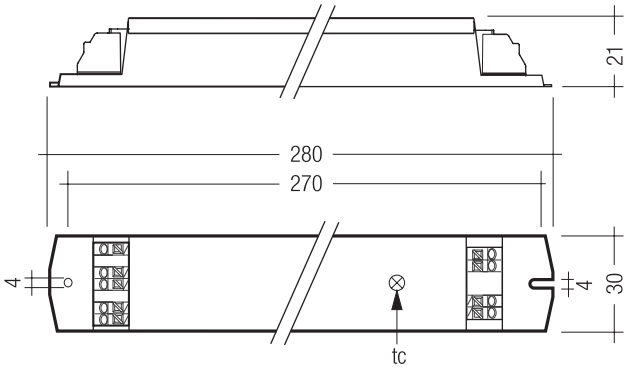
IP20 RoHS

TALEXconverter LCAI 80 W 350 mA one4all 220-240 V
ECO



Product description
- Dimmable built-in controlgear for LED
- Constant current controlgear with 350 mA output current
- Output power 80 W
- Nominal lifetime of 50,000 h (at ta 50 °C with a failure rate max. 0.2 % per 1,000 h)
- 5-year guarantee

Properties
- Low-profile metal casing with white cover
- Type of protection IP20
- No dip-coated (Article number 28000211)
- Dip-coated (Article number 86459393)

Interfaces
- DALI (device type 6)
- DSI
- switchDIM (with memory function)
- corridorFUNCTION

Functions
- Overload protection
- Overtemperature protection
- Short circuit proof
- Dimming in DC adjustable
- Suitable for emergency lighting units acc. to EN50172

Ordering data

Type	Article number	Packaging carton	Packaging pallet	Weight per pcs.
LCAI 080/0350 I010 one4all 220-240 V	**28000211**	10 pc./pcs.	960 pc./pcs.	0.212 kg
LCAI 080/0350 I013 one4all 220-240 V	**86459393**	25 pc./pcs.	700 pc./pcs.	0.216 kg

Technical data

Rated supply voltage	220 – 240 V
AC Voltage range	198 – 264 V
DC Voltage range	170 – 280 V
Mains frequency	0 / 50 / 60 Hz
Typ. rated current (at 230 V / 50 Hz / full load)[1]	380 mA
Mains current (at 220 V / 0 Hz / full load)[2]	100 mA
Leakage current (PE)	0.4 mA
Max. input power	92 W
Typ. efficiency (at 230 V, 50 Hz, full load)[1]	92 %
Typ. λ (at 230 V / 50 Hz / full load) [1]	0.95
Typ. power input on standby	< 1 W
Switch-on time (DC mode)	0.4 s
Switch-on time (at 230 V / 50 Hz / full load / acc. to the DALI standard)[1]	0.6 s
Switchover time (AC/DC)	0.2 s
Turn off time (at 230 V / 50 Hz / full load)	0.1 s
Hold on time at power failure (output) [3]	4 ms
PWM frequency	400 Hz
Dimming range	3 – 100 %
Operating temperature range ta	-20 ... +50 °C
Max. casing temperature tc	70 °C
Dimensions LxWxH	280 x 30 x 21 mm
Hole spacing D	270 mm

Specific technical data

Type	Output current[1]	Output current tolerance[1]	Output voltage range	Max. output voltage[4]	Typ. output power
LCAI 080/0350 I010 one4all 220-240 V	350 mA	± 5 %	116 – 230 V	420 V	80 W
LCAI 080/0350 I013 one4all 220-240 V	350 mA	± 5 %	116 – 230 V	420 V	80 W

[1] Valid at 100 % dimming level

[2] Valid at 15 % dimming level

[3] At power failure

[4] 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
IEC 62386-101
IEC 62386-102
IEC 62386-207

According to the EN 50172 suitable for central battery systems
According to the EN 60598 suitable for emergency lighting installations

Overload protection / underload protection
If the output voltage range is exceeded the controlgear turns off the LED output and tries a restart every 6 seconds. The overload protection is deactivated in emergency operation.

Overtemperature protection
The controlgear is protected against temporary thermal overheating. If the temperature limit is exceeded the output current of the LED is reduced. The temperature protection is activated between 8 °C and 12 °C above tc max (see page 1). This function is deactivated in emergency operation.

Short-circuit behaviour
In case of a short circuit on the secondary side (LED) the LED ouput is switched off. Every 6 seconds the controlgear tries to restart.

No-load operation
The controlgear is not damaged in the no-load operation. Every 6 seconds the controlgear tries to restart. The max. output voltage (see page 1) can be obtained for a short time (50 ms) during no-load operation.

Expected lifetime

Type		ta = 40 °C	ta = 50 °C
LCAI 080/0350 I010 one4all 220-240 V	tc	60 °C	70 °C
	Lifetime	100,000 h	50,000 h
LCAI 080/0350 I013 one4all 220-240 V	tc	60 °C	70 °C
	Lifetime	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	2.5 mm²	4 mm²	1.5 mm²	1.5 mm²	2.5 mm²	4 mm²	I_{max}	Duration
LCAI 080/0350 I010 one4all 220-240 V	14	18	22	26	7	9	11	13	40 A	200 µs
LCAI 080/0350 I013 one4all 220-240 V	14	18	22	26	7	9	11	13	40 A	200 µs

