

JA-182SH wireless shock and tilt detector

The detector is a component of the **JABLOTRON** 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 Jablotron protocol and it is battery powered. **The detector should be installed by a trained technician with a valid certificate issued by an authorized distributor.**

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.

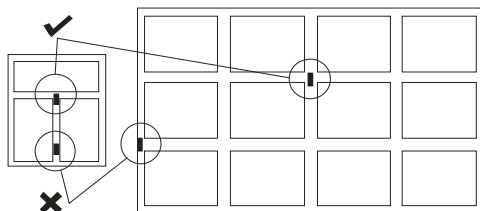


Fig. 1 Location of the detector

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).

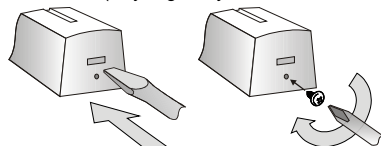


Fig. 2 Opening the detector cover and securing it with a screw

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.

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

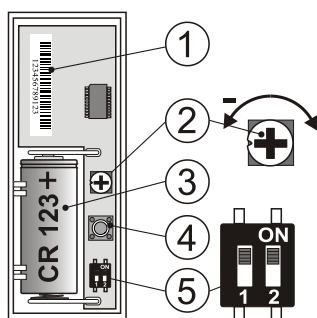


Fig. 3 1 – serial number; 2 – swivel trimmer for adjusting sensitivity; 3 – CR-123 battery; 4 – tamper contact; 5 – configuration switch

The detector always transmits a DEL (delayed) reaction. If a different reaction is required in the Jablotron 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 OFF) or two consecutive shocks (CONFIRM DIP1 ON) 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 2 s 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.

Note: when the power save mode is activated, detector not complied EN 50131-2-8.

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	Lithium battery type CR123A (3.0 V/1.4 Ah)
	Please note: Battery is not included
Tilt detection (according to the settings)	10°–45°
Typical battery lifetime	approx. 2 years (with max. 20 activations a day)
Low battery voltage	<2.4 V
Communication band	868,1 MHz, Jablotron protocol
Quiescent current consumption	24 µA
Maximum current consumption	40 mA
Maximum radio-frequency power (ERP)	3,7 mW
Communication range	approx 300 m (direct visibility)
Dimensions	75 x 31 x 26 mm
Weight (without battery)	22,5 g
Classification	Security grade 2/Environmental class II (according to EN 50131-1)
Operational environment	Indoor general
Operating temperature range	-10 °C to +40 °C
Average operating humidity	75 % RH, non-condensing
Certification body	Trezor Test s.r.o.
according to	EN 50131-1, EN 50131-5-3, EN 50131-2-8
Also complies with	ETSI EN 300 220, EN 50130-4, EN 55032, EN 62368-1
Can be operated according to	ERC REC 70-03
Recommended screw	2 x  ø 3,5 x 40 mm (countersunk head)



JABLOTRON ALARMS a.s. hereby declares that the JA-182SH is in 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 - Section Downloads.

Note: Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please return the product to the dealer or contact your local authority for further details of your nearest designated collection point.

