



Wireless receiver

RDK1

4 outputs

Data sheet

Device identification number

1. Product Designation

The RDK1 wireless receiver with 4 outputs (hereinafter referred to as the receiver) is designed for:

- receiving signals transmitted by connected wireless signaling devices and keyfobs;
- received signals transmission to security panels connected to receiver outputs;

Therefore the receiver allows:

- to combine a radio channel system with security and fire alarm panels without incorporated ability of operation with radio channel signaling devices;
- to increase maximum number of radio sensors connected to the panel with an included radio system.

2. Manufacturer

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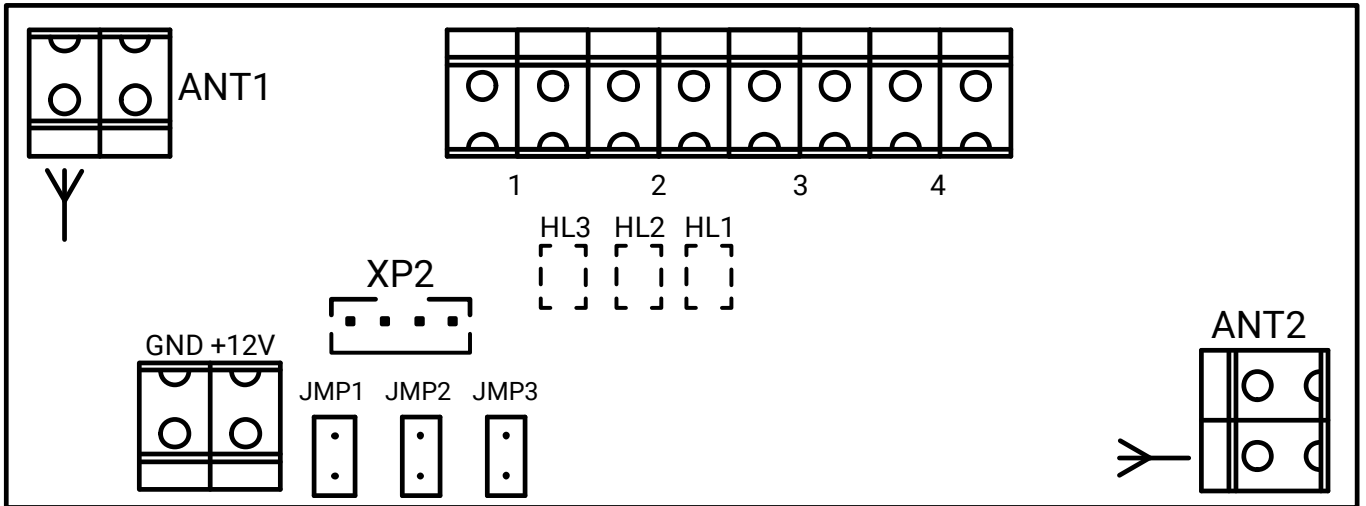
3. Package Contents

RDK1 wireless receiver (4 outputs)	1 pc
Radio channel whip antenna 433 MHz, 174 mm	2 pcs
2.54 mm jumper	3 pcs
Fastening kit	1 pc
Data sheet	1 pc
Packaging	1 pc

4. Technical Specifications

Parameter	Value
Communication channels band, MHz	433.075–434.775
No. of communication channels	7
No. of monitored radio channel devices	Up to 32
Monitoring period of signaling device operation in radio system, min	4
Transmitter radiated power, mW	Not exceeding 10
Configuration using PC	+
Radio system configuration w/o PC	+
Maximum distance for strong signal, m	Up to 1200
No. of outputs (dry contact), 30 V 120 mA	4
Supply voltage, V	12±2
Absorbed current, mA	Up to 150
Dimensions w/o antennas, mm	29×101×34
Weight (w/o antennas), g	54
Operating temperature range, °C	-30...+55

