JUMITECH

DALI CDC

Datasheet

Circadian Daylight Control Device

DALI Control Device for automatic Tc-adjustment of tunable white luminaires

Art. Nr. 89453853

2016/12/22

JUMITECH

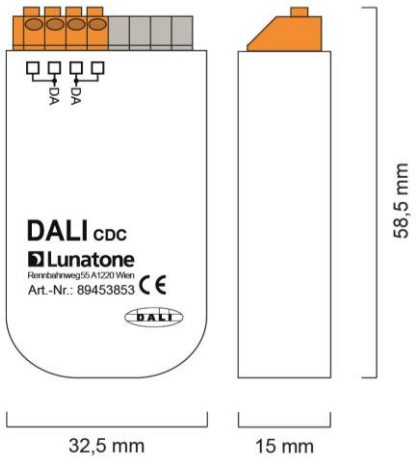
DALI CDC Circadian Daylight Control Device

Overview

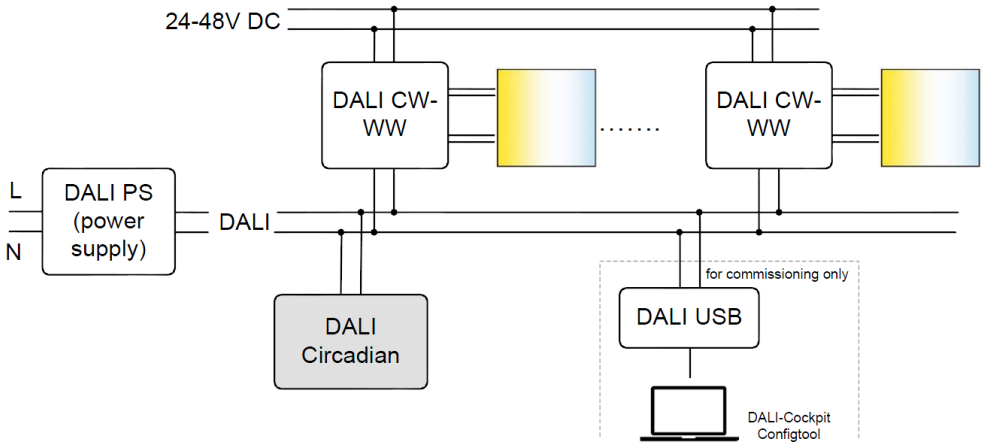
- Control device for DALI DT8 luminaires (color mode Tc)
- biorythmic time-adjusted Tc reference value
- DALI real time clock
- daylight saving time (DST)
- configurable scene behaviour (up from firmware version 1.5)
- the clock and the Tc characteristics over time can be configured with the help of the DALI Cockpit software tool
- The DALI CDC module must not be connected to the mains. It is supplied directly via the DALI signal line.
- Battery inside, clock is set to local time (GMT+1) as factory default
- Simple installation due to DALI double-clamp connector

Specification, Characteristics

type	**DALI CDC**
article number	89453853
power supply	via DALI signal line
typ. current consumption	5 mA
input/output	DALI
RTC	quarz based
operating temperature	0°C-50°C
Storage temperature	-20°C-70°C
protection class	IP20
geometry	59mm x 33mm x 15mm
connecting wire cross section	0.5-1.5 mm^2



geometry



typical application

Installation

The DALI CDC is connected to the DALI-line. It is powered like all DALI modules directly by a DALI PS via the DALI signal line. A typical value of the DALI CDC current consumption is 5 mA.

The connection to the DALI-line is polarity free and protected against overvoltage of up to 270Vac.

The compact DALI CDC can easily be installed in back boxes.

Addressing and Configuration

The DALI CDC can be used immediately. The RTC time is set to local time in production. The default effective range is broadcast.

For changing the default configuration the DALI-Cockpit software tool can communicate with the DALI CDC. The DALI-Cockpit software is a configuration tool for DALI systems. Hence standard DALI ballasts can be addressed and configured as well as the DALI CDC.

Once detected by the DALI Cockpit the time can be set and the Tc-setpoint for each hour can be adjusted.

DALI Cockpit and DALI USB interface are required for commissioning only.

Function

Each minute the DALI CDC module sends the Tc-value to the effective range. As effective range a single address, group address or broadcast can be used.

