



### Driver LC 80W 1050/1400/1750mA fixC Ip 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 1,050, 1,400 or 1,750 mA
- Max. output power 80 W
- Nominal life-time up to 50,000 h
- 5-year guarantee

#### Housing properties

- Casing: metal, white
- Type of protection IP20

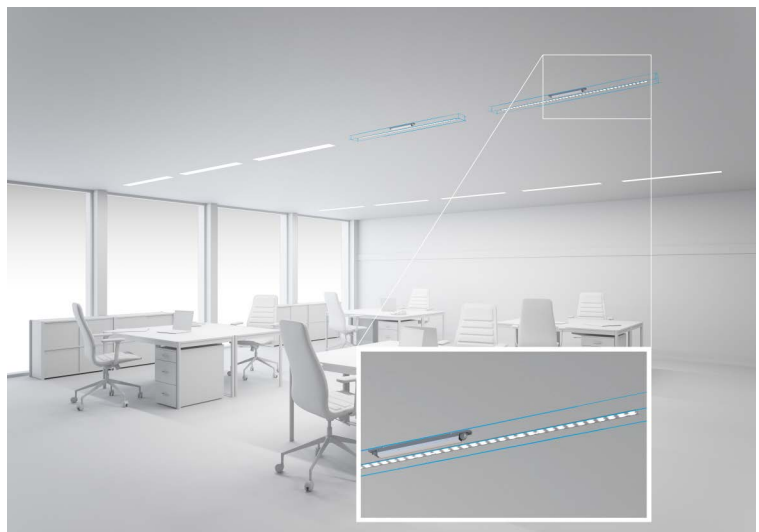
#### Functions

- 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)



**Standards**, page 3

**Wiring diagrams and installation examples**, page 4



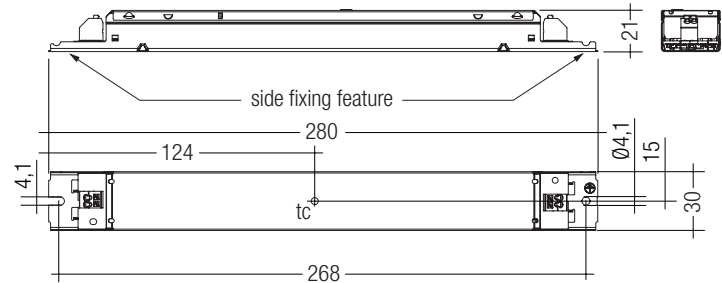
IP20 

### Driver LC 80W 1050/1400/1750mA fixC Ip SNC

essence series non-SELV

#### Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Input current (at 230 V, 50 Hz, full load)	0.39 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	88 W
Output power range	48 – 80 W
THD (at 230 V, 50 Hz, full load)	< 20 %
Output current tolerance <sup>®</sup>	± 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
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.
<b>LC 80W 1050mA fixC Ip SNC</b>	<b>87500471</b>	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.198 kg
<b>LC 80W 1400mA fixC Ip SNC</b>	<b>87500472</b>	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.200 kg
<b>LC 80W 1750mA fixC Ip SNC</b>	<b>87500473</b>	50 pc(s).	1,050 pc(s).	3,150 pc(s).	0.203 kg

#### Specific technical data

Type	Output current <sup>®</sup>	Typ. power consumption (at 230 V, 50 Hz, full load)	λ at full load <sup>®</sup>	Efficiency at full load <sup>®</sup>	λ at min. load <sup>®</sup>	Efficiency at min. load <sup>®</sup>	Min. forward voltage <sup>®</sup>	Max. forward voltage <sup>®</sup>	Max. output voltage	Max. peak output current at full load <sup>®</sup>	Max. peak output current at min. load <sup>®</sup>	Max. casing temperature tc
<b>LC 80W 1050mA fixC Ip SNC</b>	1,050 mA	84.5 W	0.95	92 %	0.9C	90 %	46 V	76 V	300 V	1,468 mA	1,600 mA	75 °C
<b>LC 80W 1400mA fixC Ip SNC</b>	1,400 mA	87.0 W	0.95	91 %	0.9C	89 %	34 V	57 V	300 V	1,957 mA	2,100 mA	80 °C
<b>LC 80W 1750mA fixC Ip SNC</b>	1,750 mA	87.0 W	0.95	90 %	0.9C	88 %	27 V	46 V	300 V	2,446 mA	2,650 mA	85 °C

<sup>®</sup> Test result at 230 V, 50 Hz.

