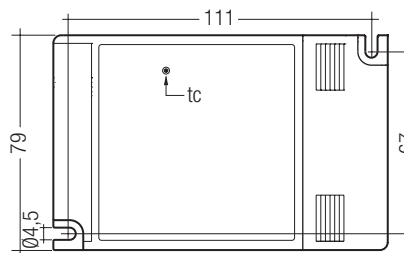
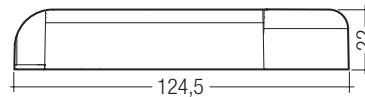


IP20 SELV           RoHS

TALEXconverter LCAI 50 W 1050 mA N020 DALI
TALEXconverter REMOTE LCI

Product description

- 1-channel LED converter
- Independent converter for indoor use
- Output current and output voltage adjustable
- FAN output 12 V
- NTC input channel
- Nominal life of 50,000 h (at ta max. with a failure rate of 5 %)
- Dimmable via DALI, 1 ... 10 V, potentiometer or PUSH function^①
- Overload protection^②
- Thermal protection^③
- Short-circuit protection
- No-load protection
- Type of protection IP20



Technical data

Rated supply voltage	220 – 240 V
Rated current (at 230 V / 50 Hz / full load)	0.25 A
Input voltage range, AC	216 – 264 V
Mains frequency	50 / 60 Hz
Typ. efficiency (at 230 V / 50 Hz / full load)	91 %
λ (at 230 V / 50 Hz)	0.95
THD	< 10 %
Inrush current	20 A / 400 μ s
Control input	DALI, 1 ... 10 V, potentiometer 100 k Ω and PUSH function ^②
Stand-by power (at 230 V / 50 Hz)	< 2 W
Max. output voltage ^④	90 V
Dimming range	1 – 100 %
PWM frequency	230 – 250 Hz
Set up time at 230 V	500 ms
Switch-off time (at full load)	100 ms
FAN output, voltage	12 V
FAN output, current ^⑤	50 mA
Max. casing temperature tc	85 °C
Max. casing temperature tc (at lifetime 50,000 h)	75 °C
Weight	0.15 kg
Dimensions LxWxH	124.5 x 79 x 22 mm

^① PUSH function is not compatible to switchDIM.

^② 1 ... 10 V_{DC} source with double or reinforced insulation with respect to AC mains.
Max. source current: 0.35 mA

^③ No-load operation.

^④ Max. permitted inrush current: 50 mA.

^⑤ On overload and over temperature the output power will be reduced.

Ordering data

Type	Article number	Packaging carton	Packaging pallet
LCAI 0050/1050 N020 DALI	24166469	50 pieces	2,000 pieces

Specific technical data

Type	Output	Tolerance	Typ. power	Output voltage range	Max. output current	Operating temperature t_a
LCAI 050/1050 N020 DALI	350 mA	±6 %	25 W	2 – 74 V	–	-25 ... 50 °C
	500 mA	±5 %	35 W	2 – 72 V	–	-25 ... 50 °C
	700 mA	±5 %	50 W	2 – 71 V	–	-25 ... 50 °C
	900 mA	±5 %	50 W	2 – 55 V	–	-25 ... 45 °C
	1,050 mA (default)	±5 %	50 W	2 – 48 V	–	-25 ... 45 °C
	48 V	±5 %	50 W	–	1,050 mA	-25 ... 45 °C

Standards

EN 55015
 EN 61000-3-2
 EN 61347-1
 EN 61347-2-13
 EN 61547
 EN 62384
 IEC 62386-101
 IEC 62386-102
 DIN VDE 0710 part 14

Dimming

Dimming range 1 % to 100 %

Control with:

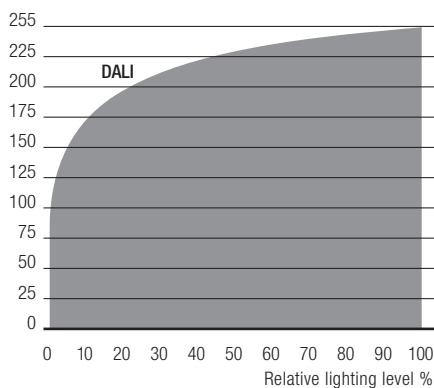
- DALI signal
- PUSH function
- Potentiometer
- 1 ... 10 V

Digital signal DALI

The control input is non-polar. The control signal is not SELV. Control cable has to be installed in accordance to the requirements of low voltage installations. Different functions depending on each module.

