

wDALI-2 BT RM8

Datasheet

wDALI-2 Relay

Wireless expansion
of a DALI-system
for switched ballasts



Art.Nr. 87452993

wDALI-2 BT RM8 Interface

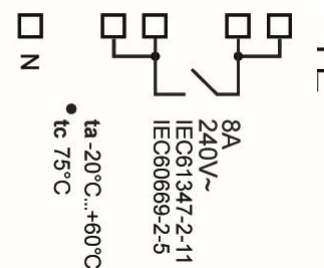
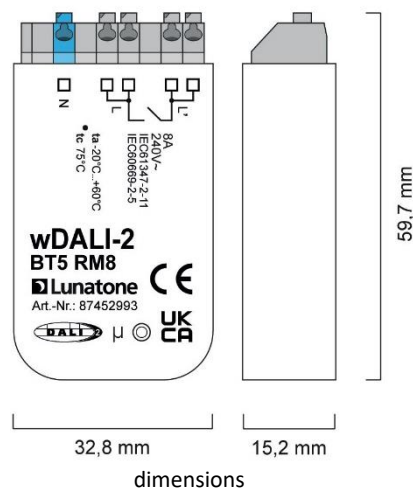
Overview

- Wireless DALI-line expansions for switched ballast without DALI-input
- Wireless – DALI connection via see [wDALI-2 BT Bridge](#)
- The ballasts can be switched on and off by DALI-commands
- 2 components: a wDALI-2 BT bridge (datasheet) unit connected to the DALI-line and the wDALI-2 BT RM8 receiver module with relay
- The wDALI-2 BT RM8 is supplied via mains.
- The module receives a DALI address (via wDALI-2 BT bridge) and can be assigned to groups and scenes
- Simple configuration with the DALI-Cockpit software tool

Specification, Characteristics

type	wDALI-2 BT RM8
article number	87452993
electrical data	
supply	210-250VAC / 50-60Hz
typ. current consumption	3 mA
relay output switch on/off voltage	250Vac
max. nominal load	1000VA
circuit breaker	6A max
max. breaking current	12A
max. inrush current	60A
max. continuous current	8A
switching method	zero cross switching
type of relay contact	normally open
switching operations at nominal load, resistive	>10 ⁵
maximum switching frequency	1Hz
wireless technology / policy	Bluetooth 5
general data	
dimensions	59mmx33mmx15mm
housing	back box
protection class	II (when used/installed as intended)
protection degree housing	IP40

protection degree	IP20
terminals	
environmental conditions	
storage and transportation temperature	-20°C...+75°C
operational ambient temperature	-20°C...+60°C
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
standards	
EMC	EN 61547, EN 50015 / IEC CISPR15
Safety	EN 61347-2-11, EN 61347-1
markings	CE, UKCA



