

WIRELESS EXECUTIVE RELAY MODULE

«IR-RK»

Installation Guide

1 General Information

1.1 Wireless executive relay «IR-RK» (hereinafter, the «IR-RK») is designed to connect external peripherals to 230V AC mains.

1.2 The «IR-RK» energizing, de-energizing as well as its modes adjustment is fulfilled by wireless signal exchange within the 433.05 – 434.79 MHz frequency range in accordance with the «Rielta-Contact-R» wireless two-way communication protocol.

1.3 «IR-RK» is intended for operation as a component of a system, that is operated by a control panel (hereinafter, the CP), supporting «Rielta-Contact-R» wireless two-way communication protocol.

1.4 Power is supplied from AC mains with rated voltage 230V and frequency 50 Hz.

1.5 The «IR-RK» operation provides the following status indication:

- Communication quality;
- «Binding» mode.

The «IR-RK» modes supervision, as well as identification indication switching ON/OFF is carried out by the «Rielta-Contact-R» protocol.

1.6 The «IR-RK» generates two types of messages:

- «Norm»;
- «Tamper» – as a result of cover opening.

1.7 The «IR-RK» provides status information with 4 s period.

1.8 Operation modes of the «IR-RK» are displayed by 2 LED indicators (see Table 3).

1.9 The «IR-RK» is designed to operate continuously around the clock.

2 Principal Technical Characteristics

Table 1

Parameter	Value
Rated voltage	230 V (85–305) V, (50±3) Hz
Maximum consumed power	1,5 VA
Maximum switching current	7 A
IP rating	IP30
Dimensions, maximum	66x66x35 mm
Weight, not more than	0,2 kg
Average service life	8 years
Operating temperature	minus 30... +50 °C
Permissible humidity at a temperature +35 °C without moisture condensation	98 %

3 Scope of Delivery

Each «IR-RK» unit package contains the items listed in Table 2.

Table 2

Name	QNT
Wireless executive relay «IR-RK»	1 pc.
Antenna	1 pc.
Screw 3-3x30.016	2 pcs.
Wall Plug NAT 5x25 SORMAT	2 pcs.
Wireless Executive Relay «IR-RK». Installation Guide	1 copy

4 Protective Measures

4.1 The «IR-RK» installation and service should be fulfilled in conformity with accident-prevention rules.

4.2 All installation and assembly operations should be undertaken in OFF mode.

5 Design

The «IR-RK» design with removed cover is shown in Figure 1. The base (1) is provided with:

- hole (7) for cover fixation;
- two holes (2) for «IR-RK» fixation to installation surface;
- cutout (11) for mains cord wiring.

The printed circuit board (PCB) (3) comprises the following elements:

- antenna leading-in socket (4);
- green LED indicator (5);
- red LED indicator (6);
- «RESET» contacts (8);
- «TAMPER» contact (9);
- terminal blocks (10).

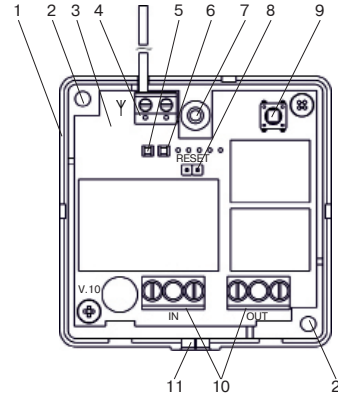


Figure 1 – The «IR-RK» with removed cover

6 LED Indication

Table 3

Operation Mode	LED Indication
«Binding» mode	Green LED indicator intermittently blinking
«Binding is completed»	Short-term (2 s) red LED indicator lighting
«Identification» indication	Alternate green and red LED indicators lighting
Switching ON	Short term (2 s) red LED indicator lighting
«Communication Quality Appraising»	See Table 4

7 Switching On and Pre-starting Procedure

7.1 Put off the cover.

7.2 Install antenna to the leading-in socket (Ψ).

7.3 Prepare the CP for the new device logging («Binding» mode) in accordance with the CP Installation Guide. Only one CP, prepared for binding, should be located in radio coverage zone during «IR-RK» logging.

