Driver LC 65W 700/1050/1400/1750mA fixC lp SNC

essence series non-SELV

Product description

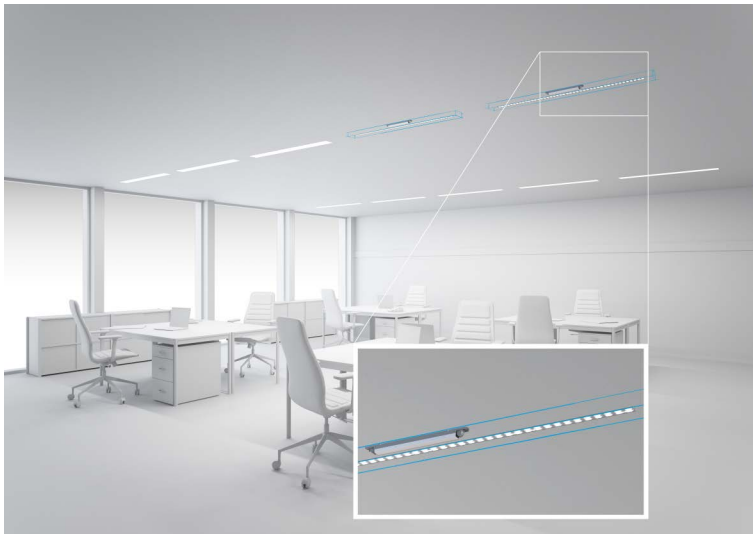
- Fixed output built-in LED Driver
- Constant current LED Driver
- For luminaires of protection class I and protection class II
- Temperature protection as per EN 61347-2-13 C5e
- Output current 700, 1,050, 1,400 or 1,750 mA
- Max. output power 65 W
- Nominal life-time up to 50,000 h
- 5-year guarantee

Housing properties

- Casing: metal, white
- Type of protection IP20

Functions

- 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)



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Wiring diagrams and installation examples, page 4

IP20 RoHS

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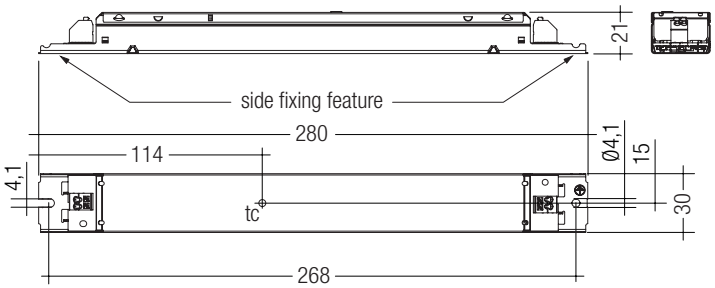
Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Input current (at 230 V, 50 Hz, full load)	0.33 A
Mains frequency	50 / 60 Hz
Overvoltage protection	320 V AC, 1 h
Leakage current (at 230 V, 50 Hz, full load)	< 0.7 mA
Max. input power	72 W
Output power range	39 – 65 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 %
Starting time (at 230 V, 50 Hz, full load)	≤ 0.5 s
Turn off time (at 230 V, 50 Hz, full load)	≤ 0.2 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
Life-time	up to 50,000 h
Dimensions L x W x H	280 x 30 x 21 mm
Hole spacing D	268 mm



Ordering data

Type	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LC 65W 700mA fixC lp SNC	**87500467**	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.182 kg
LC 65W 1050mA fixC lp SNC	**87500468**	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.177 kg
LC 65W 1400mA fixC lp SNC	**87500469**	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.183 kg
LC 65W 1750mA fixC lp SNC	**87500470**	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.184 kg

Specific technical data

Type	Output current[3]	Typ. power consumption (at 230 V, 50 Hz, full load)	λ at full load[1]	Efficiency at full load[1]	λ at min. load[1]	Efficiency at min. load[1]	Min. forward voltage[1]	Max. forward voltage[1]	Max. output voltage	Max. peak output current at full load[1][2]	Max. peak output current at min. load[1][2]
LC 65W 700mA fixC lp SNC	700 mA	69.5 W	0.95	90 %	0.91C	88 %	56 V	93 V	300 V	979 mA	1,130 mA
LC 65W 1050mA fixC lp SNC	1,050 mA	71.0 W	0.95	90 %	0.91C	88 %	37 V	62 V	300 V	1,468 mA	1,700 mA
LC 65W 1400mA fixC lp SNC	1,400 mA	71.0 W	0.95	90 %	0.90C	86 %	28 V	46 V	300 V	1,957 mA	2,260 mA
LC 65W 1750mA fixC lp SNC	1,750 mA	71.5 W	0.95	90 %	0.90C	86 %	22 V	37 V	300 V	2,446 mA	2,820 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 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.