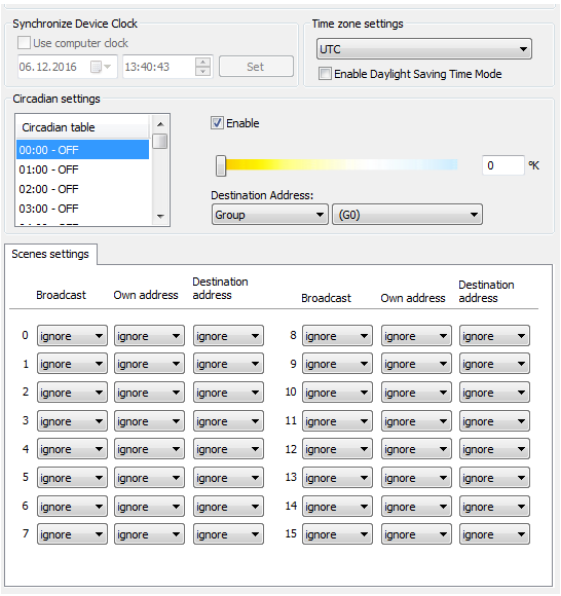
The Tc characteristic is based on the 24 set points (one for each hour). Between the set points the value is interpolated.

set point table (factory preset):

Time	Tc[K]	Time	Tc[K]
0h	2700K	12h	5800K
1h	2700K	13h	5685K
2h	2700K	14h	5318K
3h	2700K	15h	4767K
4h	2700K	16h	4101K
5h	2700K	17h	3412K
6h	2700K	18h	2700K
7h	3412K	19h	2700K
8h	4101K	20h	2700K
9h	4767K	21h	2700K
10h	5318K	22h	2700K
11h	5685K	23h	2700K

Up from firmwareversion 1.5 the reaction on a GOTO SCENE X command can be configured.

The DALI CDC can be activated and deactivated by a scene recall or the command can just be ignored. The scen behaviour can be set up separately for the device address, the effective range and broadcast.



Date and time can be read using QUERY SCENE cmds:

QUERY SCENE 0 LEVEL: seconds

QUERY SCENE 1 LEVEL: minutes

QUERY SCENE 2 LEVEL: hours

QUERY SCENE 3 LEVEL: day of month

QUERY SCENE 4 LEVEL: month

QUERY SCENE 5 LEVEL: year-2000

Purchase Information

ArtNr. 89453853: DALI CDC, DALI control device for automatic adjustment of tunable light luminaires

Additional Information

Datasheets and manuals
https://jumitech/produkter

DALI-Cockpit – free configuration tool from Lunatone for DALI systems
http://lunatone.at/en/downloads/Lunatone_DALI-Cockpit.zip

Contact

Technical Support: support@jumitech.dk

Requests: salg@jumitech.dk

www.jumitech.dk

Disclaimer

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

The compatibility with other devices must be tested in advance to the installation.

JUMITECH

DALI RTC Timer

Datasheet

Control Device

DALI Real Time Clock with Scheduler

Art. Nr. 86459531
Art.Nr. 86459531-HS

2019-01-22

JUMITECH

DALI RTC Timer Control Device

Overview

- DALI Real Time Clock
- Time can be set and queried via DALI
- Scheduler Function – up to 28 entries
- Astro-clock function (up from firmware 2.4)
- For each scheduler job weekday mask, time stamp and a DALI command can be defined
- Easy schedule configuration via DALI Cockpit software tool and DALI USB interface
- The DALI RTC module must not be connected to the mains. It is supplied directly via the DALI signal line.
- Battery inside, as factory default the clock is set to local time (GMT+1)
- Simple installation due to DALI double-clamp connector
- Types for backbox installation and dinrail mounting, suitable for installation in protection class II devices