<sup>®</sup> The trend between min. and full load is linear.

<sup>®</sup> 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
<b>LC 80W 1050mA fixC Ip SNC</b>	tc	65 °C	75 °C	x
	Life-time	50,000 h	30,000 h	x
<b>LC 80W 1400mA fixC Ip SNC</b>	tc	70 °C	80 °C	x
	Life-time	50,000 h	30,000 h	x
<b>LC 80W 1750mA fixC Ip SNC</b>	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 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	I <sub>max</sub>	Time
<b>LC 80W 1050mA fixC Ip SNC</b>	24	32	39	48	24	32	39	48	15 A	50 µs
<b>LC 80W 1400mA fixC Ip SNC</b>	24	32	39	48	24	32	39	48	15 A	50 µs
<b>LC 80W 1750mA fixC Ip SNC</b>	24	32	39	48	24	32	39	48	15 A	50 µs

These are max. values calculated out of continuous current running the device on full load.

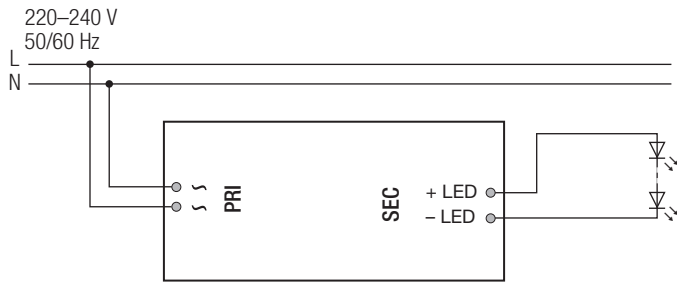
There is no limitation due to inrush current.

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.
<b>LCI 80W 1050mA fixC Ip SNC</b>	< 20	< 15	< 7	< 5	< 3	< 3
<b>LCI 80W 1400mA fixC Ip SNC</b>	< 20	< 15	< 7	< 5	< 3	< 3
<b>LCI 80W 1750mA fixC Ip SNC</b>	< 20	< 15	< 7	< 5	< 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<sub>DC</sub> 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<sub>AC</sub> (or 1.414 x 1500 V<sub>DC</sub>). To avoid damage to the electronic devices this test must not be conducted.

### Additional information

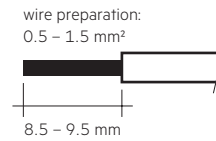
Additional technical information at [www.tridonic.com](http://www.tridonic.com) → Technical Data

Guarantee conditions at [www.tridonic.com](http://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 mm<sup>2</sup>. 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.

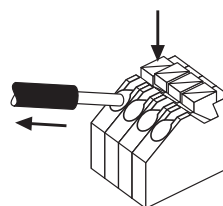
For Class I application, protection earth need to connected with the metal housing (bottom part).

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.

