

**Driver LC 45W 1050mA fixC C SNC**  
essence series

**Product description**

- Fixed output built-in LED driver
- 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 1,050 mA
- Max. output power 45 W
- Nominal lifetime up to 50,000 h
- 5 years guarantee (conditions at [www.tridonic.com](http://www.tridonic.com))

**Housing properties**

- Casing: polycarbonat, white
- Type of protection IP20

**Functions**

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



**Standards**, page 3

**Wiring diagrams and installation examples**, page 4

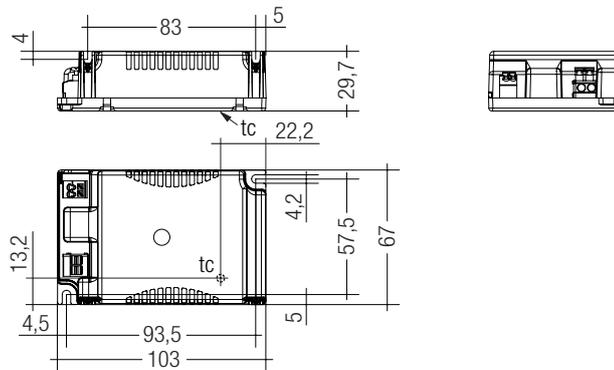


IP20 SELV   
RoHS

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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 <sup>®</sup>	± 7.5 %
Typ. current ripple (at 230 V, 50 Hz, full load)	± 30 %
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
Hold on time at power failure (output)	0 s
Ambient temperature ta	-20 ... +50 °C
Ambient temperature ta (at lifetime 50,000 h)	40 °C
Storage temperature ts	-40 ... +80 °C
Lifetime	up to 50,000 h
Guarantee (conditions at www.tridonic.com)	5 years
Dimensions L x W x H	103 x 67 x 29.7 mm



**Ordering data**

Type <sup>®</sup>	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
<b>LC 45W 1050mA fixC C SNC</b>	<b>87500564</b>	15 pc(s).	345 pc(s).	2,760 pc(s).	0.126 kg

**Specific technical data**

Type	Output current <sup>®</sup>	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 <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	Max. output peak current at full load <sup>®</sup>	Max. output peak current at min. load <sup>®</sup>	Max. casing temperature tc
<b>LC 45W 1050mA fixC C SNC</b>	1,050 mA	225 mA	51 W	49.5 W	31.5 – 45.0 W	0.96	90.5 %	0.94C	89.5 %	30 V	43 V	54 V	1,470 mA	1,680 mA	90 °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.

**Standards**

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

**Overload protection**

If the maximum load is exceeded by a defined internal limit, the LED driver will protect itself and LED may flicker. After elimination of the overload, the nominal operation is restored automatically.

**Overtemperature protection**

The LED driver is protected against temporary thermal overheating. If the temperature limit is exceeded, the output current is reduced to limit  $t_c$  at a certain level.  
The temperature protection is activated typically at 10 °C above  $t_c$  max.

**Short-circuit behaviour**

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

**No-load operation**

The LED driver 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.

**Expected lifetime**

Type	$t_a$	40 °C	50 °C	60 °C
<b>LC 45W 1050mA fixC C SNC</b>	$t_c$	80 °C	90 °C	x
	Lifetime	50,000h	30,000h	x

The LED drivers are designed for a lifetime stated above under reference conditions and with a failure probability of less than 10 %.  
Lifetime declarations are informative and represent no warranty claim.

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.,  $t_a$  temperature should be checked and eventually critical components (e.g. ELCAP) measured. Detailed information on request.

**Maximum loading of automatic circuit breakers in relation to inrush current**

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20	Inrush current
Installation Ø	1.5mm <sup>2</sup>	1.5mm <sup>2</sup>	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>	1.5mm <sup>2</sup>	1.5mm <sup>2</sup>	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>	$I_{max}$ Time
<b>LC 45W 1050mA fixC C SNC</b>	35	45	60	75	35	45	60	75	10 A 100 µs

These are max. values calculated out of continuous current running the device on full load.  
There is no limitation due to inrush current.  
If load is smaller than full load for calculation only continuous current has to be considered.

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

	THD	3.	5.	7.	9.	11.
<b>LC 45W 1050mA fixC C SNC</b>	20	12	2	1	1	1

**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.

**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.

**Glow-wire test**

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

**Mounting of device**

Max. torque for fixing: 0.5 Nm/M4

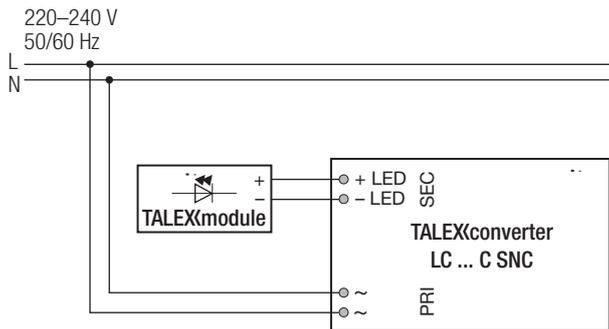
**Conditions of use and storage**

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 ( $t_a$ ) before they can be operated.

### Wiring diagram



### Insulation 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 insulation 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 insulation 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.

### Conditions of use

The LED driver is declared as inbuilt LED controlgear, meaning it is intended to be used within a luminaire enclosure. If the product is used outside a luminaire, the installation must provide suitable protection for people and environment (e.g. in illuminated ceilings).

