

IP20     RoHS

**TALEXconverter LCI 35W 150mA–400mA TOP Ip**  
TOP series

**Product description**

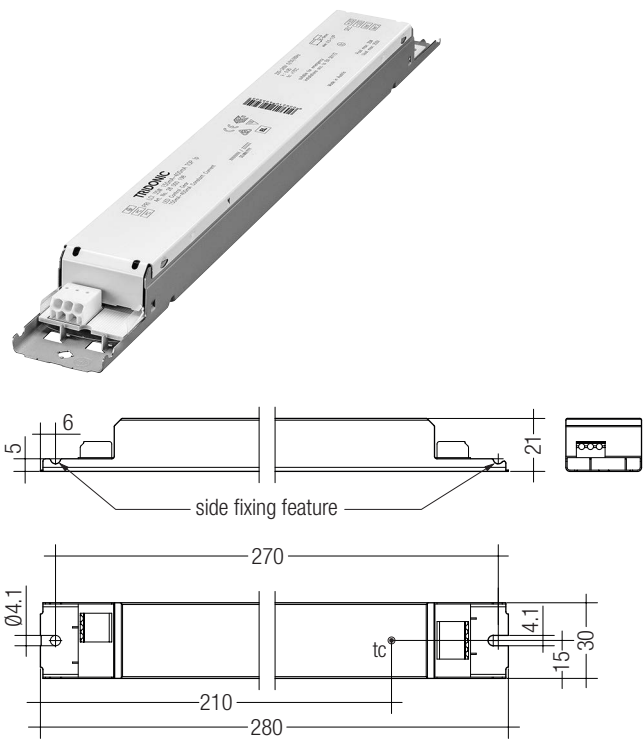
- Fixed output built-in LED control gear
- Constant current LED control gear
- Output current settable 150 – 400 mA
- Max. output power 35 W
- Nominal life time up to 100,000 h
- For luminaires of protection class I and protection class II
- Temperature protection as per EN 61347-2-13 C5e
- 5-year guarantee

**Properties**

- Low-profile metal casing with white cover
- Type of protection IP20

**Functions**

- Intelligent Temperature Guard (overtemperature protection)
- Short-circuit proof
- Overload protection
- Suitable for emergency lighting units acc. to EN 50172



**Ordering data**

| Type                       | Article number | Packaging carton | Packaging pallet | Weight per pc. |
|----------------------------|----------------|------------------|------------------|----------------|
| LCI 35W 150mA-400mA TOP Ip | 28000198       | 10 pc(s).        | 960 pc(s).       | 0.198 kg       |



Standards, page 3

## Technical data

|                                             |                                     |
|---------------------------------------------|-------------------------------------|
| Rated supply voltage                        | 220 – 240 V                         |
| Input voltage, AC                           | 198 – 264 V                         |
| Input voltage, DC                           | 176 – 280 V (start $\geq$ 198 V DC) |
| Mains frequency                             | 0 / 50 / 60 Hz                      |
| Leakage current (PE)                        | < 0.5 mA                            |
| Max. input power                            | 39.7 W                              |
| Efficiency (at 230 V, 50 Hz, full load)     | 88 – 93 %                           |
| THD (at 230 V, 50 Hz, full load)            | < 11 %                              |
| Output current tolerance                    | $\pm$ 5 %                           |
| Output current ripple                       | $\pm$ 15 %                          |
| Max. repetitive output peak current         | output current + 20 %               |
| Max. non-repetitive output peak current     | output current + 20 %               |
| Max. output voltage (no-load voltage)       | 250 V                               |
| Time to light                               | < 0.5 s                             |
| Hold on time at power failure or switch-off | < 0.5 s                             |
| Switchover time (AC/DC)                     | < 0.5 s                             |
| Dimensions L x W x H                        | 280 x 30 x 21 mm                    |

