

IMPORTANT

The device should be installed by qualified personnel.

Prior to installation, please read carefully this manual in order to avoid mistakes that can lead to malfunction or even damage to the equipment.

Disconnect power before making any electrical connections.

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.

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Hereby, SATEL sp. z o.o. declares that the radio equipment type ACX-210 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

The following symbols may be used in this manual:



- note,



- caution.

The ACX-210 expander enables hardwired devices (detectors, sirens, etc.) to be used in a wireless system. The expander is designed for use as part of the ABAX 2 / ABAX two-way wireless system. This manual applies to the expander 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).

The expander takes up 4 positions on the list of wireless devices (in the case of the ACU-220 controller, in the mode of the universal module of wireless devices, the expander can occupy from 1 to 4 positions on the list of wireless devices).

1. Features

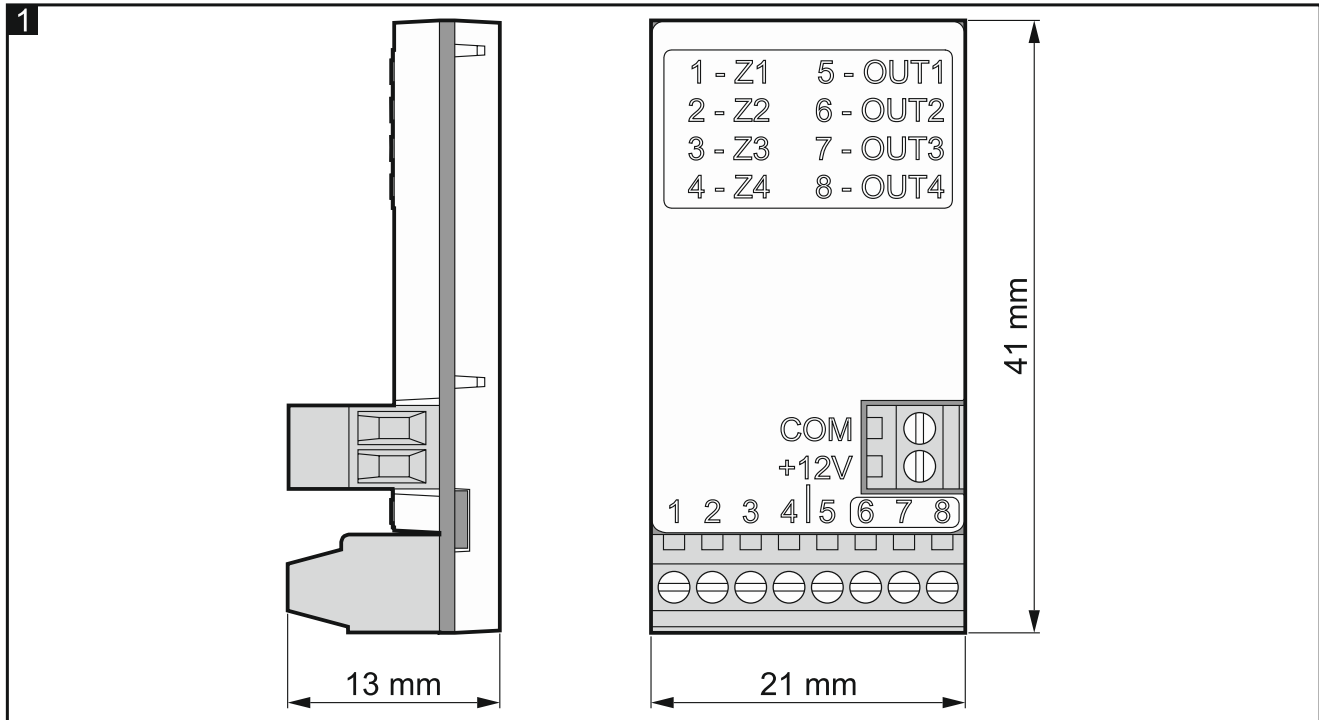
- 4 programmable hardwired zones:
 - support for NO and NC type detectors,
 - support for Single EOL and Double EOL configuration.
- 4 programmable hardwired outputs (OC type).
- Encrypted two-way radio communication in the 868 MHz frequency band (AES standard for the ABAX 2 system).
- Transmission channel 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 expander firmware (ABAX 2 system only).
- Remote configuration.
- Mini size for installation inside another device enclosure.

