

Protection surface sound sensor

RGD

Data sheet

Device identification number

1. General Information

Surface sound sensor “RGD” (hereinafter referred to as the sensor) is designed for operation with wireless control panels “Contact” as a glass break sensor. The sensor generates a main alarm, an additional ribbon cable alarm, a tamper alarm, a battery discharge message and sends them to the panel. The panel receives a signal from the sensor and generates an alarm.

2. Manufacturer

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www.ritm.ru/en world@ritm.ru

3. Package Contents

Surface sound sensor “RGD”	1 pc
2.54mm jumper	2 pc
Battery AA ER14505 3.6V	1 pc
Resistor MF-25 0.25W 270 Ω	1 pc
Fastening kit	1 pc
Data sheet	1 pc
Package	1 pc

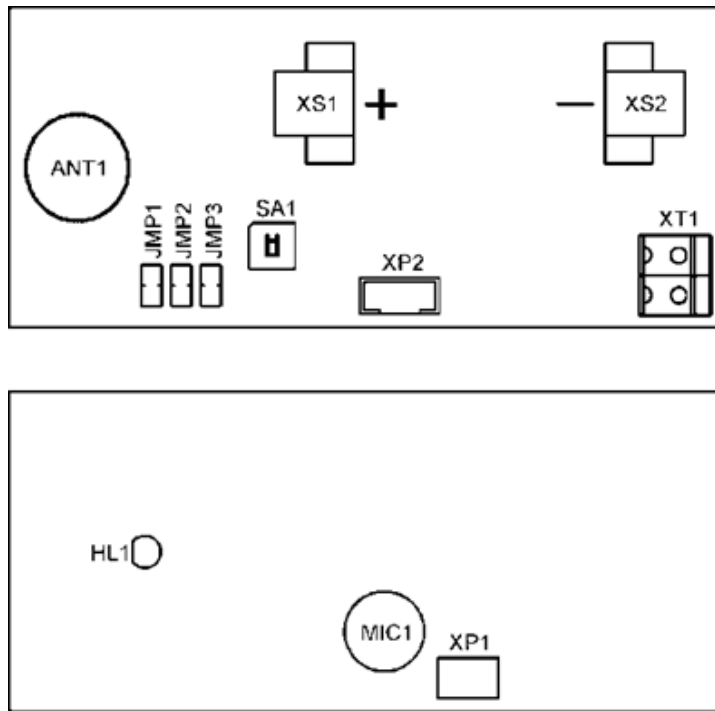
4. Technical Specifications

Specification	Value
Communication channels band, MHz	433.075 – 434.775
Monitoring period of sensor operation in radio system, min	4
Radio system configuration w/o PC	Yes
No. of communication channels	7
Maximum range of stable connection, m	Up to 800
Transmitter radiated power, mW	Max 10
Glass break sensor range, m	Break-resistant – 6; normal, with splinters, stained – 8.
Wire input signaling loop for normally closed sensors of “dry contact” type without power through loop	1
Enclosure break-in tamper	Yes
Power supply, V	3.6 (Li battery)
Current consumption in standby mode, μA	60
Standalone operation time from one battery, yrs	Up to 3 ¹
Weight, g	75
Operating temperature range ² , °C	-30...+50
Dimensions, mm	48×104×34

¹ The standalone operation time is directly related to the operating mode and conditions.

² Without regard to battery characteristics.

5. Designation of Elements



Element	Designation
ANT1	Radio channel antenna 433 MHz
HL1	Visual indicator
JMP1, JMP2, JMP3	Jumpers for changing operating modes
MIC1	Glass break sensor
SA1	Enclosure break-in tamper button
XP1	System connector
XP2	Connector for PC communication cable USB1 or USB2
XS1, XS2	Battery holders
XT1	Connector for alarm additional loop

6. Changing Operating Modes



To change a sensor operating mode remove the battery, close the battery holders XS1 and XS2, install (remove) required jumpers and install the battery back according to its polarity.

