



xComfort

DALI lighting control with xComfort

Application Note

August 2016

Description

DALI (Digital Addressable Lighting Interface) is an international standard for lighting control. This application note describes the way to control DALI lighting equipment via xComfort like a normal xComfort Dimming Actuator.

Features

- Control a small DALI subnet (Up to 4 DALI ballast) like a standard xComfort dimmer via RF Pushbuttons or Smart Home Controller.
- Compact interface module for the conversion of 0-10V control signals to DALI direct arc power dim levels.
- 0-10V values are sent broadcast on the DALI subnet.
- A change in the 0-10V input voltage signal (>1%) is used as trigger event.

Interface

Lunatone 0-10V to DALI Converter

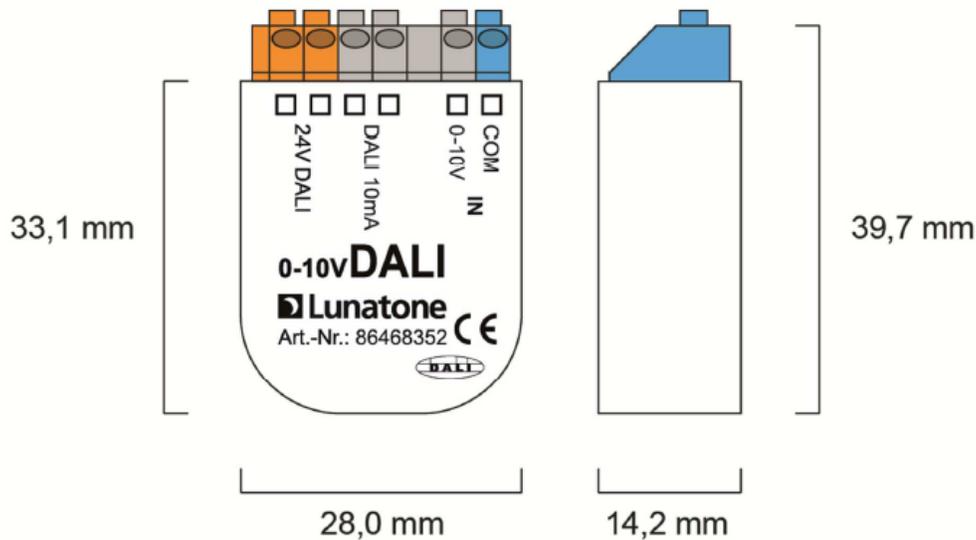


Figure 1: Lunatone 0-10V to DALI Converter

Specification, Characteristics:

Type	0-10V / DALI Converter
article number	86468352
Power supply:	12V-24V (polarity free)
Current consumption (Typical)	4.1mA + current for subnet ballasts
Input:	0-10V
Output:	DALI I _{max} =10mA
Temperature range:	0°C-50°C
Protection class	IP20
Wire connecting:	0.5-1.5 mm ²
Input wiring length max:	50 cm
Dimensions:	40 x 28 x 15mm

Application

In this application example the default Lunatone DALI Converter is used with the following characteristics:

- 1%-100%
- OFF below 1V
- 0-10V passive

Additional variants are available. See purchase information on the last page.

Components

- xComfort CAAE-01/01: 0-10VDC Analogue Actuator
- xComfort CMMZ-00/12 (or CMMZ-00/13): 24VDC Power Supply Unit
- Lunatone 86468352-001-P: 0-10V to DALI Converter

