TRIDONIC

LED Driver
Compact fixed output

Driver LC 35/40/42W 800/900/1050mA fixC SC SNC

ESSENCE series

Product description

- Fixed output LED Driver
- Can be either used build-in or independent with clip-on strain-relief (see accessory)
- Constant current LED Driver
- Output current 800, 900 or 1,050 mA
- Max. output power 35, 39 or 42 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
- Independent LED Driver with cable clamps
- 5-year guarantee

Properties

- Casing: polycarbonat, white
- Type of protection IP20

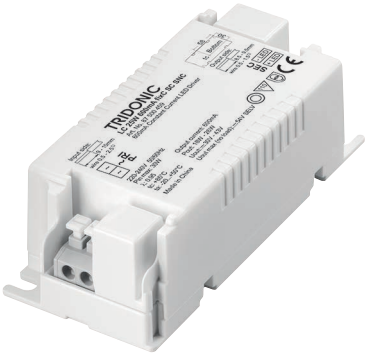
Functions

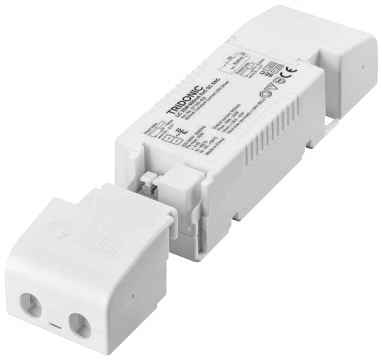
- Overtemperature protection
- Overload protection
- Short-circuit protection
- No-load protection
- Burst protection voltage 1 kV
- Surge protection voltage 1 kV (L to N)
- Surge protection voltage 2 kV (L/N to earth)

→

Standards, page 3

Wiring diagrams and installation examples, page 4





With strain-relief

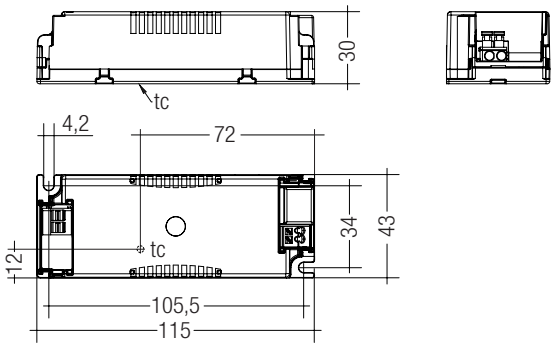
IP20 SELV RoHS

Driver LC 35/40/42W 800/900/1050mA fixC SC SNC

ESSENCE series

Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Mains frequency	50 / 60 Hz
Overvoltage protection	320 V AC, 1 h
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
Storage temperature ts	-40 … +80 °C
Dimensions L x W x H	115 x 43 x 30 mm
Dimensions with strain-relief L x W x H	175 x 43 x 30 mm



Ordering data

Type	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LC 35W 800mA fixC SC SNC	**87500461**	15 pc(s).	450 pc(s).	3,600 pc(s).	0.116 kg
LC 40W 900mA fixC SC SNC	**87500462**	15 pc(s).	450 pc(s).	3,600 pc(s).	0.116 kg
LC 42W 1050mA fixC SC SNC	**87500463**	15 pc(s).	450 pc(s).	3,600 pc(s).	0.116 kg

Specific technical data

Type	Output current[3]	Input current (at 230 V, 50 Hz, full load)	Max. input power	Typ. power consumption (at 230 V, 50 Hz, full load)	Output power range	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]	Max. casing temperature tc
LC 35W 800mA fixC SC SNC	800 mA	0.18 A	39 W	38.0 W	24.0 – 35.0 W	0.96	90.5 %	0.93C	89.0 %	30 V	43 V	54 V	1,120 mA	1,280 mA	85 °C
LC 40W 900mA fixC SC SNC	900 mA	0.20 A	44 W	42.5 W	27.0 – 39.0 W	0.96	90.5 %	0.94C	89.0 %	30 V	43 V	54 V	1,260 mA	1,440 mA	90 °C
LC 42W 1050mA fixC SC SNC	1,050 mA	0.21 A	48 W	46.0 W	29.4 – 42.0 W	0.97	90.5 %	0.95	89.5 %	28 V	40 V	54 V	1,470 mA	1,680 mA	90 °C

[1] Test result at 230 V, 50 Hz.