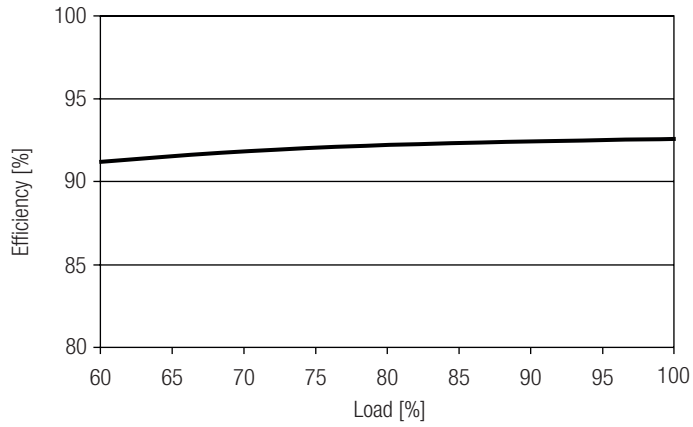
### Release of the wiring

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

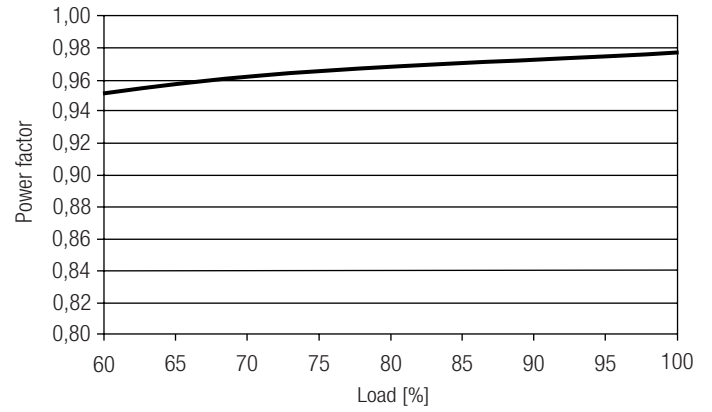


**Diagrams LC 80W 1050mA fixC Ip SNC**

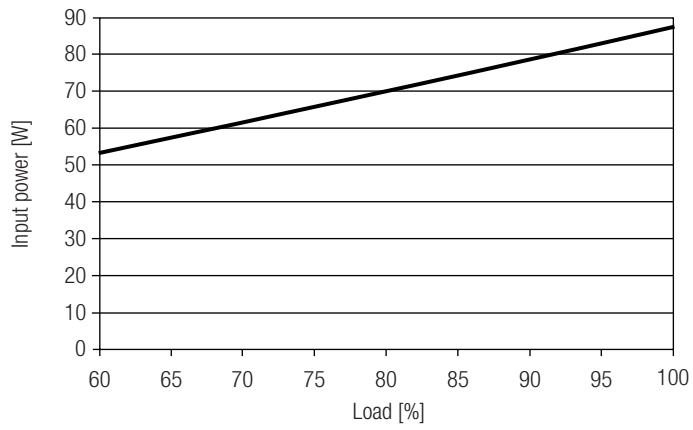
Efficiency vs load



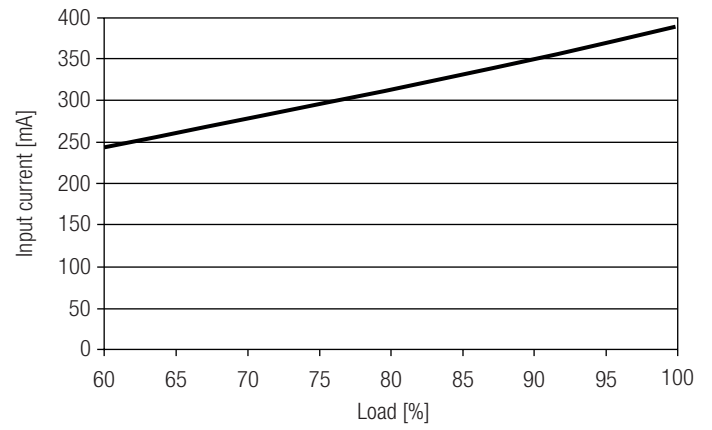
Power factor vs load



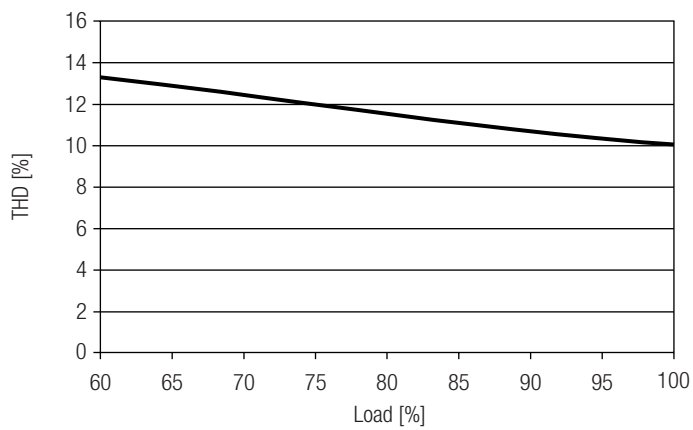
