

DALI 4Net

Datasheet

Central Control Device & Interface



Central control module
for 4 DALI lines

Art.Nr. 22176666
Art.Nr. 22176666-B

DALI 4Net Central DALI Control Device

Overview

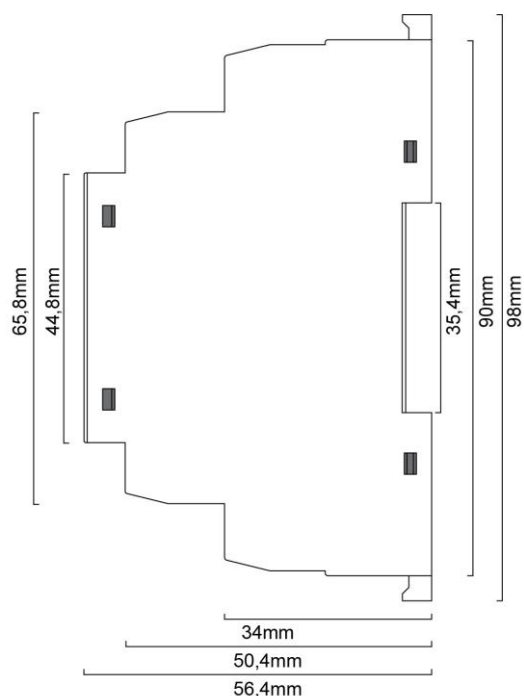
- Independent light control of up to 256 DALI ballasts on 4 DALI-lines
- Configuration via Ethernet and PC-software tool DALI Cockpit
- Modbus TCP access (control & visualisation)
- With the DALI4Net control devices (input devices and sensors) and control devices on each DALI-line can be configured
- Basic version and standard version with additional central functions available
- Din Rail Mounting
- 24V power supply (e.g. 24V/300mA Art.Nr. 241662012-24HS)
- Central functions:
 - crossline functions for input devices
 - programmable schedule, real time clock
- Preview for additional central functions (available with future firmware updates):
 - crossline functions for sensors
 - sequencer
 - emergency function with function and duration test and reporting

Specification, Characteristics

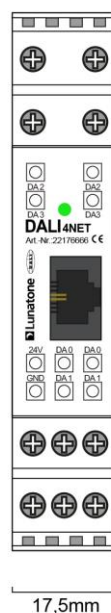
type	DALI 4Net	DALI 4Net Basic
article number	22176666	22176666-B
electrical data:		
power supply	24VDC	
typ. current consumption	90 mA	
	1xEthernet 10/100Base-T, electrically isolated, isolation voltage 1500VAC,	
Ethernet	RJ45-connector	
DALI	4 x DALI, electrically isolated	
technical data:		
storage and transportation temperature	-20°C ... +75°C	
operational ambient temperature	-20°C ... +60°C	
protection class	IP20	
max. connecting wire cross section	2,5 mm ²	
mounting	din rail	
dimensions	98 x 17 x 56 mm	

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article number	22176666	22176666-B
supported functions:		
Gateway Modbus <-> DALI	✓	✓
ModBus TCP control	✓	✓
ModBus TCP queries	✓	✓
Zone definition (areas over multiple lines)	✓	✓
Real Time Clock	✓	✗
Central Scheduling	✓	✗
Crossline functions for input devices	✓	✗
Crossline functions for sensors	in progress	✗
Sequencer	in progress	✗
Emergency function	in progress	✗