Installed jumpers	Operating mode
JMP1	Mode for adding to radio system
JMP2	Firmware change mode
JMP3	Radio channel test mode
JMP1 + JMP3	Configuration hardware reset mode
JMP2 + JMP3	Debugging mode
All jumpers removed	Standby mode

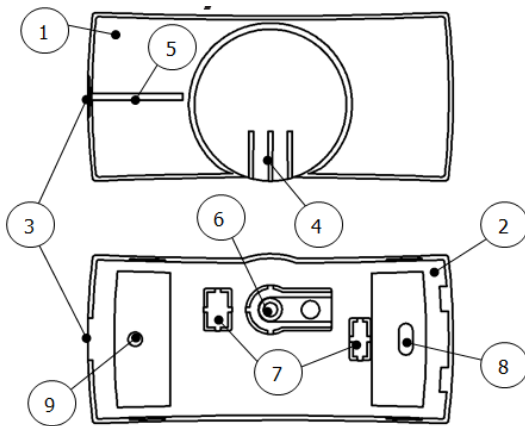
7. Visual Indication

Standby mode		
Red	Blinks very fast	The device not added to radio system
Green/Red	Alternating once per second	Tamper is open
Red	Blinks 1 time	The device got a receipt that sent a disturbing signal is accepted
Red	Blinks 2 times each 5 s	Battery depleted
Firmware change mode		
Green+Red (Yellow)	Always on	Device ready to be connected to PC or the software update is complete
Green	On	Software update is in progress
Radio channel test mode		
Green	Blinks 1 time	The device sent a test message
Green+Red (Yellow)	Blinks 1 time	The device got the answer
Red	Blinks very fast	The device not added to radio system
Mode of addition to radio system		
Red	On	The device is switched to the mode for adding to a radio system
Red	Blinks	An active radio system is found. It is ready to add the device
Green	On	The device is successfully added to the radio system
Configuration hardware reset mode		
Red	Blinks 5 times	Getting ready for configuration reset
Red	On	Configuration reset to factory settings
Debugging mode		
Red	Blinks 1 time	Break-in sensor triggering
Faulty device		
Red	Blinks 5 times after 3 s	Faulty device



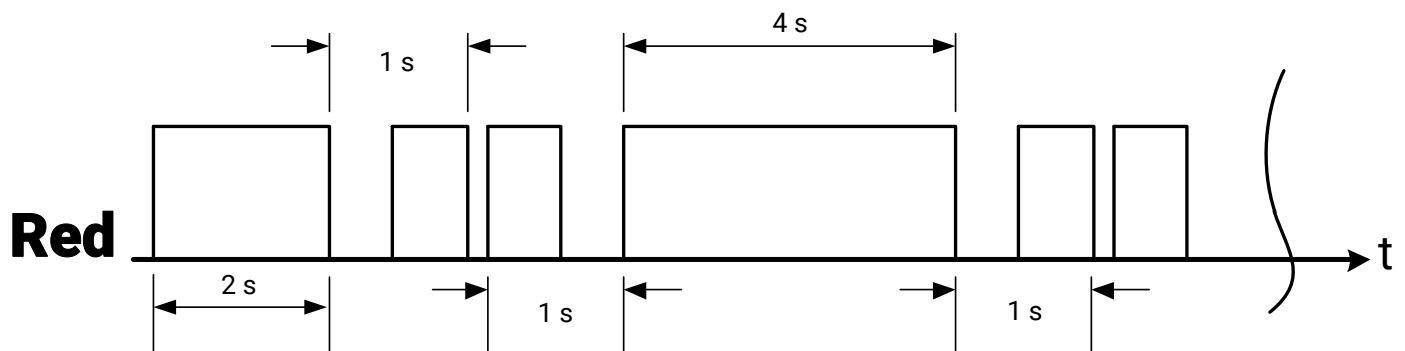
The radio signal strength between the sensor and the security and fire alarm panel is determined by the level of signal attenuation which can be viewed in the configuration software, page Radio Device Map, upon connection to the panel. The signal strength depends on the panel distance, directivity of antennas and massive metal and concrete structures in the coverage area. For more information please refer to the security and fire alarm panel user manual.

