JA-16A RB Wireless outdoor battery-powered siren

The JA-16A RB is a component of the **JA-10** system. It is used for system alarm indication outside a building. It can also be used for supplementary acoustic signalling (PG activation, arming, chirps). The siren is powered by just one lithium battery with no other external power. The JA-16A RB consists of the **JA-16A-BASE-RB** base with the PCB, the BAT-100A lithium battery and the **JA-1XA-C-WH** cover. The siren occupies one position in the system.

Installation

The whole enrolment procedure has to be done in service mode of the control panel. There must be a JA-111R radio module installed in the control panel.
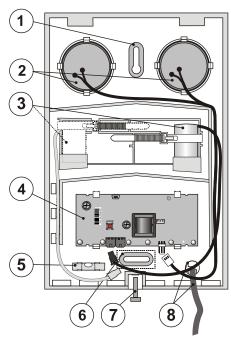

Figure 1: 1 – hole for installing; 2 – piezo sounders; 3 – BAT-100A lithium battery with reusable battery strap (up to 2 batteries can be used); 4 – PCB; 5 – spirit level; 6 – hole for installation with tamper detection; 7 – front cover screw; 8 – string with clip connecting the front cover for easy installation

> ⚠ **The siren should be installed on a vertical wall, with the flasher facing downwards. Avoid installing the siren near the gutters and on other places where there is a danger of ice accumulation.**

1. Attach the siren onto a suitable place using 2 screws through the holes (1) and (6). The spirit level can be used for easy installation (5).
2. Connect the BAT-100A lithium battery (3) to the connector (11).
3. Proceed according to the control panel installation manual.
   Basic procedure:
   a. When the battery is connected, the yellow LED (12) indicates by a permanent light that the siren has not been enrolled into the system yet.
   b. Go to the **N-Link** software, select the required position in the **Devices** tab and launch the enrolment mode by clicking on the **Enroll** option.
   c. Press the button marked LEARN (10) – the siren is thus enrolled and the yellow LED indicator goes off.
4. Put back the siren cover and attach it using the screw (7).
5. Perform siren properties setting, for more detail see the chapter: *Internal settings of the siren*.

Notes:

− *The siren can also be enrolled into the system by entering its production code (9) in the N-Link software. You can find the production code on the sticker, glued on the PCB. All numbers under the bar code shall be entered (1400-00-0000-0001).*

− *The siren can be powered by up to two BAT-100A batteries and we recommend this when longer siren operation time is required. There is a place prepared for second battery use see Figure 1. Connect the battery to the other connector (11). The battery connection order doesn´t matter.*
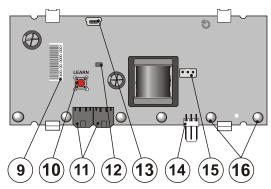

Figure 2: 9 – production code; 10 – LEARN (enrollment) button; 11 – battery connector; 12 – yellow fault indicator; 13 – mini USB connector; 14 - piezo siren connection (attention: high voltage); 15 – external antenna connector; 16 - high intensity red LED flashers

Erasing the siren from system / RESET

Use this procedure when the siren has to be erased from one system and enrolled to another one. Proceed this way:

1. The control panel has to be in **Service** mode.
2. Open the siren cover and disconnect the BAT-100A battery from its connector.
3. Go to the **N-Link** software, **Devices** tab, and erase the siren from the control panel and **leave service mode**.
4. Connect the BAT-100A battery. Then press and hold the LEARN button (10) for approximately 8 s until the yellow LED (12) starts flashing. Then release the button.
5. When flashing expires (2 x 7 flashes) the yellow LED illuminates. This indicates that the siren is not enrolled.

Notes:

− *When a reset is done the yellow LED goes off and it means that there is some control panel in the siren's radio range with an open service mode and the enrollment procedure has been performed again and the siren is assigned to that control panel.*

FW update

The siren supports wireless firmware update. It can be performed by **N-Link** software in **Service** mode.

