



DALI gateway
Order-No. : 1060 00

Operating instructions

1 Safety instructions

Electrical equipment may only be installed and fitted by electrically skilled persons.

Serious injuries, fire or property damage possible. Please read and follow manual fully.

Danger of electric shock. Always disconnect before carrying out work on the device or load. At the same time, take into account all circuit breakers that supply dangerous voltage to the device or load.

Danger of electric shock. Device is not suitable for disconnection from supply voltage.

The DALI control voltage is a functional extra-low voltage (FELV). On installing, ensure safe isolation between KNX and DALI.

These instructions are an integral part of the product, and must remain with the end customer.

2 Device components

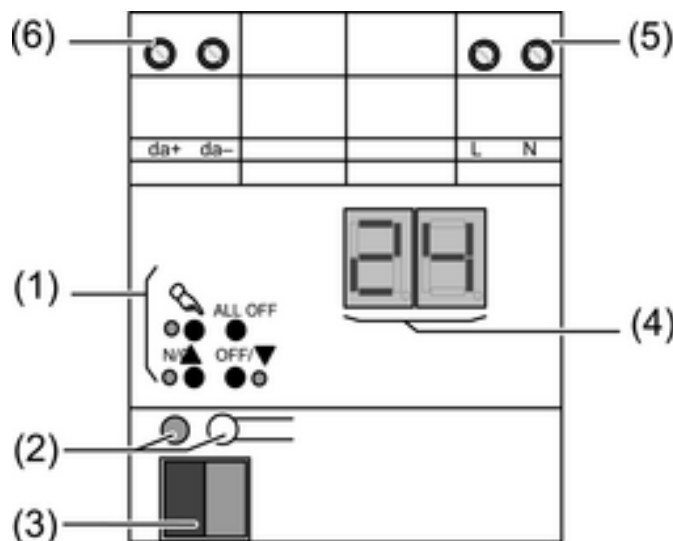


Figure 1

- (1) Button field for manual control
- (2) Programming button and LEDs
- (3) KNX connection
- (4) DALI group display
- (5) Connection for mains supply
- (6) DALI output

3 Function

System information

This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite to proper understanding.

The function of this device depends upon the software. Detailed information on loadable software and attainable functionality as well as the software itself can be obtained from the manufacturer's product database.

Planning, installation and commissioning of the device are carried out with the aid of KNX-certified software. Full functionality with KNX commissioning software version ETS3.0d onwards.

An updated version of the product database, technical descriptions and conversion programs and other auxiliary programs are available on our Internet website.

Intended use

- Controlling of luminaires and other applications with DALI operating device in KNX installations e.g. electronic ballast
- Installation on DIN rail according to EN 60715 in distribution boxes

Product characteristics

- Control of up to 64 DALI devices in up to 32 groups
- 16 light scenes
- Read out DALI device state via KNX, e.g. brightness or luminaire error
- Manual operation of the DALI groups
- Restraint
- Feedback of switching state and brightness value in bus and manual mode
- Central switching function
- Disabling function for each DALI group
- Separate ON and OFF delay
- Staircase lighting timer with run-on time
- DALI commissioning with ETS plug-in
- Short circuit protection
- Surge protection
- Overload protection
- An individual DALI device can be exchanged during operation without software.

- i** Delivery state: construction site mode, the DALI groups can be operated using button field. All DALI devices are controlled jointly.

