TRIDONIC

Driver LC 44W 1050mA 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 1050 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 separable 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 □ ⊕ ᵛ⁷ ᵛᵛ ⊟ ⊂⊂⊂ C€ ≋ RoHS

Driver LC 44W 1050mA fixC SR ADV2
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Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Leakage current (at 230 V, 50 Hz, full load)	< 450 µA
λ at full load[①]	0.95
λ at min. load[①]	0.95
Mains frequency	50/60 Hz
Overvoltage protection	320 V AC, 1 h
THD (at 230 V, 50 Hz, full load)	≤ 15 %
Output current tolerance[②]	± 7.5 %
Typ. output LF current ripple at full load[③]	± 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
Hold on time at power failure	0 s
Ambient temperature ta	-20 … +40 °C
Ambient temperature ta (at life-time 50,000 h)	30 °C
Storage temperature ts	-40 … +80 °C
Dimensions L x W x H	127 x 43 x 30 mm

Ordering data

Type	Article number	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
LC 44/1050/42 fixC SR ADV2	**87500868**	14 pc(s).	364 pc(s).	2,548 pc(s).	0.108 kg

Specific technical data

Type	Output current[②]	Typ. rated current (at 230 V, 50 Hz, full load)	Max. input power	Typ. power consumption (at 230 V, 50 Hz, full load)	Output power	Efficiency at full load[①]	Efficiency at min. load[①]	Min. forward voltage[①]	Max. forward voltage[①]	Max. output voltage	Max. peak output current[④]	Max. casing temperature tc
LC 44/1050/42 fixC SR ADV2	1,050 mA	0.23 A	51 W	50 W	34.7 – 44.1 W	90 %	88 %	33 V	42 V	60 V	1,181 mA	80 °C

[①] Test result at 230 V, 50 Hz

[②] Output current is mean value.

[③] Typical value at full load, depends on load's voltage-current character.

[④] The trend between min. and full load is linear and 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
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 44/1050/42 fixC SR ADV2	tc	70 °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

220–240 V
50/60 Hz

L
N

Driver
LC ... SR ADV

PRI

SEC LED +
LED −

+
−

LED
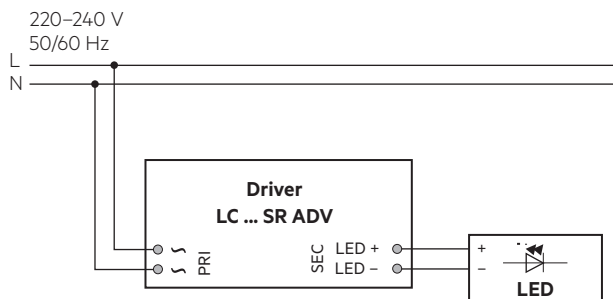
3.2 Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid with a cross section of 0.5–1.5 mm². 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.

wire preparation:
0.5 – 1.5 mm²

8.5 – 9.5 mm
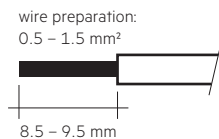
3.3 Release of the wiring

Press down the "push button" and remove the cable from front.
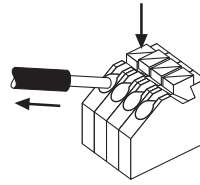
3.4 Fixing conditions when using as independent Driver with Clip-On

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.

Leuchte
Luminaire
>20 mm
>100 mm
>20 mm
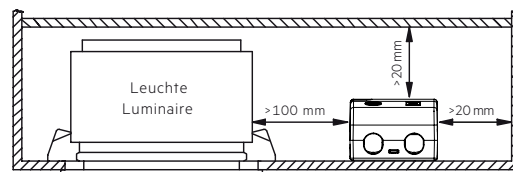
3.5 Wiring guidelines

- 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 demage 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.
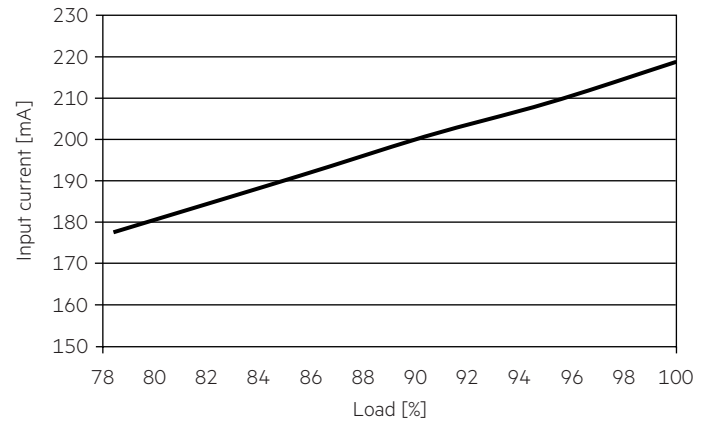
3.7 Installation instructions

