

eNet radio DALI gateway 1-gang mini

Art. no.: FMSTD8UP

Operating instructions**1 Safety instructions**

Electrical devices may only be mounted and connected 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. In so doing, take all the circuit breakers into account, which support dangerous voltages to the device and or load.

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

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

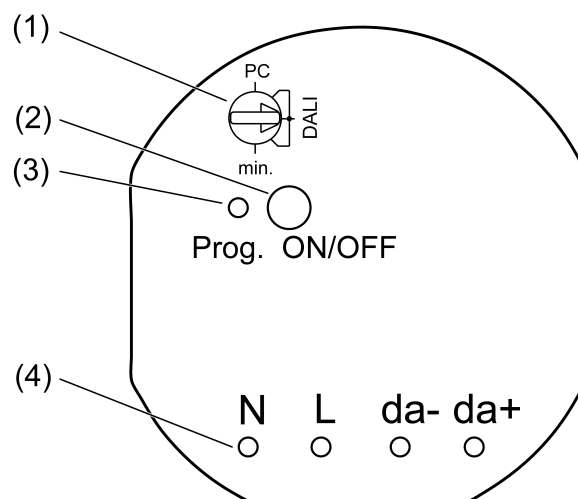
2 Device components

Figure 1: Front view

- (1) Operating mode switch
- (2) Button **Prog**
- (3) Status LED
- (4) Measuring points for voltage measurement, terminals rear-mounted

3 Intended use

- Switching and brightness setting of DALI luminaires
- Operation with suitable radio transmitters
- Mounting in appliance box according to DIN 49073 in combination with a suitable cover
- Installation in surface-mounted housing or panel-mounted housing (accessories) for suspended ceilings

Product characteristics

- Joint operation of all the connected DALI ballasts, broadcast.
- Electronic short-circuit protection of the DALI supply with permanent switch-off after 8 seconds
- Electronic over-temperature protection of the DALI supply with self-retain

eNet radio DALI gateway 1-gang mini

- DALI supply for a maximum of 12 subscribers
- Parallel switching of up to 6 DALI control units with the option of supplying up to 72 DALI subscribers
- Switch-on brightness can be saved permanently
- Minimum brightness can be saved permanently
- Scene operation possible
- Status indication with LED
- Status feedback to radio transmitter
- DALI ballast is switchable with **Prog** button

Can be set with eNet server:

- Maximum brightness
- Dimming speed
- Switch-on delay / switch-off delay
- Dim up/dim down ramp
- Switch-off warning
- Operation locks
- Continuous on, Continuous off
- Hotel function
- Run-on time
- Light control

i When operating with the eNet Server, operation and signalling could vary from what is described here.

Supplementary functions with eNet Server:

- Fully encrypted radio transmission (AES-CCM) from eNet Server software version 2.0
- Update of the device software
- Repeater function
- Reading of error memory

Behaviour after mains voltage failure and return

The response after mains voltage return can be configured with the eNet server. Default setting: The light is switched off after mains voltage return. After a brief voltage failure or in the case of operation on several conductors, it might take a few seconds until the light is switched off. Within this time frame, a value stored in the DALI ballast – PowerON-Level – is retrieved.

i The brightness of the lighting when DALI- telegrams are missing – PowerON-Level – and in case of DALI system voltage failure – SystemFailure-Level – is stored in the DALI ballast and cannot be changed using the actuator.

4 Operation

Operation with radio transmitter

Operation is with radio transmitters, please observe the radio transmitter instructions.

Operation always applies to all the connected DALI ballasts, broadcast.

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 carrying out work on the device or load, disengage all the corresponding circuit breakers. Cover up live parts in the working environment.

Connecting and mounting the control unit.

To ensure good transmission quality, keep a sufficient distance from any possible sources of interference, e.g. metallic surfaces, microwave ovens, hi-fi and TV systems, ballasts or transformers.

