# abax2

Wireless curtain detector

# ACD-220 EN

Firmware version 1.00
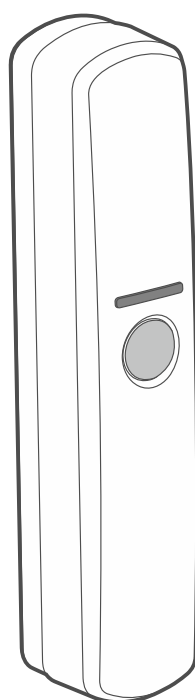
CE

acd-220_en 02/23

## 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.

$C\epsilon$ The device meets the requirements of the applicable EU directives.

The device is designed for indoor installation.

The device must not be disposed of with other municipal waste. It should be disposed of in accordance with the existing rules for environment protection (the device was placed on the market after 13 August 2005).

The device meets the technical regulations of the Eurasian Customs Union.

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:
https://support.satel.pl

**Hereby, SATEL sp. z o.o. declares that the radio equipment type ACD-220 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.pl/ce**

**In the EU, this radio equipment is only permitted to operate in the 868 MHz frequency band.**

The following symbols may be used in this manual:

*i* - note,

⚠ - caution.

## CONTENTS

The ACD-220 detector detects motion in the protected area. Its coverage area is shaped like a curtain which makes it suitable as a component of parameter protection. The detector is designed for operation within the ABAX 2 two-way wireless system. It is supported by:

- ACU-220 / ACU-280 controller with firmware version 6.03 (or newer),
- ARU-200 repeater.

# 1 Features

- Motion detection with passive infrared sensor (PIR).
- Adjustable detection sensitivity.
- Digital motion detection algorithm.
- Digital temperature compensation.
- Custom-designed lens for SATEL's short-range curtain detectors.
- Encrypted two-way radio communication in the 868 MHz /915 MHz frequency band (AES standard).
- Transmission channel diversity – 4 channels for automatic selection of the one that will enable transmission without interference with other signals in the 868 MHz /915 MHz frequency band.
- Remote update of detector firmware.
- Remote configuration.
- Built-in temperature sensor (temperature measurement range from -10°C to +55°C).
- LED indicator.
- Supervision of motion detection system.
- "ECO" option for longer battery life.
- Battery status control.
- Tamper protection against enclosure opening and removal from mounting surface.

# 2 Description

**Radio communication**

The detector connects to the controller 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,
- 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.

**Passive** – only information about tamper alarm is sent immediately. This operating mode extends the battery life.

The detector operating mode is enabled remotely. If the detector is used in the INTEGRA / VERSA / PERFECTA 64 M 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 controller manual.

### Energy saving mode (ECO)

If you want to extend 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. This may provide up to four times longer battery life.

### Test mode

The LED is enabled in the test mode which makes it easier to test the detector. For how to enter and exit the test mode, see the ABAX 2 controller manual.

### LED

The LED will flash for about 5 seconds after the battery is inserted to indicate warm-up of the detector. The LED also works in the test mode, in which it indicates:

- periodical communication – short flash (80 milliseconds),
- alarm – ON 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.

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

## 3 Electronics board

⚠ **Do not remove the electronics board from the enclosure to avoid damage to the components on the board.**
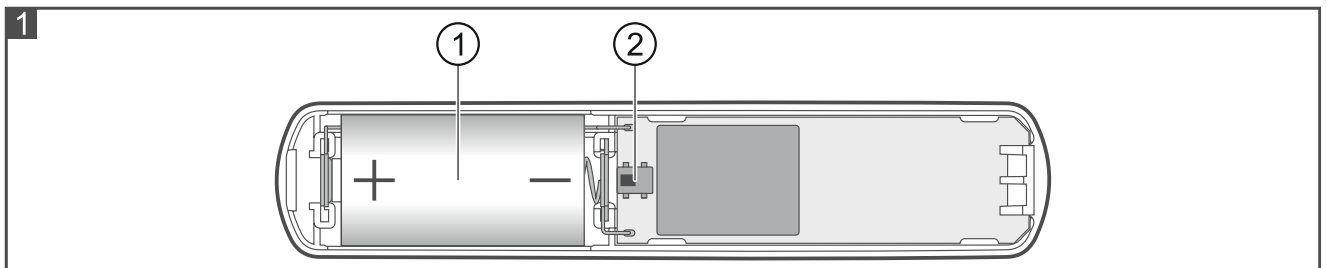


1 CR123A lithium battery.

2 tamper switch.

