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Operating instructions

DALI REPEATER SO



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General

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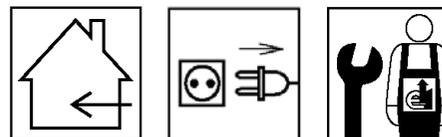
Application and function

The DALI REPEATER SO allows to build up DALI systems with more than 64 ECG per DALI line. For the supervisory control unit it acts like a single ECG. On the other hand it is able to control up to 64 DALI ECG. All ECG connected to the DALI REPEATER SO are set to the same dimming level. Switching state, dimming level and lamp failures can be queried via the Repeater. At the same time it allows the extension of the DALI line by 300 m each time. If the Repeater is used in *Touch DIM* operation, up to 64 DALI ballasts can be controlled by means of a common push button.

The integrated load switch can be used to interrupt the mains power supply of the connected ECG. The switch will be opened if the connected ECG are in stand-by operation for a while. By this the stand-by power of the installation can be reduced.

The DALI REPEATER SO is designed for switchboard installation.

Safety information

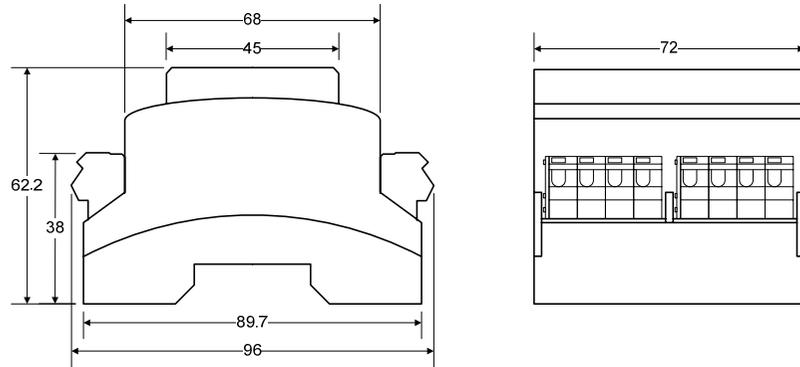


The following information is provided for your safety:

- Please read these operating instructions carefully before installing and using the DALI REPEATER SO. This is the only way to ensure that you use the equipment safely and correctly. Keep these operating instructions in a safe place for future reference. You should make sure that everyone who uses DALI REPEATER SO has read these operating instructions.
- DALI REPEATER SO may only be installed by qualified personnel who have been appropriately trained and who have the relevant authority. The installation personnel must be familiar with the operating instructions. Power must be switched off before any work is undertaken on the unit.
- The DALI REPEATER SO is designed for installation in switchboard.
- The relevant safety and accident prevention regulations must be observed.
- The *Touch DIM* operation **must not be used in parallel** to operation with a DALI control unit. Only DALI or *Touch DIM* operation is allowed.
- The external switch for the *Touch DIM* operation must be designed for mains voltages.
- If the DALI output is wired with external voltage, particularly with a mains voltage, the unit may be destroyed.

