



RiDom

Motion detector «Ri-MD-1i»



Installation guide

1 GENERAL INFORMATION

1.1 The motion detector «Ri-MD-1i» (hereinafter referred to as the Detector) detects movement in the secured area of an enclosed space and transmits notifications via a two-ways radio channel in accordance with the «Ri-Contact-Ri» protocol.

1.2 The Detector works as part of the RiDom smart home protection system, communicating with the «Ri-HUB-1» control center (hereinafter referred to as the Hub), which supports the «Ri-Contact-Ri» radio channel exchange protocol.

1.3 The Detector does not require permission and registration as the RF device.

1.4 The Detector has a two-color (red and green) LED indicator for monitoring of the performance. The LED can be turned off.

1.5 The Detector has RESET contacts that allow to switch the Detector to the «Linking» mode.

1.6 The Detector generates and provides radio transmission of seven types of notifications:

- the normal status;
- the alarm;
- the opening the case or removal from the place of installation;
- the battery discharge;
- the working in the «Linking» mode;
- the working in the «Identification» mode;
- the quality of communication.

1.7 The radio exchange is initiated by the Detector with a period of 10 s, 15 s, 30 s, 60 s, 2 min, 5 min, 10 min. The frequency of radio sessions is set when configuring the Detector. Alarms and case opening notifications are transmitted immediately.

1.8 The Detector is designed for continuous round-the-clock operation.

1.9 The pet immunity of the Detector ensures the absence of false alarms triggered by moving cats and dogs with weight up to 40 kg.

1.10 The Detector is resistant to electromagnetic interference.

2 MAIN FEATURES

The Detector provides:

- Lack of distortion in the detection zone and noise immunity to pets.
- Protection against penetration of insects inside the case.
- Possibility of switching of pets' immunity by radio protocol.
- Thermal compensation of detecting ability.
- Automatic transition to a backup frequency under difficult connection conditions.

3 SPECIFICATIONS

Table 1

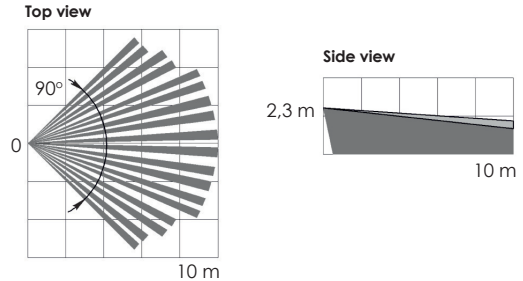
Parameter	Value
Frequency range	865...867 MHz
Radiation power, no more	25 mW
Detection zone	Volumetric
Maximum detection range	12 m
Recommended installation height	2,3 ± 0,1 m
Standby mean time to failure	60 000 hrs
Protection class	IP41
Battery type	CR123A, 1 pc.
The duration of the sensor operation from one battery under normal climate conditions and with an communication period of at least 60 s	8 years
Dimensions	88x60x47 mm
Weight	0,1 kg
Average service life	8 years
Operational conditions	
Operating temperature range	-20... +55 °C
Permissible air humidity at a temperature of +25 °C, without moisture condensation	Up to 98 %

3 SCOPE OF SUPPLY

Table 2

Name	Qty.
Motion detector «Ri-MD-1i»	1 pc.
Mounting bracket	1 pc.*
Lithium battery CR123A	1 pc.**
Installation guide for the «Ri-MD-1i».	1 copy.
* Supplied by request	
** Included	

4 DETECTION ZONE DIAGRAM



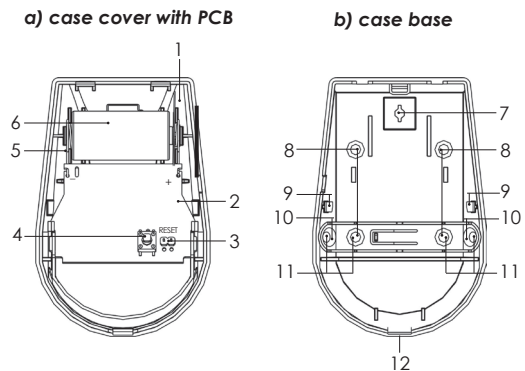
Picture 1 – Detection zone diagram

5 VIEW AND DESIGN

The Detector consists of a case cover (1) with a printed circuit board (2) and a case base.

The following elements are located on the printed circuit board:

- 3 - RESET contacts;
 - 4 - opening sensor (tamper);
 - 5 - battery holder;
 - 6 - lithium battery CR123A with an insulator.
- The following elements are located on the base of the case:
- 7 - hole for attaching the base to the bracket;
 - 8 - holes for wall mounting;
 - 9 - clamps of the sensor board;
 - 10 - holes for mounting the Detector in the corner;
 - 11 - openings of the latch of the removal sensor;
 - 12 - hole for the cover lock.



Picture 2

6 INDICATION

Table 2

LED status	Indication	
	Action	Condition
«Linking»	intermittent green LED	
«Alarm»*	turning on the red LED for 0.5 s	if indication is enabled
«Identification»	alternating switching of red and green LEDs with a frequency of 1 Hz	on command from the hub
«Connection quality»	see the section «Assessing the quality of connection»	
Completing the linking process	turning on the red LED for 2 s	

* The alarm indication turns off 15 minutes after the sensor cover is closed and turns on when it is opened or at the command of the hub.

