



Individual security alarm system
Installation manual

2003

General properties

The individual security alarm system consists of object device **RT4-5I**, an individual receiver **RR4-5m**, power supply, antennas and is used for information transmission about state of object device's entries (security zones) and its visualization.

System also secure:

- A control of supply voltage and alarm signal transmission to receiver if will be it decreasing
- System's self-control using test signal transmitting from object device and forming of alarm signal if will be lost some test signal.
- Receiver's transmission of receiving information to "open collector" outputs.

Delivery set

1. Object device **RT4-5I** – 1unit
2. Individual receiver **RR4-5m** – 1unit.
3. Antenna ST1-1 (*) - 2 unit
4. Power supply for receiver's supply –1 unit (**)

* - if necessary could be set by another antenna types.

** - power supply for object device RT4-5I is not included to set and could be delivery separately.

Individual Receiver RR4-5m

The individual receiver **RR4-5m** is used for information collection from object device **RT4-5I** and it's treatment.

RR4-5m secure:

- 8-message memory;
- Information receiving, LED and sound indication;
- Control for test messages from **RT4-5I**;
- "open collector" outputs for addition device's connection.

RR4-5m working modes:

RR4-5m can work one of two modes:

1. Mode with confirmation

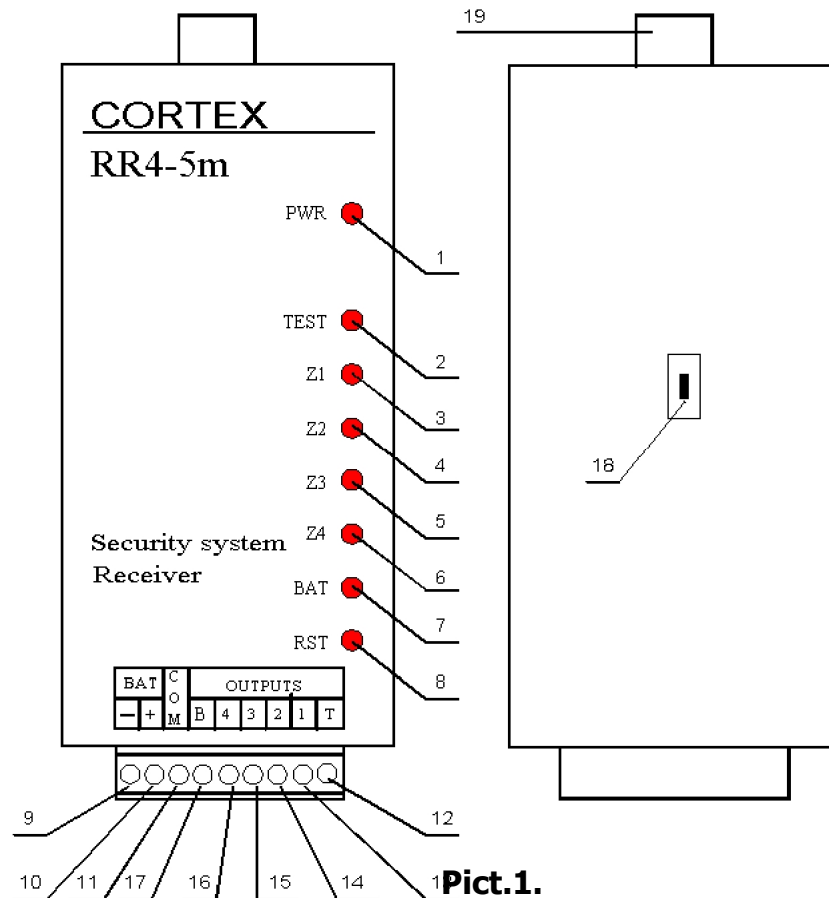
Of this mode necessary after each message receiving from object device **RT4-5I** to confirm by push of button "RST" on the receiver's front panel (**see picture 1**).

2. Mode without confirmation

Of this mode not necessary to confirm an each received message. Sound switching off happens automatically after 2s of message receiving. Received message at once is reflected on the receiver's **RR4-5m** front panel.

