

abox2

Wireless outdoor
dusk and temperature detector

ADD-200

Firmware version 1.02

EN



CE

add-200_en 05/24

Satel  [®]

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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.



The device meets the requirements of the applicable EU directives.



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 ADD-200 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:



- note,



- caution.

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The ADD-200 detector detects changes of light intensity (dusk sensor) as well as changes of temperature (temperature sensor). It is designed to work within the ABAX 2 two-way wireless system. The detector is supported by:

- ACU-220 / ACU-280 controller with firmware version 6.02 (or newer),
- ARU-200 repeater.

1 Features

- Dusk sensor:
 - light intensity measurement range from 2 lx to 250 lx,
 - possibility to select one of 16 detection thresholds,
 - immunity to short and accidental changes of light intensity.
- Temperature sensor:
 - temperature measurement range from -30°C to +70°C,
 - programmable temperature threshold.
- Encrypted two-way radio communication in the 868 MHz / 915 MHz frequency band (AES standard).
- Transmission channel diversity – automatic selection of the one of 4 channels that will enable transmission without interference with other signals in the 868 MHz / 915 MHz frequency band.
- Remote update of detector firmware.
- Remote configuration.
- LED indicator.
- *ECO* option for longer battery life.
- Battery status control.
- Weatherproof enclosure of high mechanical strength.

2 Description

The ADD-200 detector occupies two positions of the list of wireless devices (optionally 1 – only the dusk sensor is supported).

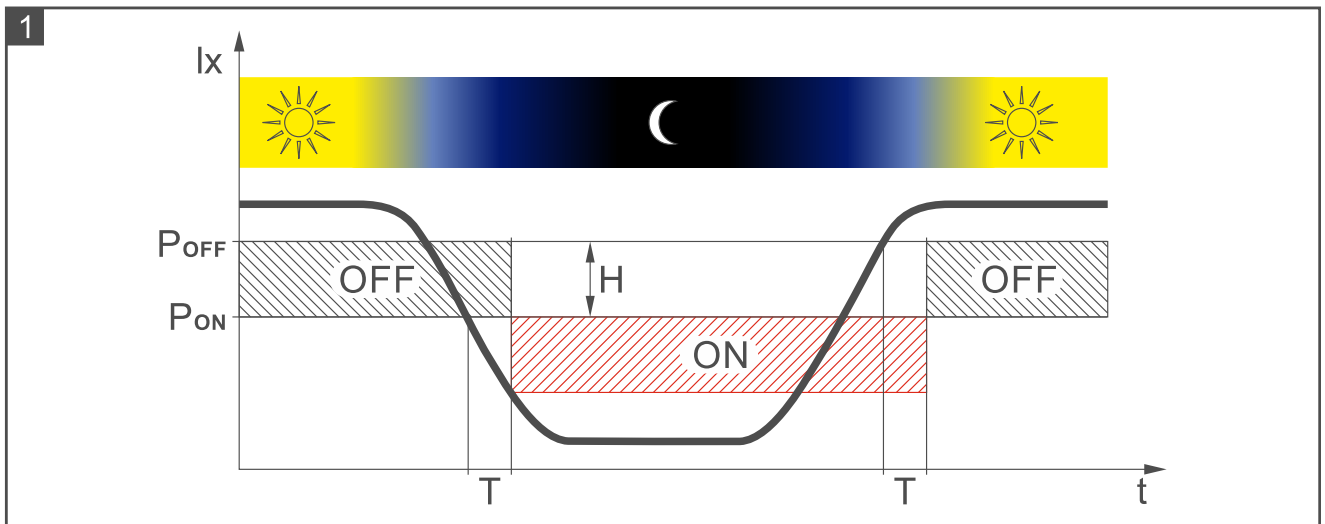
Radio communication

The detector connects to the controller at regular time intervals to provide information about its state (periodical communication). Additional communication will take place when light intensity drops below the threshold / rises back above the threshold.

