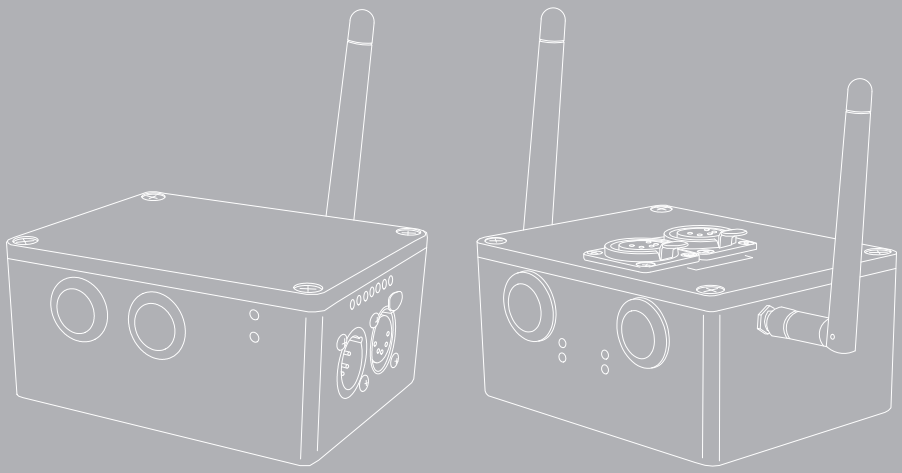
Version 1.03
June 20, 2017

User Manual
RadioGate Solid
RadioGate Arma

RGS-X-DB-AC, RGS-X-2D2B-AC, RGS-X-DB-DC, RGS-X-2D2B-DC,
RGA-O-DB-AC, RGA-O-2D2B-AC, RGA-O-DB-DC, RGA-O-2D2B-DC



UNDRAX electronics

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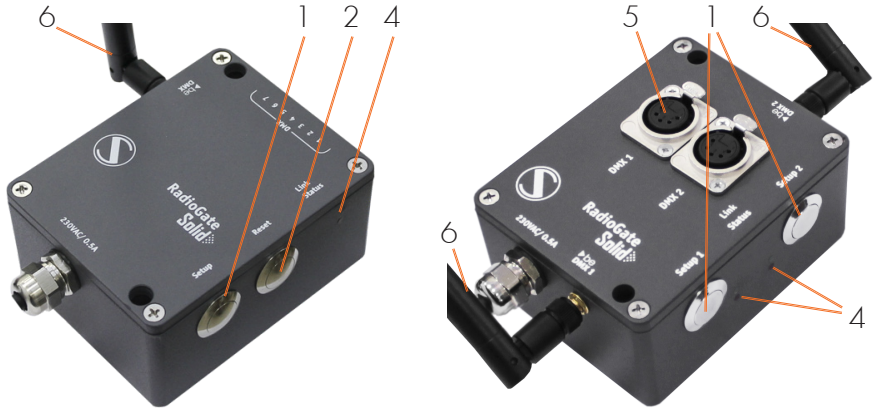
Visual appearance



Pic.1 Main interfaces and indicators of RadioGates Solid DB и Solid 2D2B

1	"SETUP" button	4	"LINK" and "STATUS" indicators
2	"RESET" button	5	DMX connectors
3	Slave's indicators	6	Antenna

Specifications

Wireless channels	1 or 2
DMX ports	1 or 2
RF band	2.4 GHz
Communication protocol	Bluetooth v.2.0
Transmission range	100 m
DMX data refresh rate	44 Hz
Max current consumption	0,1 A
Setup	Buttons
Power supply	~90-250 VAC, 50/60 Hz or ⎓12-24 V
Fuse	0,5 A
Working temperatures	-40...+65°C
Mounting	Surface/truss
Dimensions	55 x 115 x 90 mm

Safe operation

WARNING!
The device uses hazardous voltage AC 230 V

In installation, operation, preventive maintenance and repairs of the device, the requirements of the safety rules must be followed.

To ensure safe and reliable operation of the devices, please observe the following requirements:

- Use the device only for its intended purpose;
- Do not use devices that shows signs of malfunctioning;
- Avoid strong physical impacts on the device;
- Protect devices and cables from contact with moisture or other corrosive liquids.

Whenever a fault is detected in the device, please contact the manufacturer.

