

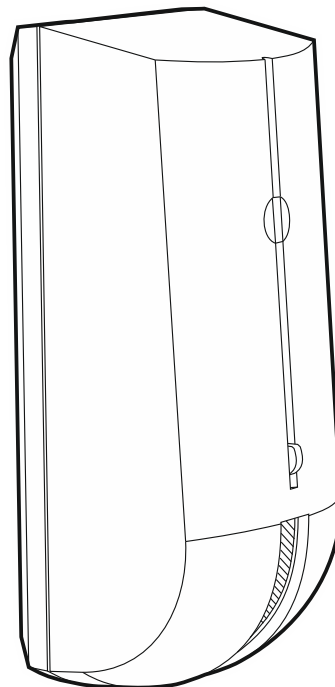
**Satel**®

**abox2**

# AOCD-260

**Wireless outdoor dual technology curtain detector**

**CE**



Firmware version 1.00

aocd-260\_en 02/19

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## IMPORTANT

The device should be installed by qualified personnel.

Prior to installation, please read carefully this manual.

Changes, modifications or repairs not authorized by the manufacturer shall void your rights under the warranty.

The rating plate of the device is located on the enclosure base.

SATEL aims to continually improve the quality of its products, which may result in changes in their technical specifications and software. Current information about the changes being introduced is available on our website.

Please visit us at:  
<http://www.satel.eu>

**Hereby, SATEL sp. z o.o. declares that the radio equipment type AOCD-260 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [www.satel.eu/ce](http://www.satel.eu/ce)**

The following symbols may be used in this manual:



- note,



- caution.

The AOCD-260 detector can detect motion at the moment of crossing the perimeter of protected area. It can be a component of perimeter protection. It is designed for operation within the ABAX 2 / ABAX two-way wireless system. This manual applies to the detector with firmware version 1.00, which is supported by:

- ABAX 2:
  - ACU-220 / ACU-280 controller,
  - ARU-200 repeater.
- ABAX:
  - ACU-120 / ACU-270 controller (firmware version 5.04 or newer),
  - ARU-100 repeater (firmware version 2.02 or newer),
  - INTEGRA 128-WRL control panel (firmware version 1.19 or newer and firmware version of processor used to operate ABAX system 3.10 or newer).

## 1 Features

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- Passive infrared (PIR) sensor and microwave sensor.
- Adjustable detection sensitivity of both sensors.
- Digital motion detection algorithm for both sensors.
- Digital temperature compensation.
- Encrypted two-way radio communication in the 868 MHz frequency band (AES standard for the ABAX 2 system).
- Transmission channel diversity – 4 channels for automatic selection of the one that will enable transmission without interference with other signals in the 868 MHz frequency band (ABAX 2 system only).
- Remote update of detector firmware (ABAX 2 system only).
- Remote configuration.
- Built-in temperature sensor (temperature measurement range from -40°C to +55°C).
- Tricolor LED indicator.
- Supervision of motion detection system.
- “ECO” option for longer battery life (ABAX 2 system only).
- Battery status control.
- Tamper protection against enclosure opening and removal from mounting surface.
- Weatherproof enclosure featuring a very high mechanical strength.
- Angle-type mounting bracket included.

## 2 Description

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### Radio communication

The detector connects to the controller / control panel at regular time intervals to provide information about its state (periodical communication). Additional communication may take place as a result of alarm (see “Operating modes”).

## Alarms

The detector will report alarm:

- after detecting a motion in the protected area by both sensors within a time period shorter than 5 seconds (this alarm can only be reported in the active mode – see “Operating modes”),
- after detecting a fault in the motion detection system,
- after opening the tamper switch (tamper alarm).

## Operating modes

**Active** – information about tamper alarm and motion detection alarm is sent immediately. The microwave sensor is enabled after motion is detected by the infrared sensor.

**Passive** – only information about tamper alarm is sent immediately. The microwave sensor is disabled, therefore no alarm can be triggered after motion is detected. During periodical communication, information on whether the PIR sensor detects motion is sent. This operating mode prolongs the battery life.