[2] The trend between min. and full load is linear.

[3] Output current is mean value.

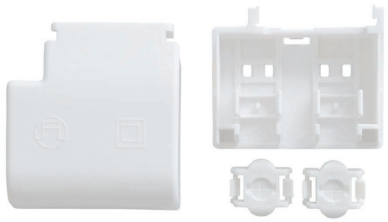
ACCES-SORIES

Strain-relief set 43x30mm

Product description

- Optional strain-relief set for independent applications
- Transforms the LED Driver into a fully class II compatible LED Driver (e.g. ceiling installation)
- Easy and tool-free mounting to the LED Driver, screwless cable-clamp channels for long strain-relief (30 x 43 x 30 mm)
- With screws for short strain-relief (15 x 34 x 30 mm)
- Overall length = length L (LED Driver) + 2 x 30 mm (long strain-relief set), 2 x 15 mm (short strain-relief) or long and short strain-relief any combination
- Standard SC (L = 30 mm) available as non-pre-assembled and pre-assembled
- Short SC (L = 15 mm) only pre-assembled available

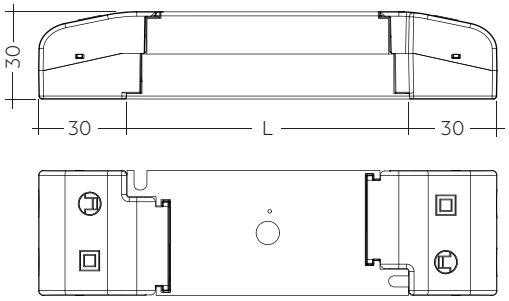
ACU SC 30x43x30mm CLIP-ON SR SET (28001168, non-pre-assembled)



ACU SC 30x43x30mm CLIP-ON SR SET 300 (28001351, non-pre-assembled, 300 pcs. packaging)

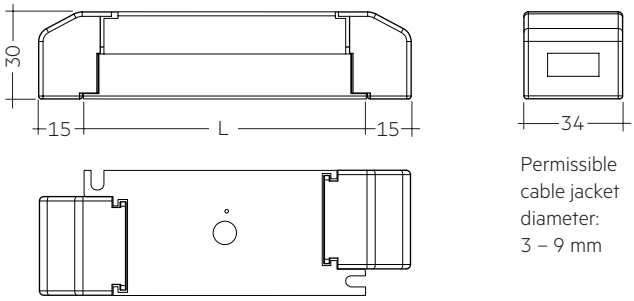
ACU SC 30x43x30mm CLIP-ON SR PA (28001699, pre-assembled)

ACU SC 15x43x30mm CLIP-ON SR PA (28001574, pre-assembled)



Permissible cable jacket diameter: 2.2 – 9 mm

ACU SC 30x43x30mm CLIP-ON SR SET / PA



Permissible cable jacket diameter: 3 – 9 mm

ACU SC 15x43x30mm CLIP-ON SR PA

Ordering data

Type	Article number	Packaging carton[1]	Packaging outer box	Weight per pc.
ACU SC 43x30mm CLIP-ON SR SET	**28001168**	10 pc(s).	500 pc(s).	0.021 kg
ACU SC 43x30mm CLIP-ON SR SET 300	**28001351**	300 pc(s).	300 pc(s).	0.021 kg
ACU SC 30x43x30mm CLIP-ON SR PA	**28001699**	10 pc(s).	500 pc(s).	0.021 kg
ACU SC 15x43x30mm CLIP-ON SR PA	**28001574**	10 pc(s).	1,200 pc(s).	0.010 kg

[1] 28001168: A carton of 10 pcs. is equal to 10 sets, each with 2 strain-reliefs parts.
28001351: A carton of 300 pcs. is equal to 300 sets, each with 2 strain-reliefs parts.
28001699 + 28001574: A carton contains exactly 10 pcs. strain-reliefs (no sets).