Dusk sensor

Figure 1 shows operation of the dusk sensor. On the timeline the T time delay is presented (in operating mode T = 3 min, in configuring mode T = 3 s). Illustrated with the letter H light intensity hysteresis and time delay make the sensor immune to short and accidental changes of light intensity. Table 1 presents light intensity values for 16 detection thresholds of the sensor. For description of how to configure the sensor, please refer to the ABAX 2 controller manual.

Information about the light intensity drop below the defined threshold (alarm) and the light intensity restoration above the threshold (alarm restore) is sent instantly.



Detection threshold	Light intensity	
	Turning on [P_{ON}]	Turning off [P_{OFF}]
1	2 lx	3 lx
2	4 lx	5 lx
3	6 lx	8 lx
4	8 lx	10 lx
5	10 lx	13 lx
6	12 lx	15 lx
7	14 lx	18 lx
8	16 lx	20 lx
9	20 lx	25 lx
10	25 lx	31 lx
11	30 lx	38 lx
12	40 lx	50 lx
13	50 lx	63 lx
14	100 lx	125 lx
15	150 lx	188 lx
16	200 lx	250 lx

Table 1

Temperature sensor

You can program one detection threshold: low (L) or high (H). The detector will alert of the threshold being exceeded if the temperature:

- drops below the programmed value in the case of the low (L) threshold,
- rises above the programmed value in the case of the high (H) threshold.

Information about the current temperature and threshold being exceeded is sent during periodical communication.

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. This can significantly increase the battery life.

Test mode

The test mode facilitates testing of the dusk sensor. When in test mode, the sensor will react quicker to changes in light intensity. For how to start and end the test mode, refer to the ABAX 2 controller manual.

LED indicator

The LED indicator is ON for about 5 seconds from inserting the battery to indicate the warm-up of the detector. When in test mode, the LED indicator indicates periodical communication – short flash (80 milliseconds).

Battery status control

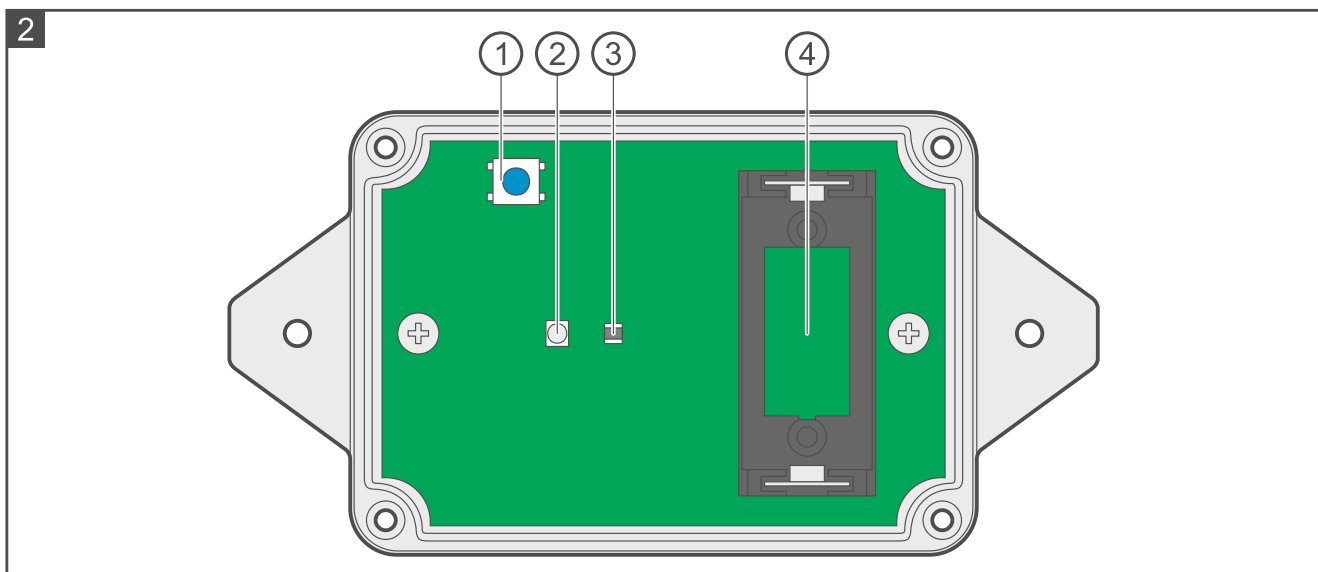
When the battery voltage is below 2.75 V, information about low battery is sent during each transmission.

