Driver LC 35W 350/500/800/1050mA fixC SR SNC

ESENCE series

Product description

- Independent fixed output LED Driver
- Constant current LED Driver
- Output current 350, 500, 800 or 1,050 mA
- Max. output power 35 W
- Nominal life-time up to 50,000 h
- KC certificate for LC 35W 800mA fixC SR SNC
- For luminaires of protection class I and protection class II
- For luminaires with M and MM as per EN 60598, VDE 0710 and VDE 0711
- Temperature protection as per EN 61347-2-13 C5e
- 5-year guarantee

Properties

- Casing: polycarbonat, white
- Type of protection IP20

Functions

- Overtemperature protection
- Overload protection
- Short-circuit protection
- No-load protection

Standards, page 3

Wiring diagrams and installation examples, page 4

IP20 SELV RoHS

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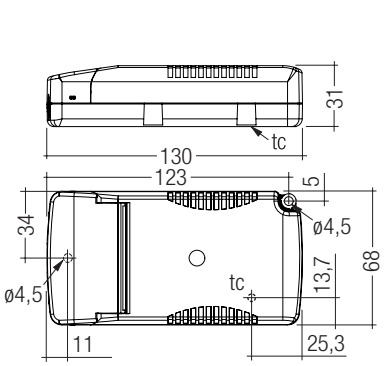
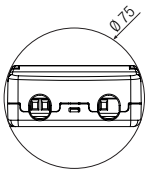
Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Input current (at 230 V, 50 Hz, full load)	0.175 A
Mains frequency	50 / 60 Hz
Typ. power consumption (at 230 V, 50 Hz, full load)	38.5 W
Max. input power	41 W
Output power range	24 – 35 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 %
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
Max. casing temperature tc	85 °C
Storage temperature ts	-40 … +80 °C
Dimensions L x W x H	130 x 68 x 31 mm





Ordering data

Type	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LC 35W 350mA fixC SR SNC	**87500547**	30 pc(s).	390 pc(s).	1,950 pc(s).	0.153 kg
LC 35W 500mA fixC SR SNC	**87500548**	30 pc(s).	390 pc(s).	1,950 pc(s).	0.153 kg
LC 35W 800mA fixC SR SNC	**87500549**	30 pc(s).	390 pc(s).	1,950 pc(s).	0.153 kg
LC 35W 1050mA fixC SR SNC	**87500550**	30 pc(s).	390 pc(s).	1,950 pc(s).	0.153 kg

Specific technical data

Type	Output current[3]	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]
LC 35W 350mA fixC SR SNC	350 mA	0.95	91 %	0.90C	89 %	70 V	100 V	120 V	480 mA	530 mA
LC 35W 500mA fixC SR SNC	500 mA	0.95	90 %	0.90C	88 %	49 V	70 V	90 V	700 mA	760 mA
LC 35W 800mA fixC SR SNC	800 mA	0.95	91 %	0.91C	90 %	30 V	43 V	54 V	1,120 mA	1,280 mA
LC 35W 1050mA fixC SR SNC	1,050 mA	0.95	89 %	0.90C	87 %	23 V	33 V	50 V	1,470 mA	1,580 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 60598-1
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-13
EN 61547

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.

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.

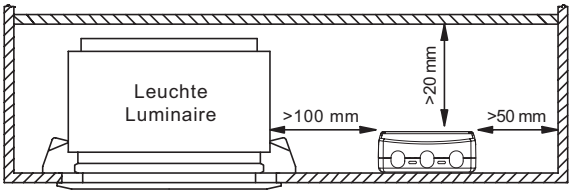
No-load operation
The LED Driver works in burst working mode to provide a constant output voltage regulation which allows the application to be able to work safely when LED string opens due to a failure.

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.

Fixing conditions
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.



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.

Expected life-time

Type	ta	40 °C	50 °C	60 °C
LCI 35W xxxmA SR SNC	tc	75 °C	85 °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 %.