The detector operating mode is turned on remotely. If the detector is used in the INTEGRA / VERSA alarm system, the operating mode may depend on the partition state (partition disarmed – passive mode; partition armed – active mode). For more information, refer to the ABAX 2 / ABAX controller manual / the INTEGRA 128-WRL control panel manual.

## Energy saving mode (ECO)

If you want to prolong the battery life, you can enable in the detector the “ECO” option. When the “ECO” option is enabled, the periodical communication takes place every 3 minutes. Thus the battery life can be increased as much as fourfold. The option is only available in the ABAX 2 system. The detector with “ECO” option enabled meets requirements of the EN50131-2-4 standard for Grade 2.

## Test mode

The test mode makes the detector testing easier, because the LED indicator is enabled. How to start and end the test mode is described in the ABAX 2 / ABAX controller manual / the INTEGRA 128-WRL control panel manual.

## LED

The LED is flashing alternately red, green and blue for about 45 seconds from inserting the battery, thus signaling the warm-up of the detector. The LED also works in the test mode, in which it indicates:

- periodical communication – short flash (80 milliseconds),
- motion detected by the microwave sensor – green light for 4 seconds,
- motion detected by the PIR sensor – blue light for 4 seconds,
- alarm – red light for 2 seconds.

## Supervision of motion detection system

When the motion detection system starts malfunctioning, the detector will report an alarm during periodical communication. The alarm will keep going until the fault is cleared (long violation).

## Battery status control

When the battery voltage is below 2.75 V, information about low battery is sent during each transmission.



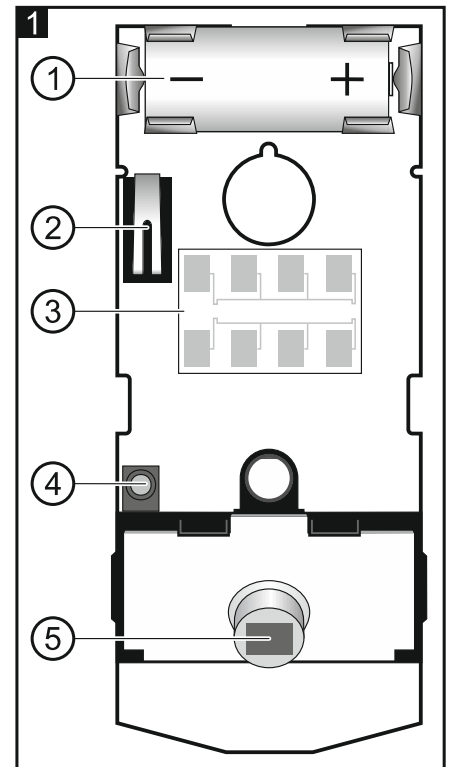
In response to the battery voltage drop below 2.75 V, sensitivity of sensors in the detector is automatically lowered to eliminate false alarms.

### Electronics board

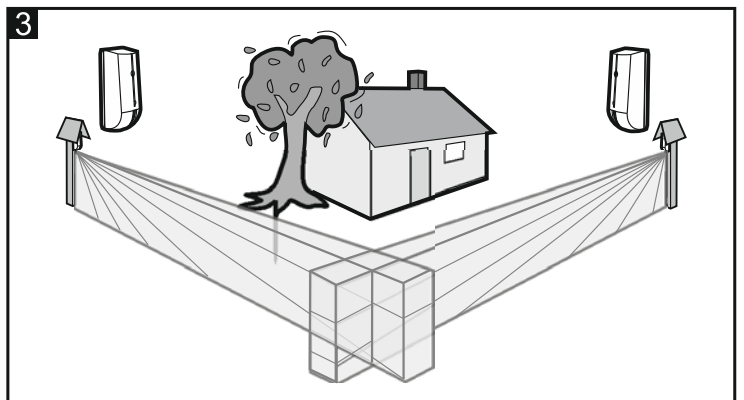
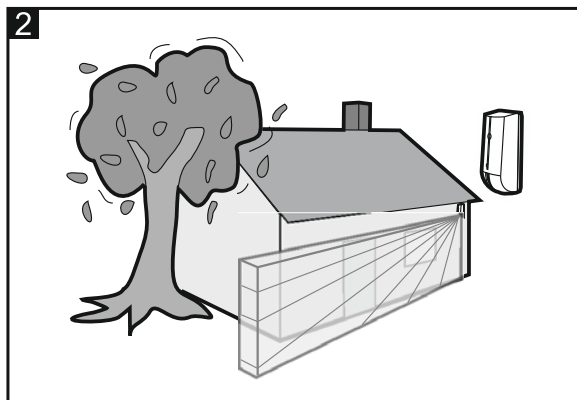