Short-circuit behaviour
In case of a short circuit on the output 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 4 kV surge voltage.
Air and creepage distance must be maintained.

Replace LED module
1. Mains off
2. Remove LED module
3. Wait for 30 seconds
4. Connect LED module again

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

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 life-time

Type	ta	40 °C	50 °C	60 °C
LC 65W 700mA fixC lp SNC	tc	75 °C	85 °C	x
	Life-time	50,000 h	30,000 h	x
LC 65W 1050mA fixC lp SNC	tc	75 °C	85 °C	x
	Life-time	50,000 h	30,000 h	x
LC 65W 1400mA fixC lp SNC	tc	75 °C	85 °C	x
	Life-time	50,000 h	30,000 h	x
LC 65W 1750mA fixC lp SNC	tc	75 °C	85 °C	x
	Life-time	50,000 h	30,000 h	x

The LED Driver is 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 in relation to inrush current

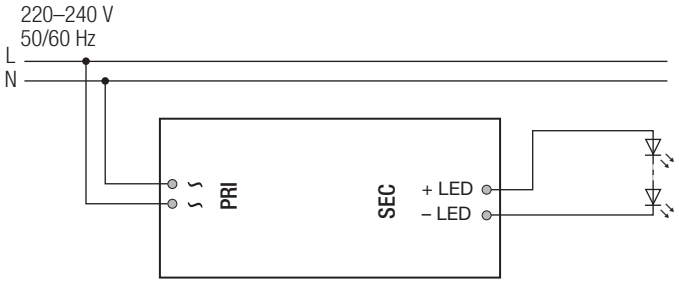
Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20	Inrush current	
Installation Ø	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²	I_{max}	Time
LC 65W 700mA fixC lp SNC	25	35	40	50	25	35	40	50	15 A	50 µs
LC 65W 1050mA fixC lp SNC	25	35	40	50	25	35	40	50	15 A	50 µs
LC 65W 1400mA fixC lp SNC	25	35	40	50	25	35	40	50	15 A	50 µs
LC 65W 1750mA fixC lp SNC	25	35	40	50	25	35	40	50	15 A	50 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.
LCI 65W 700mA fixC lp SNC	< 20	< 16	< 9	< 4	< 3	< 3
LCI 65W 1050mA fixC lp SNC	< 20	< 16	< 9	< 4	< 3	< 3
LCI 65W 1400mA fixC lp SNC	< 20	< 16	< 9	< 4	< 3	< 3
LCI 65W 1750mA fixC lp SNC	< 20	< 16	< 9	< 4	< 3	< 3

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.

Additional information

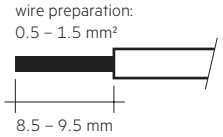
Additional technical information at www.tridonic.com → Technical Data

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 stranded wires with ferrules or rigid wires 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 (WAGO 250).



Wiring guidelines

- The cables should be run separately from the mains connections and mains cables to ensure good EMC conditions.
- The LED wiring should be kept as short as possible to ensure good EMC. The max. secondary cable length is 2 m (4 m circuit), this applies for LED output.
- Secondary switching is not permitted.
- The LED Driver has no inverse-polarity protection on the secondary side. Wrong polarity can damage LED modules with no inverse-polarity protection.
- Wrong wiring of the LED Driver can lead to malfunction or irreparable damage.
- 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.).

Earth connection

The earth connection is conducted as protection earth (PE). The LED Driver can be earthed via metal housing. If the LED Driver will be earthed, protection earth (PE) has to be used. There is no earth connection required for the functionality of the LED Driver. Earth connection is recommended to improve following
behaviour.

- Electromagnetic interferences (EMI)
- Transmission of mains transients to the LED output

In general it is recommended to earth the LED Driver if the LED module is mounted on earthed luminaire parts respectively heat sinks and thereby representing a high capacity against earth.