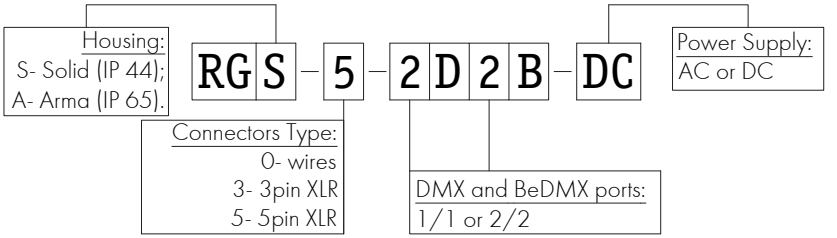
General information

RadioGate devices designed for wireless transmitting 1 or 2 DMX signals used in intellectual lighting control systems.

Key features:

- Die-cast metal casing, simple configuration.
- Bidirectional communication.
- Up to 1500 m transmission range.

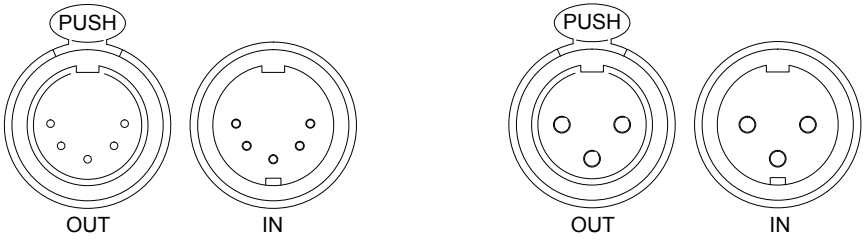
Modifications



Connection types

DMX connections

XLR 5-pin connectors are used to input/output DMX signals to/from the device. If necessary, the device can be equipped with XLR three-pin connectors. DMX port has 2 connectors — one M connector and one F connector, which allow the port to pass-through the DMX bus. In some cases the device can be equipped with a single M-type connector for each port.



Pic.2 Five-pin and three-pin DMX connectors

BeDMX connection

There are 1 or 2 coaxial RF connectors RP-SMA type for antenna connection, capable of working both on reception and transmission. Connection of BeDMX-ports with external master or slave devices is performed by Bluetooth 2.0.

Installation

Before mounting and power up, it is necessary to verify protective earthing and cable connections.

1. Ensure the device has no damage due to transportation.

2. Attach supplied antenna and connect necessary DMX cables.

3. Connect device mains supply cable 230V to the power outlet and configure the device.

Device configuring

Lid removal is permitted only when device powered off!

All devices (except Arma modification) have the buttons- switching setup mode. Thus, to toggle between the receiver/transmitter, removing the lid is not required.

1. Remove screws and remove the cover lid.

2. For single channel device (DB) set the mode of device operation, using the DIP-switcher in accordance with the table for 1st channel:

Section 1	Section 2	Device function
On	On	Transmitter
On	Off	Setup by buttons (default)
Off	On	Reserved
Off	Off	Receiver

For dual channel device (2D2B) set 2nd channel mode using the DIP-switcher in accordance with the table:

Section 3	Section 4	Device function
On	On	Transmitter
On	Off	Setup by buttons (default)
Off	On	Reserved
Off	Off	Receiver

3. For single channel device (DB), if necessary, allow additional filtering DMX-stream through section 3 of the DIP-switcher:

Section 3	Filtering mode
Off	Filtering disabled (default)
On	Filtering enabled

4. For dual channel device (2D2B) using section 5 set search/ connection mode:

Section 5	Connection mode
On	Each device port can connect only to the corresponding port of the multiport device.
Off	Each device port can connect to any port of multi- or singleport device.

5. Set the cover lid back, tighten the screws.

Wireless network configuring (receiver):

Device is ready for further configuration of the network.

Wireless network configuring (transmitter):

1. Power up the device. "LINK" LED (green) must be steady on or blink.

2. Turn on all receivers that are needed to connect to device, placing them at a minimal distance from the device. If all receivers work properly, they light up "STATUS" LED (red). Turn off all receivers, which should not be included in the configured network.

3. On transmitter device, press and hold for 1 second the button "SETUP" on port 1. Then, transmitter searches free (not connected) receivers for 10 seconds; during this process LEDs "LINK" (green) and "STATUS" (red) blink fast.

