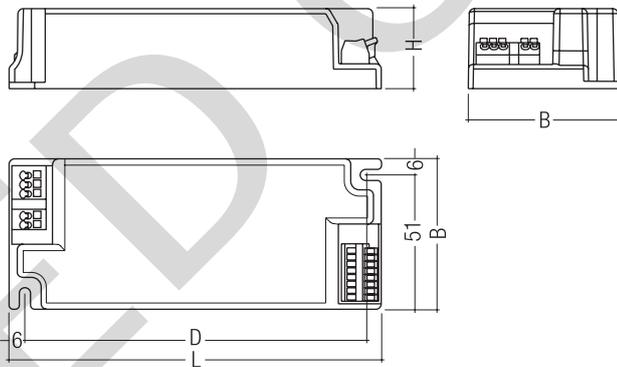




TALEXconverter 0030 K500 one4all
ECO series

Product description

- one4all LED control gear for 500 mA output current
- Dimming curve adapted to the sensitivity of the eye
- Noise-free precise control via DSI signal, switchDIM or DALI
- Powerless switching via a digital interface (no need for switching via mains)
- Fault reporting and programmable operating parameters in DALI and DSI mode
- Thermal shutdown with temperature sensor (NTC)
- Short-circuit-proof fan output
- 2 output channels with 1 address
- Short-circuit shutdown
- No-load detection
- Intelligent Temperature Guard (protection against thermal damage)
- switchDIM-MEMORY



Technical data

Rated supply voltage	220 – 240 V
Rated current (at 230 V 50 Hz)	0.16 A
Mains frequency	0 / 50 / 60 Hz
Efficiency	> 85 %
λ	0.95
PWM frequency	480 Hz
Max. input power	35 W
Max. input power (with active cooling 3 W)	39 W
Output power	2 x 15 W
Max. output voltage	30 V
Input, temperature sensor	33 kOhm
Output voltage (DC) active cooling	12 V
Max. output current, active cooling	250 mA
Dimming	DSI, DALI, switchDIM – single switch
Ambient temperature t_a	-25 ... +45 °C
Max. casing temperature t_c	75 °C
Dimensions LxWxH	141.3 x 57.5 x 30.5 mm
Hole spacing D	128.8 mm

① Further information see page 2

② Max. permitted inrush current of the fan: < 6 A at 4 μ s.
If the inrush current is > 250 mA after 4 μ s, the LED control gear switches off and will be changed into the failure mode.

Ordering data

Type	Article number	Secondary voltage DC	Secondary current	Packaging carton	Weight per pc.
0030 K500 one4all	86458561	7 – 30 V	500 mA	18 pc(s).	0.17 kg



Standards, page 2

Wiring diagrams and installation examples, page 3

Standards

EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-13
EN 61547
EN 62384
according to EN 50172

Control input (DA/D1, DA/D2)

Digital DALI/DSI signal or switchDIM can be wired on the same terminals (DA/D1 and DA/D2).

Digital signal DALI/DSI

The control input is non-polar and protected against accidental connection with a mains voltage up to 264 V. 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.

switchDIM

Integrated switchDIM function allows a direct connection of a push to make switch for dimming and switching.

Brief push (< 0.6 s) switches LED control gear ON and OFF. The LED control gears switch-ON at light level set at switch-OFF.

When the push to make switch is held, LED modules are dimmed. After repush the LED modules are dimmed in the opposite direction.

In installations with LED control gears with different dimming levels or opposite dimming directions (e.g. after a system extension), all LED control gears can be synchronized to 50 % dimming level by a 10 s push.

Use of push to make switch with indicator lamp is not permitted.

switchDIM is a very simple tool for controlling ballasts with conventional momentary-action switches or motion sensors.

To ensure correct operation a sinusoidal mains voltage with a frequency of 50 Hz or 60 Hz is required at the control input.

Special attention must be paid to achieving clear zero crossings. Serious mains faults may impair the operation of switchDIM.

Dimming

Dimming range 1 % to 100 %

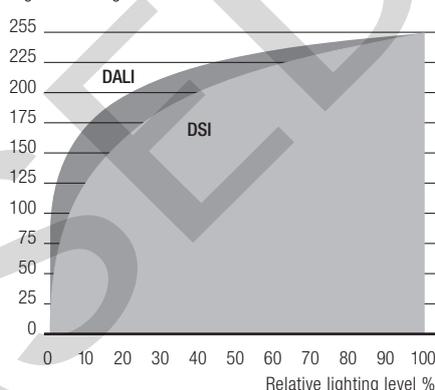
Digital control with:

- DSI signal: 8 bit Manchester Code
Speed 1 % to 100 % in 1.4 s
- DALI signal: 16 bit Manchester Code
Speed 1 % to 100 % in 0.5 s
Programmable parameter:
Minimum dimming level
Maximum dimming level
Default minimum = 1 %
Programmable range $1\% \leq \text{MIN} \leq 49\%$
Default maximum = 100 %
Programmable range $100\% \geq \text{MAX} \geq 50\%$

Dimming curve is adapted to the eye sensitiveness.