**Do not touch the pyroelectric sensor, so as not to soil it.**

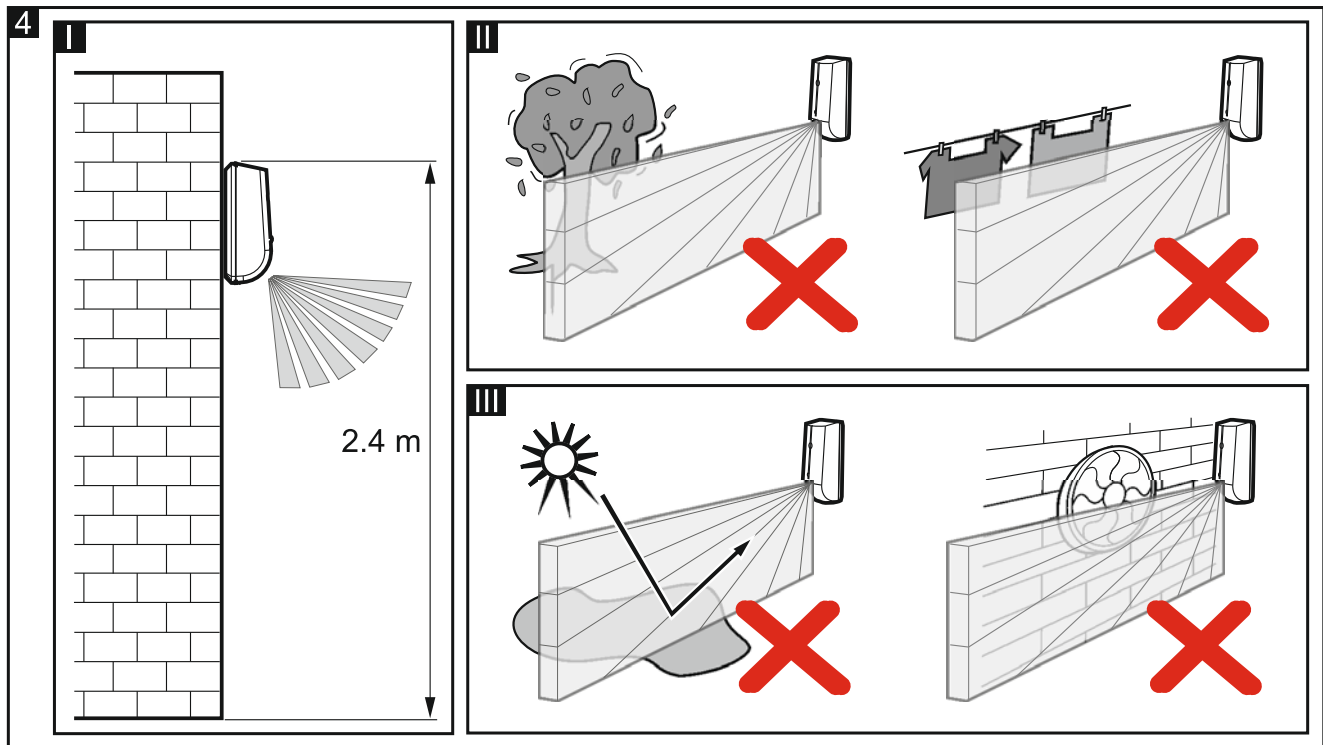
- ① CR123A lithium battery.
- ② tamper switch activated by cover removal.
- ③ microwave sensor.
- ④ tricolor LED.
- ⑤ PIR sensor (dual element pyrosensor).



