

Driver LC 25/30/35/40W 600/700/800/900mA fixC C ADV advanced series

Product description

- Fixed output built-in LED Driver
- Constant current LED Driver
- Output current 600, 700, 800 or 900 mA
- Max. output power 26.5, 31, 36 or 40.5 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
- 5-year guarantee

Properties

- Casing: polycarbonat, white
- Type of protection IP20

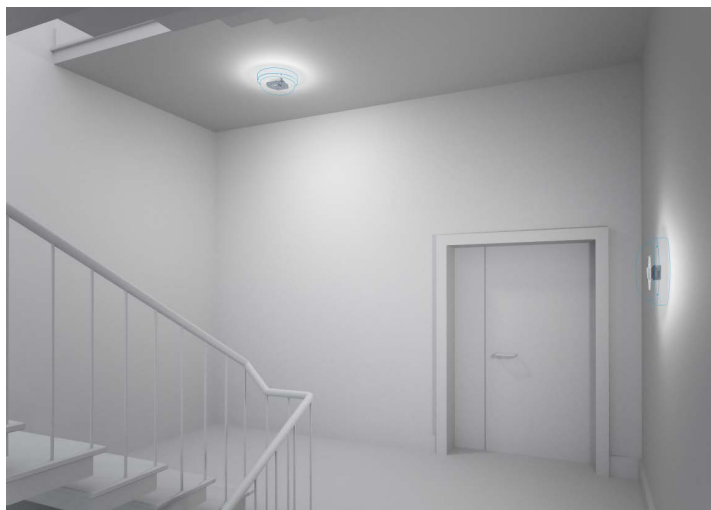
Functions

- 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

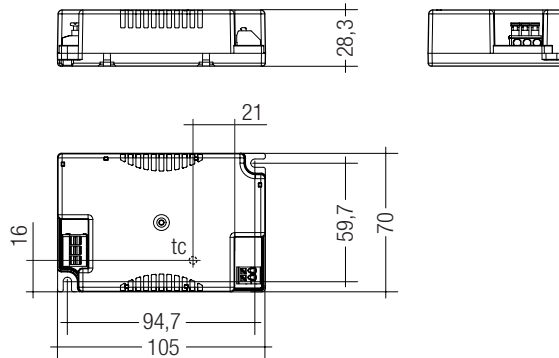


IP20 SELV 

Driver LC 25/30/35/40W 600/700/800/900mA fixC C ADV advanced 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 [®] | ± 7.5 % |
| Typ. current ripple (at 230 V, 50 Hz, full load) | ± 5 % |
| Max. output voltage | 60 V |
| Turn on 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 |
| Dimensions L x W x H | 105 x 70 x 28.3 mm |



Ordering data

| Type | Article number | Packaging, carton | Packaging, pallet | Weight per pc. |
|-------------------------|----------------|-------------------|-------------------|----------------|
| LC 25W 600mA fixC C ADV | 28002490 | 15 pc(s). | 2,700 pc(s). | 0.142 kg |
| LC 30W 700mA fixC C ADV | 28002491 | 15 pc(s). | 2,700 pc(s). | 0.144 kg |
| LC 35W 800mA fixC C ADV | 28002492 | 15 pc(s). | 2,700 pc(s). | 0.146 kg |
| LC 40W 900mA fixC C ADV | 28002493 | 15 pc(s). | 2,700 pc(s). | 0.148 kg |

