



Driver LC 10W 250/350/500/700mA 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)
- Max. output power 10 W
- Output current 250, 350, 500 or 700 mA
- For luminaires with M and MM as per EN 60598, VDE 0710 and VDE 0711
- Temperature protection as per EN 61347-2-13 C5e
- Nominal life-time up to 50,000 h
- 5-year guarantee



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



Standards, page 3

Wiring diagrams and installation examples, page 4



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 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 Driver switches into hic-cup mode. After the removal 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 open due to a failure. In no-load operation the output voltage will not exceed the specified max. output voltage (see page 2).

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 850 °C passed.

Expected life-time

Type	ta	40 °C	50 °C	
LC 10W 250mA fixC SR SNC	tc	70 °C	80 °C	x
	Life-time	50,000 h	30,000 h	x
LC 10W 350mA fixC SR SNC	tc	70 °C	80 °C	x
	Life-time	50,000 h	30,000 h	x
LC 10W 500mA fixC SR SNC	tc	70 °C	80 °C	x
	Life-time	50,000 h	30,000 h	x
LC 10W 700mA fixC SR SNC	tc	70 °C	80 °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 %.

Maximum loading of automatic circuit breakers

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 10W 250mA fixC SR SNC	120	160	200	240	100	130	160	200	8 A	80 µs
LC 10W 350mA fixC SR SNC	120	160	200	240	100	130	160	200	8 A	80 µs
LC 10W 500mA fixC SR SNC	120	160	200	240	100	130	160	200	8 A	80 µs
LC 10W 700mA fixC SR SNC	120	160	200	240	100	130	160	200	8 A	80 µs

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

	THD	3.	5.	7.	9.	11.
LC 10W 250mA fixC SR SNC	< 20	< 12	< 10	< 6	< 6	< 5
LC 10W 350mA fixC SR SNC	< 20	< 15	< 8	< 8	< 8	< 5
LC 10W 500mA fixC SR SNC	< 20	< 10	< 8	< 6	< 6	< 6
LC 10W 700mA fixC SR SNC	< 20	< 15	< 10	< 8	< 5	< 5

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

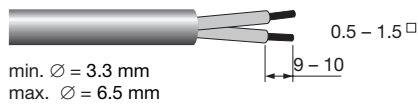
1. Mains off
2. Remove LED module
3. Wait for 10 seconds
4. Connect LED module again

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

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.



The following cable types are approved and recommended by Tridonic:

- RVVB 2x0.5 mm²
- H03VVH2-F2G0.75
- RVVB 2x1.0 mm²
- RVV 2x1.5 mm²

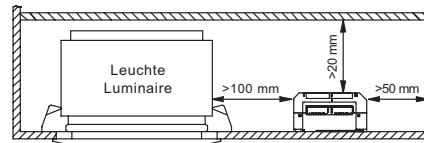
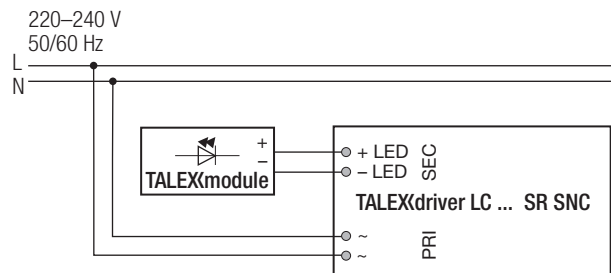
Wiring guidelines

- 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 damage LED modules.
- 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****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 M Ω .

