AA761550027

e:cue
DMX2DALI

Information for Use

Read the Information for Use and the Safety Instructions carefully. Subject to modification without prior notice. Typographical and other errors do not justify any claim for damages. Modification of the product is prohibited.
This manual is designed for electricians, system administrators, and product users.
All product names and trademarks mentioned in this manual are trademarks of their respective owners.
Except for internal use, relinquishment of the instructions to a third party, duplication in any type or form - also extracts - as well as exploitation and / or communication of the contents is not permitted.

Downloads and more information at:
www.ecue.com

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1   Safety instructions

Please read the safety instructions, provided in a separate manual, carefully. Make sure that the environmental, mounting, and installation prerequisites are met. This manual should be kept at a safe place and in reach of the device.

1.1   Symbols

⚠️ The exclamation mark warns about possible damage of the device itself, to connected devices, and to the user.

i The information symbol gives general hints and informs about handling and procedures for use of the device.

1.2   General instructions

⚡ — Exposed power wearing cables, do not install under voltage to avoid electrical shocks!

⚠️ — Only use the device in compliance with the environmental conditions specified in the data sheet! Note the technical characteristics at the end of this manual!

— Do not open the metal housing! There are no user operable parts inside.

— Do not connect DMX sources to both DMX inputs! Do not short circuit DALI/DSI outputs! Do not share DALI terminals for several outputs!

— Actions described in this manual may only be performed with special care by skilled personnel.

— Repairs may only be carried out by authorized, specially trained personnel. When in doubt, contact e:cue service.

2   General device description

As a flexible converter from DMX signals to DALI/DSI, DMX2DALI is a simple solution for controlling electrical DALI/DSI ballasts and dimmers using a DMX controller. DMX2DALI's flexibility makes installation easy by using auto and manual DMX addressing modes and the option of using an RJ45 connector or single-wire connection for DMX connection. Six addressable consecutive DMX channels control six DALI outputs. Each output supports up to 16 DALI/DSI ballasts or dimmers (broadcast mode), while one DMX2DALI supports up to 96 electrical DALI/DSI ballasts and dimmers, typically used for control of fluorescent lighting.

Main features

- 6 outputs with either 1200 Baud DALI transfer speed or 600 baud DSI transfer speed controlled by 6 DMX channels

- Up to 16 DALI/DSI ballasts per output, all controlled by the same DMX channel (broadcast mode)

- Single 100 to 240 V AC supply voltage

- DMX connectors (RJ45) allow standard CAT5 wiring

- Single-wire connectors (In/Out)

- Power and DMX status LEDs

- DMX manual and autoaddressing modes, DIP switches for configuration and manual addressing mode

- User selectable number of DMX channels (1-6)

- DIN rail mounting or standalone operation

2.1   Delivery content

Delivery content for the e:cue DMX2DALI (AA761550027, AA5700501IL):

1. DMX2DALI
2. This setup manual

2.2   Firmware level

This setup manual refers to firmware version 2.1. For earlier versions please visit the download section of www.ecue.com.

2.3   Product specifications

Dimensions (W x H x D)	107 x 76 x 59 mm/ 4.21 x 3 x 2.32 in
Weight	300 g / 0.66 lb
Power supply	100...240 V AC
Operating/storage tempt	0 ... 40 °C / 32 ... 104 °F
Operating/Storage humidity	0 ... 80 °C non-condensing
Protection Class	IP20
Housing	Anodised aluminium and plastic
Mounting	on 35 mm DIN rail
Certifications	CE, UKCA

Interface specifications

Input	DMX 512 (Spring terminal clamps, RJ45)
Output	DALI/DSI, DMX 512 (Spring terminal clamps, RJ45)

3 General remarks

3.1 Transport

Only transport the device in its original packaging. This protects the device from damage.