1. Go to **N-Link: Control panel – Firmware update**. In the offered list the JA-16A RB should appear. If the N-Link SW detects the existence of newer firmware than that in the siren, it is automatically checked (ticked) for upgrading.
2. Press the OK button to perform the update of the selected devices.
3. When the update is finished, check the internal settings of the siren on the **Devices** tab – **Internal settings**.
4. Test the siren's functions.

Notes:

− *The mini USB connector (7) serves for firmware upgrading by a direct connection with the PC using a USB cable. This way is recommended when a wireless upgrade was not performed successfully.*

Internal settings of the siren

The siren properties can be set in the **Devices** tab of the **N-Link** software. When at the siren position, use the **Internal settings** option to open a dialog window, internal setting is separated into 2 tabs: **Setting** and **Signalling PG** (default settings are marked *):

Setting tab:

Acoustic indication of alarms from sections: to set for which sections the siren should indicate an alarm, as well as setting the chirps. The default setting is indication for all sections enabled.

Reaction: defines whether the siren should indicate **EW*** (external warning) or **IW** (internal warning). Alarm indication can also be disabled completely (other functions remain enabled).

Siren sound: intermittent*, continuous. Option *intermittent* saves energy.

Maximum siren time: No, 1, 2, 3*, 4, 5 minutes, During an alarm. Option 'No' – the siren doesn't indicate alarm acoustically (optical indication remains). Option 'During an alarm – acoustic indication in duration of 'Alarm length' set in 'Parameters'. *Note: the maxim Alarm length is 20 minutes, which would significantly affect the battery lifetime.*

JA-16A RB Wireless outdoor battery-powered siren

Enabling any of these mentioned options can cause a reduced battery lifetime depending on the frequency of its use. That´s why we recommend fitting the BAT-100A second battery.

Other acoustic indication from sections: selection of the sections for which sounds mentioned below will be produced. Default setting is 'All sections.

Higher volume: YES / NO* - affects only entrance / exit delay indication and sounds indicating PG output triggering. It doesn´t have any influence on the sound of an alarm.

During section control: YES / NO* – if enabled, the siren chirps once after setting, twice after unsetting and three times when unsetting after an alarm.

During warning: YES / NO* - When enabled the siren will beep three times to indicate:

1) inability to set (a system status which prevents setting, such as a fault or a triggered detector)
2) unsuccessful setting (an event occurs during exit delay, e.g. a triggered detector)
3) unsetting with alarm memory (an alarm occurred)

Entry delay: YES / NO* if enabled, it indicates the entrance delay for the whole entrance time – intermittent beeping.

Exit delay when partially set: YES / NO* - if enabled, it indicates the entrance delay for the whole time when the system has been partially set – intermittent beeping. This option is available when *Entry delay* is enabled.

Exit delay: YES / NO* - if enabled, it indicates the exit delay for the whole exit time when the system is fully set – intermittent beeping.

Upon loss communication: YES / NO* - When enabled, the siren sounds in case of loss communication with the control panel longer than (110 min). The length of sounding depends on 'Maximum siren time' – where the option 'During an alarm' signifies 20 minutes.

Optical indication:

Flashes every 60 s: YES / NO* - It sets to one siren flash per minute. It can be used as a warning that the building is protected by an alarm system.

During warning: YES/NO* - if enabled, the siren indicates by triple flashing:

1) inability to set (a system status which prevents setting, such as a fault or a triggered detector)
2) unsuccessful setting (an event occurs during the exit time, e.g. a triggered detector)
3) unsetting with alarm memory (an alarm occurred)

When controlled by a section: YES / NO* – it sets a siren to optically indicate setting and unsetting of (a) section(s). It blinks once when set and it blinks twice when unset and when unset after an alarm then three blinks.

After alarm expiration: During alarms*/ 1/ 3/ 5/ 30/ 60 min of flashes after an alarm. This option can set the length of siren flashing for only the alarm time or extended for by a pre-set interval. Extended flashing can be terminated by new system setting or cancellation of alarm indication in the system (with a keypad).