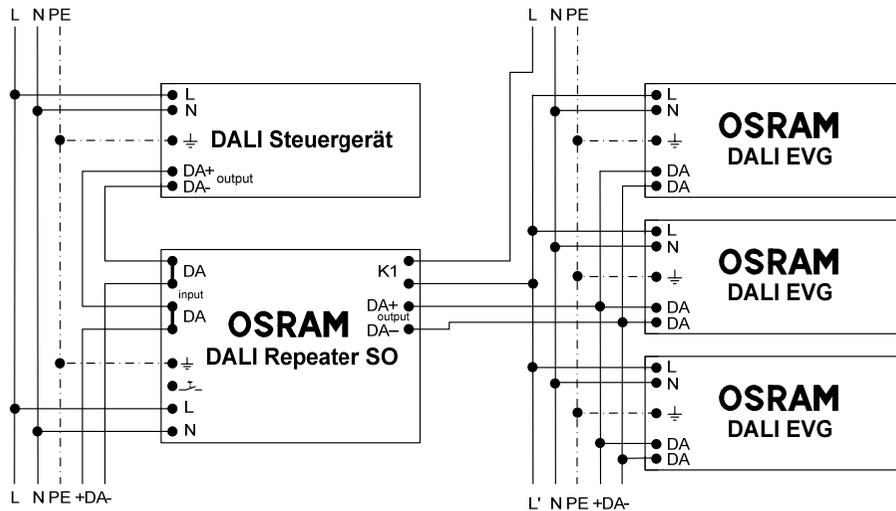
Installation

Design and dimensions



Wiring schemes

1. Repeater in DALI operation:

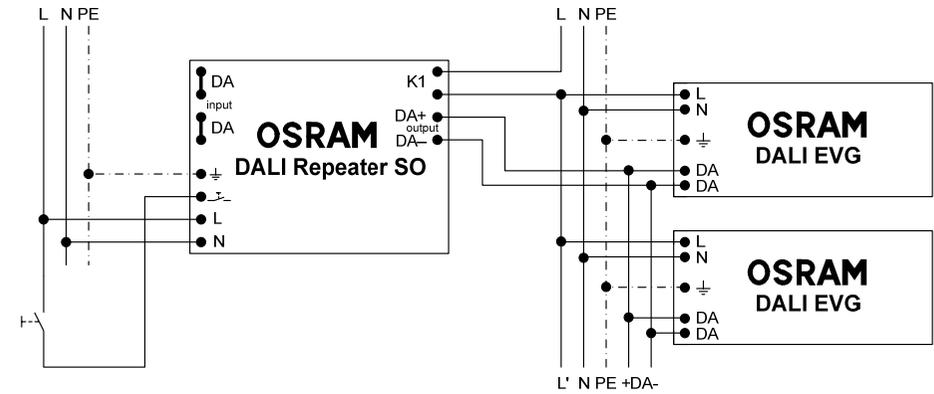


Hints:

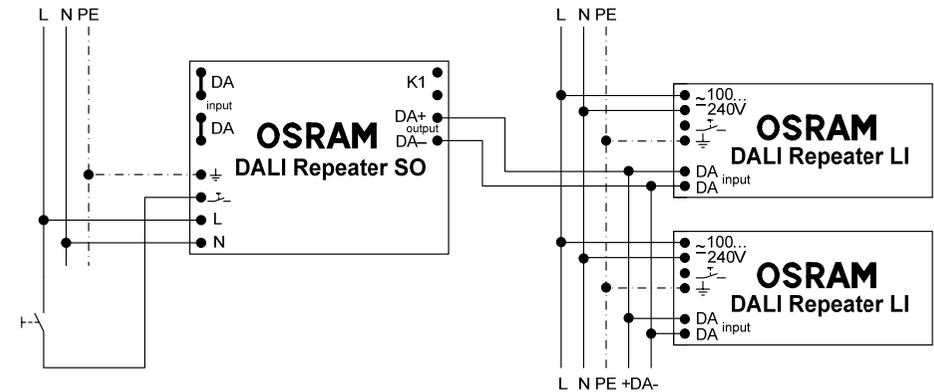
- All ECG connected to the DALI REPEATER SO act like one group with the same light level. Addressing on the output side is not supported.
- Further DALI devices may be connected to the DALI control unit, e.g. DALI ECG or further repeaters. For maximum number of DALI devices please refer to the instructions of the control unit.
- Maximum wire length at the output of the DALI Repeater is 300 m.
- Outputs of different Repeaters may not be interconnected with each other.
- A maximum number of 64 DALI ECG or DALI Repeaters may be connected.
- The maximum load of the integrated load switch may not be exceeded.

Installation

2. Repeater in *Touch DIM* operation for up to 64 ECG:



3. Repeater in *Touch DIM* operation for up to 64 x 64 ECG:



Hints:

- In *Touch DIM* operation the DALI input terminals must not be connected.
- The maximum overall wiring length at the push button input should not exceed 100 m. Further points of control can be achieved by parallel connection of several push buttons.
- Push buttons with glow indication lamps in parallel to the push to make contact are inapplicable.
- Outputs of different Repeaters may not be interconnected with each other.
- Maximum wire length at the output of the DALI Repeater is 300 m.
- A maximum number of 64 DALI ECG or DALI Repeaters may be connected.
- The maximum load of the integrated load switch may not be exceeded.

Operation

DALI operation with supervisory control unit

Before starting up the DALI control unit the DALI Repeater should be initialised as follows:

- Initialisation is started by pressing the integrated "service" button of the DALI REPEATER SO for at least 0.5 s.
- During initialisation process the highest minimal dimming level of the connected DALI devices is detected and stored. During this process the LED will flash in yellow.

The DALI REPEATER SO supports all addressing and commissioning methods offered by the DALI standard. Independently from the connected device types at the output, the Repeater will identify itself and be detected by the control unit as ballast for fluorescent lamps.

If the address assignment is done by the "PHYSICAL SELECTION" method, please press the service button or cause a lamp fail at one of the connected ballasts when the procedure of the control unit requires that.

Hints to the DALI operation:

- All devices connected to the outputs will always act synchronously in broadcast mode. No addresses are assigned at the output side.
- Please follow the instructions of the control unit connected to the DALI input of the Repeater.

Please see also "**Indication LED**" and "**Service button**".

Touch DIM operation

Before Touch DIM operation the DALI Repeater should be initialised as follows:

- Initialisation is started by pressing the integrated "service" button of the DALI REPEATER SO for at least 0.5 s.
- During initialisation process the highest minimal dimming level of the connected DALI devices is detected and stored. During this process the LED will flash in yellow.

After that, please **perform a long push** (> 0.5 s) to one of the connected push buttons. The DALI REPEATER SO will be switched over from DALI to *Touch DIM* operation by this.