1. Standards

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

1.1 Glow-wire test

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

2. Thermal details and life-time

2.1 Expected life-time

Expected life-time

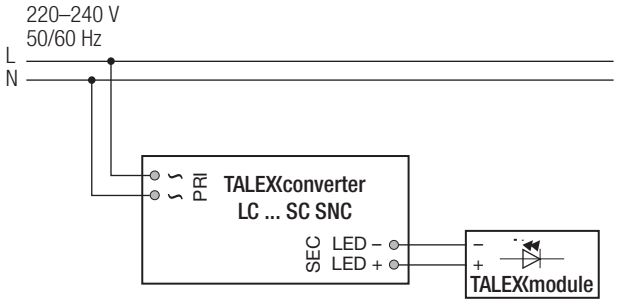
Type	ta	40 °C	50 °C
LC 35W 800mA fixC SC SNC	tc	75 °C①	85 °C①
	Life-time	50,000 h	30,000 h
LC 40W 900mA fixC SC SNC	tc	80 °C①	90 °C①
	Life-time	50,000 h	30,000 h
LC 42W 1050mA fixC SC SNC	tc	80 °C①	90 °C①
	Life-time	50,000 h	30,000 h

① Test result at max. output voltage.

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

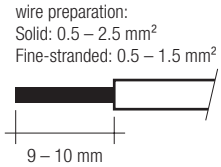


3.2 Wiring type and cross section

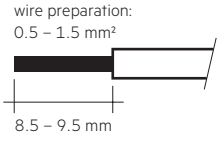
The input wiring can be stranded wires with ferrules with a cross section of 0.5 – 1.5 mm² or with solid wires with a cross section of 0.5 – 2.5 mm².
Strip 9 – 10 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.

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



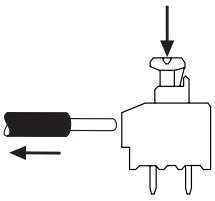
Output wiring



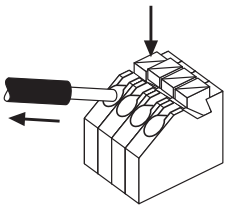
3.3 Release of the wiring

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

Input terminal

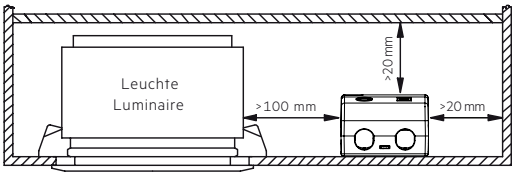


Output terminal



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.



3.5 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.).

3.6 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.

3.7 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.