8. Getting Ready for Operation and Adding to Radio System



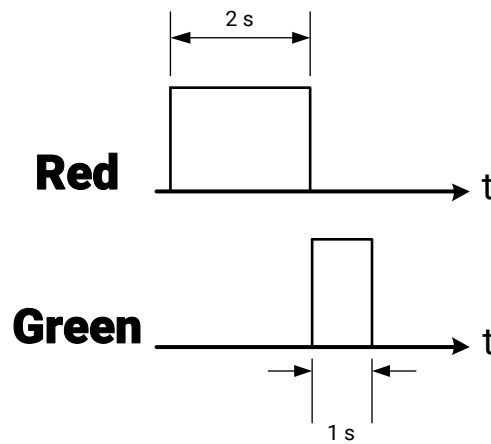
- 1 – Sensor enclosure;
- 2 – Enclosure base
- 3 – Enclosure latch
- 4 – Microphone
- 5 – Visual indicator
- 6 – Tamper support
- 7 – Covers for supply line apertures
- 8,9 – Mounting holes

1. Mount the sensor on a level or wall surface at least 2 meters above and up to 6 meters from the protected area and at least 1 meter from the radio channel receiver.
2. Sink in the latch (3) and remove the enclosure base (2).
3. In case of using an additional alarm system wire input loop remove a latch (7) and insert input leads of the protective ribbon cable through the opening connect to the terminals of the connector XT1 with the resistor being removed.
4. Install the battery. The red and green indicators start to alternate in 1 second indicating the tamper open state. Sensor when its cover is closed goes into the battery test mode: the indicator will glow in red for 2 seconds. If the battery had not been in use for a long time, it depassivates. The indicator lights up in series of red flashes (see fig. below) until the moment the battery goes into the normal operating mode. If a battery remains in this mode longer than 15 minutes, it is recommended to replace it.



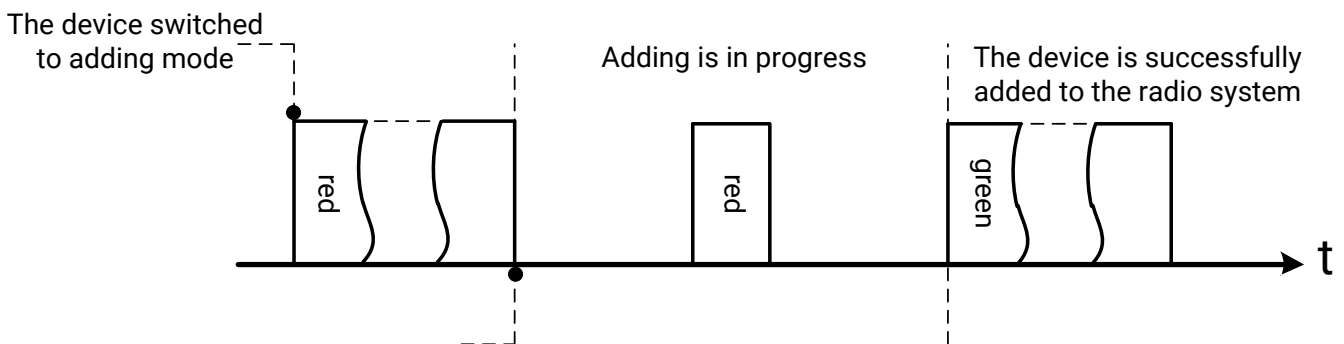
After testing a battery (the battery now operates at its normal voltage),- the indicator glows up in red for 4 seconds,- and then in green for 1 second.