3.2 Unpacking

Only unpack the e:cue DMX2DALI at its installation location. To protect the device against condensation water, unpack it and wait until all moisture remaining in the device has evaporated. Condensation can occur when the device is moved from a cold to a warm location. Keep the packaging for use in case of further transport. Inspect all parts for completeness regarding chapter „2.1 Delivery content" on page 04. If there is apparent damage to the device or parts are missing from the delivery scope, please contact the Traxon e:cue support service.

3.3 Warranty regulations

Depending on the product, warranty regulations are of different duration. The warranty time is usually noted in the quote and in the order confirmation. See www.traxon-ecue.com/terms-and-conditions for details. Legal warranty regulations apply in any case.

3.4 Maintenance and Repair

This device requires no maintenance.

> ⚠️ — Before dismounting, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).
>
> — Do not try to repair the device. Return it to your Traxon e:cue distributor for replacement or repair.

3.5 Disposal

> 🗑️ Batteries and technical appliances must not be disposed of with domestic waste, but should be handed in at the appropriate collection and disposal points.

The proper disposal of packing materials and of the device is the responsibility of the respective user and for his account; in all other matters, the retrieval obligation for packing materials and the device is subject to the statutory regulations.

3.6 Support

In case of technical problems or questions regarding installation and repair please contact:

Traxon Technologies Europe GmbH

Customer Service

Karl-Schurz-Str. 38

33100 Paderborn, Germany

+49 (5251) 54648-0

support@ecue.com

4   Connectors and switches
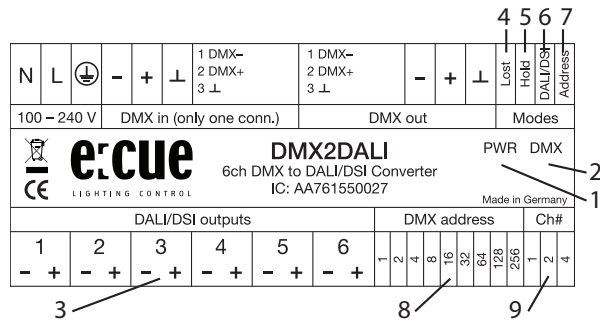
4.1   LED Wirings Test

The DMX2CC has a unique algorithm for detecting load type and wrong LED connections. It can detect if the LED's (+) and (-) lines are having a short circuit between them or mixed connection with a neighbour channel inside the terminal plug. If the device detects an incorrect wiring on one of the outputs, that group of channels will not be operational until the problem is fixed.

1. PWR LED: Indicates operational device

2. DMX LED: Indicates valid DMX input signal

3. DALI/DSI outputs: DALI/DSI direct power arc broadcast mode: max 16 DALI/DSI ballasts per output

4. DMX lost mode: Definition of DALI/DSI outputs when no DMX signal is present

   'Off' = DALI/DSI outputs set to maximum intensity
   'On' = DALI/DSI outputs set to zero intensity

5. DALI/DSI hold mode: Definition of DALI/DSI outputs when no DMX signal is present

   'Off' = As defined by 'DMX Lost Mode'
   'On' = DALI outputs keep last updated values (or 'DMX Lost Mode' setting if there was no DMX present yet.)

6. DALI/DSI selection: Defines protocol for all output channels:

   'Off' = DALI,
   'On' = DSI

7. Addressing mode selection: Defines addressing mode:

   'Off' = autoaddressing
   'On' = manual
   Auto addressing converts the defined channels to DALI/DSI and sends a modified DMX signal via the DMX output to the next device. The new first DMX channel is the one after the last one used.
   Manual addressing forwards the unmodified DMX signal.

