



DALI to 0-10V Interface

Datasheet

DALI to 0-10V Interface



DT5 Converter Module for the integration of 0-10V drivers with electrically isolated control output ($\pm 1\text{mA}$) in DALI lighting systems

Art. Nr. 86458508-LE
(replaces Art. Nr. 86458508-OS)

DALI 0-10V Interface

Overview

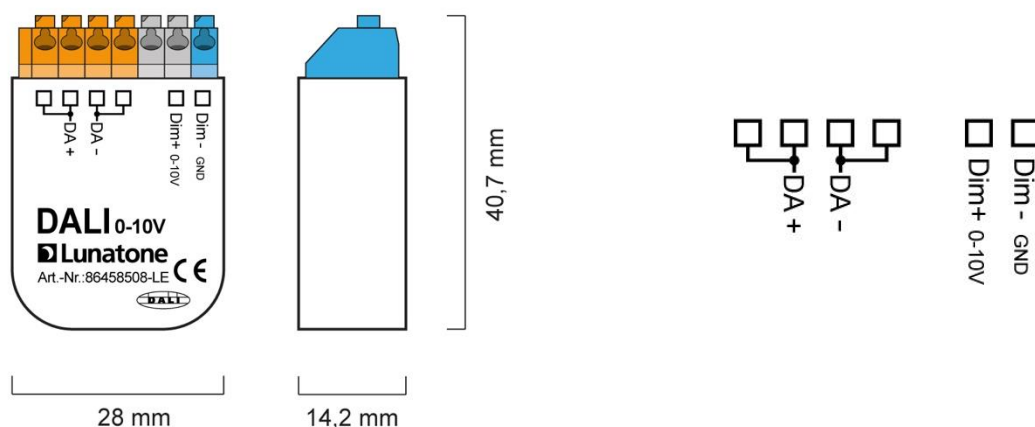
- module converting DALI dimming commands into analogue 0-10V signal (DALI DT5)
- the module is especially designed to operate with drivers with electrically isolated 0-10V control input active or passive (e.g. OSRAM 981677 Optotronic OT 80/220-240/24 DIM P and OSRAM 981714 Optotronic OT 240/220-240/24 DIM P)
- transformation of DALI 8-Bit arc power level into analogue output signal from 0V to 10V
- selection of linear or logarithmic dimming curve (DT5)
- output range selectable between 0-10V or 1-10V (DT5)
- manufacturer specific mode for customized output range (modules with firmware 2.0 and higher)
- maximum output current of 1mA (current sink)
- The DALI must not be connected to the mains. It is supplied directly by the DALI signal line.
- The DALI 0-10V has its own address and can be assigned to DALI groups and scenes
- DALI signal line is connected through

Specification, Characteristics

type	DALI 0-10V LE
article number	86458508-LE
electrical data	
supply	via DALI signal line
typ. current consumption DALI	4,5 mA
Max. current consumption DALI	5,5 mA
input	DALI
output	0-10V (0%-100%) analog voltage (+/-)1mA max. (current sink / current source)
general data	
dimensions (l x w x h)	41mm x 28.0mm x 14 mm (details see page 3)
weight	~10g
protection degree housing	IP40
protection degree terminals	IP20
environmental conditions	
storing and transportation temperature	-20°C ... +75°C
operational ambient temperature	-20°C ... +75°C

terminals

connection type	spring terminal connector
wire size solid core	0,5 ... 1,5 mm ² (AWG20 ... AWG16)
wire size fine wired	0,5 ... 1,5 mm ² (AWG20 ... AWG16)
wire size using wire end ferrule	0,25 ... 1 mm ²
stripping length	8,5 ... 9,5mm / 0,33 ... 0,37inch
actuation type	push button

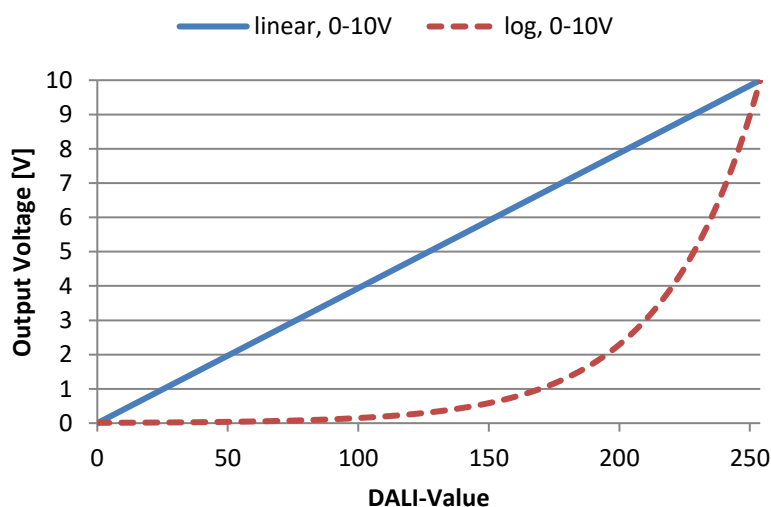


geometry

connection plan

Remark:

Please keep attention on the connection of the DALI-line: The DALI input is not polarity free!