4 Operation

Operating elements

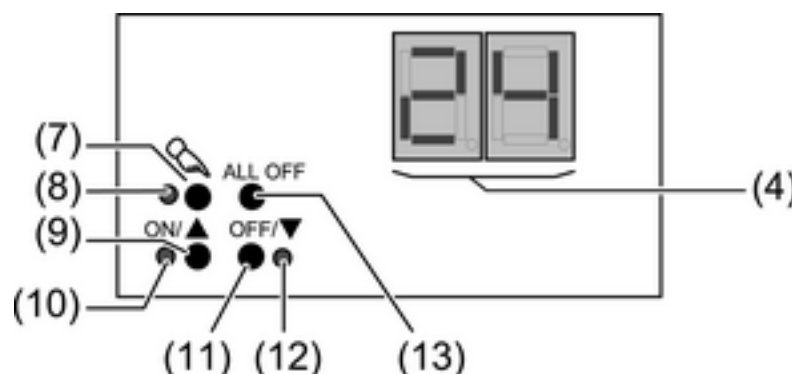


Figure 2

- (4) DALI group display (1...32)
- (7) Button – Manual control
- (8) LED – On: Continuous manual mode active
- (9) **ON/▲** button – switch on or increase brightness
- (10) **ON/▲** LED – On: DALI group switched on, brightness 1...100 %
- (11) **OFF/▼** button – switch off or dim darker
- (12) LED **OFF/▼** – On: DALI group switched on, brightness 0 %






(13) **ALL OFF** buttons – Switch off all DALI groups

In operation with the button field the device distinguishes between a short and a long press.

- Short: pressing for less than 1 second
- Long: pressing for between 1 and 5 seconds



Operating modes

- Bus operation: Operation via push-button sensors or other bus devices
- Short-term manual operation: Manual operation locally with button field, automatic return to bus operation.
- Continuous manual mode: Exclusively manual operation on the device


-  No bus operation is possible in manual mode.
-  No manual mode is possible in case of bus failure.
-  After a bus failure and restoration the device switches to bus operation.
-  After a power failure and restoration the device switches to bus operation.
-  The manual mode can be disabled in ongoing operation via a bus telegram.

Switching on the temporary manual control

Operation using the button field is programmed and not disabled.


- Press the  button briefly.
Display (4) shows **01**, LED  remains off.
- or -

Display (4) shows **bc**: The device is not programmed. All connected DALI devices are controlled jointly. In this broadcast operation it is not possible to control individual DALI devices.

-  After 5 seconds without a button-press, the device returns automatically to bus operation.



Deactivating temporary manual control

The device is in short-term manual mode.

- No button-press for 5 seconds.
- or -
- Press  button briefly as many time as necessary until the device leaves the short-time manual mode.
The display (4) is off.

Switching on permanent manual control



Operation using the button field is programmed and not disabled.

- Press the  button for at least 5 seconds.
LED  is illuminated, display (4) shows **01**, continuous manual mode is switched on.
- or -

Display (4) shows **bc**: The device is not programmed. All connected DALI devices are controlled jointly. In this broadcast operation it is not possible to control individual DALI devices.


Deactivating permanent manual control


The device is in continuous manual mode.

- Press the  button for at least 5 seconds.
LED  is off, display (4) is off, bus operation is switched on.

Operating DALI groups

The device is in continuous or short-term manual mode.

- Press  button briefly as many times as necessary until the display shows the desired group.
The LEDs **ON/▲** and **OFF/▼** indicate the status.

- Operate output with **ON/▲** or **OFF/▼** button.
Short: switch on/off.
Long: dim brighter/darker.
Release: Stop dimming.
The LEDs **ON/▲** and **OFF/▼** indicate the status.
-  Short-term manual operation: After running through all of the DALI groups the device exits manual mode after another brief press.


Switch off all DALI groups


The device is in continuous manual mode.

- Press the **ALL OFF** button.
All DALI groups switch off.

Disabling individual DALI groups


The device is in continuous manual mode.

- Press  button briefly as many times as necessary until the display shows the desired DALI group.
Status display via LEDs **ON/▲** and **OFF/▼**.
- Press buttons **ON/▲** and **OFF/▼** simultaneously for at least 5 seconds.
The number of the selected DALI group flashes in the display (4).
The DALI group is blocked.
- Activate bus mode (see section Deactivating permanent manual control).

-  A blocked DALI group can be operated in manual mode,

Re-enabling DALI groups

The device is in continuous manual mode.

