ritm
SECURITY SOLUTIONS

PIR motion sensor

with pet immune function (up to 10 kg)

RMD1

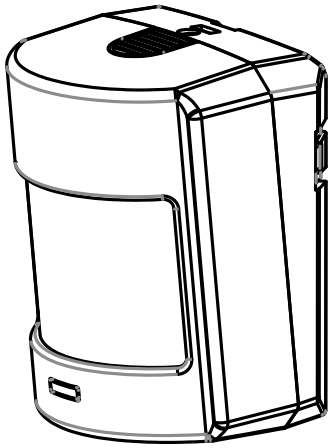
Data sheet

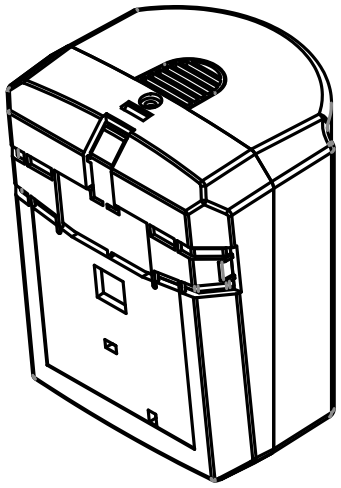
Device identification number

1. General Information

The RMD1 motion sensor (hereinafter referred to as the device) is designed to be used as a motion sensor. The device generates alarm signals for sensors, additional ribbon loop, enclosure break-in.

After an alarm is generated, the device transmits it to a control panel (hereinafter referred to as the panel).





2. Manufacturer

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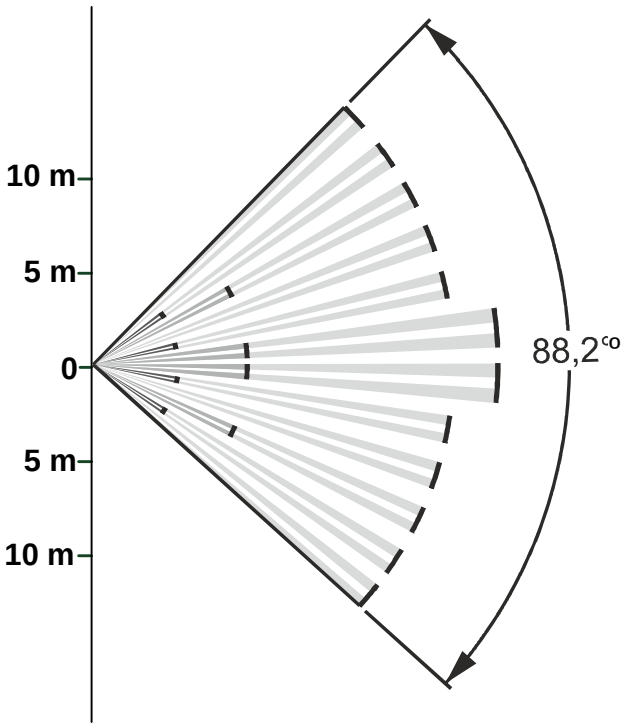
3. Package Contents

RMD1 radio channel PIR motion sensor	1 pc
2 mm jumper	2 pcs
AA ER14505 3.6B battery	1 pc
MF-25 0.25 W 270 Ω resistor	1 pc
Bracket	1 pc
Fastening kit	1 pc
Data sheet	1 pc
Packaging	1 pc