Input power vs load



Input current vs load

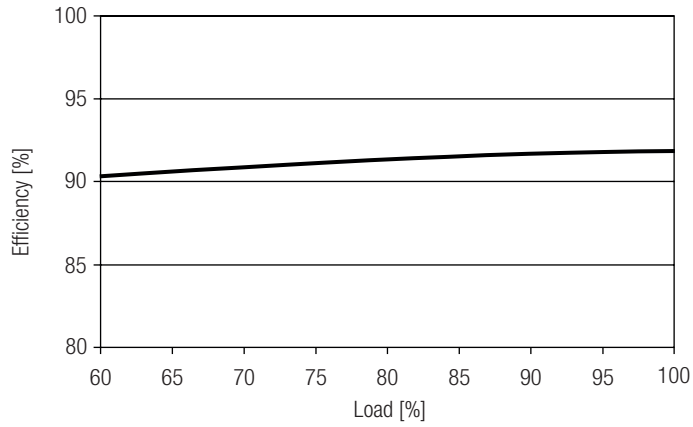


THD vs load

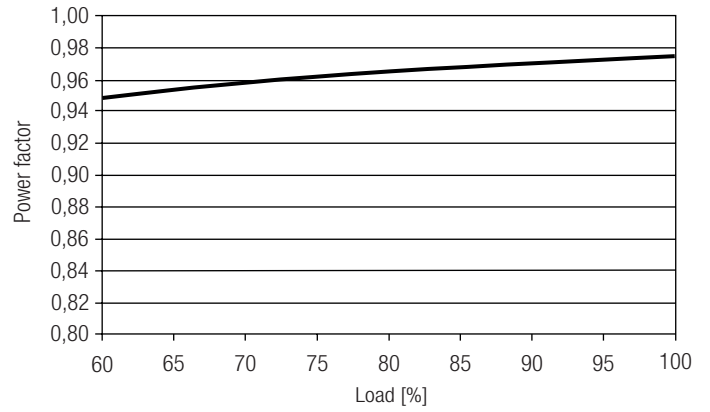


**Diagrams LC 80W 1400mA fixC Ip SNC**

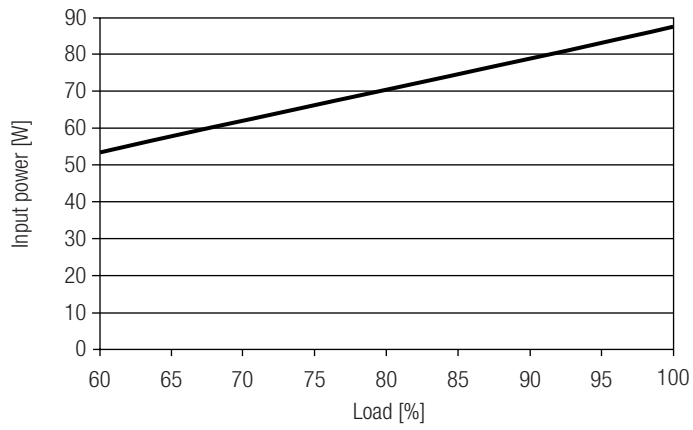
Efficiency vs load



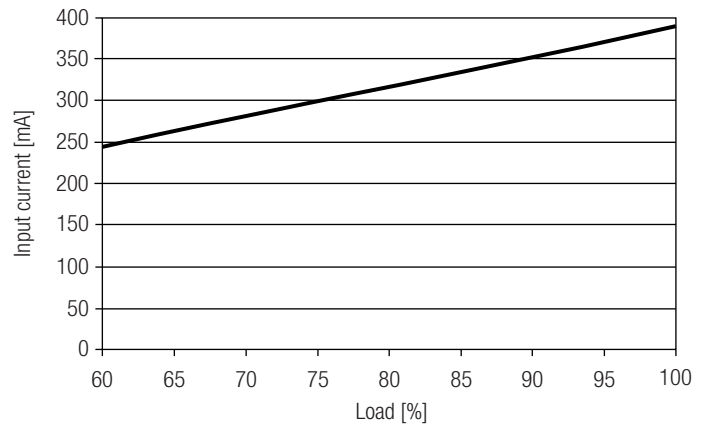
Power factor vs load



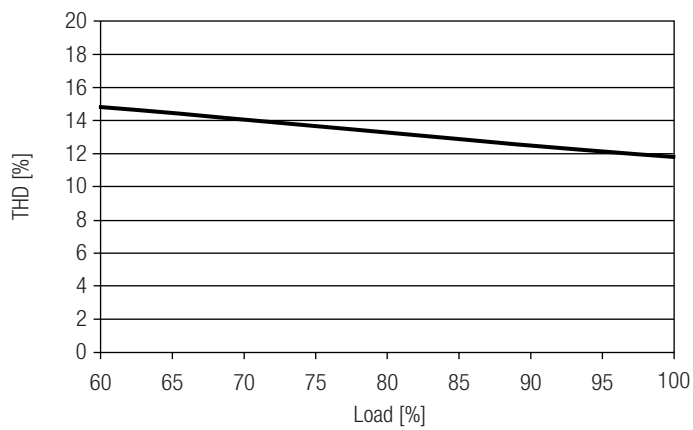