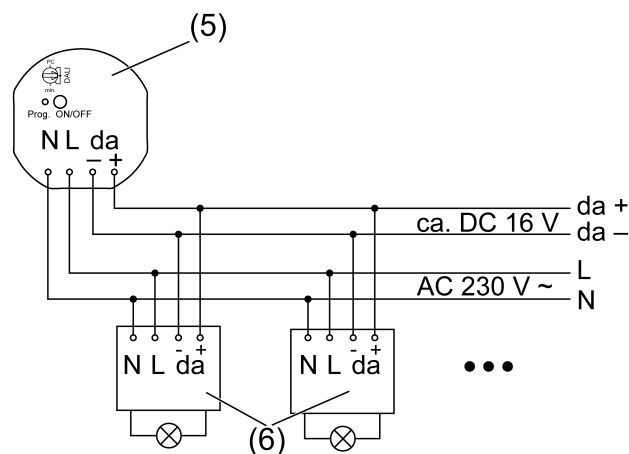


Figure 2: Connection example

- i** The connected DALI subscribers may be operated on different phase conductors.
- i** The control cable and load cable can be run in a shared cable, e.g. NYM J 5×1.5.
- i** Ensure that the control cable with regards type, cross-section and routing complies with the VDE specifications for 250 V cables, DALI interface has basic insulation.
- Connect control unit (5) and DALI ballasts (6) as shown in the connection example (Figure 2). At the same time, note the information given by the manufacturers of the ballasts.
- i** In the case of more than 12 DALI subscribers, up to five additional control units can be connected. When doing so, ensure correct polarity.
- If multiple circuit breakers supply dangerous voltages to the device or load, couple the miniature circuit breakers or label them with a warning, to ensure disconnection is guaranteed.
- Insert the control unit into the appliance box in such a way that the **Prog** button (2) and status-LED (3) are visible.

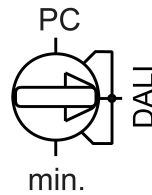


Figure 3: Operating mode switch

Switch position	Function
PC	Operating mode, parameter set with eNet server *)
DALI	DALI mode
min.	Setting of the minimum brightness

*) If the operating mode switch is turned from the position **PC**, the operating mode and parameters are set to the default setting. The settings made with the eNet Server will be lost.

- Set the operating mode switch (1).
- Switch on mains voltage.
- i** The ballasts can be switched by briefly pressing the **Prog** button.
Status-LED (3) lights up: switched on
Status LED (3) off: switched off
- Perform commissioning.
- Mount the cover.

5.2 Commissioning

i The control unit can also be commissioned with eNet server as an alternative to the commissioning described here.

Connecting to radio transmitters

i If several control units are switched in parallel, all radio transmitters will only connect to one control unit.

Load is switched off.

- Press button **Prog** (2) for longer than 4 seconds.
The status LED (3) flashes after 4 seconds. The control unit is in programming mode for approx. 1 minute.
- Switch radio transmitter to programming mode (see radio transmitter instructions).
- Trigger telegram on the radio transmitter.
The status LED lights up for 5 seconds.

The control unit is connected to the radio transmitter. The control unit and radio transmitter exit the programming mode automatically.

i If the status LED of the control unit flashes 3 times at 1-second intervals for approx. 5 seconds, then the programming operation was not successful. All the memory locations in the actuator or radio transmitter are occupied.

i All On and All Off buttons of a radio transmitter are connected to the control unit automatically as soon as the first connection to the radio transmitter takes place. The scene buttons must be connected separately to the control unit.

Disconnecting connection to a radio transmitter

- Carry out the same steps as when connecting (see Connecting to radio transmitter).

The status LED (3) flashes quickly for 5 seconds. The control unit is disconnected from the radio transmitter. The control unit and radio transmitter exit the programming mode automatically.

- i** If there several connections or scene buttons for a radio transmitter, all connections must be disconnected individually.
- i** All On and All Off buttons of a radio transmitter are disconnected automatically as soon as the last connection to the radio transmitter is disconnected. Manual disconnection is not possible.

Resetting control unit to the default setting

All connections to radio transmitters are disconnected and parameters are reset to default setting.

- i** The connections in the radio transmitters are preserved and must be deleted separately. Load is switched off.
 - Press the **Prog** button for at least 20 seconds.
The status LED flashes after 4 seconds. After 20 seconds the status LED flashes faster.
 - Release **Prog** button and press briefly once again within 10 seconds.
The status LED flashes more slowly for approx. 5 seconds.
Reset control unit to default setting.