Dimming characteristics

Digital dimming value



Dimming characteristics as seen by the human eye. A linear dimming characteristic can be activated optionally via DALI (DALI command: SELECT DIMMING CURVE).

1 ... 10 V function

The light intensity of the LEDs vary proportionally to the signal sent to the terminal. Intensity is null with a signal less than 1 V.

Potentiometer function

By rotating the potentiometer there is variation of the LED light intensity in a proportionate or logarithmic way depending on the model of potentiometer used. The use of a logarithmic potentiometer is recommended.

Synchronisation

A maximum of 10 devices in series can be controlled with a momentary-action switch, potentiometer or 1...10V interface. Only one master device is permitted. (1 master + 9 slaves)

The maximum length of the synchronisation cable between the devices should not exceed 4 m.

Dip SWITCH position

Output	Position					
	6	5	4	3	2	1
350 mA	–	–	–	–	–	–
500 mA	on	–	–	–	–	–
700 mA	on	on	–	–	–	–
900 mA	on	on	on	–	–	–
1,050 mA (default)	on	on	on	on	–	–
48 V	on	on	on	on	–	on

Before use, always check Dip SWITCH setting.

PUSH function

Integrated Push function allows a direct dimming via push button. Push button must be connected between the terminal block (PUSH) and Phase (L). Maximum 10 driver in series controlled by one or more push buttons. The maximum length of push cables is 15 m.

- Brief push (<1 s) switches the device ON and OFF. The device switch-ON at light level set at switch-OFF
- When the push button is held (>1 s), the devices are dimmed. After repush the devices is dimmed in the opposite direction.



The use of the push button inhibits the use of the 1...10V signal. To return to use of the 1...10V signal keep the signal less than 0,5V for at least 2 seconds.

PUSH synchronisation

If more than one device is operated with a single key during PUSH operation, asynchronous behaviour can occur, which will require manual resynchronisation using the method described. It is recommended not to control more than four devices using a single key. Should this be unacceptable, a synchronisation cable will have to be used instead. Any 1-key dimmer that does not feature a central control module (as each driver will have its own controls) can develop asynchronous behaviour (e.g. children might play with the key). The system will then be out of sync, i.e. some lamps will be on, others off or the dimming direction will differ from lamp to lamp.

If the drivers are switched on, press the PUSH key for more than one second (long PUSH) followed with a short push (<1 s). Now the devices are switched off, do a long PUSH, the system will now be resynchronised."



The PUSH function is not compatible to switchDIM. The wiring of the PUSH function and switchDIM is not exchangeable.

Maximum forward voltage



Note:
 It's not allowed to connect LED modules with a higher forward voltage then declared, otherwise the converter will be over loaded and the expected nominal life time will be reduced.
 This issue isn't covered by the warranty.

Maximum loading of automatic circuit breakers

Automatic circuit breaker type	C10	C16	B10	B16
Installation Ø	1.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²
LCAI 050/1050 N020 DALI	15	25	9	15

Wiring guidelines

- The cables should be run separately from the mains connections and mains cables to ensure good EMC conditions.
- The maximum secondary cable length at the terminals is 5 m. The LED wiring should be kept as short as possible to ensure good EMC.
- The converter does not have polarity reversal protection on the secondary side. LED modules that do not have polarity reversal protection may be damaged if polarity is reversed.

Thermic sensor

NTC value	Start operation temperature (3 V Req = 26 kΩ)	Total switch-off temperature (2,2 V Roff = 15 kΩ)
100 K	55 °C	72 °C
150 K	65 °C	80 °C
220 K	75 °C	90 °C

Component tolerances are not considered.

In DALI operation a failure of the lamp can be communicated by short-circuiting the NTC port or by leaving it open (DALI command: QUERY FAILURE STATUS). In case of an open/short-circuit at the NTC input, the unit will identify a lamp fault. At an LED module or NTC temperature of 75 °C, there will be a voltage drop of 3 V and/or a resistance value of 26 kΩ. From an LED module or NTV temperature of 90 °C, there will be 2.2 V / 15 kΩ and the converter will switch off.