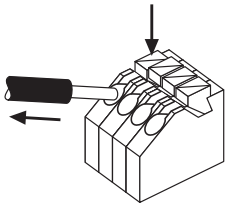
For Class I application, protection earth need to connected with the metal housing (bottom part).

For Class II application, protection earth is no need to be connected, below 2 scenarios should be considered:

- If the LED Driver housing is screw on a metal part inside the luminaires, both LED Driver and LED module must be insulated.
- If the LED Driver housing is screw on a plastic part inside the luminaires, the LED module need to be insulated.

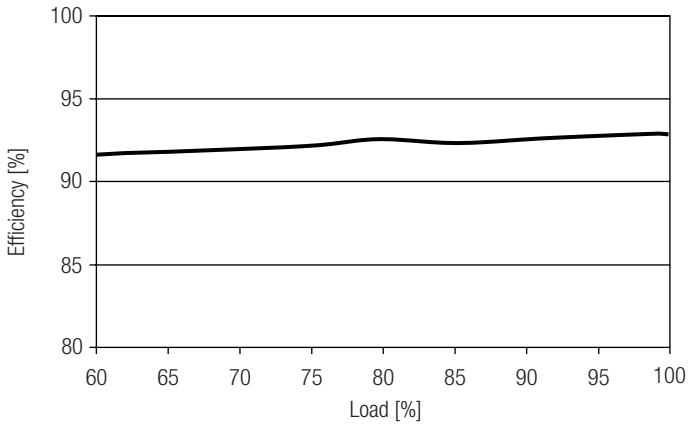
Release of the wiring

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

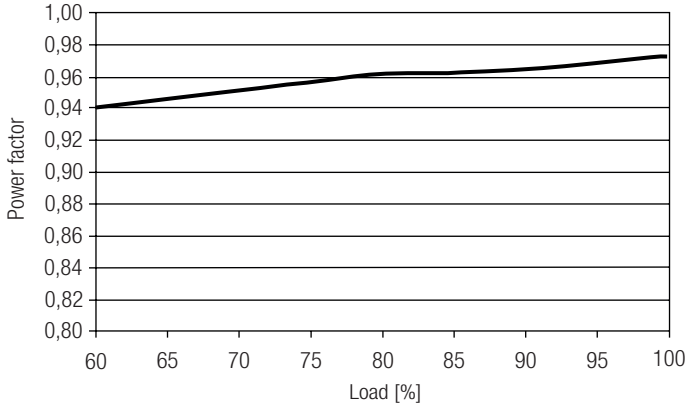


Diagrams LC 65W 700mA fixC lp SNC

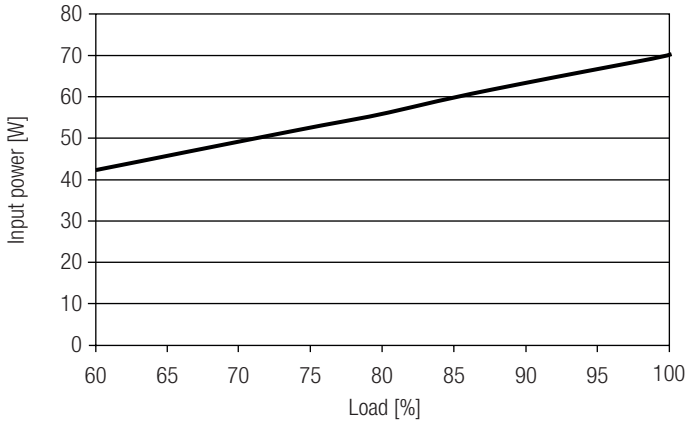
Efficiency vs load



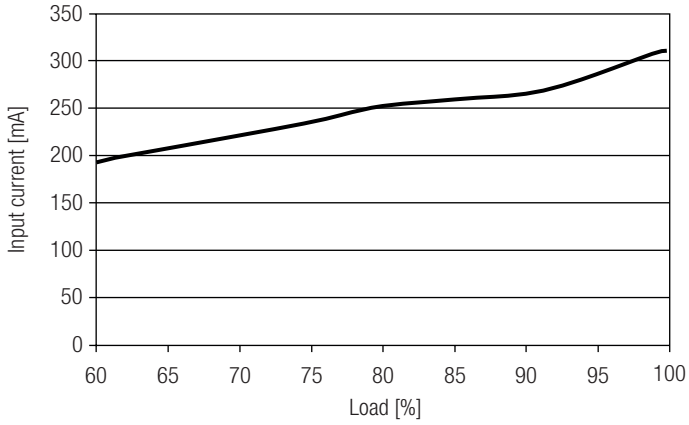
Power factor vs load



