MAKS PIR COMBI (VB)

**WIRELESS MOTION AND BREAK GLASS SENSOR
WITH "VERTICAL BARRIER" LENS**

MAKS

- sensitive PIR sensor
- digital processing of sound of glass destruction
- adjustable sensitivity of the smartphone response
- secure two-way radio communication with MAKS PRO
- 868,0 ... 868.6MHz, several channels for redundancy, range - up to 2000 m
- CR123 battery
- up to 5 years of operation on one battery
- easy and convenient installation

Our digital passive infrared and acoustic radio channel detector is equipped with a PIR-sensor and designed for the security of any closed residential and industrial premises.
When the thermal balance of the environment changes or there is the sound of break glass, the detector sends an intrusion signal to the MAKS PRO alarm system center.
For indoor installation.

"Vertical barrier" Lens

The Vertical Barrier lens has a narrow horizontal viewing angle. Detectors equipped such lens are used to control the perimeter inside the room, to protect glass structures, windows, doors, garage doors, etc.

Protection against false positives

Acoustic data processing based on modified speech recognition algorithm. Sensor analyzes the sequence of the thud and the ringing sound of falling glass.

Sorts of glass

Ordinary, patterned, tempered, laminated, reinforced, protected by polymer film of classes A1, A2, A3, double-glazed windows 4x16x4.

Radio communication

The detector transceiver operates in several channels of 868.0 ... 868.6 MHz band for redundancy.
Secure two-way radio communication.
Distance - up to 2000 m in the open space.
Three grades of power, maximum - up to 20 mW.

Setting

The sensor operates only with MAKS PRO wireless security system center, connection to other systems is not provided.
The sensor is connected to the security center and is configured using the MAKS SETUP mobile application.

For more information on setting up and operating the device, please visit www.maks.systems

Characteristics

| Motion sensor	
Maximum working range	10 m
Optical noise immunity	no less than 6500 Lux
Break glass sensor	
Maximal range and detection angle	8 m, 120°
Glass thickness	2 mm . . . 8 mm
Glass dimension	0.5 m x 0.5 m .... 3.0 m x 3.0 m
ISM wireless interface, up to 2000 m	868.0... 868.6 MHz
secure two-way communication	key - 256 bits
Power (Lithium battery included)	CR123A 3V battery
power consumption in standby	no more than 10 µA
transmission power consumption	no more than 20 mA
service life of battery	up to 5 years
Radiated electromagnetic field immunity	5 V/m
Electrostatic discharge resistance	8 kV
Operating temperature range	-10°C to +55°C
Case color	white, black
Detector dimensions	90 x 60 x 34.35 mm
with a wall bracket	90 x 60 x 41.6 mm
with an angle bracket	90 x 60 x 48.84 mm
Weight	150 grams

Functional parts of the device
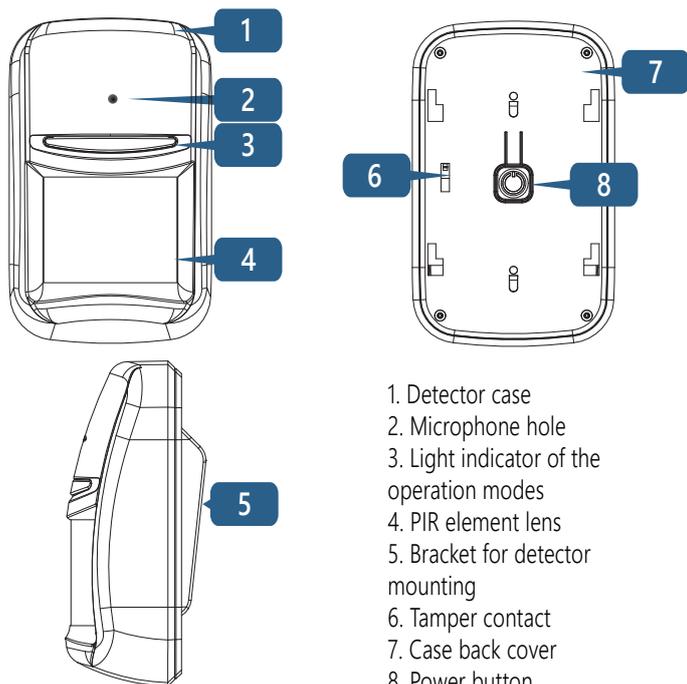
1. Detector case
2. Microphone hole
3. Light indicator of the operation modes
4. PIR element lens
5. Bracket for detector mounting
6. Tamper contact
7. Case back cover
8. Power button