Specific technical data

| Type | Output current [®] | Input current (at 230 V, 50 Hz, full load) | Input power (at 230 V, 50 Hz, full load) | Output power range | λ at full load [®] | Efficiency at full load [®] | λ at min. load [®] | Efficiency at min. load [®] | Min. forward voltage | Max. forward voltage | Max. output peak current at full load [®] | Max. output peak current at min. load [®] | Max. casing temperature tc |
|-------------------------|-----------------------------|--|--|--------------------|-------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|----------------------|----------------------|--|--|----------------------------|
| LC 25W 600mA fixC C ADV | 600 mA | 0.133 A | 30.0 W | 13.0 – 26.5 W | 0.95 | 88 % | 0.9C | 81 % | 21.4 V | 44 V | 774 mA | 900 mA | 65 °C |
| LC 30W 700mA fixC C ADV | 700 mA | 0.153 A | 34.3 W | 15.0 – 31.0 W | 0.95 | 88 % | 0.9C | 82 % | 21.4 V | 44 V | 903 mA | 1,000 mA | 65 °C |
| LC 35W 800mA fixC C ADV | 800 mA | 0.181 A | 40.0 W | 20.0 – 36.0 W | 0.95 | 89 % | 0.9C | 83 % | 25.0 V | 45 V | 1,032 mA | 1,100 mA | 70 °C |
| LC 40W 900mA fixC C ADV | 900 mA | 0.210 A | 45.3 W | 22.5 – 40.5 W | 0.95 | 89 % | 0.9C | 83 % | 25.0 V | 45 V | 1,161 mA | 1,200 mA | 70 °C |

[®] Test result at 230 V, 50 Hz.

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

[®] 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
EN 62384

Overload protection

If the output voltage range is exceeded the LED Driver reduces the LED output current or in burst modus. After elimination of the overload the nominal operation is restored automatically.

Overtemperature protection

The LED Driver will reduce the LED output current or in burst working.

Short-circuit behaviour

In case of a short circuit on the secondary side (LED) the LED Driver switched off. 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 limit output voltage which allows the application to be able to work safely when LED string opens due to a failure.

Output over voltage protection

The LED Driver will work in burst protection mode to limit output voltage even in single fault condition.

Housing fulfils requirements for reinforced insulation according EN 60598-1.

Glow-wire test

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

Installation instructions

The LED module and all contact points within the wiring must be sufficiently insulated against 1 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.

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 25/30W 600/700mA fixC C ADV | tc | 55 °C | 65 °C | x |
| | Life-time | 50,000 h | 30,000 h | x |
| LC 35/40W 800/900mA fixC C ADV | tc | 60 °C | 70 °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 %.

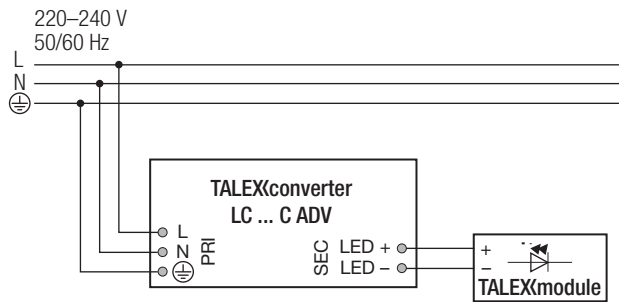
Maximum loading of automatic circuit breakers

| Automatic circuit breaker type | C10 | C13 | C16 | C20 | B10 | B13 | B16 | B20 | Inrush current |
|--------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------------------|
| Installation Ø | 1.5 mm ² | 1.5 mm ² | 1.5 mm ² | 2.5 mm ² | 1.5 mm ² | 1.5 mm ² | 1.5 mm ² | 2.5 mm ² | I _{max} Time |
| LC 25W 600mA fixC C ADV | 20 | 32 | 40 | 51 | 11 | 19 | 24 | 30 | 20 A 200 µs |
| LC 30W 700mA fixC C ADV | 20 | 32 | 40 | 51 | 11 | 19 | 24 | 30 | 20 A 200 µs |
| LC 35W 800mA fixC C ADV | 20 | 32 | 40 | 51 | 11 | 19 | 24 | 30 | 25 A 200 µs |
| LC 40W 900mA fixC C ADV | 20 | 32 | 40 | 51 | 11 | 19 | 24 | 30 | 25 A 200 µs |

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

| | THD | 3. | 5. | 7. | 9. | 11. |
|--------------------------------|------|-----|-----|-----|-----|-----|
| LC 25W 600mA fixC C ADV | < 9 | < 6 | < 3 | < 3 | < 3 | < 3 |
| LC 30W 700mA fixC C ADV | < 10 | < 8 | < 3 | < 3 | < 3 | < 3 |
| LC 35W 800mA fixC C ADV | < 8 | < 5 | < 3 | < 3 | < 3 | < 3 |
| LC 40W 900mA fixC C ADV | < 8 | < 5 | < 3 | < 3 | < 3 | < 3 |

