

wDALI GR-Transmitter GR-Receiver PS20

Datasheet Wireless DALI



Module for the wireless
integration of spatially separated
DALI ballasts in a DALI system

Art.Nr. 86459587-GRTM (Transmitter)

Art.Nr. 86459587-GRRPS (Receiver)

wDALI GR Transmitter/Receiver Wireless DALI

Overview

- Module for the wireless integration of spatially separated DALI ballasts in a DALI system
- At least one transmitter (sending unit) and one receiver (receiving unit) are required for the wireless connection
- range of wireless connection up to 150m outdoors, indoors typically 8m-12m
- Easy group assignment to G0...G15 with the help of a rotary group selector on the receiver: all commands sent to the selected group or broadcast are forwarded to the receiver subnet
- The commands are sent broadcast on the subnet
- The transmitter is supplied by the DALI-line.
- The receiver is supplied by mains and provides a 20mA DALI bus power supply for the subnet. A [DALI-Expander](#) can be used on the subnet for higher DALI loads
- Unlimited DALI subnets can be controlled with one transmitter (a receiver is required for each subnet).
- 2 sets of DALI terminals – the DALI line can be connected through the device

Specification, Characteristics

type	wDALI GR-Transmitter	wDALI GR-Receiver PS20
article number	86459587-GRTM	86459587-GRRPS
function	Sending DALI commands wirelessly	Receiving DALI commands wirelessly
input: L, N		
input type	---	supply, mains- voltage
marking terminals	---	L, N
input voltage range	---	210-250VAC
input supply frequency	---	50-60Hz
DALI: DA, DA		
input/output type	DALI control input	DALI power supply 20mA DALI control output
marking terminals	DA, DA	DA, DA
voltage range	9,5Vdc ... 22,5Vdc (acc. IEC62386)	power supply: 12Vdc ... 20,5Vdc (acc. IEC62386)
guaranteed DALI supply current	---	20mA
max DALI supply current	---	250mA ¹
typ. current consumption lin	3.8 mA	---

¹ No additional DALI bus power supplies can be connected, a bus extension is possible via a DALI-Expander.

general data

Radio frequency range	2.4 GHz
dimensions (L x B x H)	59mmx33mmx15mm
mounting	back box installation
protection class	II (when used/installed as intended)
protection degree housing	IP40
protection degree terminals	IP20

terminals

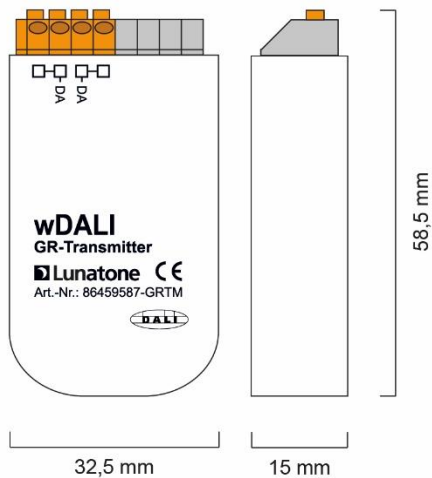
connection type	spring terminal connectors
wire size solid core	0,5 ... 1,5 mm ² (AWG20 ... AWG16)
Wire size stranded wired	0,5 ... 1,5 mm ² (AWG20 ... AWG16)
wire size using wire end ferrule	0,25 ... 1 mm ²
stripping length	8,5 ... 9,5mm / 0,33 ... 0,37inch
release of wire	push button

environmental conditions

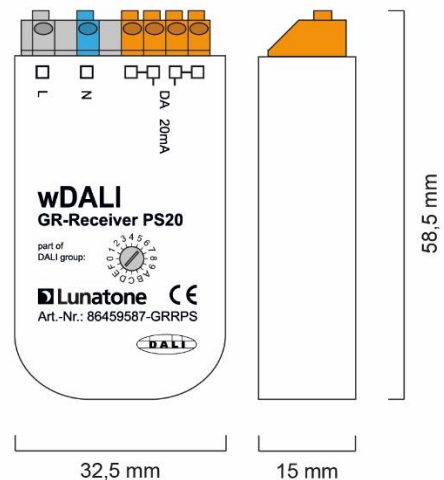
storing and transportation temperature	-20°C...+75°C	-20°C...+75°C
operational ambient temperature ta	-20°C...+75°C	-20°C...+60°C
rel. humidity, none condensing	15% ... 90%	

standards

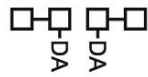
DALI	EN 62386-101
EMC	EN 61547 EN 50015 / IEC CISPR15
Safety	EN 61347-2-11 EN 61347-1
markings	CE



