

Driver LC 25/30W 600/700mA fixC SC SNC

ESSENCE series

Product description

- Fixed output LED Driver
- Can be either used build-in or independent with clip-on strain-relief (see accessory)
- Constant current LED Driver
- Output current 600 or 700 mA
- Max. output power 26 or 30 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
- Independent LED Driver with cable clamps
- 5-year guarantee

Properties

- Casing: polycarbonat, white
- Type of protection IP20

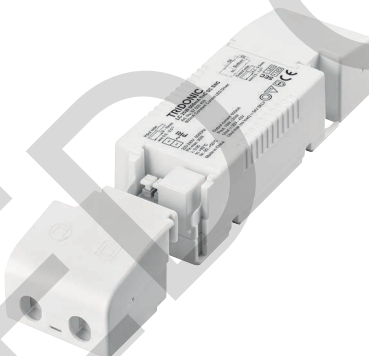
Functions

- 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



With strain-relief



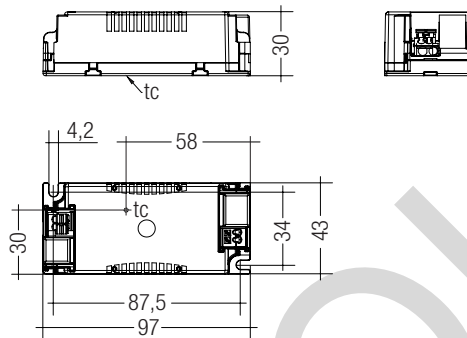
IP20 SELV 

Driver LC 25/30W 600/700mA fixC SC SNC

ESSENCE 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 ^① | ± 7.5 % |
| Output LF current ripple (< 120 Hz) | ± 30 % |
| Turn on time (at 230 V, 50 Hz, full load) | ≤ 0.5 s |
| Turn off time (at 230 V, 50 Hz, full load) | ≤ 0.5 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 ^② | Packaging, carton | Packaging, low volume | Packaging, high volume | Weight per pc. |
|--------------------------|-----------------------------|-------------------|-----------------------|------------------------|----------------|
| LC 25W 600mA fixC SC SNC | 87500459 | 15 pc(s). | 555 pc(s). | 4,440 pc(s). | 0.083 kg |
| LC 30W 700mA fixC SC SNC | 87500460 | 15 pc(s). | 555 pc(s). | 4,440 pc(s). | 0.082 kg |

^④ Article LC 30W 700mA fixC SC SNC (87500460) has the KC approval mark.

Specific technical data

| Type | Output current ^① | Input current (at 230 V, 50 Hz, full load) | Max. input power | Typ. power consumption (at 230 V, 50 Hz, full load) | Output power range | λ at full load ^① | Efficiency at full load ^① | λ at min. load ^① | Efficiency at min. load ^① | Min. forward voltage | Max. forward voltage | Max. output voltage | Max. output peak current at full load ^② | Max. output peak current at min. load ^② | Max. casing temperature tc |
|--------------------------|-----------------------------|--|------------------|---|--------------------|-----------------------------|--------------------------------------|-----------------------------|--------------------------------------|----------------------|----------------------|---------------------|--|--|----------------------------|
| LC 25W 600mA fixC SC SNC | 600 mA | 0.14 A | 30 W | 29 W | 18 – 26 W | 0.95 | 90 % | 0.91C | 88.5 % | 30 V | 43 V | 54 V | 840 mA | 960 mA | 85 °C |
| LC 30W 700mA fixC SC SNC | 700 mA | 0.16 A | 34 W | 33 W | 21 – 30 W | 0.95 | 90 % | 0.92C | 89.0 % | 30 V | 43 V | 54 V | 980 mA | 1,120 mA | 90 °C |

^① Test result at 230 V, 50 Hz.

^② The trend between min. and full load is linear.

^③ Output current is mean value.