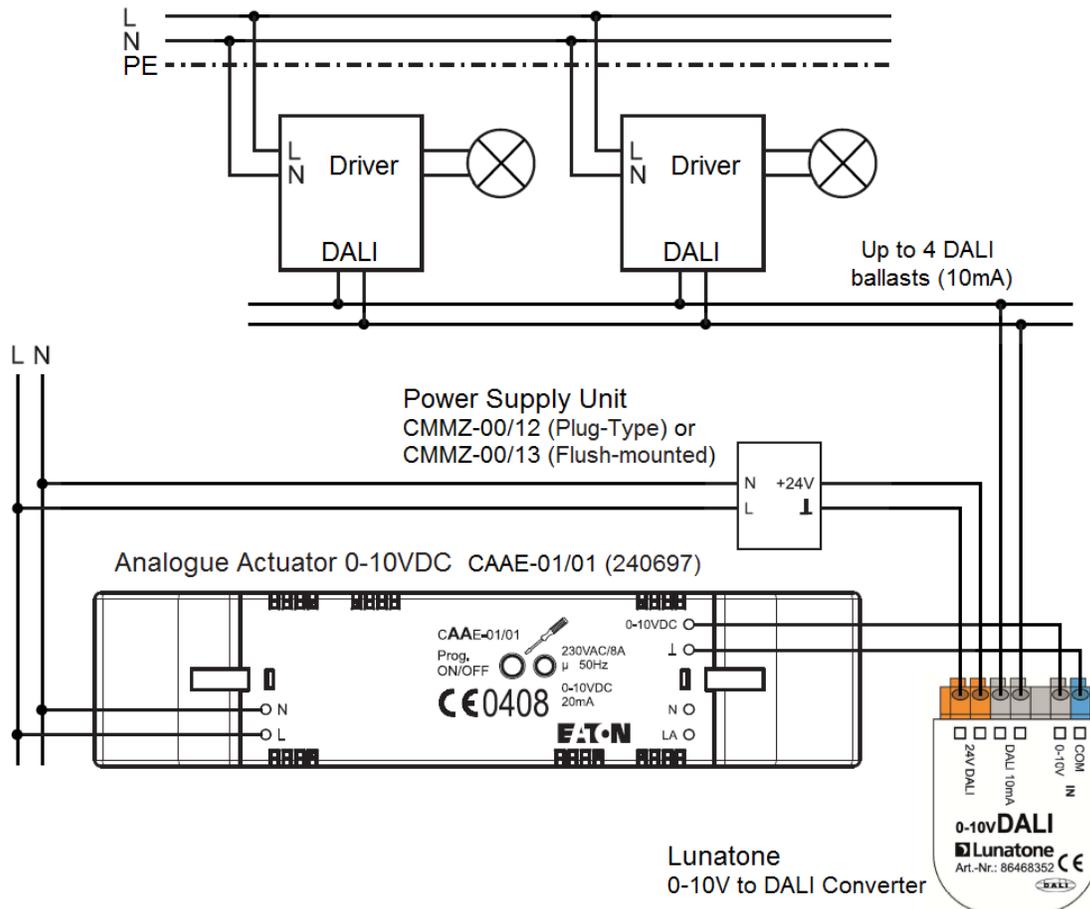


Figure 2: Application example

Remark: More than 4 DALI-ballasts can be controlled by the use of a DALI-Expander (Article Nr. 89453847, integrated DALI PS for up to 64 DALI-ballasts).

Implemented Conversion Curve:

The input voltage range of 1V-10V is converted to the light level range of the connected DALI ballast. The input voltage is converted to either 1%-100% or 10% -100% light level (depending on the type).

For a better visualization the characteristics of the 10% types are shown in the graphic below.

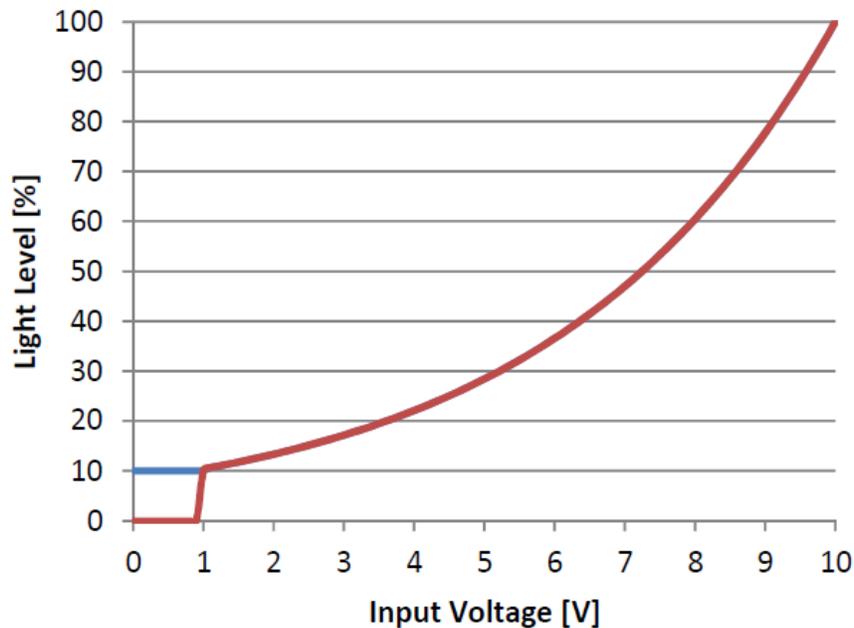


Figure 3: 0-10V DALI Conversion Curve

ON/OFF:

Depending on the variant the converter behavior below 1V is different. It is either switched OFF (red characteristic) or the Minimum level is sent (blue characteristic).