Setting the minimum brightness

The minimum brightness can be set within a range of approx. 1...67 %, if, e.g. the light flickers at low brightness or to compensate for differences in brightness.

- Switch on light.
- Turn operating mode switch (1) to the **min.** position.
The light switches to maximum brightness for approx. 2 seconds.
The light switches off and after approx. 2 seconds switches to the brightness that was last set.
- Adjust brightness with the radio transmitter.
- Turn operating mode switch to the original position again.
When leaving the position **min.**, the minimum brightness is saved. As confirmation, the light switches to maximum brightness and switches to the set minimum brightness after approx. 2 seconds.
- i** Depending on the DALI ballast used, the signalling may vary from what is described here.

Save switch-on brightness

- Switch on light.
- Adjust brightness with the radio transmitter.
- Press button **Prog** (2) for longer than 4 seconds.
The light switches off briefly and then switches on again to the new switch-on brightness.
Switch-on brightness is saved.
- i** Alternatively, the switch-on brightness can be saved with a radio transmitter, e.g. wall transmitter.

6 Technical data

Rated voltage	AC 230 V~
Mains frequency	50 / 60 Hz
Power consumption	max. 2 W
Ambient temperature	-25 ... +70 °C

eNet radio DALI gateway 1-gang mini

Rated voltage DALI	DC 16 V (typ.)
Output current	max. 24 mA
Number of DALI subscribers	max. 12
Number of parallel control units	max. 6
Power reduction	
Number of DALI subscribers over 45 °C	max. 8
Connection	
single stranded	0.75 ... 4 mm ²
Finely stranded with conductor sleeve	0.75 ... 2.5 mm ²
Dimensions Ø×H	53×28 mm
Radio frequency	868.0 ... 868.6 MHz
Transmission capacity	max. 20 mW
Transmitting range in free field	typ. 100 m
Receiver category	2

7 Parameter list

The device parameters can be changed with the eNet server:

Device and channels

Parameters	Setting options, Basic setting	Explanations
Function	Light, unused Basic setting: Light	Light The channel is integrated for the "Lighting" central function in the eNet SMART HOME app . Unused The channel is not displayed in the eNet SMART HOME app and is disabled for use in the commissioning interface.
Operating mode	Normal operation Continuous on Continuous off Basic setting: Normal Operation	Normal operation The output can be operated with radio transmitters and the Prog button. Continuous on The output switches to continuously "On". All operations of radio transmitters and the Prog button are ignored. Continuous off The output switches to con-

Parameters	Setting options, Basic setting	Explanations
		tinuously "Off". All operations of radio transmitters and the Prog button are ignored.

Advanced device settings

Parameters	Setting options, Basic setting	Explanations
Manual commissioning	On, Off Basic setting: On	Blocks manual commissioning for the device channel. Note: In the "Off" setting, the device cannot be reset to the factory setting.
Repeater mode	On, Off Basic setting: Off	In addition to its other functions, the device can be used as a repeater. In the "On" setting, the device repeats all the received telegrams.

Channel settings

Parameters	Setting options, Basic setting	Explanations
Switch-on brightness	1...100 % Basic setting: 100 %	During brief operation, the output switches on at the set switch-on brightness. Note: If the value is above the set maximum brightness or below the minimum brightness, then the system will switch to the appropriate limit value.
Minimum brightness	1...67 % Basic setting: 5 %	Specifies the minimum settable brightness. Note: If parameters or scene values are set to a level lower than the minimum brightness, then the system will dim to minimum brightness.
Maximum brightness	75...100 % Basic setting: 100 %	Specifies the maximum settable brightness. Note: If parameters or scene values are set to a level higher than the maximum brightness, then the system will dim to maximum brightness.
Dimming adjustment time	1...60 s Basic setting: 4 s	Time from minimum brightness until reaching maximum brightness (dimming speed).
Switch-on delay	0 s ... 24 h Basic setting: 0 s	The load switches on after a delay. Repeated switch-on commands restart the delay time. If the load has not yet been switched on due to the delay when a switch-off command comes, then the load