## Specific technical data

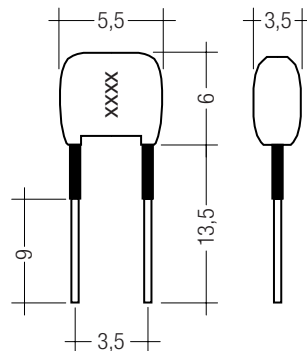
| Type                       | Output current | Min. output voltage | Max. output voltage | Max. output power | Input power (at 230 V, 50 Hz, full load) | Input current (at 230 V, 50 Hz, full load) | $\lambda$ (at 230 V, 50 Hz, full load) | tc point | Ambient temperature ta | tc/ta for $\geq$ 50.000 h | I sel resistor value        |
|----------------------------|----------------|---------------------|---------------------|-------------------|------------------------------------------|--------------------------------------------|----------------------------------------|----------|------------------------|---------------------------|-----------------------------|
| LCI 35W 150mA-400mA TOP Ip | 150 mA         | 105.0 V             | 233.3 V             | 35 W              | 37.8 W                                   | 173 mA                                     | 0.95                                   | 75 °C    | -25 ... +65 °C         | 75 / 65 °C                | open                        |
|                            | 175 mA         | 90.0 V              | 200.0 V             | 35 W              | 37.9 W                                   | 173 mA                                     | 0.95                                   | 75 °C    | -25 ... +60 °C         | 75 / 60 °C                | 63.40 k $\Omega$            |
|                            | 200 mA         | 78.8 V              | 175.0 V             | 35 W              | 38.0 W                                   | 174 mA                                     | 0.95                                   | 75 °C    | -25 ... +60 °C         | 75 / 60 °C                | 54.90 k $\Omega$            |
|                            | 225 mA         | 70.0 V              | 155.6 V             | 35 W              | 38.2 W                                   | 175 mA                                     | 0.95                                   | 75 °C    | -25 ... +60 °C         | 75 / 60 °C                | 47.50 k $\Omega$            |
|                            | 250 mA         | 63.0 V              | 140.0 V             | 35 W              | 38.3 W                                   | 175 mA                                     | 0.95                                   | 75 °C    | -25 ... +60 °C         | 75 / 60 °C                | 40.20 k $\Omega$            |
|                            | 275 mA         | 57.3 V              | 127.3 V             | 35 W              | 38.5 W                                   | 176 mA                                     | 0.95                                   | 75 °C    | -25 ... +55 °C         | 75 / 55 °C                | 34.00 k $\Omega$            |
|                            | 300 mA         | 52.5 V              | 116.7 V             | 35 W              | 38.8 W                                   | 178 mA                                     | 0.95                                   | 75 °C    | -25 ... +55 °C         | 75 / 55 °C                | 27.40 k $\Omega$            |
|                            | 325 mA         | 48.5 V              | 107.7 V             | 35 W              | 38.9 W                                   | 178 mA                                     | 0.95                                   | 75 °C    | -25 ... +55 °C         | 75 / 55 °C                | 22.00 k $\Omega$            |
|                            | 350 mA         | 45.0 V              | 100.0 V             | 35 W              | 39.2 W                                   | 179 mA                                     | 0.95                                   | 75 °C    | -25 ... +55 °C         | 75 / 55 °C                | 12.00 k $\Omega$            |
|                            | 375 mA         | 42.0 V              | 93.3 V              | 35 W              | 39.3 W                                   | 180 mA                                     | 0.95                                   | 75 °C    | -25 ... +55 °C         | 70 / 50 °C                | 6.19 k $\Omega$             |
|                            | 400 mA         | 39.4 V              | 87.5 V              | 35 W              | 39.7 W                                   | 182 mA                                     | 0.95                                   | 75 °C    | -25 ... +55 °C         | 70 / 50 °C                | short circuit (0 $\Omega$ ) |

ACCESSORIES

## I-SELECT PLUG

## Product description

- Ready-for-use resistor to set output current value
- Resistor is base isolated
- Resistor power 0.25 W
- Resistor value tolerance  $\pm$  1 %