- Press  button briefly as many times as necessary until the display (4) flashes with the desired group.
- Press buttons **ON/▲** and **OFF/▼** simultaneously for at least 5 seconds.
Selected DALI group is enabled.
The display (4) no longer flashes.
- Activate bus mode (see section Deactivating permanent manual control).

5 Information for electrically skilled persons

5.1 Fitting and electrical connection



DANGER!

Electrical shock when live parts are touched.

Electrical shocks can be fatal.

Before working on the device, disconnect the power supply and cover up live parts in the working environment.

Fitting the device

Observe the temperature range. Ensure adequate cooling.

- Mount device on DIN rail. Output terminals must be at the top.

Connecting the device

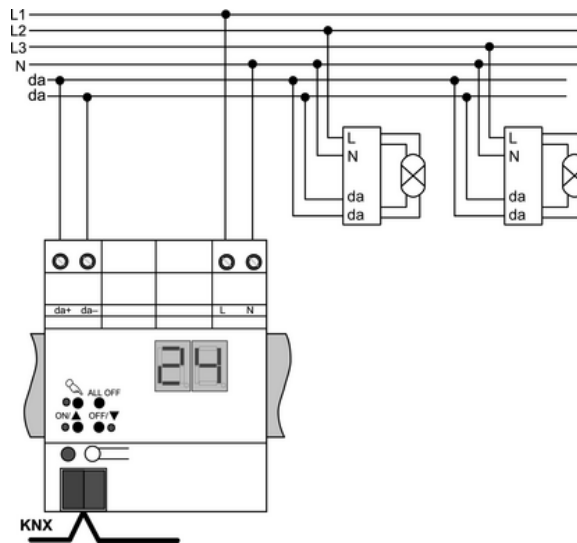


Figure 3

Control cable: appropriate type, cross-section and routing for the specifications for 250 V cables. DALI and mains voltage wires can be run together in a cable, e.g. NYM 5x1.5 mm².

- i** DALI participants from some manufacturers have expanded functions and can e.g. be controlled via mains voltage on the DALI connection. When existing DALI installations are refitted, remove all corresponding operator controls.
- i** The DALI control voltage is a functional extra-low voltage (FELV). When performing installation, perform the installation in such a way that when an area is disconnected the lines carrying both the DALI and also the mains voltage are disconnected.
 - Connect device as shown in the connection example (Figure 3).
 - If multiple miniature circuit breakers supply dangerous voltages to the device or load, couple the miniature circuit breakers or label them with a warning, to ensure release is guaranteed.
 - Connect bus cable with connecting terminal.
- i** DALI devices can be connected to various phase conductors.

Installing the cover

It is necessary to install a cover to protect the bus connection against hazardous voltages in the connection area.

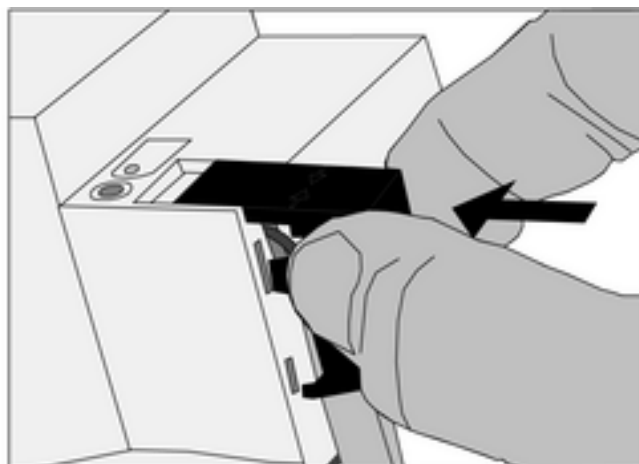


Figure 4: Installing the cover

- Route the bus cable towards the rear.
- Install cover on top of the bus terminal so that it snaps into place (Figure 4).