CE

Specification, Characteristics

type	**DALI RTC Timer**	
article number	86459531	86459531-HS
DALI-Interface, supply: DA, DA		
input type	DALI, supply	
marking terminals	DA, DA	
input voltage range	9,5Vdc … 22,5Vdc (acc. to IEC62386)	
max. current consumption DALI	5mA	
number of DALI addresses	1	
insulation data:		
impulse voltage category	II	
pollution degree	2	
rated insulation voltage	250V	
insulation DALI / housing	reinforced isolation	
Insulation test voltage DALI / housing	3000Vac	
environmental conditions::		
storing and transportation temperature	-20°C … +75°C	
operational ambient temperature	0°C … +50°C	
rel. humidity, none condensing	15% … 90%	
general data:		
dimensions (l x w x h)	59mm x 33mm x 15mm	98mm x 17,5mm x 56mm
mounting	back box	dinrail mounting

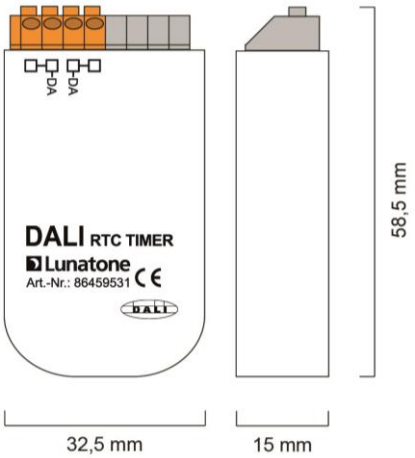
	integration in class II devices	integration in class II devices
rated max. temperature tc	50°C	
expected life time @tc	50.000 h	
protection class	II in intended use	
protection degree housing	IP40	
protection degree terminals	IP20	
real time clock (accuracy)	quarz based (~20ppm)	

terminals:

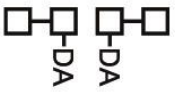
connection type	spring terminal connector	screw connector
wire size solid core	0,5 … 1,5 mm^2 (AWG20 … AWG16)	0,5 … 2,5 mm^2 (AWG20 … AWG14)
wire size fine wired	0,5 … 1,5 mm^2 (AWG20 …AWG16)	0,5 … 2,5 mm^2 (AWG20 …AWG14)
wire size using wire end ferrule	0,25 … 1 mm^2	0,25 … 1,5 mm^2
stripping length	8,5 … 9,5 mm / 0,33 … 0,37 inch	7 mm / 0,27 inch
locking torque	-	0,5Nm
release of wire	push button	open screw

standards:

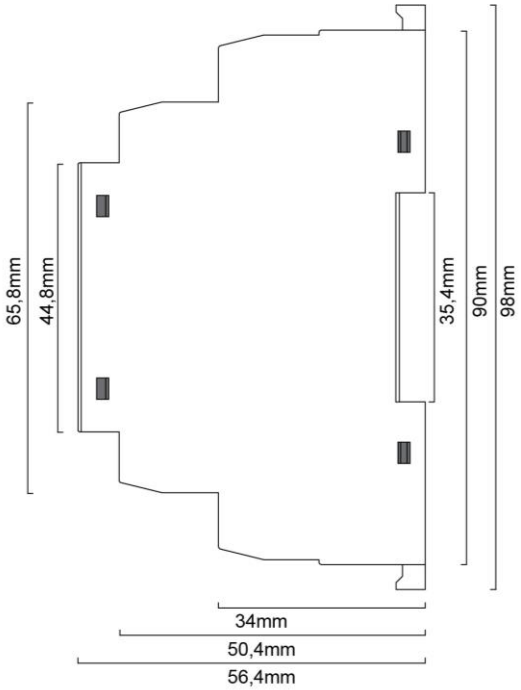
EMC	EN 61547 EN 50015 / IEC CISPR15	
safety	EN 61347-2-11 EN 61347-1	
markings	CE	CE



