



### Driver LC 21W 500mA fixC SR ADV2

advanced series

#### Product description

- Independent driver with strain-relief housing
- Extra flat housing for constrained installation conditions (small ceiling cut outs and low ceiling voids)
- Output current 500 mA
- For luminaires of protection class II
- For luminaires with M and MM as per EN 60598, VDE 0710 and VDE 0711
- Nominal life-time up to 50,000 h
- Temperature protection as per EN 61347-2-13 C5e
- 5-year guarantee



#### Properties

- Casing: polycarbonat, white
- Type of protection IP20
- Push-in terminals
- 2 separate strain relief parts for input and output cables with highly robust clamps

#### Functions

- Overload protection
- Short-circuit protection
- No-load protection
- No output current overshoot at mains on/off
- Burst protection voltage 1 kV
- Surge protection voltage 1 kV (L to N)
- Surge protection voltage 2 kV (L/N to earth)

#### Typical applications

- For spot light and downlight in retail and hospitality application
- For panel light and area light in office and education application



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IP20 SELV                                                                                                                                                                                                                                                                                                                                                                                                                                         

## 1. Standards

EN 55015  
EN 61000-3-2  
EN 61000-3-3  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 60598-1  
EN 62384

### 1.1 Glow wire test

according to EN 60598-1 with increased temperature of 850 °C passed.

## 2. Thermal details and life-time

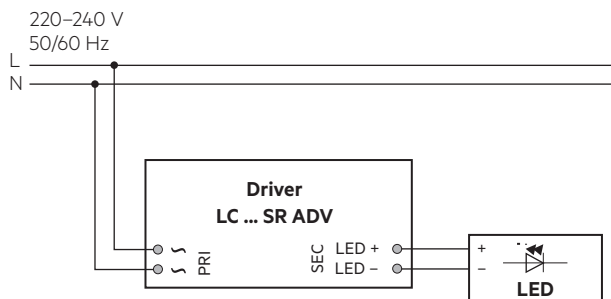
### 2.1 Expected life-time

Expected life-time			
Type	ta	30 °C	40 °C
LC 21/500/42 fixC SR ADV2	tc	65 °C	80 °C
	Life-time	50,000 h	30,000 h

The LED Drivers are designed for a life-time stated above under reference conditions and with a failure probability of less than 10 %. Life-time declarations are informative and represent no warranty claim.

## 3. Installation / wiring

### 3.1 Circuit diagram

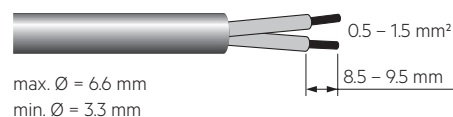


### 3.2 Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid 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.

Use one wire for each terminal connector only.

The max. torque at the clamping screw (M4) is 0.3Nm.

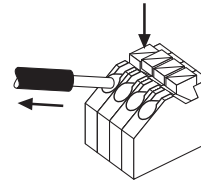


The following cable types are approved and recommended by Tridonic:

RVVB 2 x 0.5 mm<sup>2</sup>  
RVVB 2 x 0.75 mm<sup>2</sup>  
RVVB 2 x 1 mm<sup>2</sup>  
RVVB 2 x 1.5 mm<sup>2</sup>  
RVV 3 x 0.75 mm<sup>2</sup>  
SOLID 2.5 mm<sup>2</sup>

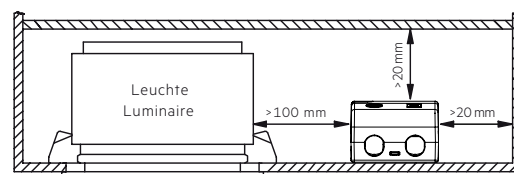
### 3.3 Release of the wiring

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



### 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 Driver and other leads (ideally 5 – 10 cm distance)
- Max. length of output wires is 2 m.
- The secondary wires (LED module) should be routed in parallel to ensure good EMC performance.
- 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 30 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.

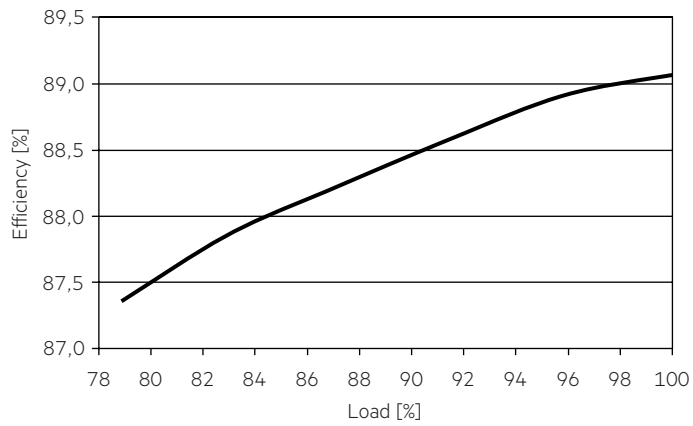
Air and creepage distance must be maintained.