ACCESSORIES

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



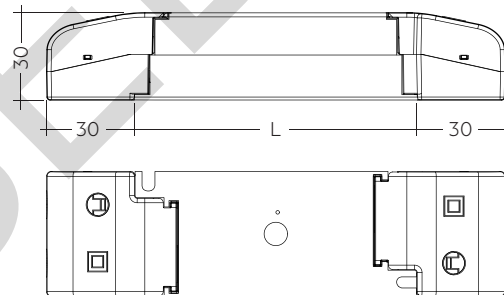
ACU SC 30x43x30mm CLIP-ON SR SET
(28001168, non-pre-assembled)

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

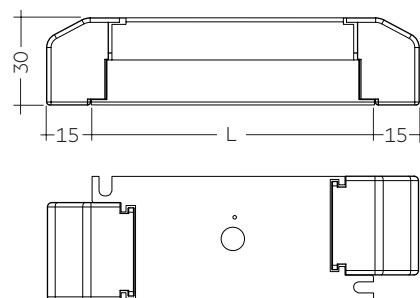


ACU SC 30x43x30mm CLIP-ON SR PA
(28001699, pre-assembled)

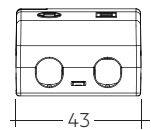
ACU SC 15x43x30mm CLIP-ON SR PA
(28001574, pre-assembled)



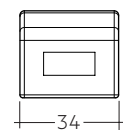
ACU SC 30x43x30mm CLIP-ON SR SET / PA



ACU SC 15x43x30mm CLIP-ON SR PA



Permissible
cable jacket
diameter:
2.2 – 9 mm



Permissible
cable jacket
diameter:
3 – 9 mm

Ordering data

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

^① 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

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

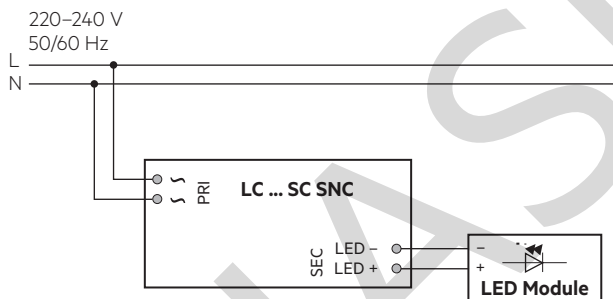
| Expected life-time | | | |
|--------------------------|-----------|--------------------|--------------------|
| Type | ta | 40 °C | 50 °C |
| LC 25W 600mA fixC SC SNC | tc | 75 °C ^① | 85 °C ^① |
| | Life-time | 50,000 h | 30,000 h |
| LC 30W 700mA fixC SC SNC | tc | 80 °C ^① | 90 °C ^① |
| | Life-time | 50,000 h | 30,000 h |

^① Test result at max. output voltage.

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



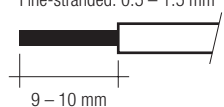
3.2 Wiring type and cross section

The 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.

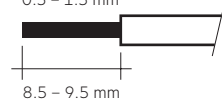
Input wiring

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



Output wiring

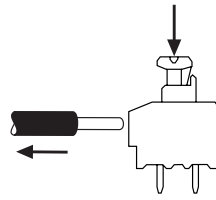
wire preparation:
0.5 – 1.5 mm²



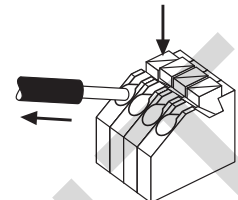
3.3 Release of the wiring

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

Input terminal

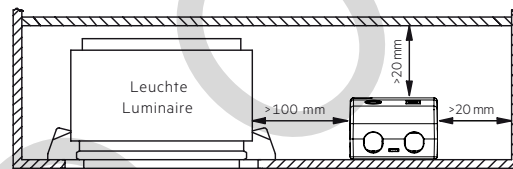


Output terminal



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 control gear 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.).

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 3 kV surge voltage.