5. Connector Designation



Part	Designation
ANT1, ANT2	Connectors for 433 MHz whip antennas (supplied in the package). Antennas should be connected to the terminals shown in the figure (Y symbol). When using coaxial antennas connect the internal cable to the terminal marked in the figure by the symbol Y, and the outer braiding to the remaining terminal.
GND, +12V	Terminal for external power source: <ul style="list-style-type: none"> • GND – negative terminal for external power source; • +12V – positive terminal for external power source.
1...4	Outputs of “dry contact” type. The outputs are switched when a signal is received from radio channel sensors or key fobs in a radio system. By default, the outputs are normally closed. When signals are received, the outputs change their state for 2 seconds from normally closed to open.
XP2	4-pin connector for configuration cable.
JMP1, JMP2, JMP3	These jumpers are designed for changing a receiver’s operating modes and mapping of signals transmitted by radio channel sensors and key fobs in a radio system to a specific receiver output.
HL1, HL2, HL3	Visual indicators on the back side of the board.

6. Visual Indication

LED color	State	Note
Standby mode		
Green	Always on	Receiver is powered
Red	Blinks once	Parcel from radio channel device is being received
Device addition mode		
Green	Always on	Receiver is powered
Red	Always on	Receiver is in device addition mode
	Always blinking	Jumpers set incorrectly in device addition mode
Red	Blinks once	New device has been added to radio system
Red	HL1+HL2 are blinking ($f > 1$ Hz)	Maximum number of monitored devices added to radio system
Configuration hardware reset mode		
Red	HL1+HL2 blinks 5 times ($f = 1$ Hz)	Getting ready for configuration reset
Red	HL1+HL2 are on	Configuration reset to factory settings
Mode of device addition to the radio system using the configuration software		
Green	Always on	External power
Red	Always on	The receiver is waiting for adding a device. After adding a device the HL2 indicator is off

