

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

#### Product description

- Fixed output LED Driver
- Can be either used build-in or independent with clip-on strain-relief (see accessory)
- Independent LED Driver with cable clamps
- 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 600, 700, 800 or 900 mA
- Max. output power 26.5, 31, 35 or 40.5 W
- Nominal life-time up to 50,000 h
- 5-year guarantee

#### Housing properties

- Casing: polycarbonat, white
- Type of protection IP20

#### Functions

- Overtemperature protection
- Overload protection
- Short-circuit protection
- No-load protection
- Surge protection voltage 1 kV (L to N)
- Surge protection voltage 2 kV (L/N to earth)

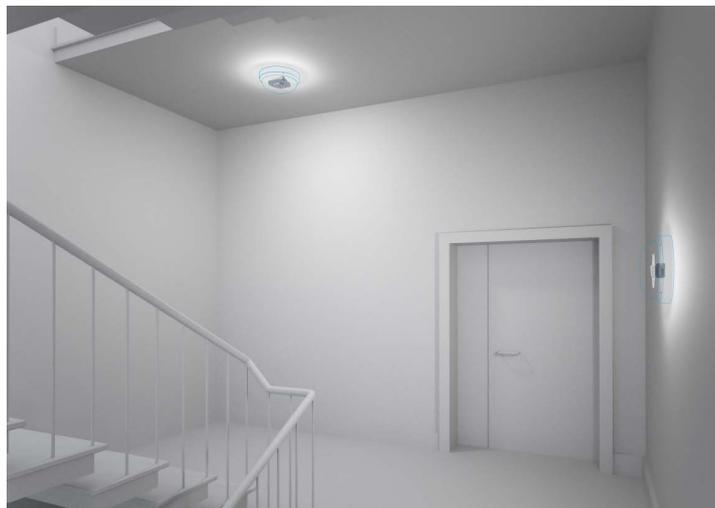


**Standards**, page 3

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With strain-relief



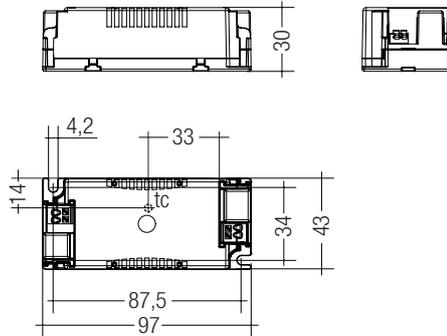
IP20 SELV 

### Driver LC 25/30/35/40W 600/700/800/900mA fixC SC 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 <sup>Ⓢ</sup>            | ± 7.5 %          |
| Typ. current ripple (at 230 V, 50 Hz, full load) | ± 5 %            |
| Max. output voltage                              | 60 V             |
| 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   |
| Dimensions L x W x H                             | 97 x 43 x 30 mm  |
| Dimensions with strain-relief L x W x H          | 157 x 43 x 30 mm |



#### Ordering data

| Type                     | Article number | Packaging, carton | Packaging, pallet | Weight per pc. |
|--------------------------|----------------|-------------------|-------------------|----------------|
| LC 25W 600mA fixC SC ADV | 28002483       | 15 pc(s).         | 1,665 pc(s).      | 0.099 kg       |
| LC 30W 700mA fixC SC ADV | 28002484       | 15 pc(s).         | 1,665 pc(s).      | 0.101 kg       |
| LC 35W 700mA fixC SC ADV | 28002485       | 15 pc(s).         | 1,665 pc(s).      | 0.100 kg       |
| LC 35W 800mA fixC SC ADV | 28002486       | 15 pc(s).         | 1,665 pc(s).      | 0.101 kg       |
| LC 40W 900mA fixC SC ADV | 28002487       | 15 pc(s).         | 1,665 pc(s).      | 0.102 kg       |

#### Specific technical data

| Type                     | Output current <sup>Ⓢ</sup> (at 230 V, 50 Hz, full load) | Input current (at 230 V, 50 Hz, full load) | Input power (at 230 V, 50 Hz, full load) | Output power range | $\lambda$ at full load <sup>Ⓢ</sup> | Efficiency at full load <sup>Ⓢ</sup> | $\lambda$ at min. load <sup>Ⓢ</sup> | Efficiency at min. load <sup>Ⓢ</sup> | Min. forward voltage | Max. forward voltage | Max. output peak current at full load <sup>Ⓢ</sup> | Max. output peak current at min. load <sup>Ⓢ</sup> | Max. casing temperature tc |
|--------------------------|--|--|--|--------------------|-------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|----------------------|----------------------|--|--|----------------------------|
| LC 25W 600mA fixC SC ADV | 600 mA   | 0.133 A                                    | 30.0 W                                   | 13.0 – 26.5 W      | 0.95                                | 88 %                                 | 0.9C                                | 81 %                                 | 214 V                | 44 V                 | 774 mA   | 900 mA   | 80 °C                      |
| LC 30W 700mA fixC SC ADV | 700 mA   | 0.153 A                                    | 34.3 W                                   | 15.0 – 31.0 W      | 0.95                                | 88 %                                 | 0.9C                                | 82 %                                 | 214 V                | 44 V                 | 903 mA   | 1,000 mA   | 83 °C                      |
| LC 35W 700mA fixC SC ADV | 700 mA   | 0.174 A                                    | 40.0 W                                   | 17.5 – 35.0 W      | 0.95                                | 88 %                                 | 0.9C                                | 82 %                                 | 25.0 V               | 50 V                 | 903 mA   | 1,000 mA   | 75 °C                      |
| LC 35W 800mA fixC SC 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   | 81 °C                      |
| LC 40W 900mA fixC SC 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   | 83 °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.