Air and creepage distance must be maintained.

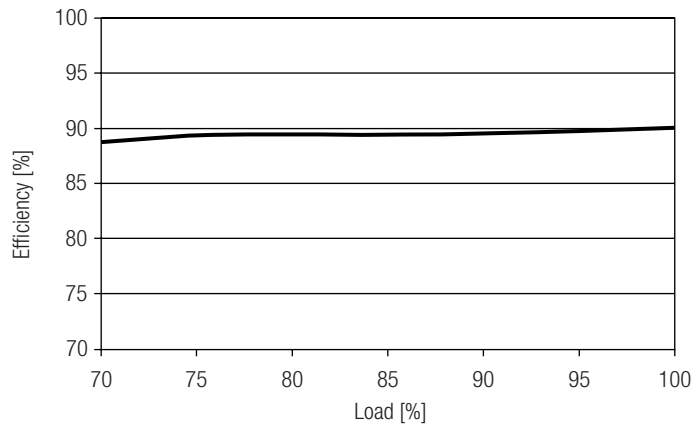
3.8 Mounting of device

Max. torque for fixing: 0.5 Nm/M4

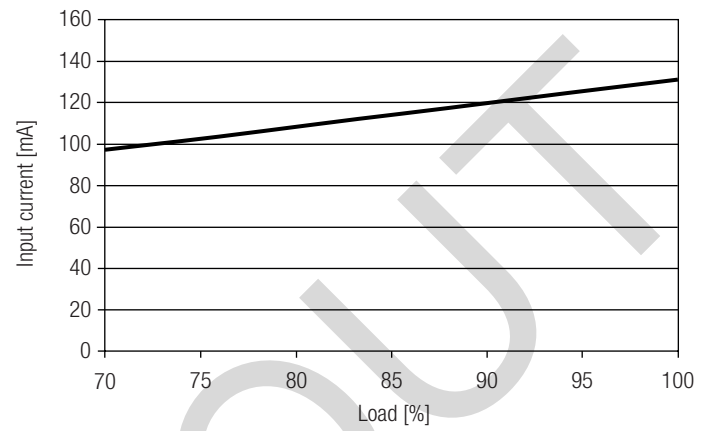
4. Electrical values

4.1 Diagrams LC 25W 600mA fixC SC SNC

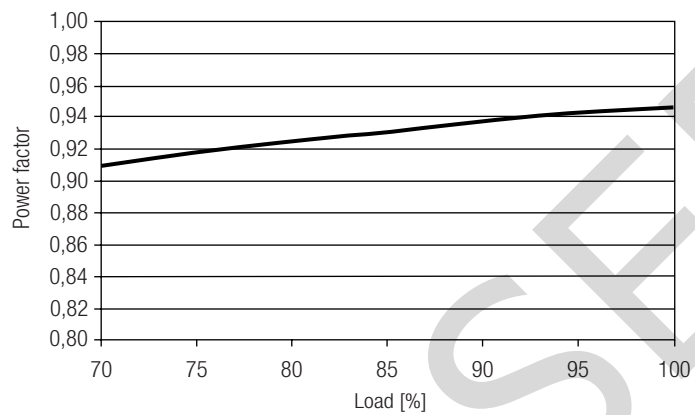
4.1.1 Efficiency vs load



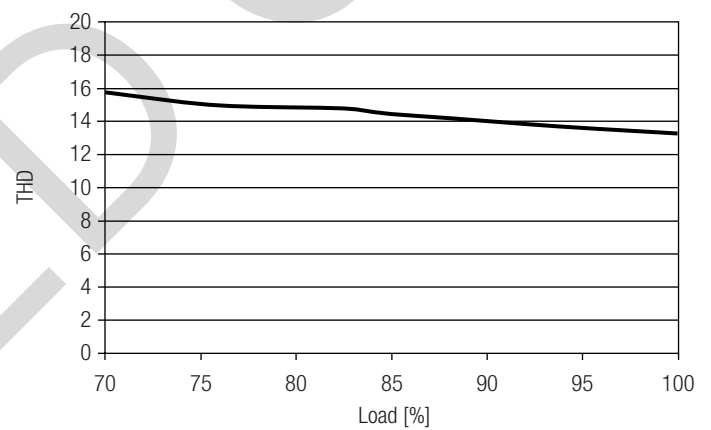
4.1.4 Input current vs load



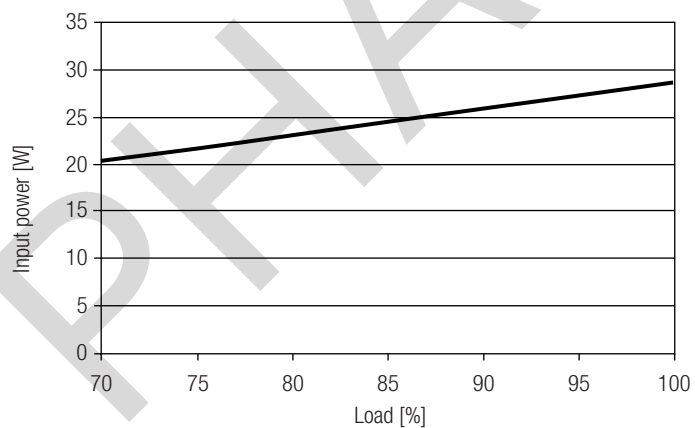
4.1.2 Power factor vs load



4.1.5 THD vs load

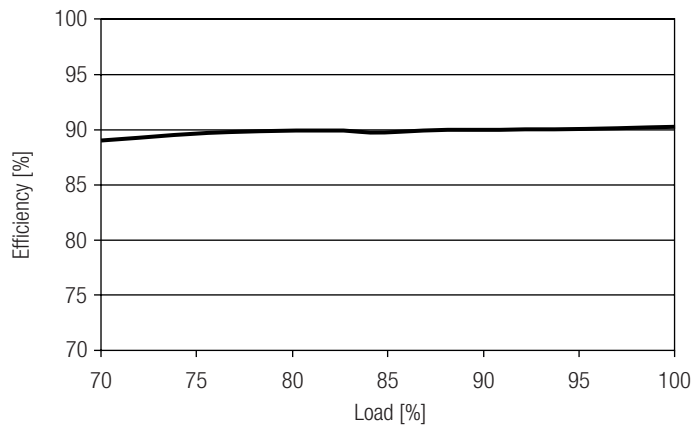


4.1.3 Input power vs load

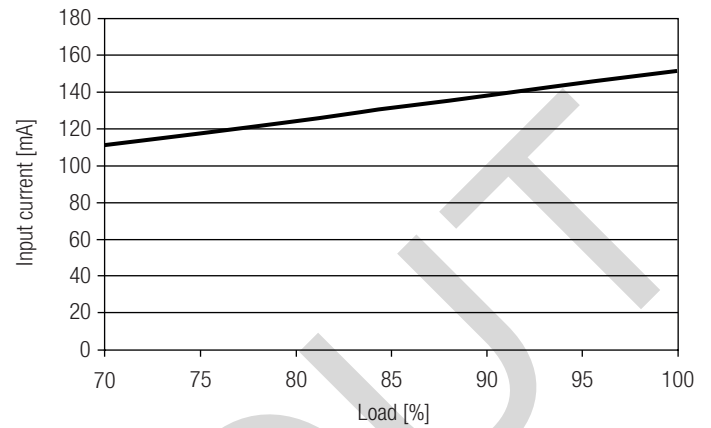


4.2 Diagrams LC 30W 700mA fixC SC SNC

