

OPERATING MANUAL

DALI to DMX Dekoder 7064A-H Mk1



RoHS
compliant

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Thank you for choosing a SOUNDLIGHT device.

The SOUNDLIGHT DALI-DMX Converter 7064A-H is an intelligent Converter, which converts DALI commands to USITT DMX-512/1990 output data. The interface is compatible with all standard DMX equipment. Its special advantages include:

- universal protocol decoding
Recognizes most important DALI commands
- future-proof
The unit is software-controlled and can easily be adapted to future protocol enhancements
- simple supply
Supply voltage is 230V AC 50 Hz standard mains power.
- signal loss hold function
In the case of a loss of the drive signal the last valid setting will remain intact.
- universal mounting
Standard DIN rail mounting allows easy integration in building control systems.
- cost-effective
The SOUNDLIGHT 7064A-H is a cost-effective solution for many purposes.

APPLICATIONS

The Converter 7064A-H is intended to control DMX512 equipment from within DALI systems. This unit can be used with architectural lighting systems, building control systems and related applications. The converter is a bus participant in an externally powered standard DALI bus system. It occupies 16 predefined DALI addresses and generates DMX512 output from these addresses.

CONNECTORS

The decoder 7064A-H consists of these input and output connectors:

CN6 POWER SUPPLY 230V AC 50 Hz

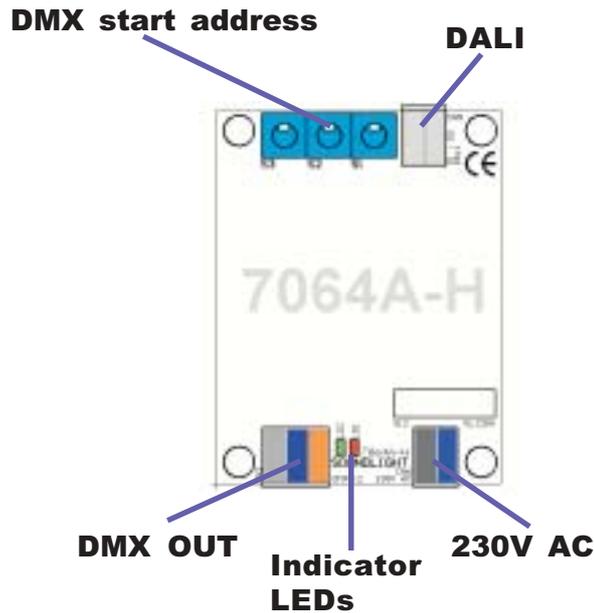
1	black:	L	230V AC
2	blue:	N	0V AC

CN5 DALI Input

1	grey:	D1	polarity-insensitive
2	grey:	D2	polarity-insensitive

CN6 DMX Data Output

1 (grey)	GND, screen	connects to XLR Pin 1
2 (blue)	DMX -	connects to XLR Pin 2
3 (orange)	DMX +	connects to XLR Pin 3



START ADDRESS

The DMX start address is preset to 001 and can be adjusted via the onboard start address switch block. The unit will send 256 DMX data slots with 16 channels filled, that is, with DMX start address set to 001, DMX channels 001 to 016 contain the output data.

Each DMX address reflects the respective DALI device number; that is: DALI device #3 data will be output of DMX data channel (DMX data slot) number 003.