**Strain-relief set 43x30mm**

**Product description**

- Optional strain-relief set for independent applications
- Transforms the LED Driver into a fully class II compatible LED Driver (e.g. ceiling installation)
- Easy and tool-free mounting to the LED Driver, screwless cable-clamp channels for long strain-relief (30 x 43 x 30 mm)
- With screws for short strain-relief (15 x 34 x 30 mm)
- Overall length = length L (LED Driver) + 2 x 30 mm (long strain-relief set), 2 x 15 mm (short strain-relief) or long and short strain-relief any combination
- Standard SC (L = 30 mm) available as non-pre-assembled and pre-assembled
- Short SC (L = 15 mm) only pre-assembled available

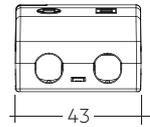
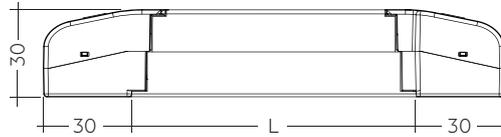


ACU SC 30x43x30mm CLIP-ON SR SET      ACU SC 30x43x30mm CLIP-ON SR SET 300  
(28001168, non-pre-assembled)      (28001351, non-pre-assembled, 300 pcs. packaging)



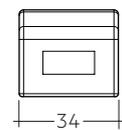
ACU SC 30x43x30mm CLIP-ON SR PA  
(28001699, pre-assembled)

ACU SC 15x43x30mm CLIP-ON SR PA  
(28001574, pre-assembled)



Permissible  
cable jacket  
diameter:  
2.2 – 9 mm

ACU SC 30x43x30mm CLIP-ON SR SET / PA



Permissible  
cable jacket  
diameter:  
3 – 9 mm

ACU SC 15x43x30mm CLIP-ON SR PA

**Ordering data**

| Type                                     | Article number  | Packaging carton <sup>①</sup> | Packaging outer box | Weight per pc. |
|--|-----------------|-------------------------------|---------------------|----------------|
| <b>ACU SC 43x30mm CLIP-ON SR SET</b>     | <b>28001168</b> | 10 pc(s).                     | 500 pc(s).          | 0.038 kg       |
| <b>ACU SC 43x30mm CLIP-ON SR SET 300</b> | <b>28001351</b> | 300 pc(s).                    | 300 pc(s).          | 0.038 kg       |
| <b>ACU SC 30x43x30mm CLIP-ON SR PA</b>   | <b>28001699</b> | 10 pc(s).                     | 500 pc(s).          | 0.021 kg       |
| <b>ACU SC 15x43x30mm CLIP-ON SR PA</b>   | <b>28001574</b> | 10 pc(s).                     | 1,200 pc(s).        | 0.010 kg       |

<sup>①</sup> 28001168: A carton of 10 pcs. is equal to 10 sets, each with 2 strain-reliefs parts.

28001351: A carton of 300 pcs. is equal to 300 sets, each with 2 strain-reliefs parts.

28001699 + 28001574: A carton contains exactly 10 pcs. strain-reliefs (no sets).

## 1. Standards

EN 55015  
EN 61000-3-2  
EN 61000-3-3  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

### 1.1 Glow-wire test

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

## 2. Thermal details and life-time

### 2.1 Expected life-time

| Expected life-time       |                 |                    |                    |
|--------------------------|-----------------|--------------------|--------------------|
| Type                     | ta              | 40 °C              | 50 °C              |
| LC 25W 600mA fixC SC ADV | tc <sup>②</sup> | 65 °C <sup>③</sup> | 75 °C <sup>③</sup> |
|                          | Life-time       | 50,000 h           | 30,000 h           |
| LC 30W 700mA fixC SC ADV | tc <sup>②</sup> | 67 °C <sup>③</sup> | 77 °C <sup>③</sup> |
|                          | Life-time       | 50,000 h           | 30,000 h           |
| LC 35W 700mA fixC SC ADV | tc <sup>②</sup> | 65 °C <sup>③</sup> | 75 °C <sup>③</sup> |
|                          | Life-time       | 50,000 h           | 30,000 h           |
| LC 35W 800mA fixC SC ADV | tc <sup>②</sup> | 67 °C <sup>③</sup> | 77 °C <sup>③</sup> |
|                          | Life-time       | 50,000 h           | 30,000 h           |
| LC 40W 900mA fixC SC ADV | tc <sup>②</sup> | 68 °C <sup>③</sup> | 78 °C <sup>③</sup> |
|                          | Life-time       | 50,000 h           | 30,000 h           |

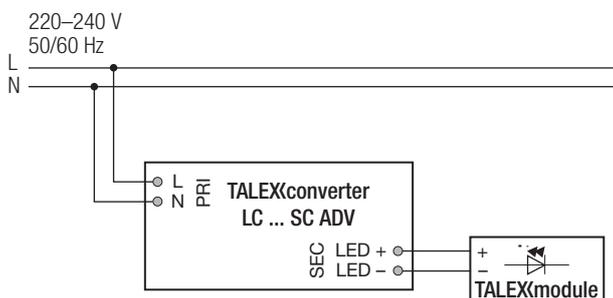
<sup>①</sup> Test result at max. output voltage.

<sup>②</sup> The tc temperature could be higher with different output voltages (refer to the tc vs. output voltage diagram for the details).

The LED Drivers are designed for a life-time stated above under reference conditions and with a failure probability of less than 10 %.

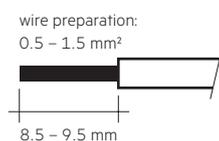
## 3. Installation / wiring

### 3.1 Circuit diagram



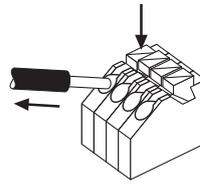
### 3.2 Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid 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. Use one wire for each terminal connector only.