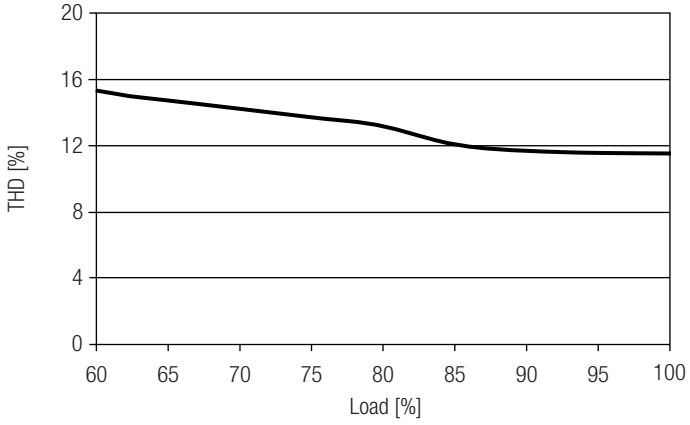
Input power vs load



Input current vs load

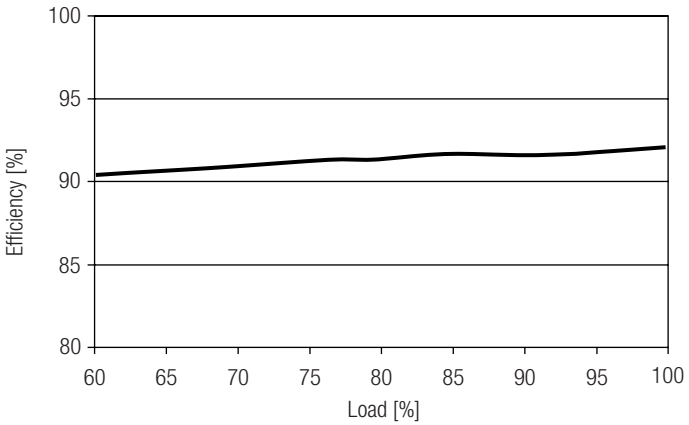


THD vs load

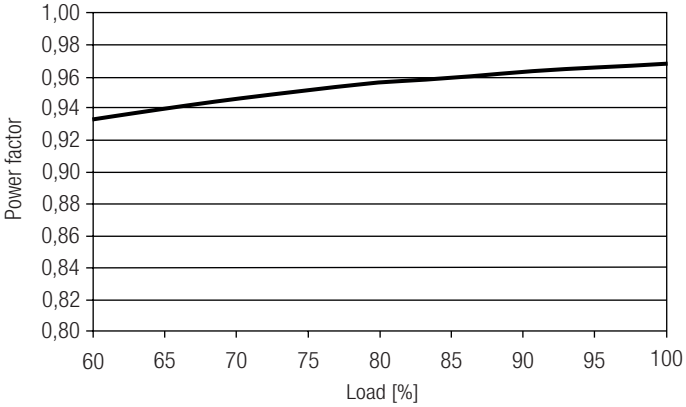


Diagrams LC 65W 1050mA fixC lp SNC

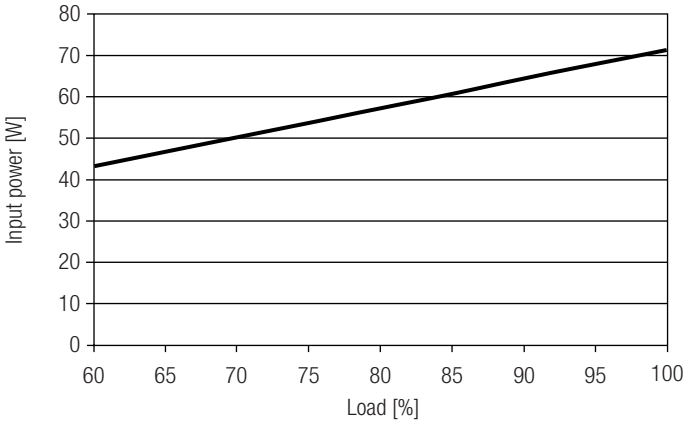
Efficiency vs load



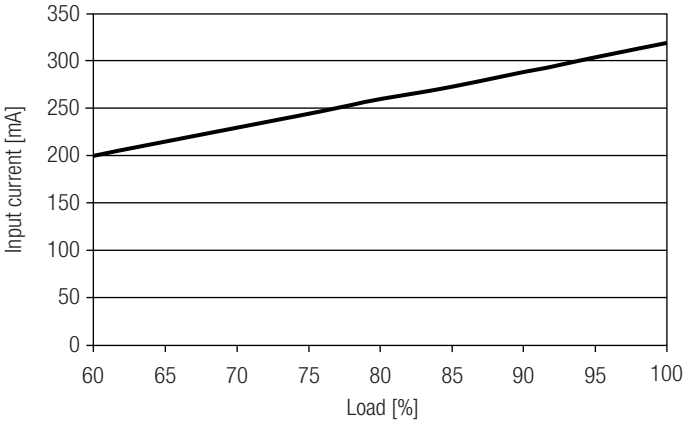
Power factor vs load



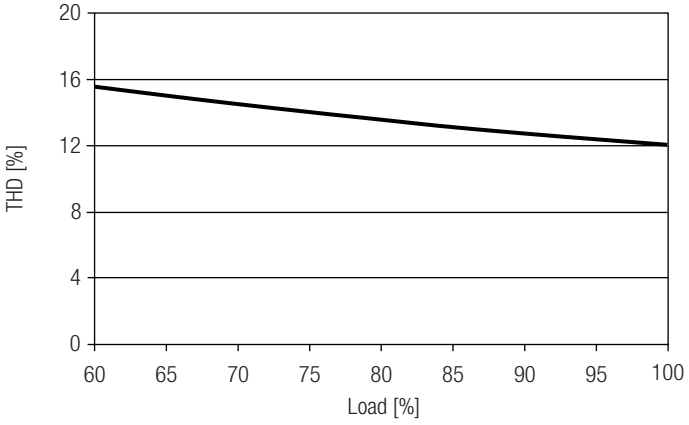