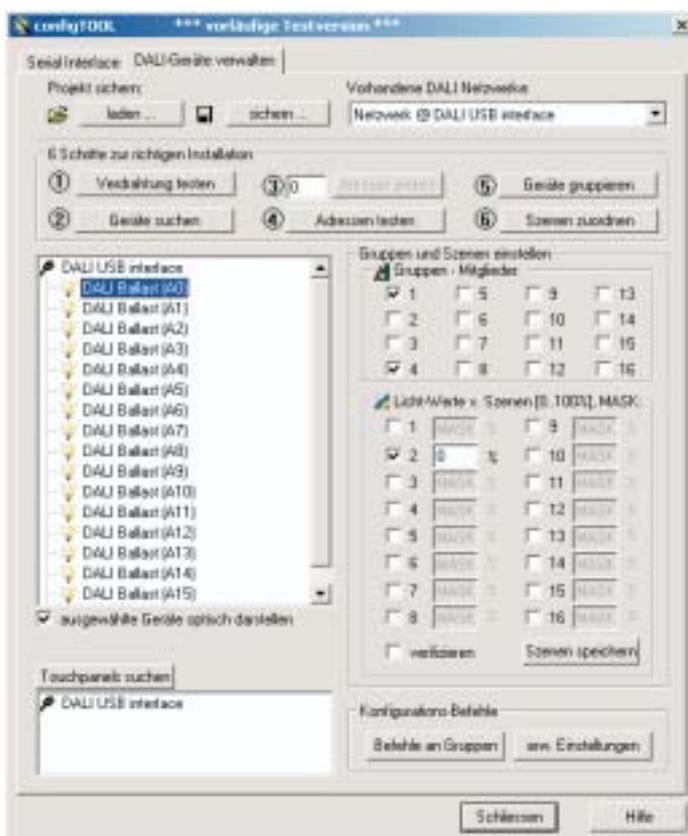
The start address switches are to set the DMX start address, from left to right: S3: Hundreds, S2: Tens, S1: Ones



DALI

The DALI protocol is firmware encoded and processes DALI addresses 1 thru 16 and DALI groups 1 thru 16. All intensity values and parameters sent to any of these DALI participants will be processed by the interface.

Please note that the "virtual" 7064A-H DALI Devices 1-16 are firmware encoded and cannot be changed by DALI re-addressing. If additional DALI devices are present within your DALI system, make sure that these are unprogrammed before setup or are being programmed to a DALI address ranging from 17 to 64 before they are connected to the DALI bus. For changing the DALI address setup of the 7064A-H, see chapter "DALI SETUP".



We recommend to use our USB-DALI Adapter for a simple setup of the DALI system. This chapter shows a quick introduction to DALI programming using our interface. If using other type of DALI controllers, please refer to their instruction manual.

Connect these devices to the DALI bus:

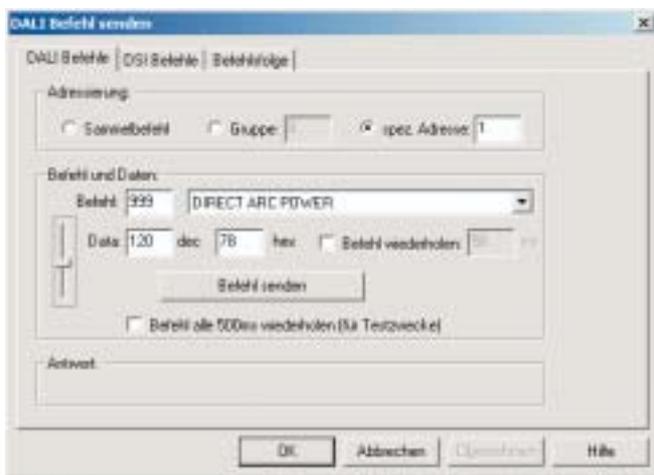
- a DALI PSU
- the USB DALI Adapter
- the DALI DMX Converter 7064A-H

Please connect a DMX tool (DMX Tester), a dimmer Pack or a DMX colour changer to the 7064A-H DMX output. This is to identify and monitor a change of DMX values.

Of course a DMX tester, such as our 3512A, would be most helpful since it allows direct reading of DMX channel values.

Start the "configTool" program which comes with the USB-DALI tool and click button (2) "search devices". Then simply click "continue (weiter)" on all screens without changing any settings. This will lead to a list of 16 DALI Devices (ballasts), which are being simulated by the 7064A-H.

By clicking the individual ballasts you can see the group assignment; you may change this to match your needs. Simply click the check boxes to set or reset a group membership.