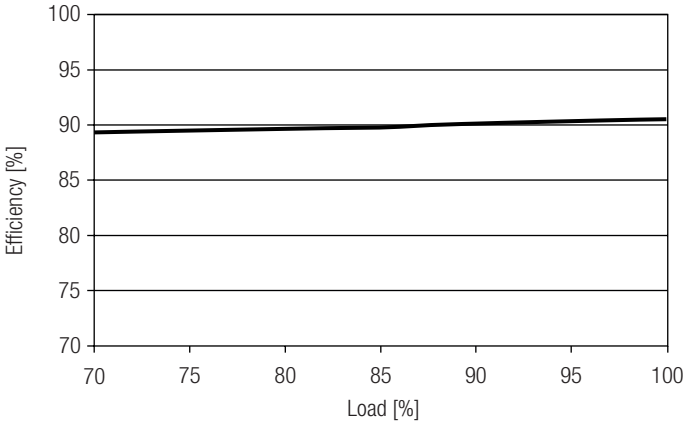
3.8 Mounting of device

Max. torque for fixing: 0.5 Nm/M4

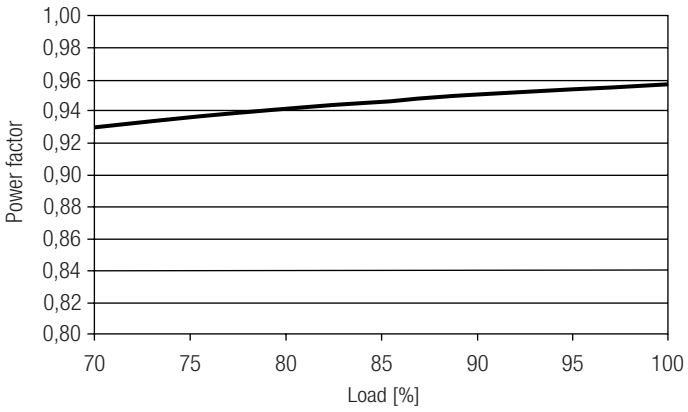
4. Electrical values

4.1 Diagrams LC 35W 800mA fixC SC SNC

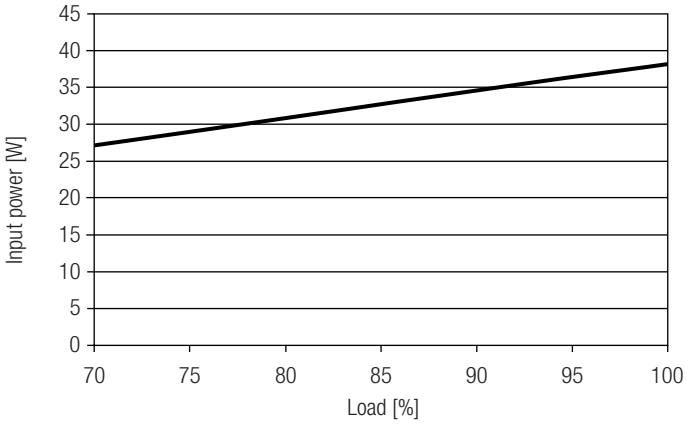
4.1.1 Efficiency vs load



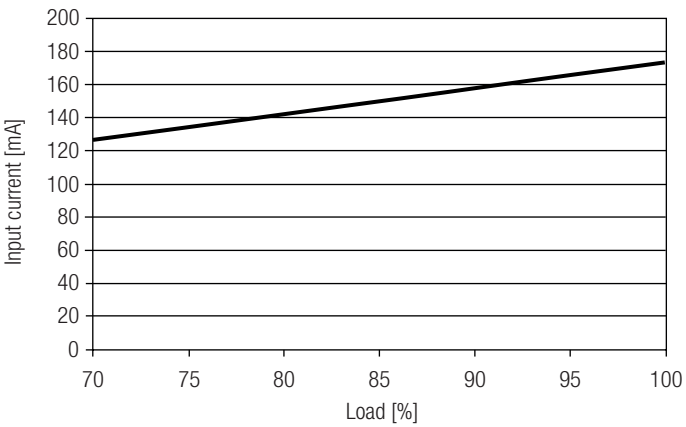
4.1.2 Power factor vs load



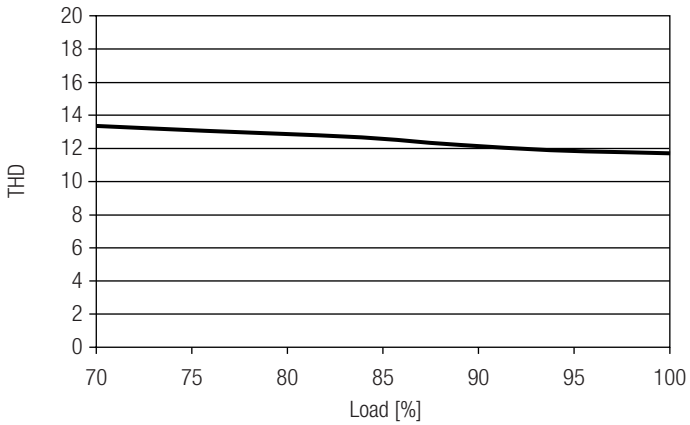
4.1.3 Input power vs load



4.1.4 Input current vs load

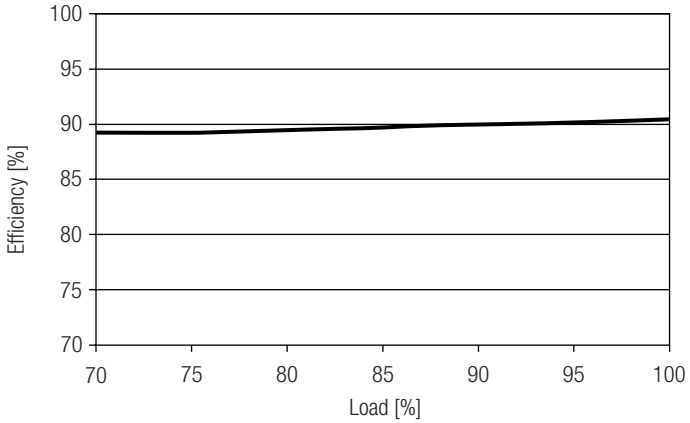


4.1.5 THD vs load