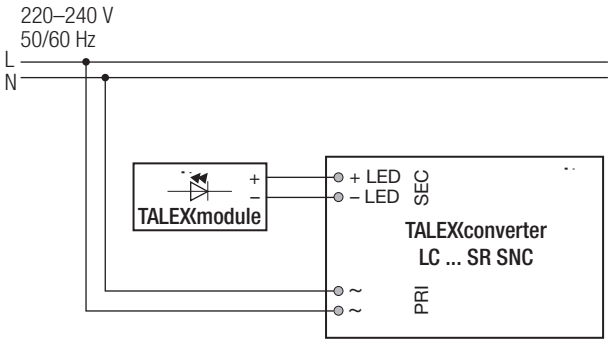
Maximum loading of automatic circuit breakers

Automatic circuit breaker type	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
LCI 35W 350mA fixC SR SNC	45	60	75	95	40	60	75	95	10 A	100 µs
LCI 35W 500mA fixC SR SNC	45	60	75	95	40	60	75	95	10 A	100 µs
LCI 35W 800mA fixC SR SNC	45	65	75	95	40	60	75	95	10 A	100 µs
LCI 35W 1050mA fixC SR SNC	45	60	75	95	40	60	75	95	10 A	100 µs

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

	THD	3.	5.	7.	9.	11.
LCI 35W 350mA fixC SR SNC	20	11	3	2	2	2
LCI 35W 500mA fixC SR SNC	20	9	3	3	2	2
LCI 35W 800mA fixC SR SNC	20	11	2	2	2	2
LCI 35W 1050mA fixC SR SNC	20	14	4	2	2	2

Wiring diagram



Glow wire test

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

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.

Additional information

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

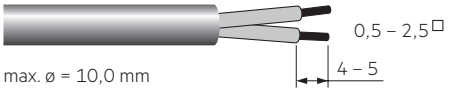
Guarantee conditions at www.tridonic.com → Services

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

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 4 – 5 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.

Input / Output terminal



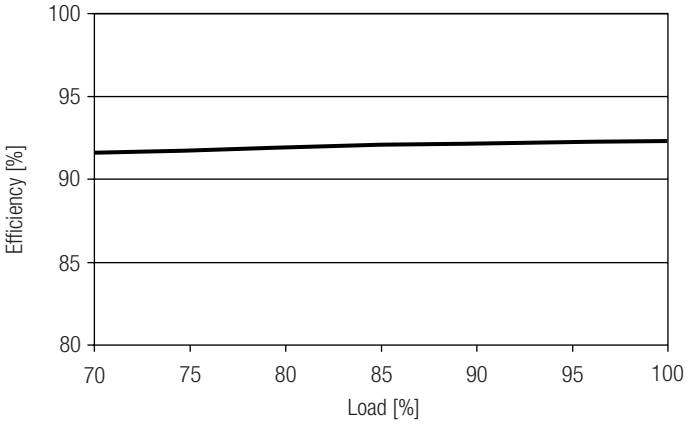
max. ø = 10,0 mm
min. ø = 2,2 mm

Wiring instructions

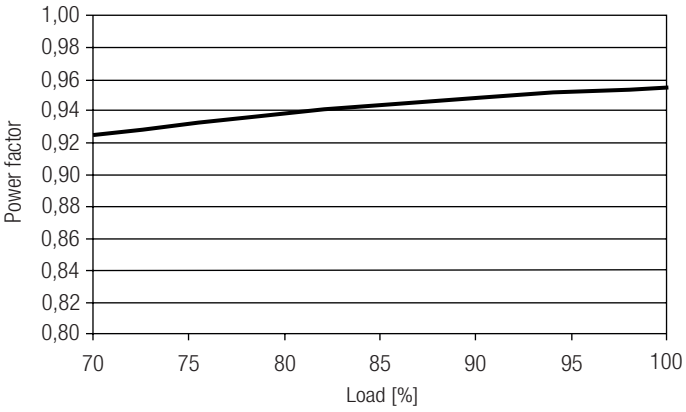
- All connections must be kept as short as possible to ensure good EMI behaviour
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- The maximum length of output wires is 2 m.
- Secondary switching is not permitted.
- Incorrect wiring can damage LED modules.
- The wiring must be protected against short circuits to earth (sharp edged metals parts, metal cable clips, louver, etc.)