Parameters	Setting options, Basic setting	Explanations
		will remain off. Note: The set time apply to operation using radio transmitters. The device is switched immediately when the Prog button is pressed.
Switch-off delay	0 s ... 24 h Basic setting: 0 s	The load switches off after a delay. Repeated switch-off commands restart the delay time. If the load has not yet been switched off due to the delay when a switch-on command comes, then the load will remain on. Note: The set time apply to operation using radio transmitters. The device is switched immediately when the Prog button is pressed.
Dim up ramp	0 s ... 24 h Basic setting: 0 s	Time between switch-on and reaching switch-on brightness. The light is switched on at minimum brightness and then dimmed to the switch-on brightness. Only applies to switch-on with transmitters (short operation). If scenes are recalled or switching uses logic modules, the switch-on brightness is approached using so-called soft dimming (not configurable).
Dim down ramp	0 s ... 24 h Basic setting: 0 s	Time until reaching minimum brightness. The light is dimmed to minimum brightness and then switched off. Only applies to switch-off with transmitters (short operation). If scenes are recalled or switching uses logic modules, the system switches off directly.
Run-on time	0 s ... 24 h Basic setting: 0 s	As soon as a run-on time has been entered, the actuator will no longer remain on permanently, but only for the length of the run-on time. The run-on time is restarted if actuation is repeated. This parameter is directly connected to the "Manual switch-off of run-on time" parameter. Note: The set time apply to operation using radio transmit-

Parameters	Setting options, Basic setting	Explanations
		ters. The device is switched immediately when the Prog button is pressed.
Manual switch-off of the run-on time	On, Off Basic setting: Off	Allows manual switch-off of a running run-on time. If the parameter is switched off, then a switch-off command will also switch the actuator on. Only visible if a run-on time was set.
Operating hours	0...65535 Basic setting: Current value	The time is counted during which the load is physically switched on. This parameter can be reset to "0", for example after exchanging the load. The Reset button is used to reset the counter to "0". The device must be programmed to apply the change.

Extended channel settings

Parameters	Setting options, Basic setting	Explanations
Operating mode	Normal operation Continuous on Continuous off Basic setting: Normal Operation	see Device and channels
Manual commissioning	On, Off Basic setting: On	Blocks manual commissioning for the device channel. Note: In the "Off" setting, the device cannot be reset to the factory setting.
Local Operation	On, Off Basic setting: On	Blocks the output for operation using the Prog button.
Behaviour on voltage return	On Off Last value Configured brightness Basic setting: Off	Defines the behaviour of the output after voltage return.
Brightness on voltage return	0...100 % Basic setting: 100 %	Brightness value, set by the output after voltage return (mains voltage). The parameter "Behaviour after voltage return" must be set to "Configured position". Note: If the value is above the set maximum brightness or below the minimum brightness, then the system will switch to the appropriate limit value.

Parameters	Setting options, Basic setting	Explanations
Behaviour after the end of the disabling function	On Off no change Last value Basic setting: No change	Behaviour of the output when a block is removed.
Manual saving of the scene values	On, Off Basic setting: On	Disables the saving of the current brightness value as scene value in an actuator for a command via a transmitter.
Switch-off warning	On, Off Basic setting: Off	If the switch-off warning is active, then, during switch-off, the system dims to minimum brightness within 30 seconds and only then switches off. If the parameter "Dim down ramp" is configured as longer than 30 s, then the length of the dim down ramp is applied. If, during the dim down operation, another command is given, e.g. switch on or scene recall, then the switch-off warning stops and the command is executed. A switch-off command restarts the time for the switch-off warning. Note: The set time apply to operation using radio transmitters. The device is switched immediately when the Prog button is pressed.
Priority, lock-out protection	0...4 Basic setting: 1	Specifies the priority for recalling and removing a scene of type Lock-out protection for the channel. Note: 1 is the highest priority and 4 the lowest. 0 means no priority.
Activate lock-out protection brightness value	0...100 % Basic setting: 0 %	Defines the behaviour of the output on activating the lock-out protection.
Deactivate lock-out protection brightness value	0...100 % Basic setting: 0 %	Defines the behaviour of the output on deactivating the lock-out protection. Only visible when the priority for the lock-out protection is 0.
Priority, restraint	0...4 Basic setting: 2	Specifies the priority for recalling and removing a scene of type Restraint for the channel.
Activate forced operation brightness value	0...100 % Basic setting: 100 %	Defines the behaviour of the output on activating the forced operation.