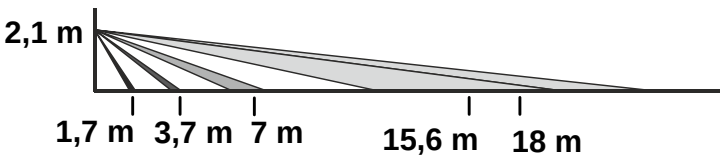
4. Technical Specifications

Parameter	Value
Communication channel frequency band, MHz	433.075–434.775
Maximum distance for strong signal, line-of-sight, m	Up to 800
Transmitter radiated power, mW	Not exceeding 10
Battery 3.6 V	Li battery (AA size)
Standalone operation time from one battery, yrs	up to 3[1]
Wire input signaling loop for normally closed sensors of “dry contact” type without power through loop	1
Tamper (Enclosure break-in or Surface tear-off)	+
Pet immune (animals weighing up to 10 kg at least 3 m or further from the device)	+
Dimensions, mm	77×59×53.5
Weight, g	92
Operating temperature range[2], °C	–30…+55

5. Lens direction diagram



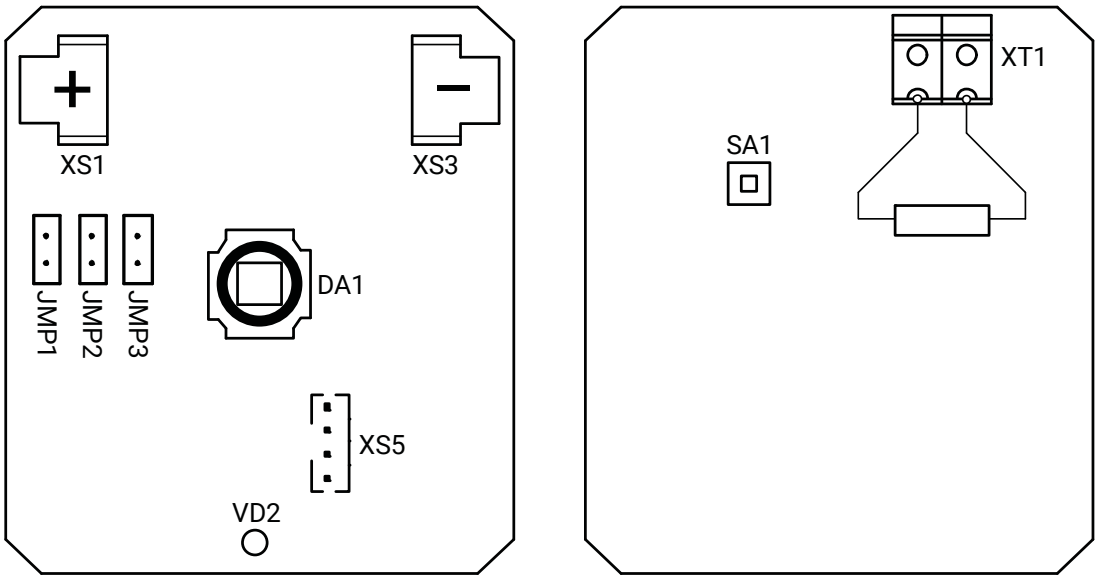
Top view



Side view

[1] The stand alone operation time is directly related to the operating conditions.
[2] Without regard to battery characteristics.

6. Designation of Elements



Element	Designation
XT1	Connector for alarm additional ribbon loop, 'dry contact' type
VD2	LED for displaying operating modes. Operating modes of LEDs are described in Paragraphs 8 and 9.
SA1	Tamper button
XS1, XS3	Battery holder
XS5	Connector for cable for connection with computer. Used to configure and change the firmware from the PC
JMP1…3	Jumpers for changing operating modes. Should be installed with battery **removed**. Designation of jumpers is described in Paragraph 7
DA1	Sensitive PIR element. **Do not touch**, if dirty carefully wipe off with a dry fabric cloth!

7. Designation of Jumpers

To change a device's operating mode, remove its battery, install (remove) necessary jumpers, and place the battery back respecting its polarity.