dimensions wDALI GR-Transmitter



dimensions wDALI GR-Receiver PS20

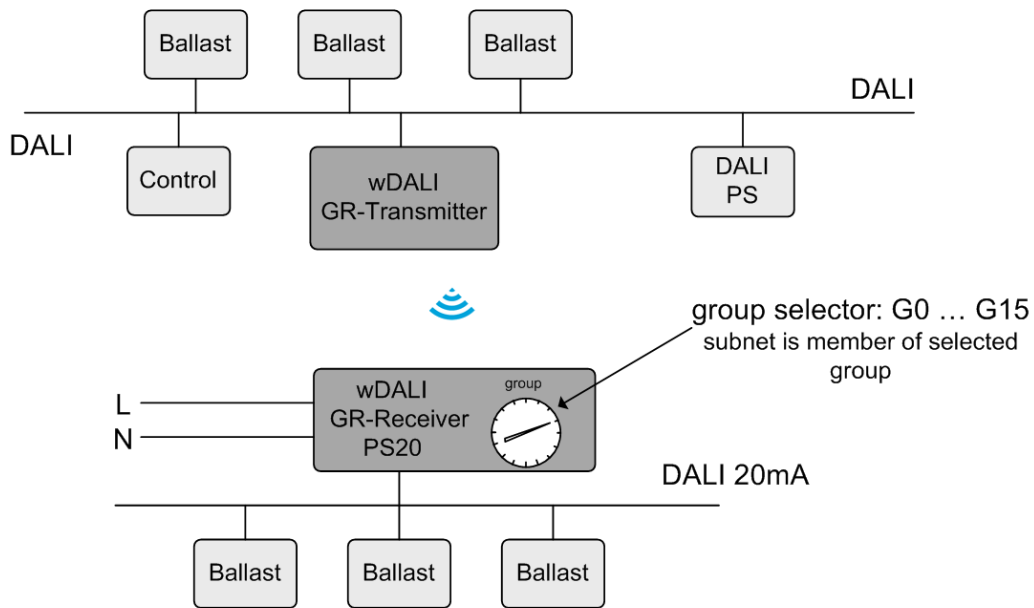


connection plan wDALI GR-Transmitter

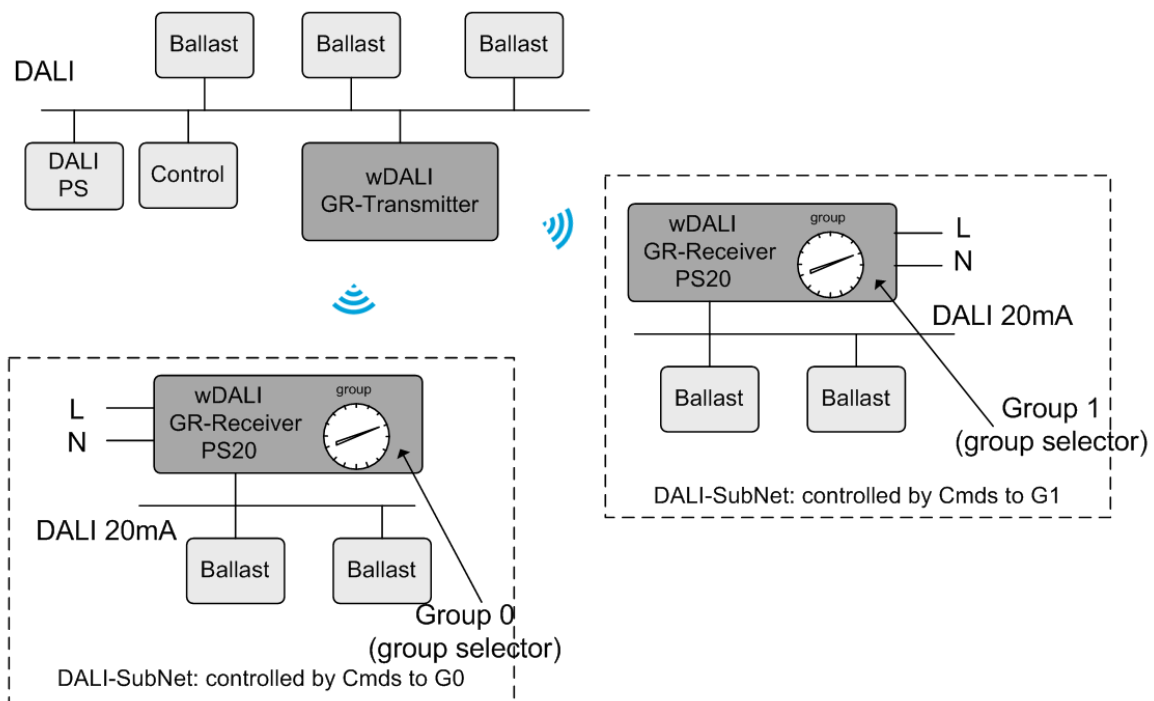


connection plan wDALI GR-Receiver PS20

Application Example



Typical application: integration of spatially separated DALI-ballasts



Typical application: integration of multiple spatially separated areas, control via commands to group 0 and group 1