## Ordering data

| Type                   | Article number | Colour | Marking | Resistor value  | Packaging bag | Weight per pc. |
|------------------------|----------------|--------|---------|-----------------|---------------|----------------|
| I-SELECT PLUG MAX GR   | 28000274       | Grey   | MAX     | 0 $\Omega$      | 10 pc(s).     | 0.001 kg       |
| I-SELECT PLUG 250mA BL | 28000368       | Blue   | 0250    | 40.2 k $\Omega$ | 10 pc(s).     | 0.001 kg       |
| I-SELECT PLUG 275mA BL | 28000369       | Blue   | 0275    | 34.0 k $\Omega$ | 10 pc(s).     | 0.001 kg       |
| I-SELECT PLUG 300mA BL | 28000275       | Blue   | 0300    | 27.4 k $\Omega$ | 10 pc(s).     | 0.001 kg       |
| I-SELECT PLUG 350mA BL | 28000276       | Blue   | 0350    | 12.0 k $\Omega$ | 10 pc(s).     | 0.001 kg       |

## Standards

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

According to EN 50172 for use in central battery systems

According to EN 60598-2-22 suitable for emergency lighting installations

## Output current setting

Output current can be set by connecting a resistor between the 2 "I sel" terminals. Relationship between output current and resistor value can be found at the table "Specific technical data". Resistor values specified from standardised resistor value ranges.

Resistor value tolerance has to be  $\leq 1\%$ .

Resistor power has to be  $\geq 0.1$  W.

If the resistor is connected with wires a max. wire length of 2 m may not be exceeded and possible interferences have to be avoided.

Resistor detection at each start.

Change of the resistor value during the operation will be not considered.

Resistors for the main output current values can be ordered from Tridonic (see accessories).

## DC operation

The LED control gear is designed for operation on DC voltage and pulsed DC voltage.

Light output level in DC operation: 100 %

## Overload protection

LED control gear will switch off at overload operation. Mains reset is required to restart the LED control gear.

## Underload operation

LED control gear will switch off at underload operation. Mains reset is required to restart the LED control gear.

## Overtemperature protection

The LED control gear will reduce output current at temporary thermal over-heating (exceeding max.  $t_c$  point).

## Short-circuit behaviour

LED control gear will switch off in case of short-circuit of LED output. Mains reset is required to restart the LED control gear.

## No-load operation or load loss during operation

LED control gear will detect a load loss during operation. In this case and no-load operation the max. output voltage can apply at the LED output for max. 5 s before LED control gear shuts down. Mains reset is required to restart the LED control gear.

## Hot plug-in

Hot plug-in is not recommend within 5 s after shutdown due to output voltage of  $> 0$  V. Mains reset is required to restart the LED control gear if LED module is connected to the LED control gear after these 5 s.

## Storage conditions

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 ( $t_a$ ) before they can be operated.

## Temperature range

The LED control gear life duration is related to the ambient temperature  $t_a$ .

The relation of  $t_c$  to  $t_a$  temperature depends also on the luminaire design. If the measured  $t_c$  temperature is approx. 5 K below  $t_c$  max. or higher,  $t_a$  temperature should be checked and eventually critical components (e.g. ELCAP) measured.

Detailed information on request.

## Expected lifetime

| Type                       | Output current | $t_a$    | 40 °C         | 50 °C         | 55 °C         | 60 °C    | 65 °C    |
|----------------------------|----------------|----------|---------------|---------------|---------------|----------|----------|
| LCI 35W 150mA-400mA TOP Ip | 150 mA         | $t_c$    | 50 °C         | 60 °C         | 65 °C         | 70 °C    | 75 °C    |
|                            |                | lifetime | $> 100,000$ h | $> 100,000$ h | $> 100,000$ h | 75,000 h | 50,000 h |
|                            | 175 – 250 mA   | $t_c$    | 55 °C         | 65 °C         | 70 °C         | 75 °C    | x        |
|                            |                | lifetime | $> 100,000$ h | $> 100,000$ h | 75,000 h      | 50,000 h | x        |
|                            | 275 – 350 mA   | $t_c$    | 60 °C         | 70 °C         | 75 °C         | x        | x        |
|                            |                | lifetime | $> 100,000$ h | 75,000 h      | 50,000 h      | x        | x        |
|                            | 375 – 400 mA   | $t_c$    | 60 °C         | 70 °C         | 75 °C         | x        | x        |
|                            |                | lifetime | $> 100,000$ h | 50,000 h      | 40,000 h      | x        | x        |

x = not permitted

#### 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> | 2,5 mm <sup>2</sup> | 2,5 mm <sup>2</sup> | 1,5 mm <sup>2</sup> | 1,5 mm <sup>2</sup> | 2,5 mm <sup>2</sup> | 2,5 mm <sup>2</sup> | I <sub>max</sub> | time   |
| LCI 35W 150mA-400mA TOP Ip     | 24                  | 42                  | 46                  | 54                  | 12                  | 21                  | 23                  | 27                  | 20.8 A           | 165 µs |

