

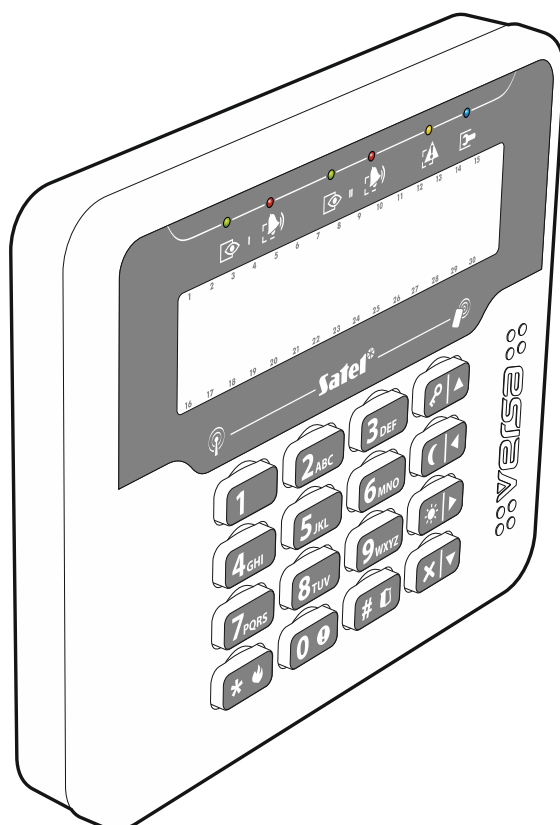
# Satel®

## abax2

# VERSA-KWRL2

## Wireless keypad

CE



Firmware version 3.00

versa-kwrl2\_en 03/21

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## IMPORTANT

The device should be installed by qualified personnel.

Read carefully this manual before proceeding to installation.

Changes, modifications or repairs not authorized by the manufacturer shall void your rights under the warranty.

The name 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.

Please visit us at:  
<https://support.satel.eu>

**Hereby, SATEL sp. z o.o. declares that the radio equipment type VERSA-KWRL2 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](http://www.satel.eu/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.

The VERSA-KWRL2 wireless keypad enables operation and programming of the VERSA, VERSA IP and VERSA Plus control panels with firmware version 1.09 (or newer). The device is designed for work within the ABAX 2 / ABAX two-way wireless system. This manual applies to the keypad with firmware version 3.00 (or newer), which is supported by:

- ABAX 2: ACU-220 / ACU-280 controller,
- ABAX: ACU-120 / ACU-270 controller (firmware version 5.04 or newer).



*The ABAX 2 / ABAX controller must be connected to the communication bus of the VERSA / VERSA IP / VERSA Plus alarm control panel.*

*In the ACU-220 / ACU-280 controller, switch 9 must be set in OFF position, and switch 10 must be set in ON position.*