Application Example

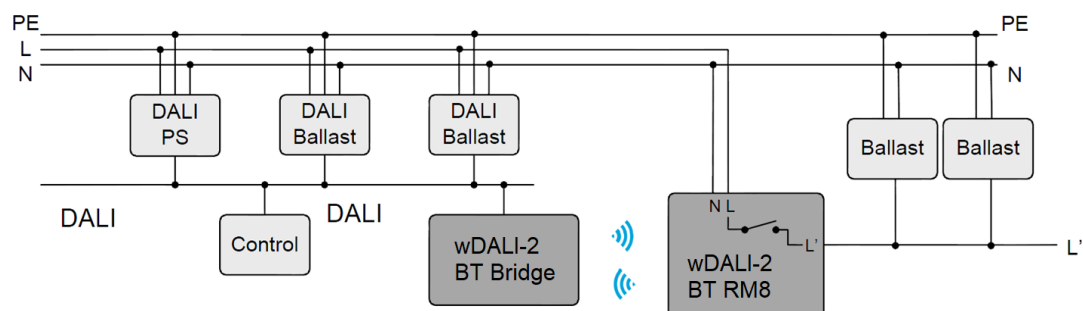


Figure 1 typical installation

Installation

- The wDALI-2 RM 8 is intended for back box installation or in an enclosure, ensure proper cable relief for installation in protection class II devices
- When installing and positioning, attention must be paid to the environment; metal housings and moisture impair the radio functionality. On problems with reception, check alternative orientation of the device.
- Range of the wireless connection up to 150m outdoors, inside buildings, depending on construction 8m to 12m. The communication is encrypted and based on BT5 protocol.
- connect terminals L and N to mains voltage according to the labelling
- the output can switch load currents of up to 8A and is suitable for loads up to 1000VA
- In order to ensure that the load current does not exceed the maximum switching current of the relay a suitable automatic circuit breaker has to be installed.
- Switching is done at zero cross of ac voltage.
- 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.
- Only 1 wire may be connected to each terminal. When using double wire end ferrules, the connection capacity of the terminal must be considered.

Commissioning

- After connection the relay needs to be paired to a wDALI-2 BT Bridge for control over DALI. Settings and device configuration can then be applied via DALI, with the wDALI-2 BT Bridge in the DALI Cockpit, see section "Function".
- For configuration of the device the PC with the [DALI Cockpit Software](#), must be connected to the DALI bus with the wDALI-2 Bridge, via a suitable interface module ([DALI-2 USB](#); [DALI USB](#), [DALI-2 WLAN](#), [DALI-2 Display](#), [DALI-2 IoT](#), [DALI 4Net](#), [DALI SCI RS232](#)). Information on addressing and pairing to the wDALI-2 BT Bridge see section "Pairing".
- The DALI-2 RM8 can be paired with the wDALI-2 BT Bridge and can then be found during the addressing process. The device is then available in the DALI Cockpit device overview
- The "Identify" function can be used for localization after addressing. With the DALI command IDENTIFY, or selecting the checkbox "localise" in the DALI Cockpit the relay switches.

☐localise

The IDENTIFY command should not be used if switching of the relay is not desired. Alternatively, the allocation can also be done via the serial number of the device.

Pairing

1. Connect the DALI interface (e.g. DALI-2 USB) to the DALI bus and the PC and start the DALI Cockpit software.
2. Start device addressing. An address is assigned to the DALI bridge and the device is displayed in the device tree.
3. Open the wDALI-2 Bridge device page, in the settings select the mode "Master"

4. At section "BT long range" select option "off"

and save the changes to the device



5. Start the search for the surrounding devices with "Pair Devices".

Pair Devices...

The found devices are listed, the search can be ended by selecting "Stop"

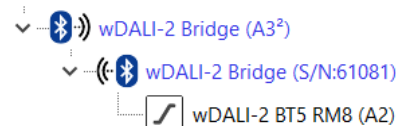
6. Select the desired devices (up to 10 devices) via the checkbox and press save to pair them with the master device.
7. If the sub-lines should be addressed: in section „DALI Queries“, enable the option „forward DALI-Queries to Slave devices“

and save the changes to the device



8. Restart the addressing as "System extension" via or the DALI interface device "Addressing".

9. The wDALI-2 RM8 devices are found and listed in the DALI Cockpit device tree as sub-items of the master bridge.



10. The device pages can be selected, read



and configured



via the DALI Cockpit and master bridge, identical to other DALI bus devices.

Figure 2 Coupling wDALI-2 Bridge– wDALI-2 Master Bluetooth Bridge

Function

The DALI-2 RM8 acts as a DALI-controlled relay contact. Hence ballasts can be integrated in a DALI-system and switched on and off by DALI commands.

The wDALI-2 BT RM8 allows connection and switching of loads to the DALI line wirelessly. The device is a control gear for non dimmable loads based on the DALI specification for control gear (IEC 62386-102) and the device type 7 extension (IEC 62386-208). Therefore the switching characteristic is determined by the comparison of the virtual direct arc power level (VDAP) with 4 thresholds.