## 3 Selecting a mounting location



- Install the detector at the recommended height (Fig. 4-I).
- Install the detector at a roofed location (Fig. 2) or under a protective roof (Fig. 3), where streams of water from rain or melting snow will not run down the enclosure.
- Don't install the detector closer than 3 meters from the moving objects (eg. tree branches, bushes, laundry etc.) (Fig. 4-II).
- Don't direct the detector on reflective surfaces or on fans or a heat sources (Fig. 4-III).
- Do not install the detector at any location directly exposed to sun rays.



## 4 Installation

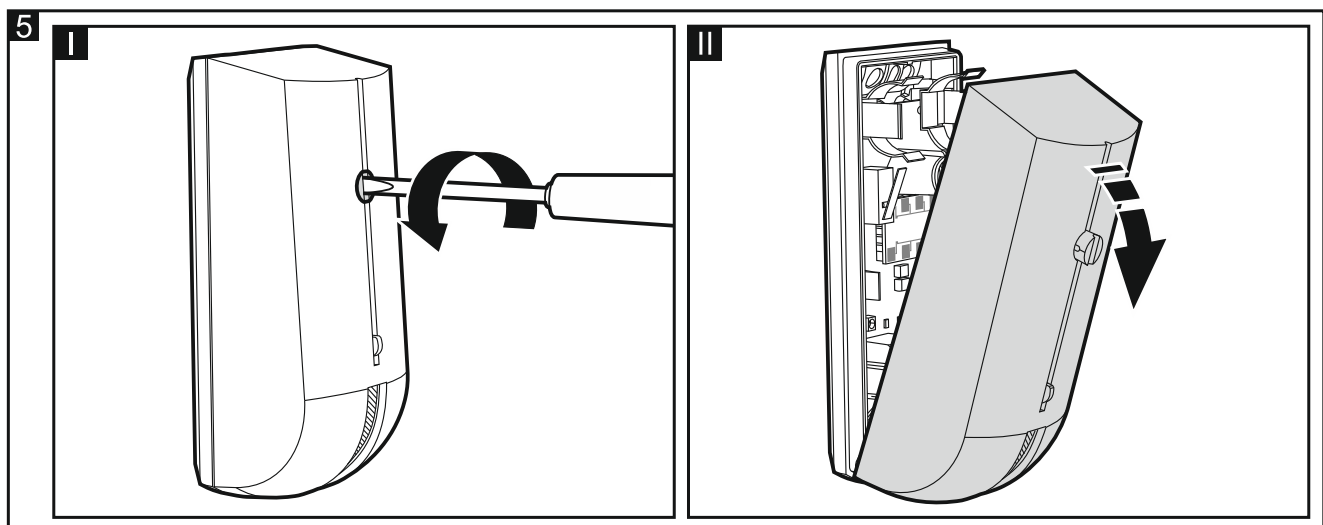


There is a danger of battery explosion when using a different battery than recommended by the manufacturer, or handling the battery improperly.

Be particularly careful during installation and replacement of the battery. The manufacturer is not liable for the consequences of incorrect installation of the battery.

The used batteries must not be discarded, but should be disposed of in accordance with the existing rules for environment protection.

1. Remove the front cover (Fig. 5).



2. Install the battery and add the detector to the wireless system (see the ABAX 2 / ABAX controller manual or the INTEGRA 128-WRL control panel installer manual). The sticker

with serial number which shall be entered when registering the detector in the system can be found on the electronics board.



