Satel®

CE 1471①

ARU-100

RADIO SIGNAL REPEATER

The ARU-100 repeater is designed to work as part of the ABAX two-way wireless system. It receives transmissions from wireless devices and sends them to the controller of ABAX wireless system. The repeater is supported by:

- ACU-120 / ACU-270 controller,
- ACU-100 / ACU-250 controller with firmware version 4.03 (or newer),

provided that the controller is connected to the INTEGRA or INTEGRA Plus control panel.

This manual applies to the repeater with electronics version 1.6 (or newer) and firmware version 2.02 (or newer).

Notes:

- *The ABAX system of the INTEGRA 128-WRL control panel does not support the ARU-100 radio signal repeater (the repeater can be supported by the ACU-100 / ACU-250 / ACU-120 / ACU-270 controller connected to this control panel).*

- *In the case of the ACU-100 controller being used with a control panel other than the INTEGRA or INTEGRA Plus (e.g. with the VERSA control panel), the ARU-100 repeater will be supported, provided that the controller is suitably configured using the DLOAD10 program.*

1. Features

- Retransmission of signals from 46 wireless devices.
- LED indicator of the repeater status.
- Tamper protection against cover removal.
- Powered with 230 V AC.
- Backup battery.
- Switching power supply with short-circuit protection, provided with a battery status supervision and low battery disconnect system.

2. Specifications

Supply voltage	230 V AC ±15%, 50-60 Hz
Standby current consumption	7 mA
Maximum current consumption	55 mA
Battery	lithium-ion 3.7 V / 1.8 Ah
Operating frequency band	868.0 MHz ÷ 868.6 MHz
Radio communication range (in open area)	up to 500 m
Environmental class according to EN50130-5	II
Working temperature range	-10...+55 °C
Maximum humidity	93±3%
Electronics board dimensions	87 x 104 mm

Enclosure dimensions .... 126 x 158 x 32 mm
Weight..248 g
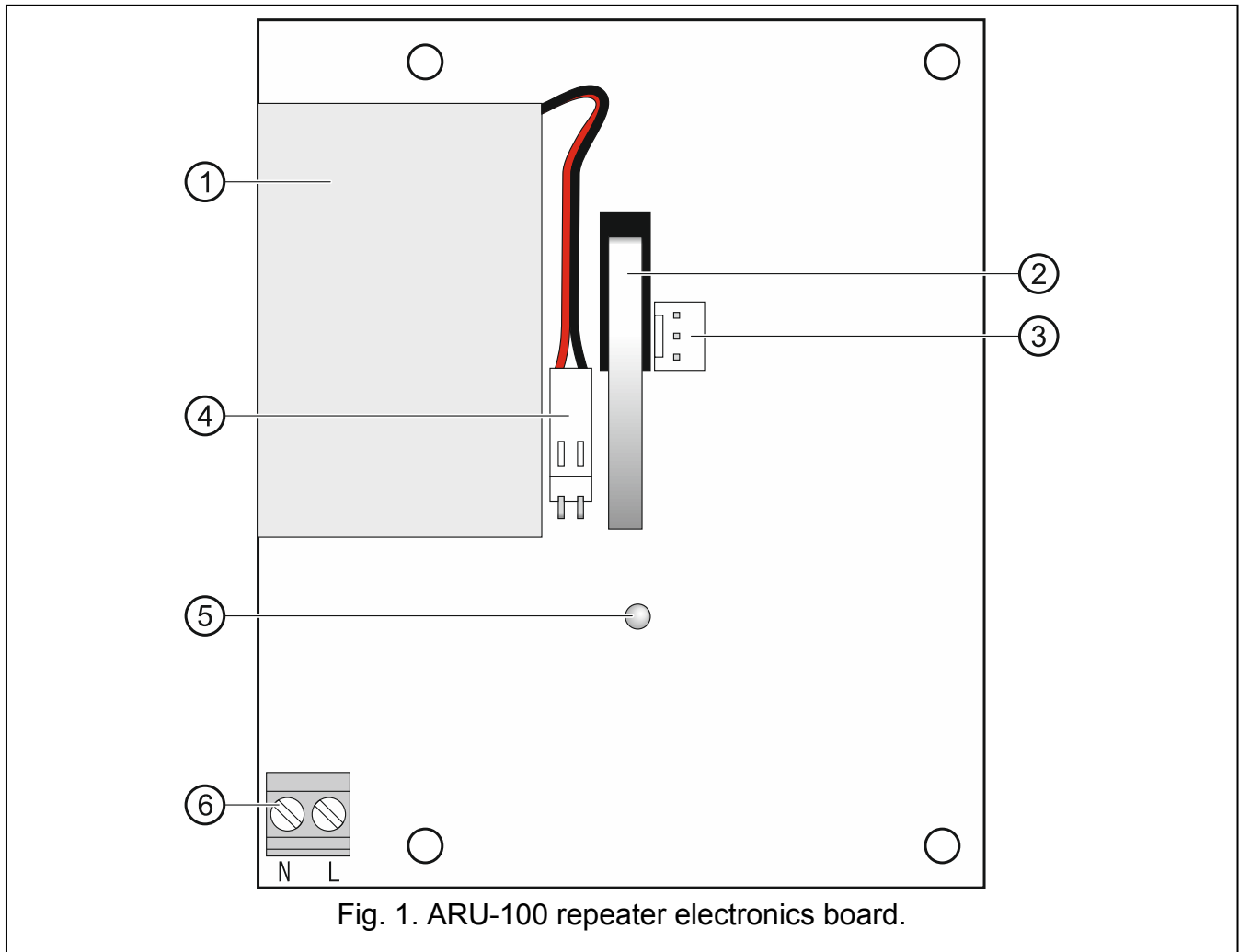
3. Electronics board

Fig. 1. ARU-100 repeater electronics board.

