#### Compact fixed output

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#### Driver LCI 42 W 900/1050 mA TEC SR

TEC series

#### **Product description**

RoHS

- Independent fixed output LED Driver
- Constant current LED Driver

**TRIDONIC** 

- Output current 900 or 1,050 mA
- Max. output power 42 W
- Nominal life-time up to 50,000 h
- For luminaires of protection class I and protection class II
- For luminaires with M and MM as per EN 60598, VDE 0710 and VDE 0711
- Temperature protection as per EN 61347-2-13 C5e
- 5-year guarantee

#### **Properties**

- Casing: polycarbonat, white
- Type of protection IP20

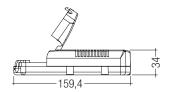
#### **Functions**

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

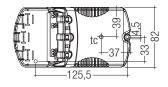
## Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
Input current (at 230 V, 50 Hz, full load)	0.205 A
Mains frequency	50 / 60 Hz
Overvoltage protection	300 V AC, 1 h
Typ. power consumption (at 230 V, 50 Hz, full load)	46.5 W
Max. input power	48 W
Typ. output power	42 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)	≤ 0.7 s
Turn off time (at 230 V, 50 Hz, full load)	≤ 0.7 s
Hold on time at power failure	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	159.4 x 82 x 34 mm











## Ordering data

Туре	Article	Packaging,	Packaging,	Packaging,	Weight per
туре	number	carton	low volume	high volume	pc.
LCI 42W 900mA TEC SR	87500246	20 pc(s).	280 pc(s).	1,120 pc(s).	0.187 kg
LCI 42W 1050mA TEC SR	87500248	20 pc(s).	280 pc(s).	1,120 pc(s).	0.188 kg



Standards, page 3

Wiring diagrams and installation examples, page 4

## Specific technical data

Туре		Power factor at full load <sup>®</sup>	,	Power facto at min.	r Efficiency at min. load <sup>®</sup>		Max. forward voltage <sup>®</sup>	, ,		Max. peak output current at min. load	Max. casing temperature to
LCI 42W 900mA TEC SR	900 mA	0.98	90.0 %	0.95	86 %	23 V	47 V	60 V	1,360 mA	1,690 mA	75 °C
LCI 42W 1050mA TEC SR	1,050 mA	0.98	90.0 %	0.95	85 %	20 V	40 V	50 V	1,610 mA	1,890 mA	80 °C

<sup>&</sup>lt;sup>®</sup> Test result at 230 V, 50 Hz.

 $<sup>\</sup>ensuremath{^{@}}$  The trend between min. and full load is linear.

<sup>&</sup>lt;sup>®</sup> Output current is mean value.

#### Standards

EN 55015

EN 60598-1

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 reduces the LED output current. After elimination of the overload, the nominal operation is restored automatically.

#### Overtemperature protection

The LED Driver is protected against temporary thermal overheating. If the temperature limit is exceeded the output current is reduced to limit to at a certain level. It restarts automatically. The temperature protection is activated typically at 10  $^{\circ}\text{C}$  above to max.

#### Short-circuit behaviour

In case of a short circuit on the secondary side (LED) the LED Driver switches into hic-cup mode. After elimination of the short circuit the nominal operation is restored automatically.

#### No-load operation

The LED Driver works in constant voltage mode. In no-load operation the output voltage will not exceed the specified max. output voltage (see page 2).

#### Installation instructions

The LED module and all contact points within the wiring must be sufficiently insulated against  $2.5\ kV$  surge voltage.

Air and creepage distance must be maintained.

#### Replace LED module

- 1. Mains off
- 2. Remove LED module
- 3. Wait for 60 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.

## Expected life-time

Type	ta	40 °C	50 °C	60°C
LCI 42W 900mA TEC SR	tc	65°C	75℃	×
LCI 42W 900IIIA TEC 3K	Life-time	50,000 h	30,000 h	×
LCI 42W 1050mA TEC SR	tc	70 °C	80°C	×
LCI 42W IUSUMA TEC SK	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 %.

#### Maximum loading of automatic circuit breakers

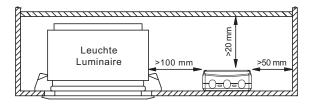
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Automatic circuit	C10	C13	C16	C20	B10	B13	B16	B20	Inrush	current
breaker type										
Installation Ø	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	Imax	Time
LCI 42W 900mA TEC SR	33	50	66	83	25	38	50	58	10 A	100 µs
LCI 42W 1050mA TEC SR	33	50	66	83	25	38	50	58	10 A	100 us

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

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	THD	3.	5.	7.	9.	11.
LCI 42W 900mA TEC SR	20	8	2	2	2	1
LCI 42W 1050mA TEC SR	20	8	2	2	2	2

#### **Fixing conditions**

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.



