



Driver LC 13/15W 300/350mA fixC SR SNC

essence series

Product description

- Independent driver with strain-relief housing
- Extra flat housing for constrained installation conditions (small ceiling cut outs and low ceiling voids)
- For luminaires with M and MM as per EN 60598, VDE 0710 and VDE 0711
- Temperature protection as per EN 61347-2-13 C5e
- KC certificate for LC 15W 350mA fixC SR SNC
- Output current 300 or 350 mA
- Max. output power 13 or 15 W
- Nominal lifetime up to 50,000 h
- 5 years guarantee (conditions at www.tridonic.com)



Housing properties

- Casing: polycarbonat, white
- Type of protection IP20
- Push-in terminals
- 2 separate strain relief parts for input and output cables with highly robust clamps

Functions

- Overload protection
- Short-circuit protection
- No-load protection
- No output current overshoot at mains on/off



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IP20 SELV                            

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 maximum load is exceeded by a defined internal limit, the LED Driver will protect itself. After elimination of the overload the nominal operation is restored automatically.

Short-circuit behaviour

In case of a short circuit on the secondary side (LED) the LED control gear switches into hic-cup mode. After the removal of the short-circuit fault the LED control gear 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 open due a failure.

In no-load operation the output voltage will not exceed the specified max. output voltage (see page 2).

Glow wire test

according to EN 60598-1 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.

Expected lifetime

Type	ta	40 °C	50 °C	
LC 13W 300mA fixC SR SNC	tc	75 °C	85 °C	x
	Lifetime	50,000 h	30,000 h	x
LC 15W 350mA fixC SR SNC	tc	75 °C	85 °C	x
	Lifetime	50,000 h	30,000 h	x

The LED Drivers are designed for a lifetime stated above under reference conditions and with a failure probability of less than 10 %. Lifetime 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.

Maximum loading of automatic circuit breakers in relation to inrush current

Automatic circuit breaker type									Inrush current	
	C10	C13	C16	C20	B10	B13	B16	B20	I _{max}	Time
Installation Ø	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²		
LC 13W 300mA fixC SR SNC	110	145	180	220	110	145	180	220	8 A	80 µs
LC 15W 350mA fixC SR SNC	105	135	165	205	105	135	165	205	8 A	80 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 13W 300mA fixC SR SNC	< 20	< 16	< 7	< 4	< 3	< 3
LC 15W 350mA fixC SR SNC	< 20	< 16	< 7	< 4	< 3	< 3

Installation instructions

The LED module and all contact points within the wiring must be sufficiently insulated against 3.5 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.

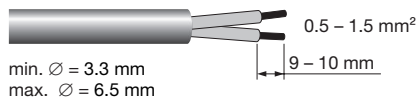
Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid. For perfect function of the cage clamp terminals the strip length should be 9 – 10 mm for the input terminal.

The max. torque at the clamping screw (M3) is 0.2 Nm.

Use one wire for each terminal connector only.

Use each strain relief channel for one cable only.

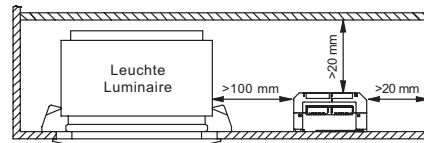
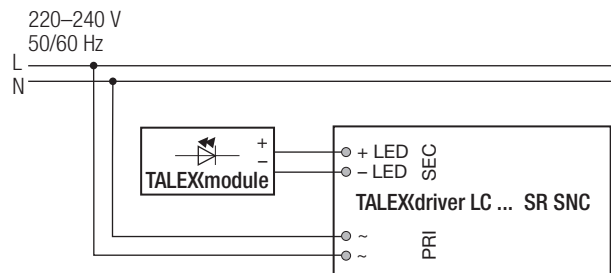
**Wiring guidelines**

- 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.
- To comply with the EMC regulations run the secondary wires (LED module) in parallel.
- Secondary switching is not permitted.
- Incorrect wiring can damage 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.).

Fixing conditions

Dry, acidfree, oilfree, fatfree. It is not allowed to exceed the maximum ambient temperature (t_a) stated on the device. Minimum distances stated below are recommendations and depend on the actual luminaire.

Is not suitable for fixing in corner.

