



Driver LC 10W 350mA fixC Ip SNC

ESSENCE series

Product description

- Fixed output built-in LED Driver
- Constant current LED Driver
- Output current 350 mA
- Max. output power 10 W
- For luminaires of protection class I and protection class II
- Temperature protection as per EN 61347-2-13 C5e
- Nominal life-time up to 50,000 h
- 5-year guarantee



Properties

- Casing: polycarbonate, white
- Type of protection IP20

Functions

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



Standards, page 3

Wiring diagrams and installation examples, page 4



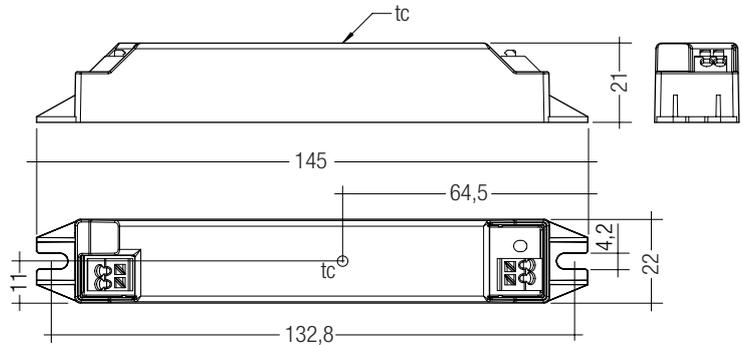
IP20 SELV 

Driver LC 10W 350mA fixC Ip SNC

ESSENCE series

Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Input current (at 230 V, 50 Hz, full load)	0.06 A
Mains frequency	50 / 60 Hz
Output power range	7 – 10 W
THD (at 230 V, 50 Hz, full load)	< 20 %
Output current tolerance [®]	± 7.5 %
Typ. current ripple (at 230 V, 50 Hz, full load)	± 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	145 x 22 x 21 mm
Hole spacing D	132.8 mm



Ordering data

Type	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LC 10W 350mA fixC Ip SNC	87500606	25 pc(s).	1,150 pc(s).	8,050 pc(s).	0.047 kg

Specific technical data

Type	Output current [®]	Max. input power	Typ. power consumption (at 230 V, 50 Hz, full load)	λ at full load [®]	Efficiency at full load [®]	λ at min. load [®]	Efficiency at min. load [®]	Min. forward voltage [®]	Max. forward voltage [®]	Max. output voltage	Max. peak output current at full load ^{®2}	Max. peak output current at min. load ^{®2}	Max. casing temperature tc
LC 10W 350mA fixC Ip SNC	350 mA	12.5 W	12 W	0.9C	84.5 %	0.85C	81 %	17 V	28.6 V	42 V	450 mA	500 mA	85 °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.

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

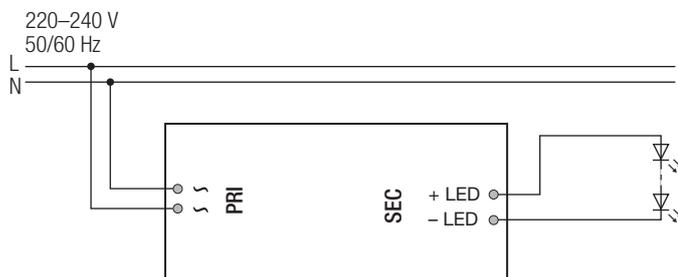
2.1 Expected life-time

Expected life-time				
Type	ta	40 °C	50 °C	60 °C
LC 10W 350mA fixC Ip SNC	tc	75 °C	85 °C	x
	Life-time	50,000 h	30,000 h	x

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

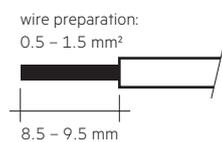
3. Installation / wiring

3.1 Circuit diagram



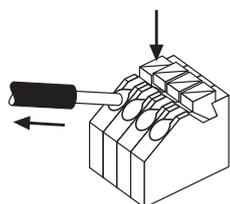
3.2 Wiring type and cross section

The wiring can be stranded wires with ferrules or rigid wires 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 (WAGO 250).



3.3 Release of the wiring

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



3.4 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.
- 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.).

3.5 Replace LED module

1. Mains off
2. Remove LED module
3. Wait for 30 seconds
4. Connect LED module again

Hot plug-in or output switching of LEDs is not permitted and may cause a very high current to the LEDs.

3.6 Installation instructions

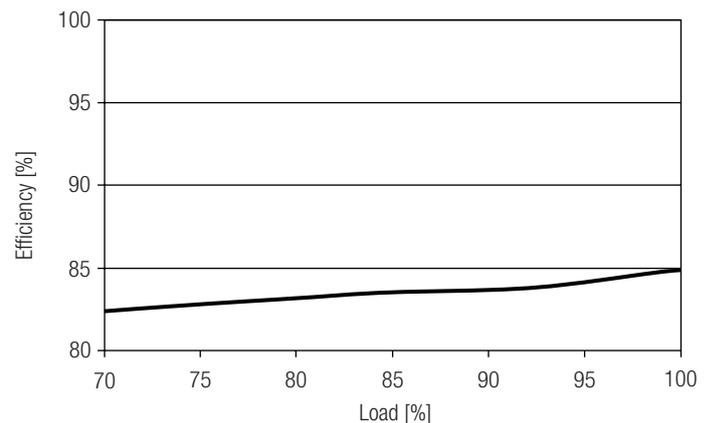
The LED module and all contact points within the wiring must be sufficiently insulated against 3 kV surge voltage. Air and creepage distance must be maintained.

