

IP20 SELV      

Driver LCBI 15 W 350/500/700 mA BASIC PHASE-CUT SR ADV  
BASIC series

Product description

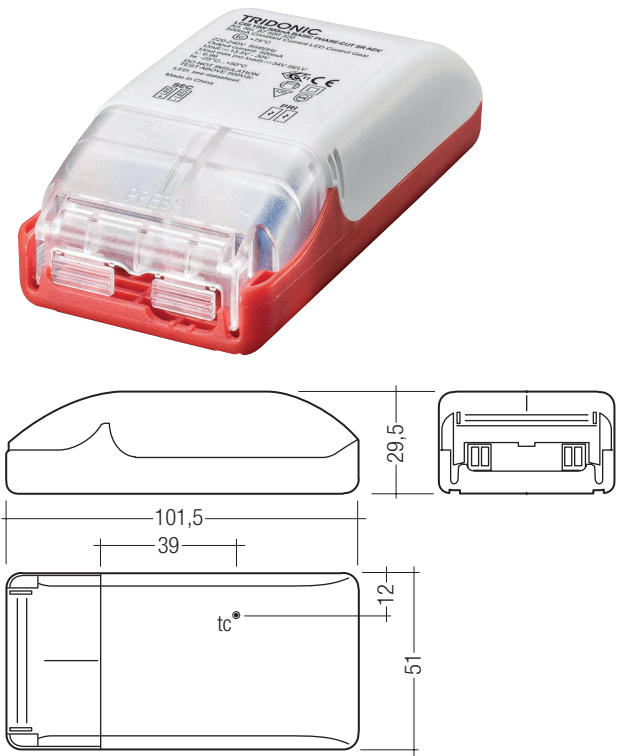
- Dimmable via leading-edge and trailing-edge phase dimmer
- Nominal life of 60,000 h (at ta max. 50 °C with a failure rate of max. 0.2 % per 1,000 h)
- 350, 500 or 700 mA output current
- Screw terminals
- Connecting cable, wire cross-section 0.5 – 2.5 mm²
- Output power 14/15 W
- SELV
- Type of protection IP20
- Output dimmed analogue (current amplitude)
- Dimming range typ. 5 to 100 % (depending on dimmer)
- Potted version

Properties

- Casing: polycarbonat, white
- Compact dimensions
- Overload protection
- Short-circuit protection

Technical data

|                                                     |                  |
|-----------------------------------------------------|------------------|
| Rated supply voltage                                | 220 – 240 V      |
| AC voltage range                                    | 198 – 264 V      |
| Mains frequency                                     | 50 / 60 Hz       |
| Typ. rated current (at 230 V, 50 Hz, full load)     | 0.09 A           |
| λ at full load <sup>®</sup>                         | 0.99             |
| λ at min. load <sup>®</sup>                         | 0.95             |
| Output current tolerance at full load <sup>®®</sup> | ± 7.5 %          |
| Typ. current ripple (at 230 V, 50 Hz, full load)    | ± 30 %           |
| Turn on time (at 230 V, 50 Hz, full load)           | ≤ 0.1 s          |
| Turn off time (at 230 V, 50 Hz, full load)          | ≤ 0.1 s          |
| Hold on time at power failure (output)              | 0 s              |
| Ambient temperature ta                              | -25 ... +50 °C   |
| Ambient temperature ta (at life-time 60,000 h)      | 50 °C            |
| Max. casing temperature tc                          | 75 °C            |
| Storage temperature ts                              | -40 ... +85 °C   |
| Dimensions L x W x H                                | 102 x 51 x 30 mm |



Ordering data

| Type                                  | Article number | Packaging, carton | Packaging, low volume | Packaging, high volume | Weight per pc. |
|---------------------------------------|----------------|-------------------|-----------------------|------------------------|----------------|
| LCBI 15W 350mA BASIC PHASE-CUT SR ADV | 87500386       | 20 pc(s).         | 440 pc(s).            | 2,200 pc(s).           | 0.170 kg       |
| LCBI 15W 500mA BASIC PHASE-CUT SR ADV | 87500320       | 20 pc(s).         | 440 pc(s).            | 2,200 pc(s).           | 0.167 kg       |
| LCBI 14W 700mA BASIC PHASE-CUT SR ADV | 87500387       | 20 pc(s).         | 440 pc(s).            | 2,200 pc(s).           | 0.170 kg       |



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Wiring diagrams and installation examples, page 3