The PIR sensor (dual element pyrosensor) and the LED are placed on the other side of the electronics board.

# 4  Selecting a mounting location

- Do not install the detector outdoors (A).
- Do not point the detector towards heat sources (B), air conditioners (C) or fans (D).
- Install the detector in a place where the expected direction of the intruder movement will be across the coverage pattern (Fig. 2).
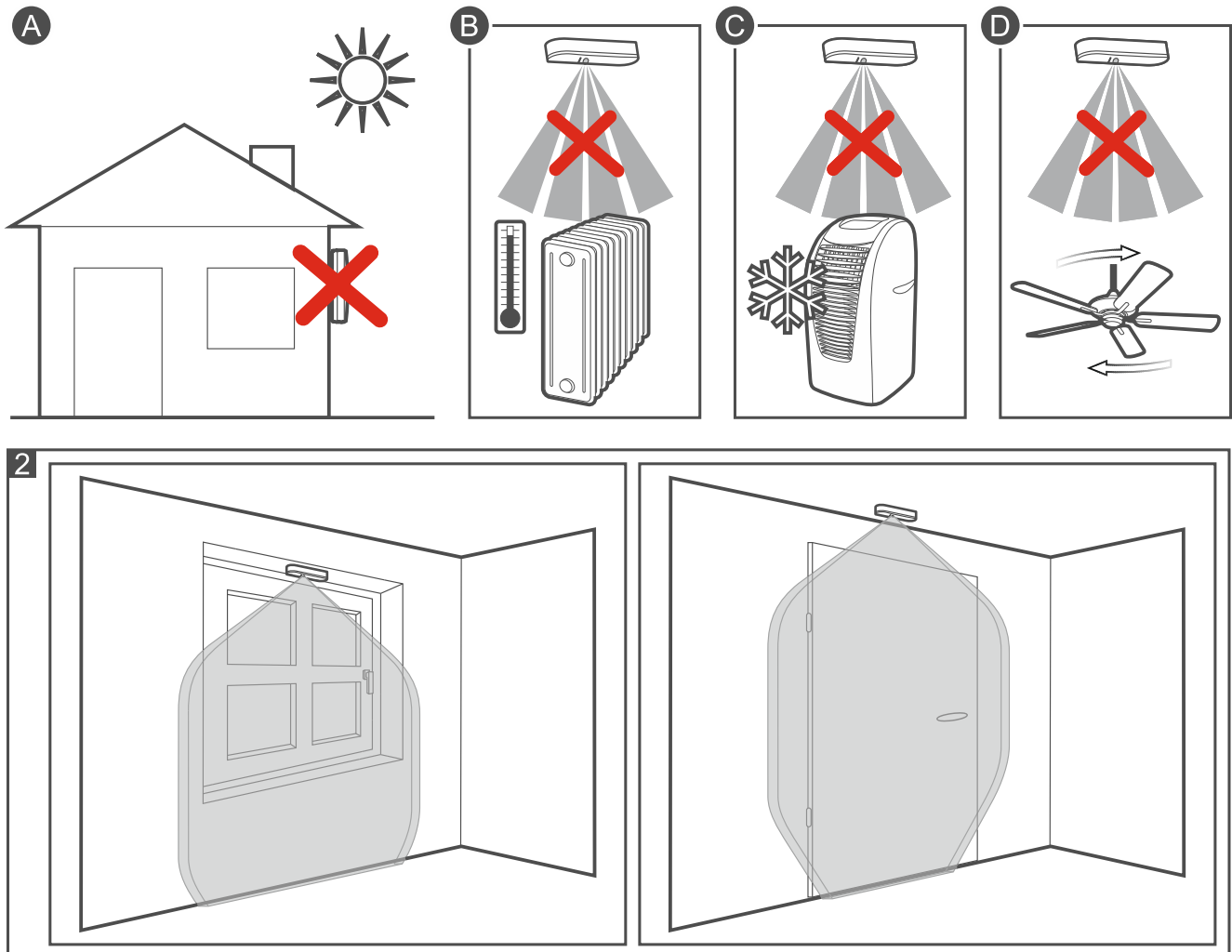




# 5  Installation

**There is a danger of battery explosion when using a different battery than recommended by the manufacturer, or handling the battery improperly. Do not crush the battery, cut it or expose it to high temperatures (throw it into the fire, put it in the oven, etc.).**

**Do not expose the battery to very low pressure due to the risk of battery explosion or leakage of flammable liquid or gas.**

