Satel®

abax2

ARF-200

Radio signal level tester

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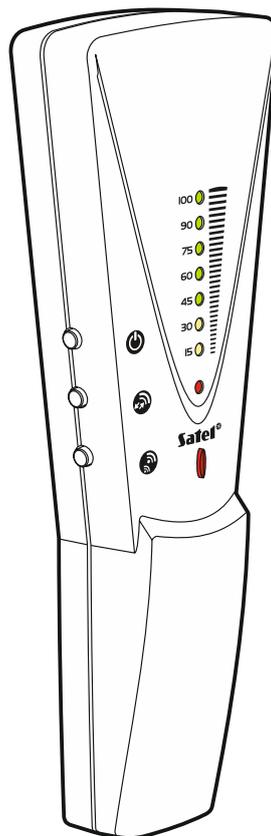
IMPORTANT

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.

CE 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).

EAC 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 ARF-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:

i - note,

⚠ - caution.

CONTENTS

The ARF-200 tester allows you to check the level of radio signal received and transmitted by ABAX 2 system wireless devices. It also allows you to check the level of radio noise in the frequency band used by ABAX 2 devices. You can perform the radio noise test in buildings where the wireless system is yet to be installed.

The tester is supported by:

- ACU-220 / ACU-280 controller,
- ARU-200 repeater.

1 Features

- Possibility to check the radio signal level at the location of ABAX 2 device installation.
- Two operating modes used to check the level of signal:
  - received by the tester from the controller,
  - received by the controller from the tester.
- Possibility to check the radio noise level in 4 channels of the ABAX 2 system.
- LED indicator of the radio signal level.
- LEDs to indicate the operating mode.
- Built-in piezoelectric transducer for acoustic signaling.
- Built-in non-removable rechargeable battery.
- Battery status control.

2 Description

If you register the ARF-200 tester in the wireless system, it will occupy one position on the device list.
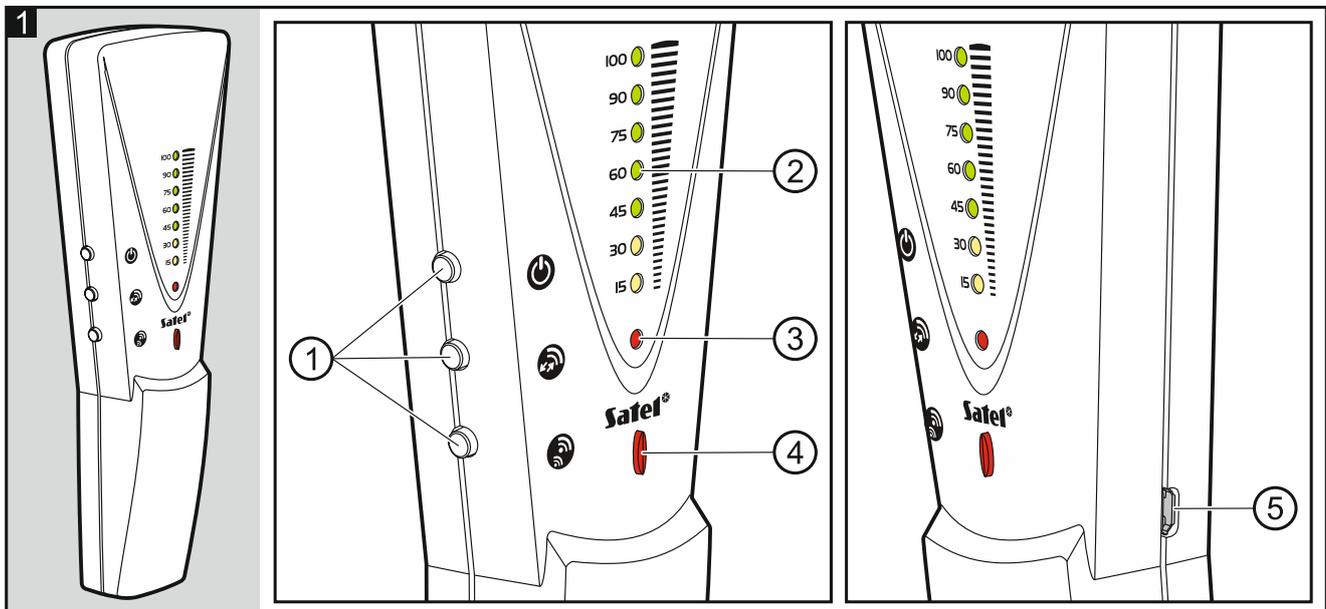
① buttons:

 – switches the tester ON / OFF (the tester goes to standby when switched off).

 – changes the tester operating mode.

 – starts the radio noise test / changes the refresh rate of the tester indicator.