### Specific technical data

| Type                                         | Efficiency at full load <sup>①</sup> | Efficiency at min. load <sup>①</sup> | Output current <sup>②</sup> | Max. peak output current at full load <sup>③④</sup> | Max. peak output current at min. load <sup>③④</sup> | Max. forward voltage <sup>⑤</sup> | Min. forward voltage <sup>⑤</sup> | Max. output voltage <sup>⑥</sup> | Max. input power | Max. output power |
|----------------------------------------------|--------------------------------------|--------------------------------------|-----------------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------|-----------------------------------|----------------------------------|------------------|-------------------|
| <b>LCBI 15W 350mA BASIC PHASE-CUT SR ADV</b> | 78 %                                 | 76 %                                 | 350 mA                      | 540 mA                                              | 760 mA                                              | 42 V                              | 21.0 V                            | 55 V                             | 19 W             | 15 W              |
| <b>LCBI 15W 500mA BASIC PHASE-CUT SR ADV</b> | 77 %                                 | 75 %                                 | 500 mA                      | 780 mA                                              | 1,030 mA                                            | 30 V                              | 13.5 V                            | 34 V                             | 20 W             | 15 W              |
| <b>LCBI 14W 700mA BASIC PHASE-CUT SR ADV</b> | 76 %                                 | 74 %                                 | 700 mA                      | 1,240 mA                                            | 1,580 mA                                            | 20 V                              | 10.0 V                            | 26 V                             | 19 W             | 14 W              |

<sup>①</sup> Test result at 230 V, 50 Hz.

<sup>②</sup> The trend between min. and full load is linear.

<sup>③</sup> Output current tolerance at full load is max. 10 % and the tolerance for min. load is depend on the typical rated current.

<sup>④</sup> At failure mode.

<sup>⑤</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  
EN 62384

#### Glow wire test

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

#### Overload protection

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

#### Short-circuit behaviour

In case of a short circuit on the secondary side (LED) the LED Driver switches into hic-cup mode. After the removal of the short-circuit fault the LED Driver will recover automatically.

#### No-load operation

The LED Driver works in constant current mode. In no-load operation there is the max. output voltage at the output (see page 1).

#### Installation instructions

Note the requirements set out in the document  
LED\_driver\_installation\_advise.pdf  
(<http://www.tridonic.com/com/en/technical-docs.asp>).

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

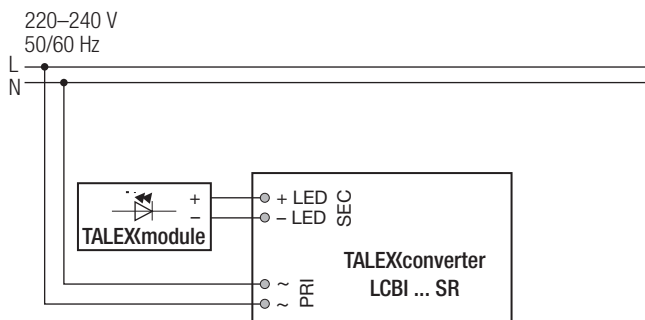
#### Expected life-time

| Type                                         | ta        | 40 °C     | 45 °C    | 50 °C    | 60 °C |
|----------------------------------------------|-----------|-----------|----------|----------|-------|
| <b>LCBI 15W 350mA BASIC PHASE-CUT SR ADV</b> | tc        | 75 °C     | 80 °C    | 85 °C    | x     |
|                                              | Life-time | 100,000 h | 70,000 h | 50,000 h | x     |
| <b>LCBI 15W 500mA BASIC PHASE-CUT SR ADV</b> | tc        | 75 °C     | 80 °C    | 85 °C    | x     |
|                                              | Life-time | 100,000 h | 70,000 h | 50,000 h | x     |
| <b>LCBI 14W 700mA BASIC PHASE-CUT SR ADV</b> | tc        | 75 °C     | 80 °C    | 85 °C    | x     |
|                                              | Life-time | 100,000 h | 70,000 h | 50,000 h | x     |