**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 detector cover (Fig. 3). The enclosure opening tool, shown in the illustration, is included in the detector delivery set.
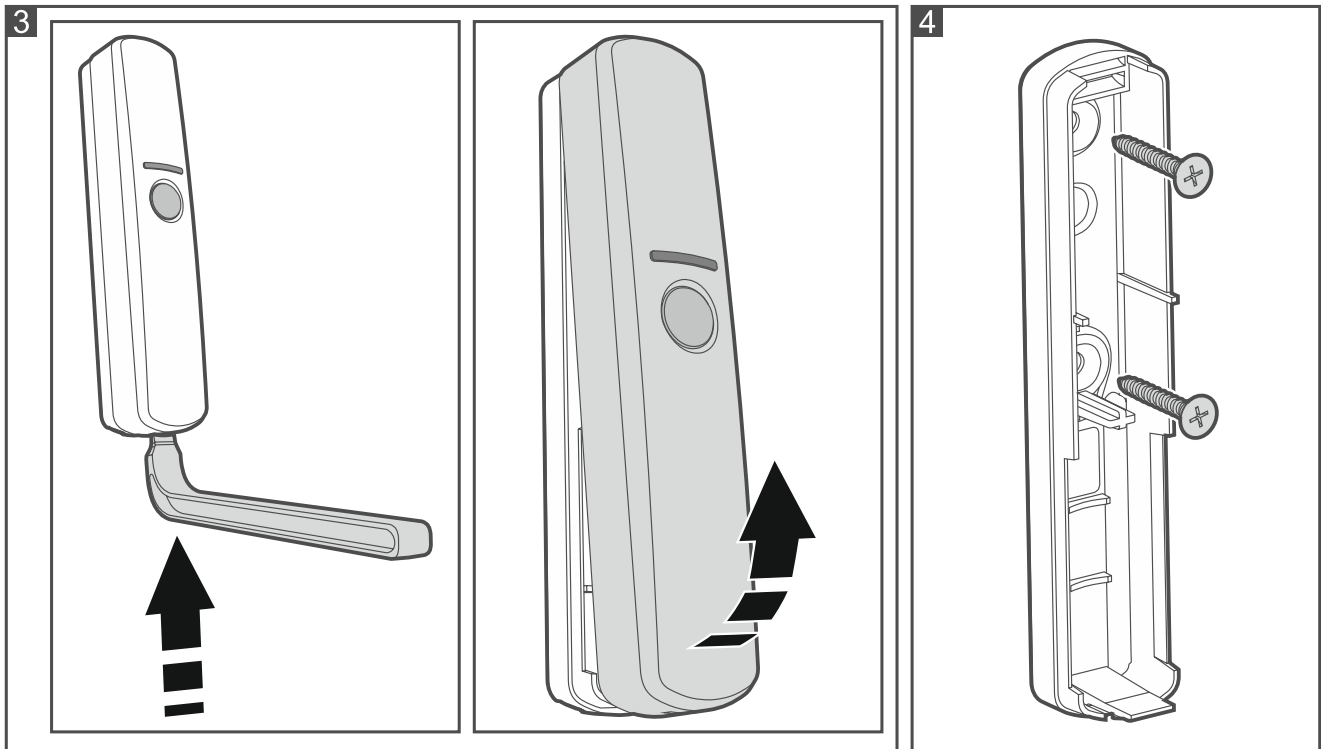


2. Insert the battery and add the detector to the wireless system (see the ABAX 2 controller manual). The sticker with serial number which shall be entered when registering the detector in the system can be found on the electronics board.

*i* *In the VERSA alarm system, you can add and configure the ACD-220 detector only by using the DLOADX program.*

3. Replace the detector cover.

4. Place the detector at its future mounting location.

5. Check the level of signal received from the detector by the ABAX 2 controller. If the signal level is lower than 40%, select another mounting location. Sometimes, it is sufficient to shift the device ten or twenty centimeters.

*i* *You can use the ARF-200 tester to test the radio signal strength at the future mounting location without having the detector physically there.*

6. Remove the detector cover (Fig. 3).

7. Use wall plugs (anchors) and screws to mount the enclosure base to the surface (Fig. 4). The wall plugs delivered with the device are intended for concrete, brick, etc. For other types of surface (drywall, styrofoam), use the appropriately selected wall plugs.

8. Replace the detector cover.

9. Configure the detector settings (sensitivity of IR sensor etc. – see the ABAX 2 controller manual).

10. Enable the test mode (see the ABAX 2 controller manual).

11. Check whether moving around within the detector coverage area will make the LED light up. Fig. 5 shows the maximum coverage area.