Wiring diagram



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 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

wire preparation:
Solid: 0.5 – 2.5 mm²
Fine-stranded: 0.5 – 1.5 mm²

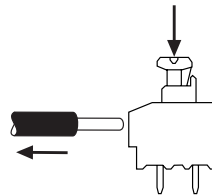
Output wiring

wire preparation:
0.5 – 1.5 mm²

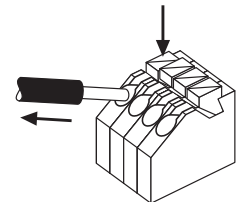
Release of the wiring

Press down the "push button" and remove the cable from front.

Input terminal



Output terminal



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. length of output wires is 2 m.
- Secondary switching is not permitted.
- Incorrect wiring can damage 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.).

Earth connection

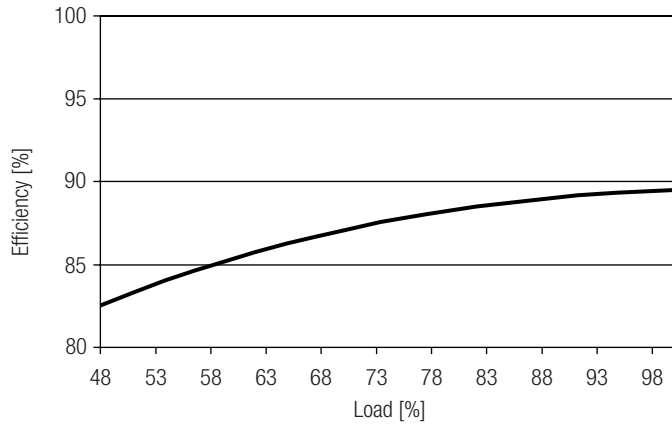
The earth connection is conducted as protection earth (PE). If the LED Driver will be earthed, protection earth (PE) has to be used. There is no earth connection required for the functionality of the LED Driver. Earth connection is recommended to improve following behaviour.

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

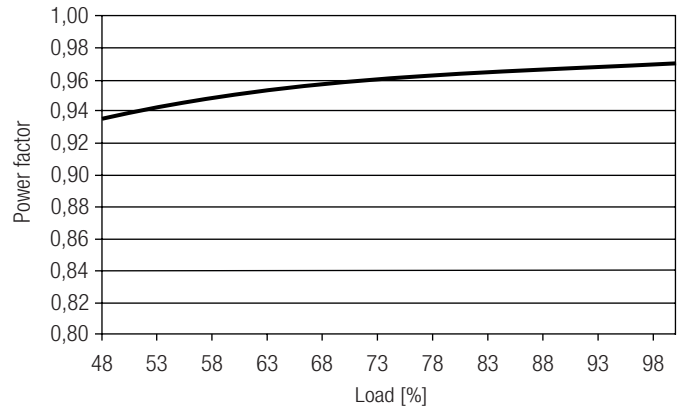
In general it is recommended to earth the LED Driver if the LED module is mounted on earthed luminaire parts respectively heat sinks and thereby representing a high capacity against earth.