#### Maximum loading of automatic circuit breakers

| Automatic circuit breaker type               | C10                 | C13                 | C16                 | C20                 | B10                 | B13                 | B16                 | B20                 | Inrush current   |       |
|----------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|-------|
|                                              |                     |                     |                     |                     |                     |                     |                     |                     | I <sub>max</sub> | Time  |
| 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> |                  |       |
| <b>LCBI 15W 350mA BASIC PHASE-CUT SR ADV</b> | 50                  | 65                  | 80                  | 100                 | 50                  | 65                  | 80                  | 100                 | 1.7 A            | 40 µs |
| <b>LCBI 15W 500mA BASIC PHASE-CUT SR ADV</b> | 50                  | 65                  | 80                  | 100                 | 50                  | 65                  | 80                  | 100                 | 1.7 A            | 40 µs |
| <b>LCBI 14W 700mA BASIC PHASE-CUT SR ADV</b> | 50                  | 65                  | 80                  | 100                 | 50                  | 65                  | 80                  | 100                 | 1.7 A            | 40 µs |

#### Wiring diagram

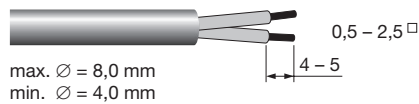


### Wiring type and cross section

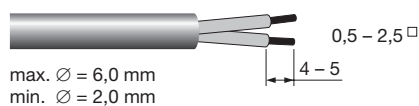
The wiring can be in stranded wires with ferrules or solid. For perfect function of the cage clamp terminals the strip length should be 4 – 5 mm for the input terminal.

The max. torque at the clamping screw (M3) is 0.2 Nm.

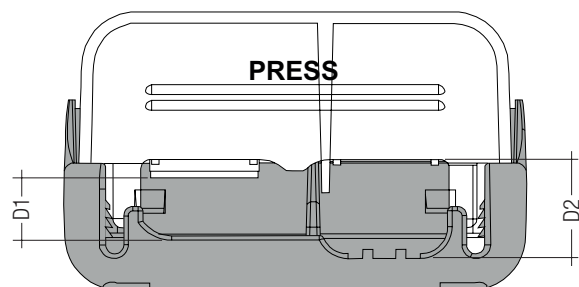
#### Input terminal (D2)



#### Output terminal (D1)



To get a proper working strain relief it is recommended that the cable jacket diameter of the side D2 is compared to the side D1 terminal according to the value table. (This can vary if the used cable jacket material varies from side D2 to D1 in pinching property).



Depending on the used flaps of the terminal following cable jacket diameter difference between the side D2 and D1 terminals is recommended:

| Side D1   |              | Side D2   |              | Difference D2 - D1 |
|-----------|--------------|-----------|--------------|--------------------|
| With flap | Without flap | With flap | Without flap |                    |
| x         | –            | –         | x            | 4 mm               |
| –         | x            | –         | x            | 2 mm               |
| x         | –            | x         | –            | 2 mm               |
| –         | x            | x         | –            | 0 mm               |

### Wiring instructions

The secondary leads should be separated from the mains connections and wiring for good EMC performance.

Maximum lead length on secondary side is 2 m. For a good EMC performance keep the the LED wiring as short as possible.

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.).

### 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<sub>DC</sub> 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<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

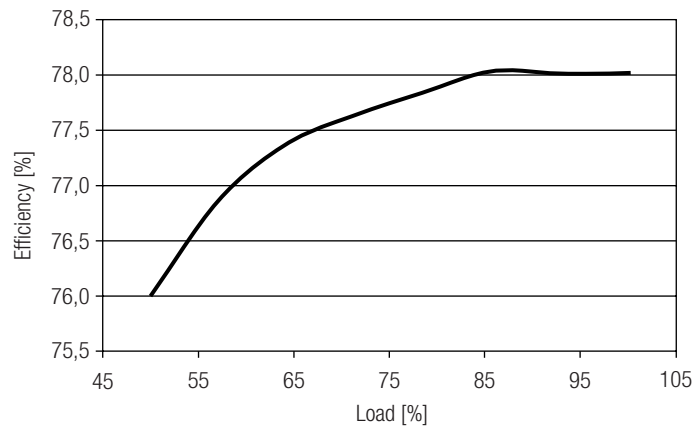
Additional technical information at [www.tridonic.com](http://www.tridonic.com) → Technical Data

Guarantee conditions at [www.tridonic.com](http://www.tridonic.com) → Services

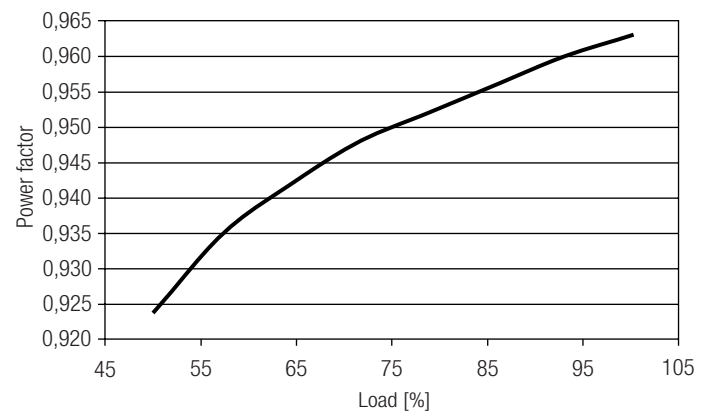
Life-time declarations are informative and represent no warranty claim.  
No warranty if device was opened.