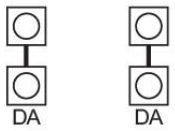
dimensions



connection plan



dimensions HS-type



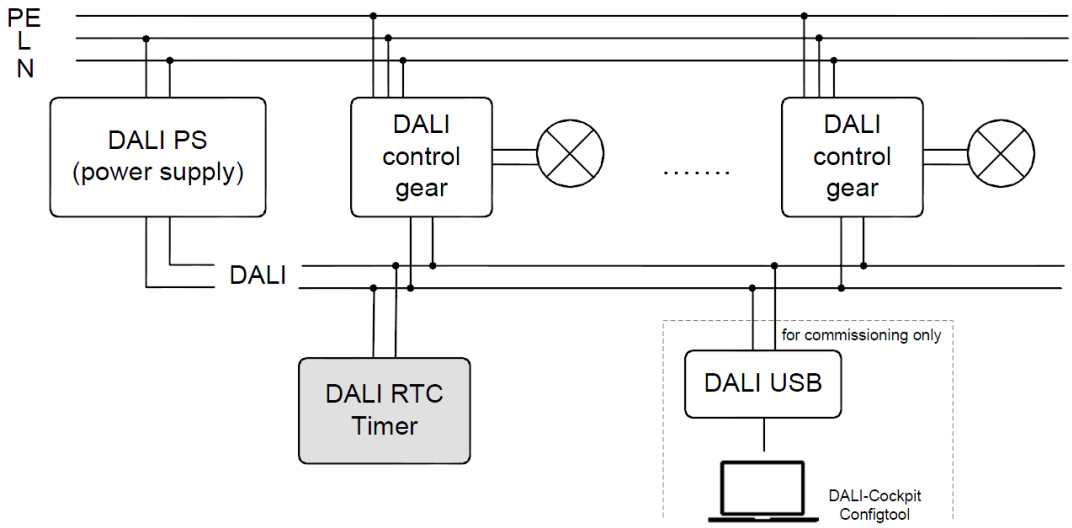
dimensions HS-type

Installation

- The DALI RTC Timer is intended for back box installation or integration in protection class II devices, the HS-type is suited for dinrail mounting, ensure protection against electric shock by an appropriate enclosure
- Wiring as fixed installation in a dry and clean environment
- Installation only by qualified person when no voltage is applied
- Attend regulations regarding electrical installations of national authorities
- The DALI RTC Timer is powered by the DALI line (typical current consumption 5 mA), no separate power supply needed
- the connection to the DALI-line is polarity free
- DALI-line wiring with standard low voltage installation material
- The DALI-interface can handle mains voltage, protecting the device in case of wrong wiring
- Wiring topology of the DALI-line: Line, Tree, Star
- Connect only one wire on each terminal, if twin ferrules are used take care to the maximum wire size

HINT: The DALI-signal is not classified as SELV circuit. Therefore the standards for installation in low voltage system apply.

The voltage drop on the DALI-line shall not exceed 2V.



typical application

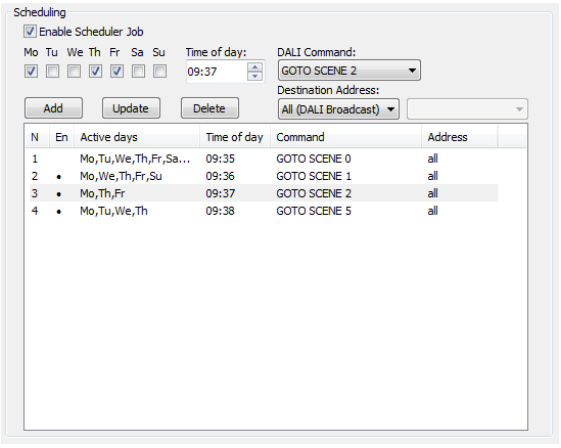
Commissioning

- After installation the DALI RTC Timer is ready for use
- The configuration can be done with the help of the DALI-Cockpit software (interface module to DALI-line required, e.g. DALI USB, DALI SCI RS232, DALI4Net)
- The DALI RTC Timer is automatically detected during the addressing procedure and is then shown in the component tree
- The device can be selected – date and time can be set and the scheduler entries can be configured.

Function

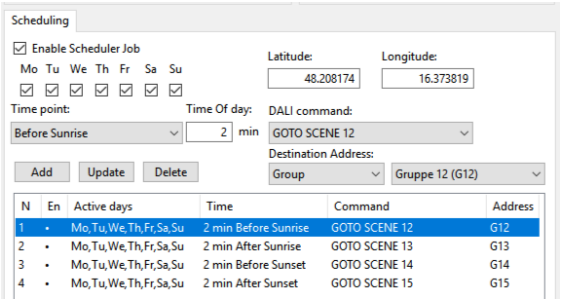
The DALI RTC timer sends out DALI commands to the DALI-line based on the entries defined in the scheduler.

In the scheduler up to 28 scheduler jobs can be defined. Each entry consists of status, a weekday mask, a time and finally DALI-command and DALI address.



