



### Driver LC 28W 700mA fixC R ADV

ADV series

#### Product description

- Fixed output built-in LED Driver
- Constant current LED Driver
- Output current 700 mA
- For luminaires of protection class II
- For ambient temperatures up to 60 °C
- Nominal life-time up to 50,000 h (at ta 50 °C)
- 5-year guarantee

#### Properties

- Casing: polycarbonat, white
- Type of protection IP20

#### Functions

- Over voltage protection
- Short-circuit protection
- Over temperature protection
- No-load protection

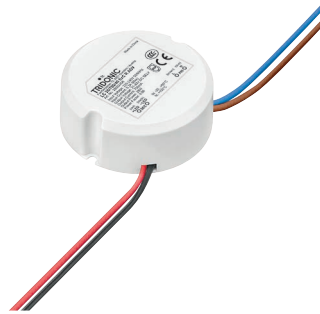
#### Typical applications

- For track light, wall light and other pendent application



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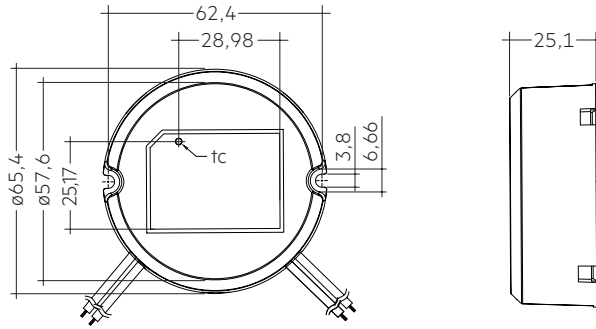
IP20        RoHS

### Driver LC 28W 700mA fixC R ADV

ADV series

#### Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Mains frequency	50 / 60 Hz
Typ. input current (at 230 V, 50 Hz, full load)	0.145 A
Leakage current (at 230 V, 50 Hz, full load)	< 700 µA
THD (at 230 V, 50 Hz, full load)	< 10 %
Output current tolerance <sup>①</sup>	± 5 %
Typ. output LF current ripple at full load <sup>②</sup>	± 5 %
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
Ambient temperature ta	-20 ... +60 °C
Ambient temperature ta (at life-time 50,000 h)	50 °C
Storage temperature ts	-20 ... +70 °C
Mains surge capability (between L – N)	1 kV
Dimensions Ø x H	ø65 x 25 mm



#### Ordering data

Type	Article number	Packaging, carton	Packaging, palett	Weight per pc.
LC 28/700/40 fixC R ADV	28002406	100 pc(s).	4,000 pc(s).	0.125 kg

#### Specific technical data

Type	Output current <sup>②</sup>	Max. input current	Typ. power consumption (at 230 V, 50 Hz, full load)	Max. input power	Output power range	λ at full load <sup>③</sup>	Efficiency at full load <sup>③</sup>	λ at min. load <sup>④</sup>	Efficiency at min. load <sup>④</sup>	Min. forward voltage	Max. forward voltage	Max. output voltage (U-O-UT)	Max. peak output current at full load <sup>⑤</sup>	Max. casing temperature tc
LC 28/700/40 fixC R ADV	700 mA	0.3 A	32 W	34 W	15 – 28 W	0.96	87 %	0.90C	81 %	21 V	40 V	52 V	735 mA	100 °C

<sup>①</sup> Test result at 230 V, 50 Hz

<sup>②</sup> Output current is mean value.

<sup>③</sup> The trend between min. and full load is linear and depends on load's voltage-current character.

<sup>④</sup> Typical value at full load, depends on load's voltage-current character.

## 1. Standards

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

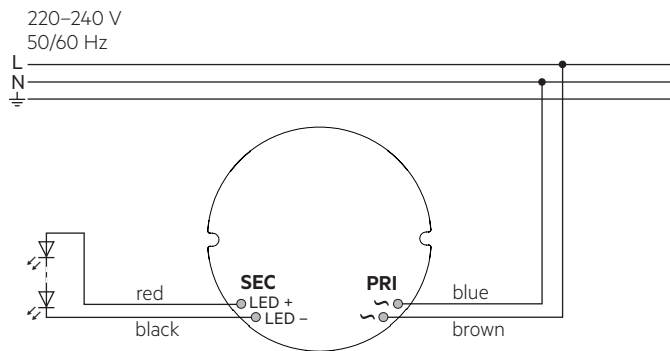
## 2. Thermal details and life-time

### 2.1 Expected life-time

Expected life-time			
Type	ta	50 °C	60 °C
LC 28/700/40 fixC R ADV	tc	90 °C	100 °C
	Life-time	50,000 h	30,000 h