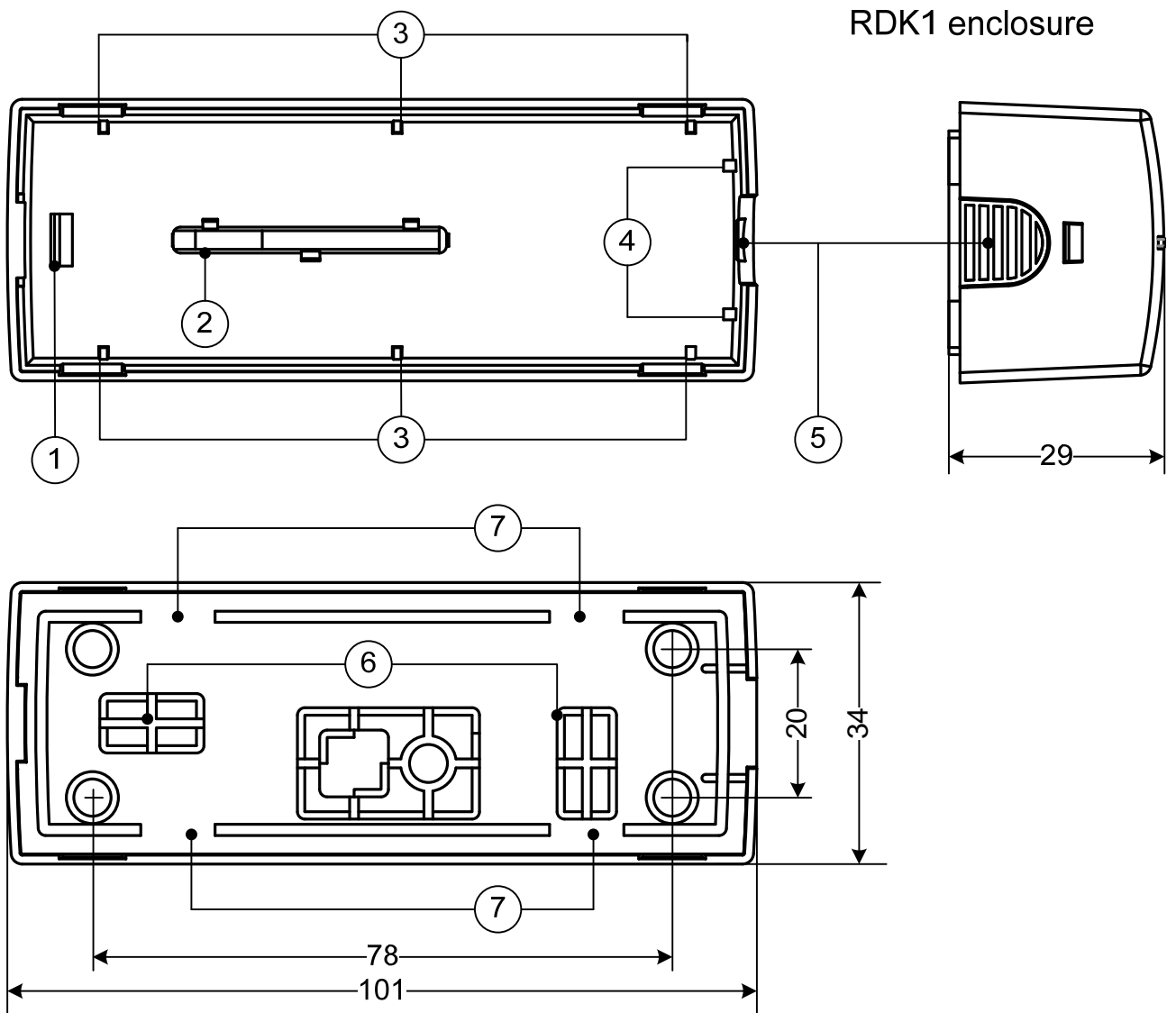
7. Designation of Jumpers

Jumpers installed	Operating Mode	
All jumpers removed	Standby mode	
JMP1	Mode of manual addition to radio system	Binding the received signals to the output 1
JMP1+JMP2		Binding the received signals to the output 2
JMP1+JMP2+JMP3		Binding the received signals to the output 3
JMP1 + JMP3	Configuration hardware reset mode	

8. Getting Ready for Operation



All preparation work should be done with the power off!



1. Install the receiver on a vertical surface so that one of its antennas is perpendicular and the other is parallel to the floor plane (it is also recommended that they are directed towards wireless sensors).

Do not place the receiver in the vicinity of EMI sources, large metal objects and structures, power cable runs.

2. Recess the latch 5 and open the enclosure.
3. Remove blank plugs 6 from the enclosure base.
4. Run power cables and alarm ribbon cables through the newly available openings.
5. Connect the alarm ribbon cables to the connectors 1...4.
6. Install the whip antenna to either the **ANT1** or **ANT2** connector.
7. Connect the power supply circuit to the connectors **GND**, **+12V** respecting the polarity.
8. Install the enclosure cover to the base and secure it with the latch 5.
9. Power on the receiver. The receiver is ready for operation.

9. Manual Configuration of the Radio System

1. Switch the radio channel of sensor to the system addition mode¹ and position it at 0.2–0.5 m from the receiver's whip antenna.
2. Switch the receiver to manual device addition to radio system mode. To do it, install the JMP1–JMP3 jumpers while the receiver is powered off and power on the receiver. This will register the radio channel of wireless sensor in the receiver and all signals from this sensor will be mapped to an output, the number of which is set by the jumper arrangement; for a radio key fob, the output will be mapped to a pressed button (see p. 7).
3. The registration procedure is accompanied by LED indication¹. As the procedure is completed, switch the wireless sensors to the standby mode¹ and power off the receiver. Consequently add devices to the radio system. While in the manual device addition to radio system mode, the output 4 of the receiver will by default be mapped to the signal "Automatic test not passed" for all radio channel sensor registered in this receiver.
4. Switch the receiver to the standby mode. To do this:
 - Power off the receiver;
 - Remove all jumpers (JMP1–JMP3);
 - Power on the receiver.

Verify that LED indicators and output state change signals work properly.

10. Hardware Reset to Factory Settings

Power off the receiver, install the jumpers JMP1+JMP3, power on the receiver. Refer to the LED indicators (see Paragraph 6) to make sure the settings are reset.

11. Maintenance and Safety Measures

At least twice a year, check the reliability of contacts and make sure there are no mechanical defects on input leads. If necessary, clean the bonding pads and remedy wire insulation issues.

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

¹ For device and indicator operating modes, please refer to data sheets (instructions) for corresponding devices.

12. Transportation and Storage

The receiver 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.

13. Manufacturer's Warranties

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

14. Information on Claims

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