

SPECIFICATION AND USER'S MANUAL

type of the device: Wireless optical signaling device type BSO-1

TECHNICAL PARAMETERS OF THE DEVICE

- type of receiving module: superreaction/superheterodyne
 - sensitivity: -100/-115 dBm
 - frequency: 433,92 MHz
- radio transmission: KeeLoq hopping code by Microchip Technology
- memory capacity: 40
- voltage supply:
 - nominal: 12 V DC
 - allowable: 10-15 V DC
- power consumption:
 - static: 22 mA
 - maximal: 180 mA
- operating mode: two-keys
- operating temperature range: 0 to +40
- dimensions (mm): 70*120*45
- cooperation: any GE sender
- operating range (m)*: 100-1000
- colour: white/red

* the range depends on the type of the sender and receiving module

The operating range: the following range (100m) 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 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. In such situation, one should consider installing WLC 201 module, which helps to avoid the problem. The double value given in the technical specification of the remote control concerns cooperating with different types of receivers. The first value (the smaller one) concerns the superreactive receivers of the BSO type, the second one (the larger one) – with the superheterodyne receivers.

USER'S MANUAL**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 is recommended. The BSO-1 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 control beyond the receiver's range) requires sending the signal twice (press the control button twice).

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.

1. REGISTERING A NEW REMOTE CONTROL

Different transmitters have different key codes. Response to different key codes are as follows:

- Key code 1 - activates signaling
- Any other key code - disable signaling

Key codes sent by the individual pilots:

Type of remote/ transmitter	codes	Response
PUK 101	1	activates signaling
PUK 102	1,2	Activates/deactivates signaling
PUK 104	1,2,3,4	Activates/deactivates signaling
PUK 188	1,2,3,4,5,6,7,8	Activates/deactivates signaling
PUK 151	3	deactivates signaling
PUK 152	1,2	Activates/deactivates signaling
PUK 112/1	3	deactivates signaling
PUK 112/2	1,2	Activates/deactivates signaling
PUK 303	1,2,3	Activates/deactivates signaling
PNH 201	1	activates signaling
PNH 201S	1	activates signaling
PNH 201C	1,2	Activates/deactivates signaling
RNB 101	1	activates signaling
RNB 101S	1,2,3,4,5,6,7,8,9	Activates/deactivates signaling
NRP 102	2	deactivates signaling
NRP 102W	1,2	Activates/deactivates signaling

- press the LEARNING button for more than 1 but less than 3 seconds – the LED diodes will light
- press the sender button twice – the diodes will blink
- the process of registering a new remote control is finished

If the receiver's memory is full (40 remote controls were programmed), programming next control will delete the one which was programmed as the first.

2. DELETING THE REMOTE CONTROLS FROM THE MEMORY

Keep the LEARNING button pressed for more than 8 seconds – the LEDs will blink and when when they are light continuously, release the button

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 those remote controls which are supposed to be saved.

Disconnecting the supply voltage does not cause losing the information about programmed remote controls or the operating mode of the receiver.

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

