

**Driver LCAI 15 W 350 mA one4all**  
ECO series

**Product description**

- 1 addressable output channel
- 350 mA PWM output signal
- Short-circuit protection with automatic restart
- No-load detection with automatic restart
- Intelligent Temperature Guard (protection against thermal damage)
- Connecting cable, cable cross-section 0.5 – 2.5 mm<sup>2</sup>
- Power input on stand-by < 1 W
- Output power 15 W
- Overload protection with automatic restart
- Strain relief



**Properties**

- switchDIM-MEMORY and corridorFUNCTION
- Dimming range 1 to 100 %
- Dimming curve adapted to the sensitivity of the eye
- Noise-free precise control via DALI or DSI signal, switchDIM or corridorFUNCTION
- Powerless switching via a digital interface (no need for switching via mains)
- Fault reporting and programmable operating parameters in DALI mode
- SELV

IP20         

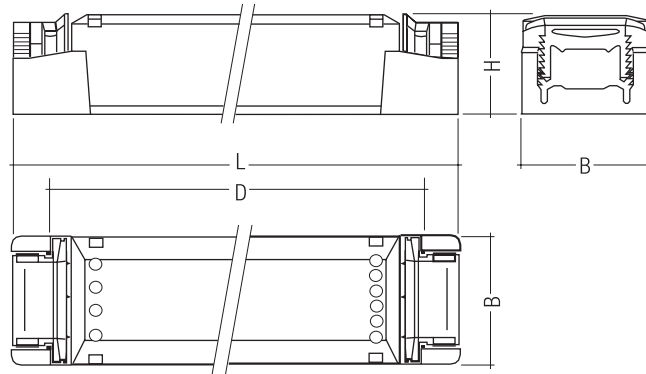
## Driver LCAI 15 W 350 mA one4all ECO series

### Technical data

Rated supply voltage	220 – 240 V
AC voltage range	198 – 264 V
DC voltage range <sup>①</sup>	170 – 240 V
Mains frequency	0 / 50 / 60 Hz
Rated current (at 230 V 50 Hz)	0.08 A
Typ. current (220 V, 0 Hz, full load, 15 % dimming level)	14 mA
Efficiency	> 84 %
$\lambda$ at 230 V / 50 Hz	0.6
Max. input power	19 W
Control input dimming	DSI, DALI, switchDIM
Dimming range	1 – 100 %
PWM frequency	400 Hz
Stand-by power at 230 V	0.77 W
Output current	350 mA
Output current tolerance	$\pm$ 7.5 %
Typ. current ripple (at 230 V, 50 Hz, full load)	$\pm$ 17 %
Max. repetitive output peak current	$\leq$ output current + 25 %
Max. non-repetitive output peak current	$\leq$ output current + 25 %
Output voltage range	9 – 45 V
Max. output voltage <sup>②</sup>	60 V
Output power	15 W
Output power range (without dimming operation)	3 – 15 W
Set up time at 230 V (acc. to the DALI standard)	< 600 ms
Time to light (at 230 V, 50 Hz, full load, acc. to DALI)	< 0.8 s
Time to light (DC mode)	< 0.5 s
Switchover time (AC/DC)	< 0.5 s
Turn off time at full load	30 ms
Turn off time at 3 V	< 300 ms
Burst / surge peaks output side against PE	4 kV
$t_a$ operating (at life-time 50,000 h)	-25 ... +50 °C
Max. casing temperature $t_c$	80 °C
Storage temperature	-25 ... +60 °C
Dimensions LxWxH	167 x 42 x 31 mm
Hole spacing D	143 – 148 mm

<sup>①</sup> On DC operation dimmlevel is always set to 15 % default.  
This can be adjusted to any level in masterCONFIGURATOR.

<sup>②</sup> In non-load operation.



### Ordering data

Type	Article number	Packaging carton	Packaging pallet	Weight per pc.
LCAI 015/0350 A020 one4all	28000735	20 pc(s).	800 pc(s).	0.121 kg

### Standards

EN 50172  
EN 55015  
EN 61000-3-2  
EN 61000-3-3  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384  
EN 62386-207

### 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.

### 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 0.1 s  
Programmable parameter:  
Minimum dimming level  
Maximum dimming level  
Default minimum = 1 %  
Programmable range  $1\% \leq \text{MIN} \leq 100\%$   
Default maximum = 100 %  
Programmable range  $100\% \geq \text{MAX} \geq 1\%$

Dimming curve is adapted to the eye sensitiveness.