If the depassivation has not been performed, the red indicator glows in red for 2 seconds, and then in green for 1 second.



The battery is tested each time the sensor cover is closed!

- Switch the sensor to the mode of addition to a radio system. Add the sensor to the radio system according to the manual of the unit the device is intended to work with. The distance between the device and the receiver should be at least 1 m.



- Switch the sensor to the radio channel test mode (see Section 6). Regarding the visual indicator operation (5) check the quality of messaging at the sensor installation location (2-3 missed response per 10 sent messages are allowed).
- Switch the sensor into the debugging mode (see Section 6). Regarding the visual indicator operation (5) check the sensor triggering at the selected sensor installation location using a glass break tester. The period between glass break tests should be 15 seconds.
- Switch the sensor into the standby mode (see Section 6). Using visual and audio indication of the receiving and control device control the transmission of the main alarm and the enclosure break-in alarm (*indication modes see in data sheets and manuals for corresponding devices*).
- Mount the enclosure base (2). If surface tear-off tamper triggering is required then secure the platform (6) with a screw.
- Install the sensor enclosure (1) at the base (2).
- If during operation the indicator is flashing red 2 times every 5 seconds the battery is discharged and needs to be replaced.

9. Sensor Installation Examples

Figures 1-5 show sensor installation examples on the protected object.

Figure 6 shows unadvisable installation examples.

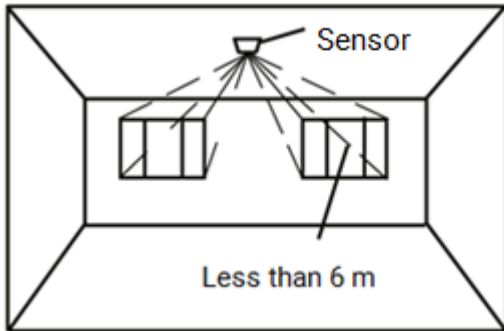


Fig. 1. Installation of the sensor on the ceiling

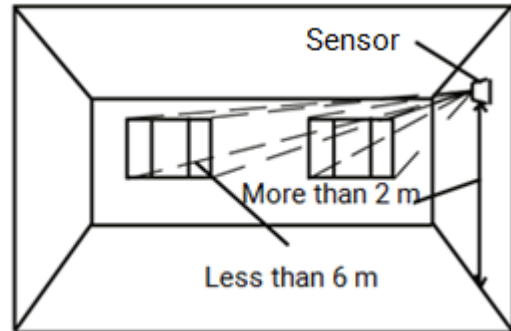


Fig. 2. Installation of the sensor on the side wall

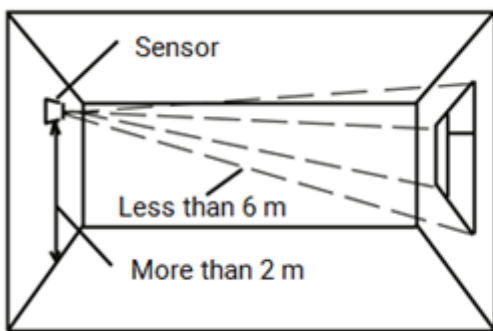


Fig. 3. Installation of the sensor on the opposite wall

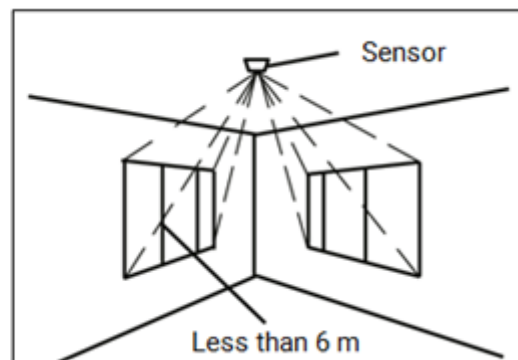


Fig. 4. Installation of the sensor on the ceiling for protection of glass areas on sharing walls