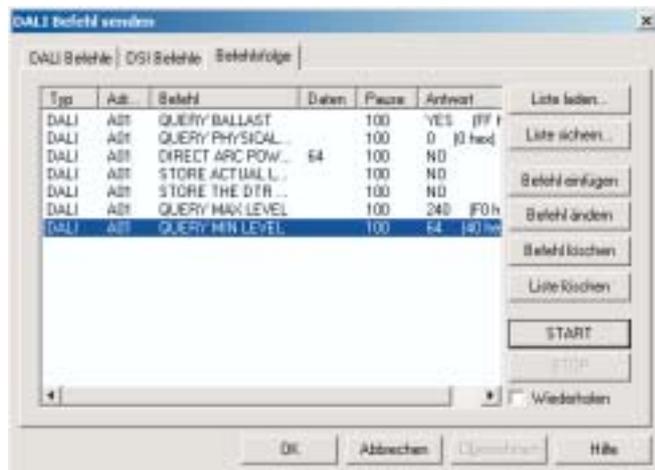
Then click the button "extended settings (erw. Einstellungen)". This will take you to a page which allows to issue single DALI commands. The screen shot below shows how to send a "Direct Arc Power" command for the specific DALI address #1. Please note, that programming nomenclature always starts with a "0", that is, "0" denotes DALI unit #1, "1" denotes DALI unit #2, and "15" denotes DALI unit #16.

The data parameter can be entered manually or by moving the fader. Then click the "send command (Befehl senden)" button to issue the command. Using the example shown DMX channel 2 should be driven to a value of 120, that is approximately 50% intensity.

Please note the the full DMX value range is from 000 (min) to 255(max). The DALI value range is from 000 to 254 only, because value 255 is used for the DALI-specific MASK command.

(A MASK value normally excludes the DALI device from that command). If the DMX output value 255 is used (e.g. for firing a lamp or resetting a device), it can only be generated using a Direct Arc command!

If "global command (Sammelbefehl)" is selected, ALL outputs will be driven to the value selected simultaneously.



Use the tab "command list (Befehlsfolge)" to create and save command sequences, which will be used frequently. A command list may be helpful for initial initialization of the interface: set and store values for min level, max level etc.

A typical command sequence would be:

- Set an Arc Level.
- copy the actual level to the Data Transfer Register (DTR)
- Store the DTR to the appropriate destination register.

Refer to a DALI guide for more information about DALI commands.

DALI COMMANDS

Not all DALI Commands are supported for DMX512 conversion. Use the "Direct Arc" command whenever possible to generate DMX output.

This is a list of supported commands:

0 0	off
0 1	increase
0 2	decrease
0 3	increase one step
0 4	decrease one step
0 5	goto MAX level
0 6	goto MIN level
0 7	decrease and OFF if necessary
0 8	increase and ON if necessary
1 X	goto scene X

COMMANDS

2 1	save actual level to DTR
2 A	save DTR as MAX level
2 B	save DTR as MIN level
2 D	save DTR as Power ON level
2 E	save DTR as FADE TIME
4 X	save DTR as Scene X, where: 11111111 (\$FF) = delete scene
5 X	delete Scene X
6 X	add to group X
7 X	remove from group X

QUERIES

9 1	Query: ballast present	
9 3	Query: output present	
9 7	Query: version number	
9 8	Query: content of DTR	
9 9	Query: device type	response: 00 for standard device
9 A	Query: physical minimum level	response: 00 for DMX
A 0	Query: actual level	
A 1	Query: maximum level	
A 2	Query: minimum level	

A 3	Query: power on level		
B X	Query: level scene X		
C 0	Query groups 0-7	„1“ = group set	LSB = group 0
C 1	Query groups 8-15		LSB = group 8

RESET commands and addressing commands are not supported. Assignment of the 16 DALI addresses is fixed.

FADE TIME

The 7064A-H recognizes Fade Times (but not Fade rates). On delivery, all fade times are set to 0 to facilitate setup. Fade time used for DMX output differ slightly from standard DALI values to allow for more flexibility.