3.7 Mounting of device

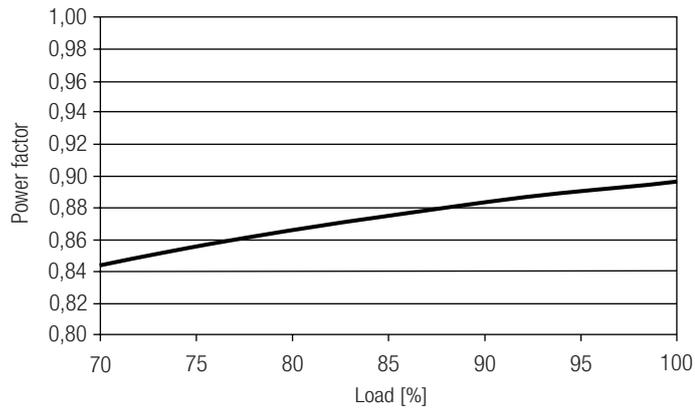
Max. torque for fixing: 0.5 Nm/M4

4. Electrical values

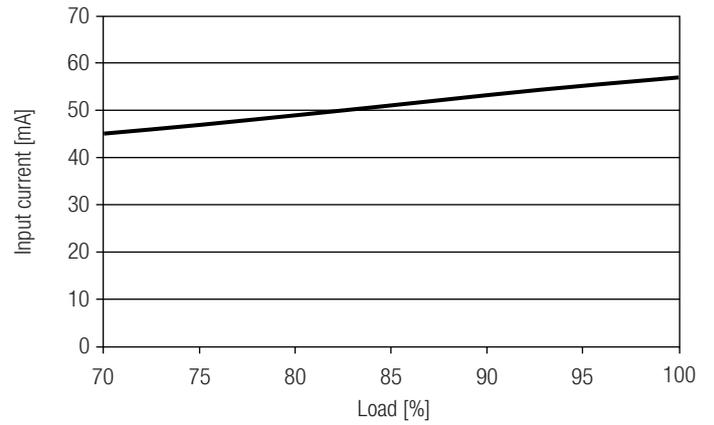
4.1 Efficiency vs load



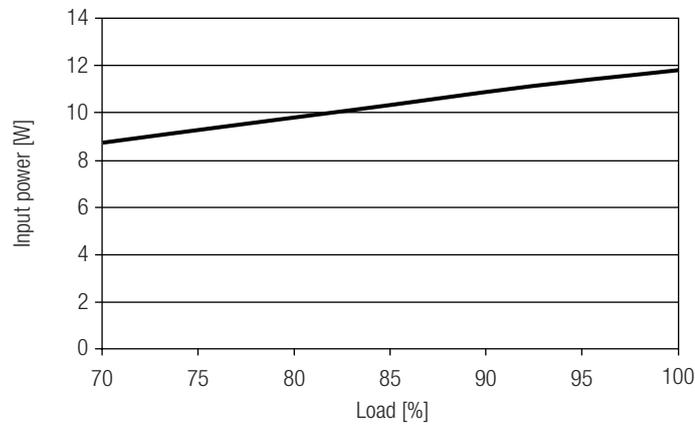
4.2 Power factor vs load



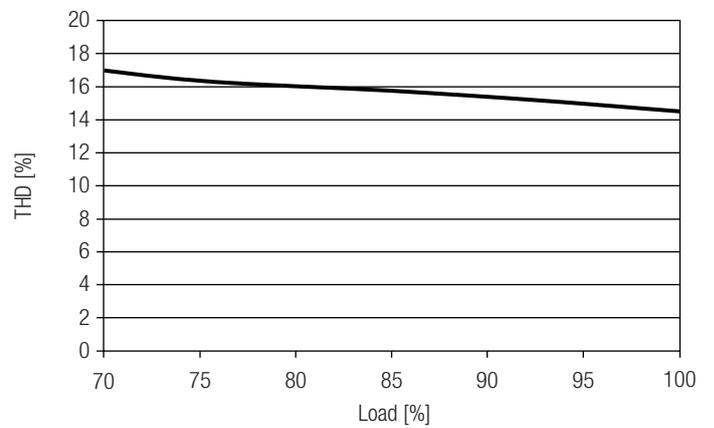
4.4 Input current vs load



4.3 Input power vs load



4.5 THD vs load



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 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 10W 350mA fixC Ip SNC	120	160	200	240	100	130	160	200	8 A 80 µs

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

	THD	3.	5.	7.	9.	11.
LCI 10W 350mA fixC Ip SNC	< 20	< 10	< 7	< 4	< 4	< 5

5. Functions

5.1 Short-circuit behaviour

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

5.2 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.

5.3 Overload protection

If the output voltage range is exceeded the LED Driver 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.

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.