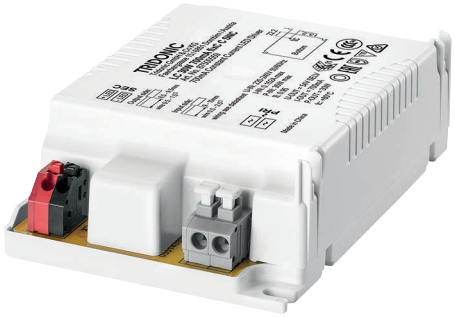
TRIDONIC

LED driver
Compact fixed output

Driver LC 30W 700mA fixC C SNC
essence series

Product description
- Fixed output built-in LED driver
- Constant current LED driver
- Output current 700 mA
- Max. output power 30 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 (conditions at www.tridonic.com)



Housing 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

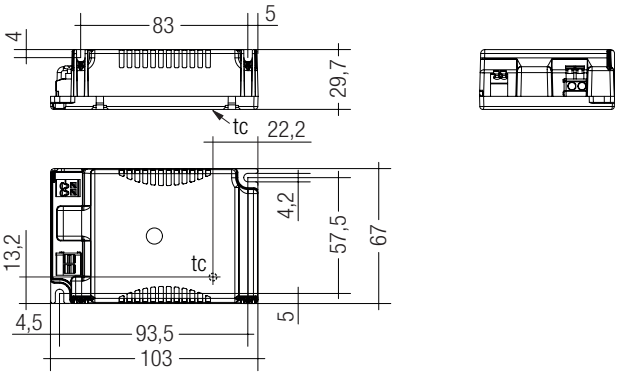
IP20 SELV RoHS

Driver LC 30W 700mA fixC C SNC

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)	0.152 A
Mains frequency	50 / 60 Hz
Typ. power consumption (at 230 V, 50 Hz, full load)	33.5 W
Max. input power	35 W
Output power range	21 – 30 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 %
Starting 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	80 °C
Storage temperature ts	-40 … +80 °C
Life-time	up to 50,000 h
Guarantee (conditions at www.tridonic.com)	5 years
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 30W 700mA fixC C SNC	**87500559**	15 pc(s).	345 pc(s).	2,760 pc(s).	0.124 kg

Specific technical data

Type	Output current[3]	λ at full load[1]	Efficiency at full load[1]	λ 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 30W 700mA fixC C SNC	700 mA	0.95	91 %	0.92C	90 %	30 V	43 V	54 V	980 mA	1,120 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 maximum load is exceeded by a defined internal limit, 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.

Expected life-time

Type	ta	40 °C	50 °C	60 °C
LC 30W 700mA fixC C SNC	tc	70 °C	80 °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.

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., ta temperature should be checked and eventually critical components (e.g. ELCAP) measured. Detailed information on request.

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.

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

Conditions of use and storage

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

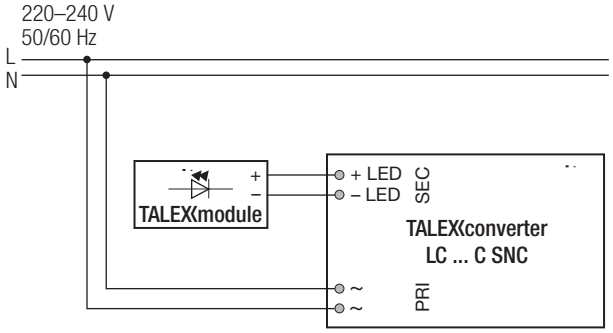
Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20	Inrush current	
Installation Ø	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²	I_{max}	Time
LC 30W 700mA fixC C SNC	55	70	90	110	55	70	90	110	10 A	100 µs

These are max. values calculated out of continuous current running the device on full load.
There is no limitation due to inrush current.
If load is smaller than full load for calculation only continuous current has to be considered.

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

	THD	3.	5.	7.	9.	11.
LC 30W 700mA fixC C SNC	< 20	< 11	< 2	< 2	< 2	< 1

Wiring diagram



Insulation 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 insulation 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 insulation 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.

Maximum number of switching cycles

All LED driver are tested with 50,000 switching cycles.

Additional information

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

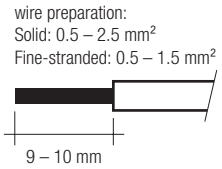
Life-time declarations are informative and represent no warranty claim.
No warranty if device was opened.

Wiring type and cross section

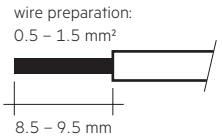
The input wiring can be stranded wires with ferrules with a cross section of 0.5 – 1.5 mm² or with solid wires with a cross section of 0.5 – 2.5 mm².
Strip 9 – 10 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.