*In the ACU-120 / ACU-270 controller, switch 8 must be set in ON position.*

*The keypad is not supported by the ARU-100 and ARU-200 radio signal repeaters.*

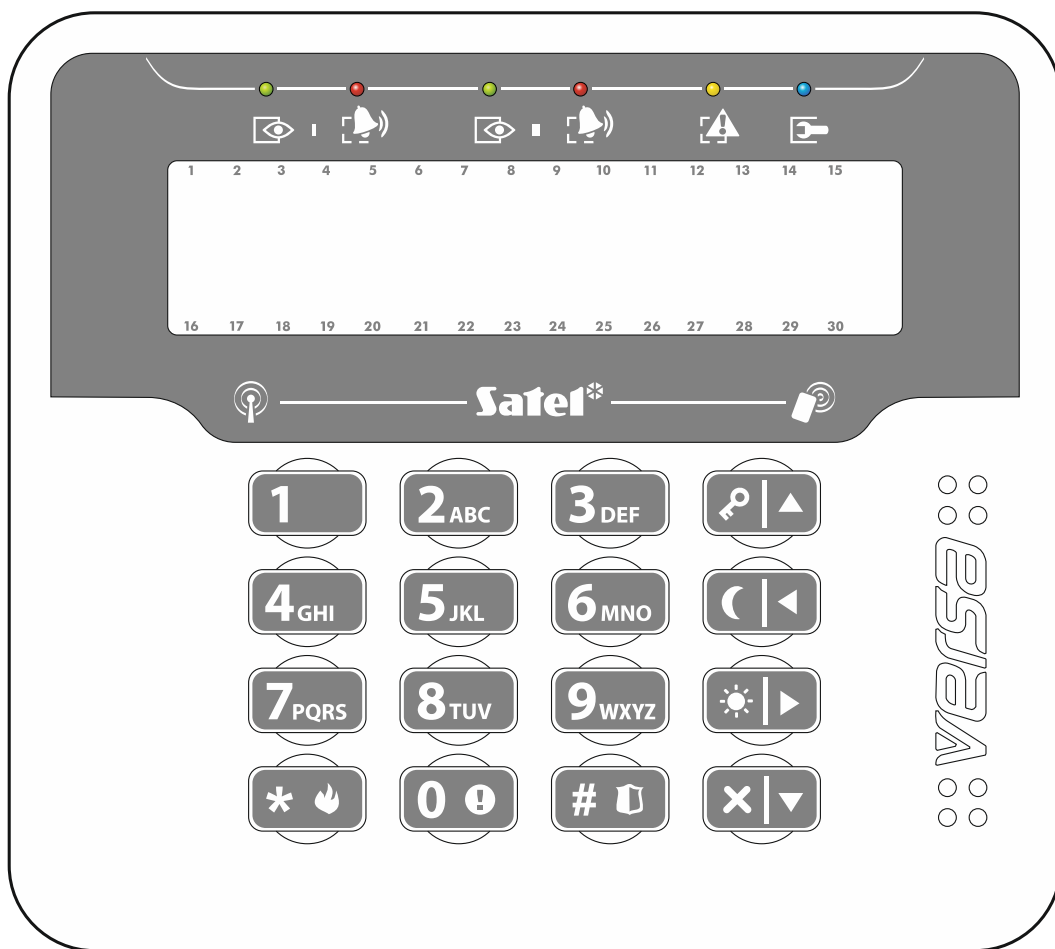


Fig. 1. VERSA-KWRL2 keypad.

## 1. Features

- Display 2 x 16 characters with backlight.
- LEDs indicating the state of partitions and system.
- 12 keys, bearing designations according to telephone standard and intended for entering data.
- 4 additional keys for menu navigation and arming/disarming.

- Backlit keys.
- Built-in proximity card reader.
- Built-in sounder.
- Encrypted two-way radio communication in the 868 MHz / 915 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 / 915 MHz frequency band (ABAX 2 system only).
- Remote update of keypad firmware (ABAX 2 system only).
- Tamper protection against enclosure opening and removal from mounting surface.
- Power supply: two CR123A 3 V batteries.

## 2. Description

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### Radio communication

The keypad connects to the controller every 4 minutes to give information about its state (periodical communication). Additional communication takes place:

- when the keypad is in use,
- in the case of keypad tamper,
- when the controller is sending commands to the keypad (wake up and trigger CHIME signal).

### Operating modes

**Wake-up** – this mod is started by pressing any key. Additionally, the keypad can be woken up automatically when an alarm occurs or an entry delay or an exit delay begins (see description of the “Wake-up” parameter, section “Settings stored in ABAX 2 / ABAX controller” p. 6). When the keypad is in the wake-up mode, it works in much the same way as the wired LCD keypad. The display is on. Backlight, LED indication and sound signaling are enabled.

**Sleep** – the mode is entered:

- after 20 seconds since the last key press,
- after preset time, if the keypad has been woken up automatically (see description of the “Wake-up” parameter, section “Settings stored in ABAX 2 / ABAX controller” p. 6).

The purpose of this mode is to save energy. The display is off. Backlight, LED indication and sound signaling are disabled (if a time different from 0 is preset for the „Wake-up” parameter, CHIME from zones will be signaled).

### Support for proximity cards

The built-in proximity card reader enables the system to be operated by using proximity cards (any 125 kHz passive transponder in the form of a card, tag, etc.). If the alarm system is not to be operated by using the proximity cards, the reader can be disabled (thus reducing the battery consumption).

### Battery status control

If the voltage of any battery is lower than 2.75 V:

- low battery information is sent during periodical communication,

- after the keypad wake-up, a low battery message is displayed (the message will specify which battery is to be replaced – the battery designation can be found on the electronics board, after opening the enclosure).



*The battery life depends on how the keypad is used. The more frequently the keypad is woken up, the quicker the batteries will be depleted.*

### 3. Installation



**There is a danger of battery explosion when using a different battery than recommended by the manufacturer, or handling the battery improperly.**

**Be particularly careful during installation and replacement of the batteries. 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.**

