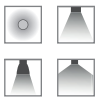


Driver LC 10W 250/350/500/700mA fixC SR SNC2

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 of protection class II
- 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
- Burst protection voltage 1 kV
- Surge protection voltage 0.5 kV (L to N)
- Surge protection voltage 1 kV (L/N to earth)

Typical applications

- For spot light and downlight in retail and hospitality application
- For panel light and area light in office and education application

→

Standards, page 3

Wiring diagrams and installation examples, page 3

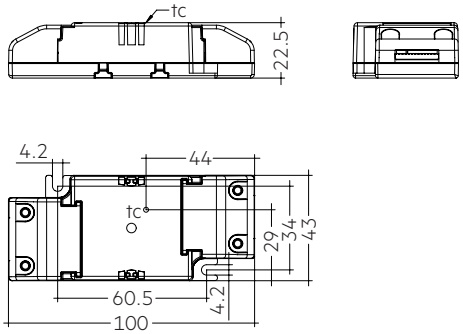
IP20 SELV RoHS

Driver LC 10W 250/350/500/700mA fixC SR SNC2 China Domestic

ESSENCE series

Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Leakage current (at 230 V, 50 Hz, full load)	< 450 µA
λ at full load[1]	0.55C
λ at min. load[1]	0.5C
Mains frequency	50/60 Hz
Overvoltage protection	320 V AC, 1 h
THD (at 230 V, 50 Hz, full load)	≤ 150 %
Output current tolerance[2]	± 7.5 %
Typ. output LF current ripple at full load	± 5 %
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	0 s
Ambient temperature ta	-20 … +50 °C
Ambient temperature ta (at life-time 50,000 h)	40 °C
Storage temperature ts	-40 … +80 °C
Dimensions L x W x H	100 x 43 x 22.5 mm



Ordering data

Type	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LC 10/250/40 fixC SR SNC2	**87500801**	19 pc(s).	703 pc(s).	5,624 pc(s).	0.052 kg
LC 10/350/29 fixC SR SNC2	**87500802**	19 pc(s).	703 pc(s).	5,624 pc(s).	0.053 kg
LC 10/500/20 fixC SR SNC2	**87500803**	19 pc(s).	703 pc(s).	5,624 pc(s).	0.053 kg
LC 10/700/14.5 fixC SR SNC2	**87500804**	19 pc(s).	703 pc(s).	5,624 pc(s).	0.052 kg

Specific technical data

Type	Output current[2]	Typ. rated current (at 230 V, 50 Hz, full load)	Max. input power	Typ. power consumption (at 230 V, 50 Hz, full load)	Output power	Efficiency at full load[1]	Efficiency at min. load[1]	Min. forward voltage[1]	Max. forward voltage[1]	Max. output voltage	Max. peak output current	Max. casing temperature tc
LC 10/250/40 fixC SR SNC2	250 mA	0.1 A	13 W	12.3 W	5.8 – 10.0 W	82 %	80 %	23 V	40.0 V	100 V	280 mA	80 °C
LC 10/350/29 fixC SR SNC2	350 mA	0.1 A	13 W	12.5 W	6.0 – 10.2 W	82 %	80 %	17 V	29.0 V	75 V	395 mA	80 °C
LC 10/500/20 fixC SR SNC2	500 mA	0.1 A	13 W	12.3 W	5.5 – 10.0 W	81 %	79 %	11 V	20.0 V	60 V	565 mA	80 °C
LC 10/700/14.5 fixC SR SNC2	700 mA	0.1 A	13 W	12.6 W	5.6 – 10.2 W	80 %	78 %	8 V	14.5 V	50 V	790 mA	80 °C

[1] Test result at 230 V, 50 Hz

[2] Output current is mean value.

1. Standards

EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-13
EN 61547
EN 60598-1
EN 62384

1.1 Glow wire test

according to EN 60598-1 with increased temperature of 850 °C passed.

