



### Driver LCO 100W 500/700/1050/1400mA fixC L SNC2

SNC Outdoor series

#### Product description

- Independent fixed output LED Driver
- Constant current LED Driver
- For luminaires of protection class I
- Output current 500, 700, 1,050 or 1,400 mA
- Up to 91.5 % efficiency
- Expanded ambient temperature range of -40 ... +65 °C
- Nominal life of 50,000 h (at  $t_a = 60\text{ °C}$ )
- 5-year guarantee (at  $t_a = 60\text{ °C}$ )

#### Properties

- Casing: metal, black
- Type of protection IP67

#### Functions

- Overtemperature protection
- Overload protection
- Short-circuit protection
- No-load protection



**Standards**, page 3

**Wiring diagrams and installation examples**, page 3



IP67       

Only for 500 and 700 mA:

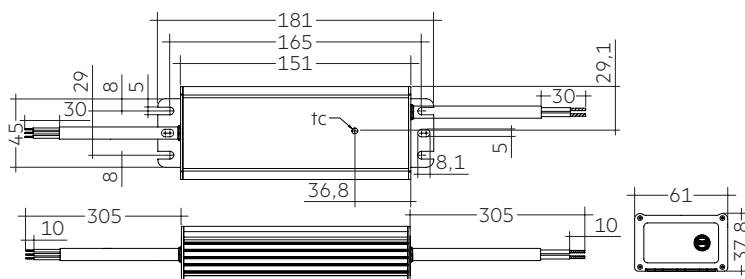


### Driver LCO 100W 500/700/1050/1400mA fixC L SNC2

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#### Technical data

Rated supply voltage	120 – 240 V
AC voltage range	100 – 240 V
Mains frequency	50 / 60 Hz
Leakage current (at 230 V, 50 Hz, full load)	< 500 µA
THD (at 230 V, 50 Hz, full load)	< 10 %
Output current tolerance <sup>®</sup>	± 5 %
Starting time (at 230 V, 50 Hz, full load)	≤ 0.5 s
Turn off time (at 230 V, 50 Hz, full load)	≤ 0.5 s
Ambient temperature ta	-40 ... +65 °C
Storage temperature ts	-40 ... +85 °C
Mains burst capability	4 kV
Mains surge capability (between L – N)	4 kV
Mains surge capability (between L/N – PE)	6 kV
Surge voltage at output side (against PE)	2 kV
Life-time	up to 50,000 h
Dimensions L x W x H	181 x 61 x 37.8 mm



#### Ordering data

Type	Article number <sup>®</sup>	Packaging, carton	Packaging, pallet	Weight per pc.
LCO 100/500/200 fixC L SNC2	28002301	10 pc(s).	420 pc(s).	0.61 kg
LCO 100/700/143 fixC L SNC2	28002302	10 pc(s).	420 pc(s).	0.61 kg
LCO 100/1050/95 fixC L SNC2	28002303	10 pc(s).	420 pc(s).	0.61 kg
LCO 100/1400/71 fixC L SNC2	28002304	10 pc(s).	420 pc(s).	0.61 kg

#### Specific technical data

Type	Output current <sup>®</sup>	Input current (at 230 V, 50 Hz, full load)	Input power (at 230 V, 50 Hz, full load)	Max. input power	Output power range	λ at full load <sup>®</sup>	Efficiency at full load <sup>®</sup>	λ at min. load <sup>®</sup>	Efficiency at min. load <sup>®</sup>	Min. forward voltage	Max. forward voltage	Max. output voltage (U-OUT)	Max. peak output current at full load <sup>®</sup>	Typ. output LF current ripple at full load <sup>®</sup>	Max. casing temperature tc
LCO 100/500/200 fixC L SNC2	500 mA	0.48 A	110.9 W	110.9 W	30 – 100 W	0.98	90.0 %	0.90C	81.5 %	60 V	200 V	210 V	600 mA	< 7 %	90 °C
LCO 100/700/143 fixC L SNC2	700 mA	0.48 A	108.9 W	108.9 W	30 – 100 W	0.96	91.5 %	0.86C	80.5 %	43 V	143 V	153 V	819 mA	< 5 %	90 °C
LCO 100/1050/95 fixC L SNC2	1,050 mA	0.49 A	109.7 W	109.7 W	30 – 100 W	0.98	91.5 %	0.89C	78.5 %	29 V	95 V	101 V	1,481 mA	< 15 %	90 °C
LCO 100/1400/71 fixC L SNC2	1,400 mA	0.48 A	108.2 W	108.2 W	30 – 100 W	0.98	92.0 %	0.86C	78.5 %	21 V	71 V	77 V	1,694 mA	< 2 %	90 °C

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

<sup>®</sup> Output current is mean value.