Periodical communication: 1 s / 8 s – This parameter can set the maximum postponed reaction of the siren to an alarm, supplementary indication or Signalling PG.

Notes:

– *PG output activation sometimes might not be indicated when periodical communication is set to 8 s and a PG output is switched ON for a shorter time than 8 s.*

– *If the end customer wants any of the supplementary indications mentioned above, we recommend setting the 'Periodical communication' to 1 s in order to have a faster response time when section or PG state changes.*

– *When periodical communication is set to just 1 s it can reduce the typical battery lifetime by half.*

Signalling PG tab:

The siren can indicate the activity of selected PG outputs with its beeps.

Slow beeping - 1 per second (for the whole period when the PG is active)

Quick beeping - 2 per second (for the whole period when the PG is active)

1xOn/2xOff - 1 chirp when the PG is activated, 2 chirps when the PG is deactivated

20 seconds of beeping – a long 20 s beep when the PG is activated

Settings according to security grade 2

To set the siren to comply with security grade 2 use N-Link SW, the 'Parameters' tab and the option 'System profiles' set to 'EN50131-1, gr.2'. Device will be configured according to required properties.

Sound priorities

The siren sound has the highest priority, the control chirps have a lower priority and the PG output activity indication has the lowest priority (PG1 has a higher priority than PG2 etc). A chirp with a higher priority always terminates chirping with a lower priority.

External antenna use

To improve the communication quality between the control panel and the outdoor siren you can connect an external antenna (AN-868). Plug the antenna into the connector (15) on the PCB. Detection of a connected antenna is performed only when the cover is open (active tamper). If the siren during closing the cover detects the external antenna, it is automatically used for radio communication. If the antenna is shorted out or cut off, it automatically switches to the internal antenna and a tamper alarm is sent. When the siren cover is closed with no external antenna, the internal antenna is used for radio communication.

Battery replacement

The product checks the battery status automatically. When a battery fault is triggered, the system informs its user (or service technician). The siren remains fully functional, but we strongly recommend to replace the battery is replaced within 2 weeks. Don´t charge the battery at all. Use the BAT-100A type only. If two batteries are used, always replace both batteries at once. The battery can be changed in control panel service mode by a service technician. When replacing is finished, test the siren's functioning. Take the used battery to an official collection point, don´t dispose in the general trash.

Technical specifications

The JA-16A RB parts (lithium battery, front cover and base) are supplied individually.

Power	Lithium battery 3.6 V/13 Ah type BAT-100A
	(up to 2 batteries can be used)
	Please note: battery is not included
Current consumption (nominal/maximal)	0.3 mA/1000mA
Battery low voltage	≤ 2.8 V
Typical battery lifetime	approx. 5 years (for basic settings)
Communication frequency	868.1 MHz, protocol JA-10
Communication range	approx. 300 m (open area)
Antenna	internal, external can be used, type AN-868
Activation lost integrity	acoustic tamper alarm (110 min)
Piezo electric siren	100 dB/m
Dimensions (cover included)	200 x 300 x 70 mm
Weight	434 g
Classification	security grade 2/environmental class IV
- according to	EN 50131-1, EN 50131-4, EN 50131-5-3
- environment	general outdoor
- operational temperature range	-20 °C to +60 °C
- power supply	type W
- operational humidity	75% (95% 30 days) RH, non-condensing
- certification body	Trezor Test s.r.o. (no. 3025)
Security grade	IP44
Also complies with	ETSI EN 300 220-2, EN 50130-4,
	EN 55032, EN 50581,EN 62368-1
Can be operated to	ERC REC 70-03

JABLOTRON ALARMS a.s. hereby declares that the JA-16A RB is in a compliance with the relevant Union harmonisation legislation: Directives No: 2014/53/EU, 2014/35/EU, 2014/30/EU, 2011/65/EU. The original of the conformity assessment can be found at www.jablotron.com - Technical Support section.

Note: Although this product does not contain any harmful materials we suggest you return the product to the dealer or directly to the producer after use. For more detailed information visit www.jablotron.com.