2. Thermal details and life-time

2.1 Expected life-time

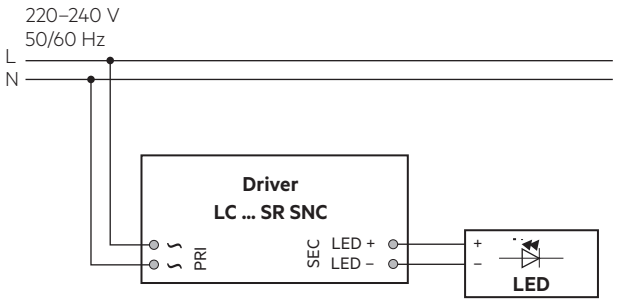
Expected life-time

Type	ta	40 °C	50 °C
LC 10/250/40 fixC SR SNC2	tc	70 °C	80 °C
	Life-time	50,000 h	30,000 h
LC 10/350/29 fixC SR SNC2	tc	70 °C	80 °C
	Life-time	50,000 h	30,000 h
LC 10/500/20 fixC SR SNC2	tc	70 °C	80 °C
	Life-time	50,000 h	30,000 h
LC 10/700/14.5 fixC SR SNC2	tc	70 °C	80 °C
	Life-time	50,000 h	30,000 h

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

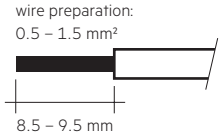
3. Installation / wiring

3.1 Circuit diagram



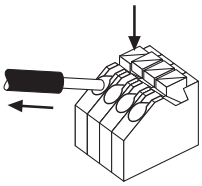
3.2 Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid 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.
Use one wire for each terminal connector only.



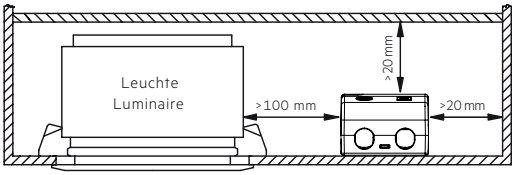
3.3 Release of the wiring

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



3.4 Fixing conditions when using as independent Driver with Clip-On

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.



3.4 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.
- 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.).

3.5 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.

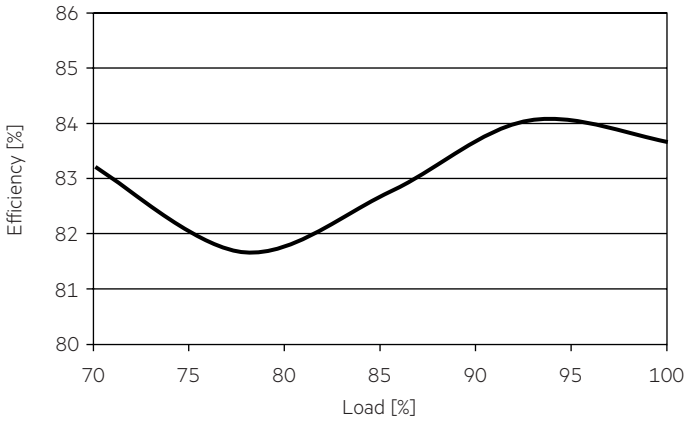
3.6 Installation instructions

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.

