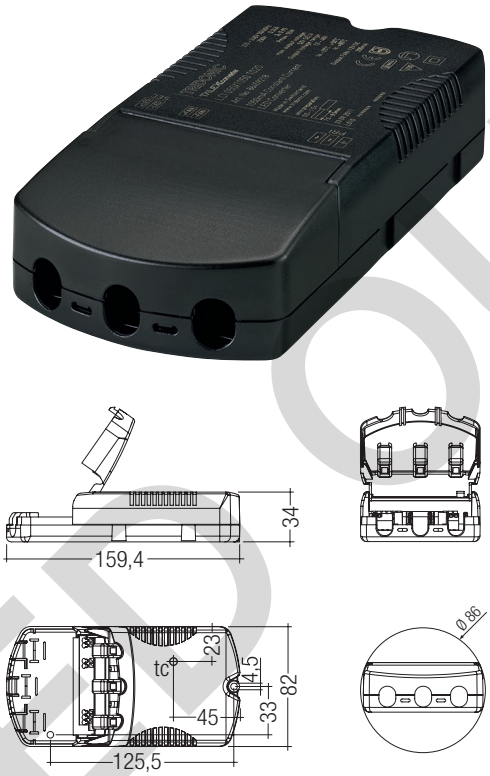
IP20 SELV RoHS

Driver LCI 55 W 1400 mA T020

TOP series



Product description

- Independent LED Driver for LED modules
- Constant current LED Driver with 1,400 mA output current
- Output power 55 W
- Nominal life of 50,000 hours (at max ta 50 °C with a failure rate = 0.2 % per 1,000 hours)
- 5-year guarantee

Properties

- Fan output 12 V
- Casing: polycarbonate, black
- IP20

Functions

- Short-circuit protection with automatic restart
- Overtemperature protection
- Overload protection

Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
DC voltage range	176 – 264 V
Mains frequency	0 / 50 / 60 Hz
Rated current without fan (at 230 V, 50 Hz, full load)	0.27 A
Rated current with fan (at 230 V, 50 Hz, full load)	0.28 A
Max. input power without fan	62.5 W
Max. input power with fan	65.5 W
Typ. λ (at 230 V, 50 Hz, full load)	0.95
Output current ripple	± 15 %
Max. repetitive output peak current	1,650 mA
Max. non-repetitive output peak current	2,000 mA
Typ. efficiency (at 230 V, 50 Hz, full load)	90 %
Leakage current (PE)	< 0.1 mA
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[1]	20 ms
Ambient temperature ta	-25 … 50 °C
Max. casing temperature tc	80 °C
Dimensions LxWxH	160 x 82 x 34 mm

Ordering data

Type	Article number	Packaging carton	Packaging pallet	Weight per pc.
LCI 055/1400 T020	**28000744**	10 pc(s).	480 pc(s).	0.248 kg

Specific technical data

Type	Typ. output current	Output current tolerance	Output voltage range	Max. output voltage[2]	Typ. output power
LCI 055/1400 T020	1,400 mA	± 5 %	12 – 40 V	60 V	55 W

[1] At power failure.

[2] In no-load operation.

Standards
EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-13
EN 61547
EN 62384
Suitable for emergency installations according to EN 50172

Overload protection
If the output voltage range is exceeded the LED Driver reduces the LED output current. The fan operation is not affected. 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. The fan operation is not affected. The temperature protection is activated between 7 °C and 13 °C above tc max (see page 1).

Short-circuit behaviour
In case of a short circuit on the secondary side (LED) the LED ouput is switched off. The fan operation is not affected. After elimination of the short circuit the nominal operation is restored automatically.

No-load operation
The LED Driver is not damaged in the no-load operation. The max. output voltage (see page 1) can be obtained during no-load operation.

Expected life-time

Type		ta = 40 °C	ta = 50 °C
LCI 055/1400 T020	tc	70 °C	80 °C
	Life-time	100,000 h	50,000 h

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

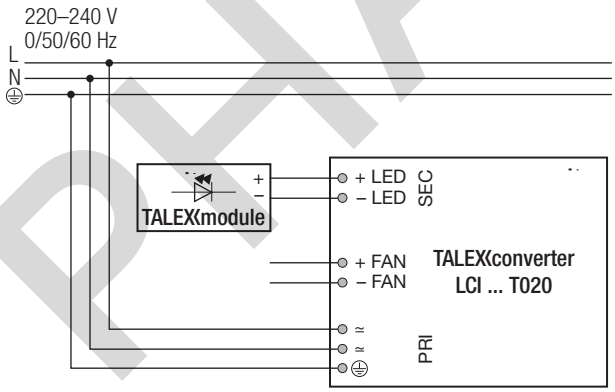
The devices have to be within the specified temperature range (ta) before they can be operated.

Maximum loading of automatic circuit breakers

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20	Inrush current	
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	I_{max}	time
LCI 055/1400 T020	12	16	22	26	6	8	11	13	50 A	230 µs

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

Type	THD	3	5	7	9	11
LCI 055/1400 T020	< 10	3	4	4	4	2

Wiring diagrams


Secondary switching of LEDs is not allowed and may cause damage to the LEDs. The hot plug-in of LEDs during normal operation may result in current peaks of up to 50 % above the typical output current.

For compliance with the limits of the radio disturbance characteristics the earthing of the LED Driver is necessary. Use the earthing connection (⏚) of the LED Driver.

Fan

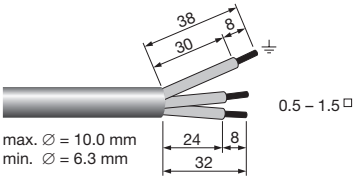
Output voltage	12 V ± 10 %
Typ. output power	2 W
Max. output current	200 mA
Max. inrush current fan①	500 mA (< 0.5 s)

① The max. acceptable inrush current during the start up (< 0.5 s).

Fan operation is optional; the device can be operated without the fan. In the event of failure of the fan the LED output is not switched off. The fan output is short-circuit-proof.

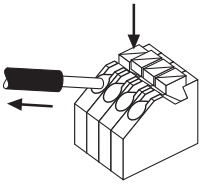
Installation instructions

Wiring type and cross section
The wiring can be stranded wires with ferrules or rigid wires with a cross section of 0.5 – 1.5 mm².
Strip 7.5 – 8.5 mm of insulation from the cables to ensure perfect operation of the push-wire terminals (WAGO 250).
Use one wire for each terminal connector only.
Use each strain relief channel for one cable only.



Wiring instructions
The secondary leads should be separated from the mains connections and wiring for good EMC performance.
Maximum lead length on secondary side is 2 m.
For a good EMC performance keep the the LED wiring as short as possible.
For compliance with the limits of the radio disturbance characteristics the earthing of the LED Driver is necessary. Use the earthing connection (⏚) of the LED Driver.
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.).

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



Installation instruction
Max. torque for the mounting screws: 0.5 Nm / M4.

Please note that LCI 055/1400 T020 complies with protection class II so special measures are needed if it is to be installed in protection class I applications / luminaires.
Please note the requirements set out in the document LED_Betriebsgeraete_installationshinweis.pdf (http://www.tridonic.com/com/de/technische-doku.asp).

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

DC emergency operation
The LED Driver is designed for operation on DC voltage and pulsed DC voltage.

Light output level in DC operation (EOF_X): 100 % (cannot be adjusted)

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.

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.