This ist the fade time parameter list:

Fade time	time [sec]	Fade time	time [sec]
0	0	8	10
1	1	9	12
2	2,5	10	17
3	4	11	23
4	5	12	33
5	6	13	46
6	8	14	65
7	9	15	92

DALI SETUP

On the DALI input, the 7064A-H must at least be connected to:

- a DALI power supply
- a DALI bus master

Some touch boards, e.g. the Tridonic DALI touch board, already comprise a DALI power supply. As soon as the DALI bus is connected and powered up, the green LED will indicate that the 7064A-H is ready to work.

To start initially, set the DMX start address to 001.

Disconnecting the DALI bus will stop the 7064A-H from working and output the predefined SYSTEM FAILURE LEVEL.

CHANGING THE DALI BASE ADDRESS

Upon delivery, the DALI base address is set to 1, that is, the 7064A-H will occupy DALI addresses 1-16. You can set the DALI base address as follows:

- power off the unit.
- set the DMX start address to 800 + offset
- power on the 7064A-H until both LEDs blink 10x

To set a DALI base address of 40 set the switches to 839 (address 1 + offset 39 = 40 + 800), this will generate DALI address range 40...55. The maximum offset allowed is 48.

CHANGING THE DALI DEVICE TYPE

Upon delivery, the DALI device type is set to 0, that is, the 7064A-H will preset itself as electronic ballast. The device type may be changed. You can set the DALI device type as follows:

- power off the unit.
- set the DMX start address to 880 + device type
- power on the 7064A-H

Common device types are:	0 = electronic ballast (recommended, default setting)
	1 = EM ballast
	2 = HID ballast
	3 = Haolgen converter
	4 = Incandescent lamp dimming
	5 ff undefined

TECHNICAL DATA

Dimensions:	65 mm x 105 mm x 65 mm
Power supply:	230V AC
DALI IN:	optically isolated, potential free, polarity independent
DMX OUT:	256ch w/ 16ch data, according to USITT DMX512 / DIN56930-2
Order code:	7064A-H

DISTURBANCES

If a trouble-free operation cannot be guaranteed, disconnect the relay card interface and secure it against unwanted operation. This is especially necessary, when

- the unit has visible damages;
- the unit does not operate;
- internal parts are loose;
- connection cables show visible damages.

LIMITED WARRANTY

This instrument is warranted against defects in materials and workmanship for a period of 12 months, beginning with the date of purchase. The warranty is limited to repair or exchange of the hardware product; no further liability is assumed. SOUNDLIGHT is not responsible for damages or for loss of data, sales or profit which arise from usage or breakdown of the hardware product. In Germany, SOUNDLIGHT will repair or replace established defects in hardware, provided that the defective part is sent in, freight paid, through the responsible dealer along with warranty card and/or sales receipt prior to expiration of warranty.

Warranty is void:

- when modifying or trying to repair the unit without authorisation;
- modification of the circuitry;
- damages by interference of other persons;
- operation which is not in accordance with the manual;
- connection to wrong voltage or current;
- misuse.

CE MARKING



The unit has been tested in our lab and has been marked to comply with CE requirements. To ensure compliance, use grounded power leads only and make sure that properly shielded data lines (CAT5, DMX data cable or Digital Audio cable to AES/EBU specifications) are used. Any modifications not approved by the manufacturer may void CE compliance.

SERVICE

There are no parts within the DMX interface 7064A-H which require the user's attention. Should your unit require servicing, please send it to the factory, freight paid.

INTERNET-HOTLINE

Please check our internet domain <http://www.soundlight.de> for new versions, updates etc. If you have any comments which may be worth considering, please send a message to support@soundlight.de. We will check your message and reply accordingly.

END-OF-LIFETIME



When the useful lifetime of this product has been reached, it must be disposed of properly. Electronic devices must not be placed in domestic waste. Contact your local authorities for information about the nearest collection facility. SOUNDLIGHT is a WEEE registered company (WEEE DE 58883929)