Removing the cover

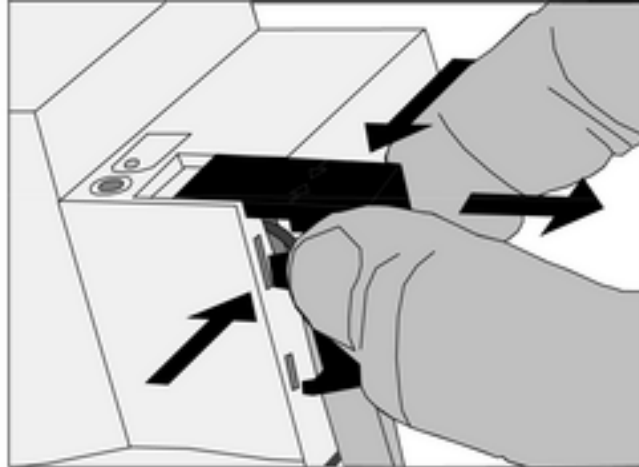


Figure 5: Removing the cover

- Press the cover to the side and pull it off (Figure 5).

5.2 Commissioning

Load the address and the application software

- Switch on mains voltage.
 - Switch on the bus voltage
 - Assign physical address and note on the device label.
 - Commission DALI system using commissioning software.
- i** For more detailed information on commissioning of the DALI system, see the technical product information for this device.
- Load the application software into the device.
- i** No programming is possible if no mains voltage is connected.

6 Appendix

6.1 Technical data

Supply	
Rated voltage	AC 110 ... 240 V ~
Mains frequency	50 / 60 Hz
Power loss	max. 3 W
Ambient conditions	
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
DALI	
DALI rated voltage	DC 16 V (typical)
Number of DALI subscribers	max. 64
DALI transmission rate	1.2 kbit/s
DALI protocol	EN 60929 Annex E4
Cable type	Sheathed cable 230 V, e.g. NYM
DALI cable length	
with Ø 1.5 mm ²	max. 300 m
with Ø 1.0 mm ²	max. 238 m
with Ø 0.75 mm ²	max. 174 m

with Ø 0.5 mm ²	max. 116 m
Housing	
Fitting width	72 mm / 4 modules
Connection of power supply and DALI	
Connection mode	Screw terminal
Single stranded	0.5 ... 4 mm ²
finely stranded without conductor sleeve	0.5 ... 4 mm ²
finely stranded with conductor sleeve	0.5 ... 2.5 mm ²
KNX	
KNX medium	TP 1
Commissioning mode	S-mode
Rated voltage KNX	DC 21 ... 32 V SELV
Power consumption KNX	typical 150 mW
Connection type for bus	Connection terminal

6.2 Troubleshooting

Display shows Er, connected DALI devices have no function, no operation possible

Cause: Mains voltage on DALI cable.

Installation error. Disconnect device and connected DALI devices from mains voltage and disconnect bus voltage. Correct installation.

Display shows bc in manual mode, control of individual luminaires not possible.

Cause: The device has not been programmed.

Program device, put DALI system into operation.

Individual DALI devices have no function


Cause 1: Load is defective, e.g. lamp.

Exchange load.


Cause 2: DALI device is defective.

Exchange defective device.

Switch on voltage.

Press  and **ALL OFF** buttons together for at least 10 seconds.

The device detects the exchanges DALI device and loads in the necessary data. The display (4) shows **LE**.

 Simultaneous exchange of multiple DALI devices is only possible with commissioning software and project data.

None of the DALI groups can be operated.

Cause 1: All DALI groups disabled via bus or manual operation.

Cancel disabling.

Cause 2: Continuous manual mode switched on.

Deactivating permanent manual control.

Cause 3: Application software has been stopped, programming LED is flashing.

Perform reset: Disconnect device from bus, switch on again after approx. 5 seconds.

Cause 4: Application software missing or faulty.

Check programming and correct.

6.3 Warranty

The warranty is provided in accordance with statutory requirements via the specialist trade.

Please submit or send faulty devices postage paid together with an error description to your responsible salesperson (specialist trade/installation company/electrical specialist trade). They will forward the devices to the Gira Service Center.

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