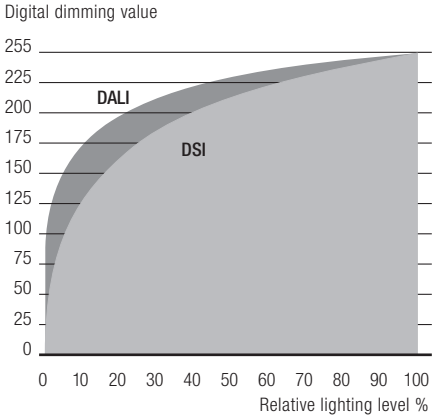
Harmonic distortion in the mains supply (at 230 V / 50 Hz and full load) in %

	THD	3.	5.	7.	9.	11.
LCAI 080/0350 I010 one4all 220-240 V	12	11	3	4	4	3
LCAI 080/0350 I013 one4all 220-240 V	12	11	3	4	4	3

Dimming
Dimming range 3 % to 100 %
Digital control with:
- DSI signal: 8 bit Manchester Code
  Speed 3 % to 100 % in 1.4 s
- DALI signal: 16 bit Manchester Code
  Speed 3 % to 100 % in 0.1 s
  Programmable parameter:
  Minimum dimming level
  Maximum dimming level
  Default minimum = 3 %
  Programmable range 3 % ≤ MIN ≤ 100 %
  Default maximum = 100 %
  Programmable range 100 % ≥ MAX ≥ 3 %

Dimming curve is adapted to the eye sensitiveness.

Dimming characteristics



Dimming characteristics as seen by the human eye

Control input (DA/D1, DA/D2)
Digital DALI 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 converter ON and OFF. The converters 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 converters with different dimming levels or opposite dimming directions (e.g. after a system extension), all converters can be synchronized to 50 % dimming level by a 10 s push.
Use of push to make switch with indicator lamp is not permitted.

corridorFUNCTION
The corridorFUNCTION can be programmed in two different ways.
To program the corridorFUNCTION by means of software a DALI-USB interface is needed in combination with a DALI PS. The software can be the masterCONFIGURATOR.
To activate the corridorFUNCTION without using software a voltage of 230 V simply has to be applied for five minutes at the switchDIM connection.
The unit will then switch automatically to the corridorFUNCTION.

Note:
If the corridorFUNCTION is wrongly activated in a switchDIM system (for example a switch is used instead of pushbutton), there is the option of installing a pushbutton and deactivating the corridorFUNCTION mode by five short pushes of the button within three seconds.

switchDIM and corridorFUNCTION are very simple tools 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 and corridorFUNCTION.

Light output level in DC operation
Programmable from 3 % to 100 %
Programming by extended DSI or DALI signal (16 bit).
Default value is 15 %
In DC operation dimming mode can be activated.

Programming
With appropriate software and a USB interface different functions can be activated and various parameters can be configured in the TALEXconverter LCAI 070/300 I010 one4all. All that is needed is a DALI-USB and the software (masterCONFIGURATOR).

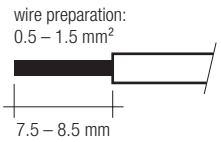
masterCONFIGURATOR
For programming the corridorFUNCTION, device configuration (fade time, ePowerOnLevel, etc.) DC level, compatibility settings, and startup date and for resetting.

Wiring guidelines

- The secondary cables should be run separately from the mains connections and mains cables to ensure good EMC conditions
- The LED wiring should be kept as short as possible to ensure good EMC. The max. secondary cable length must not exceed 2 m. Cable lengths bigger than 2 m may lead to a malfunction of the controlgear.
- 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.

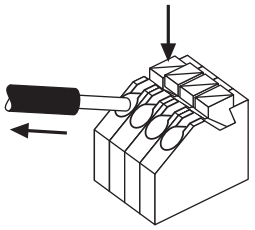
Wiring type and cross section

The wiring can be in flexible cable with ferules or solid from 0.5 – 1.5 mm². For perfect function of the push-wire terminals (WAGO 250) the strip length should be 7.5 – 8.5 mm.



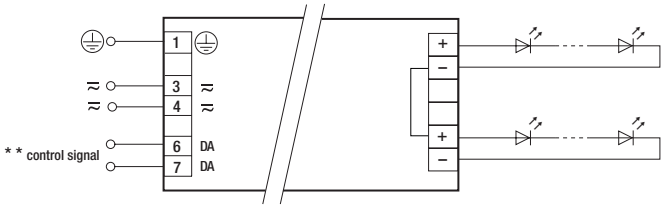
Release of the wiring

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

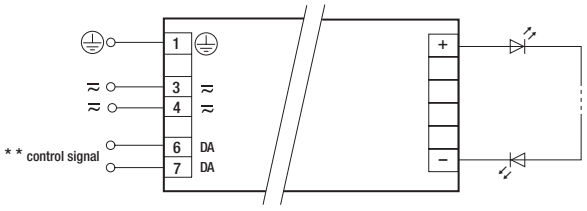


Controlgear is not SELV (output voltage up to 420 V).

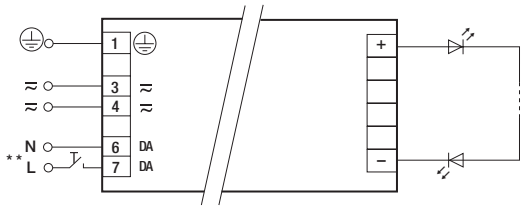
Circuit diagrams



** digital DSI/DALI signal or switchDIM/corridorFUNCTION



** digital DSI/DALI signal



** switchDIM

LED’s have to be connected as shown above to work properly. It is possible to connect a different number of LED’s on two circuits (like on top picture). The minimum power load has to be connected. Otherwise the converter will switch off.

Operation on DC voltage

The controlgear is designed for operation with DC voltage and pulsed DC voltage.