Stand-Alone solutions

For small applications RF Pushbuttons can be assigned to the Analog Actuator in Basic Mode like normal. The standard dimming commands (short pressed, long pressed) are available to control the DALI lighting (On, brighter, Off, Darker).

Smart Home Controller

Use for larger applications MRF (Comfort Mode) to connect the Analog Actuator to the Smart Home Controller for example.

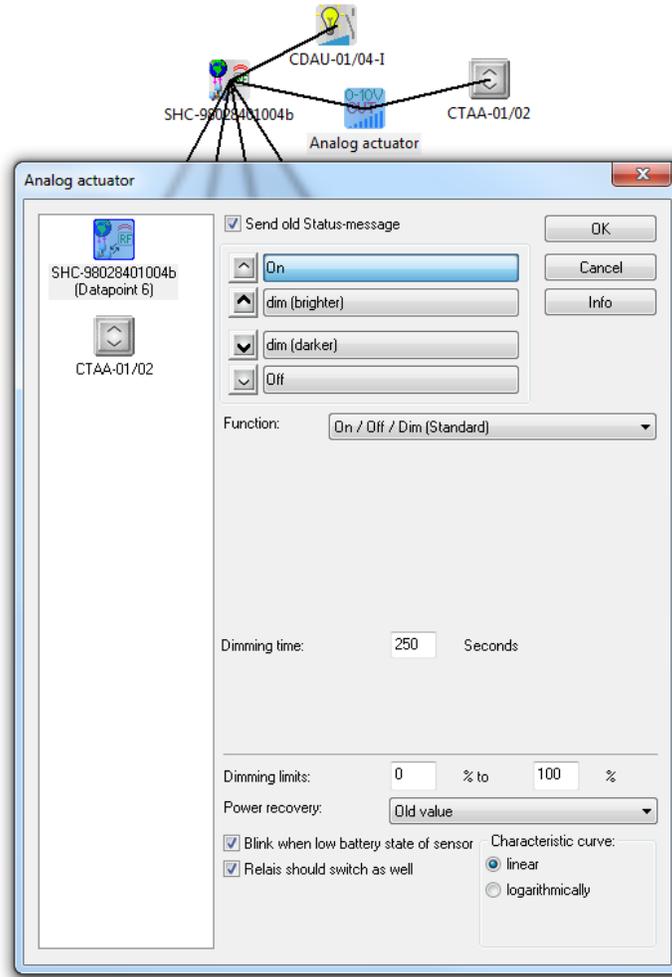


Figure 4: MRF Analog Actuator configuration example

The DALI lighting is in the same way available in the Macro Function and User Interface like all other type of Dimming Actuators.



Figure 5: Control DALI Devices via SHC App

Purchase Information

Eaton

Article number	Type	Description
240697	CAAE-01/01	Analogue Actuator 0-10VDC
110772	CMMZ-00/12	24VDC Power Supply Unit Plug-Type
110773	CMMZ-00/13	24VDC Power Supply Unit Flush-mounted

Lunatone

The types vary in dimming range, OFF-function and 0-10V input circuit.

Types supporting OFF-function:

Article number	Description
86468352-001-P	1%-100%, OFF below 1V, 0-10V passive (default)
86468352-001-A	1%-100%, OFF below 1V, 0-10V active
86468352-010-P	10%-100%, OFF below 1V, 0-10V passive
86468352-010-A	10%-100%, OFF below 1V, 0-10V active

Types without OFF-function:

Article number	Description
86468352-101-P	1%-100%, 1% below 1V, 0-10V passive (default)
86468352-101-A	1%-100%, 1% below 1V, 0-10V active
86468352-110-P	10%-100%, 1% below 1V, 0-10V passive
86468352-110-A	10%-100%, 1% below 1V, 0-10V active

Additional Information

Lunatone DALI products
<http://www.lunatone.at/en/>
 Lunatone datasheets and manuals
<http://lunatone.at/en/downloads/>

Lunatone Contact

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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.