If no NTC resistance is connected and the “lamp fault” message (DALI command: QUERY FAILURE STATUS) is not required, a resistance of only 220 kΩ has to be connected.



Information about the correct handling of LEDs can be found in the TALEX brochure
 “Installation instructions and guidelines” → www.tridonic.com

Short/soft start mode

The soft start mode is enabled/disabled by pressing a momentary-action switch at the Push L input, while mains voltage is applied to the converter. The converter will then operate in soft and/or short start mode.

Short start mode between 1 – 100 % < 0.7 s: default setting

Soft start mode between 1 – 100 % > 1.5 s

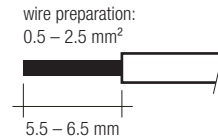


Wiring type and cross section

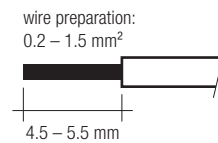
Strain relief for Ø 3 – 8 mm.

Input / Output terminal

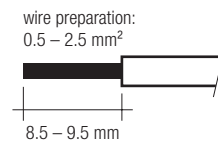
Please use only one wire per terminal.



1...10 V/NTC / FAN



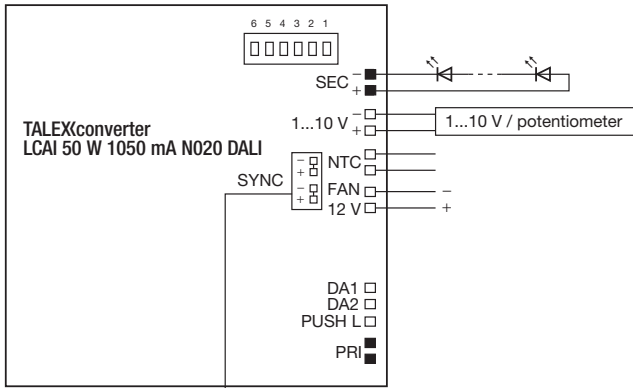
PUSH / DA



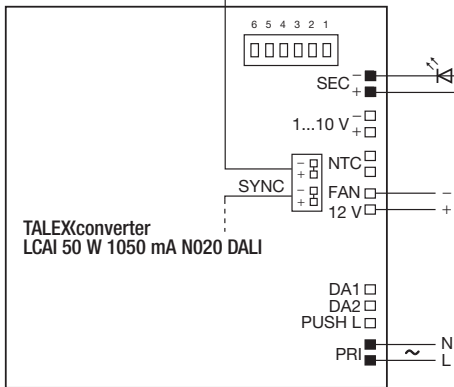
Connector for the synchronisation cable

SPOX by Molex

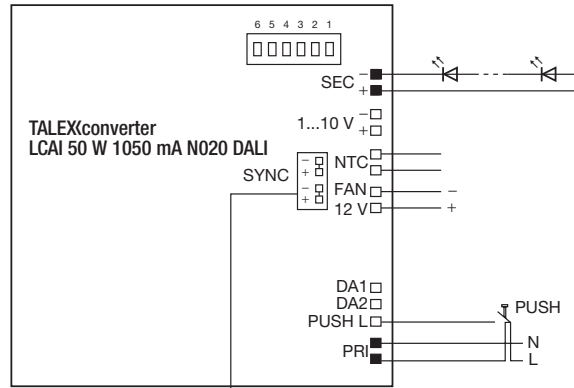
Wiring diagram 1...10 V or potentiometer



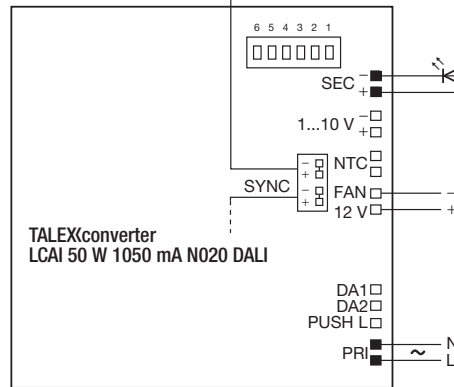
Max. 10 devices in series (1 master + 9 slaves)



Wiring diagram PUSH function



Max. 10 devices in series (1 master + 9 slaves)



Wiring diagram DALI

