Satel®

ACX-201

HARDWIRED ZONE / OUTPUT EXPANDER WITH POWER SUPPLY

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The 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 two-way wireless system. It is supported by:

- ACU-100 (firmware version 1.06 or newer) / ACU-250 / ACU-120 / ACU-270 controller,
- ARU-100 repeater,
- INTEGRA 128-WRL control panel.

The expander occupies 4 positions on the list of supported 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 (relay).
- 2 power supply outputs.
- NC type tamper input.
- Remote configuration.
- Switching power supply provided with a battery status supervision and low battery disconnect system.

2. Specifications

Operating frequency band	868,0 MHz ÷ 868,6 MHz
Radio communication range (in open area)	up to 500 m
Supply voltage	18 V AC ±10%
Standby current consumption from AC mains	60 mA
Maximum current consumption from AC mains	250 mA
Standby current consumption from battery	75 mA
Maximum current consumption from battery	150 mA
Battery failure voltage threshold	11 V ±10%
Battery cut-off voltage	10.5 V ±10%
Battery charging current	350 mA
Power supply output current	1.2 A
Power supply output voltage	12 V DC ±15%
Power supply output voltage range	10.5 V…14 V DC
AUX1 output	500 mA / 12 V DC
AUX2 output	500 mA / 12 V DC

Relay contacts rating (resistive load)... 1000 mA / 24 VDC
Environmental class according to EN50130-5 II
Operating temperature range .... -10 °C...+55 °C
Maximum humidity... 93±3%
Electronics board dimensions.. 147 x 70 mm
Weight .... 130 g
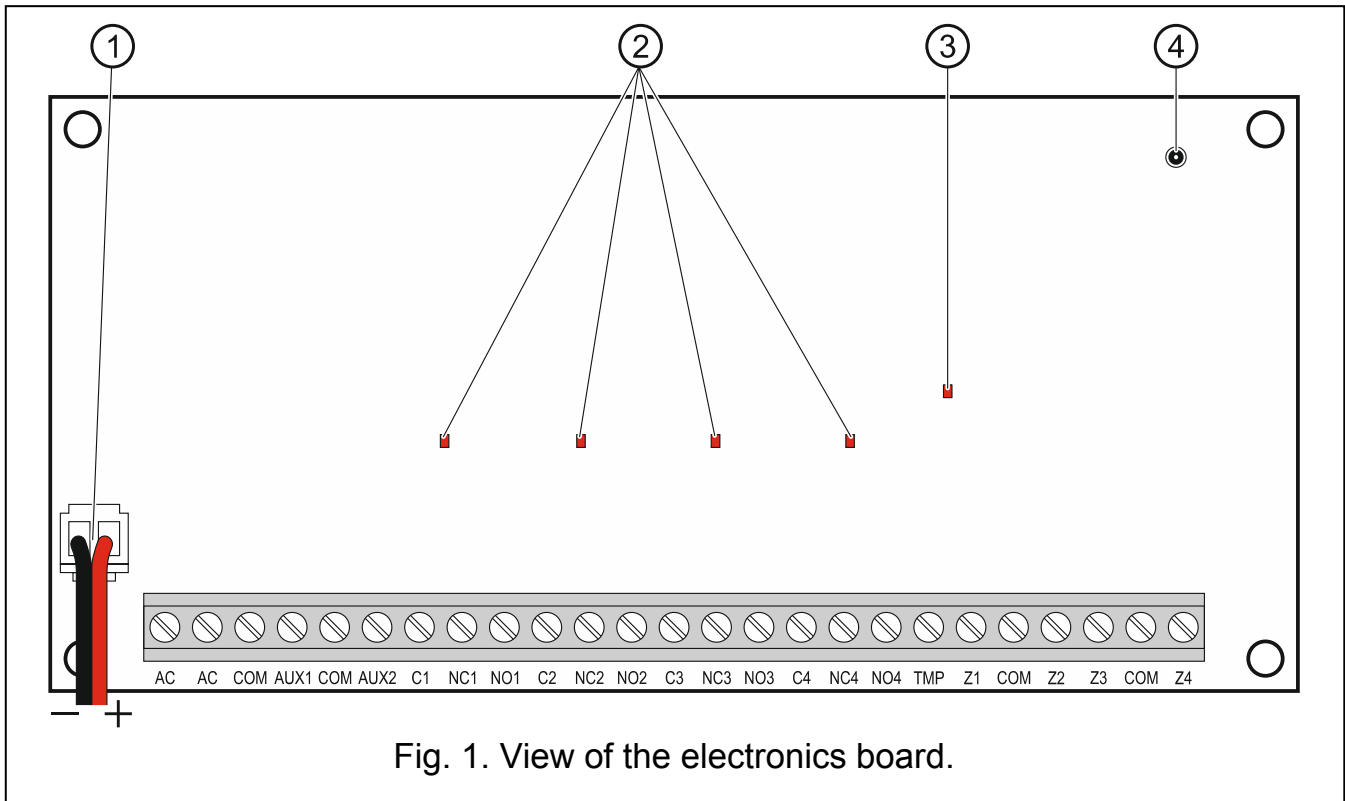
3. Electronics board