3 Electronics board



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

Figure 2 shows the inside of the detector after removing the cover.



- ① button to register the detector in the ABAX 2 system.
- ② LED indicator.
- ③ dusk sensor.
- ④ battery holder.

4 Installation



Do not install the detector in places where it will be exposed to direct sunlight. Excessive temperature may e.g. damage the dusk sensor or the battery.

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.

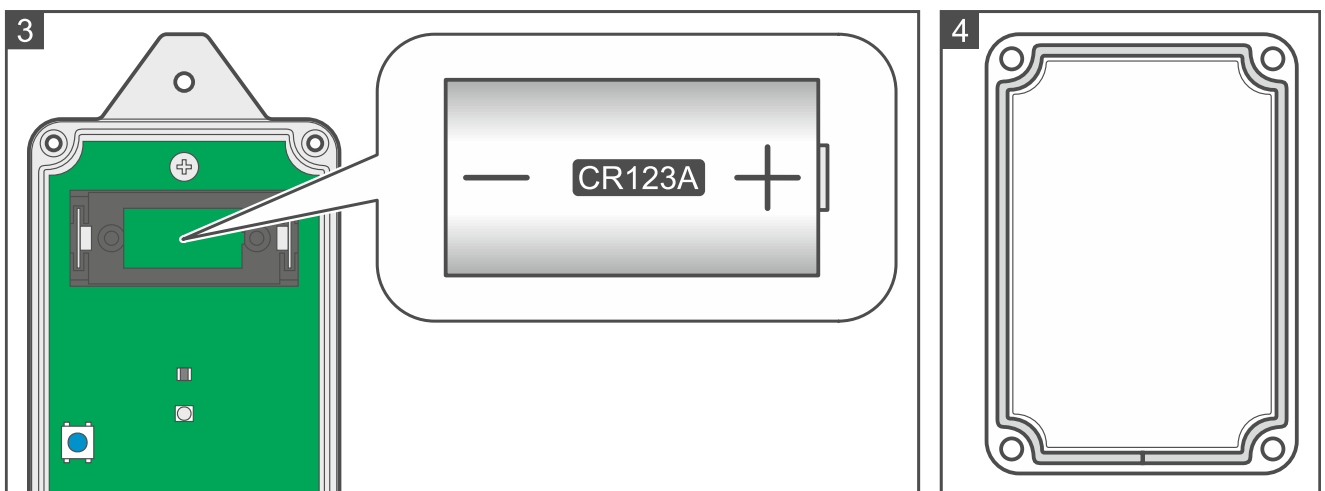
The used batteries must not be discarded, but should be disposed of in accordance with the existing rules for environment protection.

The figures below only show the detector mounted vertically, but it may be mounted in any position (with no effect on its operation).

1. Install the battery (Fig. 3) and add the detector to the wireless system (see ABAX 2 controller manual). The sticker with the serial number required for registration of the detector in the system can be found on the electronics board.



If the ABAX 2 controller is connected to the VERSA series control panel, add and configure the ADD-200 detector in the DLOADX program.



2. Press the gasket into the groove of the enclosure cover. The gasket must fill the entire groove. Both ends of the gasket should meet (Fig. 4). The gasket is longer than the groove. Cut the excess gasket when you have filled the entire groove.