**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.

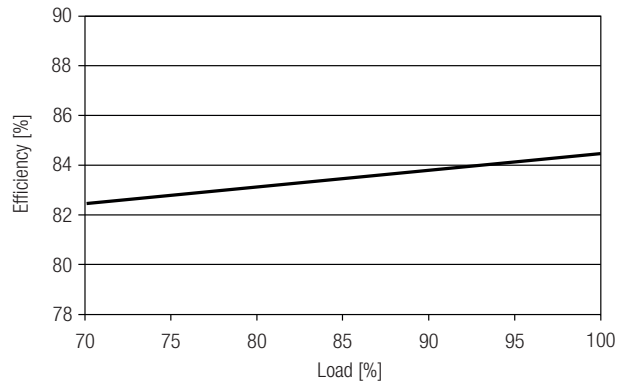
Additional information

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

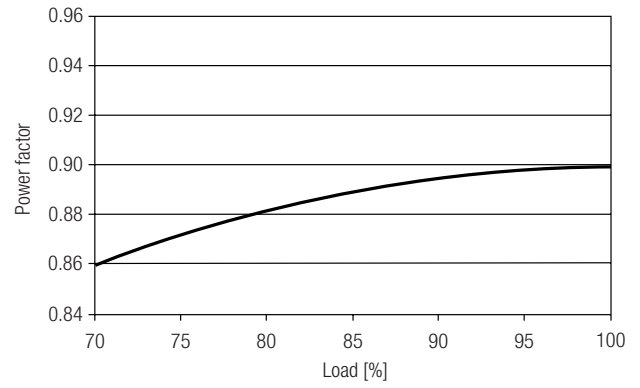
Lifetime declarations are informative and represent no warranty claim. No warranty if device was opened.

