GORKE ®
E L E C T R O N I C

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SPECIFICATION AND USER's MANUAL

type of the device: 1-channel ANT-KO1/1 set
the set contains: a 1-channel RSU KO1 receiver and a 3-button PUK 303 remote control

TECHNICAL PARAMETERS OF THE RECEIVER

- class: C
- type of receiving module: superreaction
- sensitivity: -100 dBm
- frequency: 433,92 MHz
- radio transmission: KeeLoq hopping code by Microchip Technology
- memory capacity: 14
- voltage supply:
  - nominal: 12 V DC
  - allowable: 10-15 V DC
- power consumption:
  - static: 17 mA
  - maximal: 40 mA
- capacity:
  - relay output: 1A/ 30 V DC
  - S transistor output: 0,5A/ 12 V DC
  - sabotage output: 50mA/ 12 V DC
- number of relays: 1
- relay's operating mode: mono or bistable
- time scope for the mono mode: ~1s-4min20s
- operating temperature range (°C): 0 to +40
- dimensions (mm): 48*68*26
- cooperation: any GE sender
- operating range (m)*: 100-500
- colour: white

the range depends on the type of the sender

TECHNICAL PARAMETERS OF THE REMOTE CONTROL

- class: C
- frequency: 433,92 MHz
- transmission: coded (KeeLoq hopping code by Microchip Technology)
- number of buttons: 3
- sending power: <5mW
- power supply: 1 battery 9V/GF22
- dimensions (mm): 123*35*20
- colour: black
- cooperation: any GE receiver
- operating range (m):
  with superreactive receiver: 300
  with heterodyne receiver: 600

The operating range of the set is 300 metres. It 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 configure the sets using the receivers of the SH class, to use retransmitters or stronger remote controls. If there are metal obstacles, using the radio systems is not recommended.

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

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The purpose of the elements.

**Diode SUPPLY** control (green ZAS) – it indicates connection of the power supply
Diode CHANNEL 1 control (red K1) – it signals that the relay is open
Diode K2 (red) – indicates the programming procedures
LEARNING button – launches the programming procedures
ANTISABOTAGE – allows for connecting the device to the antisabotage circuit
S output – it is used to connect an acoustic signalling device which informs with short signals whether the relay is opened or closed, for example while opening the access path to the encryptor or by arming a simple alarm circuit. On opening the relay on the S output one short signal is emitted, and on closing it – two signals. The maximal capacity of this output is 0,5A/12V DC, which is enough even for using sirens with a high level of audibility. The positive terminal should be connected to +12V and the negative terminal – to the S output on the terminal strip.
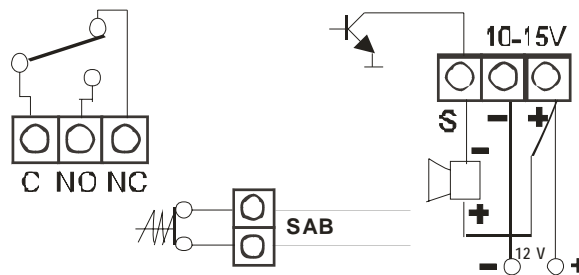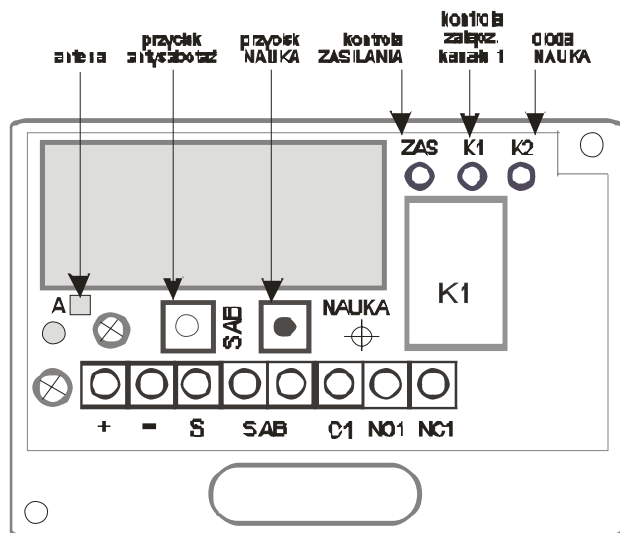
The receiver installation conditions.

We recommend installing the receiver as high as possible, far from any metal or electric devices because the superreactive receiver is sensitive to electromagnetic interferences. In conditions of high electromagnetic interferences, using superheterodyne receivers (for example, OPC type) is recommended. The RSU-KO1 receiver requires dry and closed places.

The transmission code.

The radio transmission, based on the hopping code (KeeLoq by Microchip Technology Inc. USA) guarantees 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 as equipment which controls remotely the work of the following devices: gates and barriers, electromagnetic locks, lights etc. In alarm systems it is used:
–   as a panic button
–   as a unit which controls the work of other devices of the system, for example, sensors
–   to arm or disarm the system, zones, etc.

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.

Important! You can enter the programming mode ONLY when the relay is closed (diode K1 is off). In order to close the relay, press the remote control button or temporarily disconnect the supply voltage.

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 registering 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 (14 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 14, you need to use receiver with extended memory – the S version (113 senders) or configure the WLC 201 receiving module with an adequate number of LC receivers (two for 226 users, 3 for 339 users, etc.).

2. SETTING THE RECEIVER'S OPERATNG 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 switch on 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 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 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 the 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 the continuous light for about 2s and during this period 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.