JA-82SH wireless shock and tilt detector

The detector is a component of the JABLOTRON ALARMS Oasis security system. It has two selectable operation modes. The mode for the detection of shocks / vibrations of doors, windows, etc. can be used to indicate attempts to breach these by force. The tilt detection mode can be used to indicate unwanted tampering with the object to which the detector is firmly fixed. This may be used for safes, artworks etc. The detector uses a semiconductor tri-axial accelerometer with digital output. Its signal processing guarantees a high immunity against false alarms. The detector communicates wirelessly using Oasis protocol and it is battery powered.

Installation

The device should be installed only by a technician holding a certificate issued by an authorized distributor.. When in **shock detection** mode**,** the detector reacts to vibrations and shocks caused by the base to which it is mounted – the mechanical connection must ensure the smooth transmission of shocks to the detector body. The detector should be installed in places where stronger shocks can be expected – i.e. away from firmly fixed sections of window frames, door frames, etc.

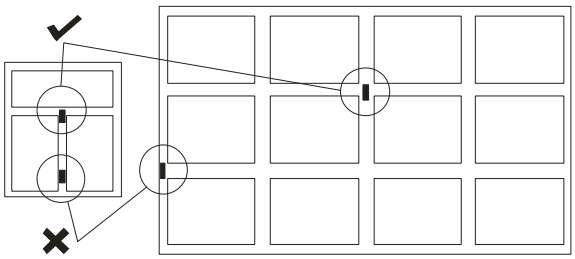

Fig. 1 Location of the detector

When in tilt detection mode, the detector reacts to changes in its position. It is recommended to install the detector in a vertical position if possible. Avoid installing it directly onto metal surfaces (they negatively influence radio communication).

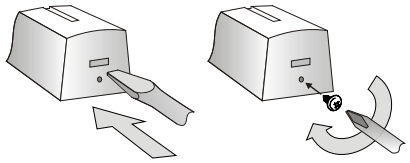

Fig. 2 Opening the detector cover and securing it with a screw

1. Open the detector cover (by pushing the tab - see Fig. 2).
2. Attach the removed plastic base to the desired place with screws (not shown above).
3. Enroll the detector to a control panel (receiver). Follow the instructions in the control panel manual. The enrollment signal is sent when a battery is connected.
4. Set the detector functions – see Settings
5. Put the detector back onto the plastic base and push it until the tab snaps back into the opening.
6. Once shock testing and settings have been finalized, secure the cover to the base by screw as shown above, to comply with EN 50 131-2-2.

Note: If you want to enroll a detector which has already been connected to a battery, first disconnect the battery, then press and release the tamper contact in the cover in order to release the remaining charge and then you can proceed with the enrollment.

Settings

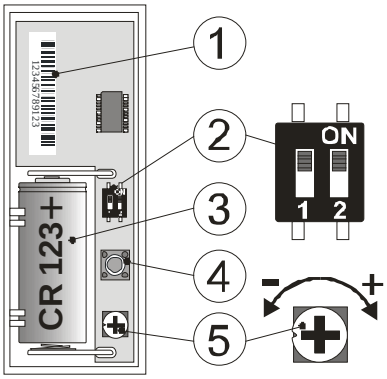

Fig. 3: 1 – serial number; 2 – configuration switch; 3 - CR-123 battery; 4 – tamper contact; 5 – swivel trimmer for adjusting sensitivity.

The detector always transmits a **DEL** (delayed) reaction. If a different reaction is required in the OASiS system, it can be set in the control panel.

The **SHOCK / TILT** (DIP2) switch selects the detector function. When the switch is in SHOCK (DIP2 off) position, the detector works in shock mode; tilt detection mode is selected by switching it to the TILT position (DIP2 on).

The **NORM / CONFIRM** (DIP1) switch only has a function in SHOCK mode. It allows you to set whether the detector should be activated by one (NORM DIP1 on) or two consecutive shocks (CONFIRM DIP1 off) of the selected strength. If the shock confirmation mode is active, the first detection (pre-alarm) triggers a 10 s interval of inactivity and detection of the second (confirmatory) alarm is activated after this period. The second alarm must be activated within 30 s, otherwise the pre-alarm is erased.

The trimmer is used to set the shock/tilt sensitivity. The maximum sensitivity is to the right, the minimum is to the left.

The changes in the settings are always activated after closing the cover (deactivation of the tamper contact).

Detector testing

The detector indicates its functioning for 15 minutes after closing the cover as follows:

Each sufficiently strong shock / change of position (according to the trimmer setting) is indicated with a short flash. Detector activation (signal transmission) is indicated with a 2s flash of the indicator. If the CONFIRM mode is set, the signal blocking after the first detection is indicated with rapid flashing.

Small scale shocks / tilt changes are added together and if their sum exceeds the set limit within a 30 s interval, an alarm is triggered too.

When the sensitivity has been set, the detector should be put in the place where it is to be installed and tested whether it reacts to the required intensity and number of shocks or change of tilt.

NOTE: If the detector is installed in a place which could be affected by vibrations e.g. from passing traffic or possibly vibrations of the building itself, etc., it should also be checked whether the LED flashes. If it does, it can lead to false alarms and also to an increased power consumption from the battery which results in a reduced battery lifetime.

Power save mode

The power save mode can prolong battery lifetime. The detector has two function modes which are indicated with either one or two flashes of the indicator when the battery is inserted. One flash indicates that the detector does not react to any shocks / tilts for 5 minutes after each activation. Two flashes indicate that the detector reacts in all cases.

To change the mode, press and hold the tamper contact in the cover, insert the battery and release the tamper contact 3-5 seconds after the battery insertion. The detector then flashes either once or twice to indicate the currently selected power save mode.

Battery replacement

The system checks the battery charge and when it is low, it informs the user (or possibly also the service technician). The detector continues functioning and it also indicates its activation with indicator flashes. We recommend changing the battery within 2 weeks. The battery should be replaced in service mode by a service technician. It is recommended to test the detector functioning after battery replacement.

*If a **battery with low charge** is inserted into the detector, **its indicator flashes for approx. 1 min.** The detector then starts functioning, but it continues reporting that the battery is low.*

Do not throw used batteries into ordinary household waste. Dispose of them at authorized collection points.

Removal of the detector from the system

The system reports any possible detector loss. If you have removed it on purpose, you also have to erase it from the control panel memory.

Technical specifications

Power supply	*CR-123A type lithium battery 3 V 1400 mAh*
Typical battery lifetime	*approx. 2 years (with max. 20 activations a day)*
Tillt detection (according the settings)	*10° - 45°*
Communication band	*868 MHz, OASiS protocol*
Communication range	*approx 300m (direct visibility)*
Dimensions	*75 x 31 x 26 mm*
Environment according to EN 50131-1	*II.indoor general*
Operating temperature range	*-10 to +40 °C*
Security	*Grade 2*
according to	*EN 50131-1, EN 50131-5-3*
Also complies with	*ETSI EN 300220, EN50130-4, EN55022, EN 60950-1*
Can be operated according to	*ERC REC 70-03*

JABLOTRON ALARMS. hereby declares that the JA-82SH is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. 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.*

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