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

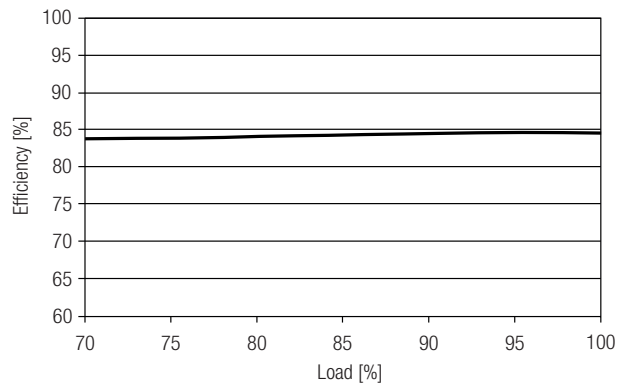
Additional technical information at www.tridonic.com → Technical Data

Guarantee conditions at www.tridonic.com → Services

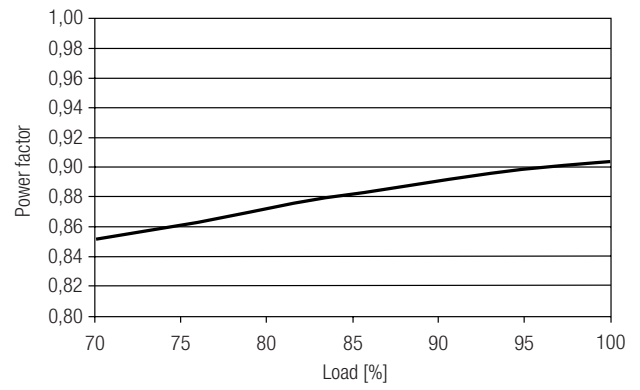
Life-time declarations are informative and represent no warranty claim. No warranty if device was opened.