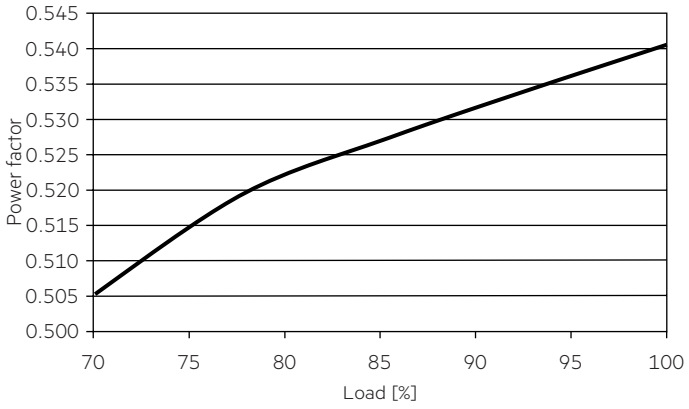
4. Electrical values

4.1 Diagrams LC 10W 250mA fixC SR SNC2

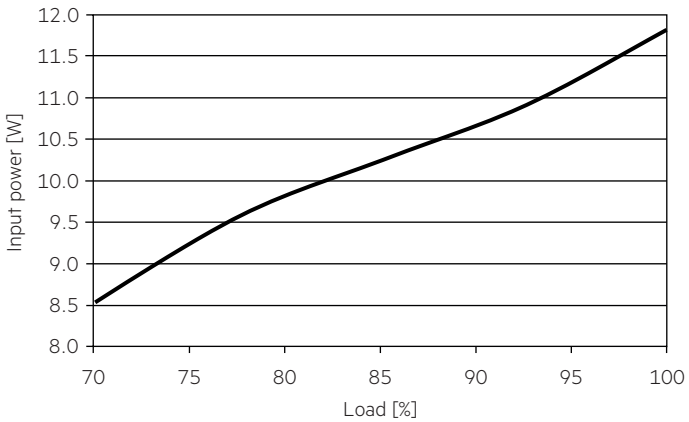
4.1.1 Efficiency vs load



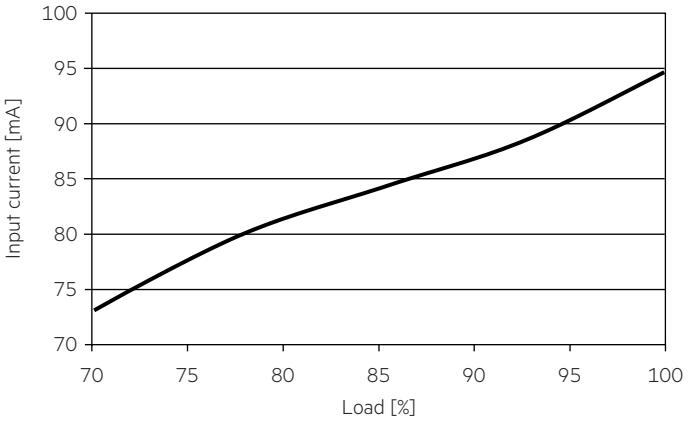
4.1.2 Power factor vs load



4.1.3 Input power vs load

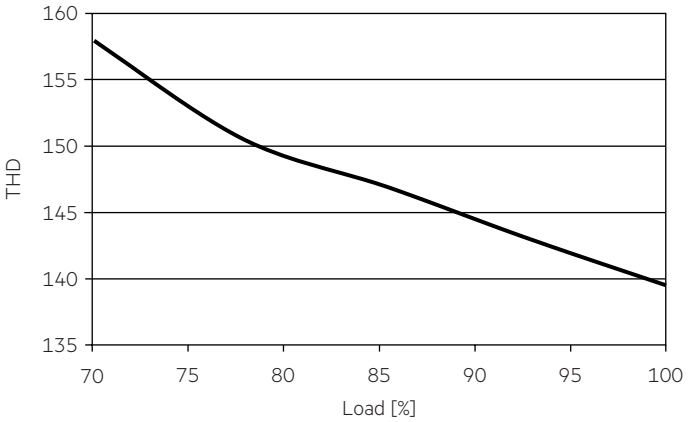


4.1.4 Input current vs load



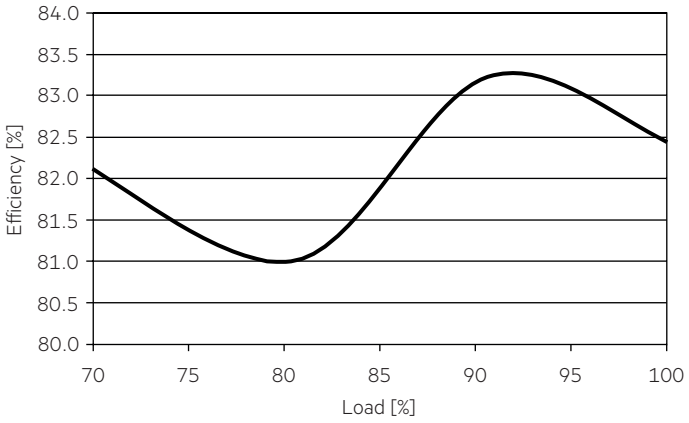
4.1.5 THD vs load

THD without harmonic < 5 mA (0.6 %) of the input current:

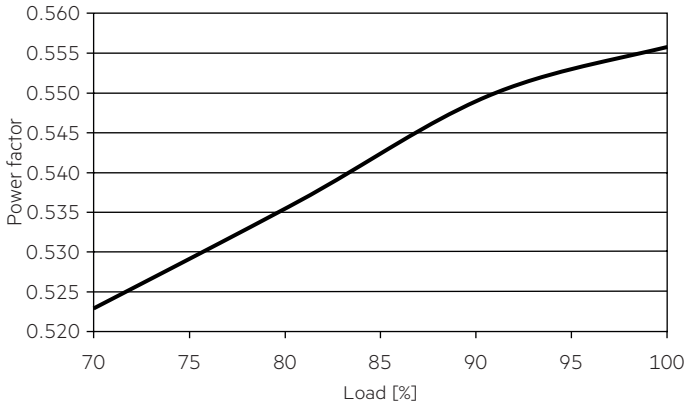


4.2 Diagrams LC 10W 350mA fixC SR SNC2

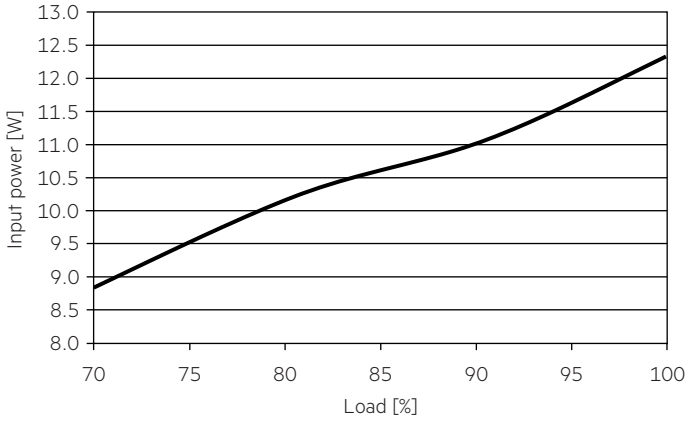
4.2.1 Efficiency vs load



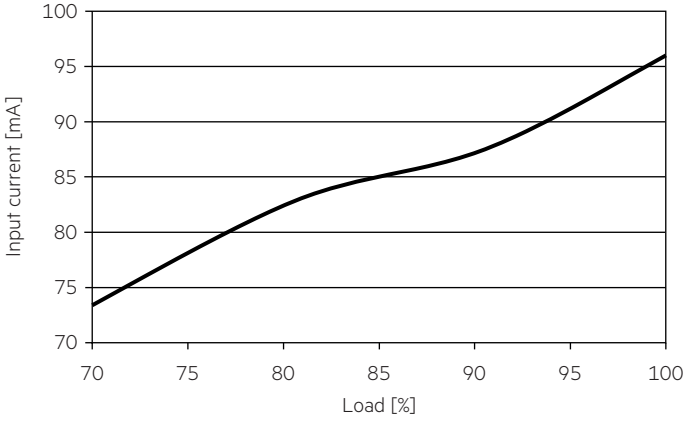
4.2.2 Power factor vs load



4.2.3 Input power vs load

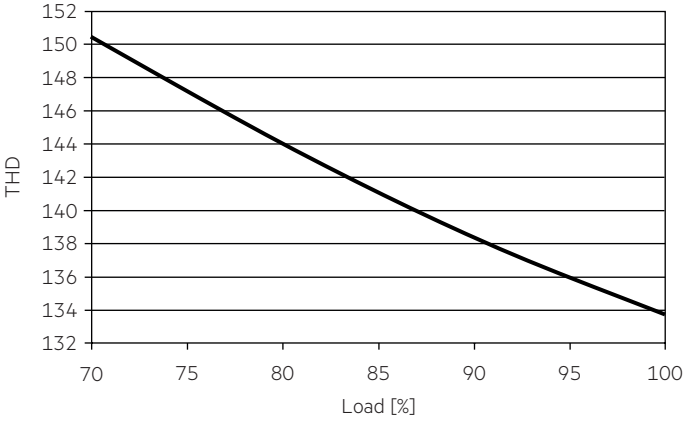


4.2.4 Input current vs load



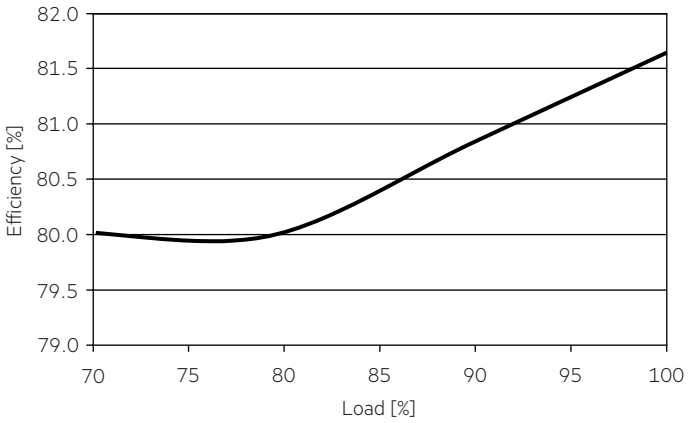
4.2.5 THD vs load

THD without harmonic < 5 mA (0.6 %) of the input current:

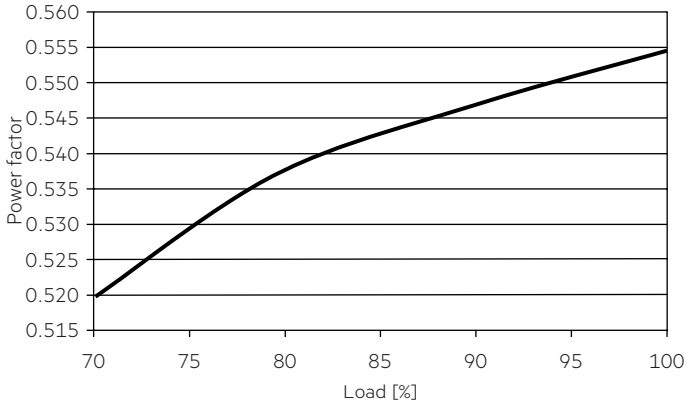


4.3 Diagrams LC 10W 500mA fixC SR SNC2

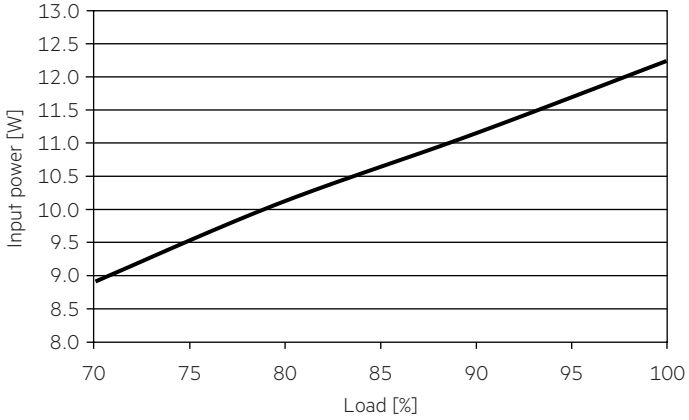
4.3.1 Efficiency vs load



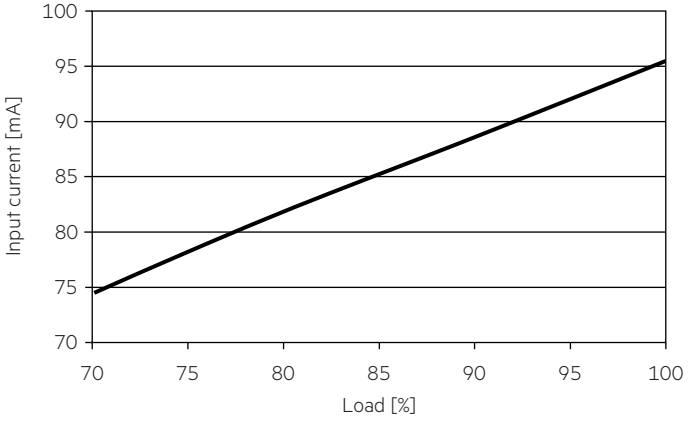
4.3.2 Power factor vs load



4.3.3 Input power vs load

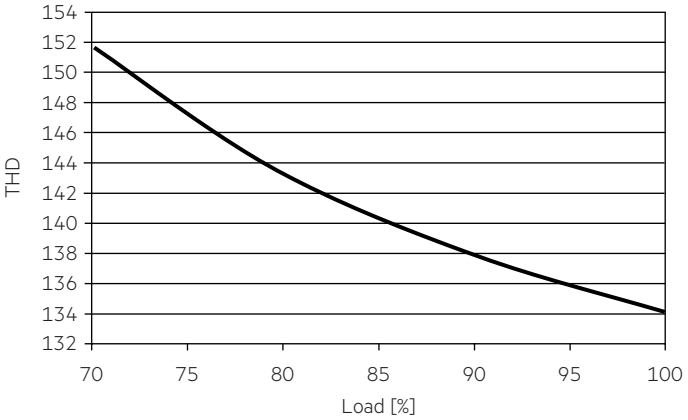


4.3.4 Input current vs load



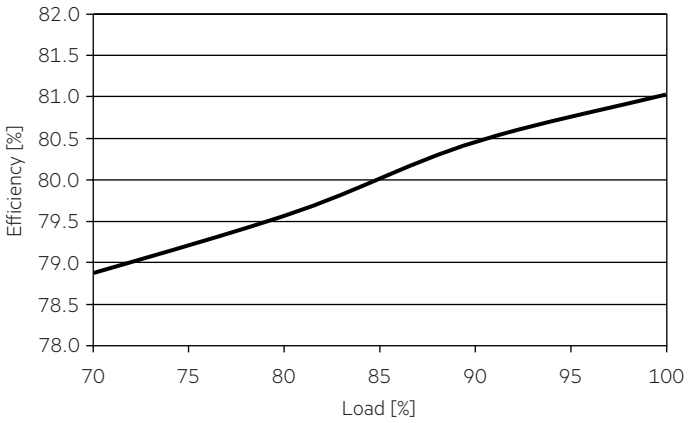
4.3.5 THD vs load

THD without harmonic < 5 mA (0.6 %) of the input current:

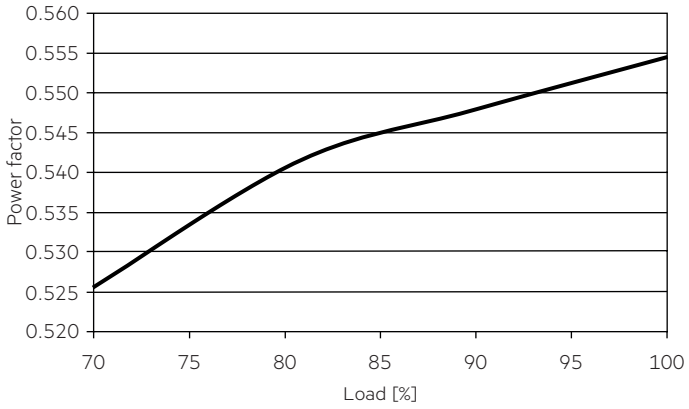


4.4 Diagrams LC 10W 700mA fixC SR SNC2

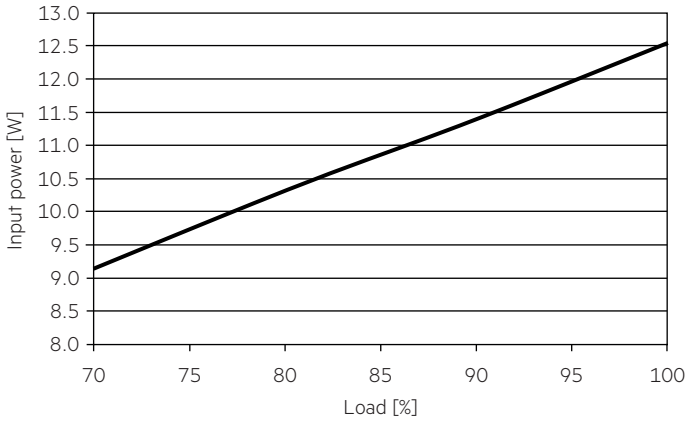
4.4.1 Efficiency vs load



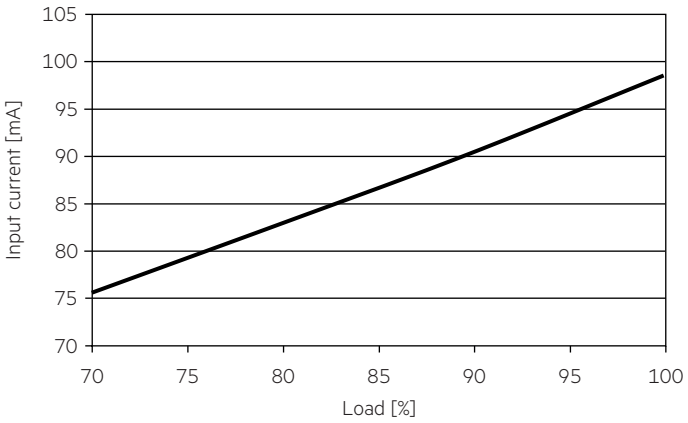
4.4.2 Power factor vs load



4.4.3 Input power vs load

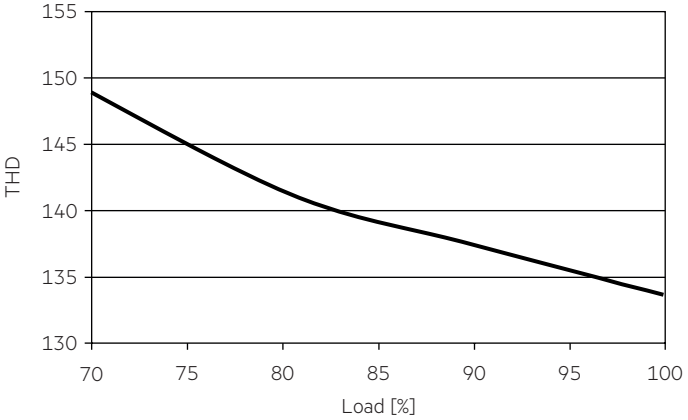


4.4.4 Input current vs load



4.4.5 THD vs load

THD without harmonic < 5 mA (0.6 %) of the input current:



4.3 Maximum loading of automatic circuit breakers

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 10/250/40 fixC SR SNC2	84	107	130	162	50	64	78	97	15 A	100 µs
LC 10/350/29 fixC SR SNC2	84	107	130	162	50	64	78	97	15 A	100 µs
LC 10/500/20 fixC SR SNC2	84	107	130	162	50	64	78	97	15 A	100 µs
LC 10/700/14.5 fixC SR SNC2	84	107	130	162	50	64	78	97	15 A	100 µs

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

	THD	3.	5.	7.	9.	11.
LC 10/250/40 fixC SR SNC2	< 150	< 95	< 75	< 50	< 35	< 25
LC 10/350/29 fixC SR SNC2	< 150	< 95	< 75	< 50	< 35	< 25
LC 10/500/20 fixC SR SNC2	< 150	< 95	< 75	< 50	< 35	< 25
LC 10/700/14.5 fixC SR SNC2	< 150	< 95	< 75	< 50	< 35	< 25

Acc. to 6100-3-2. Harmonics < 5 mA or < 0.6 % (whatever is greater) of the input current are not considered for calculation of THD.

5. Functions

5.1 Short-circuit behaviour

In case of a short circuit on the output side (LED) the LED Driver switches off. After elimination of the short-circuit fault LED Driver will recover automatically.

5.2 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.

5.3 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 will recover automatically.

6. Miscellaneous

6.1 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.

6.2 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.

6.3 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.