Indication and operating control.

RR4-5m form, operating control and indication is displayed on the picture 1.



Pict.1.

1. Supply indicator.
2. Lost communication with **RT4-5I** indicator.
3. Indicator of 1-st zone's state.
4. Indicator of 2-nd zone's state.
5. Indicator 3-th zone's state indicator.
6. Indicator 4-th zone's state.
7. Indicator of battery state of object device.
8. Confirmation button.
9. 12V battery minus "-".
10. 12V battery plus "+".
11. Common.
12. "open collector" output for lost communication with object device **RT4-5I**.
13. "open collector" output for 1-st zone.
14. "open collector" output for 2-nd zone.
15. "open collector" output for 3-rd zone.
16. "open collector" output for 4-th zone.
17. "open collector" output for object device battery
18. jumper for mode switching of receiver **RR4-5m**:
close – without confirmation mode; open – with confirmation .
19. antenna connector

Information receiving and indication

1. In the mode with confirmation.

In this mode, each received message from object device must be confirmed by button "RST", otherwise all next messages will be putted to receiver's memory.

The first press on the button "RST" off the sound, the next – confirm received messages. Each of message confirmation is accompanied by short sound; but the last – a thrice-repeated sound. Receiver before new message displays the last message.

Note: if a user don't look through a receiver memory and the receiver receives more than 8 messages then a new messages will write to memory but the previous will be lost!

2. Information receiving and indication in mode without confirmation.

In this mode isn't used the message memory. Each new received message at once will displayed on the front panel of receiver and will turned on the sound for 2s.

Choice receiver's working mode.

Choice receiver working mode is chosen by jumper, which is placed on the rear receiver panel. Close jumper accord to mode without confirmation, open – with confirmation. The choice mode must be carried out without supply.

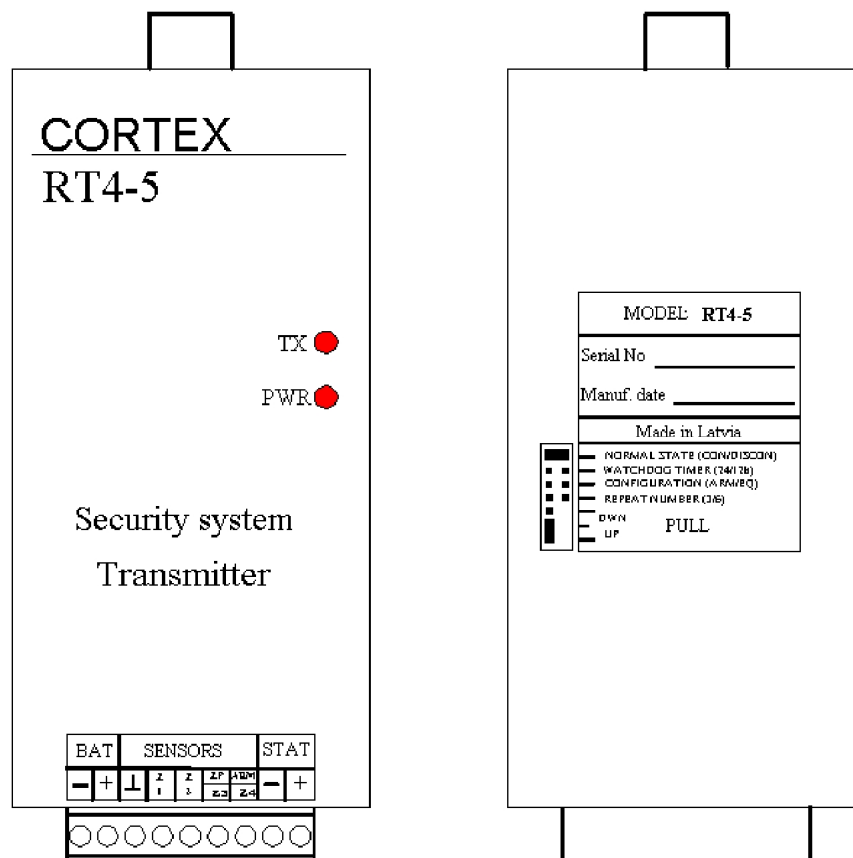
RR4-5m technical specifications.