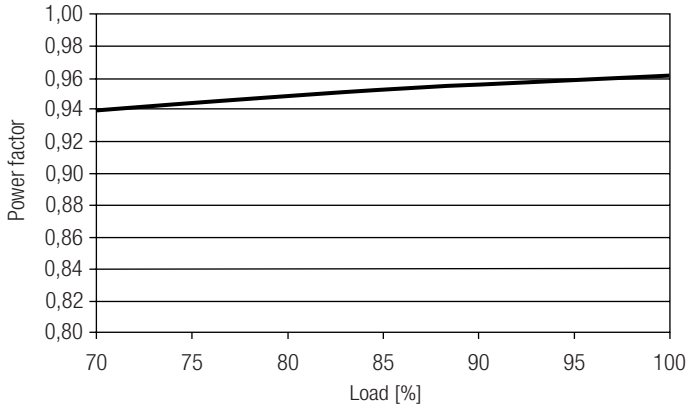


4.2 Diagrams LC 40W 900mA fixC SC SNC

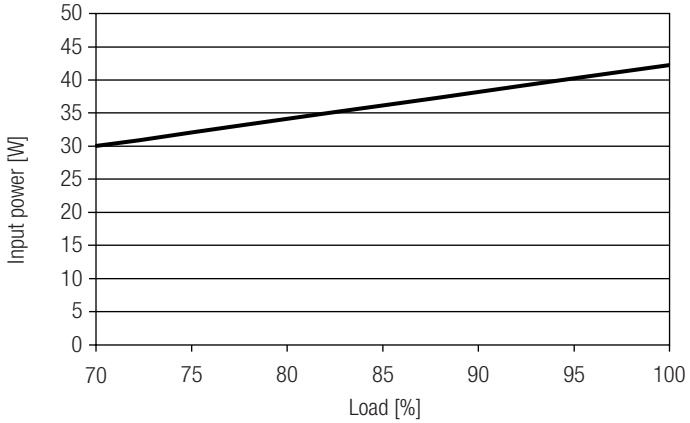
4.2.1 Efficiency vs load



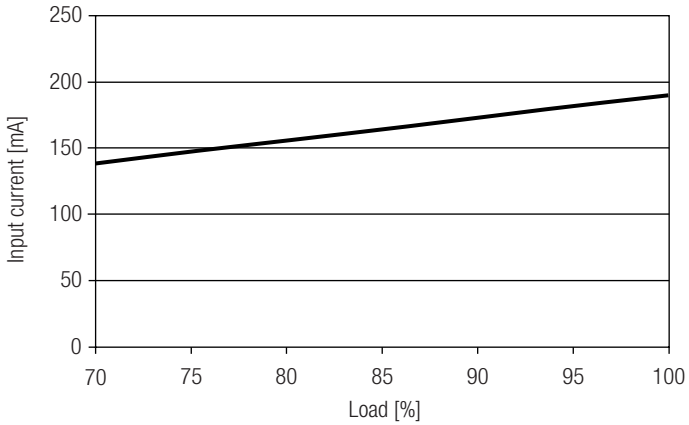
4.2.2 Power factor vs load



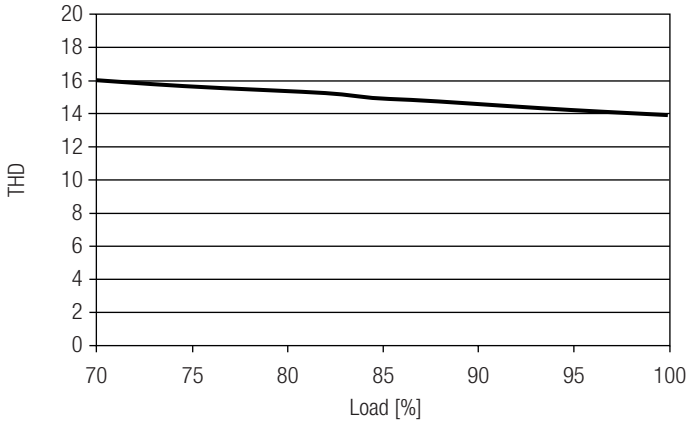
4.2.3 Input power vs load



4.2.4 Input current vs load

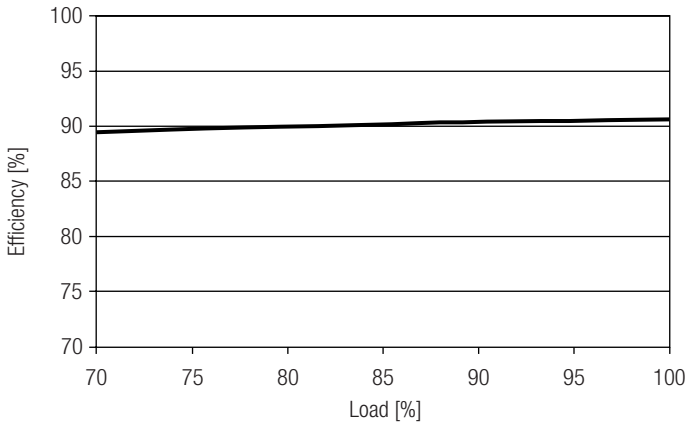


4.2.5 THD vs load

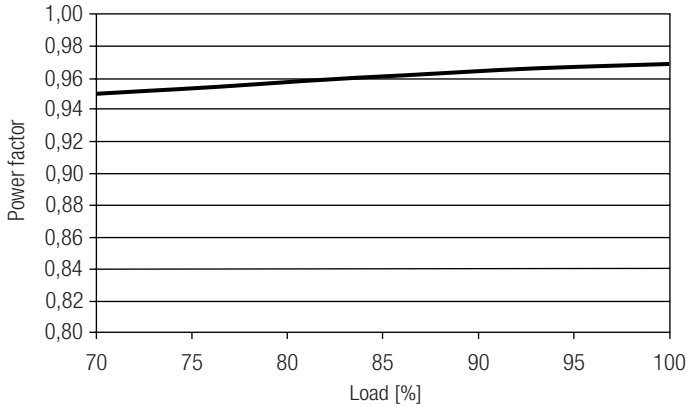


4.3 Diagrams LC 42W 1050mA fixC SC SNC

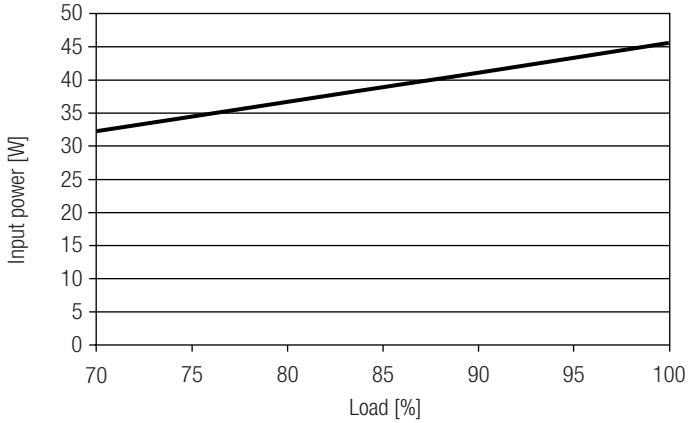
4.3.1 Efficiency vs load