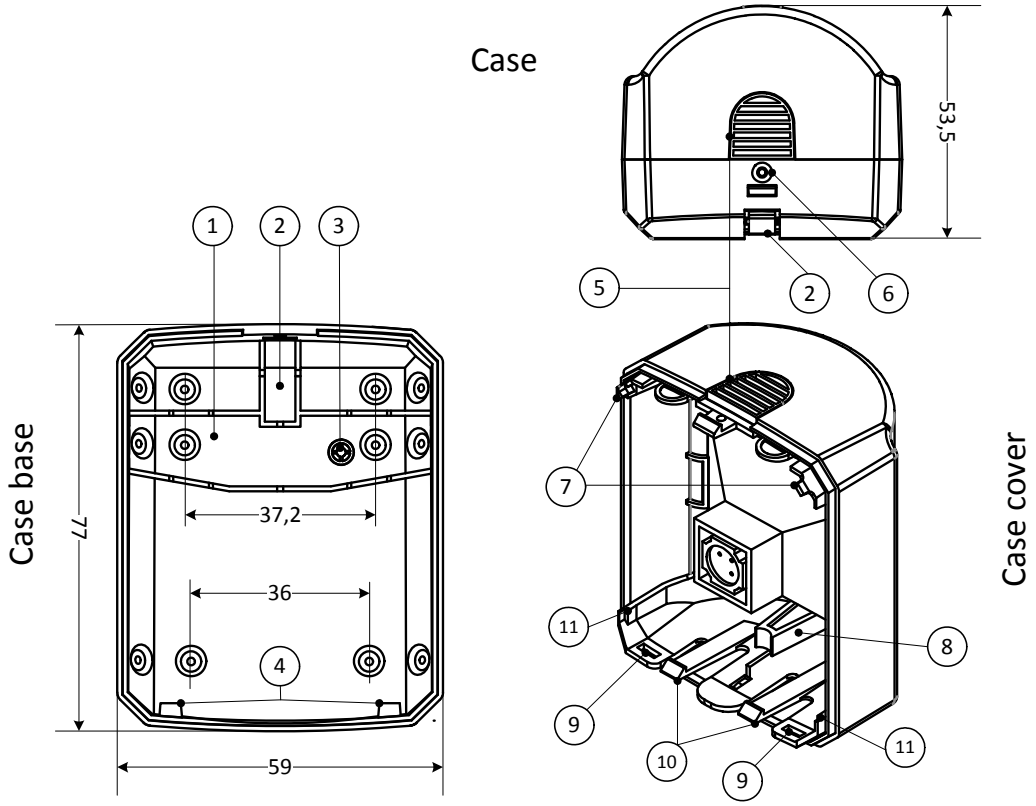
Installed Jumpers	Operating Mode
All jumpers removed	Standby mode
JMP1	Mode of addition to radio system
JMP2	Firmware change mode
JMP3	Radio channel test mode
JMP1 + JMP3	Configuration hardware reset mode

8. 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

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
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
Configuration hardware reset mode		
Red	Blinks 5 times	Getting ready for configuration reset
Red	On	Configuration reset to factory settings
Battery test mode		
Red	On for 2 seconds	The device is switched to the mode of battery testing
Green	On for 1 second	Test is complete
Red	Blinks 2 times + on for 4 seconds	Battery depassivation
Faulty device		
Red	Blinks 5 times after 3 s	Faulty device

9. Getting Ready for Operation and Adding to Radio System



9.1. Install the device on a vertical surface at the height of 2.1 m and more than 1 m away from the receiver. Do not place the device in the vicinity of EMI sources, large metal objects and structures, power cable runs, heaters, and ventilation. Avoid exposure of the device to direct sunlight. **RMD1 indicator (VD2) must be bottom while the installation.**