**Diagrams LCBI 15W 350mA BASIC SR ADV**

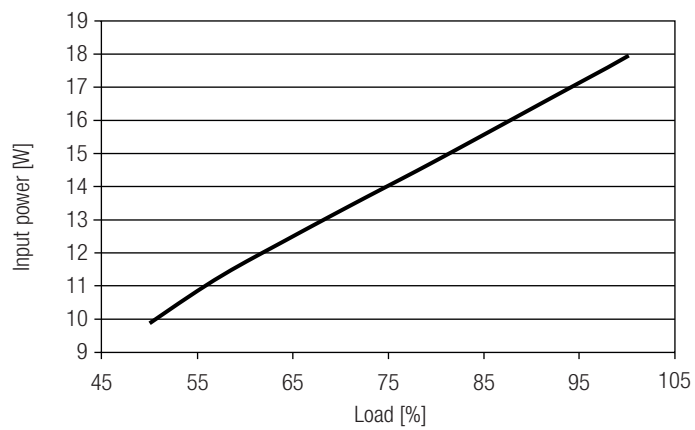
Efficiency vs load



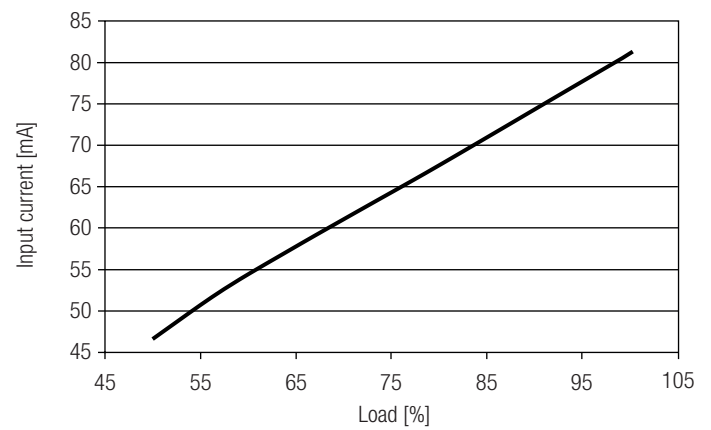
Power factor vs load



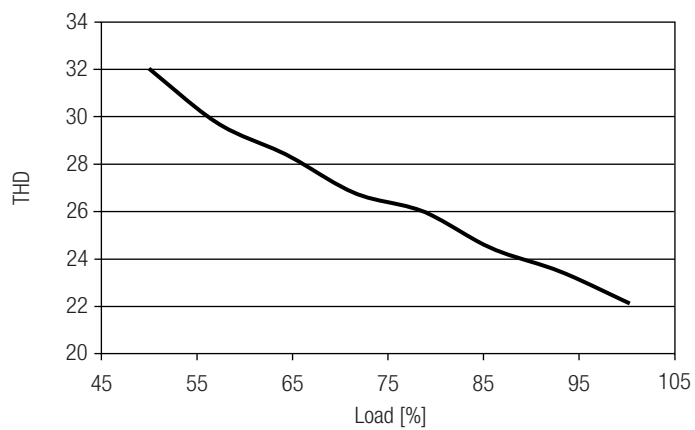
Input power vs load



Input current vs load

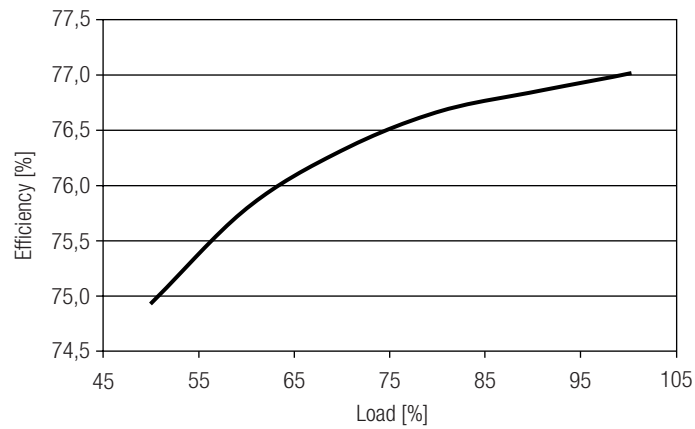


THD vs load