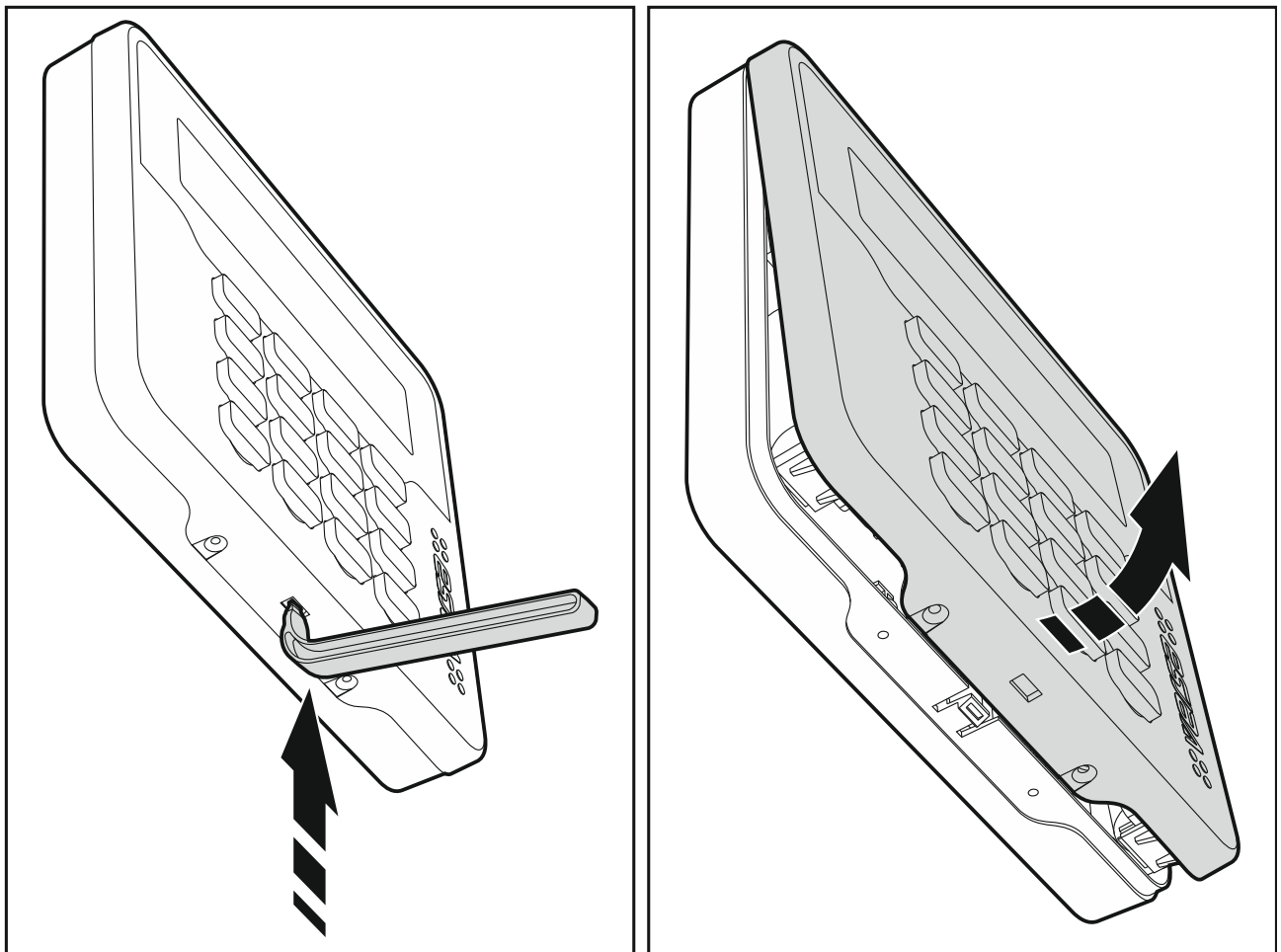


Fig. 2. Opening the enclosure.

The keypad is designed for indoor installation. The place of installation should be readily accessible to the system users. When selecting the installation location, take into account the communication range of the ABAX 2 / ABAX system.

1. Open the keypad enclosure (Fig. 2). The enclosure opening tool, shown in the illustration, is included in the keypad delivery set.

2. Install the batteries and add the keypad to the wireless system (see “Adding the keypad to the wireless system”).
3. Put the cover on the catches and snap the enclosure shut.
4. Place the keypad in the location intended for its installation.



*If you want to hold the keypad in your hand when checking the radio signal level, grab the device from its left side (on its right side, there is the antenna, which must not be covered).*

5. Check the level of signal received from the keypad by the ABAX 2 / ABAX 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 to obtain a considerable improvement in the signal quality. Only after the optimal level of radio signal is achieved can you proceed to the next step.



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

6. Open the keypad enclosure (Fig. 2).
7. Place the enclosure base against the wall and mark location of the mounting holes.
8. Drill the holes in the wall for wall plugs (anchors).
9. Using wall plugs (anchors) and screws, secure the enclosure base to the wall. Select wall plugs specifically intended for the mounting surface (different for concrete or brick wall, different for plaster wall, etc.). When installed, the device must withstand a pull-off force of at least 50 N.
10. Put the cover on the catches and snap the enclosure shut.
11. Lock the cover using screw.

### 3.1 Adding the keypad to the wireless system

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**Before adding the keypad, make sure that the CKE and DTE terminals of the controller are connected to the control panel communication bus. Also, depending on the controller:**

- **ACU-220 / ACU-280: check that the switch 9 is set in OFF position, and switch 10 is set in ON position,**
- **ACU-120 / ACU-270: check that the switch 8 is set in ON position.**

You can add the wireless keypad to the ABAX 2 / ABAX system by using either a computer with DLOADX program installed, or an LCD keypad. The controller allows for registering of up to 6 VERSA-KWRL2 keypads. If no wired keypad is connected to the control panel, you can only add the first wireless keypad using the DLOADX program (to establish communication between the program and the control panel, you must start the service mode “from pins” – refer to the control panel programming manual).

When adding the device, its serial number is required. The serial number sticker can be found on the electronics board.





*The keypad is identified as LCD-WRL.*

*Simultaneous operation of the keypad by the ABAX 2 and ABAX controller is not possible.*

#### 3.1.1 DLOADX program

You can add wireless keypads in the “VERSA – Structure” window, “Hardware” tab, after clicking on the name of ABAX 2 / ABAX controller on the list of devices, and then on the “LCD-WRL” tab (see: Fig. 3 p. 7).

1. Click on the “Read” button to read the data related to wireless keypads from the controller (these data are not read after clicking on the  button in the main menu).
2. Click on the “New device” button.
3. The “New wireless dev.” window will open.
4. In the “Serial number” field enter the serial number of the added device.
5. In the “Address” field, select which address is to be assigned to the keypad to be added.
6. Press any button on the keypad.
7. The message will confirm that a keypad has been added (unless you have entered an invalid serial number, of which you will be informed by a message). The name assigned to the keypad will be displayed. You can change it.
8. Click “OK” (to cancel adding the keypad, click on the “Quit” button).
9. The “New wireless dev.” window will close.
10. The new keypad will appear in the table, “LCD-WRL” tab, as well as on the list of expanders.
11. Click on the “Write” button to write the new wireless keypad data to the controller (these data will not be written after clicking on the  button in the main menu). Additionally, the new keypad data will be automatically written to the control panel.