When replacing the cover, make sure the gasket ends are on the bottom.

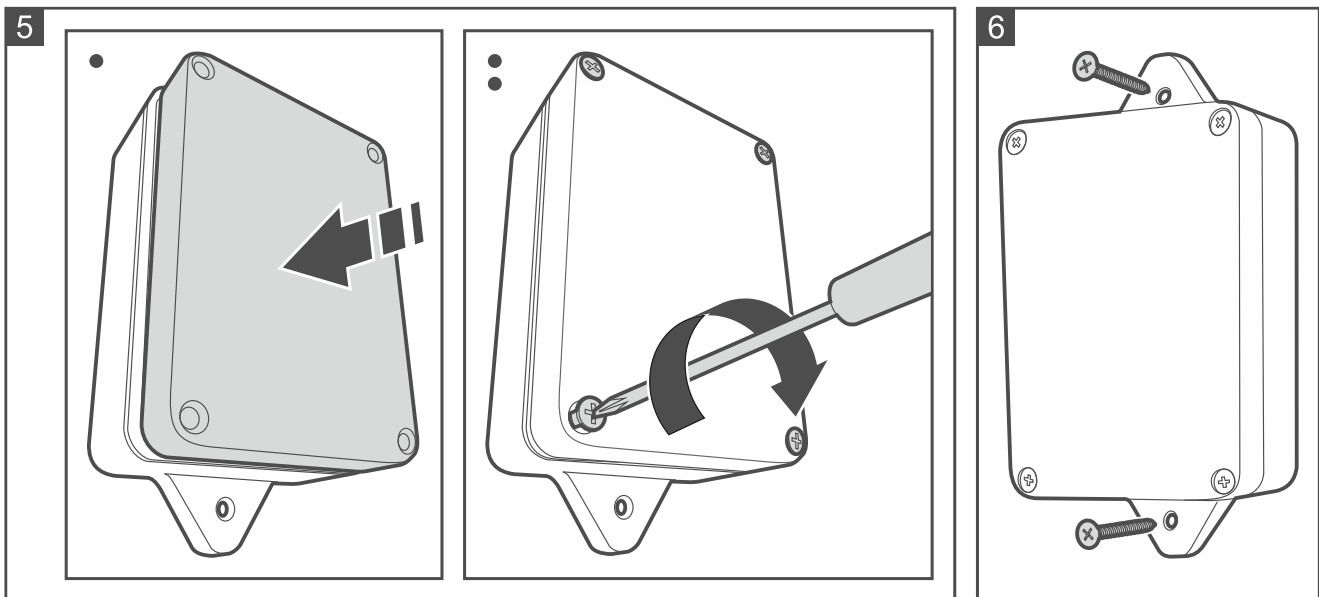
3. Replace the cover and fasten it to the enclosure base with 4 screws (Fig. 5).
4. Place the detector at the location of its future installation.
5. Check the level of signal received from the detector by the ABAX 2 controller. If the signal level is lower than 40%, select another place for installation. Sometimes, it is sufficient to shift the device ten or twenty centimeters.