<sup>®</sup> The trend between min. and full load is linear and depends on load's voltage-current character.

<sup>®</sup> Typical value at full load, depends on load's voltage-current character.

<sup>®</sup> The delivery time is 13 weeks, except 28002303.

## 1. Standards

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

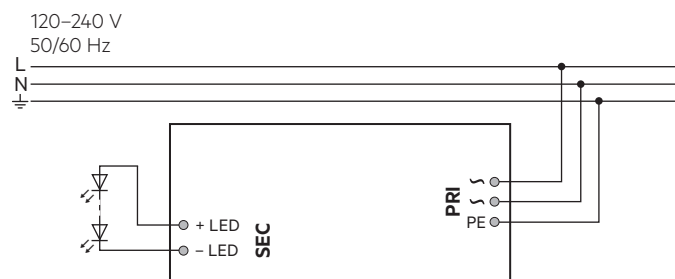
## 2. Thermal details and life-time

### 2.1 Expected life-time

Expected life-time					
Type	ta	50 °C	55 °C	60 °C	65 °C
LCO 100/500/200 fixC L SNC2	tc	65 °C	70 °C	75 °C	80 °C
	Life-time	>100,000 h	90,000 h	60,000 h	45,000 h
LCO 100/700/143 fixC L SNC2	tc	65 °C	70 °C	75 °C	80 °C
	Life-time	>100,000 h	100,000 h	70,000 h	50,000 h
LCO 100/1050/95 fixC L SNC2	tc	65 °C	70 °C	75 °C	80 °C
	Life-time	>100,000 h	95,000 h	65,000 h	45,000 h
LCO 100/1400/71 fixC L SNC2	tc	65 °C	70 °C	75 °C	80 °C
	Life-time	>100,000 h	100,000 h	70,000 h	50,000 h

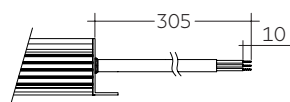
## 3. Installation / wiring

### 3.1 Circuit diagram



### 3.2 Connection

Primary cable			Secondary cable	
L	N	PE	+	–
brown	blue	green/yellow	brown	blue



**PRI:**  
 3x 1.0 mm<sup>2</sup>

**SEC:**  
 2x 1.0 mm<sup>2</sup>

### 3.3 Wiring instructions

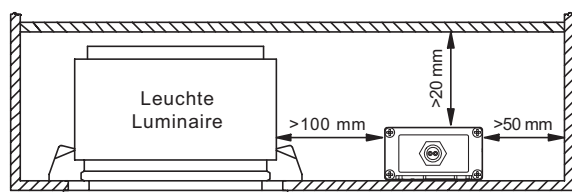
- All connections must be kept as short as possible to ensure good EMI behaviour
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- The maximum length of output wires is 3 m.
- Secondary switching is not permitted.
- Incorrect wiring can damage LED modules.
- 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.).

### 3.4 Installation instructions

The switching of LEDs on secondary side is not permitted.

### 3.5 Fixing conditions

Acidfree, oilfree, fatfree. It is not allowed to exceed the maximum ambient temperature ( $t_a$ ) stated on the device. Minimum distances stated below are recommendations and depend on the actual luminaire. Is not suitable for fixing in corner. Terminals according to EN 60998-2-1 or EN 60998-2-2 are required.



### 3.6 Earth connection

The earth connection is conducted as protection earth (PE). The LED Driver can be earthed via metal housing. 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.

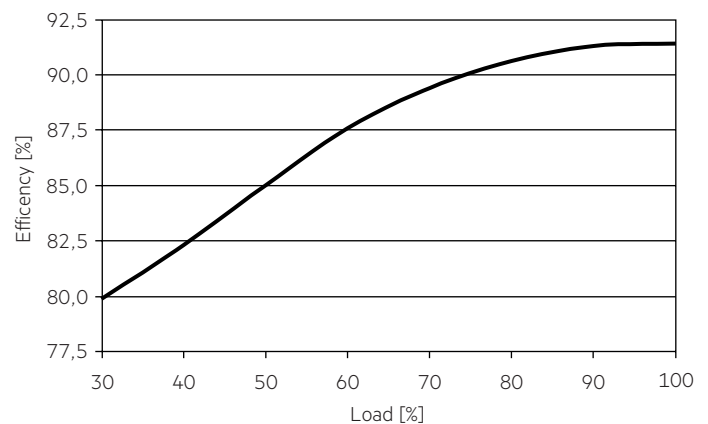
- Electromagnetic interferences (EMI)
- Transmission of mains transients to the LED output

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.

