

**SPECIFICATION AND USER'S MANUAL**

type of the device: 1-channel RSU-KO1/24V/SH receiver

**TECHNICAL PARAMETERS**

- type of receiving module: superheterodyne
- sensitivity: -115 dBm
- frequency: 433,92 MHz
- radio transmission: KeeLoq hopping code by Microchip Technology
- memory capacity: 113
- voltage supply:
  - nominal: 24 V DC
  - allowable: 20-30 V DC
- power consumption:
  - static: 12 mA
  - maximal: 35 mA
- capacity:
  - relay output: 1A/ 30 V DC
- number of relays: 1
- relay's operating mode: mono or bistable
- time scope for the mono mode: ~1s-4min20s
- operating temperature range: 0 to +40 °C
- dimensions (mm): 57\*90\*23
- cooperation: any GE sender
- operating range (m)\*: 200-1000
- colour: white

\* the range depends on the type of the sender

**TABLE OF RANGE**

200 metres	types of the remote controls: PUK 101, PUK 102, PUK 104, PUK 112-1, PUK 112-2
400 metres	PNH 201 hermetic button
600 metres	PUK 303 remote control
1000 metres	types of the remote controls: RNB 101, RNB 101S, and NRP 100 stationary sender

The above range concerns the open space (without any obstacles, when the receiver and the remote control can "see each other"). If there are any obstacles between the receiver and the sender, one must assume that the range would be reduced: for wood and plaster it would be 5-20% lower, for bricks 20-40% lower, and for reinforced concrete 40-80% lower.

If there are many obstacles we advise to use retransmitters or stronger remote controls. If there are metal obstacles, using the radio systems is not recommended. In such situation, consider installing amplifier type WLC 201, which helps to avoid the problem.

The device meets the requirements of the directives EMC 89/ 336/ EEC  
and RTTE 1999/ 5/ EC.



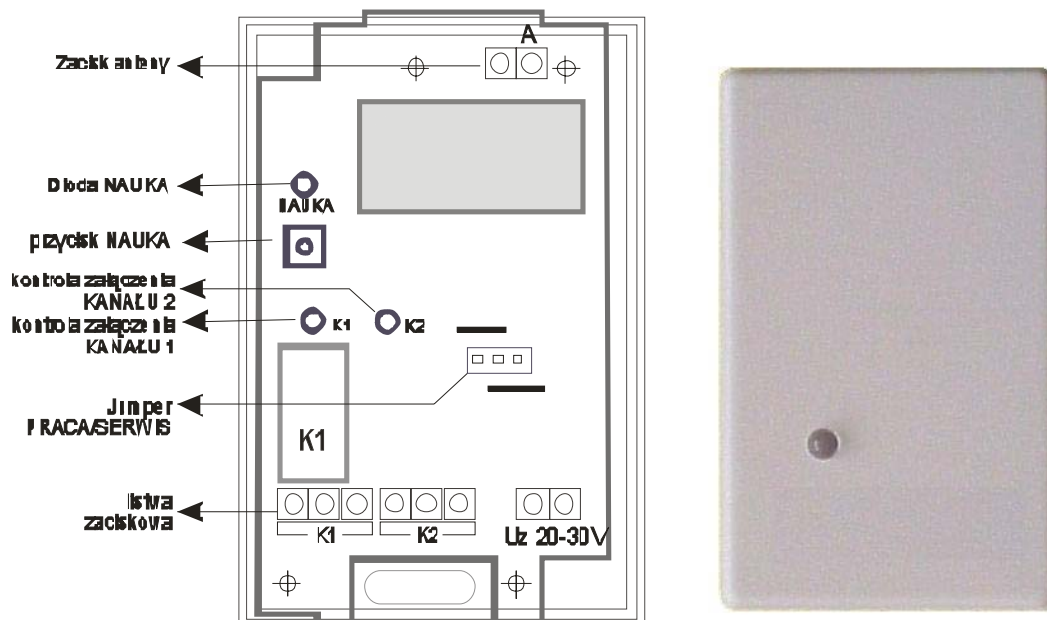
## The purpose of the elements.