Diagrams LC 35W 350mA fixC SR SNC

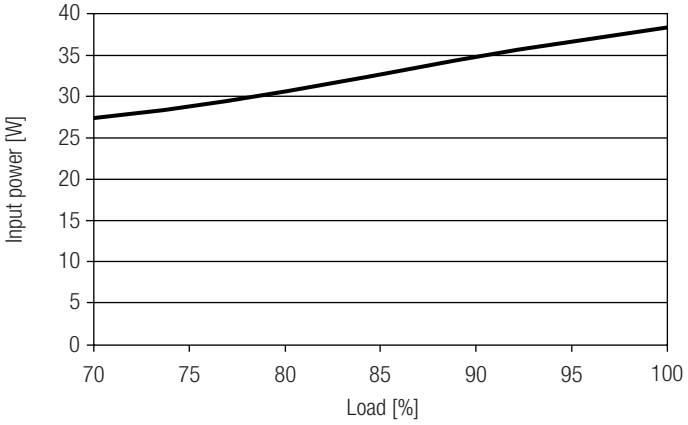
Efficiency vs load



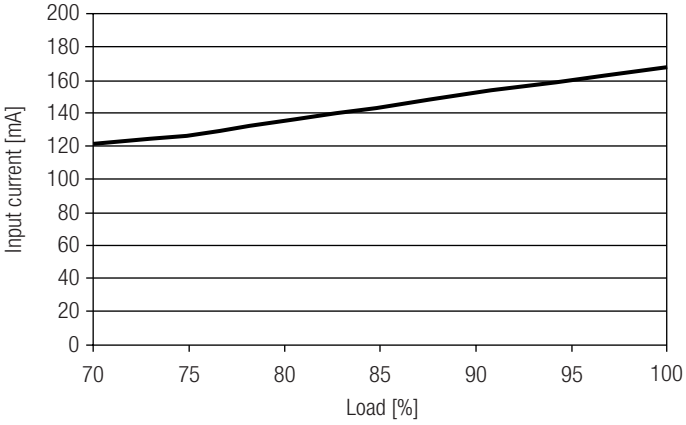
Power factor vs load



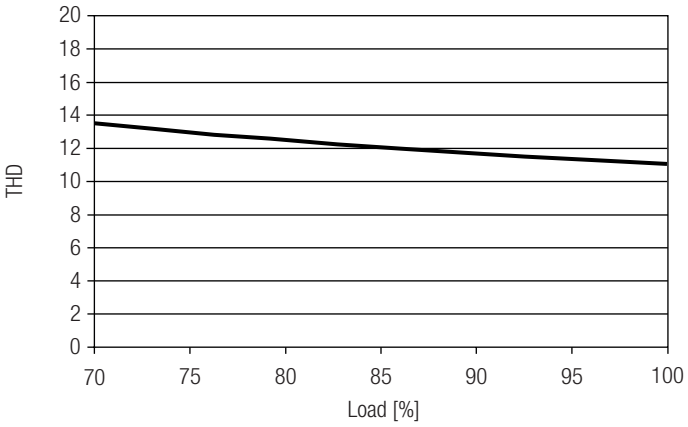
Input power vs load



Input current vs load

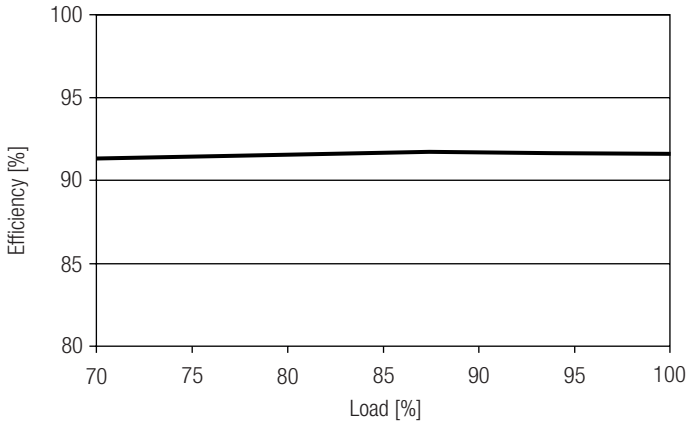


THD vs load