2. Specifications

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 1400 m
ABAX.....	up to 500 m
Supply voltage	4...24 V DC
Standby current consumption	30 mA
Maximum current consumption.....	35 mA
OC type outputs.....	50 mA / 12 V DC
Complied with standards..EN 50130-4, EN 50130-5, EN 50131-1, EN 50131-3, EN 50131-5-3	
Security grade according to EN50131-3	Grade 2
Environmental class according to EN50130-5	II

Operating temperature range	-10°C...+55°C
Maximum humidity	93±3%
Dimensions	21 x 41 x 13 mm
Weight.....	10 g

3. Module description



Terminals

- COM** - common ground.
+12V - power input.
1...4 - zone (Z1...Z4).
5...6 - OC type output (OUT1...OUT4) (shorted to common ground when in active state).

4. Installation



Disconnect power before making any electrical connections.

The ACX-210 expander should be installed indoors, in spaces with normal air humidity. Remember that thick walls, metal partitions, etc. will reduce the range of the radio signal. It is recommended that the expander be mounted high above the floor. This will allow you to get a better range of radio communication and avoid the risk of the expander being accidentally covered by people moving around the premises. Installing the device in close vicinity of electrical systems is not recommended, since it can adversely affect the range of radio signal. Because of its mini size, the expander can be installed e.g. in a detector enclosure.

The expander may be powered directly from the control panel, from an expander with power supply, or from a power supply unit with current limitation up to 3 A.

The following tools will be useful during installation:

- blade screwdriver 1.8 mm,

- precision pliers,
 - double-sided mounting tape.
1. Connect the temporary power supply (4...24 V DC) to the expander.
 2. Add the expander 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 expander in the system can be found on the device enclosure.



In the INTEGRA / VERSA alarm system, the expander is identified as ACX-200.

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

3. If the expander is to be installed in the enclosure of another device (e.g. a detector), put the expander into that enclosure.
4. Place the expander / device in the enclosure of which the expander is mounted at the location where it is to be installed.
5. Check the level of signal received from the expander 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. You can also try to turn the expander around to check what effect the change in antenna position will have on the signal strength level.



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

6. Disconnect the temporary power supply.
7. If the expander is to be mounted inside another device enclosure, run a bunch of wires into the enclosure so as to make connections referred to in steps 8 to 10.
8. Connect detectors to the expander zones. For the EOL configuration, use a 2.2 k Ω resistor, and for the 2EOL configuration – two 1.1 k Ω resistors.
9. Connect the devices to the expander outputs.



Given the specific character of radio communication, it is not recommended that the expander be used in applications where quick switchover of the output status is expected.

10. Connect the power leads to the +12V and COM terminals (use flexible conductors with a cross-section of 0.5-0.75 mm²).



Do not use the battery to power the expander.

11. Fasten the expander to the mounting surface or, if it is to be installed in the enclosure of another device, put the expander inside that enclosure. To install the expander, you can use a double-sided mounting tape.
12. Power up the expander.
13. Configure the expander settings (refer to ABAX 2 / ABAX controller manual or INTEGRA / VERSA series control panels programming manual).



Taking into account the requirements of EN50131-3 standard, enter 400 ms when configuring the sensitivity of alarm zones.

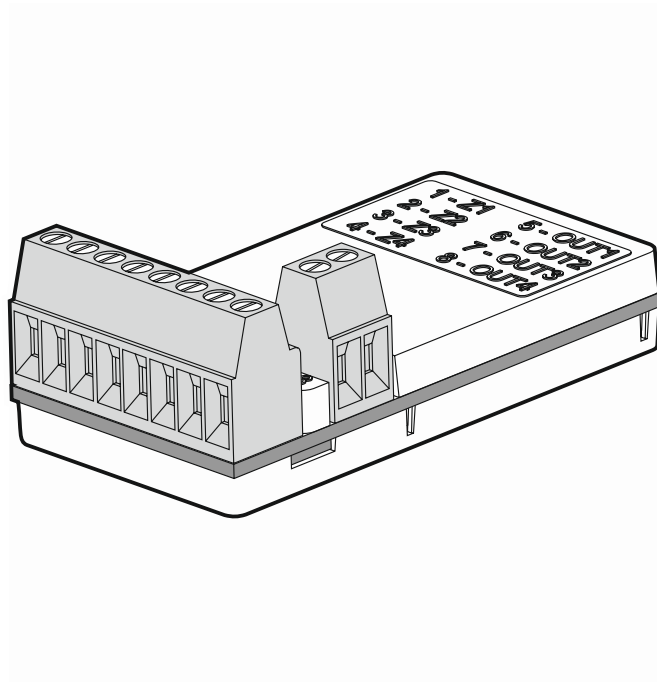
Satel®

abox2

ACX-210

Miniature hardwired zone / output expander

CE



Firmware version 1.00

acx-210_en 03/19

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