Up from firmware version 2.4 the module supports astroclock-function, i.e. instead of absolute time a timestamp can be defined relatively to sunset or sunrise. For this function information about the GPS-

coordinates in decimal degree format is required.



Please note that it is not possible to postpone actions based on sunset/sunrise beyond midnight.

Furthermore date and time can be queried using QUERY SCENE commands:

QUERY SCENE 0 LEVEL: seconds

QUERY SCENE 1 LEVEL: minutes

QUERY SCENE 2 LEVEL: hours

QUERY SCENE 3 LEVEL: day of month

QUERY SCENE 4 LEVEL: month

QUERY SCENE 5 LEVEL: year-2000

Purchase Information

Art.Nr. 86459531: DALI RTC Timer, DALI Real Time Clock with Scheduler Function, back box installation and class II device integration

Art.Nr. 86459531-HS: DALI RTC Timer, DALI Real Time Clock with Scheduler Function, dinrail mounting, built-in

Additional Information

Datasheets and manuals
https://jumitech/produkter

DALI-Cockpit – free configuration tool from Lunatone for DALI systems
http://lunatone.at/en/downloads/Lunatone_DALI-Cockpit.zip

Contact

Technical Support: support@jumitech.dk

Requests: salg@jumitech.dk

www.jumitech.dk

JUMITECH

DALI CE

Disclaimer

JUMITECH

DALI Sequencer

Datasheet

Control Module

DALI-control unit for automatic retrieval of sequences

Art. Nr. 86459582 (back box)
Art.Nr. 86459582-HS (dinrail)

2018-03-16

JUMITECH

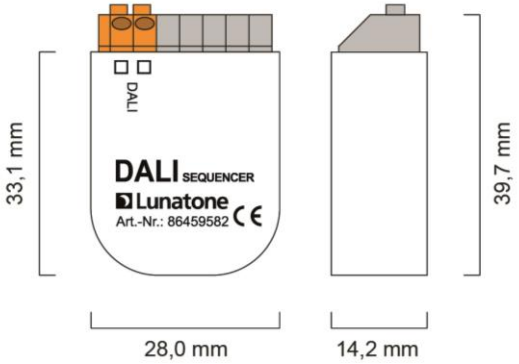
DALI Sequencer Control Device

Overview

- DALI control unit for automatic retrieval of sequences
- memory for up to 4 sequences
- types for back box and dinrail mounting
- din rail type provides 4 switching inputs for mains voltage
- Sequences (0-3) are started by recalling the corresponding scene or push the corresponding button (dinrail type only)
- A sequence can combine various command-sequences and scene-recalls
- One command-sequence can consist of up to 19 DALI-commands
- the Sequence can be retrieved single or cyclic
- the DALI Sequencer can be assigned to groups and can react to broadcast commands
- configuration via DALI-Cockpit software.
- multimaster capable, several modules can be installed in one DALI circuit
- the module is supplied by the DALI-line