Fulfill «IR-RK» energizing by applying 230 V to «IN» inputs.

7.4 Short-circuit «Reset» pin contacts on «IR-RK» PCB.

7.5 Make sure in green LED indicator intermittent blinking (binding mode). Remove short-circuit by opening pin contacts.

7.6 Execute binding procedure in accordance with the CP Manual.

7.7 Wait for short-term red LED indicator lighting.

Note: The binding procedure is limited to 100 s. To resume the «Binding» mode, repeat operations described in sect. 7.5 – 7.8.

8 Communication Quality Appraising

8.1 Place «IR-RK» at the assumed place of installation in a position, which provides vertical antenna orientation.

8.2 Push «Tamper» contacts and hold it for 3 s or longer.

8.3 Release «Tamper» contacts.

8.4 Appraise the communication quality by LED lighting in accordance with the Table 4.

Note: Four-second delay is possible before thy LED switching ON

Table 4 – LED Indication for Communication Quality Appraising

LED Indication		Communication quality appraisal	Recommendations
Color	Mode		
Green	Three blinks	Excellent	Install «IR-RK» at this place
Green	Two blinks	Good	
Green	One blink	Communication established	Choose another place of installation or use a repeater out of «Ladoga-RK» product line
Red	A series of blinks	No communication	

9 Outline Drawings

Power wires should have double insulation and wire section of 0,75 – 1,5 mm².

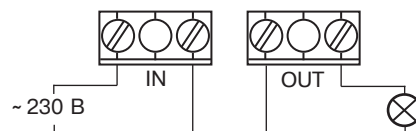


Figure 2

10 Installation

10.1 Fulfill communication quality apprising at the assumed place of installation.

10.2 Install the «IR-RK» at the place, where communication quality is appraised as «Good» or «Excellent» (See Sect.8)

10.3 It is not recommended to install «IR-RK» at the following places:

- at massive metal constructions and nearer 1 m from them;
- closer than 1 m from electrical power cables, as well as from water or gas pipes;
- near the source of radio interferences;
- inside metal constructions.

10.4 Install the «IR-RK» in a position, which provides vertical antenna orientation.

11 Specialties of «IR-RK» Operation

11.1 Communication period of the «IR-RK» is equal to 4 s. Command on communication period change should be ignored.

11.2 The «IR-RK» supports the following modes of load connection:

- ON;
- OFF;
- On at a frequency 1 Hz;
- On at a frequency 0,5 Hz.

All modes can be trigged constantly or for a time from 1 to 2 500 s

11.3 Maximum switching current is meant for the resistance load. $\cos \varphi$ reduction declines maximum switching current.

12 Storage and Transportation

12.1 The «IR-RK» in their original packing may be shipped by any transport means in closed vehicles over any distances in compliance with the existing shipping rules concerning the respective means of transportation.

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

13 Post-consumer Recycling Data Sheet

13.1 The «IR-RK» does not contain precious metals, dangerous and toxic substances enabled to injure human's health or environment. The relay on expiry it's working time does not to pose direct threat to life and health of people, as well as an environment.

13.2 Post-consumer recycling may be fulfilled by the rules of conventional equipment recovery.

14 Manufacturer's Guarantees

14.1 The manufacturer guarantees conformity of the «IR-RK» to its Technical Specifications provided that the transportation, storage, installation and operation conditions are observed.

14.2 The guaranteed shelf life of the «IR-RK» is 63 months since the date of manufacture.

14.3 The guaranteed useful life is 60 months since the day of putting into operation within the guaranteed shelf life.

14.4 The «IR-RK» that is found non-conforming to the Technical Specifications shall be repaired by the manufacturer, provided the installation and operation rules have been complied with.