Diagrams LC 25W 600mA fixC C ADV at 230 V / 50 Hz

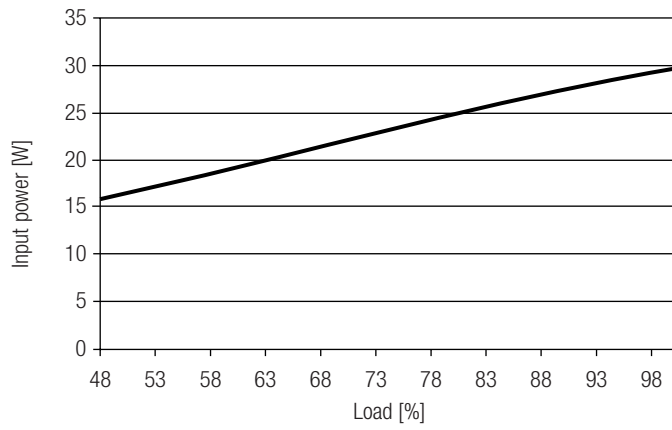
Efficiency vs load



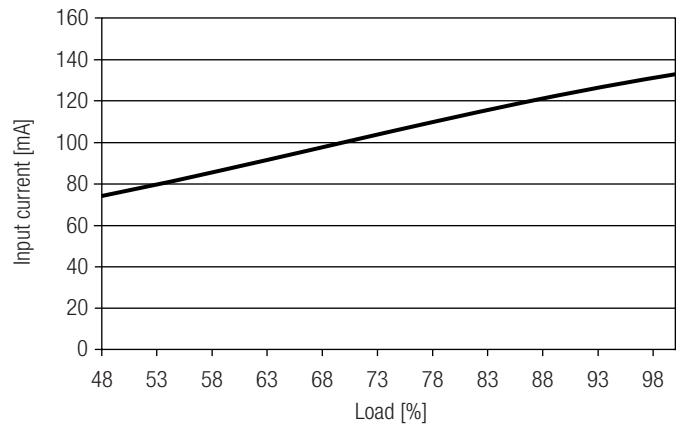
Power factor vs load



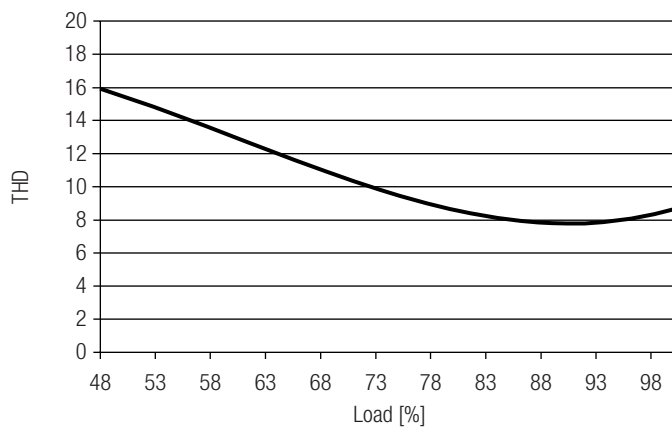
Input power vs load



Input current vs load

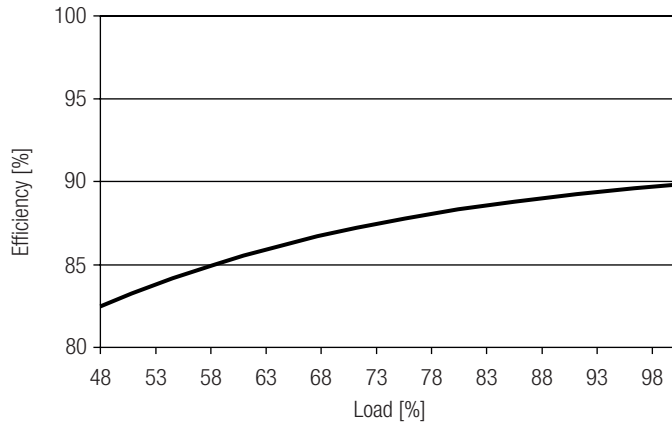


THD vs load