Selecting the installation location

Carefully select the installation location of the MAKS PIR Combi (VB) detector, taking into account the direction of the lens and microphone and the presence of obstacles that may limit the view of the detector. When installing the detector, make sure that the area of intrusion detection and break of glass is within the maximum coverage of the detector and the possible direction of intruder's movement is perpendicular to the installation axis. For the maximum coverage, place the detector at a height of 2.1 meters from floor level.
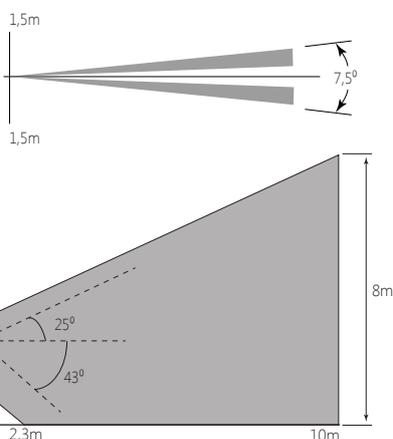
The device should not be placed:
1. Outdoors or in areas with unacceptable humidity and temperature
2. In places with a high level of radio interference
3. Near objects that can cause radio signal attenuation or shielding (metal, mirror, etc.)
4. In a place where the lens is exposed to the direct sunlight.
5. In front of objects with quickly changing temperature or in places with fast air circulation.
6. Facing any moving objects with human body temperature
7. At a distance of less than 1 m from the security center

Battery replacement

1. Remove the device from the bracket by pushing it upwards.
2. Unscrew and remove the case back cover **7**
3. Replace the battery and reassemble the device

Installation and connection

Before installing the MAKS PIR Combi (VB), register it in the MAKS PRO and test the detector signal strength using the MAKS SETUP application.
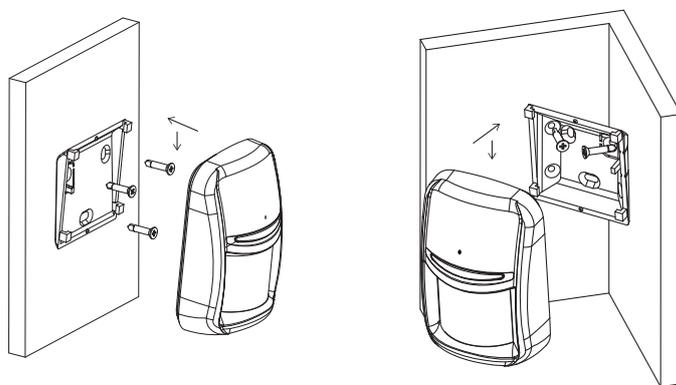
*The detector is **supplied with two brackets** to place the device on a flat surface or in a corner of the room.*

We recommend to install the device in the following order:
1. Selecting the installation location with the best signal
2. Mounting the bracket
3. Detector installation

Detector installation

1. Mount the bracket **5** using the supplied screws and wall plugs.

2. Place the device on bracket **5** and slide it down to fix it and lock the tamper contact **6**. Flashes on indicator **3** will confirm that the tamper is locked

Indication in communication test mode

Excellent connection - LED indicator flashes green
Satisfactory connection - LED indicator flashes yellow
Poor connection - LED indicator flashes red
No connection - LED indicator flashes red quickly

In test mode, the unit's radio transmitter operates at medium power.

Switching on and off

Press button **8** to switch on the device - the light indicator will be on. If the device is registered in MAKS PRO, it switches to standby mode. If the device has not been registered, it will go into sleep mode after 30 seconds.
To turn off the device, press and hold button **8** for 5 seconds.

Registration and setup

1. Place the detector at a distance of no more than 2 m from the MAKS PRO security center. Registration is run at a minimal possible power to avoid the influence of neighboring systems that can be being configured nearby.
2. Start the MAKS SETUP application
3. Follow the application instructions to connect to the MAKS PRO and start the registration of MAKS wireless devices
4. Turn on the MAKS PIR Combi (VB), after 10-20 seconds it will be registered
5. Set up a new device in your mobile application