

## 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 provide management of external peripherals by the relay contacts.

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 110/230V and frequency 50/60 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» wireless protocol.

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

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

1.7 The «IR-RK» initiates status information exchange with the period: 10, 15, 30, 60, 120, 300 or 600 s, which is chosen during binding procedure with the control panel (hereinafter, the CP).

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.

1.10 The «IR-RK» ensures safe operation under the influence of electromagnetic noises.

#### 2 Principal Technical Characteristics

Table 1

Parameter	Value
Rated voltage	100-240 V, 50/60 Hz
Maximum consumed power from mains	1.5 VA
Maximum switching load current	7 A
IP rating	IP20
Dimensions, maximum	65x66x28 mm
Weight, not more than	0.2 kg
Average service life	8 years
Operational conditions	
Operating temperature	minus 30... +55 °C
Permissible humidity at a temperature +40 °C without moisture condensation	93 %

#### 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.
Screw 3-3x30.016	2 pcs.
Wall Plug NAT 5x25 SORMAT	2 pcs.
Wireless Executive Relay «IR-RK». Installation Guide	1 copy

**ATTENTION! Persons having a qualification group for safety measures of at least III and having permission to work with voltages up to 1000 V are allowed to install and maintain «IR-RK».**

#### 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);
- case tamper contact (9);
- terminal for switched modules (10);
- leading-in mains socket (12).

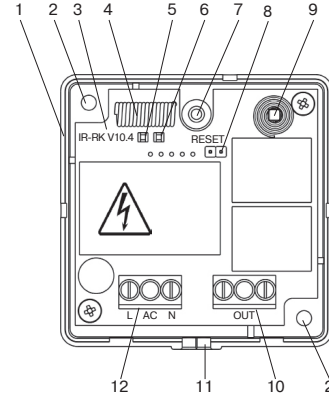


Figure 1 – The «IR-RK» with removed cover

#### 6 LED Indication

Table 3

Operation Mode	LED Indication
«Binding» mode	Green LED indicator intermittently blinking
«Binding is completed»	Red LED indicator lighting for 2 s
«Identification» indication	Alternate green and red LED indicators lighting
Switching ON	Indicators turn on simultaneously in red and green colors for 2 s
«Communication Quality Appraising»	See Table 4

#### 7 Switching On and Pre-starting Procedure

7.1 Put off the cover.

7.2 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.

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

7.4 Short-circuit «Reset» pin contacts on «IR-RK» PCB by current-conducting item.

7.5 Make sure in green LED indicator intermittent blinking (binding mode). Open 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. 7.4 – 7.7.

#### 8 Communication Quality Appraising

8.1 Locate «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

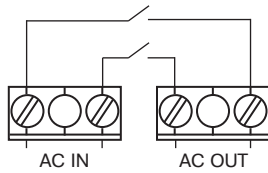


Figure 2

## 10 Overall Dimensions

(mm)

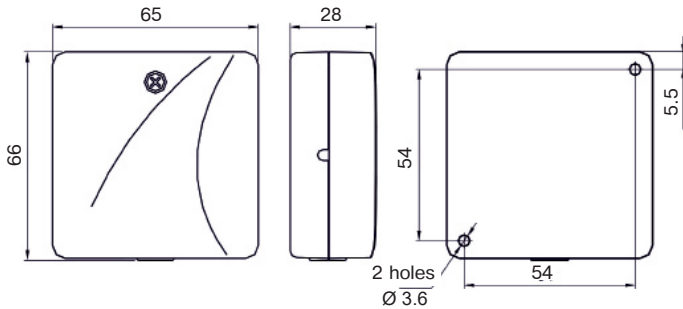


Figure 3

## 11 Installation

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

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

11.3 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.

## 12 Specialties of «IR-RK» Operation

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

- ON;
- OFF;
- On at a frequency 4 Hz;
- On at a frequency 2 Hz;
- On at a frequency 1 Hz;
- On at a frequency 0.5 Hz.

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

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

\* - the ratio of active power to the total power

## 13 Storage and Transportation

13.1 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.

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

## 14 Post-consumer Recycling Data Sheet

14.1 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.

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

## 15 Manufacturer's Guarantees

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

15.2 The guaranteed shelf life of the «IR-RK» is 27 months since the date of manufacture.

15.3 The guaranteed useful life is 24 months since the day of putting into operation within the guaranteed shelf life.

15.4 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.

## 16 Packing Certificate

Wireless executive relay «IR-RK» has been manufactured in compliance with the active technical documentation, classified as fit for operation and packed by «Development and Production Enterprise RIELTA» LLC.

Packing date \_\_\_\_\_  
month, year

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v10.4R

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