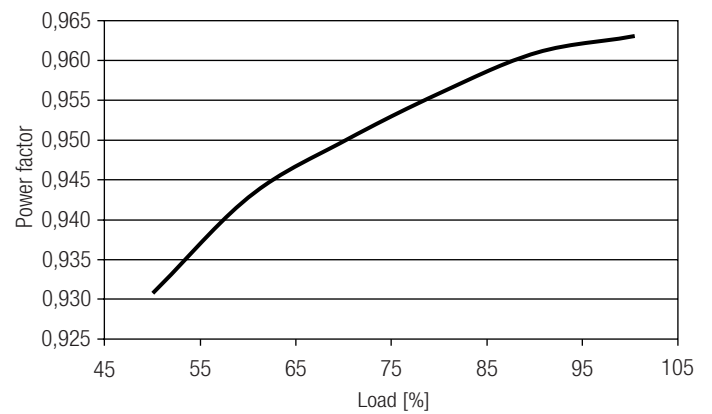


**Diagrams LCBI 15W 500mA BASIC SR ADV**

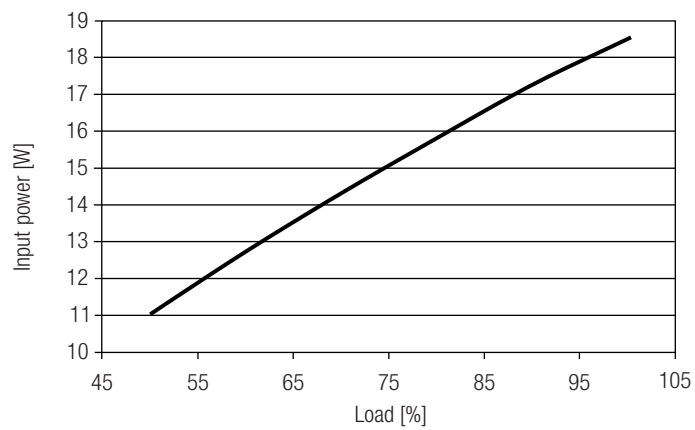
Efficiency vs load



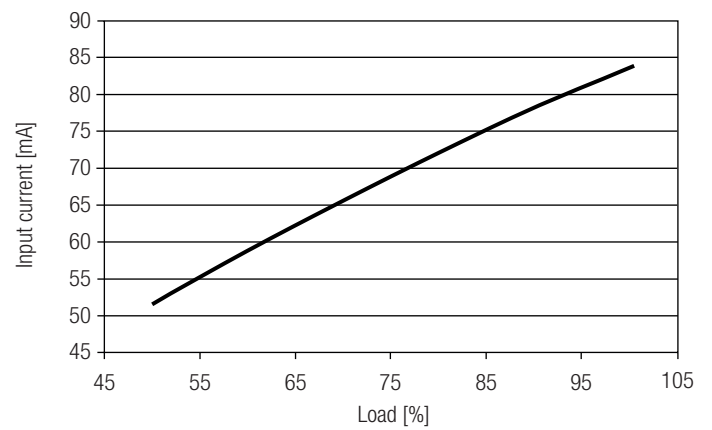
Power factor vs load



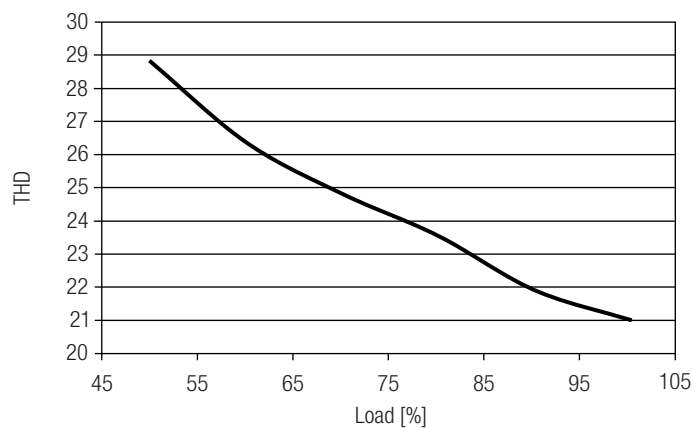
Input power vs load



Input current vs load