Touch DIM operation in brief:

- Switch on/off : Short press to the connected push button (< 0.5 s)
- Dimming: Long press (> 0.5 s)
(Dimming direction will change with every long press)
- Store memory value: Double click: 2 short presses within 0.4 s when the lamps are **switched on**.
- Delete memory value: Double click: 2 short presses within 0.4 s when the lamps are **switched off**.

Hints to the Touch DIM operation:

- When the lamps are switched off a long press will cause that the lamps are switched on and dimmed up until the button is released or the maximum brightness is reached.
- If the maximal or minimal brightness is reached the dimming process is stopped. A change of dimming direction will be performed not before the button is released and pressed again.
- If the memory value is deleted, the last dimming level before switch off is recalled when the lamps are switched on by a short press.

Please see also "**Indication LED**" and "**Service button**".

Operation

Load switch

The integrated load switch can be used to interrupt the mains power supply of the connected ECG. The switch will be opened if the connected ECG are in stand-by operation for a while. By this the stand-by power of the installation can be reduced.

The power rating of the load switch must not be exceeded, see "**Technical data**".

Hints to the load switch:

- After switching of the lights the load switch is turned off time-delayed.
- The load switch is not turned off, if there are ECG connected to the DALI output which are not switched off by the load switch.

Functional test

The functional test allows checking proper operation of all DALI devices connected to the output:

With every short push (< 0.5 s) on the integrated "Service" button of the DALI REPEATER SO the switching state is toggled between on (max. brightness) and off. Please ensure that all connected DALI devices react correspondingly. Approximately 5 s after the last „Service“ button press, the DALI REPEATER SO returns to normal operation automatically.

As long as the functional test is active the indication LED of the repeater flashes alternating between green and yellow.

Service button

The integrated service button of the DALI REPEATER SO provides following functionality:

- During initialisation process the highest minimal dimming level of the connected DALI devices is detected and stored. It is started by pressing the integrated "service" button for at least 0.5 s.
- Physical selection during address assignment, by a short press (< 0.5 s) on the service button.
- Activation of the functional test, by a short press (< 0.5 s) on the service button during normal operation.

Hint:

Physical selection is used/supported by some control units only, for details please refer to the operation instructions of the corresponding control unit.

Indication LED

Within the subsequent table all possible states of the LED are listed and their meaning is described.

LED state	Meaning	Cause
green	Normal operation	
flashing green/yellow	Testing function active	Testing function was activated by a short press on the service button.
flashing red/green	No DALI device at the output detected	Broken wire connection at the output side or interruption of mains supply of the connected DALI devices.
yellow	Lamp failure	At least one of the connected DALI devices is indicating a lamp fail.
flashing yellow	Initialising (detection of highest minimal dimming level)	Initialise process was started by a long press on the service button.
flashing red	Overload	More than 64 DALI devices were connected to the output.

Accessories (not included)



Touch DIM RC

Radio receiver for wireless control of up to 2 repeaters

4008321031938



Touch DIM RMC

4-channel handheld transmitter* for up to 2 Touch DIM RC

4008321183033



Touch DIM WCU

2-channel wall mounted transmitter* for Touch DIM RC

4008321032737

*Maintenance free battery less EnOcean® transmitter technology (inductive power generation)

Technical data

Designation:	DALI REPEATER SO
Supply voltage:	100 ... 240 V, 50 ... 60 Hz or DC
Power consumption:	Operation: < 5 W Stand-by: < 1 W
Control input:	DALI according to IEC 62386-102/-201
DALI Output:	Max. 64 DALI ECG respectively max. 130 mA
Load switch:	Max. number of connected ballasts: 4 pieces QT _i DALI 2x80 or 6 pieces QT _i DALI 2x28/54 or QT _i DALI 2x58 or QT _i DALI 2x36 or QT _i DALI 2x21/39 or QT _i DALI 2x35/49 or QT _i DALI 4x14/24 or 8 pieces QT _i DALI 1x35/49/80 or QT _i DALI 2x14/24 or QT _i DALI 2x18 or QT _i DALI 4x18 or QT _i DALI 3x14/24 or 12 pieces QT _i DALI 1x14/24 or QT _i DALI 1x18 DIM or QT _i DALI 1x21/39 or QT _i DALI 1x36 or QT _i DALI 1x58 or QT _i DALI 3x18 or QT _i DALI 1x28/54 or 6 A resistive load
Wire cross section:	0.5 ... 2.5 mm ²
Ambient temperature:	0 ... + 50 °C
Type of protection:	IP 20
Protection class:	I
CE requirements:	EMC according to EN 61547, EMC according to EN 55015, safety according to EN 61347-2-11
Dimensions:	72 mm x 96 mm x 62.2 mm (l x w x h)



The CE symbol signifies compliance with the relevant EU Directives.