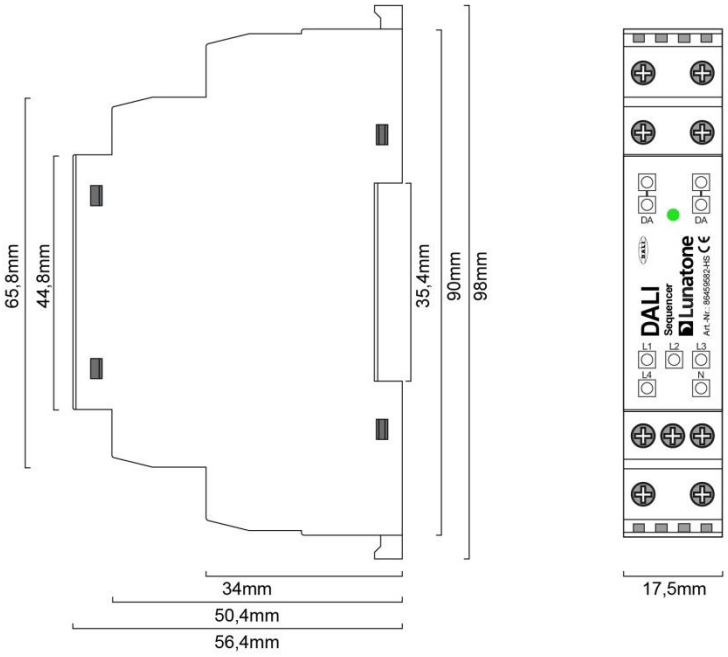
Specification, Characteristics

type	**DALI Sequencer**	
article number	86459582	86459582-HS
electrical data:		
supply	via DALI-line	
typ. current consumption DALI	2 mA	
control	DALI	
input	DALI	DALI 4 switching inputs (mains voltage)
galvanic isolation	-	Yes (switching inputs / DALI)
Technical data:		
function	programmable	
storing and transportation temperature	-20°C … +75°C	
operational ambient temperature	-20°C … +75°C	
protection class	IP20	
connecting wire cross section	<1.5 mm^2	<2.5 mm^2
mounting	back box	dinrail, 1TE
dimensions	39,7mm x 28mm x 14mm	98mm x 17.5mm x 56mm



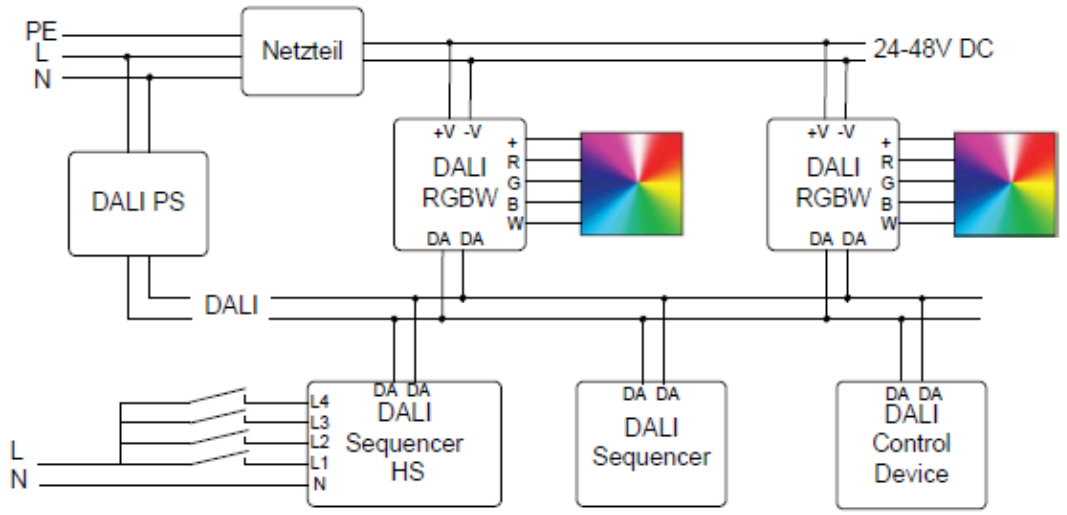
geometry back box

connection plan back box



geometry din rail

connection plan din rail



typical application: colour changing ambient lighting

Installation

The sequencer-module is connected directly to the DALI-line. It is supplied by the DALI-line directly and does not need any additional power supply (current consumption typically 2mA).. The connection to the DALI-line is polarity free and protected against over-voltage.

The module for back box mounting fits into a standard installation box, the module for dinrail mounting provides 4 switching inputs for mains voltage and a LED, which indicates a running sequence by blinking.

Function and Configuration

The DALI Sequencer can send DALI command-sequences once or cyclic to the DALI-bus. The sequences can be configured with the DALI Cockpit Software and transferred to the module.

The module is able to memorize 4 sequences (sequence 0 -sequence 3), but only one of them can be active at a given moment. To start one of the saved sequences a DALI-address has to be assigened to the module with the DALI Cockpit Software. Afterwards the sequence can be recalled with

GO TO SCENE commands directed to the modules address.

Sequence	command
0	GOTO SCENE 0
1	GOTO SCENE 1
2	GOTO SCENE 2
3	GOTO SCENE 3

Running sequences will be stopped if either an OFF-command is sent to the modules address or a new sequence is started with the GO TO scene-command.

The DALI Sequencer-module can be assigned to groups. Sequences can be stopped with an OFF-command directed to the assigned groups or broadcast.