Diagrams LC 10W 250mA fixC SR SNC

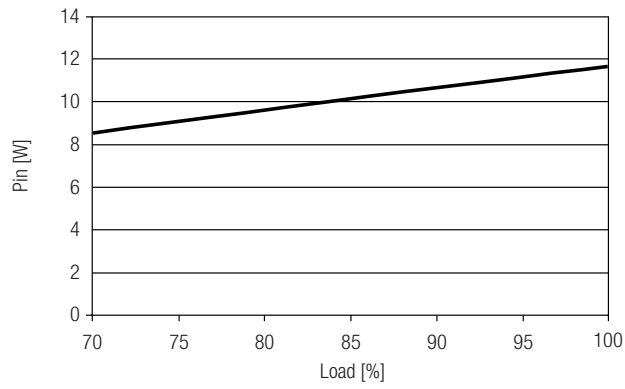
Efficiency vs load



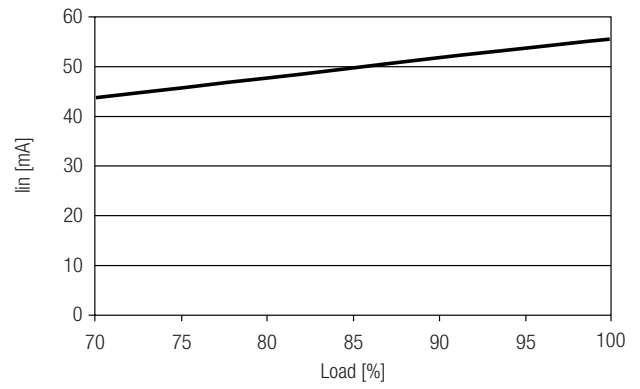
Power factor vs load



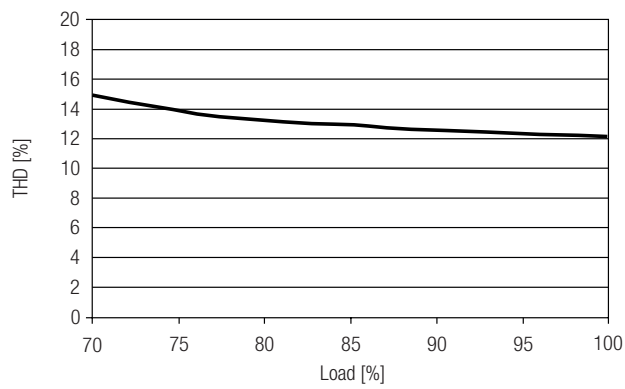
Input power vs load



Input current vs load

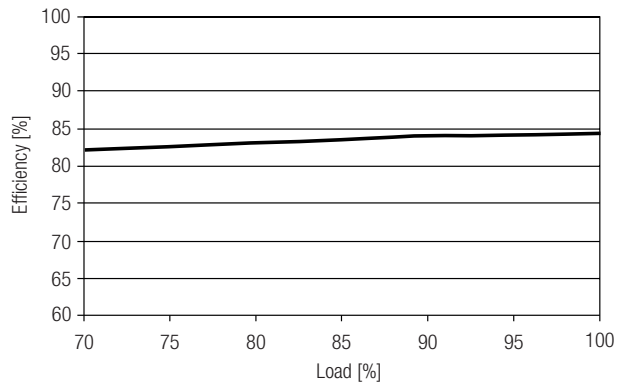


THD vs load

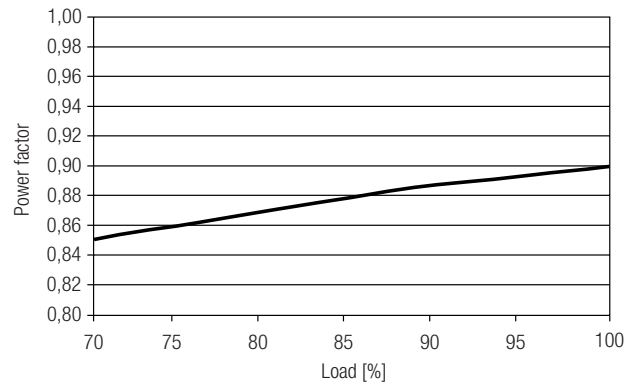


Diagrams LC 10W 350mA fixC SR SNC

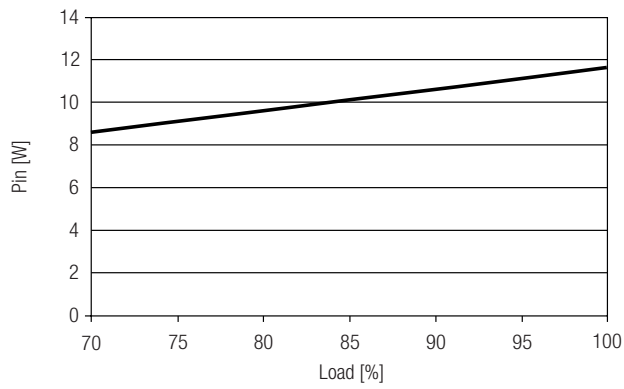