4. Upon completion of search process, verify the correctness of created network: on the transmitter LEDs "LINK" (green) and "STATUS" (red) blink slowly, on all connected receivers LED "STATUS" blink slowly (red).

5. If your network configuration is not correct, switch off and on the device, and after rebooting the device, repeat steps 2-4.

6. If your network configuration is correct, press and hold for 1 sec the "SETUP" button to save created network configuration in non-volatile memory of the transmitter. Device restarts and resumes normal operation with the new network configuration.

7. For dual channel devices repeat steps 2-6 to configure second channel.

8. Transmitter device and configured network is ready to work.

Switching device mode (except Arma series):

1. Power up the device. Depending on current settings saved in non-volatile memory, device starts either in transmitter mode (green LED "LINK" is steady on or blinking), or in receiver mode (green LED "LINK" is off).

2. If current mode is not correct for this device, switch the mode by pressing simultaneously and holding for 4 sec the "SETUP" and "RESET" buttons (for DB) or "SETUP 1" and "SETUP 2" buttons (for 2D2B Solid and Arma). The new mode is saved in non-volatile memory, and the device reboots with new settings. Configuration of the network, formed in transmitter mode, is preserved when the device is switched in receiver mode and back.

3. After setting the desired mode of operation, configure device in the receiver or transmitter mode (see above).

Operation

Normal operation of the device in any mode starts immediately after switching on power supply. Two wireless channel of Solid 2D2B and Arma 2D2B devices are independent; control and indication of each wireless channel is similar to the control and indication for single-channel devices as Solid DB and Arma DB.

Transmitter mode:

1. When power on, the transmitter is connected to all the receivers belonging to the formed network.

2. DMX data received by transmitter from input connector will be transmitted to all receivers connected at the moment, and establishing/restoring of connection with one receiver will not affect the transmission of data to other receivers.

3. Pressing "RESET" button disconnects all connected receivers and reboots device. After rebooting transmitter restores connections with all connected receivers.

Receiver mode:

1. When power is switched on, receiver waits for request for connection from transmitter. LED "STATUS" (red) is steady on.

2. When connected to transmitter the "LINK" LED (green) on receiver is steady on. DMX data received from transmitter will be sent to the output connector.

3. Pressing of "RESET" button disconnects receiver from transmitter and reboots the device. After rebooting the device switches into connection waiting mode.

LED indication

Current status of each device's port is displayed on LEDs "LINK" (green) and "STATUS" (red). All possible states:

Transmitter mode:

LED "LINK" (green)	LED "STATUS" (red)	Status
is on	is off	Normal operation, all receivers are connected, valid signal at the DMX-input.
blinks slow	is off	Normal operation, all receivers are connected, no signal at the DMX-input.
is on	is on	Normal operation, connection is being established with one or more receivers or lost, or no receivers for connection, valid signal at the DMX-input.
blinks slow	is on	Normal operation, connection is being established with one or more receivers or lost, or no receivers to connect with, no signal at the DMX-input.
blinks fast	blinks fast	Configuration mode, searching for receivers.
blinks slow	blinks slow	Configuration mode, new network configuration can be stored.
is off	is off	Off, non-functional or failure state.

Receiver mode:

LED "LINK" (green)	LED "STATUS" (red)	Status
is on	is off	Normal operation, connected to transmitter.
is off	is on	Normal operation, no connection with transmitter.
is off	blinks slow	Configuration mode, connected to transmitter being in the network configuration mode.
is off	is off	Off, non-functional or failure state.

Troubleshooting

The list of possible malfunctions and methods of their elimination:

Malfunctions, symptoms	Probable cause	Troubleshooting method
Device does not work, no LED is lit	No voltage.	Connect the device to working socket-outlet.
	Power cable is broken.	Replace the power cable.
Incorrect function of the device	Incorrect position of DIP-switches.	Set positions of Section1-4 in accordance with table (page 4).
	Wrong mode in saved Device parameters.	Switch the device function.
No connection of transmitter to one or more receivers	Wrong network configuration.	Reconfigure the network in accordance with device mode.

Technical maintenance

Maintenance the device, search and troubleshooting should be performed by service personnel. The device should be free from dirt, dents, connecting cables and wires must be intact and securely fastened.

Please send all your warranty-related questions to
support@sundrax.com
All Sundrax products are covered by a 36 months warranty.

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