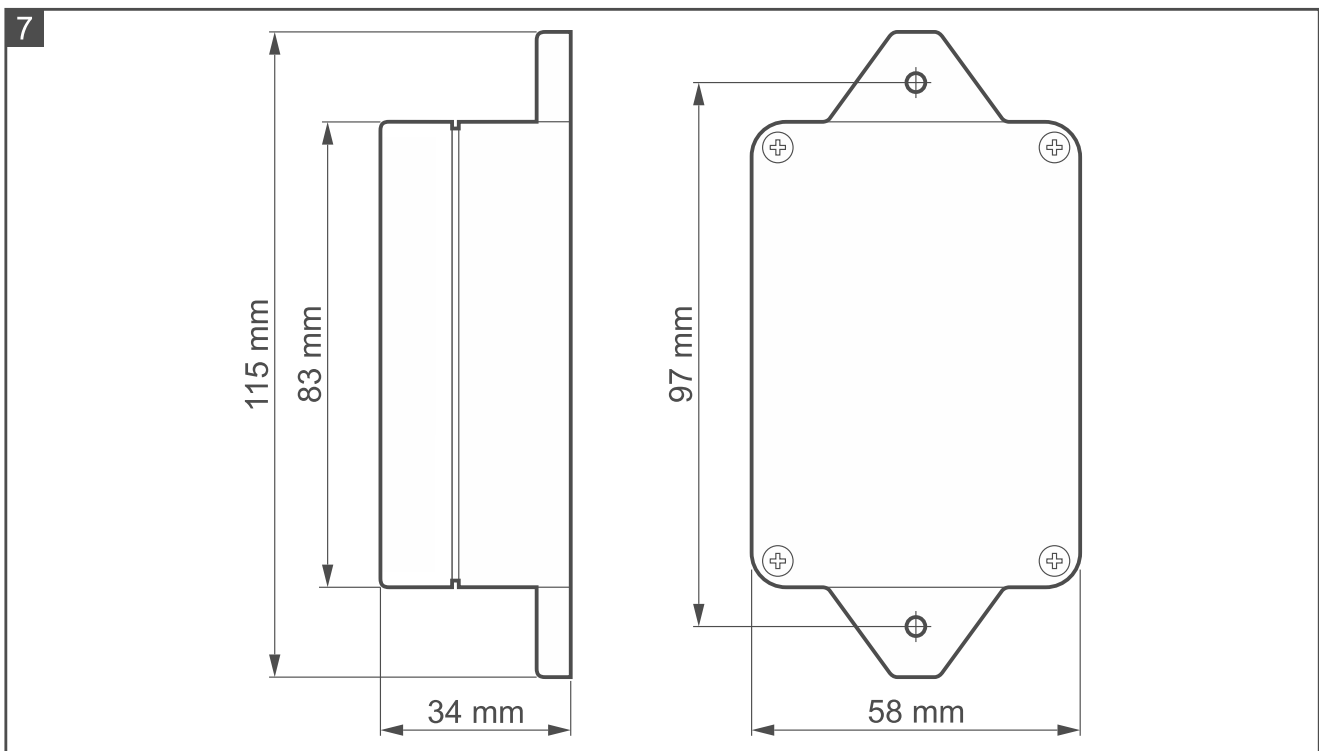
The ARF-200 tester allows you to test the level of radio signal at the location of future installation without having to place the detector on-site.

6. Place the detector against the surface and mark the location of the mounting holes.

7. Drill the holes in the surface for wall plugs (anchors). Select wall plugs specifically intended for the mounting surface (different for concrete or brick wall, different for plaster wall, etc.).
8. Secure the detector to the surface with screws (Fig. 6).



9. Configure the detector settings (sensitivity of dusk sensor [detection threshold], temperature threshold parameters [threshold type: high / low, temperature value and tolerance], etc. – see ABAX 2 controller manual).
10. Start the test mode (see ABAX 2 controller manual).
11. Check whether the dusk sensor works properly. When tested, the entire detector must be covered, e.g. by a cardboard box or a thick and dark piece of fabric.
12. End the test mode.



5 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 1600 m
Battery	CR123A 3 V
Battery life expectancy	up to 2 years
Light intensity measurement range	2 lx...250 lx
Temperature measurement range	-30°C...+70°C
Temperature measurement accuracy	±1°C
Standby current consumption	20 µA
Maximum current consumption	12 mA
Warm-up period	5 s
Environmental class according to EN 50130-5	III
Operating temperature range.....	-20°C...+55°C
Maximum humidity	93±3%
IP code.....	IP65
Dimensions	58 x 115 x 34 mm
Weight.....	95 g