



**Driver LCA 18W 450mA phase-cut 22mm SR ADV**  
advanced series

## Product description

- Dimmable constant current LED driver (SELV)
- Independent driver with strain-relief housing
- Extra flat housing for constrained installation conditions (small ceiling cut outs and low ceiling voids)
- Dimmable via trailing edge phase dimmers
- Dimming range 5 to 100 % (depending on dimmer)
- For luminaires with M and MM as per EN 60598, VDE 0710 and VDE 0711
- Max. output power 18 W
- Output current 450 mA
- 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
- 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



**Standards**, page 3

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

IP20 SELV                                                                                                                                                                                                                                                                                                                                                                                                                                         

#### Standards

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

#### Overload protection

If the output voltage range is exceeded the LED Driver will protect itself. After elimination of the overload the nominal operation is restored automatically.

#### Short-circuit behaviour

In case of a short circuit on the secondary side (LED) the LED control gear switches into hic-cup mode. After the removal of the short-circuit fault the LED control gear 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 open due a failure.

In no-load operation the output voltage will not exceed the specified max. output voltage (see page 2).

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.

#### Glow wire test

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

#### Expected lifetime

Type	ta	50 °C	60 °C
<b>LCA 18W 450mA phase-cut 22mm SR ADV</b>	tc	85 °C	x
	Lifetime	50,000 h	x

The LED Drivers are designed for a lifetime stated above under reference conditions and with a failure probability of less than 10 %.

#### 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	1.5 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>LCA 18W 450mA phase-cut 22mm SR ADV</b>	50	65	80	100	50	65	80	100	15 A	60 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>LCA 18W 450mA phase-cut 22mm SR ADV</b>	< 20	< 9	< 1	< 2	< 2	< 2

**Installation instructions**

The LED module and all contact points within the wiring must be sufficiently insulated against 3.5 kV surge voltage.

Air and creepage distance must be maintained.

**Replace LED module**

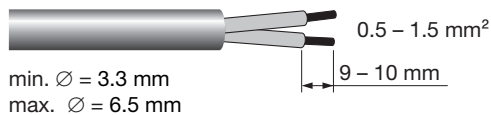
1. Mains off
2. Remove LED module
3. Wait for 17 seconds
4. Connect LED module again

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

**Wiring type and cross section**

The wiring can be in stranded wires with ferrules or solid. For perfect function of the cage clamp terminals the strip length should be 9 – 10 mm for the input terminal.

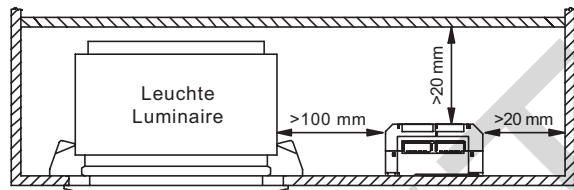
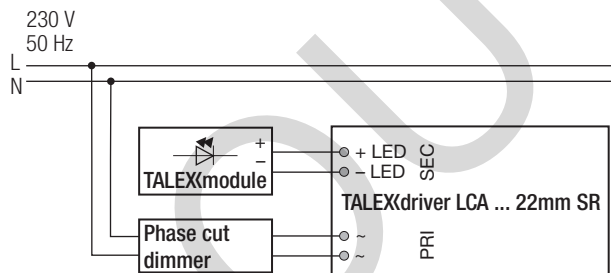
The max. torque at the clamping screw (M3) is 0.2 Nm.

**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.).

**Fixing conditions**

Dry, 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.

**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.

**Maximum number of switching cycles**

All LED Driver are tested with 50,000 switching cycles.  
The actually achieved number of switching cycles is significantly higher.

