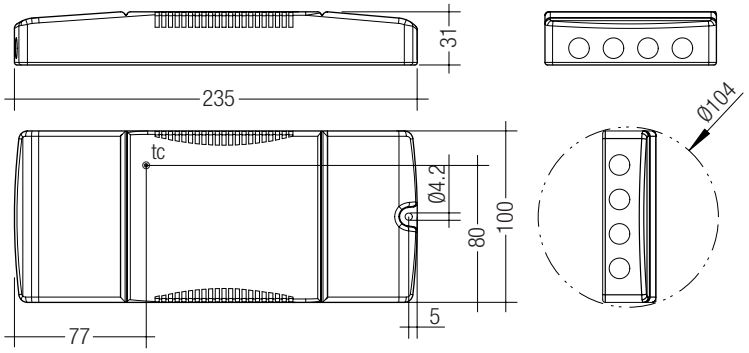
IP20 SELV RoHS

TALEXconverter LCI 100W 900mA–1750mA TOP SR

TOP series

Technical data

Rated supply voltage	220 – 240 V
Input voltage, AC	198 – 264 V
Input voltage, DC	176 – 280 V (start ≥ 198 V DC)
Mains frequency	0 / 50 / 60 Hz
Leakage current (PE)	< 0.5 mA
Max. input power	108.7 W
Efficiency (at 230 V, 50 Hz, full load)	92 %
THD (at 230 V, 50 Hz, full load)	< 10 %
Output current tolerance	± 5 %
Output current ripple	± 15 %
Max. repetitive output peak current	output current + 20 %
Max. non-repetitive output peak current	output current + 20 %
Max. output voltage (no-load voltage)	120 V
Time to light	< 0.5 s
Hold on time at power failure or switch-off	< 15 ms
Switchover time (AC/DC)	< 0.5 s
Dimensions L x W x H	235 x 100 x 31 mm



Ordering data

Type	Article number	Packaging carton	Packaging pallet	Weight per pc.
LCI 100W 900mA-1750mA TOP SR	**28000204**	10 pc(s).	300 pc(s).	0.37 kg

Specific technical data

Type	Output current	Min. output voltage①	Max. output voltage	Max. output power	Input power (at 230 V, 50 Hz, full load)	Input current (at 230 V, 50 Hz, full load)	λ (at 230 V, 50 Hz, full load)	tc point	Ambient temperature ta	tc/ta for ≥ 50.000 h	I sel resistor value
LCI 100W 900mA-1750mA TOP SR	900 mA	50 V	85.0 V	76.5 W	83.2 W	369 mA	0.98	70 °C	-25 ... +55 °C	70 / 55 °C	open circuit
	950 mA	47 V	85.0 V	80.8 W	87.8 W	389 mA	0.98	70 °C	-25 ... +55 °C	70 / 55 °C	69.80 kΩ
	1,000 mA	45 V	85.0 V	85.0 W	92.4 W	410 mA	0.98	70 °C	-25 ... +55 °C	70 / 55 °C	64.90 kΩ
	1,050 mA	43 V	85.0 V	89.3 W	97.0 W	430 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	56.00 kΩ
	1,100 mA	41 V	85.0 V	93.5 W	101.6 W	451 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	47.50 kΩ
	1,150 mA	39 V	85.0 V	97.8 W	106.3 W	471 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	43.20 kΩ
	1,200 mA	38 V	83.3 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	40.20 kΩ
	1,250 mA	36 V	80.0 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	36.50 kΩ
	1,300 mA	35 V	76.9 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	32.40 kΩ
	1,350 mA	33 V	74.1 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	28.70 kΩ
	1,400 mA	32 V	71.4 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	22.00 kΩ
	1,450 mA	31 V	69.0 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	17.80 kΩ
	1,500 mA	30 V	66.7 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	15.00 kΩ
	1,550 mA	29 V	64.5 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	12.10 kΩ
	1,600 mA	28 V	62.5 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	9.30 kΩ
	1,650 mA	27 V	60.6 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	6.49 kΩ
	1,700 mA	26 V	58.8 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	3.83 kΩ
	1,750 mA	26 V	57.1 V	100.0 W	108.7 W	482 mA	0.98	75 °C	-25 ... +50 °C	75 / 50 °C	short circuit

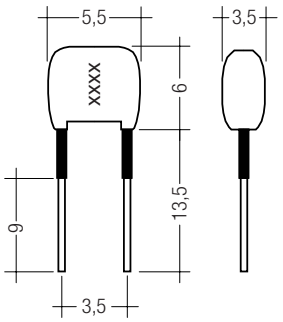
① Min. output voltage LED control gear is 26 V by using the accessory LCF 12V FAN DRIVER.