**Diode CHANNEL 1 control (red K1)** – indicates that the relay is open

**Diode K2 (red)** – signals the programming procedures

**LEARNING button** – launches the programming procedures

**OPERATING/SERVICE jumper** – allows for disconnecting the relay coil, for example during the programming procedures



**The receiver installation conditions** - The RSU-KO1/24V/SR receiver can be installed only inside, in a dry place. It can be installed in the conditions of electromagnetic interferences as it is resistant to them.

**The transmission code** - the radio transmission, based on the hopping code (KeeLoq by Microchip Technology Inc. USA) ensures the high safety of using. Each transmission is different from the previous one. To make the receiver work, you must enter a remote control into its memory – it is the basic condition. The control can be programmed to unlimited number of receivers. „Loosing” 15 successive transmissions (using the remote control beyond the receiver’s range) requires sending the signal twice (press the remote control button twice).

**The principal use** - The receiver can be used in any type of remote controlling, where the 24V supply is available. Usually, it controls the work of gates and barriers.

**Frequency** - the device works on the frequency 433,92 MHz. In majority of the European Union countries (including Poland) this bandwidth does not require any special permissions and concessions for using it.

## USER'S MANUAL

Important! Launching the programming mode is possible only when the relay is closed (the K1 diode does not light). In order to close the relay, press the remote control's button or disconnect the power supply temporarily. We recommend setting the switch on the SERVICE position.

### 1. REGISTERING A NEW REMOTE CONTROL

- a) press the LEARNING button for more than 0,5 but less than 4 seconds – the K2 diode will light
- b) press the remote control button – the diode K2 will fade
- c) press the button once more – the diode K2 will light for 3 seconds, then it will start to pulse and will fade
- d) the process of registering a new remote control is finished

If the process of registering a new remote control fails, the diode K2 will blink once and then fade. In this case, you need to start the process from the beginning. If the receiver's memory is full (113 remote controls have already been programmed), programming next remote control will delete the one which had been programmed as the first. If the number of users is larger than 113, consider using the configuration of the WLC 201 receiving module with an adequate number of 1 channel RSU-K01/LC receivers (two for 226 users, 3 for 339 users, etc.).

### 2. SETTING THE RECEIVER'S OPERATING MODE

To set the receiver's operating mode, you need to have a remote control which has previously been entered into the receiver's memory (point 1.). Manufacturing settings – the bistable mode.

The monostable mode (timer) – after sending the transmission from the remote control, the receiver's relay will open for the pre-programmed time

Press the LEARNING button (the diode K2 will light) and keep it pressed until the K2 diode starts to pulse – then you need to release the button. After releasing the button, the K2 diode will emit continuous light for about 4 seconds and then, slowly pulse. Each blink corresponds to one second.

For example, in order to set timer on 20 seconds, you need to count 20 blinks of the K2 diode and press the remote control's button, thus confirming the length of time. The maximal time available to set is 260s (4 min 20 s). If no button is pressed during the diode pulsing (time countdown), after counting to 260s, the K2 diode will emit continuous light for 1 minute. If during this time (the continuous lighting) the control button is pressed (confirming), the receiver will set time on the maximum, that is, about 260s. If during this time the button is NOT pressed, the receiver will quit the programming mode and will save the previous setting.

The bistable mode (flip-flop) – after receiving the transmission from the remote control, the relay flips on the other state.

Press the LEARNING button (the K2 diode will light) and keep it pressed until the K2 diode starts to pulse – then release the LEARNING button. After releasing the LEARNING button the K2 diode will emit continuous light for about 2s and during this period one must press the control button.

### 3. DELETING THE REMOTE CONTROLS FROM THE MEMORY

Keep the LEARNING button pressed.

Phase one: the LED K2 will light for about 4s.

Phase two: LED K2 will start to pulse and then it will fade, which means that the deletion is finished. Release the LEARNING button.

1. one must remember that deleting concerns the whole capacity of the memory. If you want to remove only one or several remote controls, you must re-enter the ones which are supposed to be saved.
2. If there are many users and you want to avoid the toilsome process of programming the controls individually, you can use one of the identifying receivers (their parameters allow for deleting the controls individually)
3. deleting the senders does not change the operating mode of the receiver
4. disconnecting the supply voltage does not cause losing the information about programmed controls or the operating mode of the receiver.