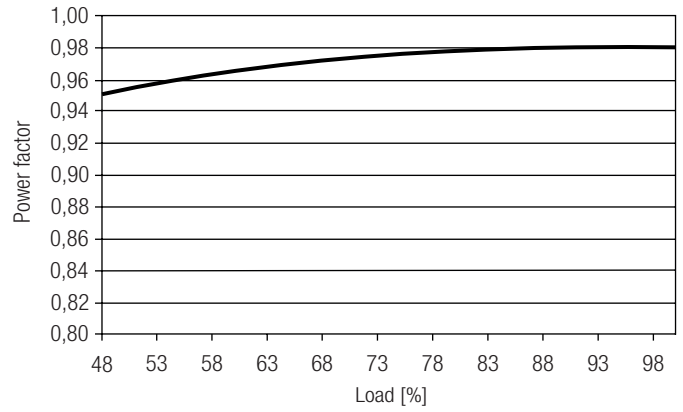


Diagrams LC 30W 700mA fixC C ADV at 230 V / 50 Hz

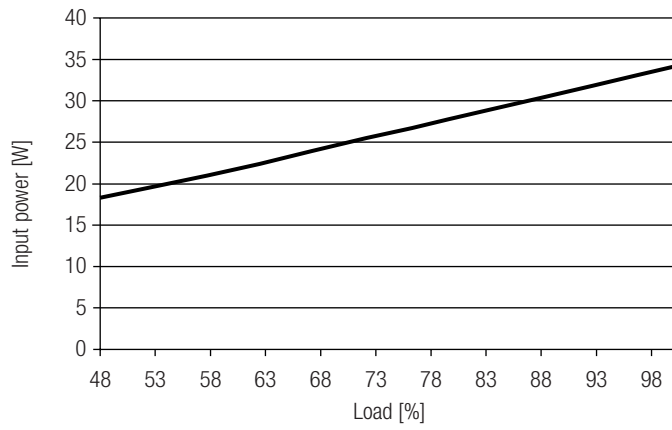
Efficiency vs load



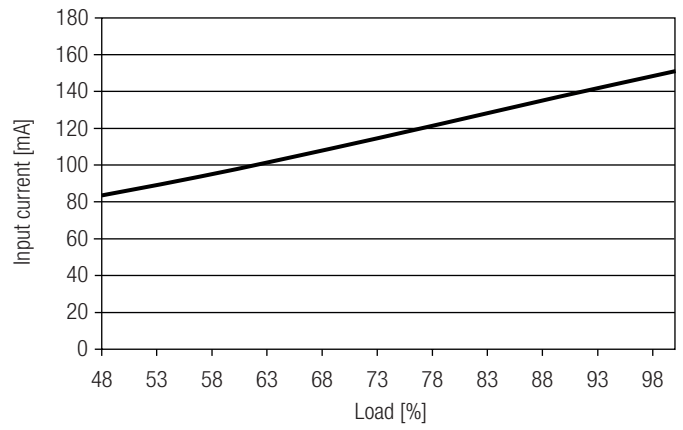
Power factor vs load



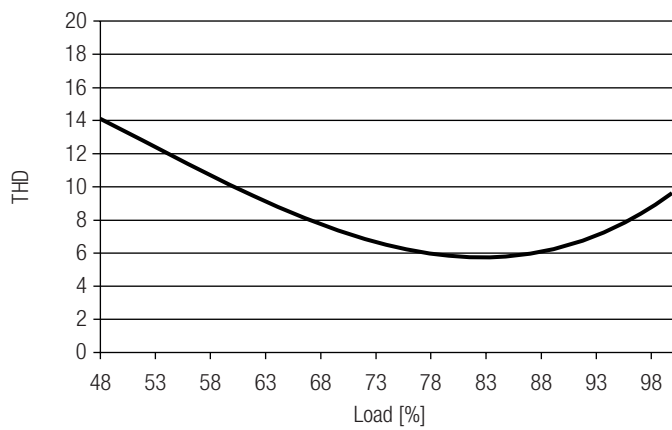
Input power vs load



Input current vs load

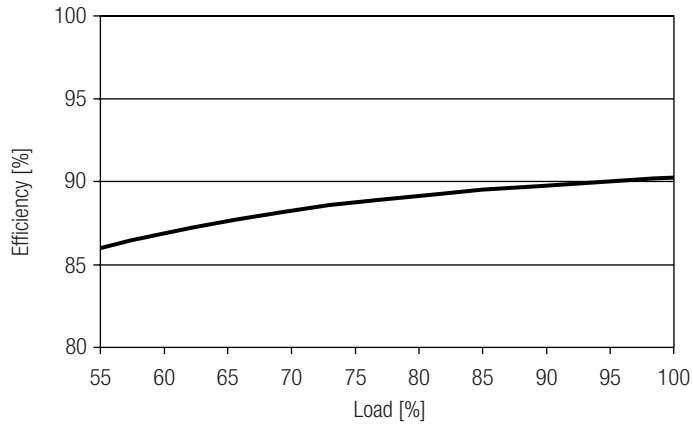