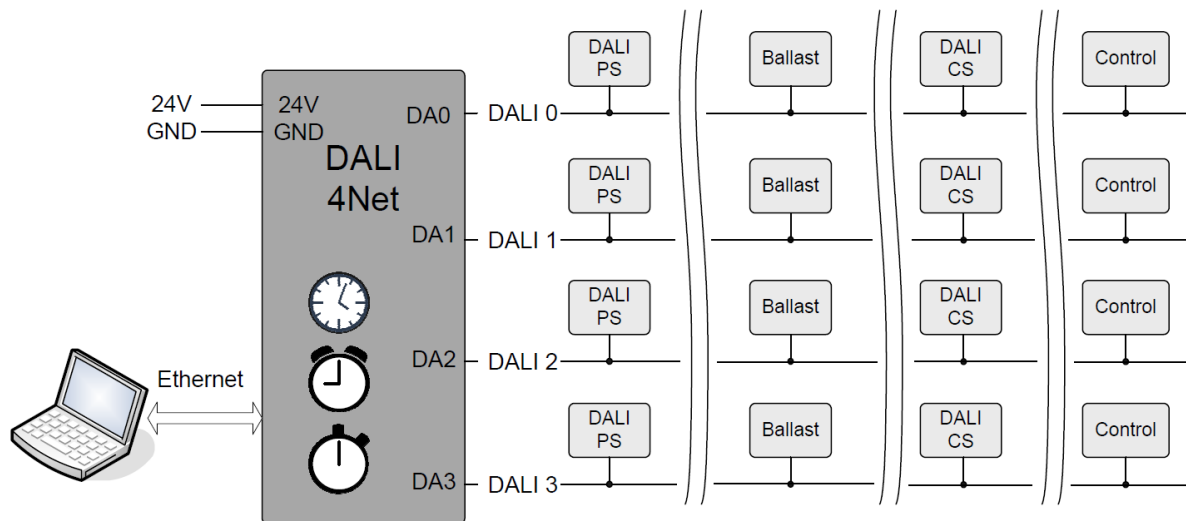
dimensions



17,5mm



connection plan



typical application

Installation

- supply voltage 24VDC (typ. current consumption 90mA)
- 4 DALI-outputs (DA0 ... DA3) for connecting 4 DALI circuits
- for the supply of the DALI-lines proper DALI power supplies (e.g. DALI PS) are required

Configuration

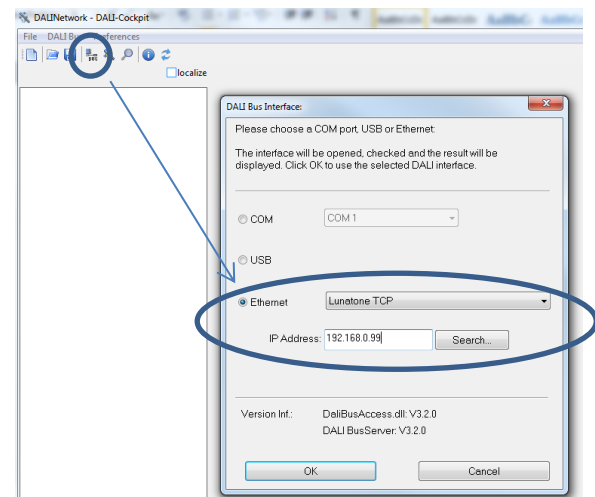
The DALI4Net and the DALI-lines can be configured with the help of the DALI-Cockpit software tool via Ethernet.

Network Settings / Date&Time

After Starting the Cockpit in the bus server menu (can be opened via menu DALI-Bus -> Bus Interface) the interface can be selected.

Select **Ethernet** -> **Lunatone TCP** and enter IP of the device. Alternatively the network can be scanned for devices (search-function). The DALI4Net is delivered with the following default network settings:

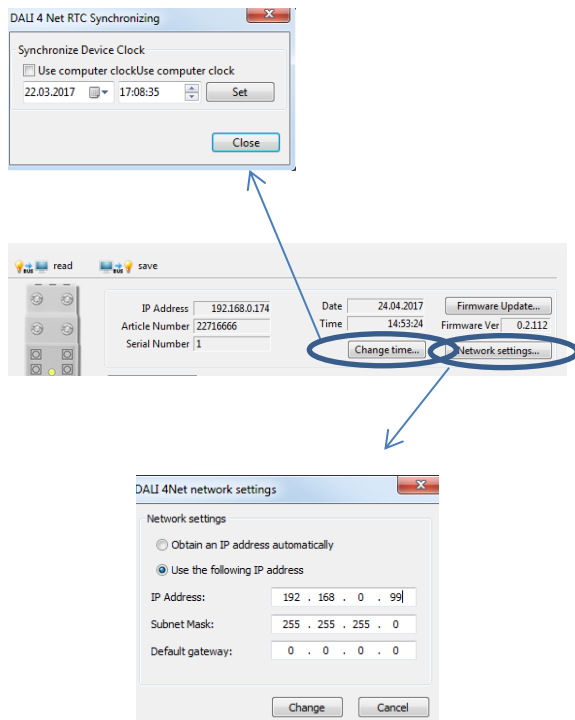
IP-Adresse: 192.168.0.99
Subnetmask: 255.255.255.0
Gateway: 192.168.0.1



After IP-address is entered press „OK“ to connect.

The network settings can be changed in the DALI-Cockpit, after changing the settings (Static/DHCP) the device reboots and has to be reconnected.