ACCES-SORIES

I-SELECT PLUG

Product description

- Ready-for-use resistor to set output current value
- Resistor is base isolated
- Resistor power 0.25 W
- Resistor value tolerance ± 1 %



Ordering data

Type	Article number	Colour	Marking	Resistor value	Packaging bag	Weight per pc.
I-SELECT PLUG MAX GR	**28000274**	Grey	MAX	0 Ω	10 pc(s).	0.001 kg
I-SELECT PLUG 950mA BR	**28000370**	Brown	0950	69.8 kΩ	10 pc(s).	0,001 kg
I-SELECT PLUG 1050mA BR	**28000279**	Brown	1050	56.0 kΩ	10 pc(s).	0.001 kg
I-SELECT PLUG 1400mA BR	**28000280**	Brown	1400	22.0 kΩ	10 pc(s).	0.001 kg

ACCES-SORIES

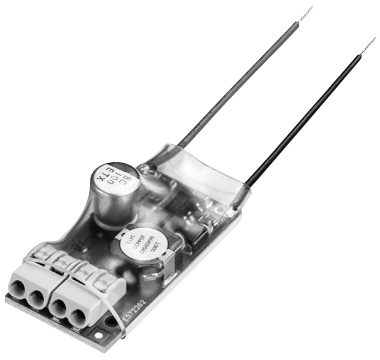
LCF 12V FAN DRIVER

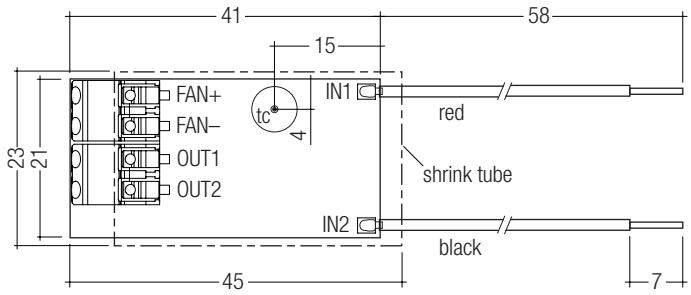
Product description

- Fan driver module with 12.4 V output voltage
- Drives the fan permanently (independent of the optional temperature sensor)
- Connection: stranded wires 0.2 mm², stripped wire endings twisted and tin-plated
- Max. output power of the LED control gear will be reduced by the power consumption of the fan and LCF 12V FAN DRIVER

Technical data

Input voltage, DC	25 – 120 V
Output voltage DC	12.4 V
Max. output current (input voltage 25 – 49 V)	50 mA
Max. output current (input voltage 50 – 120 V)	70 mA
Max. power consumption incl. fan (at 30 mA)	0.55 W
Max. power consumption incl. fan (at 50 mA)	0.90 W
Max. power consumption incl. fan (at 70 mA)	1.25 W
tc point	75 °C
Ambient temperature ta (at life-time 50,000 h)	-25 ... +65 °C
Dimensions LxWxH	45 x 23 x 14 mm





Ordering data

Type	Article number	Packaging carton	Packaging pallet	Weight per pc.
LCF 12V FAN DRIVER	**86459562**	50 pc(s).	1,200 pc(s).	0.01 kg

Standards
EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-2-13
EN 62384
EN 61547
According to EN 50172 for use in central battery systems
According to EN 60598-2-22 suitable for emergency lighting installations

Output current setting
Output current can be set by connecting a resistor between the 2 "I sel" terminals. Relationship between output current and resistor value can be found at the table "Specific technical data". Resistor values specified from standardised resistor value ranges.
Resistor value tolerance has to be ≤ 1 %.
Resistor power has to be ≥ 0.1 W.
If the resistor is connected with wires a max. wire length of 2 m may not be exceeded and possible interferences have to be avoided.
Resistor detection at each start.
Change of the resistor value during the operation will be not considered.
Resistors for the main output current values can be ordered from Tridonic (see accessories).