Efficiency vs load



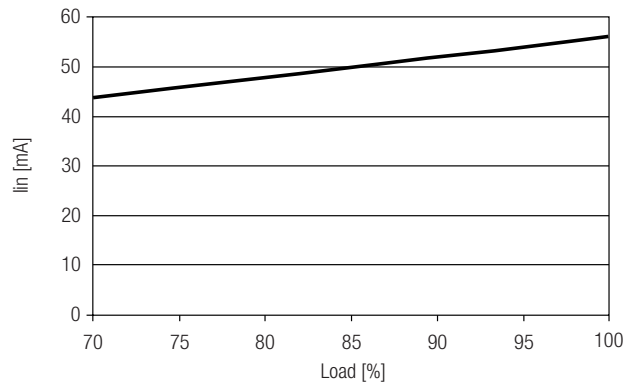
Power factor vs load



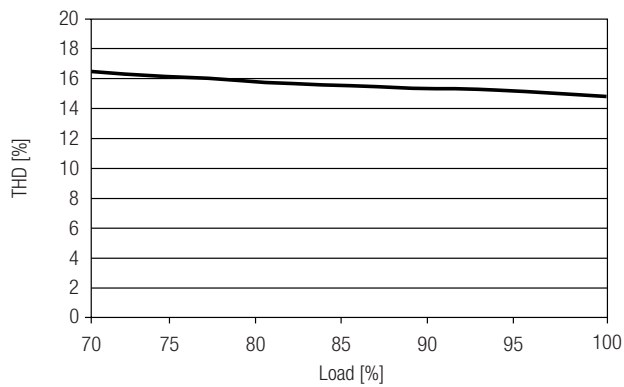
Input power vs load



Input current vs load

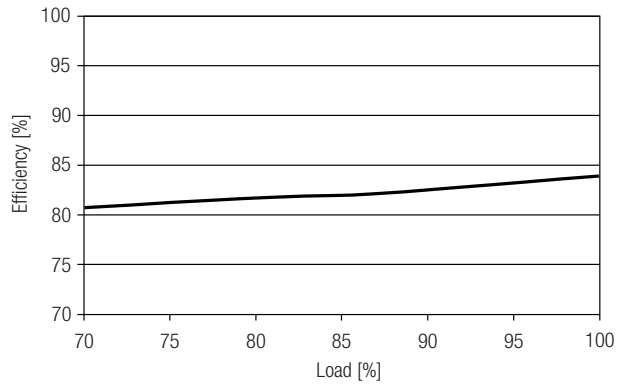


THD vs load

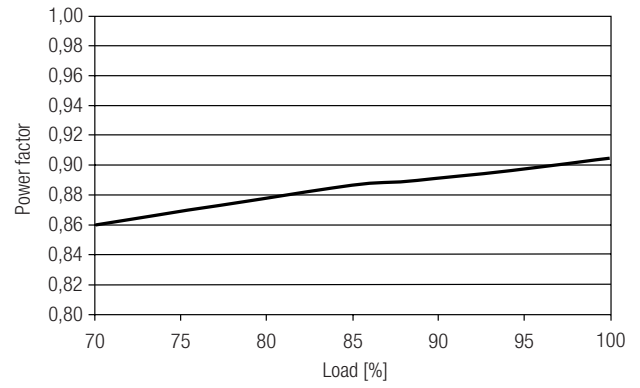


Diagrams LC 10W 500mA fixC SR SNC

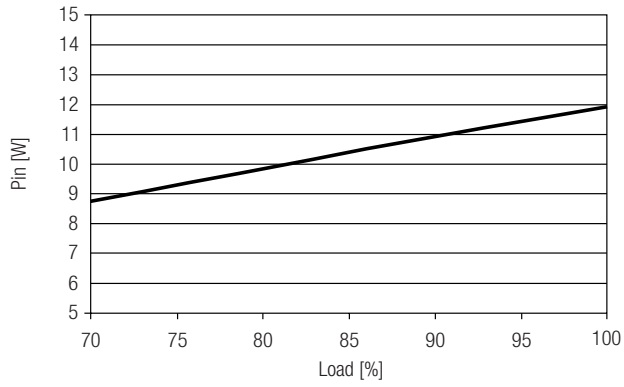
Efficiency vs load



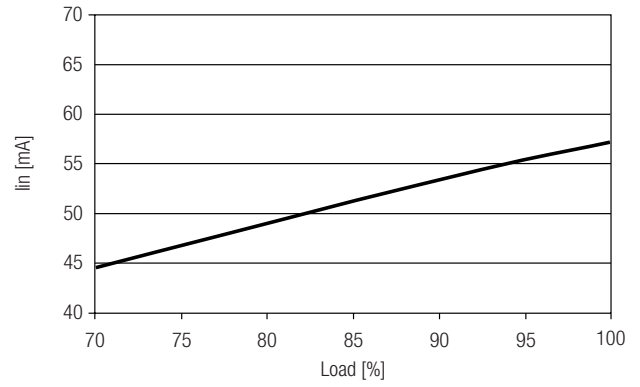