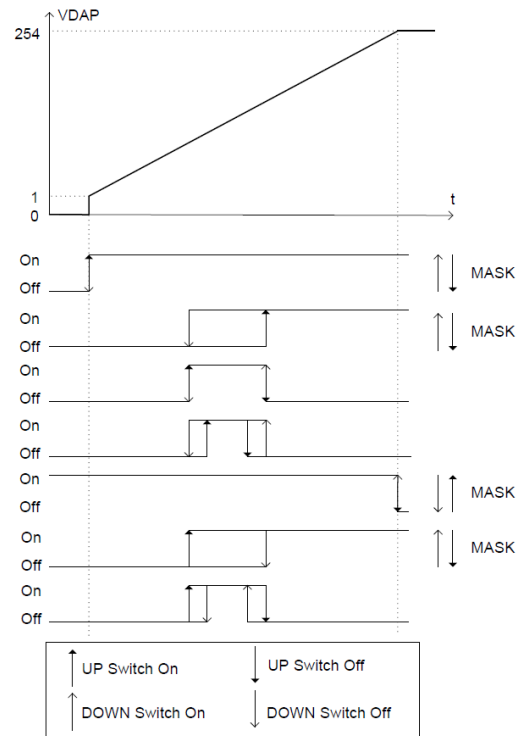
The virtual dim level (VDAP) is like the dim level of DALI-ballasts and is therefore limited by MINLEVEL and MAXLEVEL and influenced by fade-time and fade-rate.

For each dim direction 2 thresholds can be defined. They are compared with the virtual dim level and as a result the output is switched on or off:

virtual dim direction	comparison of virtual dim level and thresholds	output
UP	$VDAP \geq \text{UP SwitchOn Threshold}$	ON
UP	$VDAP \geq \text{UP SwitchOff Threshold}$	OFF
DOWN	$VDAP \leq \text{DOWN SwitchOn Threshold}$	ON
DOWN	$VDAP \leq \text{DOWN SwitchOff Threshold}$	OFF

If a threshold value is set to "MASK" the threshold is inactive and does not influence the relay output.

Some examples of switching characteristics:



With the help of the fade time switch on and switch off delays can be realized.

Power-ON and System-Failure behaviour

The reaction on a system failure can be configured (keep relay state, on or off, factory default: keep state (MASK)). Similarly the Power On level can be configured which is applied in case of switching on the DALI-line supply voltage. Additionally for Power Up a delay before switching of 0 to 10 seconds can be configured.

Adjustable RESET behaviour

The response to a DALI reset command is configurable. The following options are available:

- *Ignore command*: the DALI reset command does not trigger any changes to the device settings
- *DALI standard*: the selected device settings are reset to the values defined in

the DALI standard (see table 1 below - second column: DALI standard values)

- *Custom settings:* the current device settings can be saved. With a DALI Reset command, the selected parameters (6 check boxes) are then reset to these saved values.

Ignore Broadcast Commands

The broadcast control can be deactivated. Through selection of "Ignore Broadcast", the RM8/16 does no longer respond to broadcast commands on the DALI bus (group assignments are not ignored).

Time switch functionality

Timed switching can be activated for four selectable scenes; an immediate action (0%/100%/none) and a delayed action (0%/100%) can be configured. The delay can be selected from 1s-3h.