Dimming characteristics

Digital dimming value



Dimming characteristics as seen by the human eye

Temperature sensor NTC

The temperature sensor (NTC) must be connected to TALEXconverter 0030 K500 one4all. If the NTC falls below a resistance of 2.2 kΩ the LED modules are switched off. If the recommended NTC is used this corresponds to around 90 °C. The modules are switched on again as soon as the temperature falls below 65 °C. This corresponds to a resistance of 5.6 kΩ. If a fault is detected at the NTC the LED control gear switches off. The limit values here are 700 Ω for a short-circuit and 1.9 MΩ for a break.

If the temperature control is not required, the temperature sensor (NTC) has to be replaced with a 33 kΩ resistor. To ensure the correct operation of the LED control gear, either a NTC or a 33 kΩ resistor has to be connected to the NTC output terminals.

Thermal protection of the unit

The unit also has an ITG (Intelligent Temperature Guard). This protects it from overheating. If the unit is operated at too high a temperature the output is reduced to as little as 70 %.

Reference type NTC

05505099 NTC SMD 33.00K 0.210W 5.00%
4390K 0805

Manufacturer: Epcos

Ordering Code: B57431V2333J062

Active cooling

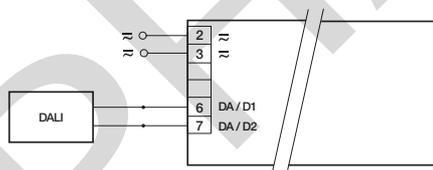
A voltage of 12 V is applied if DALI > 0 and switches off with a delay of 10 s if the luminaire is placed in standby mode (DALI = 0).

The maximum current for the cooling output is 250 mA (corresponding to 3 W).

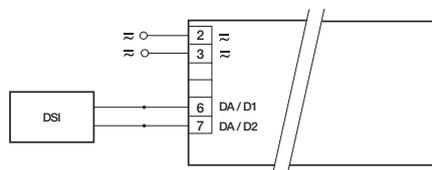
Installation instructions

Please note that 0030 K500 one4all complies with protection class II so special measures are needed if it is to be installed in protection class I applications / luminaires.

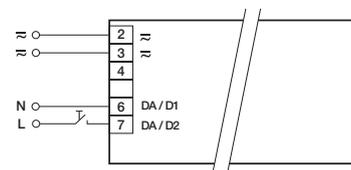
Please note the requirements set out in the document LED_Betriebsgeraete_installationshinweis.pdf (<http://www.tridonic.com/com/de/technische-doku.asp>).



DALI TALEXconverter 0030 K500 one4all



DSI TALEXconverter 0030 K500 one4all



switchDIM TALEXconverter 0030 K500 one4all

Loading of automatic circuit breakers

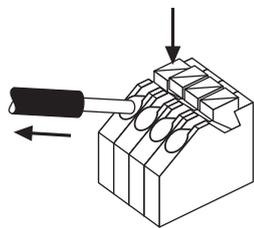
Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20
Installation Ø	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²
0030 K500 one4all	50	65	80	100	50	65	80	100

Wiring guidelines

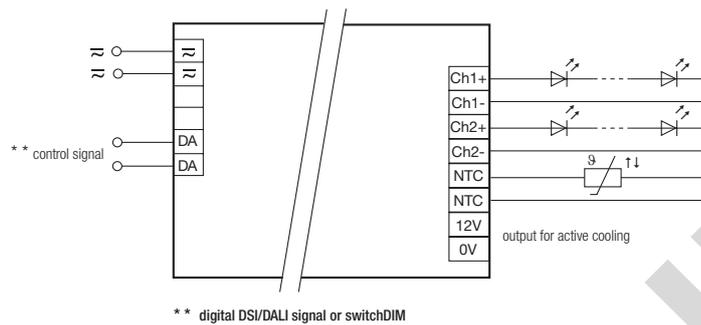
- the cables should be run separately from the mains connections and mains cables to ensure good EMC
- the LED wiring should be kept as short as possible to ensure good EMC
- the TALEXeos modules must be operated in series on constant current LED control gear TALEXconverter 0030 K500 one4all
- the LED control gear 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.
- Secondary switching is not permitted.
- the device has 2 channels of 500 mA each. These can be loaded with 7–30V. Both channels must be loaded. Asymmetrical load is possible.

Release of the wiring

Press down the "push button" and remove the cable from front.



Circuit diagram



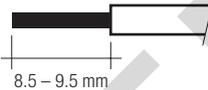
Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid. For perfect function of the push-wire terminals the strip length should be 8.5–9.5 mm for the input terminal and 5–6 mm for the output terminal.

Input terminal

wire preparation:

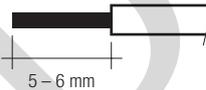
0.5 – 1.5 mm²



Output terminal

wire preparation:

0.08 – 0.5 mm²



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

No warranty if device was opened.