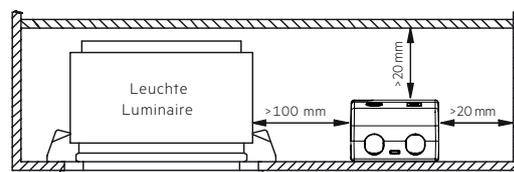
### 3.3 Release of the wiring

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



### 3.4 Fixing conditions when using as independent Driver with Clip-On

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.



### 3.5 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.
- The secondary wires (LED module) should be routed in parallel to ensure good EMC performance.
- 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.).

### 3.6 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.

### 3.7 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.

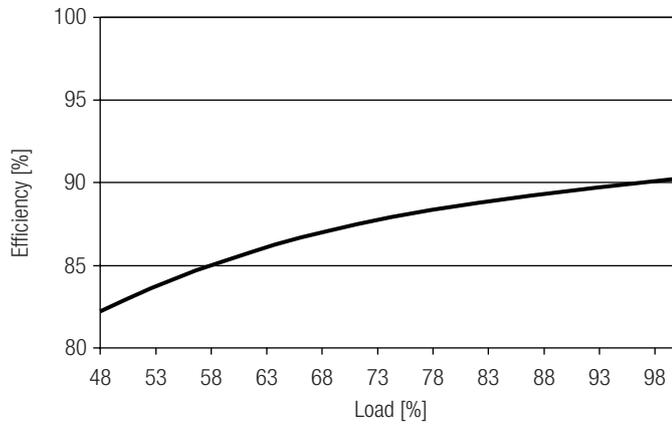
### 3.8 Mounting of device

Max. torque for fixing: 0.5 Nm/M4

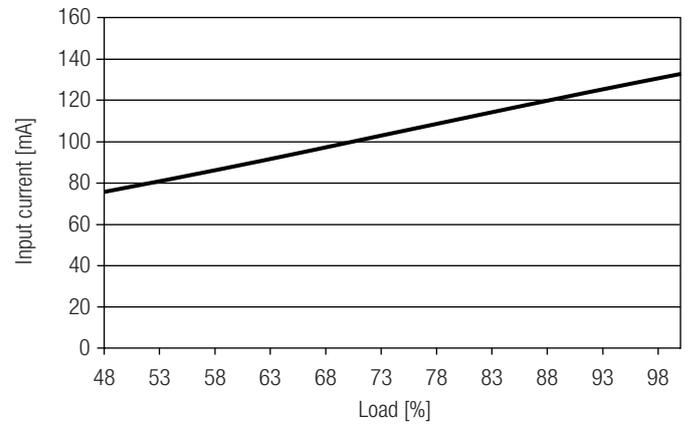
## 4. Electrical values

### 4.1 Diagrams LC 25W 600mA fixC SC ADV

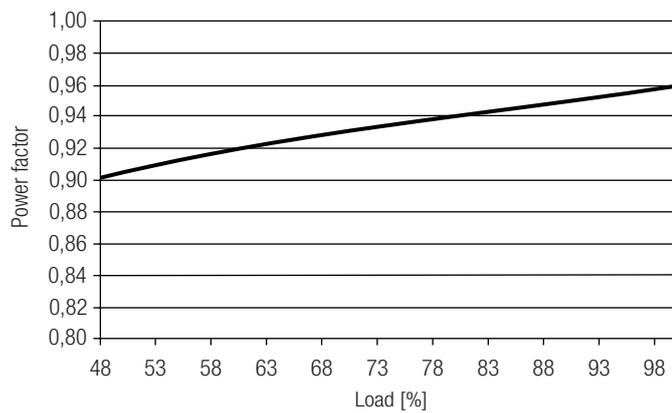
4.1.1 Efficiency vs load



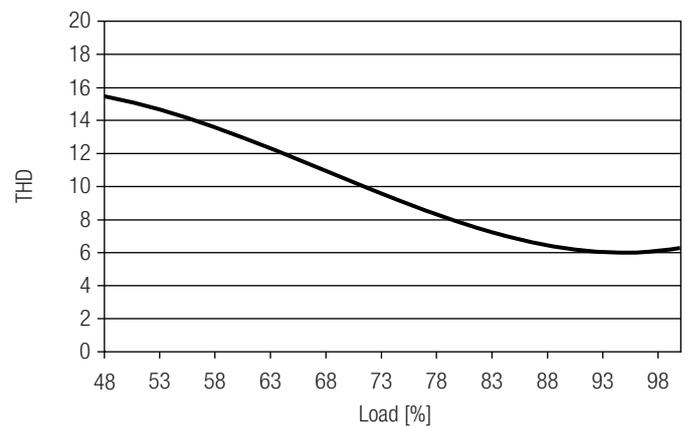
4.1.4 Input current vs load



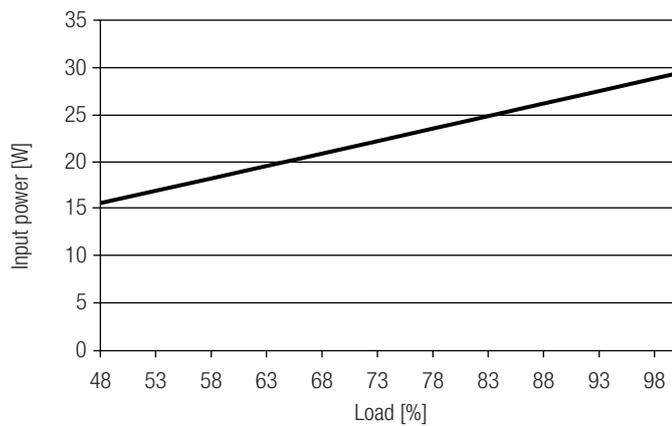
4.1.2 Power factor vs load