### 3.1.2 LCD keypad

You can add wireless keypads in the service mode by means of the “New device” function (►“2. Hardware” ►“1.Kpds. & exps. ►“3.Wireless mod.” ►“1.New device”).

1. Having started the function, enter the serial number of the added keypad.
2. Press .
3. When the “Open device tamper” message is displayed, press any key on the keypad.
4. Information on the added keypad will be displayed (if nothing happens, it can mean that you have entered an invalid serial number – if this is the case, press  to return to the submenu).
5. Press .
6. Using the  and  keys, select the address which is to be assigned to the keypad to be added.
7. Press .
8. The name assigned to the keypad will be displayed. You can change it.
9. Press .
10. In the next steps, you can configure the settings stored in the ABAX 2 / ABAX controller (see: p. 6).

## 3.2 Removing the keypad from the wireless system

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### 3.2.1 DLOADX program





You can remove the wireless keypads in the “VERSA – Structure” window, “Hardware” tab, after clicking on the name of ABAX 2 / ABAX controller on the list of devices, and then on the “LCD-WRL” tab (see: Fig. 3 p. 7).

1. Click on the “Read” button to read the data related to wireless keypads from the controller.
2. Click on the wireless keypad you want to remove.

3. Click on the “Delete” button.
4. The “Confirm” window will open.
5. Click on the “Yes” button.
6. The “Confirm” window will close.
7. Click on the “Write” button to save the changes to the controller and control panel.

### 3.2.2 LCD keypad

You can remove wireless keypads in the service mode by means of the “Remove device” function (►“2.Hardware” ►“1.Kpds. & exps.” ►“3.Wireless mod.” ►“3.Remove device”).

1. Having started the function, use the  and  keys to select the keypad you want to remove.
2. Press .
3. A prompt will be displayed asking you whether to remove the keypad and the serial number of the keypad being removed.
4. Press .

## 4. Configuring

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You can configure the wireless keypad settings by using a computer with DLOADX program installed, or an LCD keypad.

### 4.1 Settings stored in ABAX 2 / ABAX controller

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The settings can be configured:

- DLOADX program: →“VERSA – Structure” window →“Hardware” tab →“Expansion modules” branch →[*controller name*] →“LCD-WRL” tab (see: Fig. 3),
- LCD keypad: ►“Service mode” ►“2.Hardware” ►“1.Kpds. & exps.” ►“3.Wireless dev.” ►“2.Config.device” ►[*wireless keypad name*].

#### 4.1.1 Description of parameters and options

**Presence contr.** – if this option is enabled, the keypad presence is being monitored. If there is no transmission from the keypad for 20 minutes, missing keypad will be reported.

**Wake-up** [Wake up] – the maximum time period for which the keypad can be woken up automatically. If you enter a value different from 0:

- the keypad will be woken up automatically when an alarm occurs or an entry delay or an exit delay begins,
- the CHIME from zones will also be signaled when the keypad is in the sleep mode.

If you enter 0, the keypad will not be woken up automatically.



**If a value different from 0 is preset for the “Wake-up” parameter, the keypad will be awaiting for transmissions with information on events. As a result, the energy consumption will be growing and the battery life will be considerably reduced.**



*The keypad is woken up not more frequently than every 30 seconds. If the event that is to wake up the keypad occurs before the 30 seconds have elapsed since the last automatic wake-up, the keypad will stay asleep.*