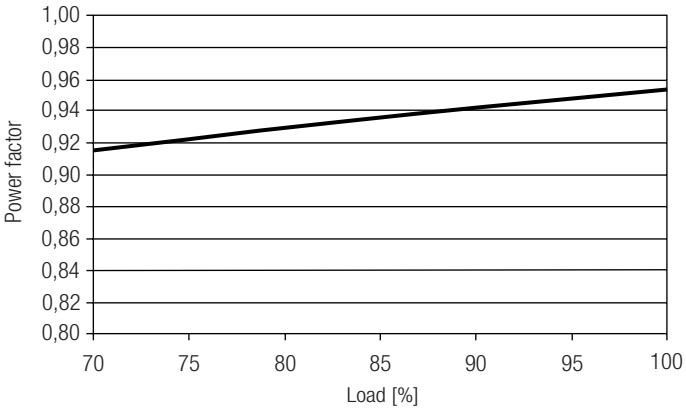


Diagrams LC 35W 500mA fixC SR SNC

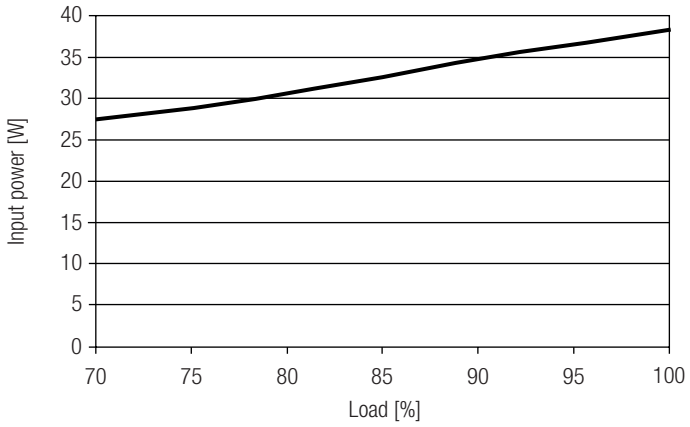
Efficiency vs load



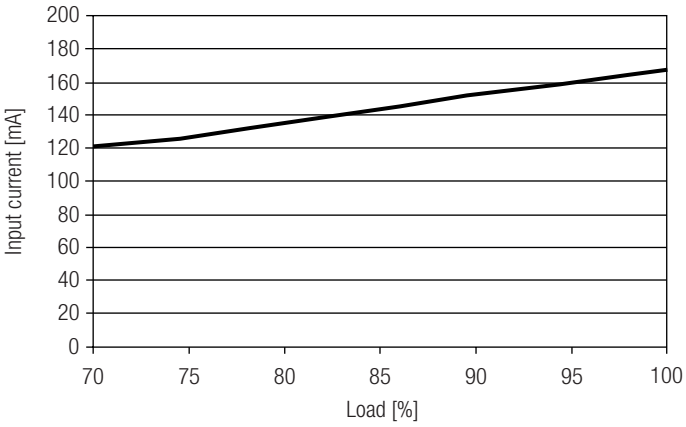
Power factor vs load



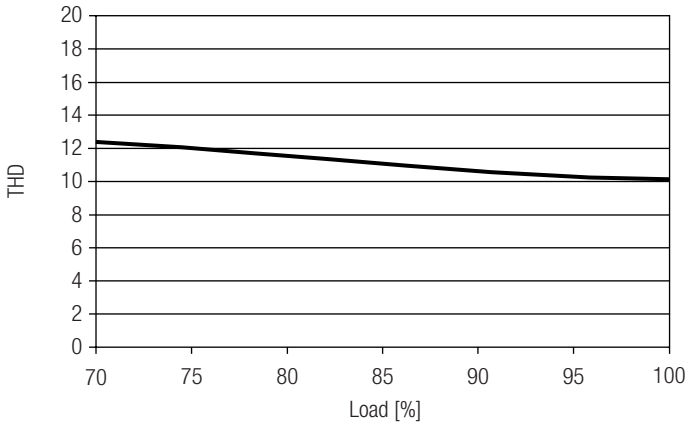
Input power vs load



Input current vs load

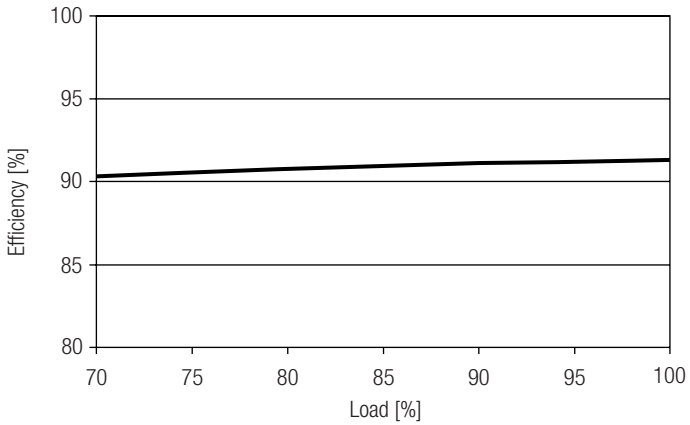


