

**BRIDGE DALI 0-10V PLC DC STR Ip**

Bridge to convert 0...10 V and DALI into power line communication for DC-String system

**Product description**

- \_ Bridge for converting analogue signals or digital DALI / DALI-2 signals into PLC for DC-String dimming
- \_ Note: Due to PLC technology the bridge only works with Tridonic 48 V DC string LED drivers (in combination with 48 V LMI DC boards). Error-free operation with 48 V Drivers from other manufacturers is not guaranteed.
- \_ For connecting dimmable DC-String LMI LED driver in 0...10 V or DALI control systems
- \_ In delivery condition 0 ... 10 V is active (for details see data sheet chapter 4.1)
- \_ For a maximum of 20 DC-String LMI LED driver / addresses
- \_ On/off switching via DC-STR UNV FO Driver 0...10V or DALI
- \_ For the "group dimming" functionality by using standard 0...10 V dimmers or individual dimming using DALI
- \_ Class 2 control device
- \_ Casing: polycarbonate, white
- \_ 5 years guarantee (conditions at <https://www.tridonic.com/manufacturer-guarantee-conditions>)

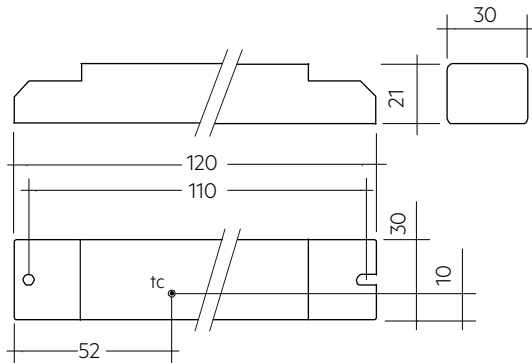
**Website**

<http://www.tridonic.com/28003419>



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Bridge to convert 0...10 V and DALI into power line communication for DC-String system

**Ordering data**

| Type                              | Article number | Packaging, carton | Weight per pc. |
|-----------------------------------|----------------|-------------------|----------------|
| BRIDGE DALI / 0-10V PLC DC-STR Ip | 28003419       | 10 pc(s).         | 0.038 kg       |

**Technical data**

|                                                                                   |                  |
|-----------------------------------------------------------------------------------|------------------|
| Rated voltage range DC                                                            | 45 – 54 V        |
| Rated current (at 48 V DC) ①                                                      | < 30 mA          |
| Power consumption                                                                 | < 1.5 W          |
| On / off switching cycles                                                         | 50,000           |
| Ambient temperature $t_a$ (at lifetime 50,000 h)                                  | -25 ... +60 °C   |
| Max. casing temperature $t_c$                                                     | 65 °C            |
| Guarantee (conditions at <a href="http://www.tridonic.com">www.tridonic.com</a> ) | 5 Year(s)        |
| Dimensions L x W x H                                                              | 120 x 30 x 21 mm |

**Approval marks****Standards**

UL 8750, CSA C22.2, FCC PART 15, EN 61347-1, EN 61347-2-11, EN 55015, EN 61547

① Only compatible with Tridonic's 48 V DC-String system.

## 1. Standards

UL 8750  
CSA C22.2  
FCC Part 15  
EN 61347-1  
EN 61347-2-11  
EN 55015  
EN 61547

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

### 1.1 Glow wire test

according to EN 61347-1 with increased temperature of 850 °C passed.

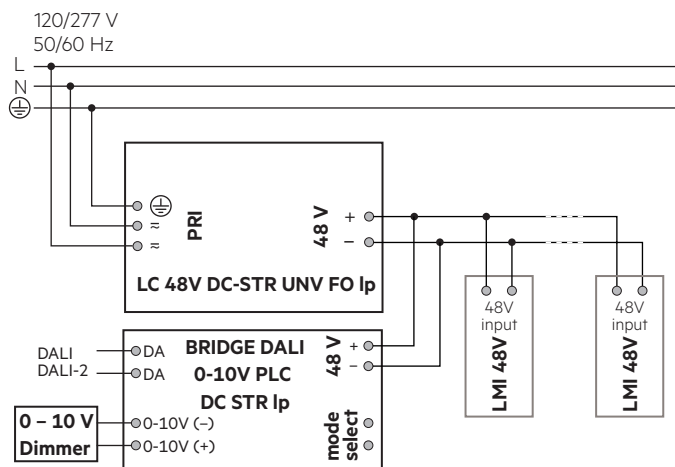
## 2. Thermal details and lifetime

### 2.1 Expected lifetime

Lifetime is limited by DC power supply.  
Max. tc point temperature must not be exceeded.