Installation

- The devices are intended for back box installation or in an enclosure, ensure proper cable relief for installation in protection class II devices

wDALI GR-Transmitter

- The wDALI GR-Transmitter is supplied by the DALI-line (typical current consumption: 3.8mA). A DALI bus power supply is required.
- The connection to the DALI-terminals can be made regardless of polarity, and is protected against overvoltage (mains).

wDALI GR-Receiver PS20

- Connect power supply terminals L and N to mains voltage according to the labelling
- The wDALI GR-Receiver PS20 is supplied by mains and provides a 20mA DALI power supply for a small DALI subnet (approx. 10 standard DALI-ballasts). If additional ballasts are required on the DALI bus, a [DALI-Expander](#) can be used. An additional DALI bus power supply must not be connected.

- There are two sets of DALI terminals for easy connection, the signal line can be looped through.
- The wiring should be carried out as a permanent installation in a dry and clean environment.
- Installation may only be carried out in a voltage-free state of the system and by qualified specialists.
- National regulations for setting up electrical systems must be followed.

- The DALI line may be routed together with the mains voltage (in one cable or as single wires in a tube)
- The DALI-line must not be connected to mains or an extra low voltage system (SELV)
- Only 1 wire may be connected to each terminal. When using double wire end ferrules, the connection capacity of the terminal must be considered.
- The DALI wiring can be realised with standard low-voltage installation material. No special cables are required.
- Wiring topology of the DALI-line: Line, Tree, Star



Attention: The DALI-signal is not classified as SELV circuit (Safety Extra Low Voltage). Therefore, the installation regulations for low voltage apply.



The voltage drop on the DALI line must not exceed 2V at maximum length (300m) and maximum bus load (250mA).

- Do not use standard DC power supplies on the DALI-line, since they do not meet the requirements for DALI communication

Commissioning

The modules are ready for operation after connection.

Coupling of the Transmitter and Receiver is not necessary. Receivers are listening to the Transmitters in their reception range.

The receiving range depends on the structural conditions, outdoors it is up to 150m, indoors the range is typically 8m-12m.

Function & Configuration

The wDALI GR group transmitter/receiver allows the integration of spatially separated DALI ballasts in a DALI-line without the need of being physically connected.

The DALI-subnet of a transceiver can be assigned easily to one of the 16 DALI-groups G0...G15 with the rotary switch on the wDALI GR-Receiver (selection of 0-F).

The DALI-commands are transmitted wirelessly to all receivers. The receivers filter the commands accordingly: only commands to the respective group and sent broadcast are forwarded to the DALI subnet.

The received commands are always sent broadcast on the DALI subnet.

wDALI Group transmitter + Receiver

range	150m / 8-12m in buildings
configuration	rotary switch on device
amount subnets	unlimited
wireless connection	unidirectional, broadcast forwarding

Similar devices

[wDALI-2 BT5 Long Range Transmitter + Receiver](#)

range	300m / 10-20m in buildings
configuration	DALI Cockpit PC Software
amount subnets	unlimited
wireless connection	unidirectional, broadcast forwarding

[wDALI-2 Bluetooth 5 wireless Bridge](#)

range	300m / 10-20m in buildings
configuration	DALI Cockpit PC Software
amount subnets	max. 10
wireless connection	bidirectional, addressed subnets

[wDALI-2 Extra Long Range wireless Bridge](#)

range	1km/100-500m in buildings
configuration	DALI Cockpit PC Software
amount subnets	max. 10
wireless connection	bidirectional, addressed subnets

Purchase Information

Art. Nr. 86459587-GRTM: wDALI GR-Transmitter, back box

Art. Nr. 86459587-GRRPS: wDALI GR-Receiver PS20, integrated 20mA bus power supply for DALI subnet, back box

Additional Information and Equipment

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

<https://www.lunatone.com/en/product/dali-cockpit/>

Lunatone DALI products

<https://www.lunatone.com/en/>

Lunatone datasheets and manuals

<https://www.lunatone.com/en/downloads-a-z/>

Contact

Technical Support: support@lunatone.com

Requests: sales@lunatone.com

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.