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



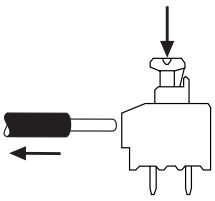
Wiring guidelines

- 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. length of output wires is 2 m.
- Secondary switching is not permitted.
- Incorrect wiring can demage LED modules.
- To avoid the damage of the Driver, the wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.).

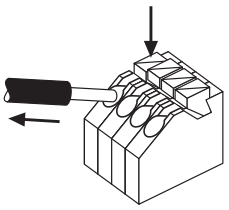
Release of the wiring

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

Input terminal

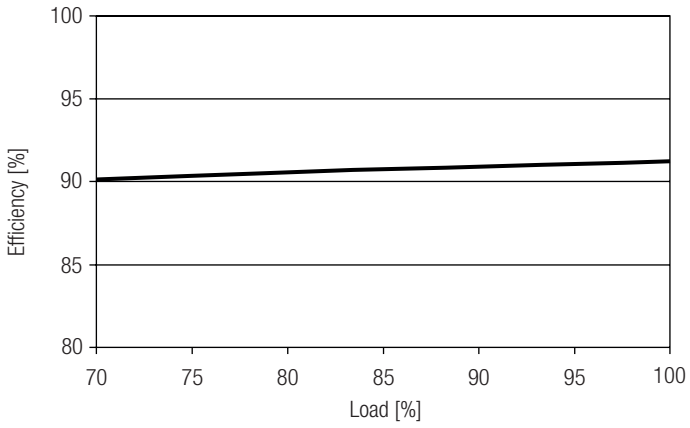


Output terminal

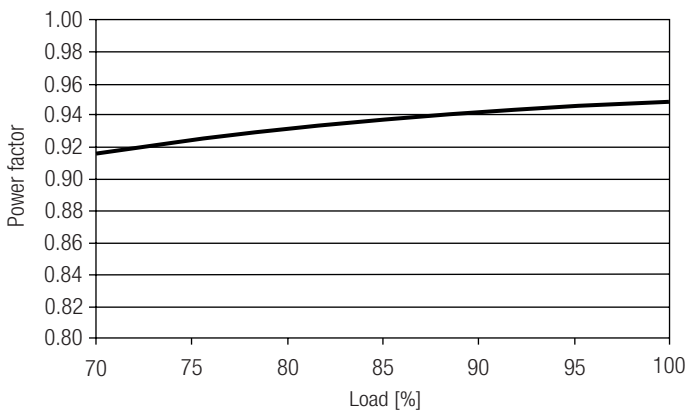


Diagrams LC 30W 700mA fixC C SNC

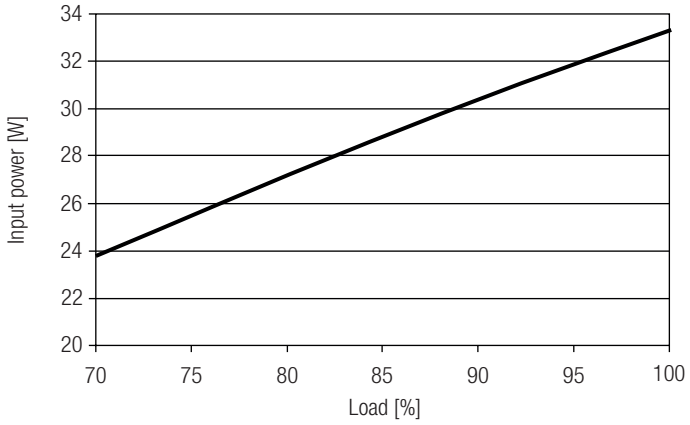
Efficiency vs load



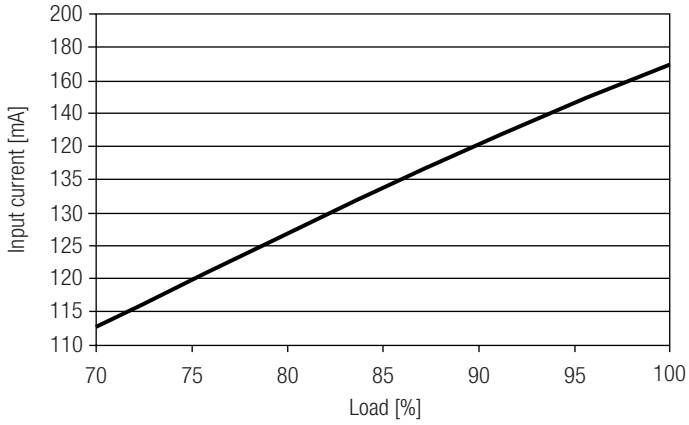
Power factor vs load



Input power vs load



Input current vs load



THD vs load