#### Storage conditions

Humidity: 5 % up to max. 85 %,

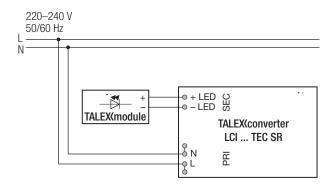
not condensed

(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.

#### Wiring diagram



#### Glow-wire test

according to EN 60598-1 with increased temperature of 850  $^{\circ}$ C passed.

#### 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  $_{\rm DC}$  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  $2 M\Omega$ .

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.

#### Additional information

Additional technical information at <u>www.tridonic.com</u> → Technical Data

Guarantee conditions at <u>www.tridonic.com</u> → Services

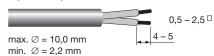
Life-time declarations are informative and represent no warranty claim. No warranty if device was opened.

#### 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  $4-5\,\text{mm}$  for the input terminal.

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

#### Input / Output terminal



#### Wiring instructions

The secondary leads should be separated from the mains connections and wiring for good EMC performance.

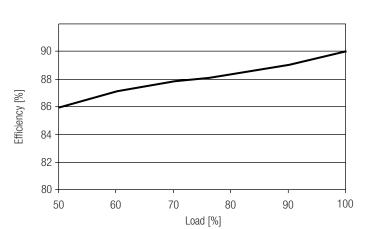
The maximum lead length on secondary side is 2 m. For a good EMC performance keep the LED wiring as short as possible.

#### Wiring guidelines

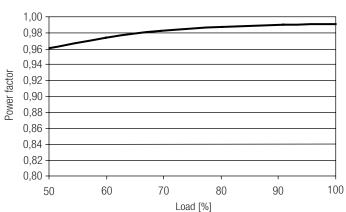
- All connections must be kept as short as possible to ensure good EMI behaviour.
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Max. lenght of output wires is 2 m.
- Secondary switching is not permitted.
- Incorrect wiring can demage LED modules.
- Through wiring of mains is connecting additional LED Driver only.
  Max. permanent current of 16 A may not be exceeded.
- The wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.).

## Diagrams LCI 42W 900mA TEC SR

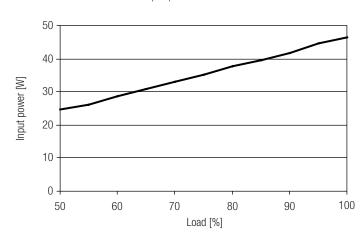




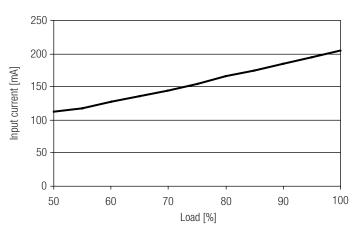
## Power factor vs load



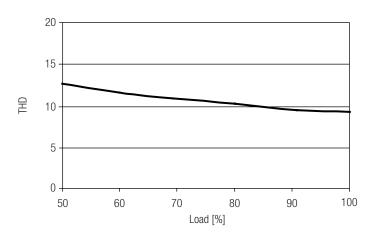
Input power vs load



Input current vs load



THD vs load



## Diagrams LCI 42W 1,050mA TEC SR

92

90

88

86

84

82

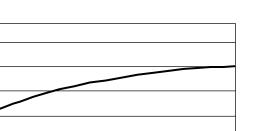
80

50

60

Efficiency [%]



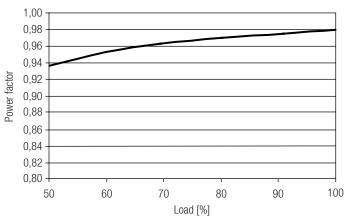


80

90

100

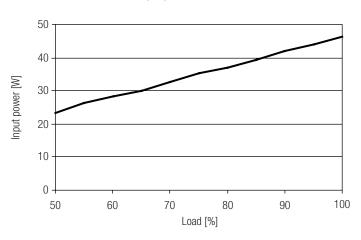
## Power factor vs load



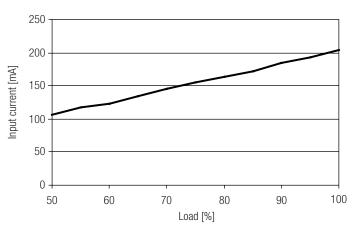
Input power vs load

Load [%]

70



Input current vs load



THD vs load