**Card reader** – if this option is enabled, the card reader is supported.



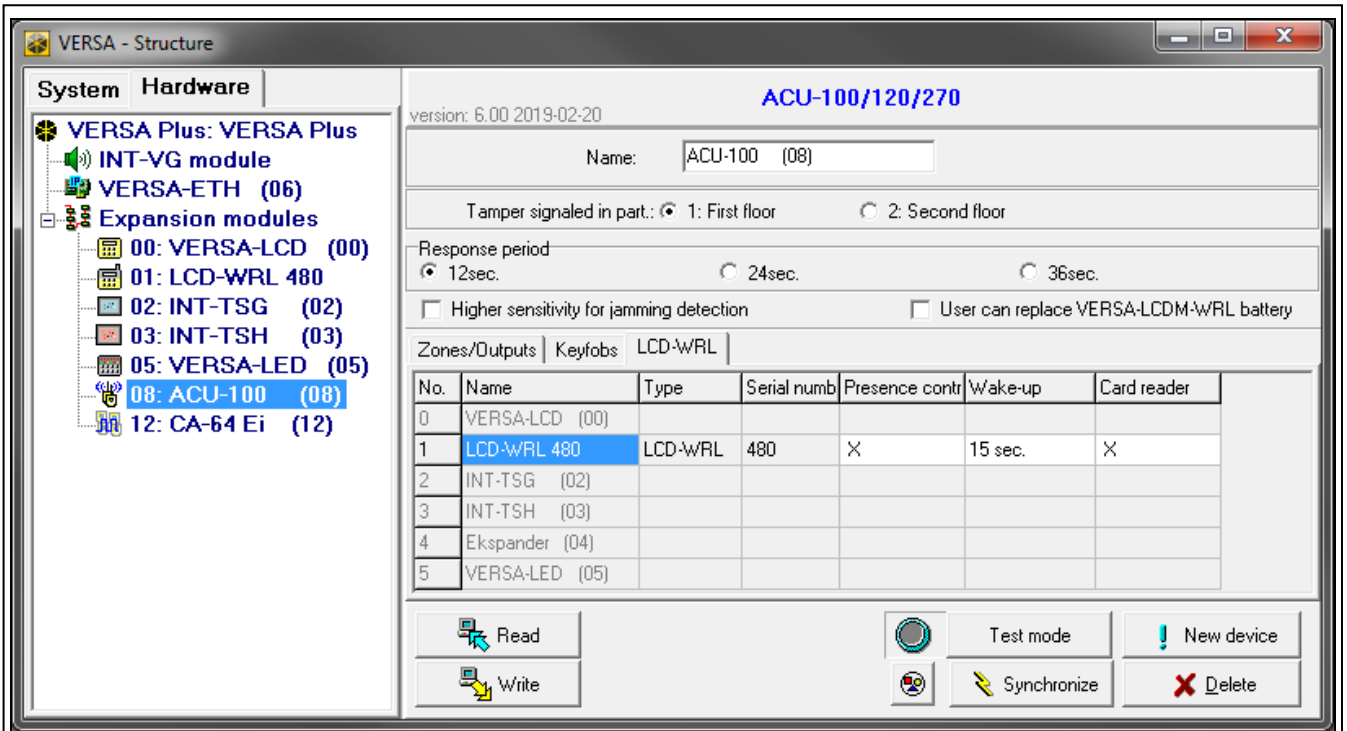


Fig. 3. DLOADX program: keypad settings stored in the ABAX 2 / ABAX controller.

## 4.2 Settings stored in the control panel

These settings you can configure:

- DLOADX program: →“VERSA – Structure” window →“Hardware” tab →“Expansion modules” branch →[keypad name] (see: Fig. 4),
- LCD keypad: ►“Service mode” ►“2.Hardware” ►“1.Kpds. & exps.” ►“2.Settings” ►[keypad name].

### 4.2.1 Parameters and options

Given in the square brackets are the names of parameters and options presented on the keypad display.

**Name** – individual name of the keypad (up to 16 characters).

**Tamper signaled in part.** [Tamper in p.] – partition in which tamper alarm will be triggered if the keypad tamper switch is opened or the keypad is not present.

**CHIME signal of zones** [Zone chime] – the keypad can audibly signal violation of selected zones. If the zone is armed, violation will not trigger the CHIME signal.



*The wireless keypad signals the CHIME from zones not more frequently than once every 30 seconds. When the keypad is in the sleep mode, the CHIME from zones is only signaled if a value different from 0 is preset for the “Wake-up” parameter.*

**Sign. entry delay** [Entry time sign.] – if this option is enabled, the keypad audibly signals the entry delay countdown.


**Sign. exit delay** [Exit time sign.] – if this option is enabled, the keypad audibly signals the exit delay countdown.

**Sign. alarms** [Alarm signalling] – if this option is enabled, the keypad audibly signals the alarms. The alarm is signaled during the “Keypad’s alarm time” (refer to the control panel programming manual). The alarms are not signaled, if the “Grade 2” option is enabled in the control panel.

**Quick arming – Partition 1** [Part.1 QuickArm] – if this option is enabled, quick arming (without user authorization) of the partition 1 is possible. The quick arming is not possible, if the “Grade 2” option is enabled in the control panel.

**Quick arming – Partition 2** Part.2 QuickArm] – if this option is enabled, quick arming (without user authorization) of the partition 2 is possible. The quick arming is not possible, if the “Grade 2” option is enabled in the control panel.

**Keys sound** – with this option enabled, pressing the keypad keys is confirmed by beeps.

**Sign. trbl in part. arm** [Trbl.in part.arm] – if this option is enabled, the  LED goes off after both partitions are fully armed (if the option is disabled, the LED goes off after just one of the partitions is armed in any mode).