② radio signal / radio noise level indicator. It consists of 7 LEDs: 2 yellow and 5 green. The radio signal / radio noise level is expressed as a percentage.

i | *The battery needs to be charged when all the indicator LEDs are flashing.*

③ red LED to indicate:

ON   – the indicator shows the level of radio signal received by the tester from the controller,

flashing   – the indicator shows the level of radio signal received by the controller from the tester.

④ red LED to indicate:

ON   – testing of the radio noise level is disabled,

flashing   – testing of the radio noise level is in progress. The number of flashes corresponds to the number of the channel in which the noise level is being tested.

When the tester is turned off and the charger is connected, the LED indicates:

ON   – battery fully charged,

flashing   – battery charging.

⑤ type-B micro-USB port for connecting the charger or the computer.

3 Operation

3.1 Start-up

Press and hold the ⏻ button for about 3 seconds. Both red LEDs will turn on, 4 short beeps followed by 1 long beep will be generated.

3.2 Testing the radio signal level

Use one of the following methods to test the radio signal level.

Tester is registered in the wireless system

1. Add the tester to the wireless system (see ABAX 2 controller manual). The serial number of each tester is 0000500. After it has been added to the system, the tester will automatically select the best radio channel for communication (the ABAX 2 system uses 4 channels in the 868 MHz / 915 MHz frequency band).

i | *The tester will be identified as ARF-100 in the INTEGRA / VERSA alarm system.*

Only one tester can work within the wireless system.

When testing of the radio noise level is in progress, you can switch the radio channels used by the tester.

2. Start the test mode in the controller.
3. Place the tester at the location of future installation of an ABAX 2 device.
4. Check the level of radio signal received by the tester from the controller and the level of signal received by the controller from the tester (see "Changing the operating mode"). If the signal level is lower than 40%, place the tester at a different location and repeat the test. An ABAX 2 device may only be installed at a location where signal level is higher than 40%.

Tester is not registered in the wireless system

i *The following testing method is available for the ACU-220 / ACU-280 controller with firmware version 6.05 (or newer).*

1. In the ABAX 2 controller, set the DIP-switch 7 in ON position to enable the support of the unregistered tester.
2. Place the tester at the location of future installation of an ABAX 2 device.
3. Check the level of radio signal received by the tester from the controller and the level of signal received by the controller from the tester (see "Changing the operating mode"). If the signal level is lower than 40%, place the tester at a different location and repeat the test. An ABAX 2 device may only be installed at a location where signal level is higher than 40%.

Changing the operating mode

After the tester has been added to the ABAX 2 wireless system, the tester indicator will show the level of radio signal received by the tester from the controller. If you want the indicator to show the level of radio signal received by the controller from the tester, press the 🛜 button. The current operating mode is indicated by the LED marked with ③ in Fig. 1.

Changing the refresh rate of the tester indicator

After it has been added to the ABAX 2 wireless system, the tester will connect to the controller during periodical communication and it is then the tester indicator is refreshed. Acoustic signaling occurs whenever the indicator is refreshed. If you want the indicator to be refreshed every 2 seconds, press and hold the 🛜 button. After about 3 seconds, for as long as you hold the button, the indicator will be refreshed every 2 seconds.

Acoustic signaling will differ depending on the refresh rate of the indicator (frequency of communication with the controller):

1 short beep – refresh rate of the indicator depends on the frequency of periodical communication,

2 short beeps – indicator is refreshed every 2 seconds (communication with the controller occurs every 2 seconds).

3.3 Testing the level of radio noise

The tester allows you to check whether there are any radio devices that cause interference in the frequency band used by ABAX 2 devices. Radio interference may result in temporary loss of communication and increased battery consumption in wireless devices.

In order to start the radio noise test, press the 🛜 button. The LED marked with ④ in Fig. 1 will start flashing. The number of flashes corresponds to the number of the radio channel in which the noise level is being tested (for channel 1 – 1 flash every 2 seconds, etc.). When the radio noise test is in progress, keep pressing the button to change the channels. When channel 4 is selected, pressing the button will end the radio noise test.

i *You can check the level of radio noise without adding the tester to the controller.*

If the tester has been registered in the controller:

– *the level of radio noise and the level of radio signal are presented in turns by the LED indicator (whenever the radio signal level indicator is refreshed, acoustic signaling occurs),*

– *changing the channel applies also to communication with the controller.*

3.4 Switching off the tester

Press and hold the ⏻ button for about 3 seconds. 3 short beeps will be generated.

i | *The tester will switch off automatically if no button is pressed within 10 minutes.*

Having completed the tests, remove the tester from the ABAX 2 system / in the ABAX 2 controller, set the DIP-switch 7 in OFF position to disable the support of the unregistered tester.

4 Battery charging

⚠ | **Do not charge the battery with a charger / power bank using the Quick Charge technology.**

Do not use a device with output current higher than 1.5 A to charge the battery.