DC operation
The LED control gear is designed for operation on DC voltage and pulsed DC voltage.
Light output level in DC operation: 100 %

Overload protection
LED control gear will switch off at overload operation. Mains reset is required to restart the LED control gear.

Underload operation
LED control gear will switch off at underload operation. Mains reset is required to restart the LED control gear.

Overtemperature protection
The LED control gear will reduce output current at temporary thermal overheating (exceeding max. tc point).

Short-circuit behaviour
LED control gear will switch off in case of short-circuit of LED output. Mains reset is required to restart the LED control gear.

No-load operation or load loss during operation
LED control gear will detect a load loss during operation. In this case and no-load operation the max. output voltage can apply at the LED output for max. 5 s before LED control gear shuts down. Mains reset is required to restart the LED control gear.

Hot plug-in
Hot plug-in is not recommend within 5 s after shutdown due to output voltage of > 0 V. Mains reset is required to restart the LED control gear if LED module is connected to the LED control gear after these 5 s.

Intelligent Temperature Management (ITM)
ITM offers the possibility to protect the LED module against thermal overload. Therefore it is necessary to connect the temperature sensor (KTY81/210, KTY82/210) to the corresponding terminals.
If the limit temperature wil be exceeded the LED output current will be reduced respectively switched off. After achieving the nominal temperature the LED output current will be encreased to the set value again.
Using NTC or PTC resistors is not permitted.
The LED control gear can be used without sensor as well.

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.

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

Temperature range
The LED control gear life duration is related to the ambient temperature ta. The relation of tc to ta temperature depends also on the luminaire design. If the measured tc temperature is approx. 5 K below tc max. or higher, ta temperature should be checked and eventually critical components (e.g. ELCAP) measured. Detailed information on request.

Expected life-time

Type	Output current	ta	40 °C	50 °C	55 °C	60 °C
LCI 100W 900mA-1750mA TOP SR	900 – 1,000 mA	tc	55 °C	65 °C	70 °C	x
		Life-time	> 100,000 h	> 100,000 h	> 100,000 h	x
	1,050 – 1,750 mA	tc	65 °C	75 °C	x	x
		Life-time	> 100,000 h	> 100,000 h	x	x

x = not permitted

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	2,5 mm²	2,5 mm²	1,5 mm²	1,5 mm²	2,5 mm²	2,5 mm²	I_{max}	time
LCI 100W 900mA-1750mA TOP SR	12	18	28	30	6	9	14	15	50 A	200 µs

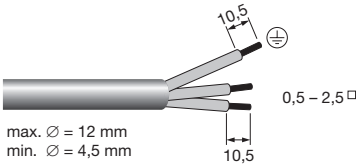
Harmonic distortion in the mains supply (at 230 V / 50 Hz and full load) in %

	THD	3.	5.	7.	9.	11.
LCI 100W 900mA-1750mA TOP SR	< 10	3	2	2	2	2

Installation instructions

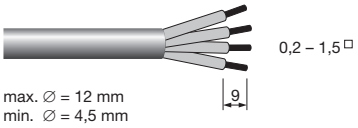
Mains supply wires

Wiring type and cross section
Stranded wire or solid wire up to 2.5 mm² may be used for wiring. Strip 10–11 mm of insulation from the cables to ensure perfect operation of the push terminals.
Use one wire for each terminal connector only.
Use each strain relief channel for one cable only.



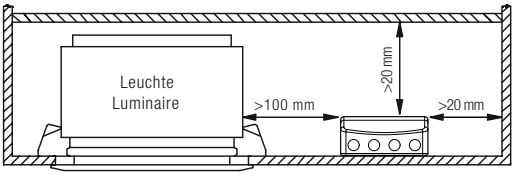
Secondary wires (LED module)

Wiring type and cross section
The wiring can be in stranded wires with ferrules or solid with a cross section of 0.2–1.5 mm².
Strip 8.5–9.5 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.
Use one wire for each terminal connector only.
Use each strain relief channel for one cable only.