Frequency range	139-174MHz, 220-300MHz
Channel spacing	12.5kHz
Receiver sensitivity	0,5uV
Adjacent channel selectivity	50dB
Spurious response reaction	50dB
Intermodulation response	50dB
Unit of object device's address	1
Zone unit	5
Memory capacity, messages	8
Supply	10-15V
Consumption current (12V), at most	150mA
	+15 -
Operating temperatures range	+35°C
Dimension, mm	155x70x25

Object device RT4-5I.

The object device **RT4-5I** is used for information collection about guarded object, it's processing and wireless transmitting to individual receiver **RR4-5m**. Beside, object device controls for own supply and in case of it decreasing (10V less) send information to receiver (LED **BAT**). If input state don't change long time will formed and transmitted a test message. In this case the receiver dives the signal and LED TEST will burn.

The form of object device **RT4-5I** is displayed on the picture 2.



pict. 2

On the top of transmitter is placed the antenna connector, on the lower part – contact terminal for connection of power supply, sensor and object device's status indicator. Functional contact using is displayed on the front case part. Supply indicator is light after connecting to supply line. After supply decreasing less then 10V the indicator will blink and the transmitter send message about it to the receiver, LED **BAT**.

Behind of object device is placed the jumpers for transmitter configuration.

Set of transmitter configuration.

Setting of transmitter configuration is realized by jumpers, which are placed on rear side. Function for each jumper is showed on label.

1. **NORMAL STATE (CON/DISCON)** – determines, what kind of output state (open or close) will have a normal for transmitter, but what will be alarming. If the jumper is open then normal state will be accord to contact closing, but if it is close – contact breaking. *This operation must be carried out without supply.*

NOTE. This jumper is used then transmitter has an input arming/disarming (see.

CONFIGURATION).

2. **WATCHDOG TIMER (24/12h)** – determines, when will send the test message to receiver if the transmitter doesn't have the changing on its inputs. If the jumper is open this time will 25 hours; if close – 12 hours. *This operation must be carried out without supply.*
3. **CONFIGURATION (ARM/EQ)** – determines the transmitter's inputs configuration. If jumper is opened then object device has one arm/disarm input (ARM), one 24-hours zone's input (ZP) and two inputs common using (Z1 and Z2). If input ARM is open then object device has a mode "**DISARM**" (status LED indicator isn't burn). In this case a change in zones Z1 and Z2 is ignored. After ARM input closing object device controls a state of zones Z1, Z2 and ZP. If one of them has the alarm state the object device reports about this by blinking status LED and don't activate an arming state. Then Z1, Z2 and ZP inputs will normalize the object device will active the arming state automatically (status LED isn't burn) In this mode the object device will react to anything zone's changing. If jumper is closed all inputs are equitable and the object device will react if is a change in any zones. At the same time LED of corresponding zone displays closed zone state on the receiver. Status LED isn't used in this mode.
NOTE. This operation must be carried out without supply.
4. **REPEAT NUMBER (3/6)** – determines repeater's quantity of one message. If jumper is opened then the device repeats one message 3 times, if jumper is closed – 6 times.
5. **PULL DWN/UP** – determines which level must be on the object device's inputs in order to it will be as closed. If jumper is place in **DWN** state then an input will closed if it has a voltage 12V. If jumper is placed in **UP** state, an input will closed if it has a ground.

Attention! The jumper **PULL DWN/UP** must be placed necessarily! Without it the object device don't work!

Object device communication.

The object device communication operated using the contact terminal. Output placing and its functions are showed on the pict. 3.