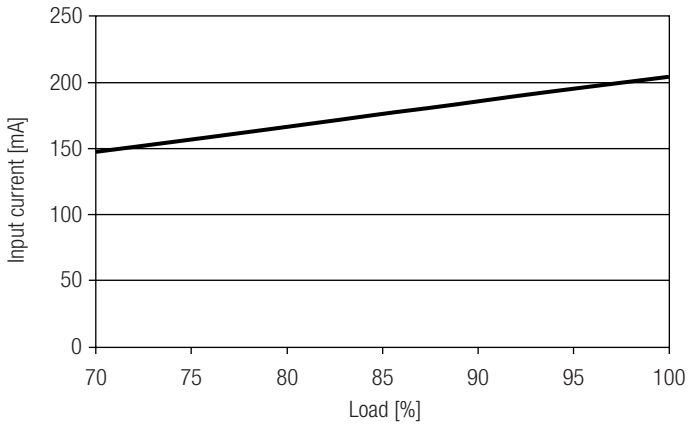
4.3.2 Power factor vs load



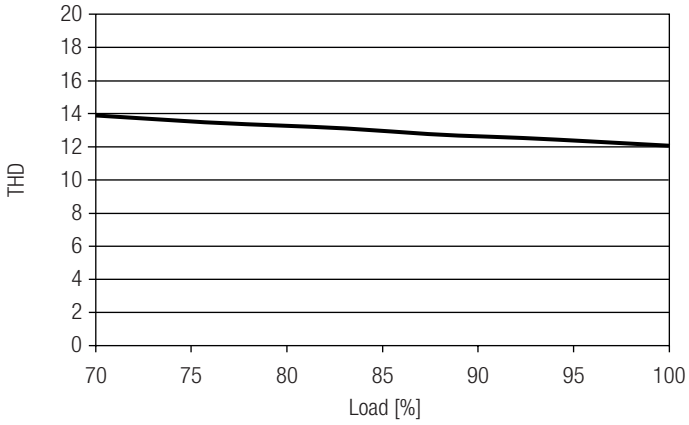
4.3.3 Input power vs load



4.3.4 Input current vs load



4.3.5 THD vs load



4.4 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 35W 800mA fixC SC SNC	45	60	75	95	40	60	75	95	10 A	100 µs
LC 40W 900mA fixC SC SNC	40	55	70	85	35	55	65	80	10 A	100 µs
LC 42W 1050mA fixC SC SNC	40	50	60	80	30	45	55	65	10 A	100 µs

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

	THD	3.	5.	7.	9.	11.
LC 35W 800mA fixC SC SNC	< 20	< 12	< 3	< 2	< 2	< 2
LC 40W 900mA fixC SC SNC	< 20	< 14	< 4	< 2	< 2	< 2
LC 42W 1050mA fixC SC SNC	< 20	< 12	< 3	< 2	< 2	< 2

5. Functions

5.1 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.

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 is restored automatically.

5.4 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.

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 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.

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.