①   battery.

> ⚠   **The used batteries must not be discarded, but should be disposed of in accordance with the existing rules for environment protection.**
>
> **Improper handling of the battery may cause a risk of its explosion.**

②   tamper contact (NC).

③   RS-232 (TTL) port.

④   battery connector.

⑤   bicolor LED indicator:

–   steady green light – normal operation;

–   red flash when steadily lit in green – the repeater being polled;

–   blinking green – synchronization underway.

⑥   230 V AC terminals.

4. Installation and start-up

⚠️ | **Disconnect power before making any electrical connections.**

The repeater should be installed indoors, in spaces with normal air humidity. Prior to installation you should plan the arrangement of all ABAX system wireless devices, whose signals are to be retransmitted. Location of the repeater installation should be selected so that these devices are within the repeater operating range and, at the same time, that the repeater is within the ACU-100 / ACU-250 / ACU-120 / ACU-270 controller operating range. The radio communication range depends not only on the installation location, but also on the position of repeater antenna, i.e. on how the enclosure is mounted (horizontally, vertically, diagonally). Please note that thick walls, metal partitions, etc. will reduce the range of the radio signal. It is recommended that the repeater be mounted high above the floor. This will allow you to get a better range of radio communication and avoid the risk of the repeater being accidentally covered by people moving around the premises. Mounting the repeater near electrical installations is not advisable, as this may cause malfunction of the device.

An unswitched 230 V AC supply must be available at the repeater installation place. The power supply circuit should be protected with a proper safety device. The owner or user of the alarm system should be instructed on how to disconnect the device from the mains (e.g. by indicating the circuit breaker which protects the repeater supply circuit).

1. Place the repeater at the location of intended installation.
2. Remove the cover locking screws and take off the cover.
3. Temporarily connect the repeater to 230 V AC mains (L terminal – phase wire; N terminal – neutral wire). The power circuit must be de-energized.
4. Energize the circuit to which the repeater is connected.
5. Add the repeater to the ABAX system (see the ACU-100 / ACU-250 / ACU-120 / ACU-270 controller manual). The repeater will take up two positions on the list of devices.
6. Replace the cover back.
7. Check the level of signal received from the repeater by the ABAX system controller. If it is lower than 40%, select another installation location. You can also try to turn the enclosure to check the effect the change in antenna position will have on the signal level.
8. Having checked that the selected location and manner of enclosure installation will ensure the optimum level of radio signal, de-energize the power circuit, remove the cover and disconnect the power wires.
9. Place the enclosure base against the wall and mark the location of mounting holes.
10. Drill the holes for wall plugs (screw anchors).
11. Make an opening for power wires in the enclosure base.
12. Run the power wires through the opening made.
13. Using wall plugs (screw anchors) and screws, fasten the enclosure base to the wall.
14. Attach the power wires to the corresponding screw terminals: the phase wire to L terminal, the neutral wire to N terminal (secure the cable using the element specially provided for this purpose – see Fig. 2).
15. Connect the battery to the socket (the repeater will not start on connecting the battery alone).
16. Replace the cover and lock it with screws.
17. Energize the circuit to which the repeater is connected.
18. Using the keypad connected to the alarm control panel or the DLOADX program define which wireless devices are to communicate with the controller via the repeater (for

programming related information please refer to the ACU-100 / ACU-250 / ACU-120 / ACU-270 manual).

i | *Due to the nature of communication, there can be some delays in the transmission of information between detectors, repeater and controller in the system. In order to minimize the delays and speed up the communication, you can set the detectors permanently in the active state, that is, one in which the detectors will report each alarm immediately. Detectors which are violated occasionally can be set in this manner, because battery life will not be affected in their case.*
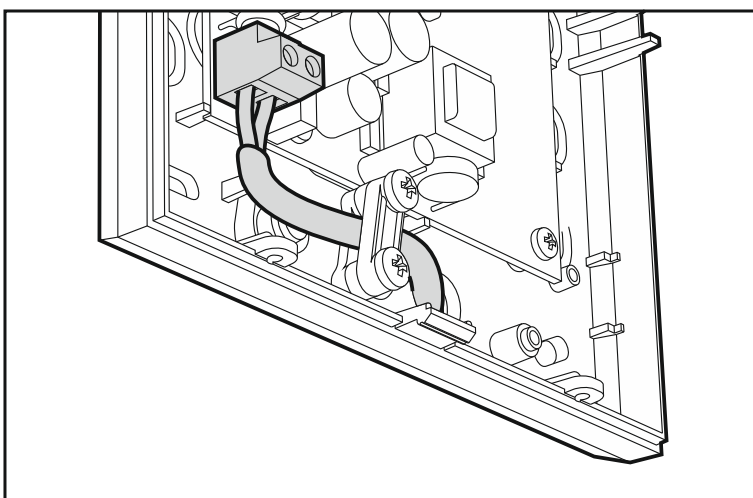

Fig. 2. Connecting the power wires.