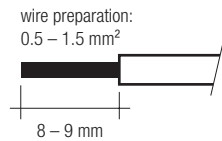
#### Harmonic distortion in the mains supply (at 230V/50 Hz and full load) in %

|                            | THD  | 3.  | 5.    | 7.  | 9.  | 11. |
|----------------------------|------|-----|-------|-----|-----|-----|
| LCI 35W 150mA-400mA TOP Ip | < 11 | < 8 | < 1.5 | < 5 | < 4 | < 2 |

#### Installation instructions

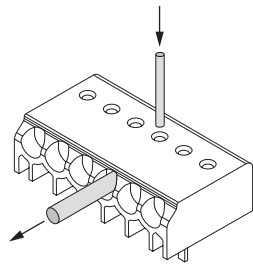
##### Wiring type and cross section

Solid wire with a cross section of 0.5–1.5 mm<sup>2</sup>. Strip 8–9 mm of insulation from the cables to ensure perfect operation of terminals.



##### Release of the wiring

Loosen wire through twisting and pulling or using a Ø 1 mm release tool.



##### Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behaviour.
- Earthing is not required for the device to operate but will improve the EMI behaviour for protection class I luminaires.
- If LCI TOP C will be earthed protection earth (PE) has to be used.
- Mains leads should be kept apart from LED control gear and other leads (ideally 5 – 10 cm distance)
- Max. length of output and I sel wires is 2 m.
- Secondary switching is not permitted.
- Incorrect wiring can damage LED modules.
- The wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.).

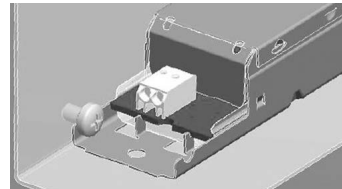
##### Additional information

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

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

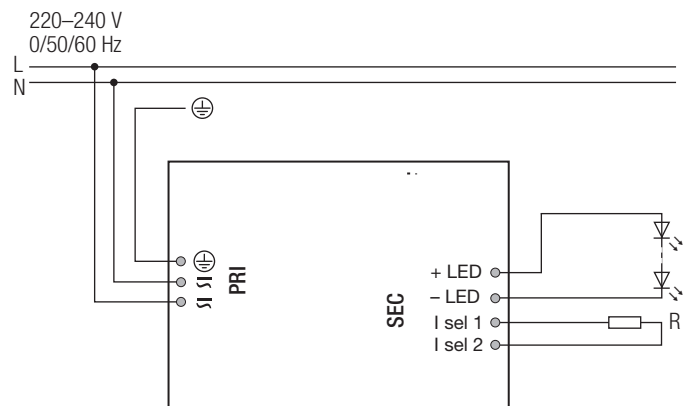
No warranty if device was opened.

##### Side fixing feature



Screw M4, screw head diameter 8–10 mm

##### Circuit 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.

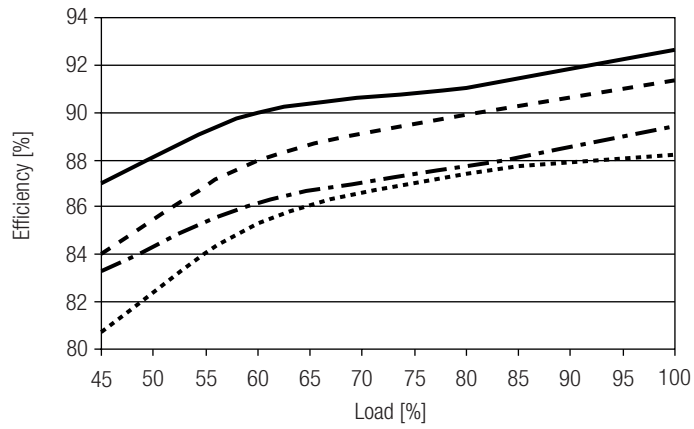
According to IEC 60598-1 Annex Q (informative only!) or ENEC 303-Annex A, each luminaire should be submitted to an isolation test with 500 V<sub>DC</sub> for 1 second. This test voltage should be connected between the interconnected phase and neutral terminals and the earth terminal.