The DALI4Net Real Time Clock setup can be entered by pressing the “Change-Time” button. In case of a power loss an internal energy buffer keeps time and date up to date for 24 hours.

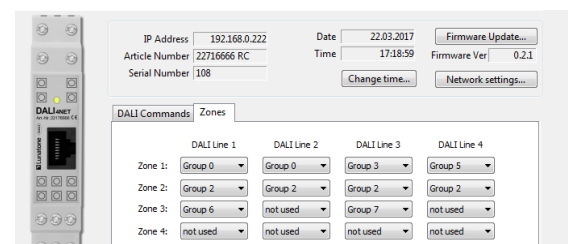


Zones and Multiline-Access

The DALI4Net offers two methods to extend the range of action beyond a single DALI-line.

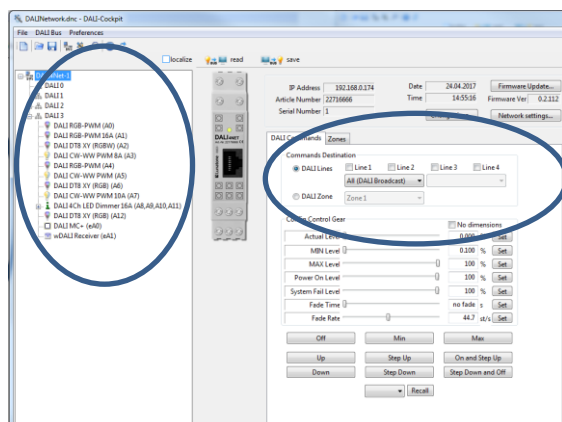
1. Zones

A zone is a user-defined area across several DALI-lines. The number of zones is limited to 15. A group of each line can be assigned to a zone, i.e. groups with different numbers on each line can be combined in a zone (tab zones in DALI-Cockpit).



Addressing

In the component tree on the left the 4 DALI-lines can be selected. Each DALI-line can be addressed and configured separately. The corresponding connectors of each DALI-line are marked on the housing of the DALI 4Net. After addressing procedure all devices are listed as subset of the DALI-line in the component tree and can be accessed and configured by selection.



2. Multiline-Access

The second method is to access the same DALI-address (short address, group address broadcast) on several lines simultaneously.

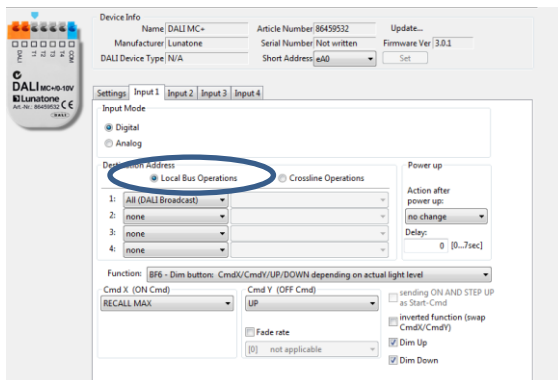
Zones and multiline access can be tested in the tab „DALI-commands“, at which these areas can be selected as destination of a DALI-command.

These cross-line areas can subsequently be used as effective range for input devices on the DALI-lines or for Modbus TCP access.

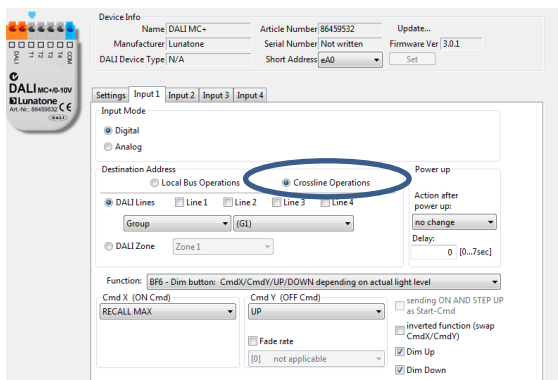
Pushbutton Configuration (Input Device)

If an input device is connected to one of the 4 DALI-lines the DALI-Cockpit offers options to select between local bus operation and DALI-line crossfunctions (in the DALI4Net basic version only local bus operations are supported).