### DC emergency operation

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

Light output level programmable from 1 – 100 %  
Programming by extended DSI or DALI signal (16 bit).

Default value is 15 %

In DC operation dimming mode can be activated.

The voltage-dependent input current of Driver incl. LED module is depending on the used load.

The voltage-dependent no-load current of Driver (without or defect LED module) is for:

AC: 16 mA

DC: 5 mA

### 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.

### 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.

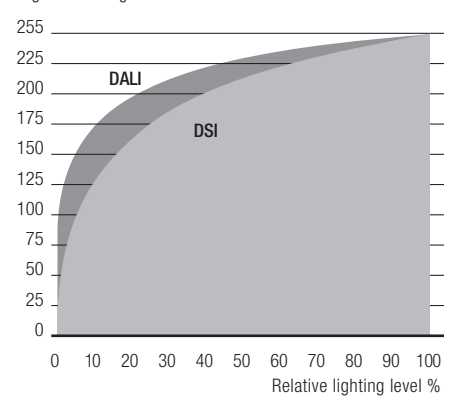
Note:

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 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.

### Dimming characteristics

Digital dimming value



Dimming characteristics as seen by the human eye

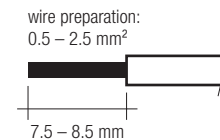
### Wiring type and cross section

The wiring can be in stranded wires with ferrules or solid. For perfect function of the screw terminals the strip length should be 6.5–7.5 mm for the input and output terminal. Double occupancy possible at max. 1.5 mm<sup>2</sup> cross section.

Max. torque at the clamping screw: 0.5 Nm

The maximum secondary cable length at the terminals is 2 m. The LED wiring should be kept as short as possible to ensure good EMC.

### Input / Output terminal



### 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 %.

### Installation instructions

Please note that LCAI 015/0350 A020 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>).

**Expected life-time**

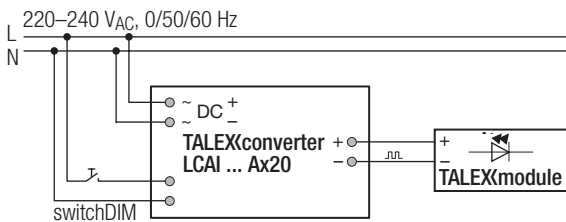
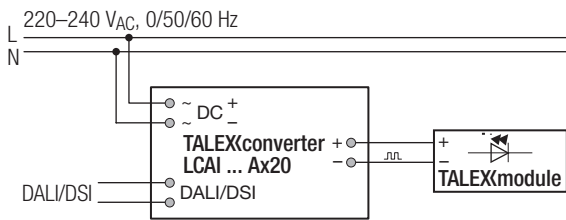
Type	ta	40 °C	50 °C
LCAI 015/0350 A020	tc	70 °C	80 °C
	Life-time	>100,000 h	50,000 h

The LED control gear is 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**

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20
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>
<b>LCAI 015/0350 A020</b>	60	80	100	125	60	80	100	125

**Wiring diagrams**



**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<sub>DC</sub> 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<sub>AC</sub> (or 1.414 x 1500 V<sub>DC</sub>). To avoid damage to the electronic devices this test must not be conducted.

**Additional information**

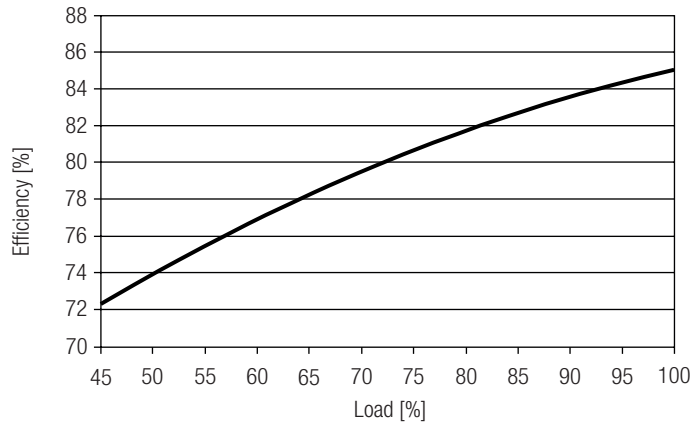
Additional technical information at [www.tridonic.com](http://www.tridonic.com) → Technical Data

Guarantee conditions at [www.tridonic.com](http://www.tridonic.com) → Services

No warranty if device was opened.

Diagrams LCAI 015/0350 A020

Efficiency vs load



Power factor vs load