Input power vs load



Input current vs load

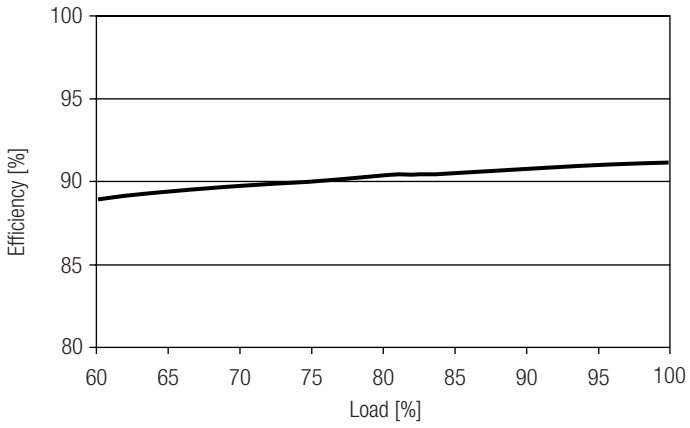


THD vs load

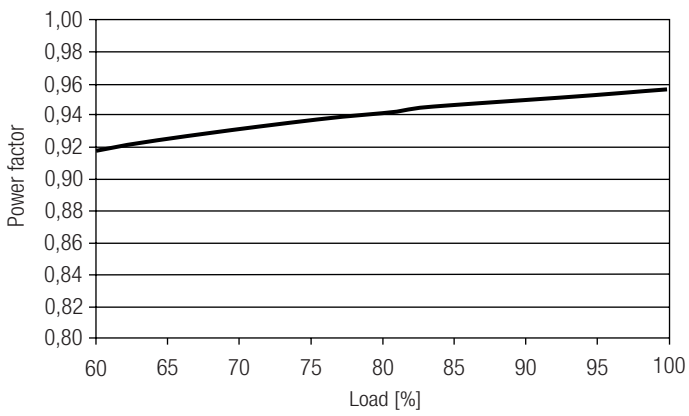


Diagrams LC 65W 1400mA fixC lp SNC

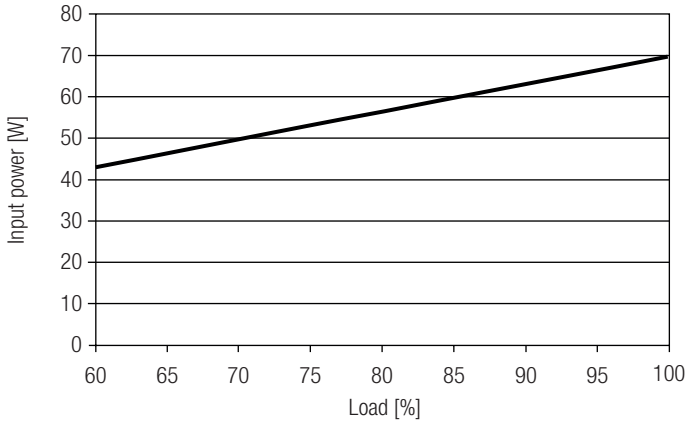
Efficiency vs load



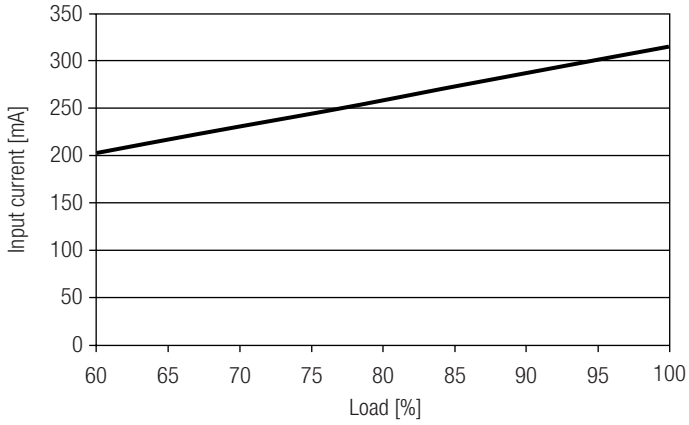
Power factor vs load



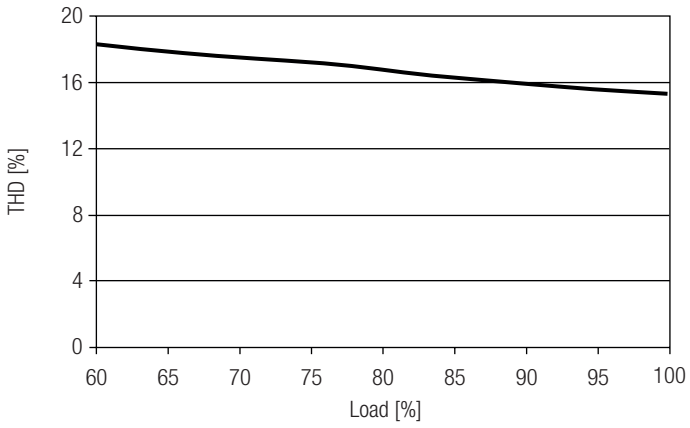
Input power vs load



Input current vs load