Input power vs load



Input current vs load

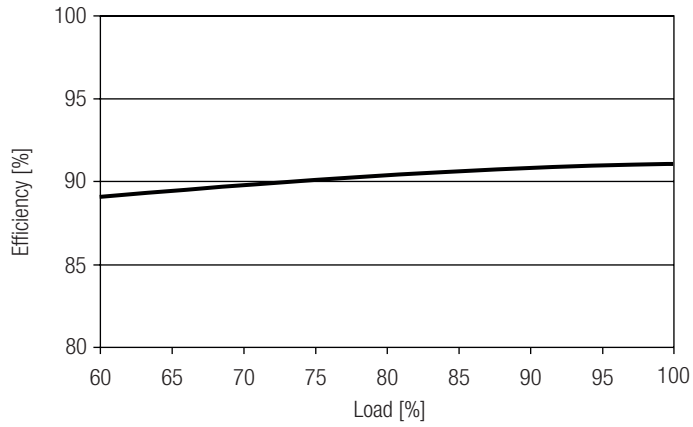


THD vs load

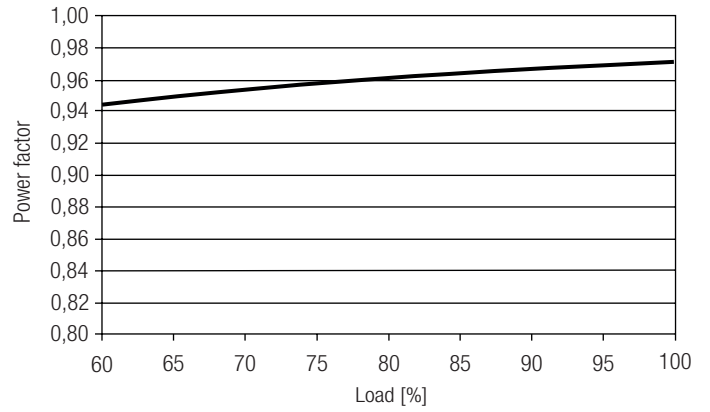


**Diagrams LC 80W 1750mA fixC Ip SNC**

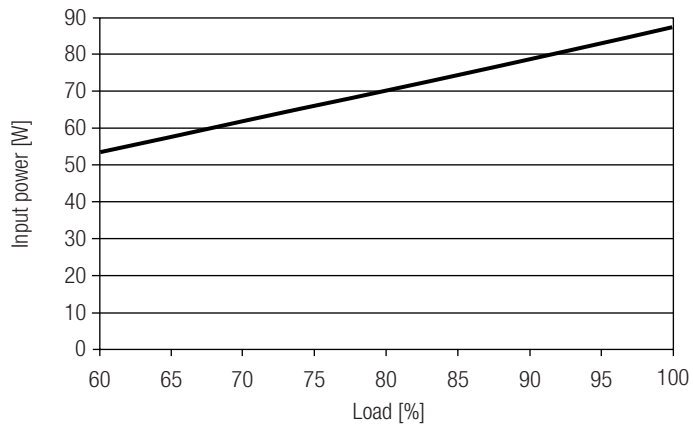
Efficiency vs load



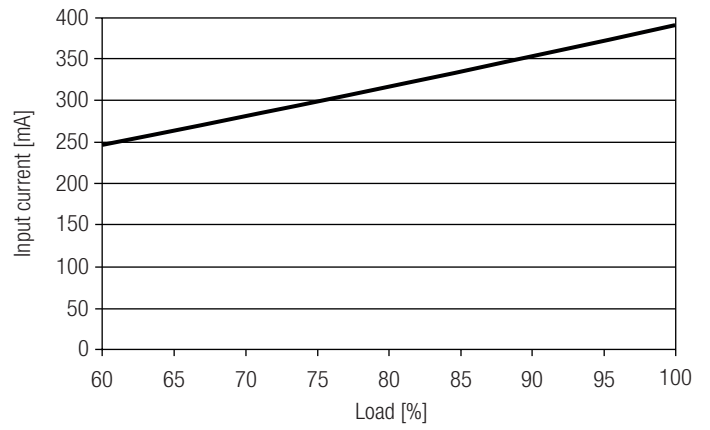
Power factor vs load



Input power vs load



Input current vs load



THD vs load