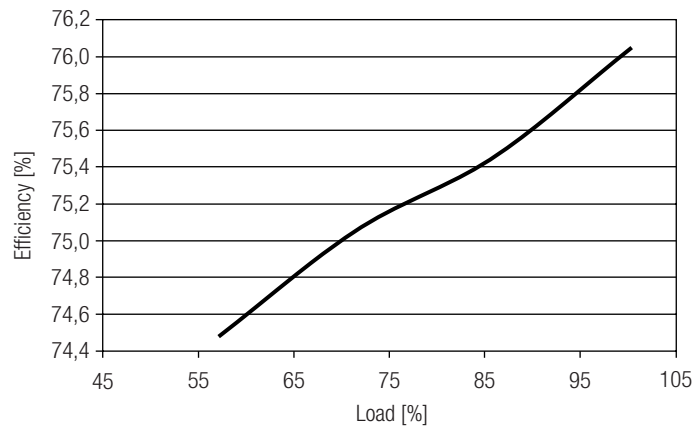


THD vs load

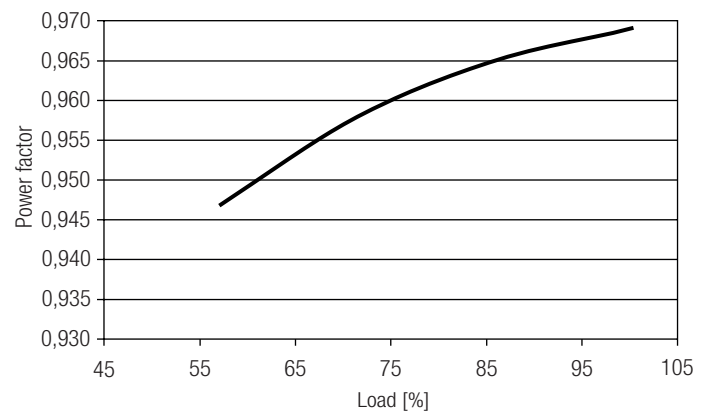


**Diagrams LCBI 14W 700mA BASIC SR ADV**

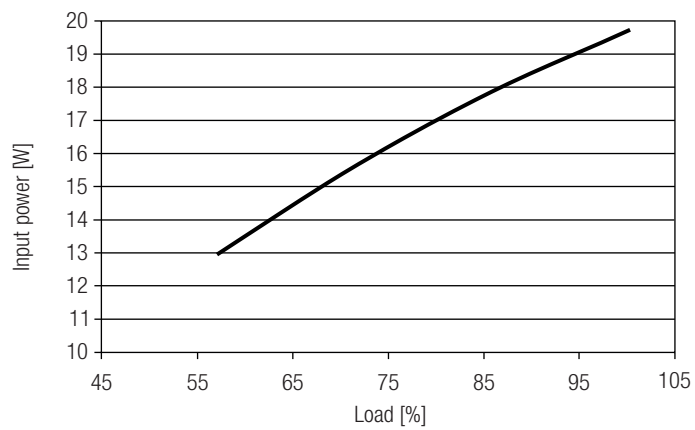
Efficiency vs load



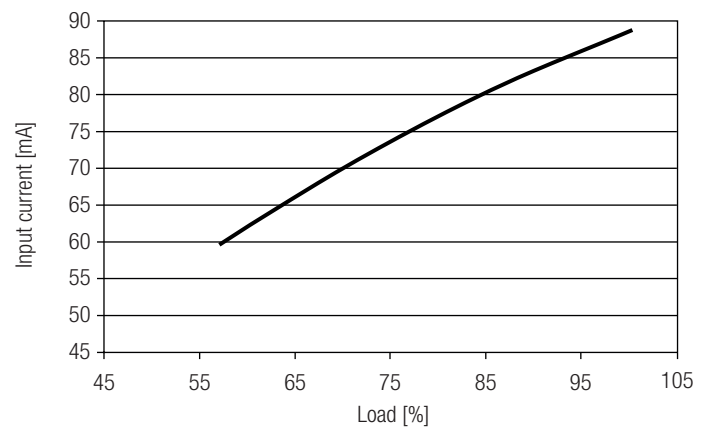
Power factor vs load



Input power vs load



Input current vs load



THD vs load