Following commands are OFF-commands: OFF, Direct Arc Power, GOTO SCENE X, RECALL MIN und RECALL MAX.

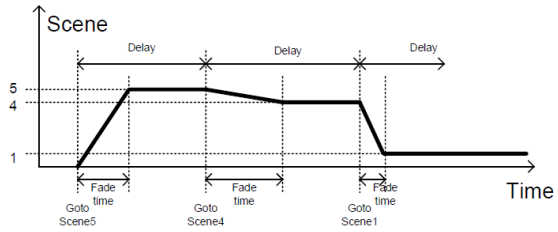
When using the dinrail type the sequences can be started as well by pressing the corresponding input button.

Sequences

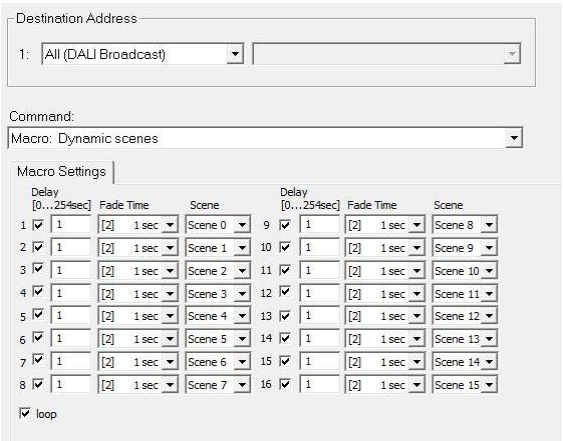
The DALI Cockpit supports 2 types of generating sequences. On the one hand predefined macros “Dynamic Scenes“ on the other hand user defined command lists can be used.

Predefined Macro „Dynamic Scenes“

When using the „Dynamic Scenes“-macros the effective range and the order of up to 16 scenes can be defined For each scene recall the fade time and the delay (0…254s) to next scene recall can be configured.



For example a sequence for automatic color changing could look like as follows [1]:

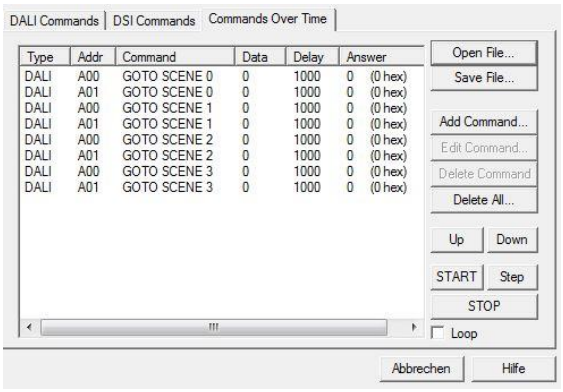


User Defined Macros

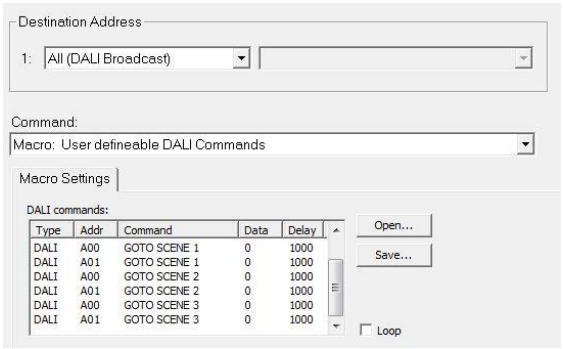
To generate macros, load or safe them as files with the extension *.cot use following menu-point in the DALI-Cockpit Software:

DALI-Bus -> DALI-commands-> „commands over time“.

As an example: the scenes 0-3 addressed with A00 and A01 are retrieved with 1min delay each.



Saved files can be imported on the DALI Sequencer configuration-page:



A user defined sequence can include up to 19 DALI-commands.

[1] please note that the color values are already saved in the scenes of the RGBW-ballast.

Additional Information

Datasheets and manuals
https://jumitech/produkter

DALI-Cockpit – free configuration tool from Lunatone for DALI systems
http://lunatone.at/en/downloads/Lunatone_DALI-Cockpit.zip

Contact

Technical Support: support@jumitech.dk

Requests: salg@jumitech.dk

www.jumitech.dk

JUMITECH

Disclaimer