Fig. 1. View of the electronics board.

Explanations to Fig. 1:

① battery connection cables (red +, black -).

② LEDs indicating the status of the relay outputs:

   OFF – output inactive,

   ON – output active.

③ LED indicator of expander being polled (short flash).

④ external antenna socket.

Description of terminals:

AC   -   18 V AC power input.
COM   -   common ground.
AUX1, AUX2 -   +12 V DC power output.
C1...C4   -   relay output common contact.
NC1...NC8   -   relay output normally closed contact.
NO1...NO8   -   relay output normally open contact.

TMP   -   tamper input (NC) – if not used, it should be shorted to the common ground.

Z1…Z4   -   zone.

4. Installation

⚠️ | **Disconnect power before making any electrical connections.**
   |
   | **Never connect two devices with power supply unit to one transformer.**
   |
   | **Before connecting transformer to a circuit from which it will be powered, make sure the circuit is de-energized.**

The device is designed for indoor installation. 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.

The expander requires 18 V AC (±10%) supply voltage. The expander feeding transformer must be permanently connected to the 230 V AC mains. At the place of installation, an alternating current circuit that will be always alive must be available. This circuit should be protected by a suitable safety device. Instruct the owner or user of the alarm system on how the transformer should be disconnected from the mains (e.g., indicate the fuse protecting the power circuit).

1. Use the ARF-100 tester to make sure that the radio signal level is adequate at the location where the ACX-201 expander is to be installed. 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.

2. Place the enclosure base against the wall and mark location of the mounting holes.

3. Drill the holes in the wall for wall plugs (screw anchors).

4. Run the wires through the opening in the enclosure base (power wires, cables connecting wired devices with the expander, etc.).

5. Using wall plugs (screw anchors) and screws, secure the enclosure base to the wall.

6. Mount the expander board in the enclosure.

7. Secure the antenna and connect it to the socket on the electronics board.

8. Connect detectors to the expander zones. For the EOL configuration, use a 2.2 kΩ resistor, and for the 2EOL configuration – two 1.1 kΩ resistors.

9. If the expander is to supervise the enclosure tamper switch, connect the wires of tamper switch to the TMP and COM terminals. If the expander is not to supervise the enclosure tamper switch, connect the TMP terminal to the expander COM terminal.

10. Connect the devices to the expander outputs.

Note: *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.*

11. Connect the 230 V AC wires to the terminals of transformer primary winding.

12. Connect the terminals of transformer secondary winding to the expander AC terminals.

13. Connect the battery to the dedicated leads (positive terminal to RED lead, negative terminal to BLACK lead). **The expander will not start after connecting the battery alone.**

14. Turn on 230 V AC power supply in the circuit to which the transformer is connected. The expander will start-up.

Notes:

- *The described power-up sequence (first the battery, then the 230 V AC mains) will ensure proper operation of the power supply unit and the electronic protection circuits.*

- *If it is necessary to power off the device, turn off the 230 V AC supply first, and disconnect the battery afterwards. To turn the power back on, proceed in the reverse order.*

15. Add the expander to the wireless system (see the ACU-100 / ACU-250 / ACU-120 / ACU-270 controller manual or the INTEGRA 128-WRL / VERSA / VERSA Plus control panel installer manual). The sticker with 7-digit serial number which shall be entered when registering the expander in the system can be found on the electronics board.

16. Replace the cover.

17. Configure the expander settings (refer to ACU-100 / ACU-250 / ACU-120 / ACU-270 controller manual or INTEGRA / VERSA / VERSA Plus control panel programming manual).

Hereby, SATEL sp. z o.o., declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The declaration of conformity may be consulted at www.satel.eu/ce

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