

## DAI 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

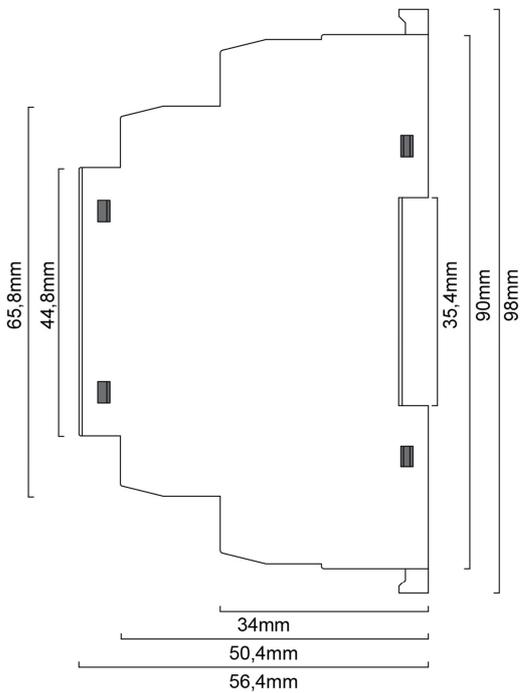
## Specification, Characteristics

type	DALI 4Net	DALI 4Net Basic
article number	22176666	22176666-B
<b>electrical data:</b>		
power supply	24VDC	
typ. current consumption	90 mA	
Ethernet	1xEthernet 10/100Base-T, electrically isolated, isolation voltage 1500VAC, RJ45-connector	
DALI	4 x DALI, electrically isolated	
<b>technical data:</b>		
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 <sup>2</sup>	
mounting	din rail	
dimensions	98 x 17 x 56 mm	

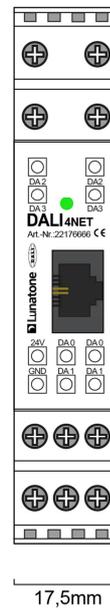
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**supported functions:**

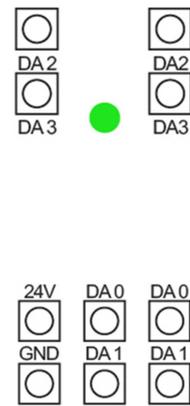
Gateway Modbus <-> DALI	✓	✓
ModBus TCP control	✓	✓
ModBus TCP queries	✓	✓
Zone definition (areas over multiple lines)	✓	✓
Real Time Clock	✓	✗
Central Scheduling	✓	✗
Crossline functions for input devices	✓	✗
Crossline functions for sensors	in progress	✗
Sequencer	in progress	✗
Emergency function	in progress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