7 CHOOSING THE PLACE OF INSTALLATION


The Detector should be installed indoors only. When choosing a place for installation of the Detector, consider the presence of obstacles that can weaken the transmission of the radio signal.

The sensor can be installed in areas with long-haired pets weighing up to 40 kg (20 kg).

DO NOT install the Detector if the following cases:

1. In close proximity to electrical wiring.
2. Near metal objects and mirrors that cause attenuation of the radio signal or shield it.
3. Outdoors.
4. In rooms with temperature and humidity outside the allowable.

8 CONNECTING THE DETECTOR TO THE SYSTEM

8.1 Open the RiDom application and click  in the My Devices tab. Then press **Add device** button. Select the «RI-MD-1» sensor from the list of devices and follow the prompts in the application.

8.2 When prompted by the application, remove the battery isolator.

8.3 The Detector will periodically turn on the green LED, which indicates that it is in the «Linking» mode.

8.4 Upon successful connection to the Hub, the indicator on the Detector will turn red for 2-3 seconds, then you can see the Detector in the application, as well as all the corresponding information about the Detector. Link mode time is limited to 100 seconds. To resume the «Linking» mode, it is necessary to briefly close the «RESET» contacts.

8.5 The sensitivity of the Detector is set through the mobile application according to the parameters of the table below.

Table 4

Pet immunity	Max. distance
No immunity	12 m
10 kg	10 m
20 kg	10 m
40 kg	8 m

8.6 Put the Detector case cover back.

9 RADIO CONNECTION QUALITY ASSESSMENT

Before the installation of the Detector, it is advisable to check the quality of communication with the Hub:

- Place the Detector with the cover closed at the site of installation.
- Open the Detector case.

The Detector will indicate the quality of communication with the hub.

Table 4 - Indication of the communication quality control results

Indication		Connection quality	Recommendations
Color	Mode		
Green	Three blinks	Perfect	Installation in this location is allowed
Green	Two blinks	Good	
Green	One blink	Weak	Choose a different installation location or use a repeater
Red	Multiple blinks	No connection	

10 INSTALLATION

The cover with the printed circuit board must be removed before installing the Detector.

After that:

- remove the Detector cover;
- drill holes in the base of the housing (Fig. 2b) that will be used to mount the Detector;
- having chosen the installation location, make markings for mounting, taking into account the position of the holes on the sensor base, then drill holes in the wall. To control the removal from the mounting surface, use the openings of the removal sensor retainer when attaching the Detector;
- fix the base of the Detector in the selected place;
- close the cover.

Note: When installing the Detector, it is not recommended to incline its position from the vertical to more than 20° in order to reliably exclude false alarms from pets.

11 FUNCTIONAL CHECK

The check should be carried out in the absence of unauthorized persons in the secured area.

Start passing through the detection zone. After 3-4 steps in the detection zone, the Detector should briefly turn on the red indicator. Wait for 10 seconds and then continue passing through the detection zone. If there is no movement in the room, the indication should not turn on.

12 FEATURES OF WORKING WITH THE DETECTOR

12.1 Switching on and off the power of the Detector is carried out by installing and removing the main battery.

12.2 If the connection with the Hub is lost, the Detector keeps trying to re-establish the connection. When the Hub is turned off for a long time, it is recommended to turn off the Detector power as well (see paragraph 12.1).

12.3 It should be taken into account that when the Detector is operating in the temperature range from minus 20 °C to +5 °C, the battery life may reduce.

ATTENTION! The performance check of the Detector must be done at least once a year.

13 STORAGE AND TRANSPORTATION

13.1 The Detectors in their original packaging are resistant to:

- transport jolting with the acceleration up to 30 m/sec² at impact frequency range from 10 to 120 per minute or 15 000 strikes;
- ambient temperature range minus 50 ... +55 °C;
- relative air humidity (95 ± 3) % at a temperature +35 °C.

13.2 The Detectors in original package may be transported by any means of transportation in closed vehicles over any distances in compliance with the existing shipping rules concerning the respective means of transportation.

13.3 After transportation under the conditions different to exploitation conditions the Detectors shall be ready to operate after a maximum of six hours.

13.4 During storage period lithium batteries should be removed from the holders or isolators should be installed.

Note: The storage premises should not contain any current-conducting dust, acid and alkali fumes, or corrosive or destroying insulation gases.

14 DISPOSAL INFORMATION

14.1 The Detector does not contain precious metals, hazardous or toxic substances that can harm human health or the environment, and does not pose a danger to life, human health and the environment at the end of its service life.

14.2 In this regard, the disposal of the Detector can be carried out according to the rules for the disposal of general industrial waste.

15 MANUFACTURER WARRANTY

15.1 LLC NPP RIELTA guarantees that the Detector meets the requirements of technical specifications within 63 months from the date of manufacture, subject to the conditions of transportation, storage, installation and operation.

15.2 Warranty period of operation of the Detector is 60 months from the date of commissioning within the warranty period of storage.

15.3 If during the warranty period the Detector, which is subject to the rules of transportation, installation and operation, is found to be inconsistent with the requirements of the technical specifications, it is to be replaced or repaired by the manufacturer.

16 DATE OF MANUFACTURE

_____ month, year



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