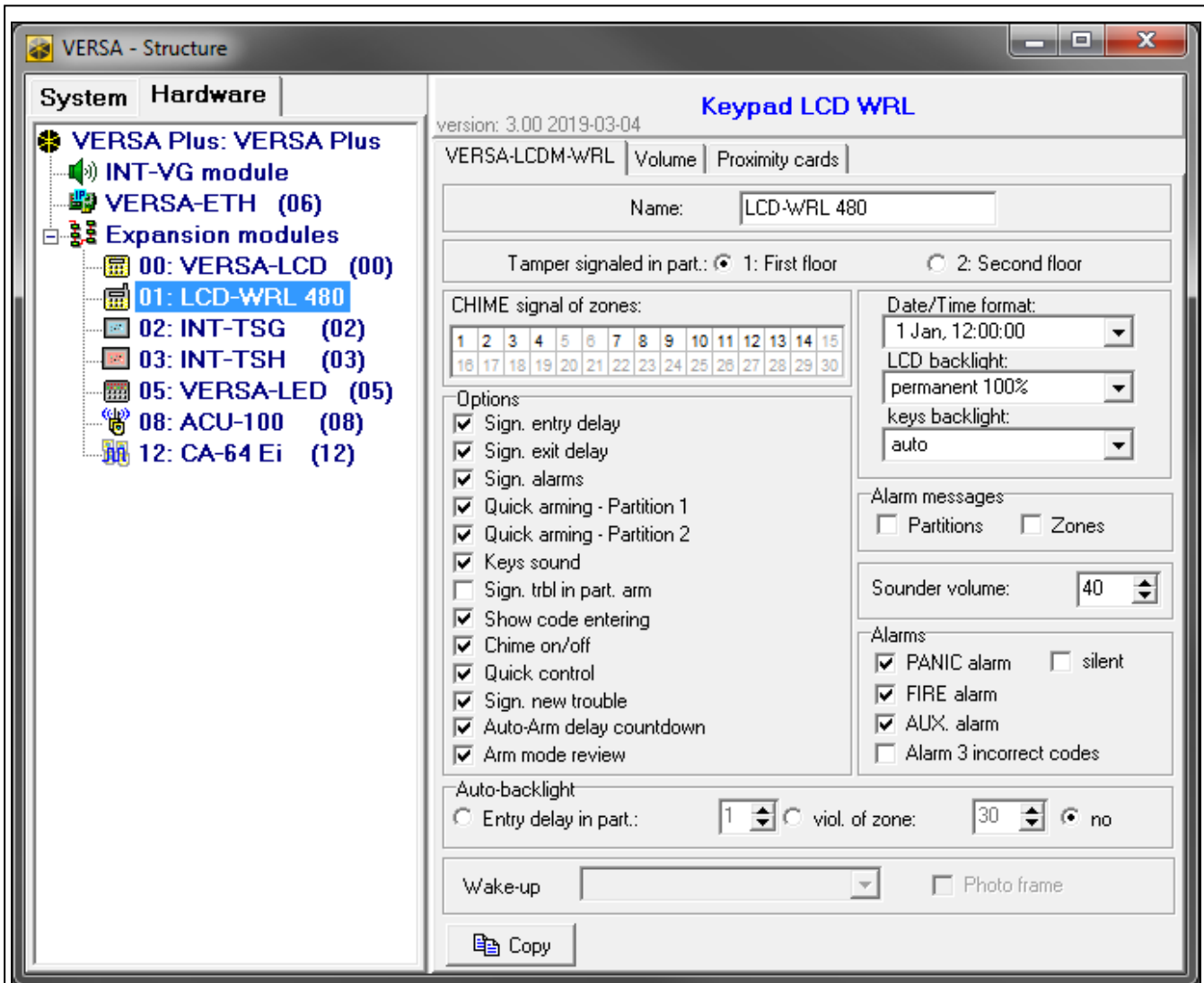



Fig. 4. DLOADX program: keypad settings stored in the control panel.

**Show code entering** [Code entry ind.] – if this option is enabled, entering the code is presented on the keypad display by asterisks.



**Chime on/off** – if this option is enabled, the chime signal can be enabled/disabled by means of the  key (the key is to be pressed for about 3 seconds).

**Quick control** – if this option is enabled, the users can control the outputs by using the number keys. When programming the control panel, the “15. Controlled” outputs must be assigned to the keys (refer to the control panel programming manual).

**Sign. new trouble** [New trbl.signal.] – if this option is enabled, the keypad audibly signals occurrence of any new trouble (additionally, the “Trouble memory until review” option must

be enabled in the control panel – refer to the control panel programming manual). The signaling will be turned off after reviewing the trouble with the “7. System state” user function. The new troubles will not be signaled, if the “Grade 2” option is enabled in the control panel.

**Auto-Arm delay countdown** [Autoarm signal.] – if this option is enabled, the keypad audibly signals the auto-arm delay countdown.

**Arm mode review** [Arm mode check.] – if this option is enabled, holding down the  key for about 3 seconds will display information on the partition status. The users cannot check the partition status using the  key, if the “Grade 2” option is enabled in the control panel.

**Date/Time format** – the way how date and time will be presented on the display.

**LCD backlight** – the way how the display backlight will work, when the keypad is in the wake-up mode:

**not present** – disabled.

**permanent 50%** – enabled: brightness 50%.

**permanent 100%** – enabled: brightness 100%.

**auto 0-50%** – enabled: brightness 50%.

**auto 0-100%** – enabled: brightness 100%.

**auto 50%-100%** – enabled: brightness 100%.

**Keys backlight** – the way how the keys backlight will work, when the keypad is in the wake-up mode:

**not present** – disabled.

**auto** – enabled.

**permanent** – enabled.

## Alarm messages


**Partitions** [Part.alarm msg.] – if this option is enabled, messages on partition alarms will be displayed (they contain the name of partition).

**Zones** [Zone alarm msg.] – if this option is enabled, messages on alarms from zones will be displayed (they contain the name of zone). The zone alarm messages have the priority.





*The messages will not be displayed, if the “Grade 2” global option is enabled.*

## Alarms

**PANIC alarm** – if this option is enabled, pressing the  key for approx. 3 seconds will trigger the panic alarm.

**silent** [Silent panic] – if this option is enabled, the panic alarm triggered from the keypad will be a silent one, i.e. the keypad will not indicate it, there will be no audible signal, but the alarm will be reported to the monitoring station. The silent panic alarm is useful when the control panel is sending events to the monitoring station, but unauthorized persons should not be aware of the alarm being triggered. The option is available, if the “PANIC alarm” option is enabled.

**FIRE alarm** – if this option is enabled, pressing the  key for approx. 3 seconds will trigger the fire alarm.

**AUX. alarm** [Medical alarm] – if this option is enabled, pressing the  key for approx. 3 seconds will trigger the auxiliary (medical) alarm.

**Alarm 3 incorrect codes** [3 wrong codes] – if this option is enabled, entering invalid code three times will trigger the alarm.