12. Exit the test mode.
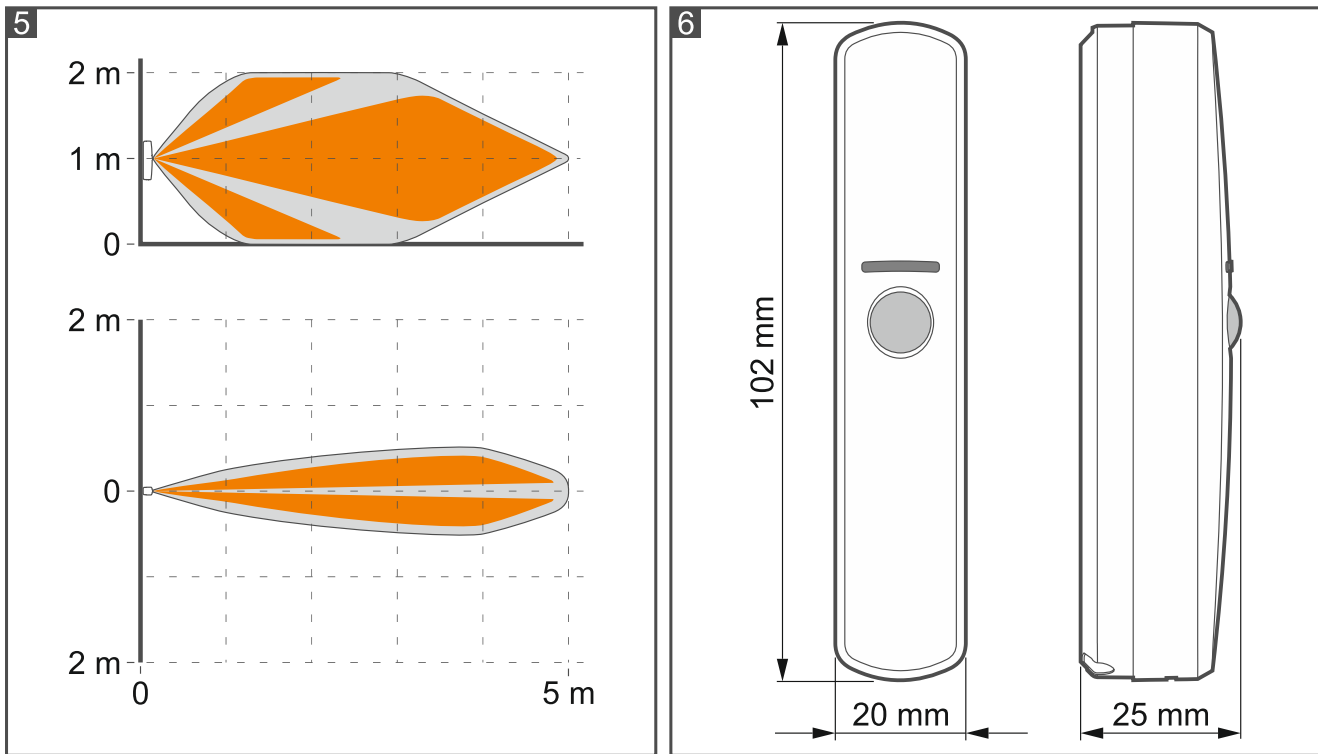
# 6 Specifications

Operating frequency band.................................868,0 MHz ÷ 868,6 MHz / 915 MHz – 928 MHz
Radio communication range (in open area)
    ACU-220 ...................................................................................... up to 2000 m
    ACU-280 ...................................................................................... up to 1200 m
Battery.........................................................................................CR123A 3 V
Battery life expectancy ................................................................ up to 2 years
Temperature measurement range ................................................-10°C...+55°C
Temperature measurement accuracy ..........................................................±1°C
Standby current consumption .................................................................. 70 µA
Maximum current consumption ................................................................15 mA
Detectable speed ............................................................................ 0.3...1 m/s
Warm-up period ...................................................................................... 5 s
Coverage area ........................................................................5 m x 1 m, 15°
Complied with standards.................................................EN 50130-4, EN 50130-5
Environmental class according to EN 50130-5 ....................................................II
Operating temperature range.......................................................-10°C...+55°C
Maximum humidity ...............................................................................93±3%
Dimensions ....................................................................... 20 x 102 x 25 mm
Weight.................................................................................................43 g