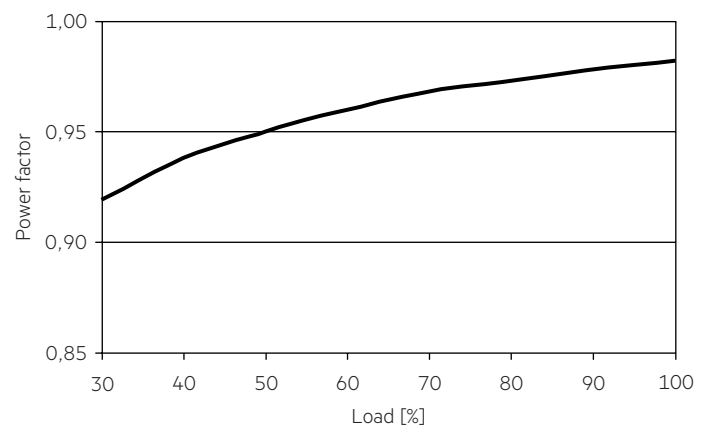
## 4. Electrical values

### 4.1 Diagrams

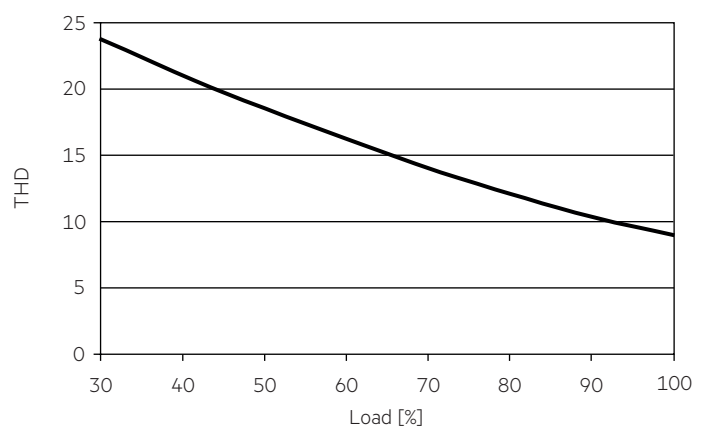
4.1.1 Efficiency vs Load



4.1.2 Power factor vs Load



4.1.3 THD vs Load



#### 4.2 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>LCO 100/500/200 fixC L SNC2</b>	7	9	10	14	3	5	7	10	103 A	167 µs
<b>LCO 100/700/143 fixC L SNC2</b>	7	9	10	14	3	5	7	10	103 A	167 µs
<b>LCO 100/1050/95 fixC L SNC2</b>	7	9	10	14	3	5	7	10	103 A	167 µs
<b>LCO 100/1400/71 fixC L SNC2</b>	7	9	10	14	3	5	7	10	103 A	167 µs

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

	THD	3.	5.	7.	9.	11.
<b>LCO 100/500/200 fixC L SNC2</b>	< 9	< 5	< 5	< 5	< 3	< 2
<b>LCO 100/700/143 fixC L SNC2</b>	< 9	< 5	< 5	< 5	< 3	< 2
<b>LCO 100/1050/95 fixC L SNC2</b>	< 9	< 5	< 5	< 5	< 3	< 2
<b>LCO 100/1400/71 fixC L SNC2</b>	< 9	< 5	< 5	< 5	< 3	< 2

Acc. to 6100-3-2. Harmonics < 5 mA or < 0.6 % (whatever is greater) of the input current are not considered for calculation of THD.

## 5. Functions

### 5.1 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.

### 5.2 No-load operation

The LED Driver works in constant voltage mode. In no-load operation the output voltage will not exceed the specified max. output voltage (see page 2).

### 5.3 Overload protection

If the output voltage range is exceeded the LED Driver will work in hic-cup mode. After elimination of the overload, the nominal operation is restored automatically.

### 5.4 Overtemperature protection

The LED Driver is protected against temporary thermal overheating. If the temperature limit is exceeded the LED Driver is switched off. It restarts 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<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. 95 %, not condensed (max. 56 days/year at 95 %)

Storage temperature: -40 °C up to max. +85 °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](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.