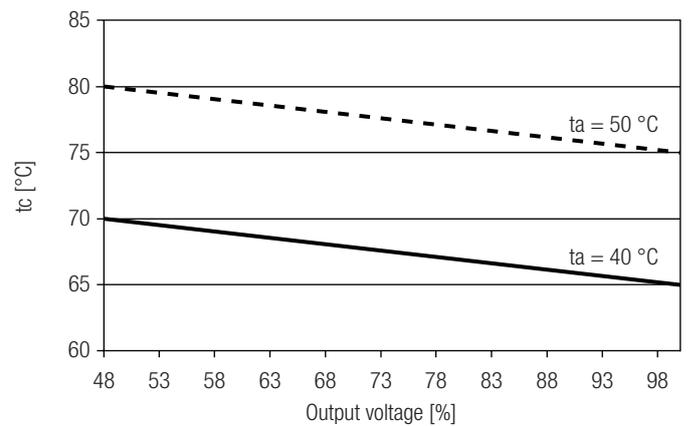
4.1.5 THD vs load



4.1.3 Input power vs load

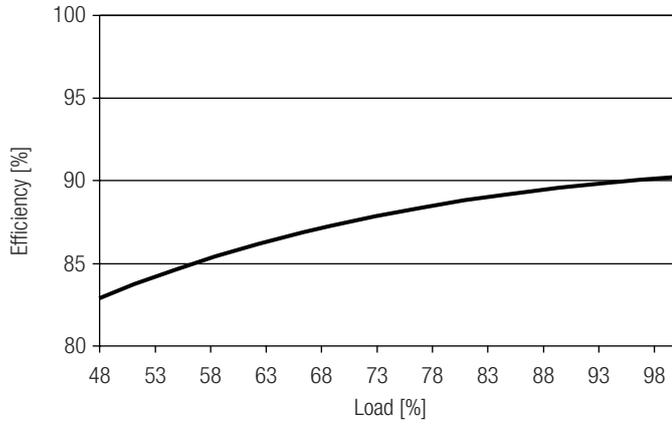


4.1.6 tc vs output voltage

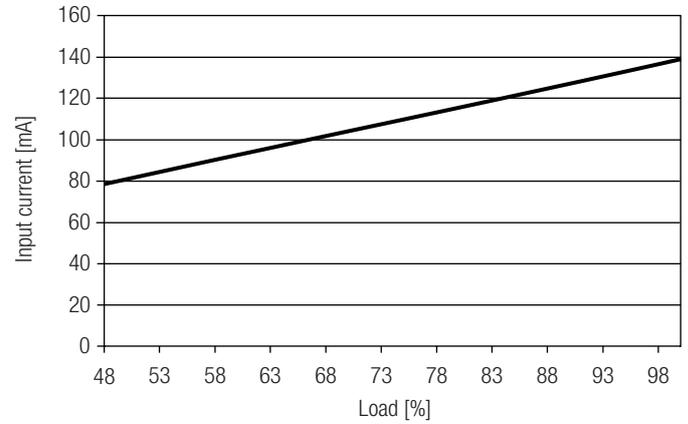


**4.2 Diagrams LC 30W 700mA fixC SC ADV**

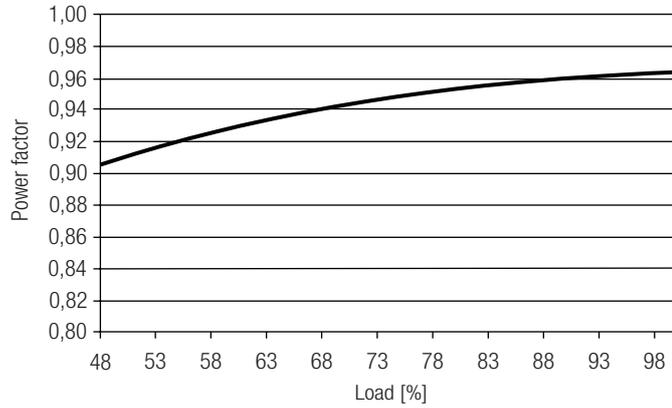
4.2.1 Efficiency vs load



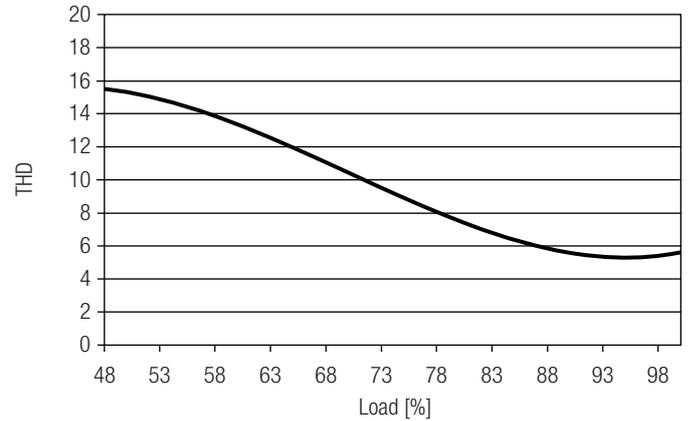
4.2.4 Input current vs load



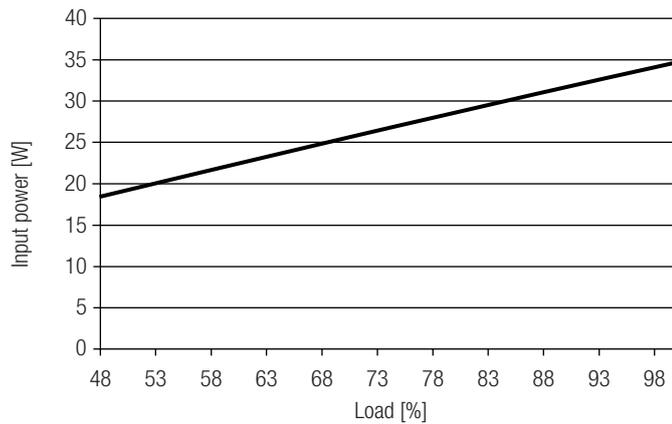
4.2.2 Power factor vs load



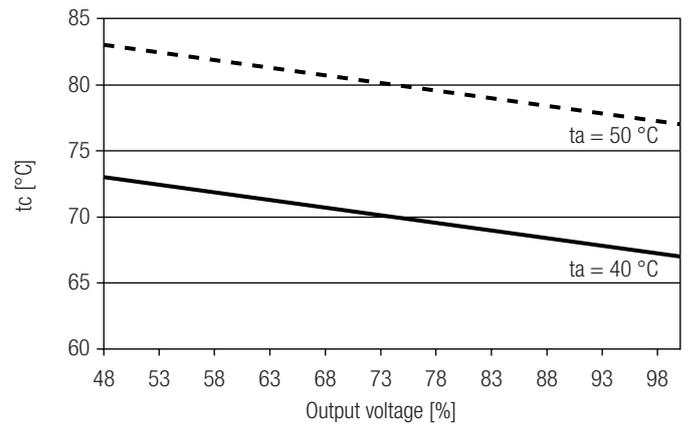
4.2.5 THD vs load



4.2.3 Input power vs load

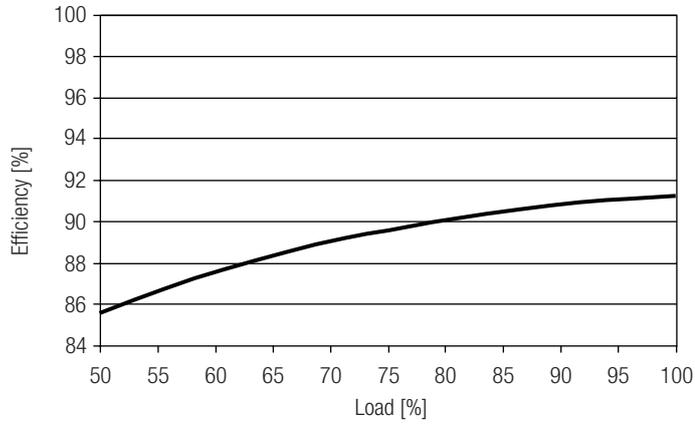


4.2.6 tc vs output voltage

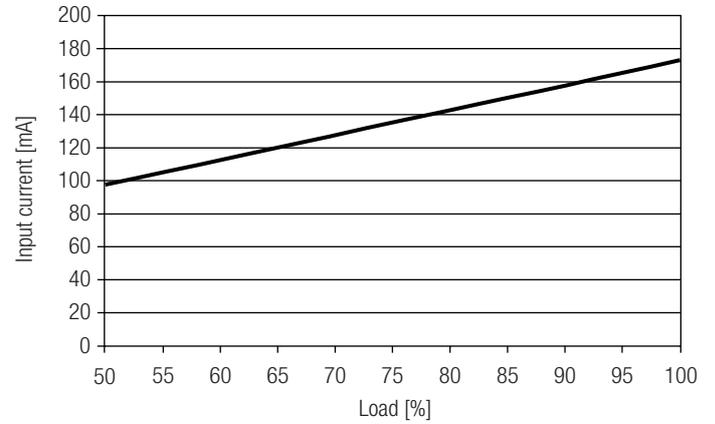


**4.3 Diagrams LC 35W 700mA fixC SC ADV**

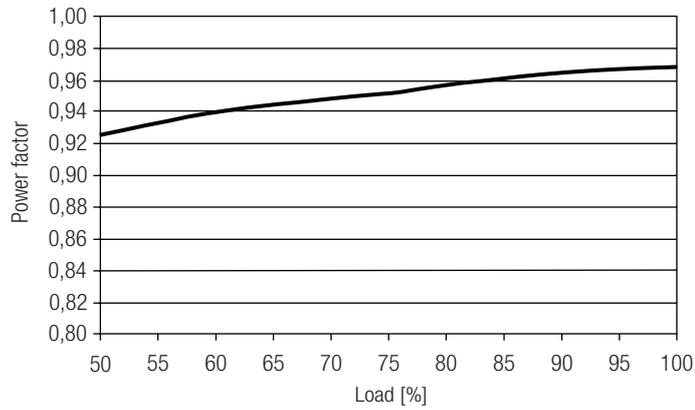
4.3.1 Efficiency vs load



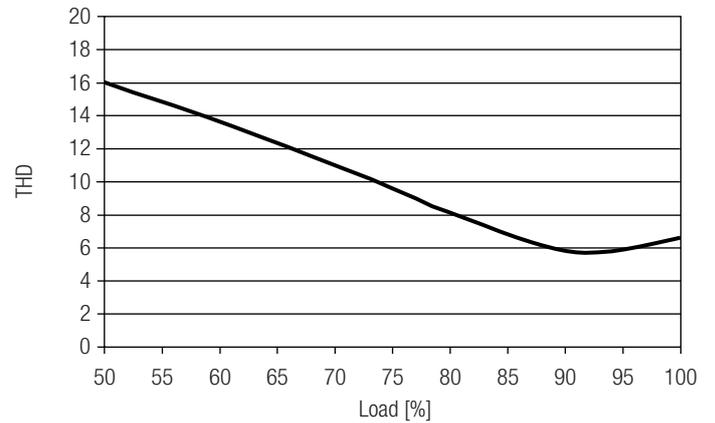
4.3.4 Input current vs load



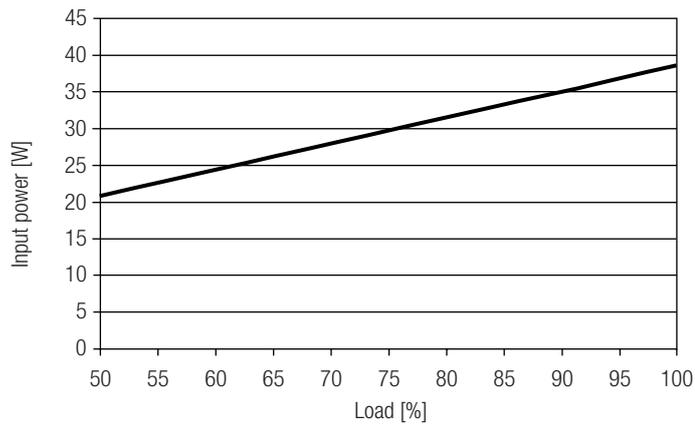
4.3.2 Power factor vs load



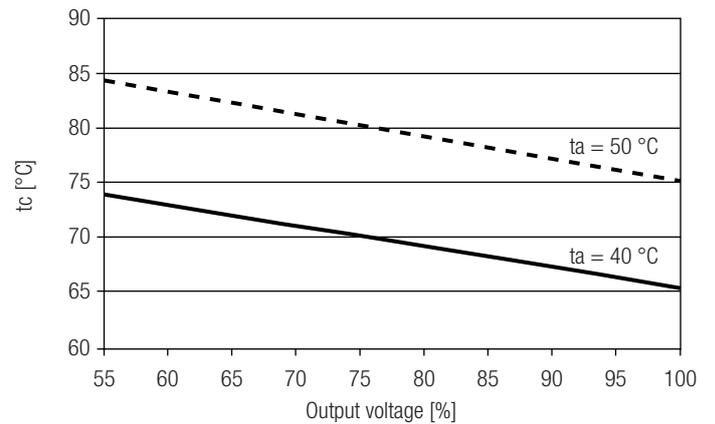
4.3.5 THD vs load



4.3.3 Input power vs load

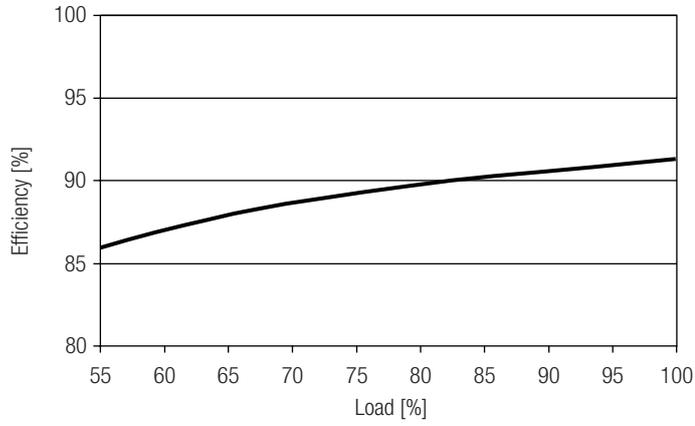