The isolation resistance must be at least 2 MΩ.

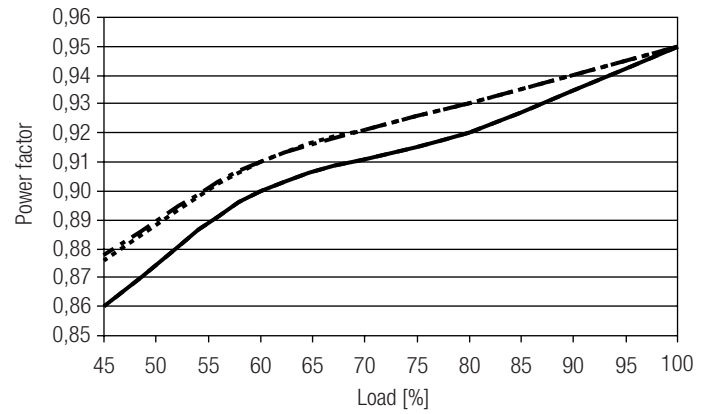
As an alternative, IEC 60598-1 Annex Q describes a test of the electrical strength with 1500 V<sub>AC</sub> (or 1.414 x 1500 V<sub>DC</sub>). To avoid damage to the electronic devices this test must not be conducted.

Diagrams LCI 35W 150mA-400mA TOP Ip

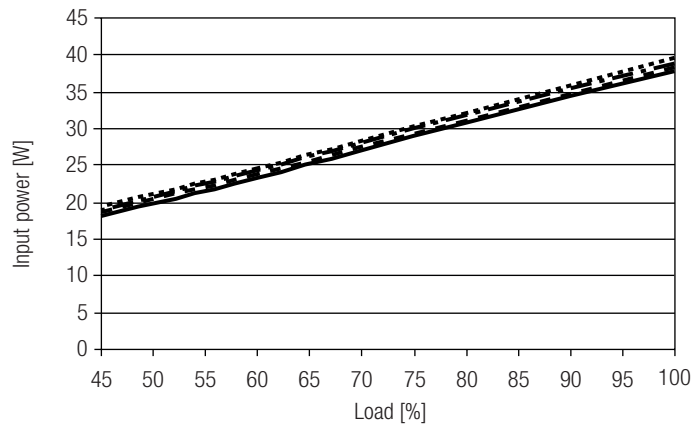
Efficiency vs load



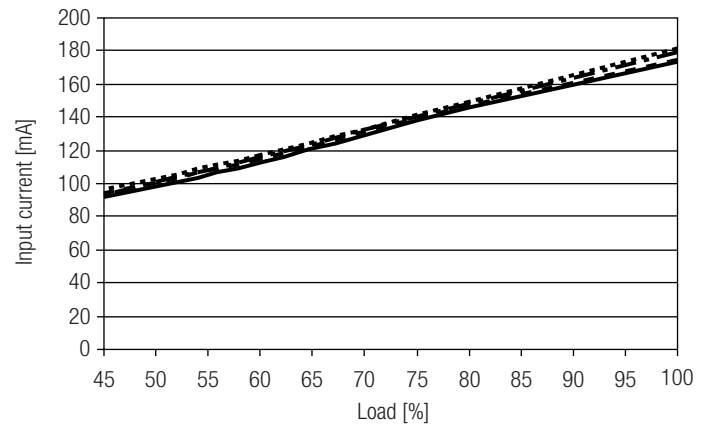
Power factor vs load



Input power vs load



Input current vs load



THD vs load