THD vs load

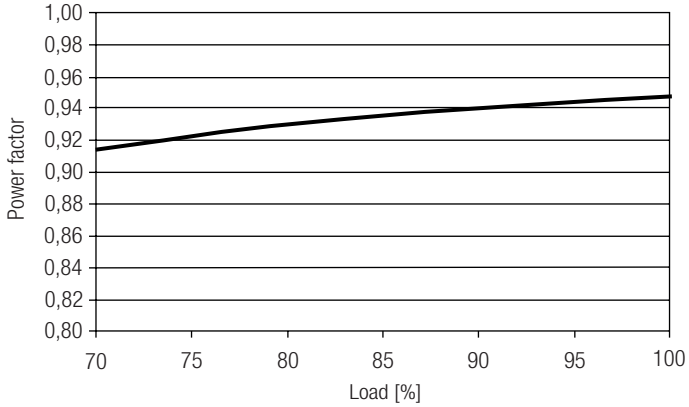


Diagrams LC 35W 800mA fixC SR SNC

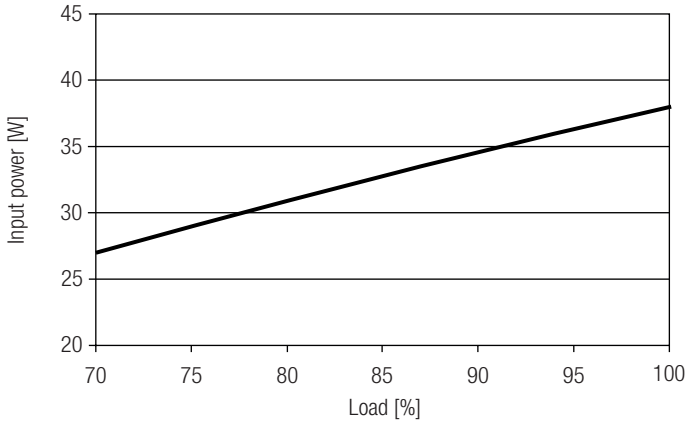
Efficiency vs load



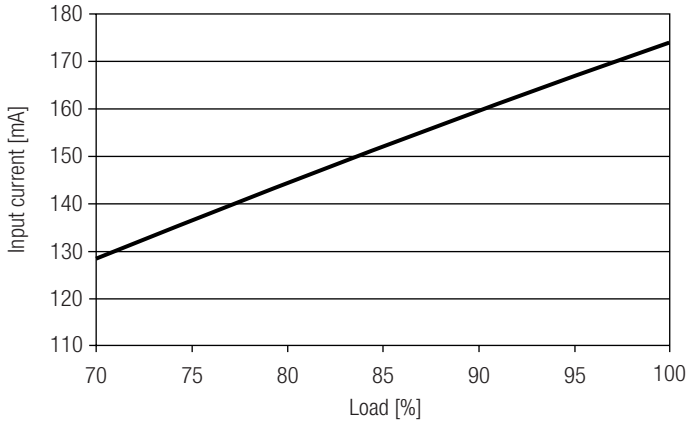
Power factor vs load



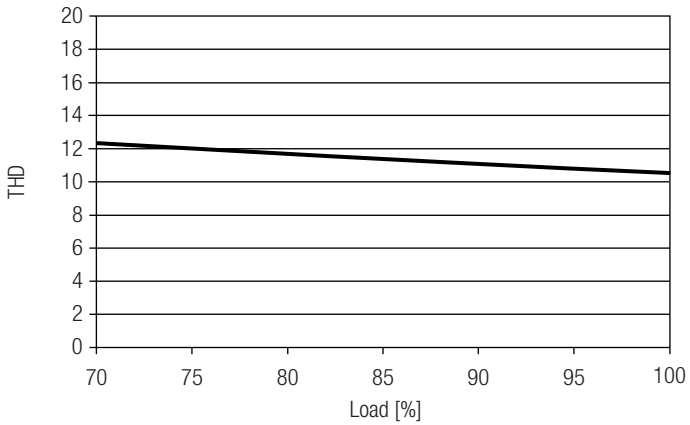
Input power vs load



Input current vs load