The battery is pre-charged. However, it may be necessary to recharge the battery before the tester is first switched on.

i | *Charger and USB cable are not included with the tester.*

If the tester indicates that the battery needs to be charged (all the radio signal indicator LEDs are flashing), connect a 5 VDC charger / power bank to the micro-USB port (Fig. 2). You can also charge the battery by connecting the tester to the USB port of your computer (effectiveness of this charging method may vary). If the tester is turned off, the battery charging progress will be indicated by the LED marked with ④ in Fig. 1 (flashing – charging in progress, ON – battery fully charged).

i | *Do not use the tester while the battery is charging.*

When the battery is fully charged, disconnect the charger from the power supply.
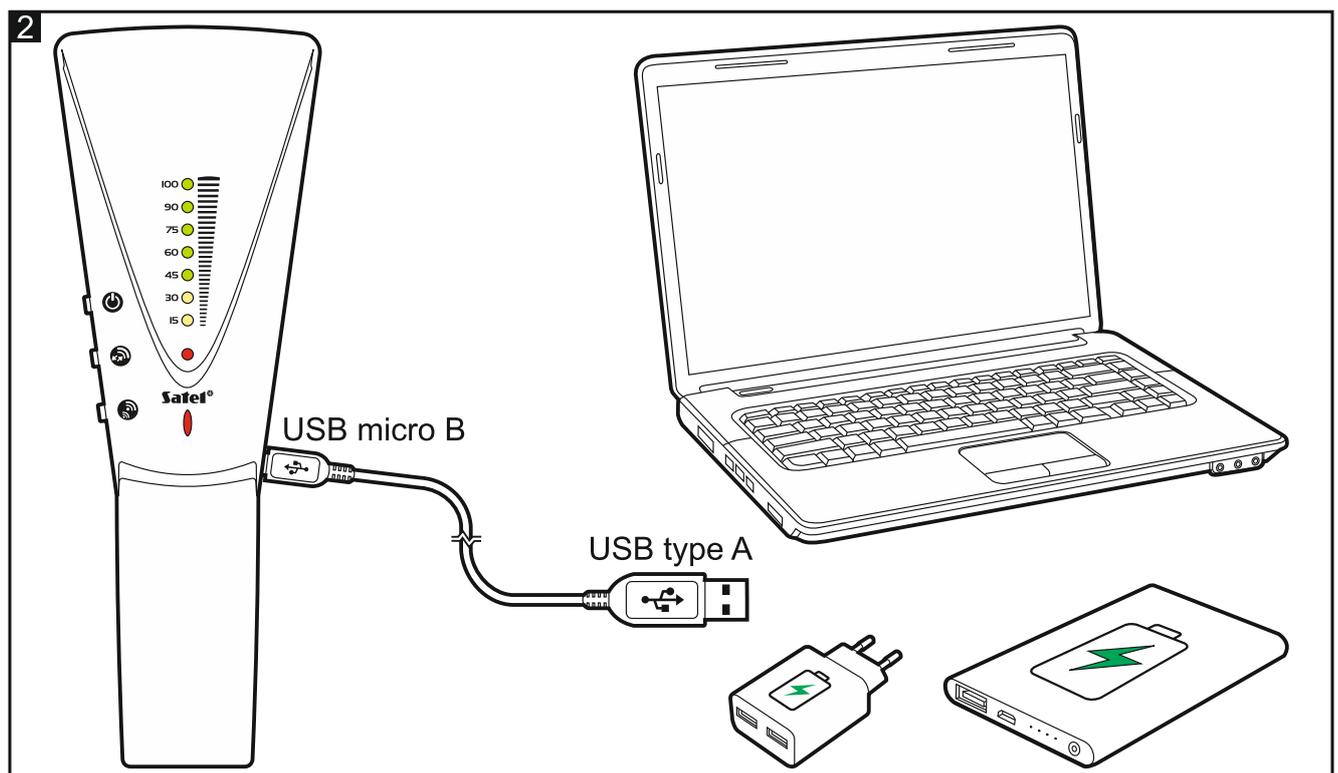
5   Tester firmware update

i | *During firmware update, the tester does not perform its normal functions.*

1. Download the ARF-200 tester firmware update program from www.satel.pl.
2. Connect the micro-USB port of the tester to the USB port of the computer (Fig. 2).
3. Run the module firmware update program.
4. Click the ![button] button.
5. When the connection configuration window opens, select the computer COM port to which the tester is connected.
6. When the prompt is displayed asking you whether to continue the firmware update, click "Yes". The tester firmware will be updated.

6   Specifications

Operating frequency band................................868.0 MHz ÷ 868.6 MHz / 915 MHz – 928 MHz
Battery (lithium-polymer) .... 3.7 V / 600 mAh
Maximum current consumption ....23 mA
Standby current consumption (tester turned off) .... 65 µA
USB voltage .... 5 VDC
Maximum current consumption from USB...250 mA
Maximum battery charging current...1.5 A
USB port .... type-B micro-USB
Operating temperature range...-10°C…+55°C
Dimensions .... 68 x 194 x 32 mm
Weight..104 g