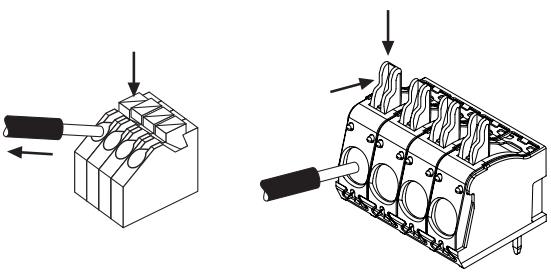
Fixing conditions

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.



Release of the wiring

Press down the “push button” and remove the cable from front.



Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behaviour.
- Earthing is not required for the device to operate but will improve the EMI behaviour.
- If LCI TOP SR will be earthed protection earth (PE) has to be used.
- Mains leads should be kept apart from LED control gear and other leads (ideally 5 – 10 cm distance)
- Max. length of output and I sel wires is 2 m.
- Secondary switching is not permitted.
- Incorrect wiring can demage LED modules.
- Through wiring of mains is for connecting additional LED control gear only. Max. permanent current of 12 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.

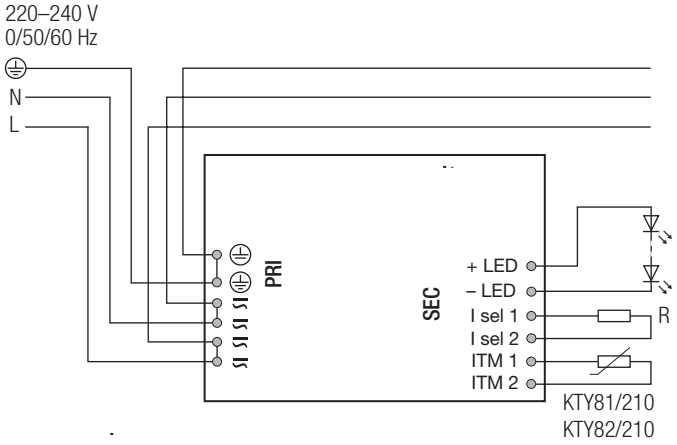
Additional information

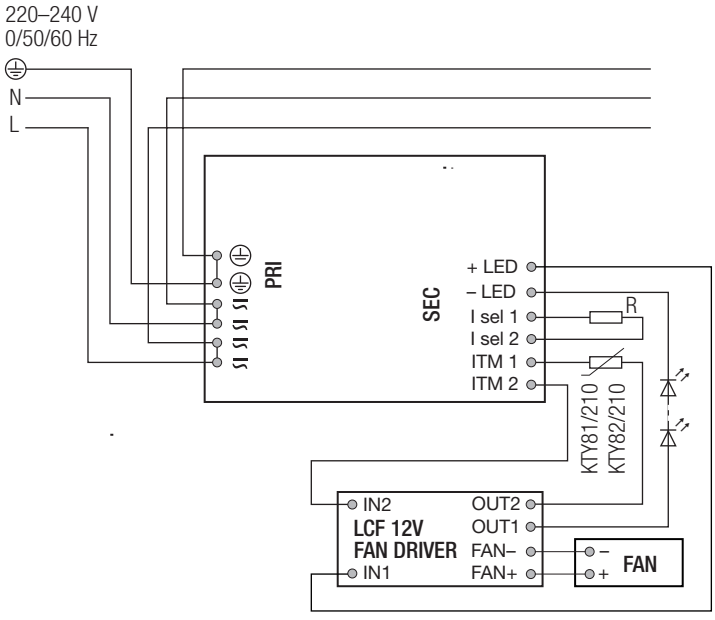
Additional technical information at
www.tridonic.com → Technical Data

Guarantee conditions at
www.tridonic.com → Services

No warranty if device was opened.