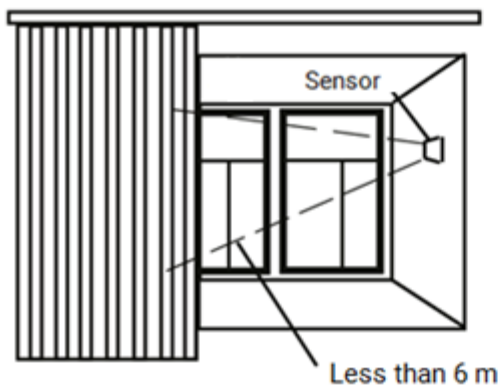


Fig. 5. Installation of the sensor between the glass area and the blind (louvre)

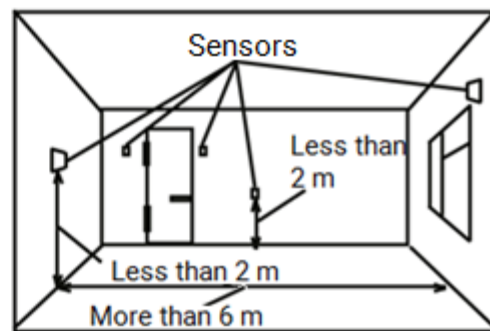
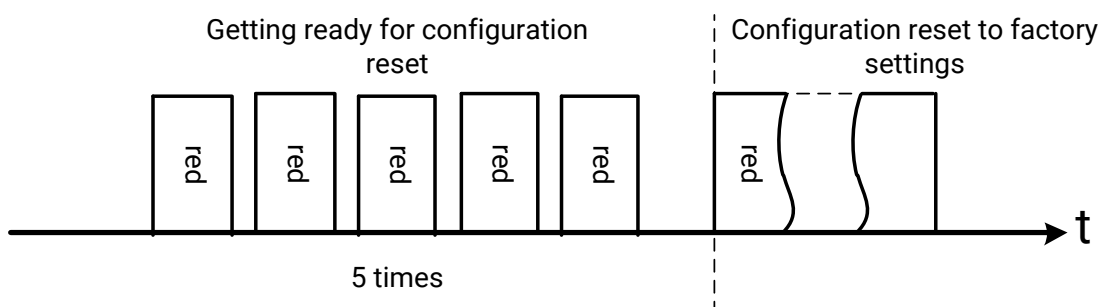


Fig. 6. Invalid sensor installation options

10. Hardware Reset to Factory Settings

Remove the battery from the holders, install the jumpers JMP1 + JMP3 and install the battery back.



11. Battery Replacing

If necessary, clean the bonding pads and replace the battery. When replacing the battery close the battery contacts for 2 seconds and then install the new battery.

12. Maintenance and Safety Measures

At least once per year check the integrity of leads and cables, connection locations, and fastening security.

All installation and maintenance activities applied to the sensor should be performed by duly qualified personnel.

13. Transportation and Storage

The sensor should be properly packed and transported in roofed vehicles. Storage premises should be free of current-conducting dust, acid and alkaline fumes, corrosive gases and gases harmful to insulation.

14. Manufacturer's Warranties

The manufacturer guarantees that the sensor complies to requirements of the technical specifications provided to the client, ensures compliances to conditions of transportation, storage, installation and operation.

Although **the warranty period** is 12 months from the commissioning date, it may not exceed 18 months from the production date.

The **warranty storage period** is 6 months from the production date.

The battery has no warranty.

The manufacturer reserves the right for modification of the sensor in any way that does not degrade its functional characteristics without prior notice.

15. Information on Claims

In case of a sensor failure or defect during the warranty period, please fill in a malfunction report specifying the dates of issue and commissioning of the sensor and nature of the defect and submit it to the manufacturer.