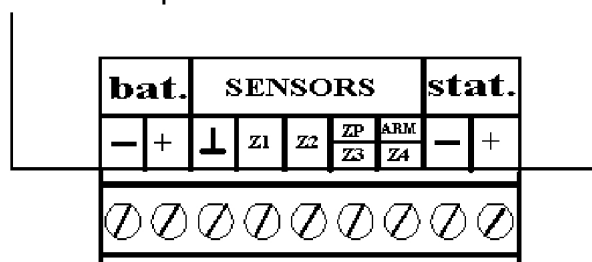


Рис.3.

bat.(+/-) – power supply contacts;

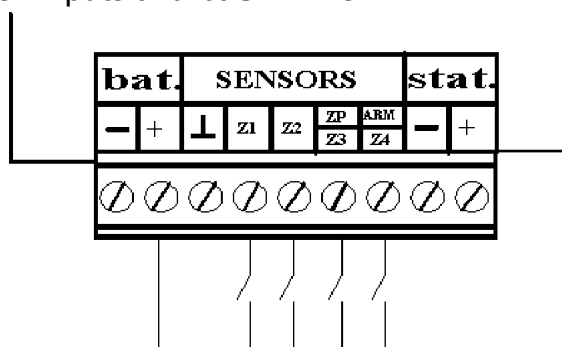
SENSORS – sensors contacts:

- ⊥ - Common (ground)
- Z1 – 1-st zone input,
- Z2 – 2-nd zone input,
- ZP/Z3 – 24-hour zone or 3-rd zone input (see **CONFIGURATION**),
- ARM/Z4 – ARM/DISARM zone or 4-th zone input (see **CONFIGURATION**);

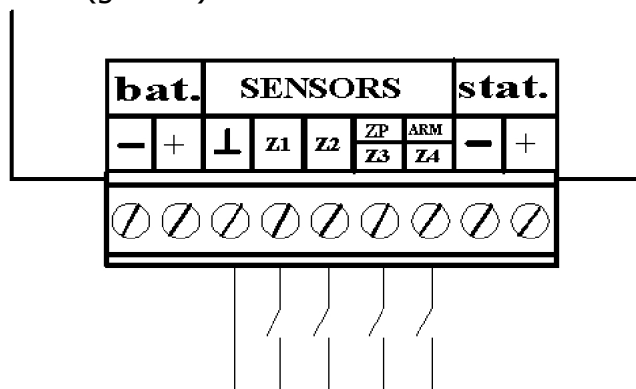
stat.(+/-) – contact for status LED communication.

The object device supply is recommended from battery, which is used as the reserved power supply. At the same time a charging device current must be increased per 15mA (consumption current in duty mode). LED is connected to **stat.(+/-)** contacts: an anode to "+", a cathode to "-" ().

The sensors should be connected to object device by two methods depending on jumper **PULL DWN/UP** placing. If **PULL DWN/UP** jumper is placed in state **DWN**, the sensors must be connected between inputs and **bat.+** wire.



If jumper i **PULL DWN/UP** is placed in **UP** state, the sensors must be connected between inputs and common (ground) wire.



Before energization to the object device is need to connect the antenna.

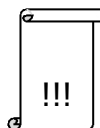
RT4-5I technical specifications.

Frequency range	139 -174MHz, 220 -300MHz
Emission class	8K0F1D
Carrier power	5W
Frequency deviation	2,5kHz
Carrier frequency fluctuation	$10 \square 10^{-6}$
Spurious emission	$0.25 \square W$
Transmitting time	150ms
Message quantity for one event	3 or 6
Average time between transmitting	1.2s
Supply	11-14V
Dimensions, mm	155x70x25
Operating temperature range	-10 - +50 $\square C$

Installation recommendations.

A place for installation must be the best for passage of signal and must be known the next moment:

- The cables from battery to object device must be minimal;
- The cables to contact terminal don't installed near of antenna and/or its lengthwise;
- If is used the "doublet" antenna then its cable must be installed athwart of antenna within 1 m.



The firm "Korteks" warns that this system must be installed according to this instructions otherwise the firm will not account for problems connected whit the system installation or exploitation.