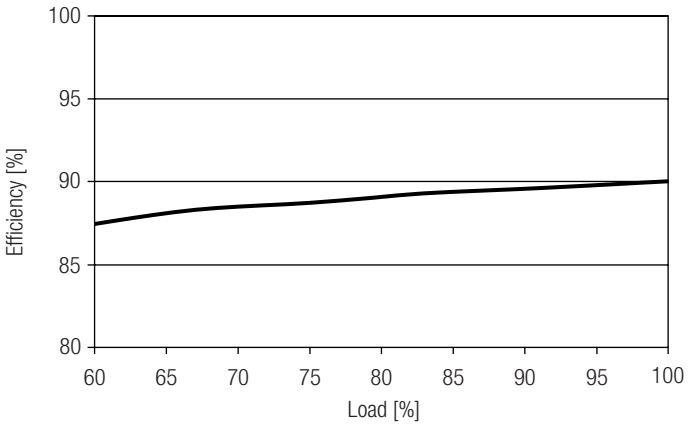


THD vs load

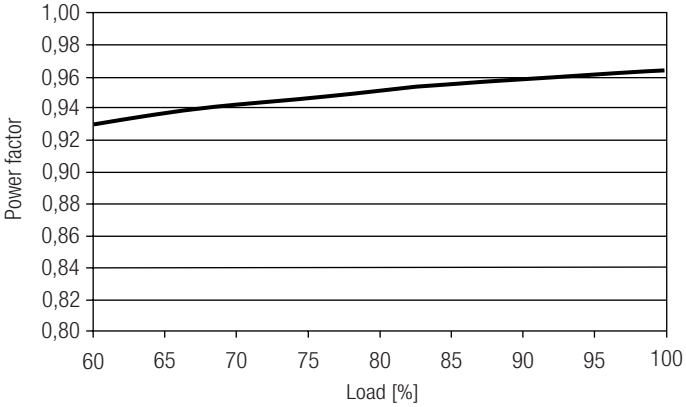


Diagrams LC 65W 1750mA fixC lp SNC

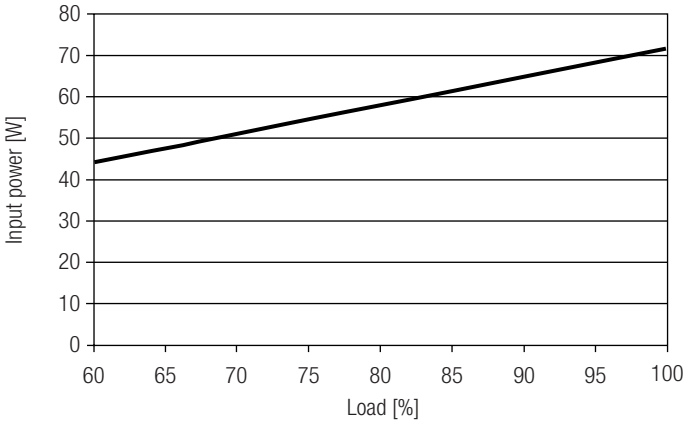
Efficiency vs load



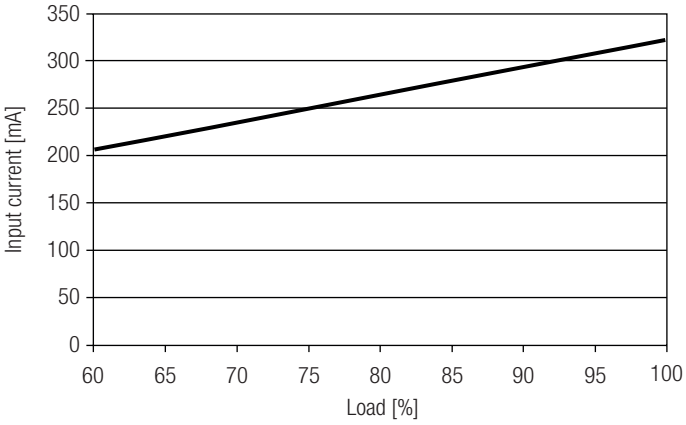
Power factor vs load



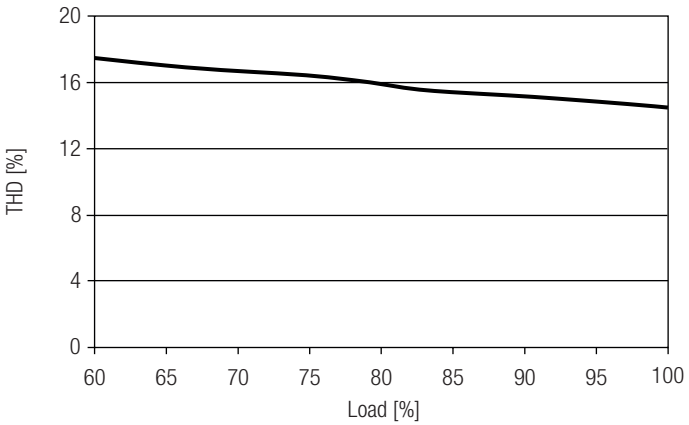
Input power vs load



Input current vs load



THD vs load



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