9.2. Recess the latch 5 and open the enclosure.

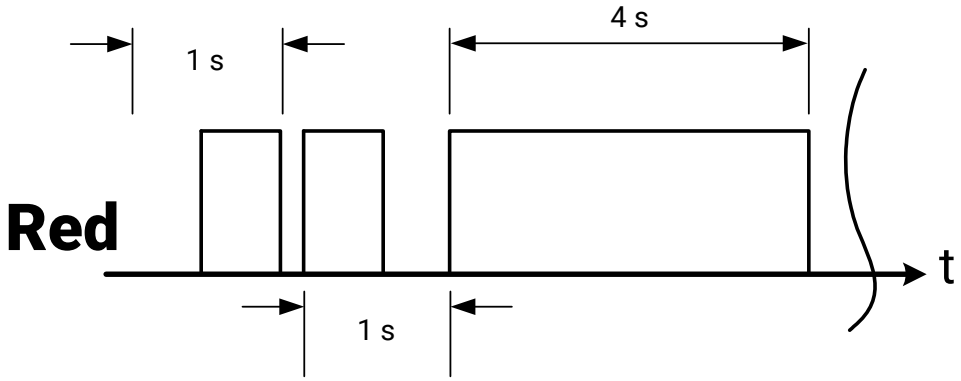
9.3. Release the latches 10 and remove the device board.

9.4. Install a battery.

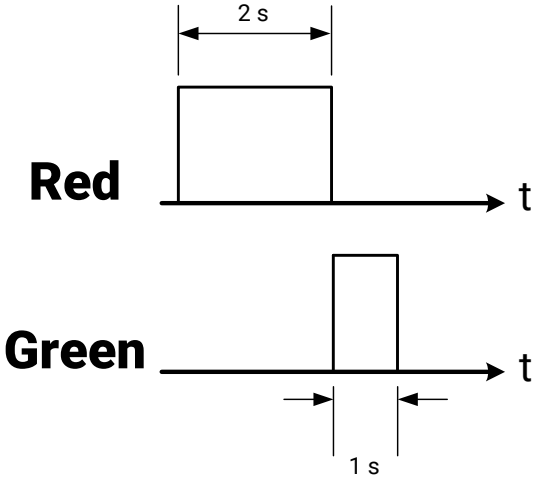
9.5. Close the cover, the device will go into the **battery test mode**:

a. The indicator will glow in red for 2 seconds when the test is starting.

b. If the battery had not been in use for a long time, it depassivates. The indicator lights up in series of red flashes illustrated in the figure below up until the moment the battery goes into the normal operating mode. If a battery stays in the depassivation mode for longer than 15 minutes, it is recommended to replace it.

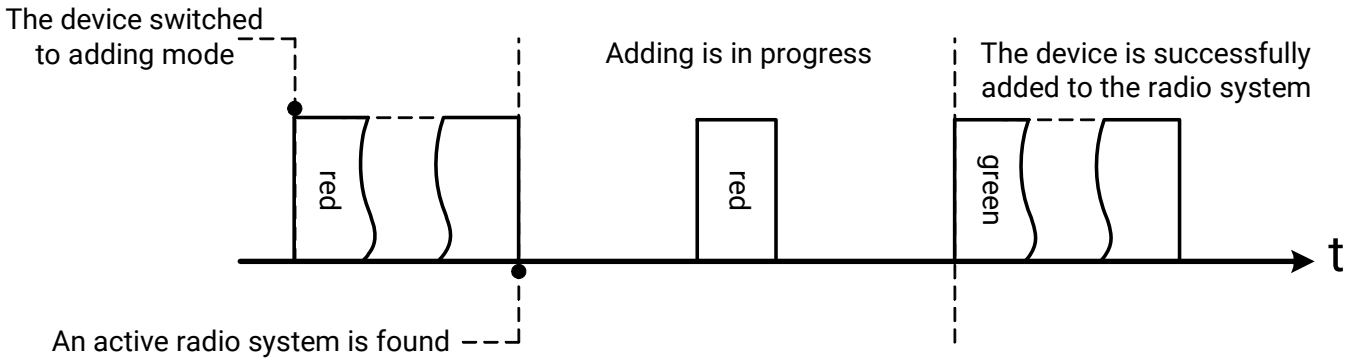


c. After testing a battery, the indicator will glow up in green for 1 second. The figure contains a chart, provided that depassivation has not been performed.