Power factor vs load



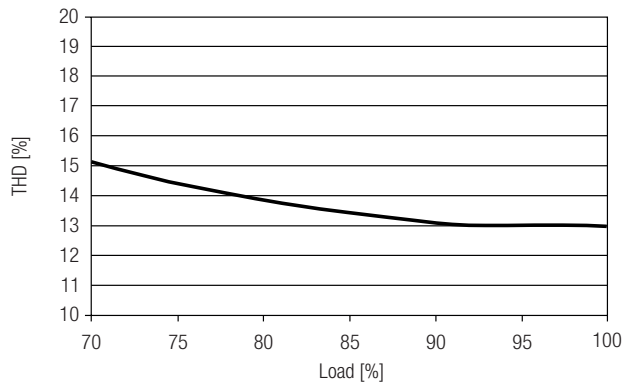
Input power vs load



Input current vs load

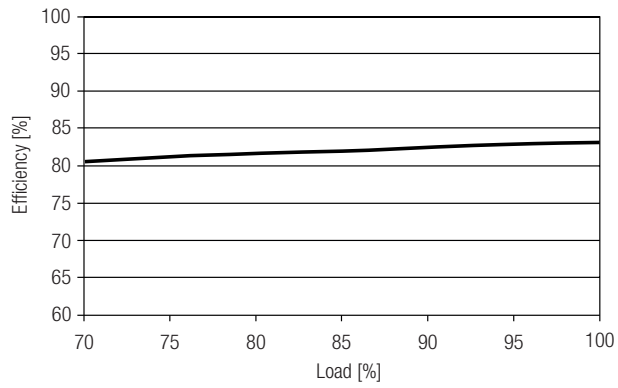


THD vs load

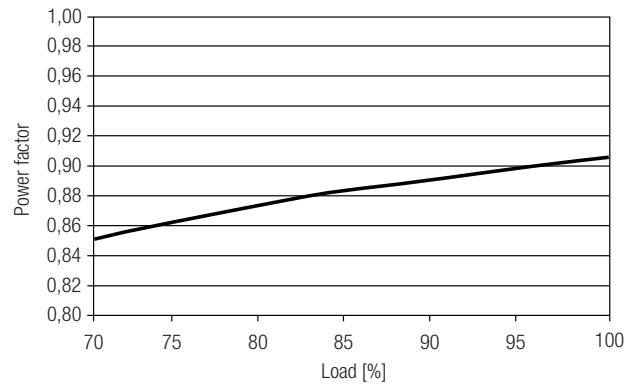


Diagrams LC 10W 700mA fixC SR SNC

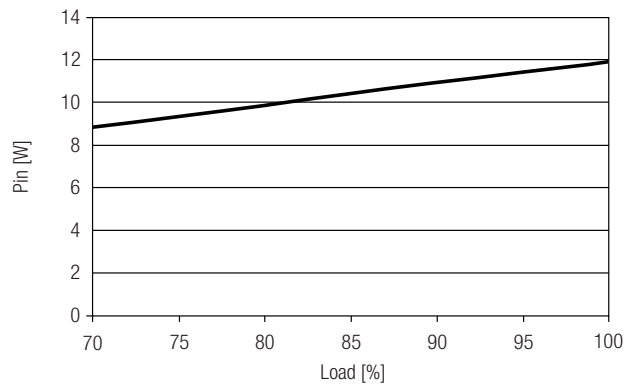
Efficiency vs load



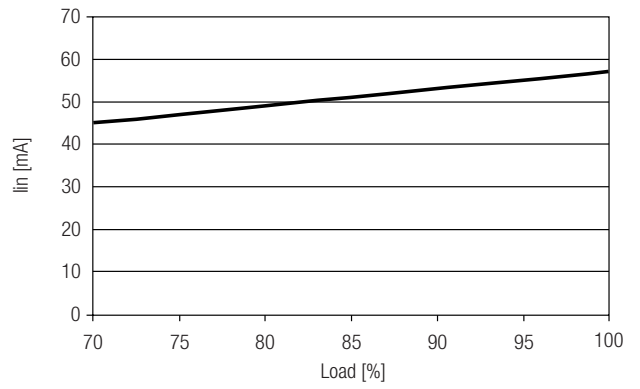
Power factor vs load



Input power vs load



Input current vs load



THD vs load