### 3.8 Mounting of device

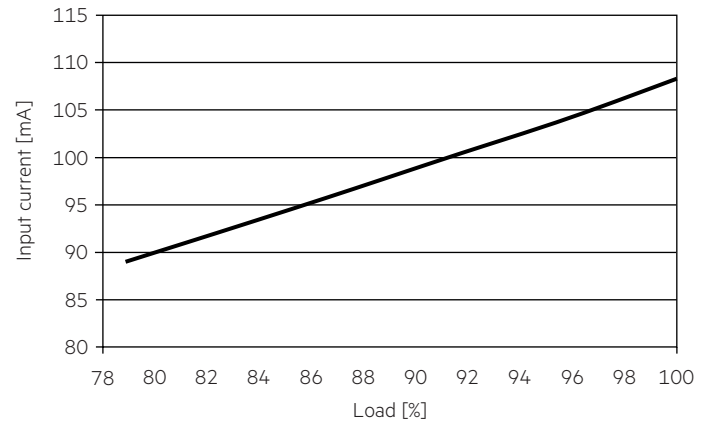
Max. torque for fixing: 0.5 Nm/M4

## 4. Electrical values

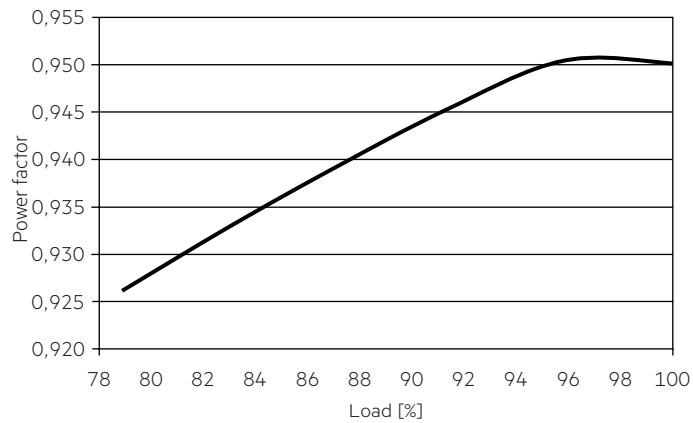
### 4.1 Efficiency vs load



### 4.4 Input current vs load

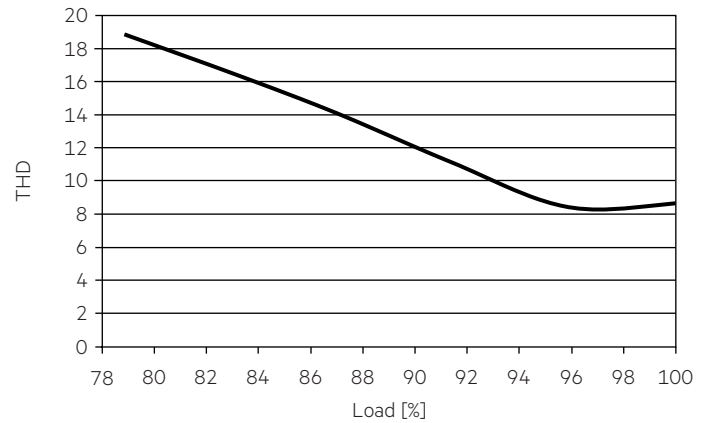


### 4.2 Power factor vs load

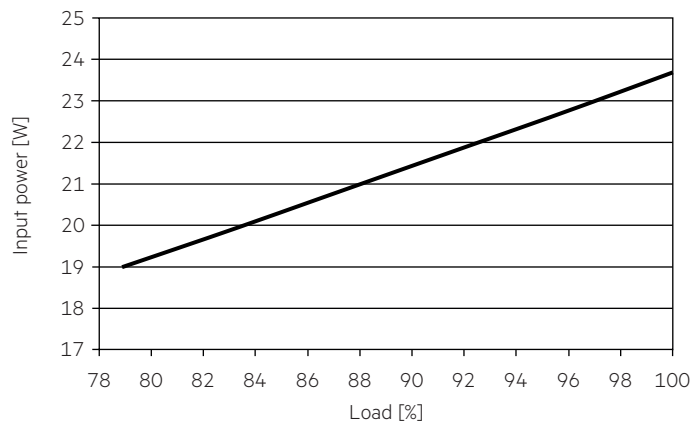


### 4.5 THD vs load

THD without harmonic < 5 mA (0.6 %) of the input current:



### 4.3 Input power vs load



#### 4.6 Maximum loading of automatic circuit breakers

##### Maximum loading of automatic circuit breakers

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20	Inrush current	
									$I_{max}$	Time
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>		
<b>LC 21/500/42 fixC SR ADV2</b>	54	68	84	107	33	43	53	67	16 A	100 µs

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

	THD	3.	5.	7.	9.	11.
<b>LC 21/500/42 fixC SR ADV2</b>	< 15	< 12	< 10	< 7	< 5	< 3

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 off. After elimination of the short circuit the nominal operation is restored 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 by reducing the LED output current. 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<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. 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](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.