### Maximum number of switching cycles

All LED driver are tested with 50,000 switching cycles.

### Additional information

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

Lifetime declarations are informative and represent no warranty claim. No warranty if device was opened.

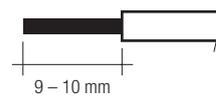
### Wiring type and cross section

The input wiring can be stranded wires with ferrules with a cross section of 0.5 – 1.5 mm<sup>2</sup> or with solid wires with a cross section of 0.5 – 2.5 mm<sup>2</sup>. 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 mm<sup>2</sup>. 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 mm<sup>2</sup>  
Fine-stranded: 0.5 – 1.5 mm<sup>2</sup>



#### Output wiring

wire preparation:  
0.5 – 1.5 mm<sup>2</sup>



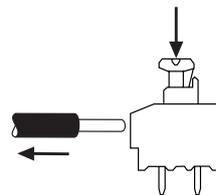
### Wiring guidelines

- 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.
- 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.).

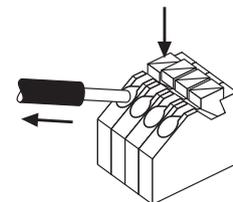
### Release of the wiring

Press down the "push button" and remove the cable from front.

#### Input terminal

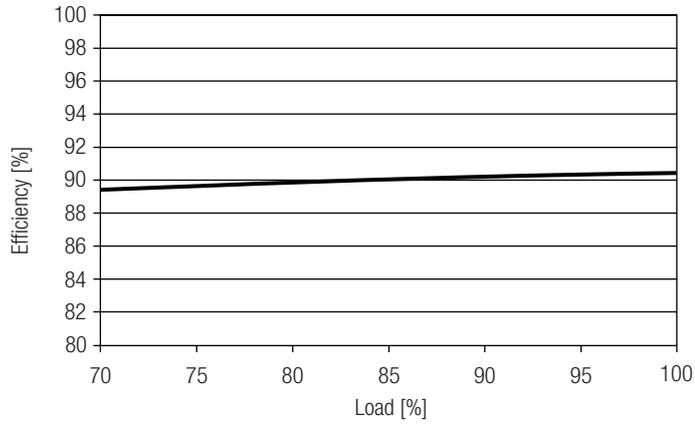


#### Output terminal

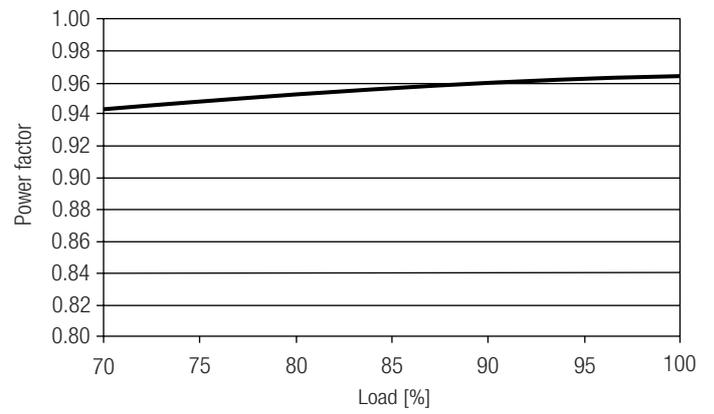


**Diagrams LC 45W 1050mA fixC C SNC**

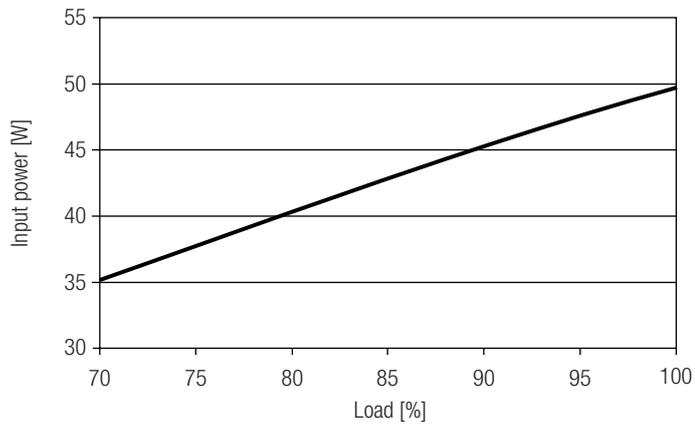
Efficiency vs load



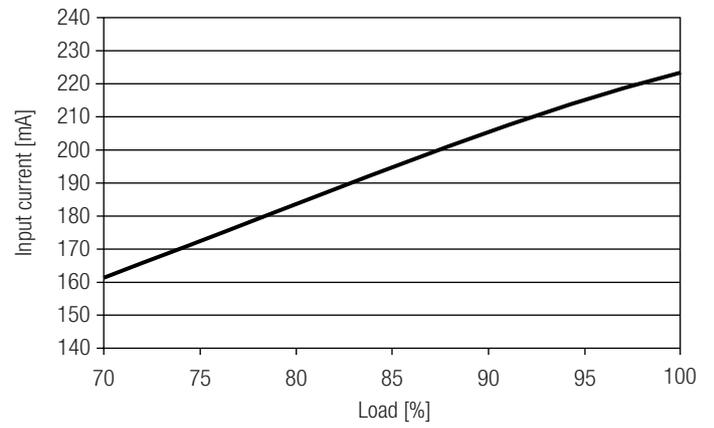
Power factor vs load



Input power vs load



Input current vs load



THD vs load