## 3. Installation / wiring

### 3.1 Circuit diagram



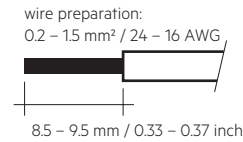
To use dimming functionality use dimmable LMI LED drivers with "DIM" in the product name.

### 3.2 Wiring type and cross section

For wiring use stranded wire with ferrules or solid wire from 0.2–1.5 mm<sup>2</sup> / 24 – 16 AWG.

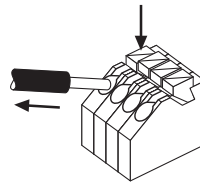
Strip 8.5–9.5 mm / 3/8 inch of insulation from the cables to ensure perfect operation of the push-wire terminals.

Use one wire for each terminal connector only.



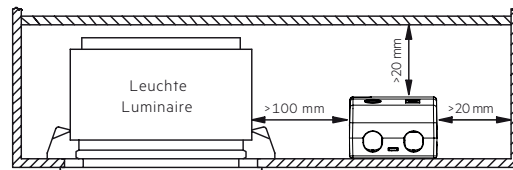
### 3.3 Loose wiring

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



### 3.4 Fixing conditions when using as independent Driver with Clip-On

Dry, acidfree, oilfree, fatfree. It is not allowed to exceed the maximum ambient temperature ( $t_a$ ) stated on the device. Minimum distances stated below are recommendations and depend on the actual luminaire. Is not suitable for fixing in corner.



### 3.5 Hot plug-in

BRIDGE is suitable for hot plug-in.

Devices will be switched off shortly for fadetime configuration at hot plug-in. Maximum number of LMI LED drivers is limited by 20.

## 4. Electrical values

### 4.1 Mode selection

It can be switched between 0...10 V (open) and DALI interface (short) with the "mode select" terminals by setting a jumper.

### 4.2 Dimming characteristics

#### Control input DALI

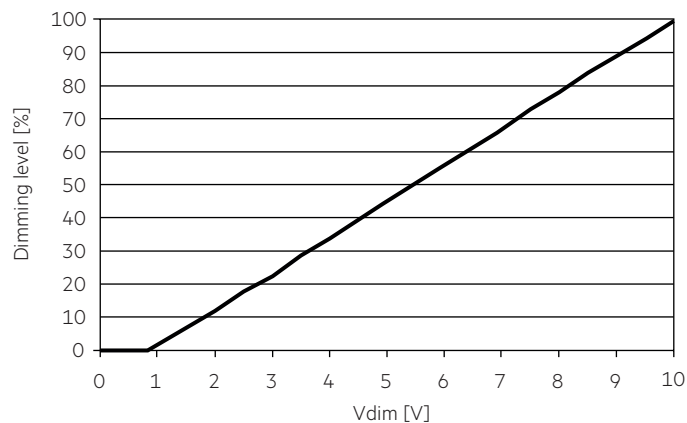
Digital control with:  
DALI signal: 16 bit Manchester Code

For dimming and programming see data sheet of dimmable LMI LED drivers.

#### Control input (0 – 10 V)

|                               |                    |
|-------------------------------|--------------------|
| Control input open            | max. dimming level |
| Control input short-circuited | off (stand-by)     |
| Interface current range       | 540 $\mu$ A        |
| Max. permitted input voltage  | $\pm$ 13 V         |
| Voltage range dimming         | 1 – 10 V           |
| Input voltage < 1 V           | off (stand-by)     |
| Input voltage > 10 V          | max. dimming level |

Interface is class 2 (without DALI connected).



BRIDGE sends stand-by command to LMI LED drivers from operation to stand-by for a voltage of < 0.8 V and from stand-by to on for a voltage of > 1 V.

#### 0... 10 V control input

To the 0...10 V interface passive potentiometers or 0...10 V voltage sources can be connected.

#### Control with passive potentiometers

To accurately adjust light levels it is recommended that you use a 22 k $\Omega$  potentiometer. If another potentiometer value is already in use, then install a suitable resistor in parallel or series.

#### Control with a 0...10 V voltage source

The 0...10 V input is supplying a control current for operation with passive potentiometers. In the event of using an active voltage source please be aware that this source has to be able to sink a current of 2 mA to enable correct adjustment.

In this case the voltage source has to supply a minimum current of 2 mA to reach the maximum needed output voltage of +10 V.

## 5. Miscellaneous

### 5.1 Conditions of use and storage

Environmental conditions: 5 % up to max. 85 %,  
not condensed  
(max. 56 days/year at 85 %)

Storage temperature: -25 °C bis max. +60 °C

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

### 5.2 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

Lifetime declarations are informative and represent no warranty claim.  
No warranty if device was opened.