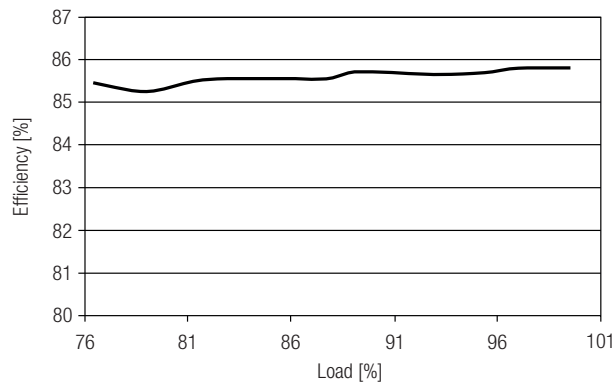
**Additional information**

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

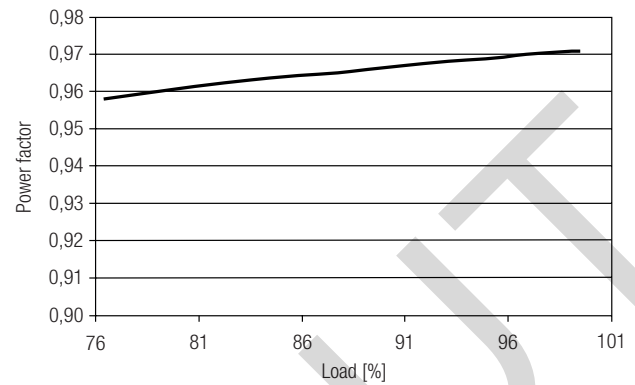
Lifetime declarations are informative and represent no warranty claim.  
No warranty if device was opened.

Diagrams LCA 18W 450mA phase-cut 22mm SR ADV

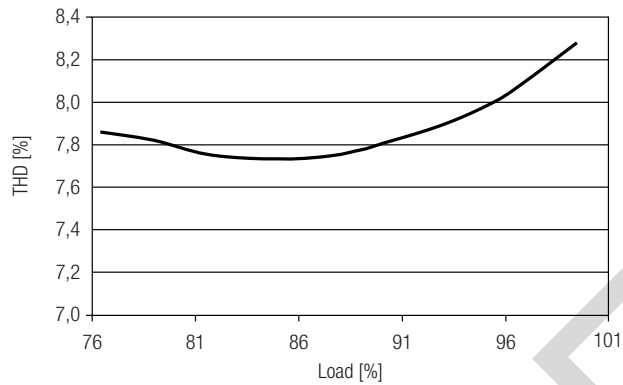
Efficiency vs load



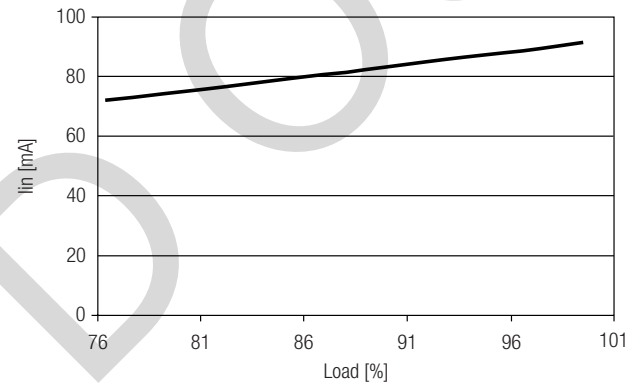
Power factor vs load



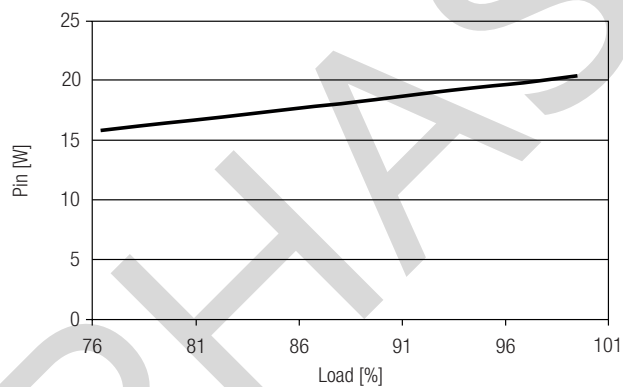
THD vs load



Input current vs load



Input power vs load



Phase cut dimming curve (depends dimmer)  
Output current vs dimming