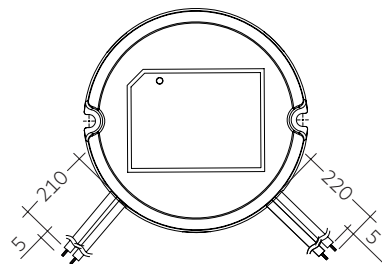
## 3. Installation / wiring

### 3.1 Circuit diagram



### 3.2 Connection

Primary cable		Secondary cable	
L	N	+	-
brown	blue	red	black



**PRI:**  
2 x 0.75 mm<sup>2</sup>

**SEC:**  
2 x 0.34 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.).

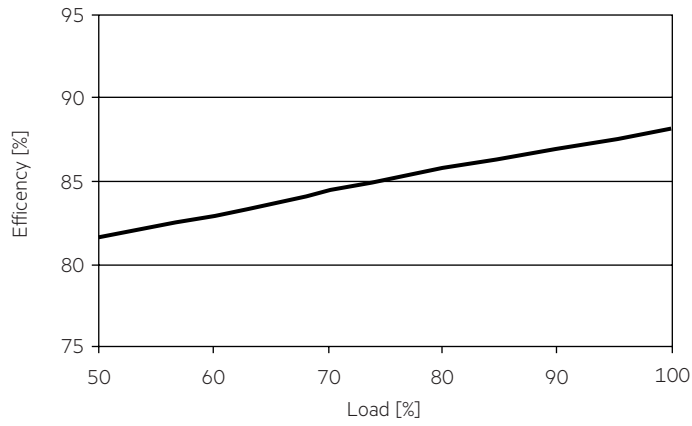
### 3.4 Installation instructions

The switching of LEDs on secondary side is not permitted.

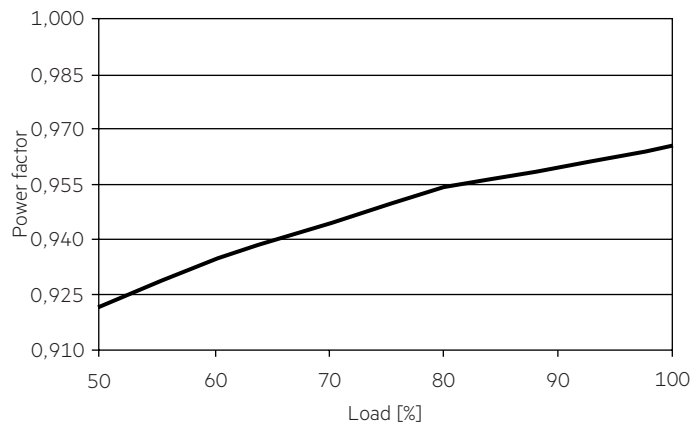
## 4. Electrical values

### 4.1 Diagrams

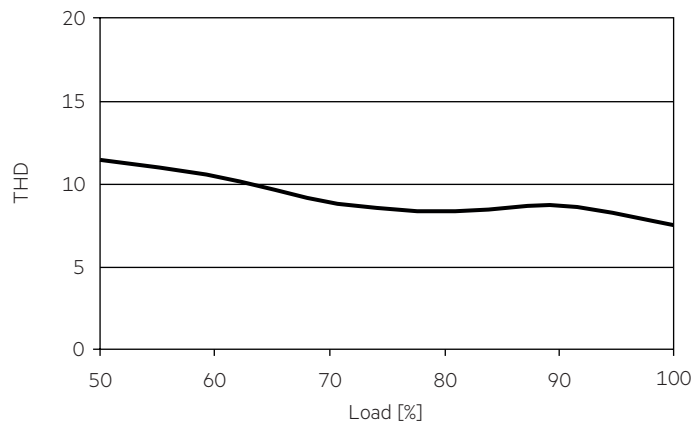
4.1.1 Efficiency vs Load



4.1.2 Power factor vs Load



4.1.3 THD vs Load



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

	THD	3.	5.	7.	9.	11.
<b>LC 28/700/40 fixC R ADV</b>	< 10	< 5	< 1	< 3	< 2	< 1

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 Over voltage protection**

If the output voltage is over (1.1 – 1.25 V)  $V_{out}$ , the LED Driver will shut down and enter its protection status, the Driver will reset and work normally if the fault condition was eliminated.

**5.2 Short-circuit behaviour**

In case of a short circuit on the secondary side (LED) the LED Driver switched off. After elimination of the short-circuit fault the LED Driver will recover automatically.

**5.3 Over temperature protection**

The LED Driver will reduce the LED output current.  
When temperature is up to 145 °C (typical) the output current of the system will be reduced according to the sensed temperature. The output current will be reduce to about half of the setting value at 165 °C (typical).  
When temperature rises above 170 °C (typical), the device will stop working.

**5.4 No-load protection**

The LED Driver will shut down and enter its protection status, the Driver will reset and work normally if the fault condition was eliminated.

**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: 10 % up to max. 90 %,  
not condensed  
(max. 56 days/year at 95 %)

Storage temperature: -20 °C up to max. +70 °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.