4.3.6 tc vs output voltage

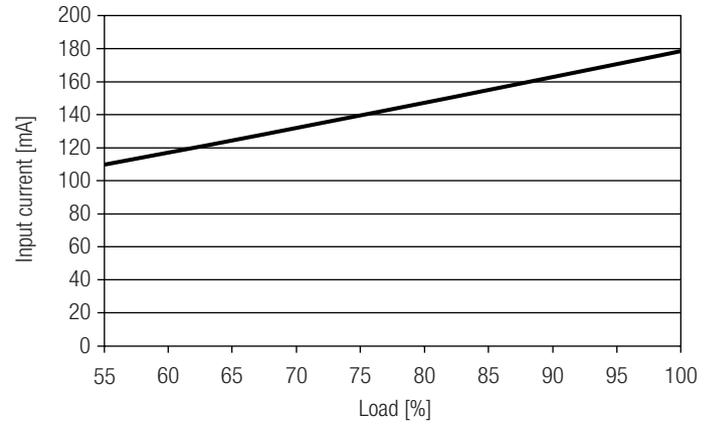


**4.4 Diagrams LC 35W 800mA fixC SC ADV**

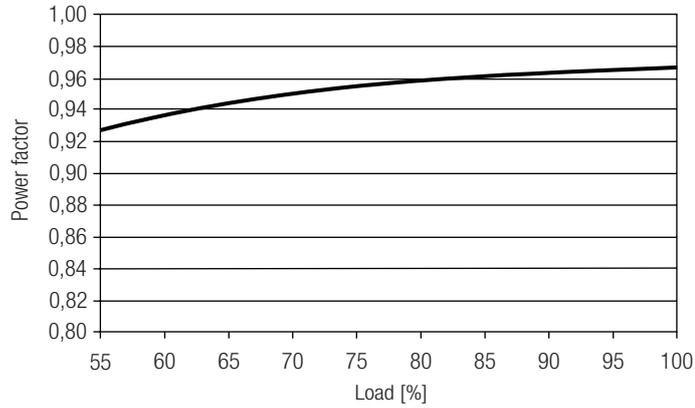
4.4.1 Efficiency vs load



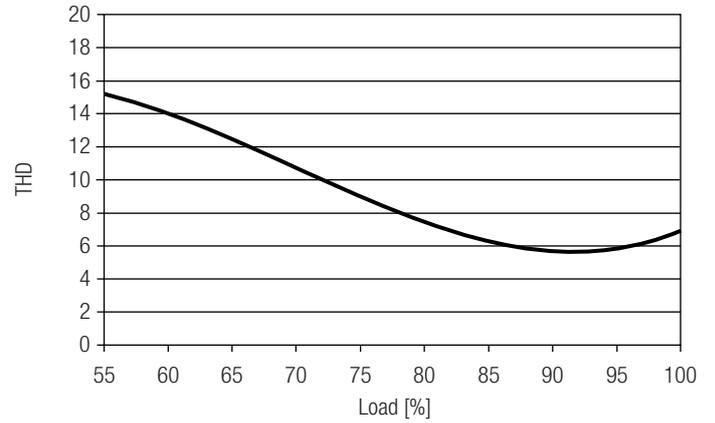
4.4.4 Input current vs load



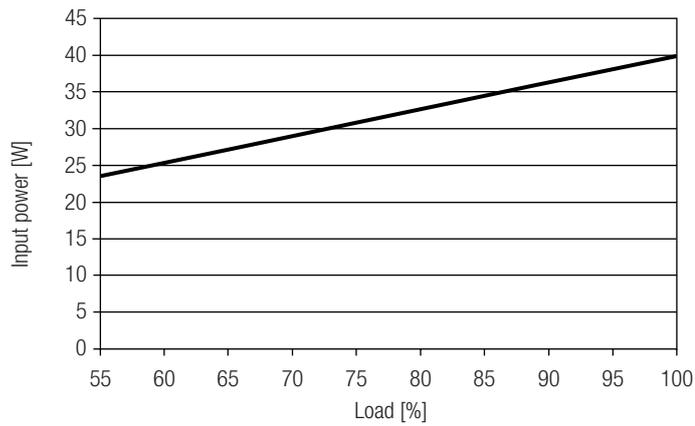
4.4.2 Power factor vs load



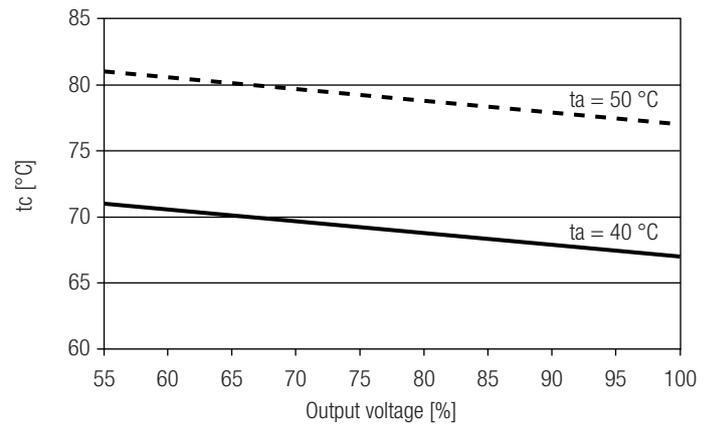
4.4.5 THD vs load



4.4.3 Input power vs load

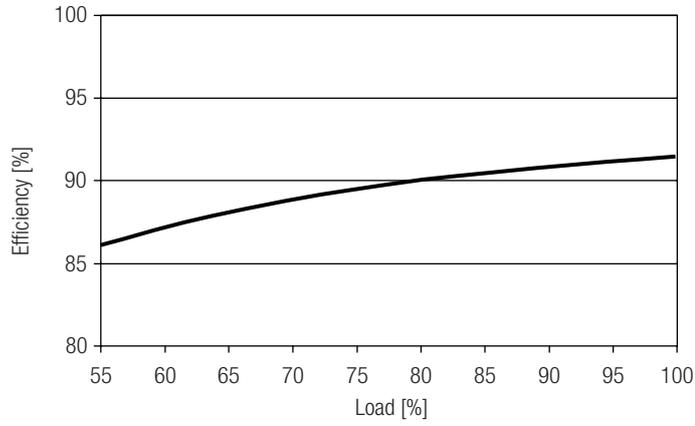


4.4.6 tc vs output voltage

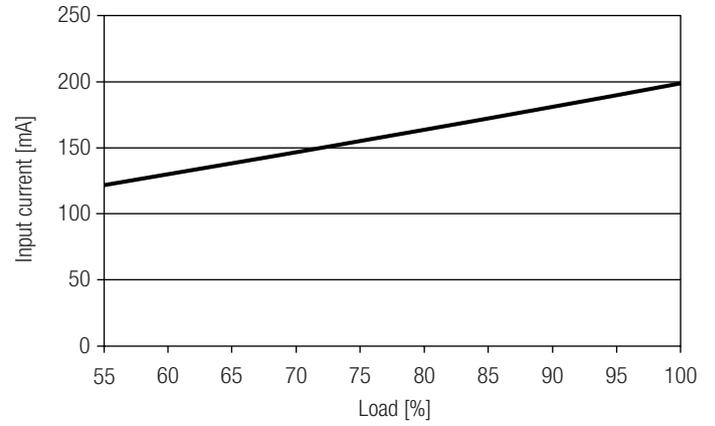


**4.5 Diagrams LC 40W 900mA fixC SC ADV**

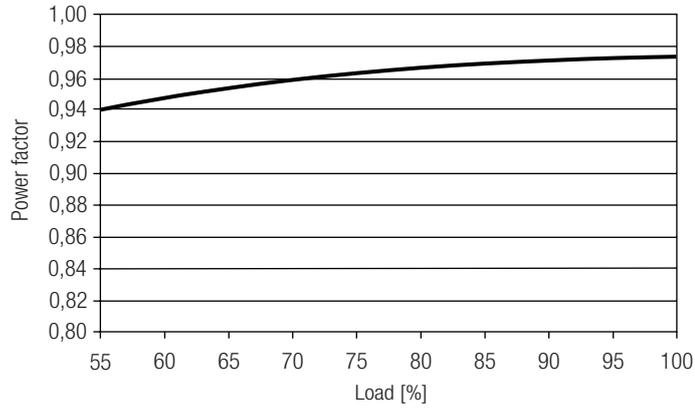
4.5.1 Efficiency vs load



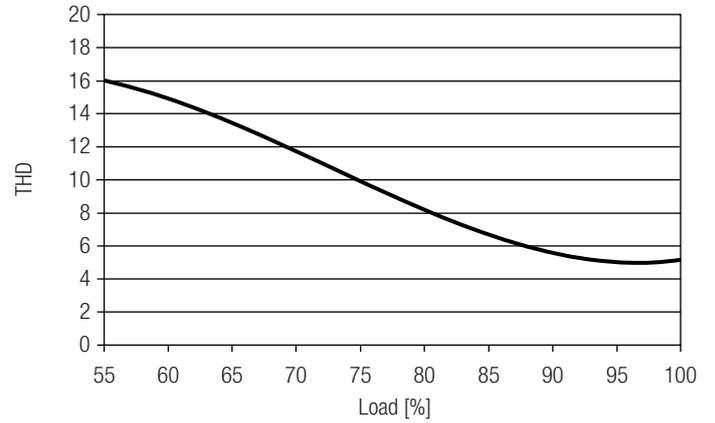
4.5.4 Input current vs load



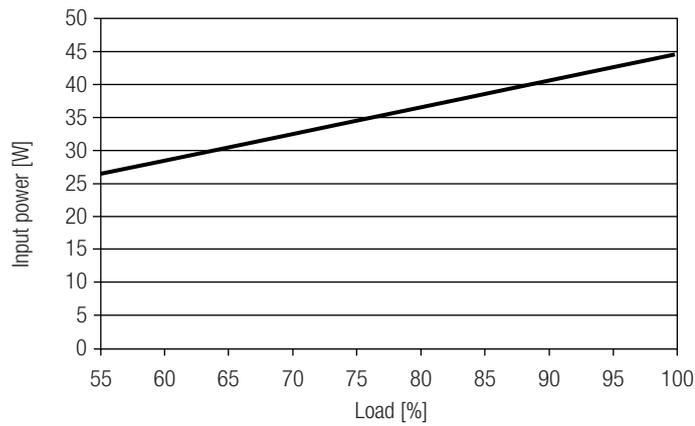
4.5.2 Power factor vs load



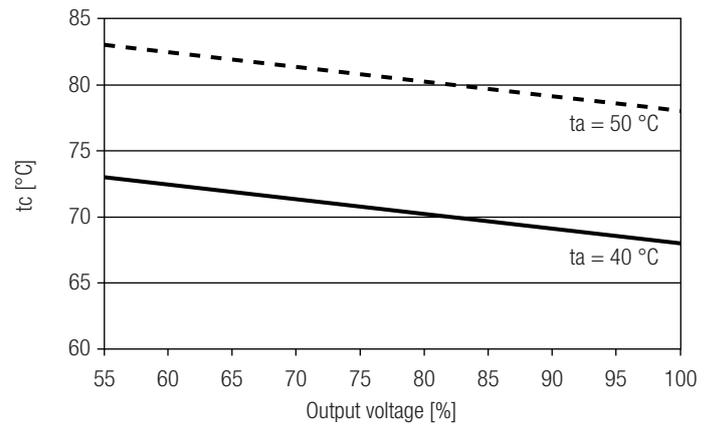
4.5.5 THD vs load



4.5.3 Input power vs load



4.5.6 tc vs output voltage