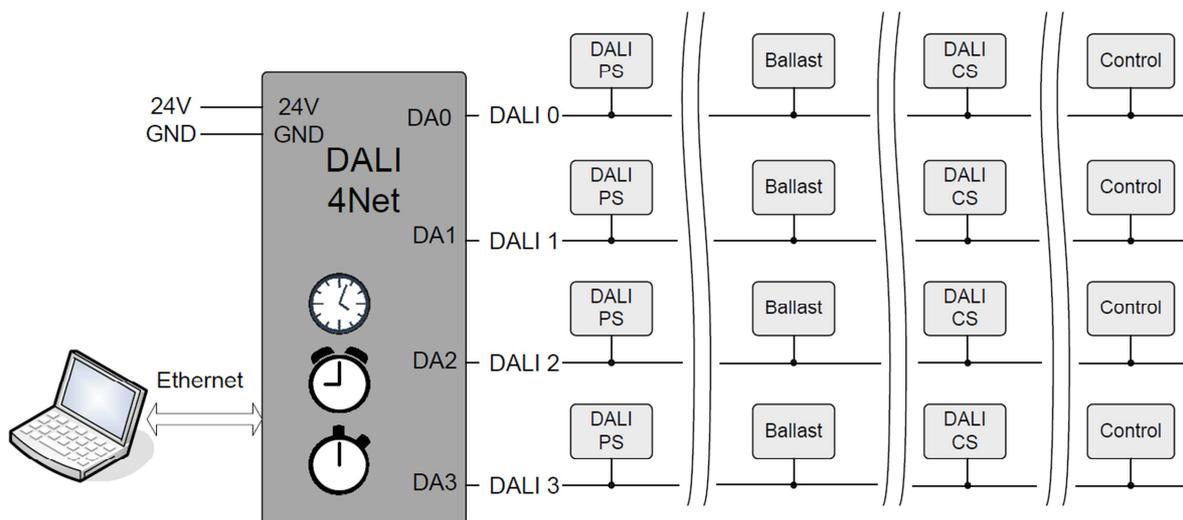
dimensions



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

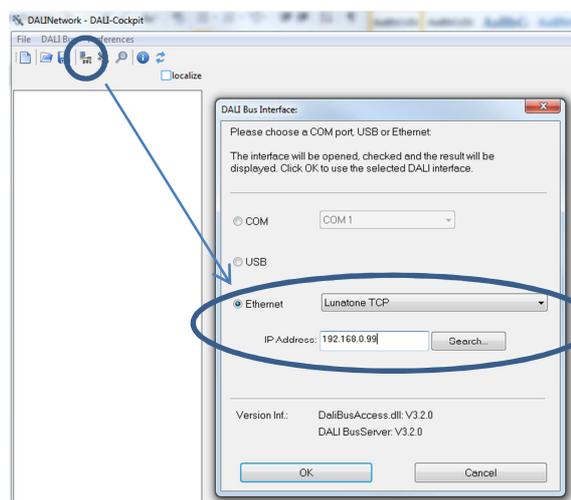
The DALI4Net and the DALI-lines can be configured with the help of the DALI-Cockpit software tool via Ethernet.

#### 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:

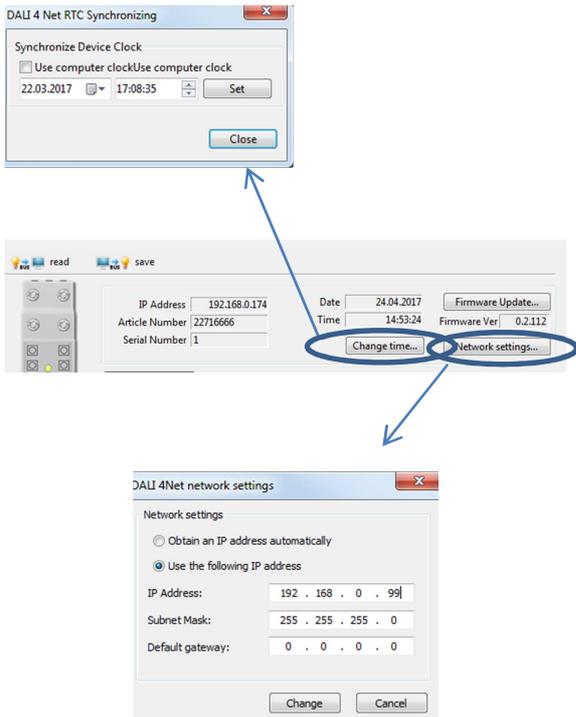
IP-Adresse: 192.168.0.99  
 Subnetmask: 255.255.255.0  
 Gateway: 192.168.0.1



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.

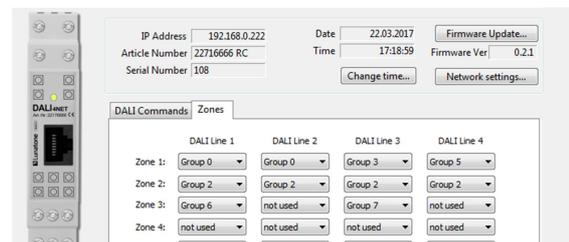


**Zones and Multiline-Access**

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

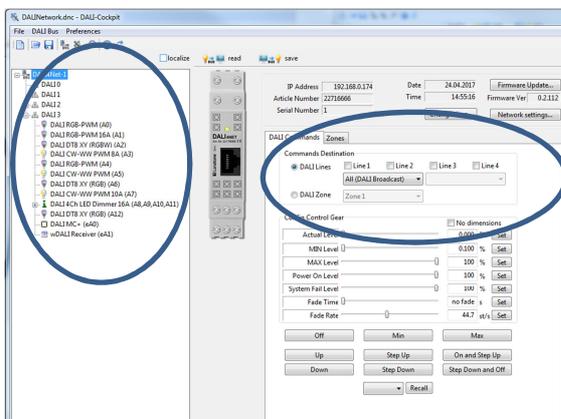
1. Zones

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.