Diagrams LC 13W 300mA fixC SR SNC

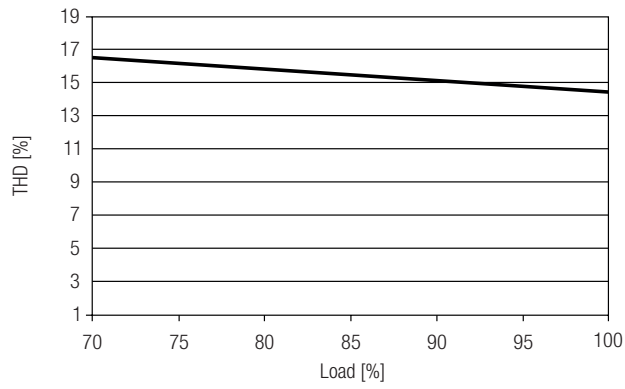
Efficiency vs load



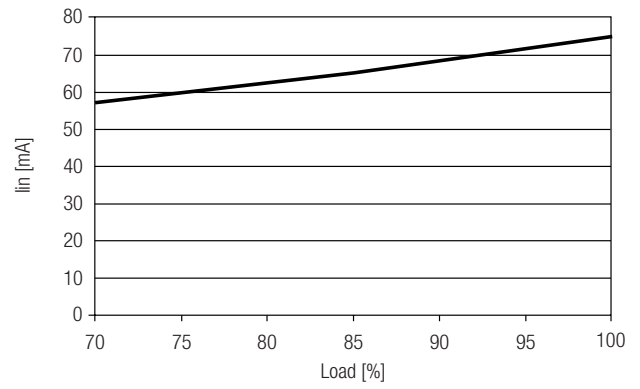
Power factor vs load



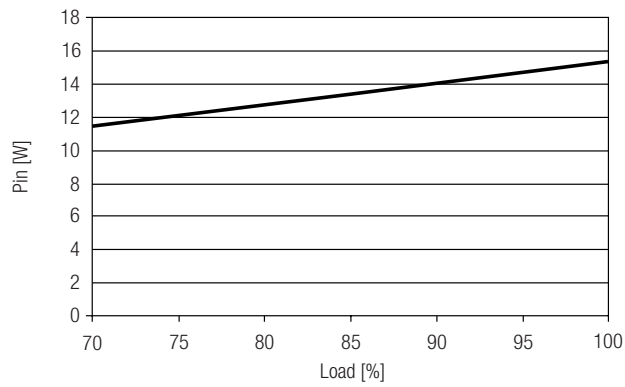
THD vs load



Input current vs load

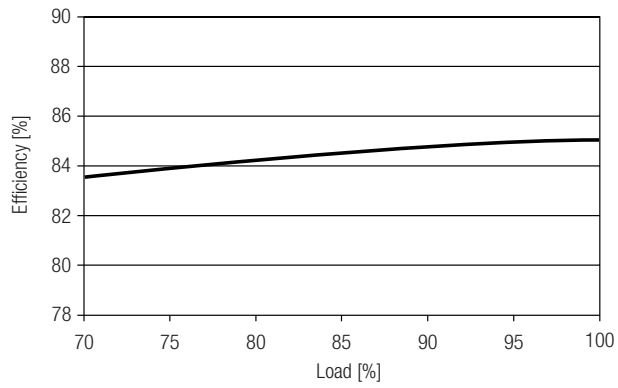


Input power vs load

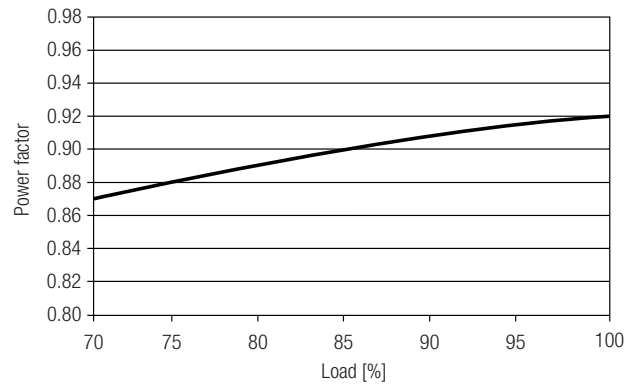


Diagrams LC 15W 350mA fixC SR SNC

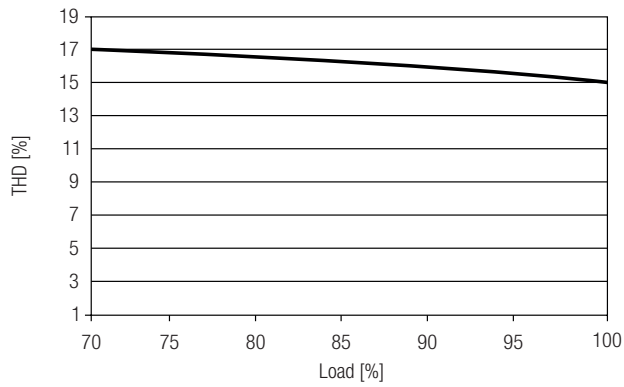
Efficiency vs load



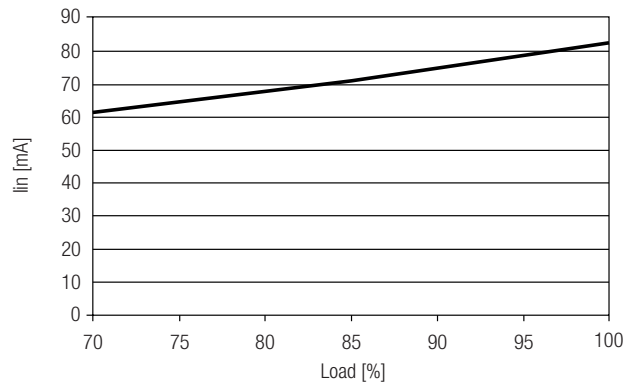
Power factor vs load



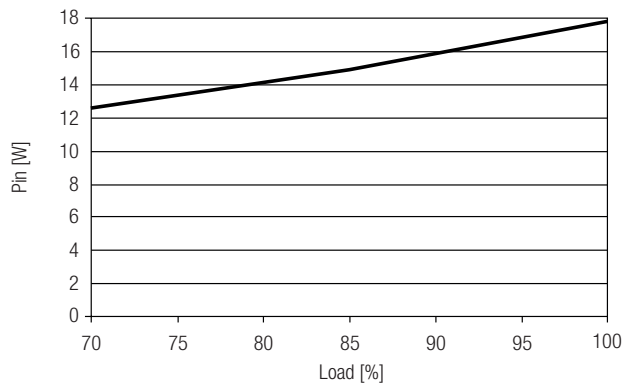
THD vs load



Input current vs load



Input power vs load



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