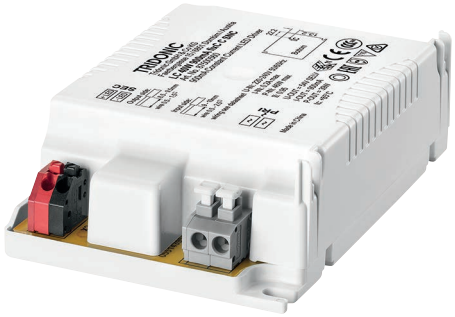
TRIDONIC

LED Driver
Compact fixed output

Driver LC 40W 900mA fixC C SNC

ESSENCE series



Product description

- Fixed output built-in LED Driver
- Constant current LED Driver
- Output current 900 mA
- Max. output power 40 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

- Casing: polycarbonat, white
- Type of protection IP20

Functions

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

Standards, page 2
Wiring diagrams and installation examples, page 3

IP20 SELV

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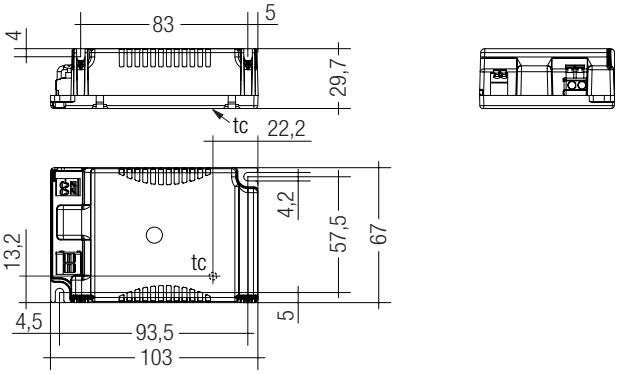
ESSENCE series

Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Input current (at 230 V, 50 Hz, full load)	0.2 A
Mains frequency	50 / 60 Hz
Typ. power consumption (at 230 V, 50 Hz, full load)	43.5 W
Max. input power	46 W
Output power range	27 – 39 W
THD (at 230 V, 50 Hz, full load)	< 20 %
Output current tolerance[3]	± 7.5 %
Typ. current ripple (at 230 V, 50 Hz, full load)	± 30 %
Turn on time (at 230 V, 50 Hz, full load)	≤ 0.5 s
Turn off time (at 230 V, 50 Hz, full load)	≤ 0.5 s
Hold on time at power failure (output)	0 s
Ambient temperature ta	-20 … +50 °C
Ambient temperature ta (at life-time 50,000 h)	40 °C
Max. casing temperature tc	85 °C
Storage temperature ts	-40 … +80 °C
Dimensions L x W x H	103 x 67 x 29.7 mm



Ordering data

Type	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LC 40W 900mA fixC C SNC	**87500560**	15 pc(s).	345 pc(s).	2,760 pc(s).	0.126 kg

Specific technical data

Type	Output current[3]	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	Max. forward voltage	Max. output voltage	Max. output peak current at full load[2]	Max. output peak current at min. load[2]
LC 40W 900mA fixC C SNC	900 mA	0.96	91 %	0.93C	90 %	30 V	43 V	54 V	1,260 mA	1,440 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 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-13
EN 61547

Overload protection
If the output voltage range is exceeded the LED Driver will protect itself and LED may flicker. 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 output current is reduced to limit tc at a certain level. 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 elimination of the short-circuit fault the LED Driver will recover automatically.

No-load operation
The LED Driver works in burst working mode to provide a constant output voltage regulation which allows the application to be able to work safely when LED string opens due to a failure.

Installation instructions
The LED module and all contact points within the wiring must be sufficiently insulated against 3 kV surge voltage.
Air and creepage distance must be maintained.

Replace LED module
1. Mains off
2. Remove LED module
3. Wait for 10 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
LC 40W 900mA fixC C SNC	tc	75 °C	85 °C	x
	Life-time	50,000 h	30,000 h	x

The LED Driver is designed for a life-time stated above under reference conditions and with a failure probability of less than 10 %.
Life-time declarations are informative and represent no warranty claim.

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

Mounting of device
Max. torque for fixing: 0.5 Nm/M4

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.

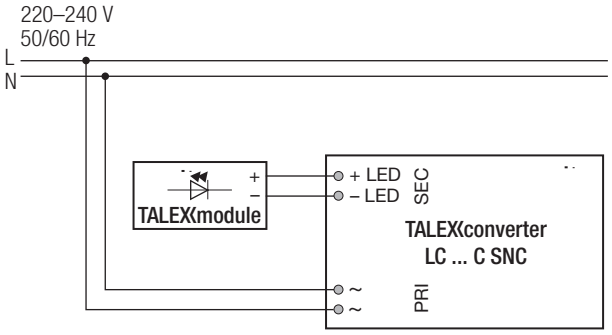
Maximum loading of automatic circuit breakers

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
LC 40W 900mA fixC C SNC	35	50	65	75	28	40	52	60	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.
LC 40W 900mA C SNC	20	10	2	2	2	1

Wiring diagram



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

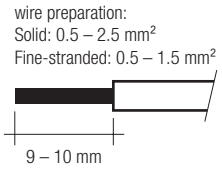
Life-time declarations are informative and represent no warranty claim.
No warranty if device was opened.