When using local bus operations a DALI-line internal destination address can be selected:



When using crossline operations for the destination address either a zone or a multiple line address (broadcast, group or shortaddress) can be selected:



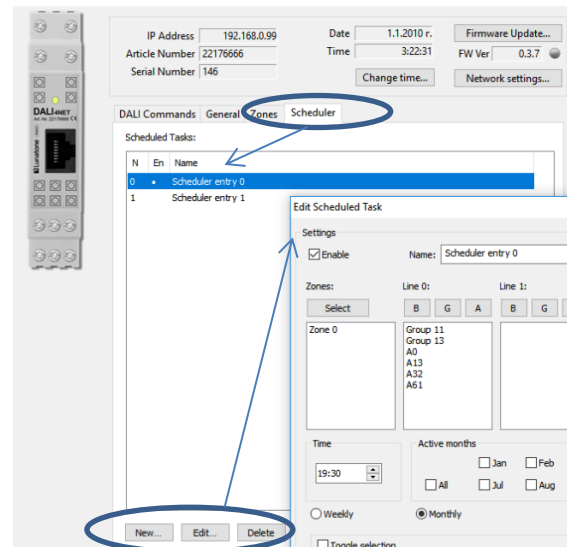
DALI-Line crossfunctions are supported for DALI MC+, DALI Switch, DALI MC4L, wDALI MC, wDALI Switch and wDALI Remote.

Scheduler Configuration

The DALI4Net offers a programmable scheduler function (in the basic version this feature is not supported).

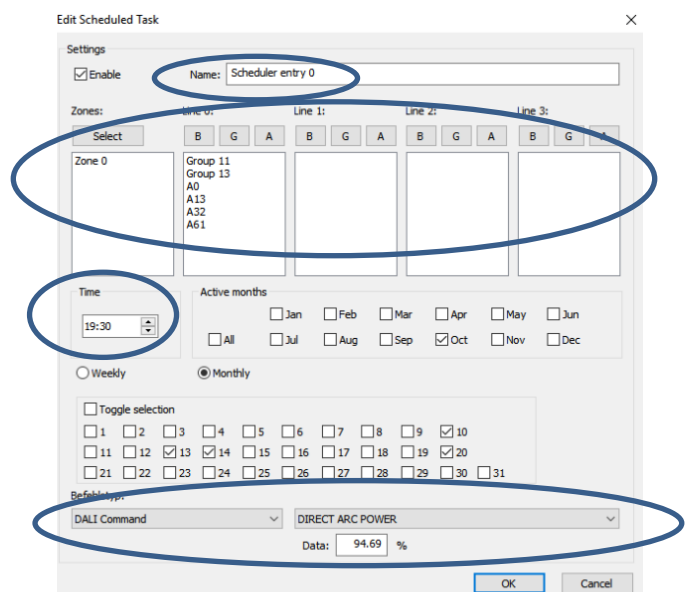
In the „Scheduler“-tab the entries of the scheduler can be added, edited and also be deleted.

A maximum of 128 storage locations for scheduler entries are provided.



For each scheduler entry the following parameters can be set:

- name of entry (not stored in device, only in config file)
- effective range (zones and single addresses, groups or broadcast for each DALI-line)
- timestamp of action
- days (weekdays, days of month) and months on which action has to be executed
- action (DALI-command)



For example: in the entry „Scheduler Entry 0“ from the screenshot above Zone0, group 11, 13 and the single addresses A0, A13, A32, A61

on DALI-Line 0 are switched to 95% at 19:30 on 10th /13th /14th and 20th of october.

Please note that for a valid entry months have to be defined as well as day.

The „Scheduler Entry 0“ in the screenshot example requires 7 storage locations (out of 128), because for each of the 7 effective ranges a separate location is required.

ModBus-TCP/IP Access

Modbus TCP/IP is part of the serial modbus communication protocol for TCP/IP networks using port 502. The following modbus functions are supported for accessing the DALI4Net:

Function Name	Function Code	Description
Read Multiple Holding Registers	03	Read Data Blocks From Device
Write Multiple Holding Registers	16	Write Data Blocks To Device
Read/Write Holding Registers	23	First Write, then Read from Specific Address, function used to send DALI commands

The Read/Write operations to modbus registers are used to configure DALI4Net-functions as well as to access DALI-lines directly. Furthermore status and level of all control gear on a DALI-line can be polled simultaneously.

For further details to Modbus-TCP access please check the manual.

Purchase Order Information

Art.Nr. 22176666: DALI 4 Net, 4 Line ModBus to DALI gateway with central controller functions

Art.Nr. 22176666-B: DALI 4 Net Basic, 4 Line ModBus to DALI gateway

Accessories:

Art. Nr.: 24166012-24HS, 24VDC/300mA power supply, dinrail, 1TE

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

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www.jumitech.dk

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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.