8. DMX address selection: Defines DMX start address (DALI/DSI channel 1) by binary values:

All switches 'Off'	default	DMX address 1
Switch value 1 'On'	DMX address 1	
Switch values 1 and 2 'On'		DMX address 3
etc. ...		
All switches 'On'		DMX address 511

9. DMX channel count selection: Defines number of channels deleted from DMX signal and converted to

DALI/DSI in auto addressing mode by binary values (remaining DALI outputs are derived from used channels repetitively):

|		
All switches 'Off'	default	6 channels
		(DALI outputs: "123456")
Switch value 1 'On'		1 channel
		(DALI outputs: "111111")
Switch value 2 'On'		2 channels
		(DALI outputs: "121212")
etc. ...		
Switch values 1 and 4 'On'		5 channels
		(DALI outputs: "123451")
Switch values 2 and 4 'On'		6 channels
		(DALI outputs: "123456")

5   Dismounting

⚠️ Before dismounting, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).

Disconnect all attached cables and dismount the e:cue DMX2DALI. The dismounting is completed.

6   Dimensions

All dimensions in mm

45,5
76
58,4
107
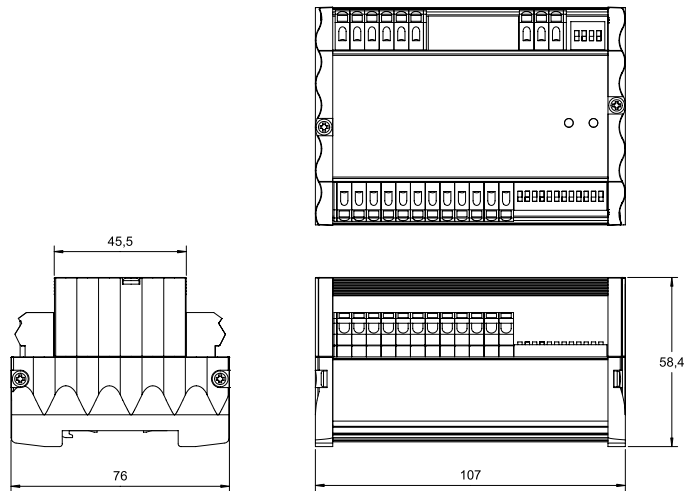
7   Addendum

7.1   About DALI

Digital Addressable Lighting Interface (DALI) is a technical standard for network-based systems that control lighting in buildings. It was established as a successor for 0-10 V lighting control systems, and as an open standard alternative to Digital Signal Interface (DSI), on which it is based. The DALI standard, which is specified in IEC 60929 for fluorescent lamp ballasts, defines the communications protocol and electrical

interface for DALI lighting control networks.

A DALI network consists of a controller and lighting devices with DALI interfaces. The controller can monitor and control each light by a bidirectional data exchange. The DALI protocol permits devices to be individually addressed and it also incorporates Group and Scene broadcast messages to simultaneously address multiple devices (e.g., "Group 1 goto 100%" or "Recall Scene 1").

Each lighting device is assigned a unique static address from 0 to 63 in one group. Alternatively, DALI can be used as a subsystem via DALI gateways to address more than 64 devices. Data is transferred between controller and devices at 1200 baud.

DALI requires a single pair of wires for communication to all devices on a single DALI network. The network can be arranged in a "daisy-chain", "star", or "T" topology, or any combination of these. The DALI System is not classified as SELV (Separated Extra Low Voltage) and therefore may be run next to the mains cables or within a multi-core cable that includes mains power. The DALI signal has a high signal to noise ratio which enables reliable communications in the presence of a large amount of electrical noise. DALI employs Manchester encoding so that devices can be wired without regard for polarity. The network cable is required to be mains-rated, with 600v isolation and at least a 1 mm cross-section, with a maximum drop of two volts along the cable.

7.2   About DSI

Digital Signal Interface (DSI) is a protocol for the controlling of lighting in buildings (initially electrical ballasts). It was created in 1991 by the Austrian company Tridonic and is based on Manchester-coded 8-bit protocol, data rate of 1200 baud, 1 start bit, 8 data bits (dimming value), 4 stop bits, and is the basis of the more sophisticated DALI protocol. The technology uses a single byte to communicate the lighting level (0-255 or 0x00-0xFF). DSI was the start of digital lighting communication technology and was the precursor to DALI.

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