Delayed Switching

En	Dir	Command	Time[min]
• OFF		GOTO SCENE 0	0.0
• ON		GOTO SCENE 1	60
• OFF		GOTO SCENE 2	120
• ON		GOTO SCENE 6	0.25

☒ Enable

DALI Command: GOTO SCENE 0

Switching: immediate: ☐ 0% ☒ 100% ☐ No Change
after delay: ☒ 0% ☐ 100%

Delay: 0 Hours 0 min 0s

Device Info

Name: wDALI-2 BT5 RM8 Article Number: 87452993 GTIN: 9010342014437

Manufacturer: Lunatone Serial Number: FW

Device Type: 7 Type: Control Gear

DALI Ver: V2.0 Short Address: (A2) wDALI-2 BT5 RM8 Set

Device Parameters DT7 Settings

Groups: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

DALI Parameter

MIN Level: 0.1 %

MAX Level: 100 %

Power On Level: 100 %

System Fail Level: ☐ 0% ☐ 100% ☒ No Change

Fade time: ext fade s

Ext Fade Time: fastest

Fade rate: 44.7 step/s

Scenes

Preferences...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Delayed Switching

En	Dir	del	Command	Time[...]
•	↓		GOTO SCENE 0	00:00:00
•	↓		GOTO SCENE 1	00:00:00
•	↓		GOTO SCENE 2	00:00:00
•	↓		GOTO SCENE 3	00:00:00

☐ Enable

DALI Command: GOTO SCENE 0

Switching: immediate: ☐ 0% ☐ 100% ☐ No Change
after delay: ☐ 0% ☐ 100%

delay: 0 H. 0 Min. 0 Sec.

Behavior on DALI Reset Command

Parameters are reset to DALI Standard values. Change...

Ignore Broadcast Config and Arc commands

☐ Ignore Broadcast commands

Power Up Behavior

Switching Delay: 0 [0.10 sec]

Behavior on DALI Reset Command

on DALI reset command: DALI Standard

Valid for:

☒ Scene Levels ☒ Fade Time / Fade Rate

☒ DT7 Settings ☒ Groups

☒ MIN Level, MAX Level, Actual Level ☒ PowerOnLevel, System Failure Level

Reset Behavior - Custom Settings

Save current device settings for reset behavior

Set Cancel

Figure 3 DALI Cockpit RM8 device parameter settings

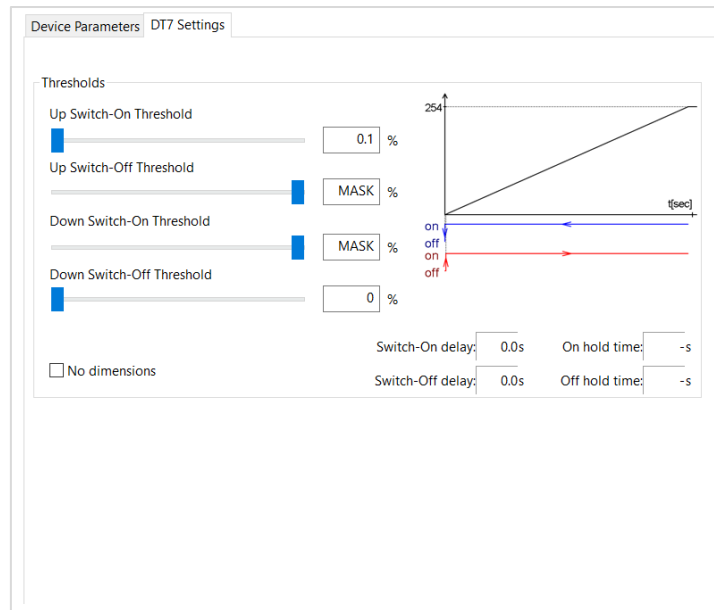


Figure 4 DALI Cockpit RM8 DT7 specific settings

Purchase Information

Art. Nr. 87452993: wDALI-2 RM8 1000VA/8A, zero cross switching, relay contact normally open, back box

Accessories

wDALI-2 Bluetooth Wireless DALI Bridge

Art. Nr. 89453348:

Art. Nr. 89453348-PS

<https://www.lunatone.com/en/product/wdali-2-bluetooth-5-wireless-bridge/>

Additional Information and Equipment

DALI-Cockpit – DALI system configuration tool, free when using a Lunatone interface device

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

Lunatone DALI products

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

Lunatone Datenblätter und Manuals

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



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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.