Wiring type and cross section

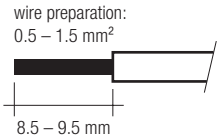
The input wiring can be stranded wires with ferrules with a cross section of 0.5 – 1.5 mm² or with solid wires with a cross section of 0.5 – 2.5 mm².
Strip 9 – 10 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.

The output wiring can be done with a cross section of 0.5 – 1.5 mm².
Strip 8.5 – 9.5 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.

Input wiring



Output wiring



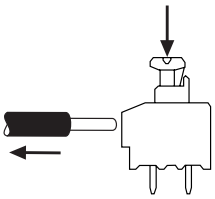
Wiring guidelines

- 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.
- The wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.).

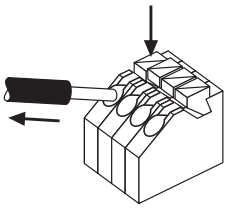
Release of the wiring

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

Input terminal

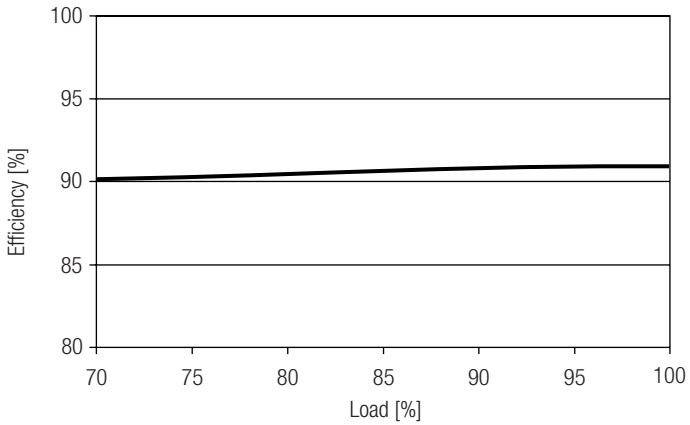


Output terminal

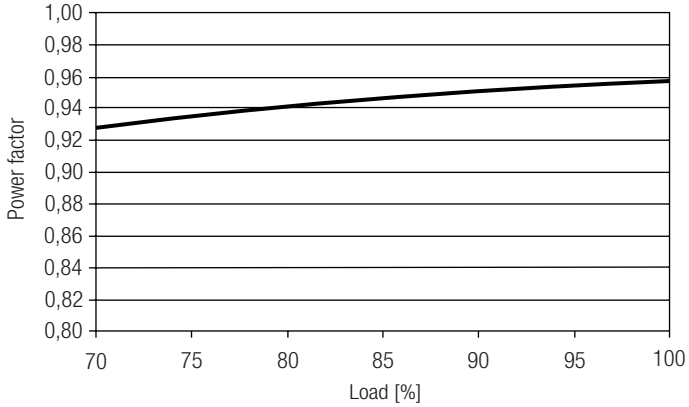


Diagrams LC 40W 900mA fixC C SNC

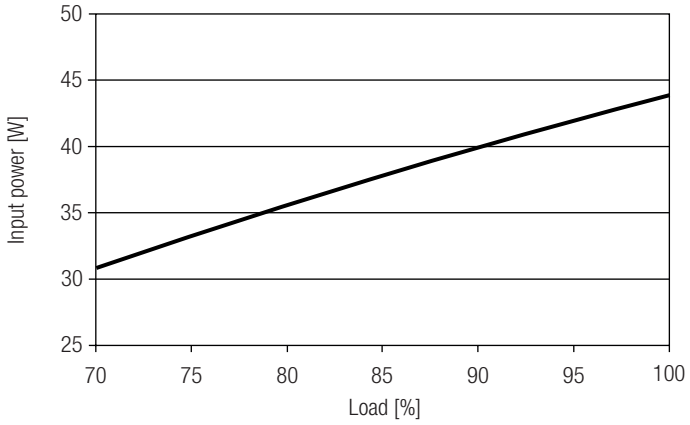
Efficiency vs load



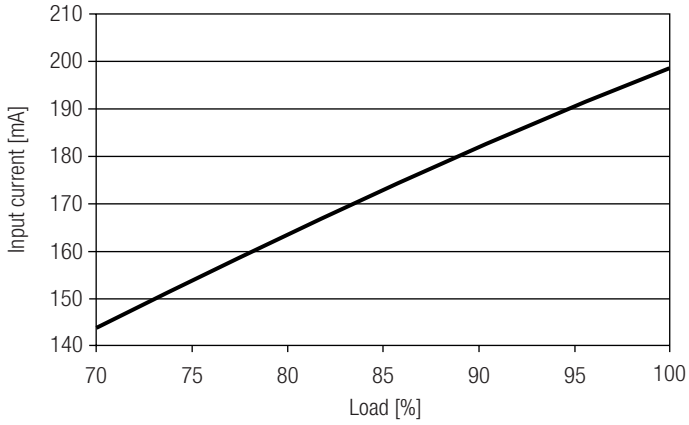
Power factor vs load



Input power vs load



Input current vs load



THD vs load