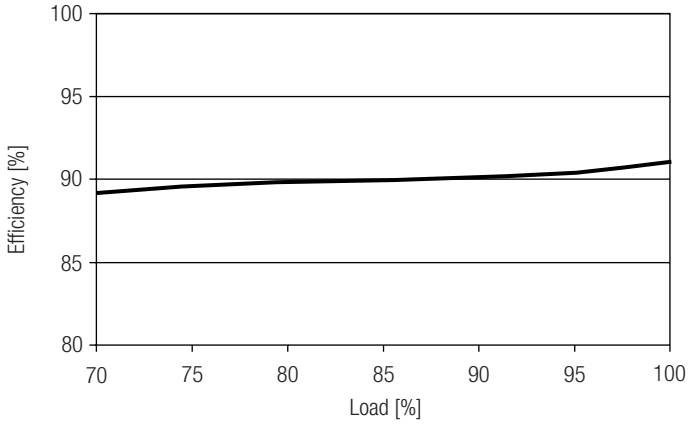


THD vs load

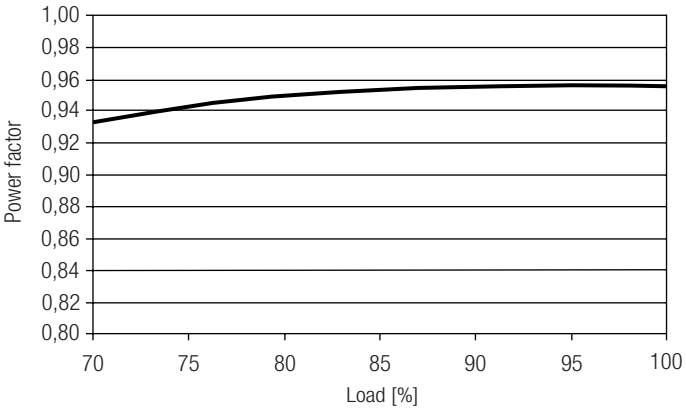


Diagrams LC 35W 1,050mA fixC SR SNC

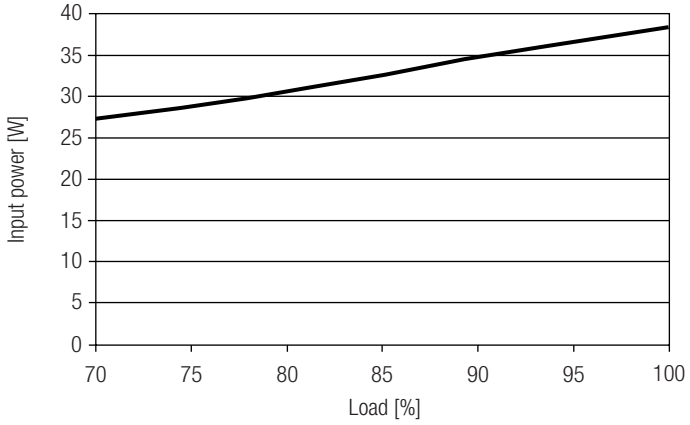
Efficiency vs load



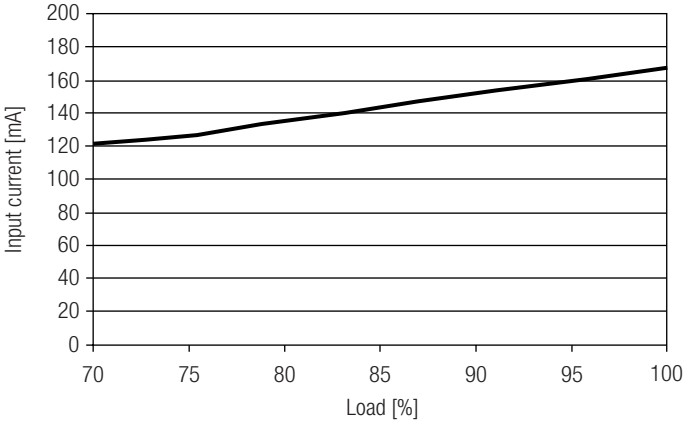
Power factor vs load



Input power vs load



Input current vs load



THD vs load