*In the INTEGRA / VERSA alarm system, the detector is identified as AOCD-250.*

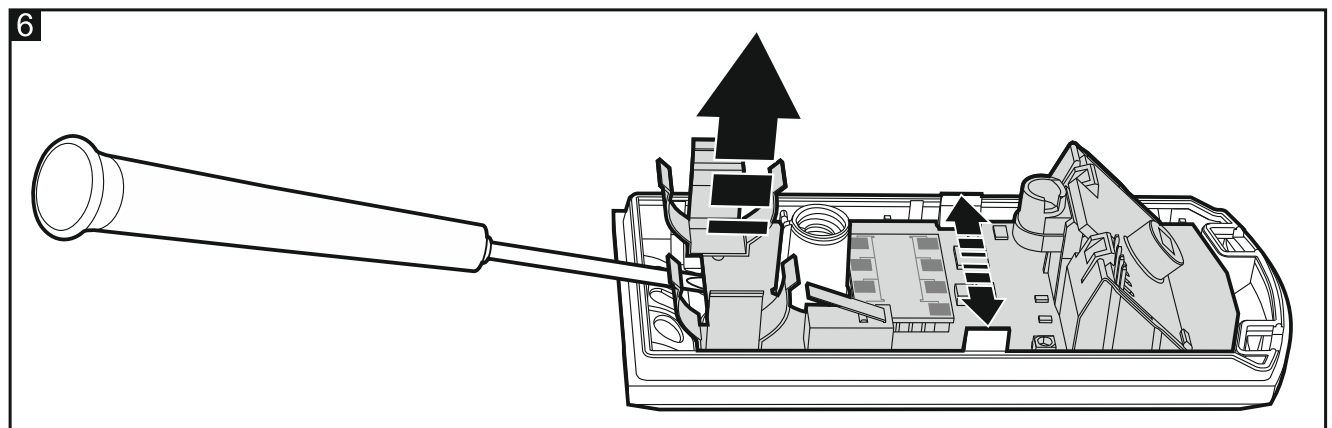
*Simultaneous operation of the detector by the ABAX 2 and ABAX controller / INTEGRA 128-WRL alarm control panel is not possible.*

3. Replace the cover.
4. Put the detector at the place of its future installation.
5. Check the level of signal received from the detector by the ABAX 2 / ABAX controller or the INTEGRA 128-WRL control panel. If the signal level is lower than 40%, select another place for installation. Sometimes, it is sufficient to shift the device ten or twenty centimeters to obtain a considerable improvement in the signal quality.



*The ARF-200 tester makes it possible to check the radio signal strength at the place of future installation without having to put the detector there.*

6. Remove the front cover (Fig. 5).
7. Push the fastening catches outward and remove the electronics board (Fig. 6).



8. Make screw holes in the enclosure base.



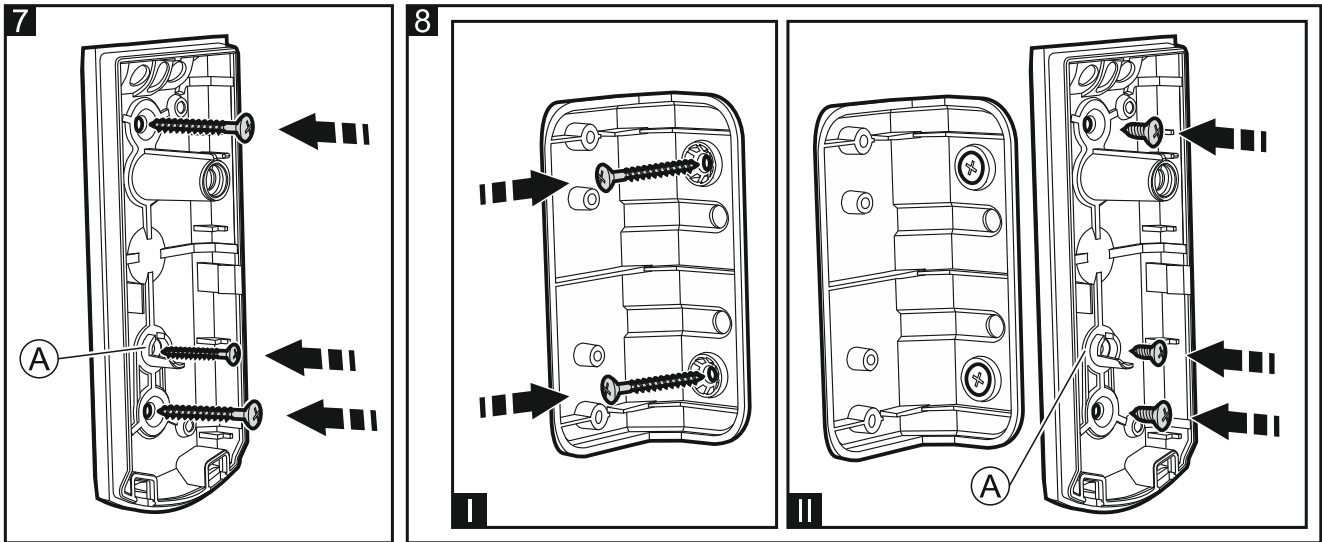
*To ensure tightness of the enclosure, make the holes only at places specially intended for this purpose.*