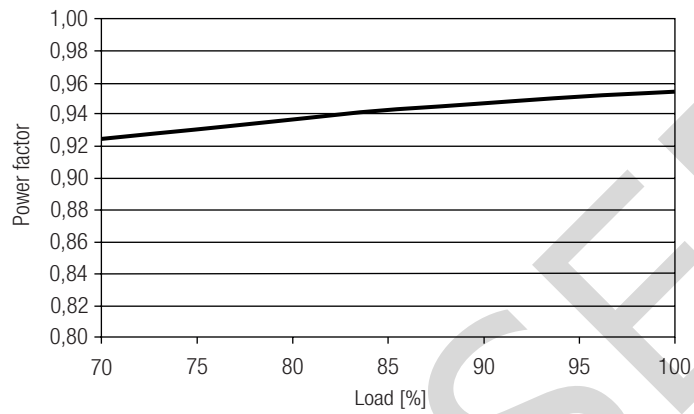
4.2.1 Efficiency vs load



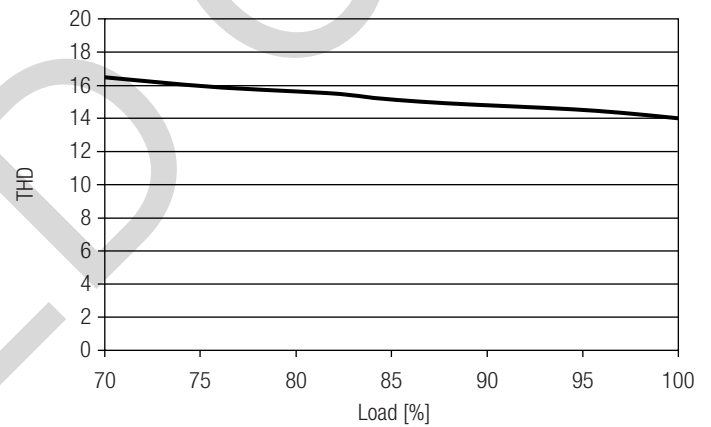
4.2.4 Input current vs load



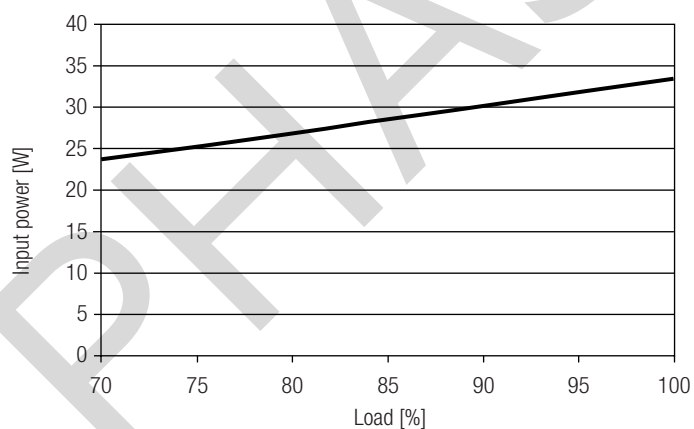
4.2.2 Power factor vs load



4.2.5 THD vs load



4.2.3 Input power vs load



4.3 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 SC SNC | 65 | 80 | 100 | 125 | 55 | 70 | 90 | 110 | 8 A 100 µs |
| LC 30W 700mA fixC SC SNC | 55 | 70 | 85 | 110 | 50 | 65 | 80 | 100 | 8 A 100 µs |

4.4 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 SC SNC | < 20 | < 12 | < 4 | < 3 | < 3 | < 2 |
| LC 30W 700mA fixC SC SNC | < 20 | < 12 | < 4 | < 2 | < 2 | < 2 |

5. Functions

5.1 Short-circuit behaviour

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

5.2 No-load operation

The LED control gear 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.

5.3 Overload protection

If the output voltage range is exceeded the LED control gear will protect itself and LED may flicker. After elimination of the overload, the nominal operation is restored automatically.

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_{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.

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 (ta) before they can be operated.

6.3 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.