#### 4.6 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 <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 25W 600mA fixC SC ADV</b> | 24                  | 32                  | 40                  | 51                  | 14                  | 19                  | 24                  | 30                  | 25 A             | 150 µs |
| <b>LC 30W 700mA fixC SC ADV</b> | 24                  | 32                  | 40                  | 51                  | 14                  | 19                  | 24                  | 30                  | 25 A             | 150 µs |
| <b>LC 35W 700mA fixC SC ADV</b> | 24                  | 32                  | 40                  | 51                  | 14                  | 19                  | 24                  | 30                  | 25 A             | 150 µs |
| <b>LC 35W 800mA fixC SC ADV</b> | 24                  | 32                  | 40                  | 51                  | 14                  | 19                  | 24                  | 30                  | 25 A             | 150 µs |
| <b>LC 40W 900mA fixC SC ADV</b> | 24                  | 32                  | 40                  | 51                  | 14                  | 19                  | 24                  | 30                  | 25 A             | 150 µs |

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

|                                 | THD  | 3.  | 5.  | 7.  | 9.  | 11. |
|---------------------------------|------|-----|-----|-----|-----|-----|
| <b>LC 25W 600mA fixC SC ADV</b> | < 20 | < 7 | < 3 | < 3 | < 3 | < 3 |
| <b>LC 30W 700mA fixC SC ADV</b> | < 20 | < 7 | < 3 | < 3 | < 3 | < 3 |
| <b>LC 35W 700mA fixC SC ADV</b> | < 20 | < 7 | < 4 | < 4 | < 3 | < 3 |
| <b>LC 35W 800mA fixC SC ADV</b> | < 20 | < 7 | < 3 | < 3 | < 3 | < 3 |
| <b>LC 40W 900mA fixC SC ADV</b> | < 20 | < 7 | < 3 | < 3 | < 3 | < 3 |

## 5. Functions

### 5.1 Short-circuit behaviour

In case of a short circuit on the secondary side (LED) the LED Driver switches off. After elimination of the short-circuit fault the LED Driver will recover automatically.

### 5.2 No-load operation

The LED Driver will work in a pulsed light output mode to limit the output voltage lower than 60 V which allows the application to be able to work safely when LED string opens due to a failure.

### 5.3 Overload protection

If the output voltage range is exceeded the LED Driver reduces the LED output current. If the output voltage is exceeded by a certain degree the Driver will start working in a pulsed light output mode. After elimination of the overload the nominal operation is restored automatically.

### 5.4 Overtemperature protection

The LED Driver will reduce the LED output current or it works in a pulsed light output mode if the temperature reaches a certain degree.

### 5.5 Output over voltage protection

The LED Driver will work in a pulsed light output mode to limit the output voltage lower than 60 V, even in fault conditions.

## 6. Miscellaneous

### 6.1 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.

### 6.2 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 (t<sub>a</sub>) before they can be operated.

### 6.3 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.