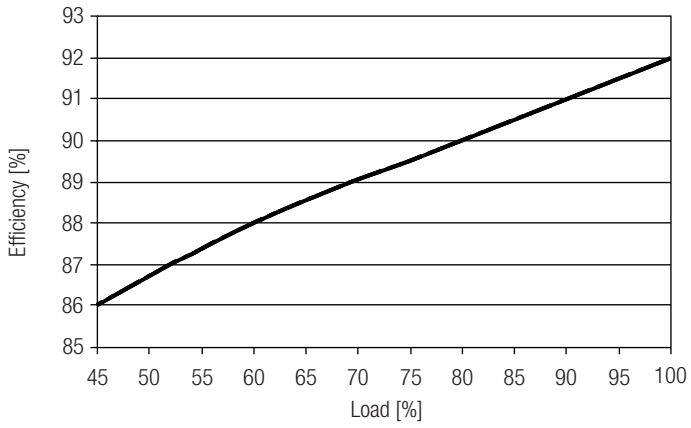
Circuit diagram



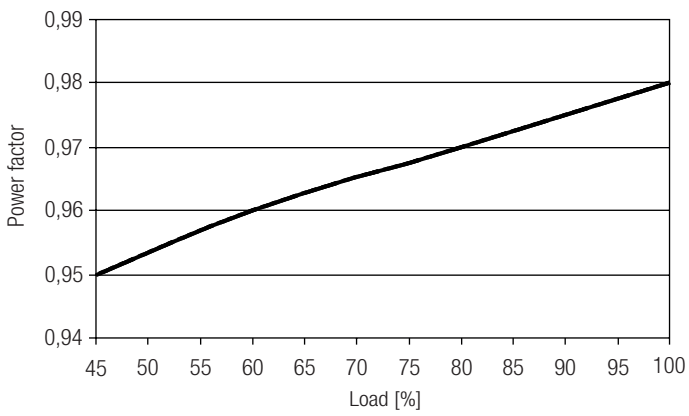


Diagrams LCI 100W 900mA-1750mA TOP SR

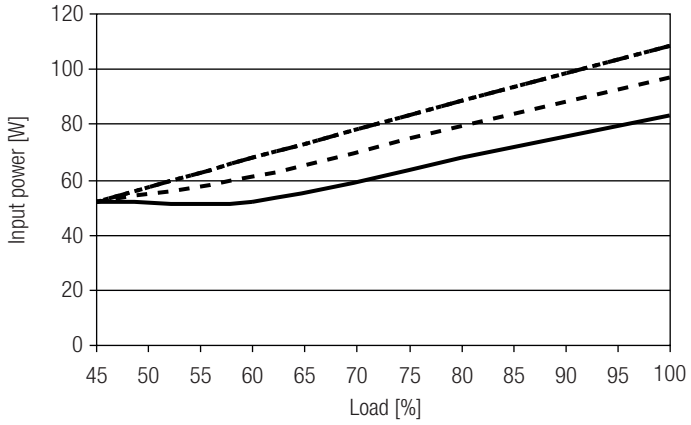
Efficiency vs load



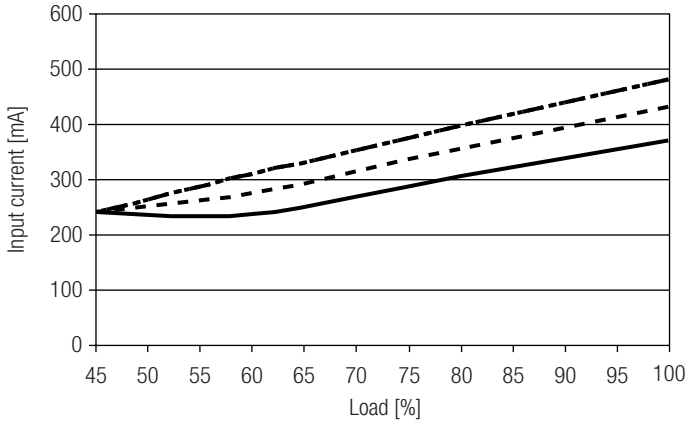
Power factor vs load



Input power vs load



Input current vs load



THD vs load