9. Mount the enclosure base directly to the wall (Fig. 7) or to the angle bracket screwed down to the wall (Fig. 8). The wall plugs (anchors) delivered with the device are intended for concrete, brick, etc. For other types of surface (drywall, styrofoam), use the appropriately selected wall plugs. For the hole designated by letter A on the figures 7 and 8, use the smaller screw. Fig. 9 shows the possible ways of detector installation (the detector can also be mounted on the adjustable brackets, BRACKET A and BRACKET B, offered by SATEL).

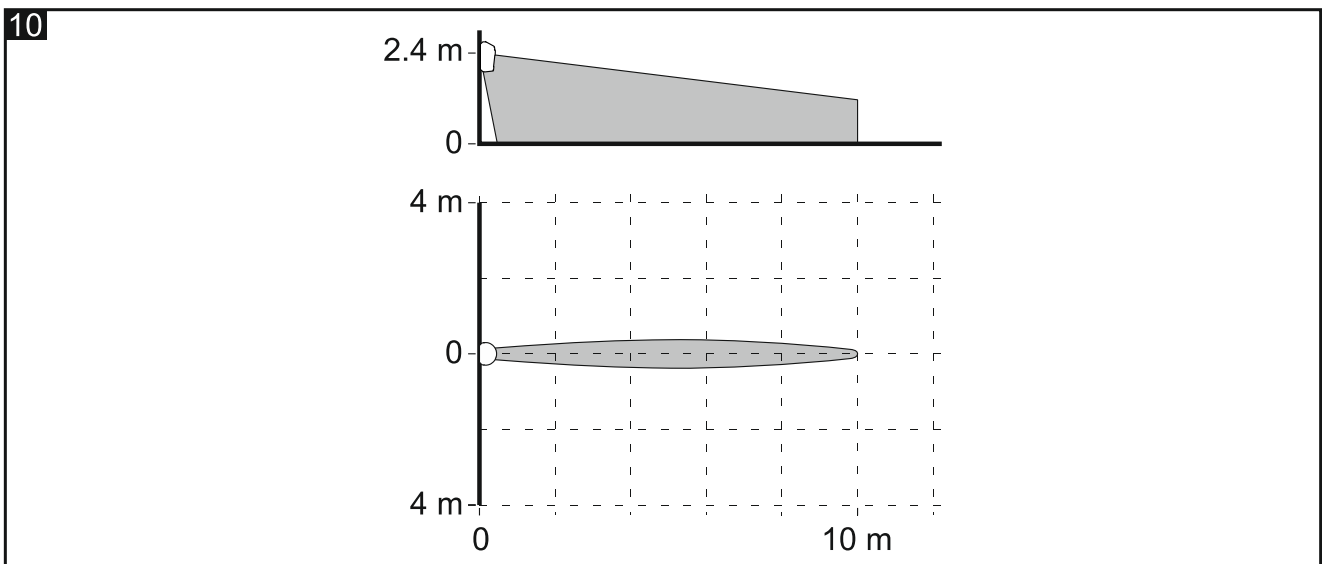
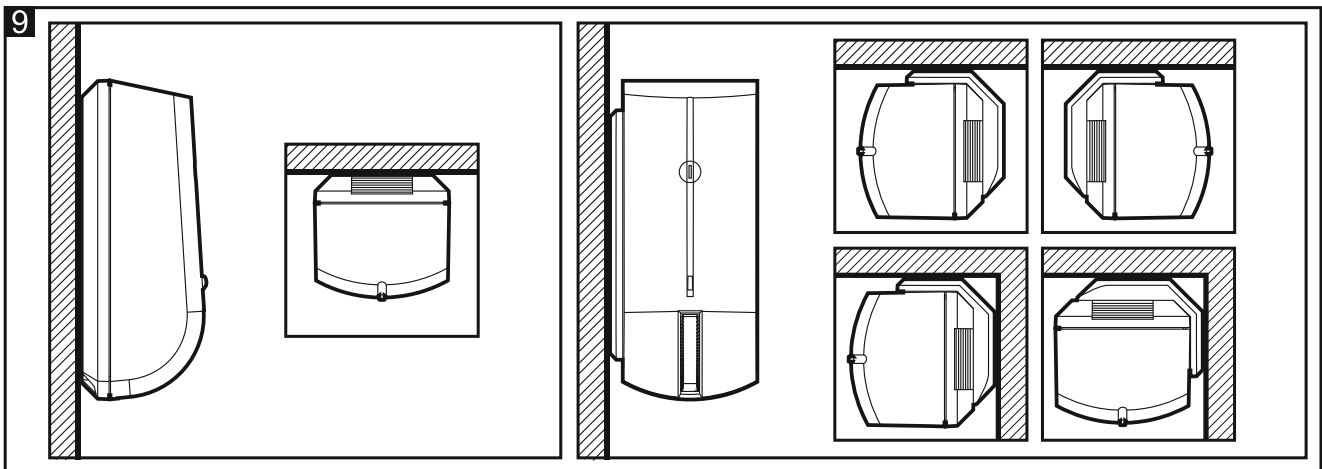