*The auto-backlight parameters do not affect the wireless keypad performance.*

## 4.2.2 Volume

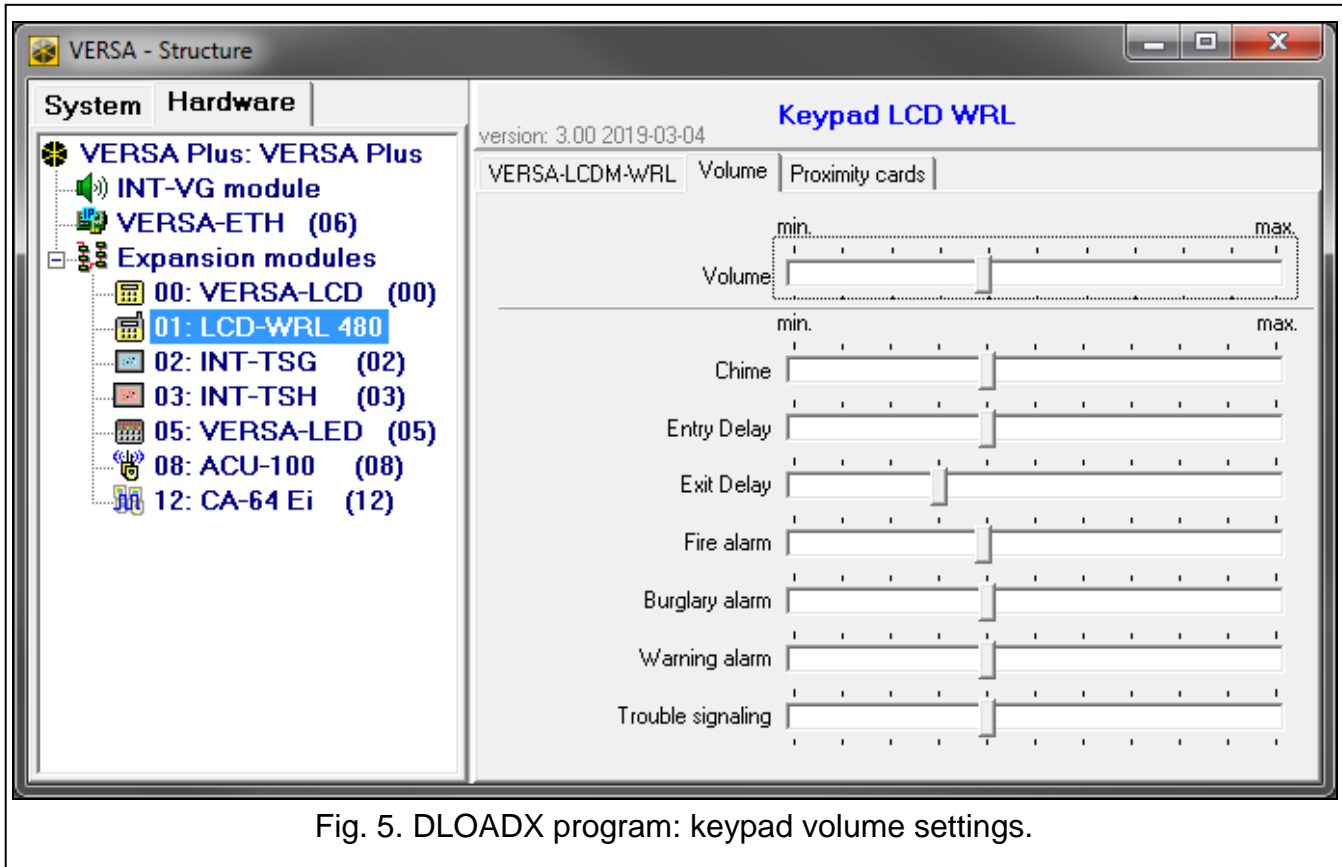


Fig. 5. DLOADX program: keypad volume settings.

**Volume** – volume level of the beeps generated during keypad operation (key pressing, confirmation of performed operation, etc.).

**Chime** – volume level of the beeps generated after zone violation (CHIME).

**Entry delay** – volume level of the entry delay beeps.

**Exit delay** – volume level of the exit delay beeps.

**Fire alarm** – volume level of the fire alarm beeps.

**Burglary alarm** – volume level when signaling burglar, panic and auxiliary (medical) alarms.

**Warning alarm** – volume level when signaling warning alarms.

**Trouble signaling** – volume level when signaling troubles.

## 4.2.3 Proximity cards

### Arming

**Card hold-down** – if you select this option, the user will have to bring the card close to the keys and hold it still for about 3 seconds to arm the system.

**Card read** – if you select this option, the user will only have to bring the card close to the keys to arm the system.



*When configuring the keypad by using functions available in the service mode, use the “Prox.card – arms” option to define how to arm the system using the proximity card (option enabled = “Card read”; option disabled = “Card hold-down”).*

### Card hold-down control outputs

If you have selected the “Card read” option, you can permit the users to toggle the “15. Controlled” type outputs (the output status will change after the card is brought close to the keys and held still for about 3 seconds). Select the outputs the users will be allowed to control.