THD vs load

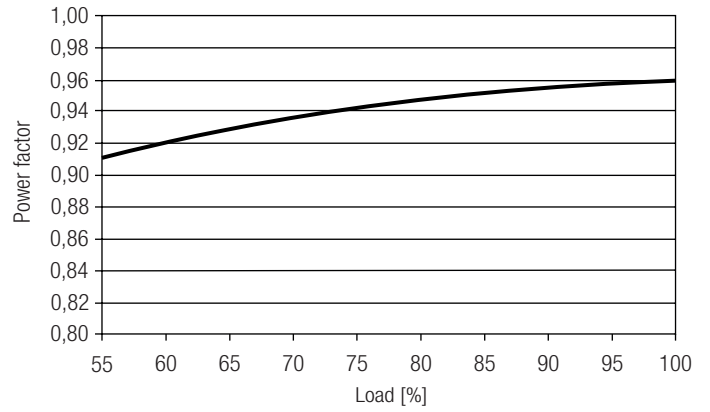


Diagrams LC 35W 800mA fixC C ADV at 230 V / 50 Hz

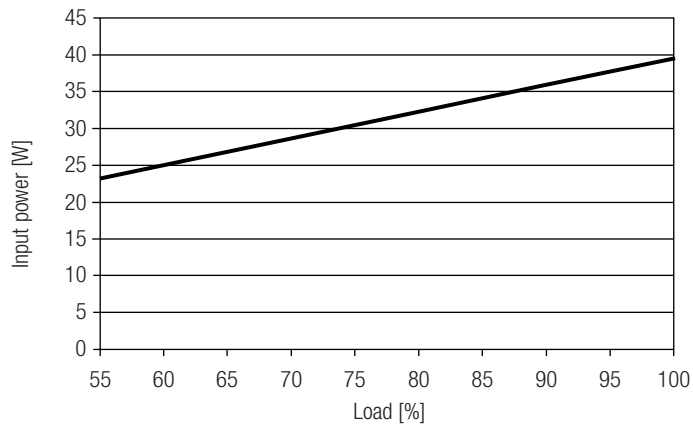
Efficiency vs load



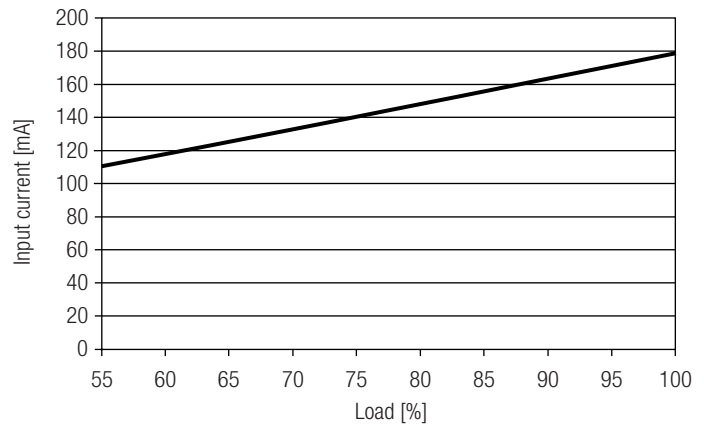
Power factor vs load



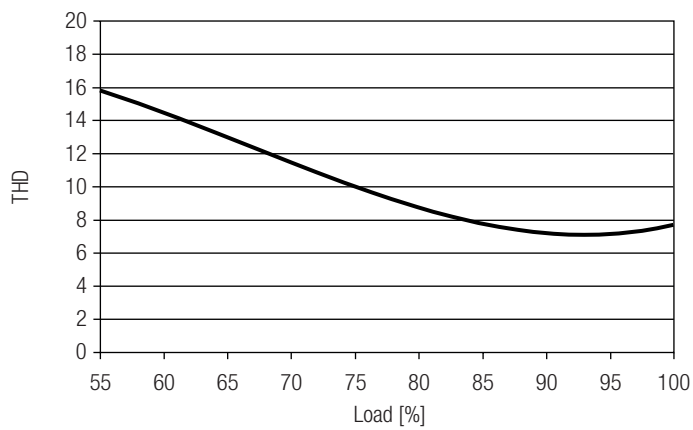
Input power vs load



Input current vs load