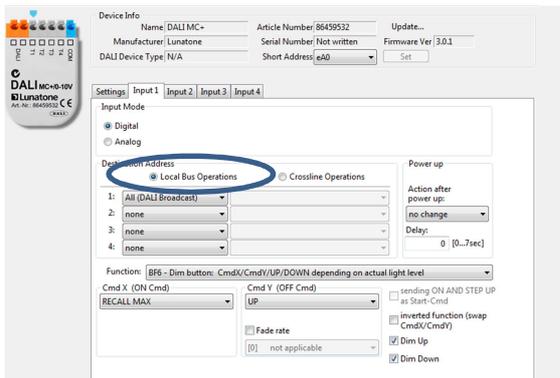
Zones and multiline access can be tested in the tab „DALI-commands“, at which these areas can be selected as destination of a DALI-command.

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

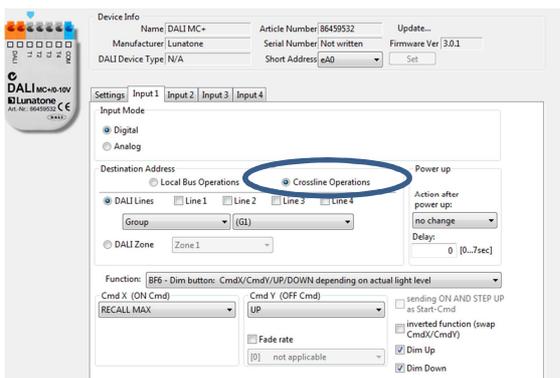
**Pushbutton Configuration (Input Device)**

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:



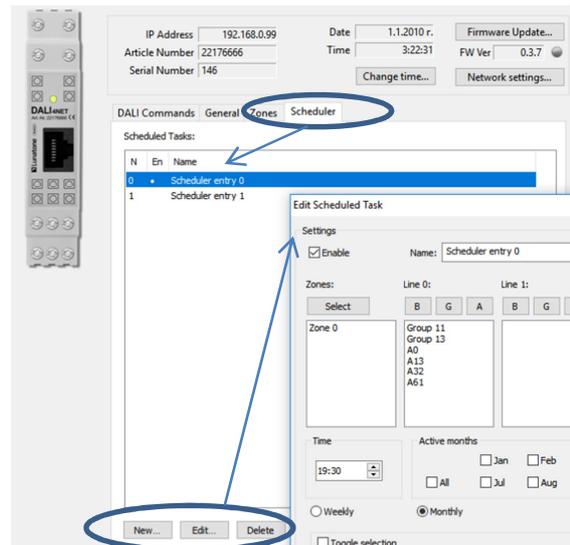
DALI-Line crossfunctions are supported for DALI MC+, DALI Switch, DALI MC4L, wDALI MC, wDALI Switch and wDALI Remote.

### Scheduler Configuration

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

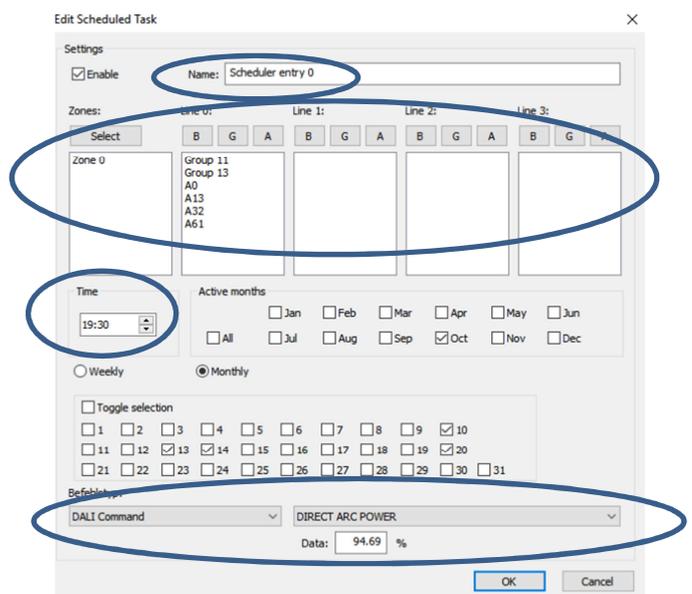
In the „Scheduler“-tab the entries of the scheduler can be added, edited and also be deleted.

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 10<sup>th</sup> /13<sup>th</sup> /14<sup>th</sup> and 20<sup>th</sup> of october.

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

The „Scheduler Entry 0“ in the sceenshot 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 modus 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 and Equipment

DALI-Cockpit – free configuration tool from Lunatone for DALI systems

<http://lunatone.at/en/downloads/Lunatone-DALI-Cockpit.zip>

Lunatone DALI products

<http://www.lunatone.at/en/>

Lunatone datasheets and manuals

<http://lunatone.at/en/downloads/>

### Contact

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[www.lunatone.com](http://www.lunatone.com)



### 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.