Parameters	Setting options, Basic setting	Explanations
Deactivate forced operation brightness value	0...100 % Basic setting: 0 %	Defines the behaviour of the output on deactivating the forced operation. Only visible when the priority for the forced operation is 0.
Priority, wind alarm	0...4 Basic setting: 3	Specifies the priority for recalling and removing a scene of type Wind alarm for the channel.
Activate wind alarm brightness value	0...100 % Basic setting: 0 %	Defines the behaviour of the output on activating the wind alarm.
Deactivate wind alarm brightness value	0...100 % Basic setting: 0 %	Defines the behaviour of the output on deactivating the wind alarm. Only visible when the priority for the wind alarm is 0.
Priority, sun protection	0...4 Basic setting: 0	Specifies the priority for recalling and removing a scene of type Sun protection for the channel.
Activate sun protection brightness value	0...100 % Basic setting: 100 %	Defines the behaviour of the output on activating the sun protection.
Deactivate sun protection brightness value	0...100 % Basic setting: 0 %	Defines the behaviour of the output on deactivating the sun protection. Only visible when the priority for the sun protection is 0.
Priority, twilight	0...4 Basic setting: 0	Specifies the priority for recalling and removing a scene of type Twilight for the channel.
Activate twilight brightness value	0...100 % Basic setting: 100 %	Defines the behaviour of the output on activating the twilight function.
Deactivate twilight brightness value	0...100 % Basic setting: 0 %	Defines the behaviour of the output on deactivating the twilight function. Only visible when the priority for the twilight function is 0.
Switch off brightness overshoot	On, Off Basic setting: On	Allows automatic switch-off according to the brightness. If the parameter is On, then the light controller switches off automatically when the brightness setpoint is greatly exceeded. Note: This parameter is not yet active, as a light controller has not yet been implemented.

Parameters	Setting options, Basic setting	Explanations
Switch on brightness under-shoot	On, Off Basic setting: Off	Allows automatic switch-on according to the brightness. If the parameter is On, then the light controller switches on automatically when the brightness setpoint is greatly under-shot. We recommend only using the parameter in connection with the parameter "Switch-off on brightness overshoot". Note: This parameter is not yet active, as a light controller has not yet been implemented.
Hotel function	On, Off Basic setting: Off	If the hotel function is activated, the system will dim to 20 % brightness when a switch-off command is made. Switch-off is only possible with a forced position command. Note: If the minimum brightness is set to greater than 20 %, then the system dims to the set minimum brightness when the hotel function is activated.

Information window

In the Information window, the load can be controlled and the information about the device can be displays.

Channel control/channel information

Display value	Explanations
Current dimming value	The load can be dimmed using the slider or a brightness value entry.
Load state	The load can be switched on or off.
Restraint	Display of forced position status.
Operating hours	Display of the operating hours since the last restart in the Settings window Einstellungen .

8 Troubleshooting

DALI ballasts switch to System-Failure-Level. No operation is possible.

Cause 1: short-circuit protection of the control unit has triggered, DALI voltage is switched off. Status LED (3) flashes 3 times at intervals of 1 second.

Disconnect control unit from mains, also switch off circuit breaker.

Eliminate short-circuit.

Switch circuit breakers and control unit on again.

i Short-circuit protection is not based on a conventional fuse, no metallic separation of the DALI current.

eNet radio DALI gateway 1-gang mini

Cause 2: overtemperature protection of the control unit has triggered, DALI voltage is switched off. Status LED flashes 3 times at intervals of 1 second.

Disconnect control unit from mains, also switch off circuit breaker.

Let the control unit cool down for at least 15 minutes.

Check the installation situation.

Switch additional control unit in parallel, max. 6 per system.

Reduce the connected DALI subscribers.

Switch circuit breakers and control unit on again.

9 Accessories

Mounting adapter for mini housing

Art. no. FM-EBG

eNet server for rail mounting

Art. no. ENET-SERVER

10 Conformity

Hereby Albrecht Jung GmbH & Co. KG declares that the radio system type

Art. no. FMSTD8UP

corresponds to the directive 2014/53/EU. You can find the full article number on the device. The complete text of the EU Declaration of Conformity is available under the Internet address: www.jung.de/ce

11 Warranty

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

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