*If the detector is to comply with the EN50131-2-4 requirements for Grade 2, do not install it on the mounting bracket (if installed on the bracket, the detector will comply with the standard requirements for Grade 1).*

10. Fasten the electronics board in the enclosure.
11. Replace the cover.



- 12. Configure the detector settings (sensitivity of PIR sensor, sensitivity of microwave sensor, etc. – see the ABAX 2 / ABAX controller manual / the INTEGRA 128-WRL control panel manual).
- 13. Start the test mode (see the ABAX 2 / ABAX controller manual / the INTEGRA 128-WRL control panel manual).
- 14. Check whether moving around within the detector coverage area will get the LED to come on. Fig. 10 shows the maximum coverage area.
- 15. End the test mode.





## 5 Specifications

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Operating frequency band .....	868.0 MHz ÷ 868.6 MHz
Radio communication range (in open area)	
ABAX 2	
ACU-220 .....	up to 2000 m
ACU-280 .....	up to 1600 m
ABAX.....	up to 500 m
Battery .....	CR123A 3 V
Battery life expectancy.....	up to 2 years
Temperature measurement range .....	-40°C...+55°C
Temperature measurement accuracy .....	±1°C
Standby current consumption .....	70 µA
Maximum current consumption .....	26 mA
Microwave frequency .....	24.125 GHz
Detectable speed .....	0.3...3 m/s
Warm-up period .....	45 s
Recommended installation height.....	2.4 m
Coverage area .....	10 m x 0.6 m, 6°
Complied with standards.....	EN50131-1, EN50130-4, EN50130-5
Security grade according to EN50131-2-4 (detector mounted directly to the wall) .....	Grade 2
Environmental class according to EN50130-5 .....	IIIa
Operating temperature range.....	-40°C...+55°C
Maximum humidity .....	93±3%
IP code.....	IP54
Dimensions .....	44 x 105 x 40 mm
Weight.....	118 g