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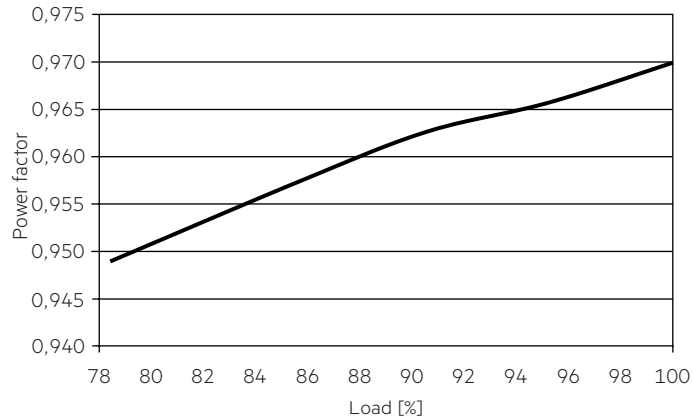Air and creepage distance must be maintained.

4. Electrical values
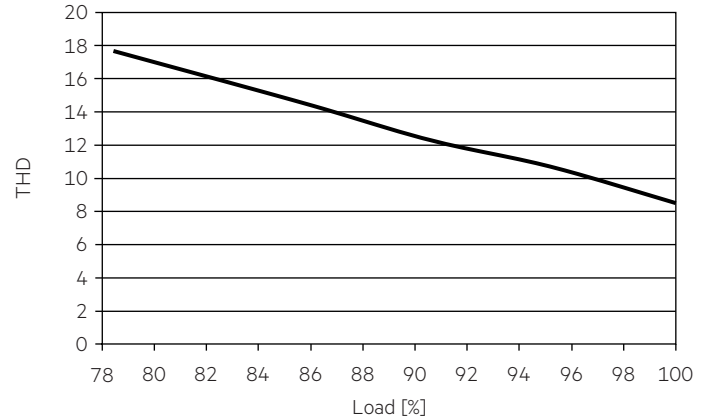
4.1 Efficiency vs load
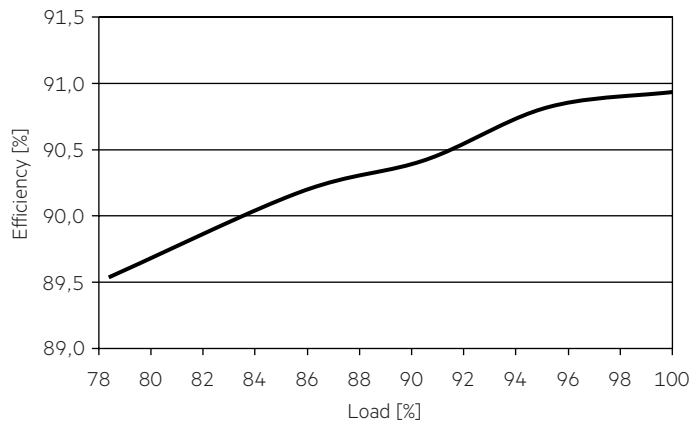
4.4 Input current vs load

4.2 Power factor vs load
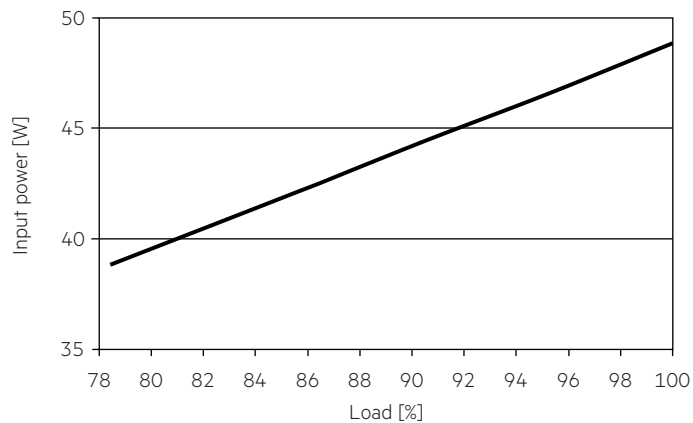

4.5 THD vs load

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	
									Imax	Time
Installation Ø	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²		
LC 44/1050/42 fixC SR ADV2	25	35	46	58	15	21	28	36	30 A	160 µs

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

	THD	3.	5.	7.	9.	11.
LC 30/700/42 fixC SR ADV2	< 15	< 10	< 7	< 5	< 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 DC 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 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.