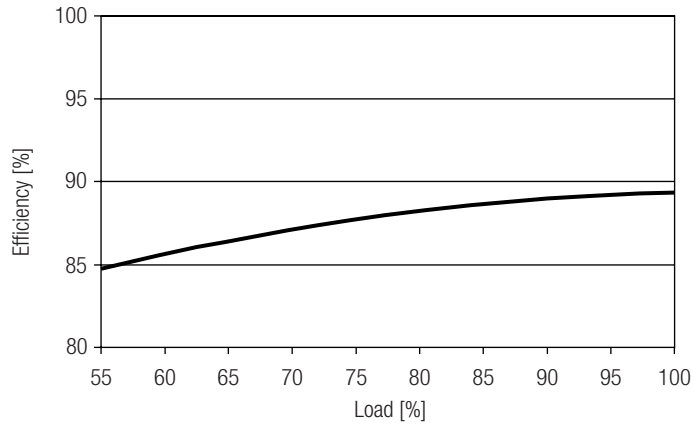


THD vs load

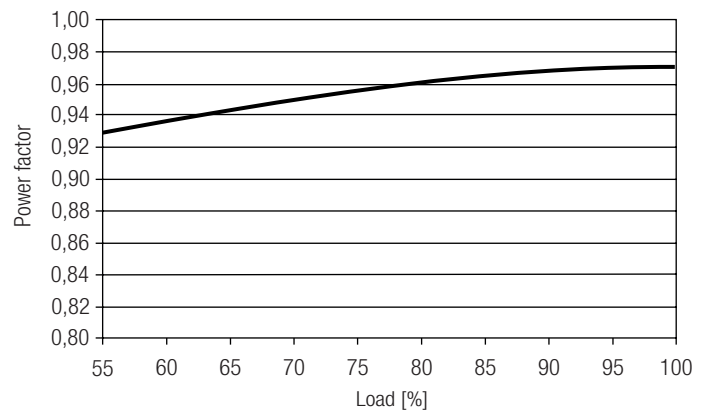


Diagrams LC 40W 900mA fixC C ADV at 230 V / 50 Hz

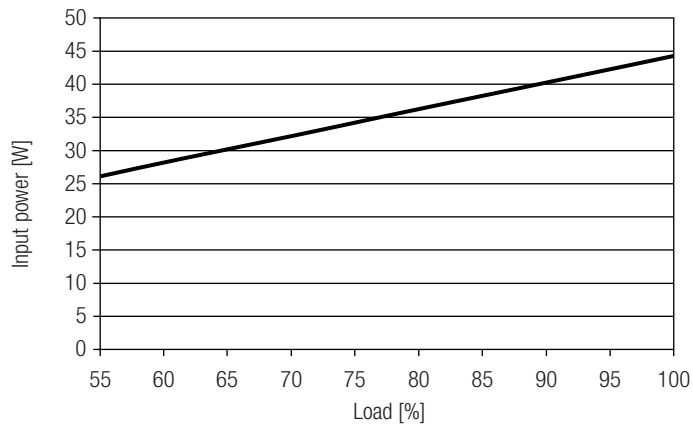
Efficiency vs load



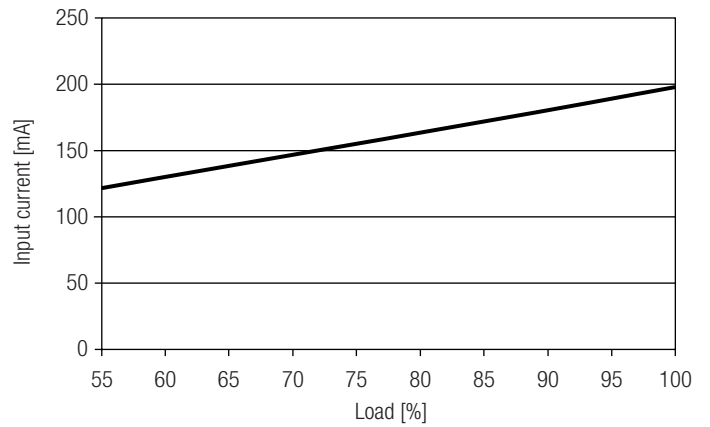
Power factor vs load



Input power vs load



Input current vs load



THD vs load