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

9.6. Switch the device to the mode of addition to a radio system (see Paragraph 7). Add the device to the radio system according to the instruction for the device, to the radio system of which the device is being added. The distance between the added device and the control panel should be at least 1 m. The device receives the configuration of the radio system from the radio system, to the radio system of which it is being added (please see instructions for the corresponding control panel). This procedure is shown in the diagram:

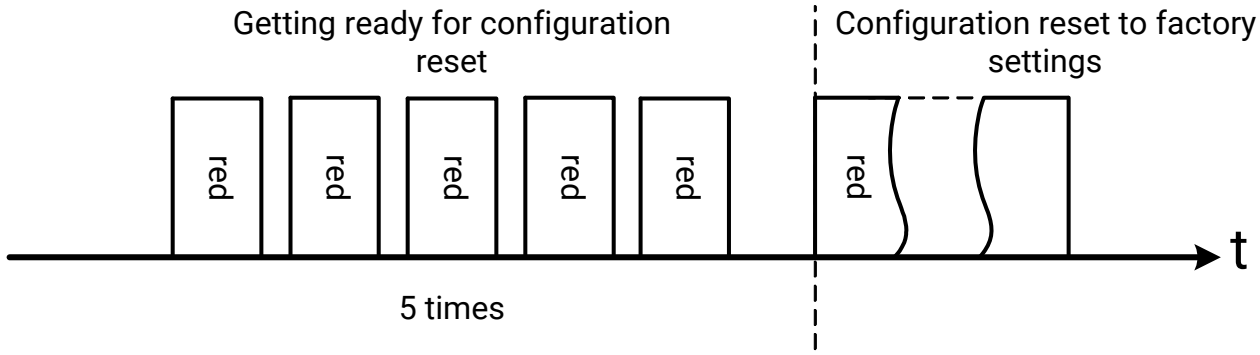


9.7. Switch the device to the radio channel test mode (see Paragraph 7).
9.8. Make sure the message exchange quality is strong in the supposed installation location by referring to visual indicators. (2–3 missed responses are OK for 10 transmitted messages).
9.9. If an additional alarm loop is used, remove the blank plug 2 from the enclosure base, insert the cable into the opening, remove the 270 Ω resistor, and connect the cable to the XT1 connector.
9.10. Secure the enclosure base on the surface. If tamper triggering is necessary when the device is separated from the surface, secure the platform 1 (which has the tamper button support 3 located on it) with self-tapping screws.
9.11. Switch the device to the standby mode (see Paragraph 7).
9.12. Verify the signal path for alarm signals of the sensor, tamper, and, if necessary, additional alarm loop by referring to LED indicators.
9.13. Bring the edge of the device board under the supports 7 and place in on the supports 11 so that the VD2 LED is directly against the optical guide 8 on the enclosure cover. Fasten the board with the latches 10.
9.14. Bring the openings 9 on the enclosure cover into the raised portions 4 of the enclosure base.
9.15. Install the enclosure cover to the base and secure it with the latch 5 and the screw 14. When performing the installation, please note, that the SA1 tamper button rests on the tamper button support 3.
15. The device is ready for operation.

The radio signal strength between the device and the security and fire alarm panel is determined by the level of signal attenuation, which can be seen in the configuration software, page Sensor Status Map, upon connection to the panel.

10. Hardware Reset to Factory Settings

Remove the battery from its holder, install the JMP1+JMP3 jumpers, and place the battery back. This procedure is shown in the diagram:



11. Replacing Battery

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

12. Pet immune function

By default, the device ignores animals weighing less than 10 kg, which come within the field of vision of the sensor at distances exceeding 3 m.

13. Transportation and Storage

The device should be transported in packaging in closed 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 device complies to requirements of the technical specifications, provided 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 warranty does not cover the battery.

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