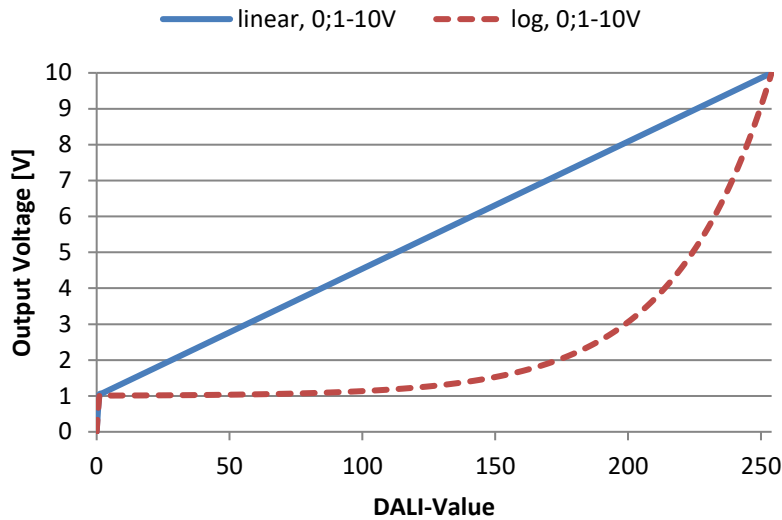


output range 0-10V:

control characterisitic:

DALI 0-254 is transformed to 0-100% output voltage

— linear
- - - logarithmic



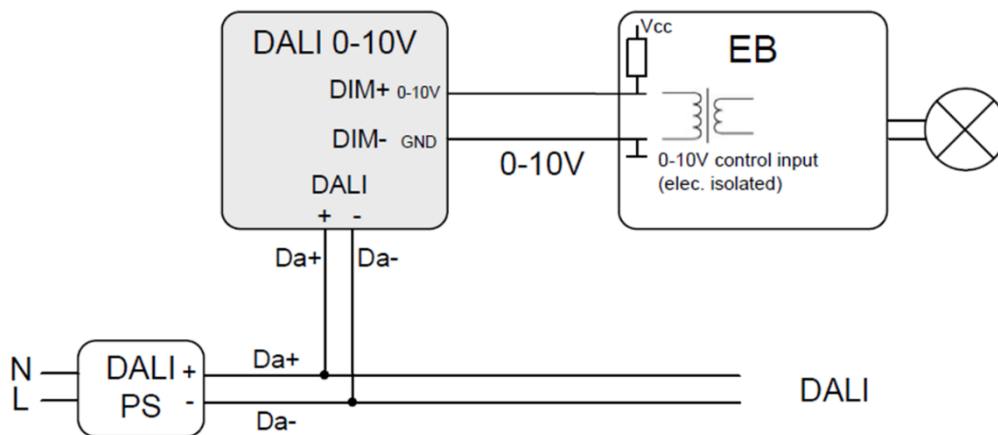
Output range 1-10V:

control characteristic:

DALI 0 correlates with a voltage below and a clear gap to 10% (<5%).

DALI 1-254 is transformed to 10%-100% output voltage

— linear
 - - - logarithmic (factory setting)



typical structure

Connection

The interface is supplied directly via the DALI signal line. It must not be connected to the mains. The current consumption is typically below 3mA. For supplying components on a DALI line the installation of a DALI power supply (DALI PS) is necessary. Internally the DALI-terminals are connected through as visualized on the housing.

Please keep attention on the connection of the DALI input. The input is not polarity free!

The voltage output supports sinking currents up to 1mA. The terminals allow cross sections of the connection wire from 0.5 to 1.5 mm².

Function

The DALI 0-10 interface converts the desired DALI dim level in a corresponding output voltage. Two types of conversion curves and output ranges are available (according to DALI DT5). The DALI direct arc power level [0-254] is either linearly converted to the output signal [0%-100%] without or with an additional offset [0%, 10%-100%]. The same output ranges are available in combination with a logarithmic dimming curve. These relationships are clearly represented by the control characteristic diagrams. The maximum output current is 1mA (current sink).

Firmware version 2.0 and higher support a manufacturer specific mode at which the output range is adjustable by the customer. Using this option can be done easily with the help of the DALI Cockpit software tool.

DALI instruction set

The DALI 0-10V module is based on the standard for DALI control gears (IEC 62386-102) and device type 5 extension (IEC 62386-206). With few exceptions the entire instruction set defined by the DALI standard is supported. For changing dimming curve and output range DALI commands for device type 5 are implemented.

Commands and functions referring to the SYSTEM FAILURE LEVEL are not supported. This parameter is used as the dim level that should be applied on the output in case of a DALI line outage. Since the DALI 0-10V is a bus powered device there is no possibility to apply a specific predefined signal on the output without being under power. In the case of a DALI-line outage 100% are applied on the output.

Purchase Information

article number: 86458508-LE

DT5 interface module for conversion of DALI signals to 0-10V analog signals

Suitable for 0-10V drivers with electrically isolated control input

similar components:

[DALI 0-10V PWM \(Art.Nr. 86458508-PWM\)](#)

with PWM output, galvanic isolation between DALI-input and PWM output

[DALI PWM \(Art.Nr. 86458508-100\)](#) with PWM

output (100mA), galvanic isolation between DALI-input and PWM output

[DALI 0-10V AN \(Art.Nr. 86458508-AN\)](#) with

analog output, galvanic isolation between DALI input and 0-10V output, automatic calibration algorithm

Additional Information and Equipment

DALI-Cockpit – free configuration tool from Lunatone for DALI systems

<https://www.lunatone.com/en/product/dali-cockpit/>

Lunatone DALI products

<https://www.lunatone.com/en>

Lunatone datasheets and manuals

<https://www.lunatone.com/en/downloads-a-z/>

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www.lunatone.com



Disclaimer

Subject to change. Information provided without guarantee. The datasheet refers to the current delivery.

The function in installations with other devices must be tested for compatibility in advance.