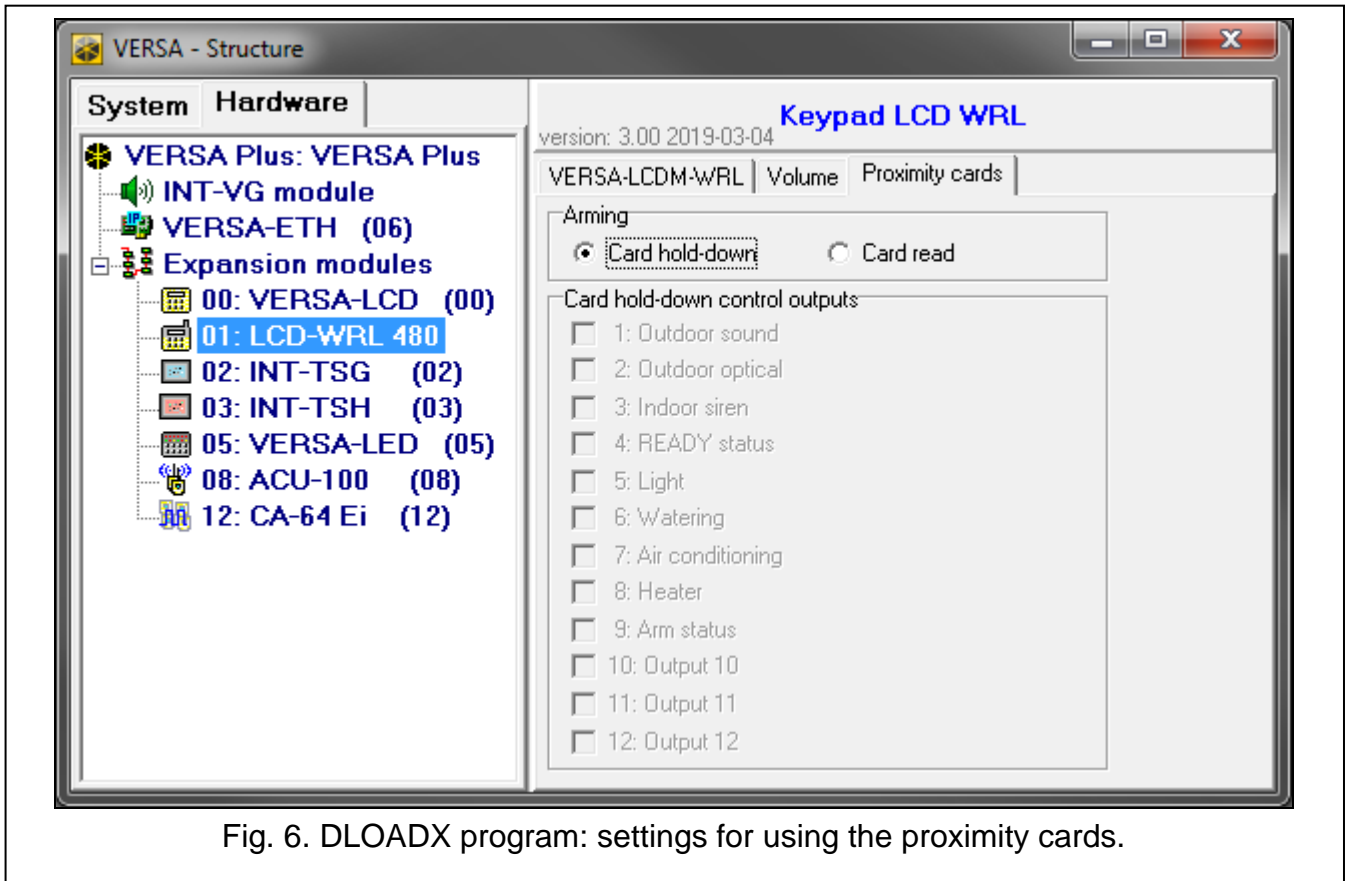


Fig. 6. DLOADX program: settings for using the proximity cards.

## 5. Operation

When the wireless keypad is in the wake-up mode, it enables operation and programming of the alarm system. To wake up the keypad, press any key on the keypad.

**i** In addition to waking up the keypad from sleep, pressing a key will also have other consequences, as appropriate for the given key. The keypad will treat each key pressing exactly in the same way.

When in the wake-up mode, the wireless keypad works much in the same way as the wired LCD keypad. For how to use the keypad, please refer to the control panel programming and user manuals. The manuals are available on the [www.satel.eu](http://www.satel.eu) website.

## 6. Specifications

Operating frequency band ..... 868.0 MHz ÷ 868.6 MHz / 915 MHz – 928 MHz

Radio communication range (in open area)

ABAX 2

ACU-220 ..... up to 800 m

ACU-280 ..... up to 800 m

ABAX

ACU-120 ..... up to 800 m

ACU-270 ..... up to 400 m

Batteries..... 2 x CR123A 3 V

Standby current consumption, BT1 battery .....5 µA

Maximum current consumption, BT1 battery .....30 mA

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|  |                   |
|--|-------------------|
| Standby current consumption, BT2 battery .....                       | 1 $\mu$ A         |
| Maximum current consumption, BT2 battery (card reader disabled)..... | 30 mA             |
| Maximum current consumption, BT2 battery (card reader enabled) ..... | 40 mA             |
| Environmental class according to EN50130-5 .....                     | II                |
| Operating temperature range.....                                     | -10°C...+55°C     |
| Maximum humidity .....   | 93 $\pm$ 3%       |
| Enclosure dimensions.....  | 139 x 124 x 22 mm |
| Weight.....  | 280 g             |