

# The JA-152SHM wireless shock or tilt detector with magnetic contact

The product is a wireless component of the **JABLOTRON** system. It is a combined shock or tilt detector with external input. It occupies two separate enrolment addresses in the control panel. The product can be installed by a trained technician with a valid certificate issued by an authorized distributor.

The product is compatible with the JA-103K, JA-107K or above.

## Installation

It is always necessary to have a look at how the detector is used. We do not recommend installing the detector directly onto metal surface that can negatively affect wireless communication with a control panel.

The detector responds to vibrations and shocks caused by the pad to which it is mounted when the shock mode is selected. The mechanical contact must be sufficient for a good transmission of shocks to the detector. The detector should be placed in locations where stronger shocks are expected – i. e. further away from fixed edges of windows or door frames.

When in a tilt mode, the detector reacts to a change in its position. – e. g. on a window casement.

There are two different types of permanent magnets in the package – a standard magnet in a plastic housing (A) and a ring-shaped magnet (B) for use in places where there is not enough space for a standard magnet or for counter-sinking the magnet into a door or window's inner frame. The detector activation distance threshold (only applicable to non-ferromagnetic installation surfaces) is 26 / 17 mm for the Z axis. For other types of magnets, the detection threshold characteristic may vary.

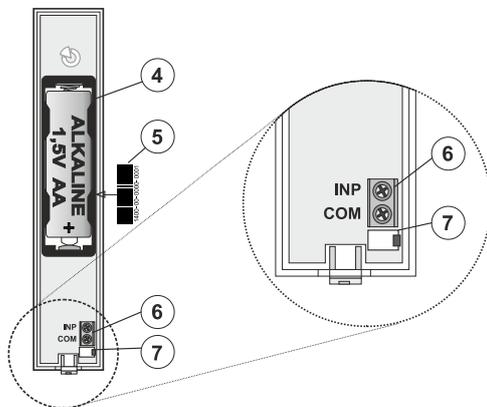
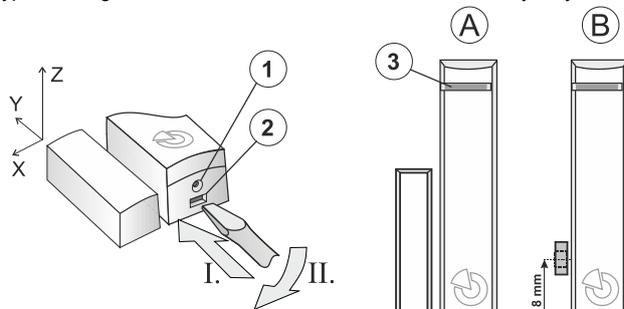


Figure: 1 – place for locking screw, 2 – cover tab, 3 – LED indication, 4 – battery, 5 – serial number, 6 – terminals, 7 – cover tamper contact

Axis	X	Y	Z
Activation distance (mm)	13	27	27
Deactivation distance (mm)	7	21	20

Table 1: distances for opening and closing on a non-magnetic base.

Axis	X	Y	Z
Activation distance (mm)	13	28	28
Deactivation distance (mm)	9	19	21

Table 2: distances for opening and closing on the magnetic base.

- Open the detector cover by pressing the cover tab (2).
- Mount the rear pad onto the required place. If it's needed, put the cables through the rear plastic pad. The length of cables to the detector should not exceed 3 m; choose the place of installation accordingly.
- Attach the selected magnet to the moving part of the door (window) with screws. The lower edge of the standard magnet has to be at the same height as the lower edge of the detector. It is recommended to attach the whorl-shaped magnet with a non-magnetic screw from the package.

- Connect the wires from external contact to the terminals, if they are used.

- Proceed according to the control panel installation manual.

Basic procedure:

- In the F-link software, select the required position in the Devices window and launch the enrolment mode by clicking on the Enrol option.
- Insert the battery (mind the correct polarity). The enrolment signal is transmitted when the battery is inserted into the detector. **Note** – the detector occupies 2 positions (each input has its own position). Should the second position be occupied, it will be automatically overwritten.

- Close the detector cover.

- In order to comply with norms, the front cover must be secured with the supplied locking screw (1).

- Configure the detector by following the *Internal settings* chapter in this manual.

### Notes:

- The detector can also be enrolled into the system by entering its serial number (5) into the F-link software (1400-00-0000-0001). You can find the sticker with serial number under a bar code, located on the battery holder.
- If only the first input is used, the second input can be deleted by pressing "Delete" to release the position for another device.
- By deleting the first input position, the module will be deleted completely.

## Detector communication in the system

The detector uses bi-directional asynchronous communication which allows you to change the internal settings remotely and at the same times does not consume a lot of battery capacity.

After enrolment to the system, the detector operates in an accelerated mode, until the service mode is exited (but no longer than 24 h). In this mode, the detector checks every 90s whether system is still in service mode or if new settings should be taken over.

In service mode, the detector communicates once every 19 minutes or with each activation. Therefore, when switching from operational mode to service mode, it can take up to 19 minutes for the detector to recognize control panel status or internal settings change. This period can be reduced by activating the detector or its tamper sensor.

### Please note:

It is not necessary to wait 90 s (or 19 min) until the detector confirms delivery of the new setting, when changes are applied. System remembers the requested change and forwards the new settings to the detector during the next period of regular communication.

## Internal settings

The detector settings can be set in the **Devices** tab of the F-link software. Click on the **Internal settings** button at the detector's position to open a dialogue window where you set (\* indicates default settings):

### Input 1 - Function: Shock\* / Tilt / Disabled

**Shock:** The device responds to environmental shock input.

#### Activation of shock:

Turning on the detector option after the 1st shock will ignore any further shocks for 10 seconds. After this 10 s, there will be a 30 s interval in which the next possible jolt will be reported as an Input Activation. If no further shocks occur within these 30 s, the 1st shock will be ignored - no Input Activation will be reported in the system. By disabling the option, the detector sends an Input Activation to the system as soon as the 1st shock is detected.

**Sensitivity:** Detector sensitivity level. The detector ignores jolts/tilts that do not exceed the sensitivity setting. Automatic shock sensitivity adjustment: how to adjust the sensitivity:

To start the calibration from the peripheral, the system must be in Service mode, then Activate tamper contact (open the plastic cover) and within 5 seconds deactivate the tamper contact (close the plastic cover).

This procedure will switch on calibration directly from the peripheral - indication as described below from point 3. When starting calibration from the detector, the Yellow LED will not be lit (it is only lit if the peripheral has an open internal setting in the F-Link). Calibration can be terminated by activating the tamper contact (open the plastic cover).

- LED off = detector waiting for connection. To continue, activate the magnet (open and close the window/door)..
- Yellow LED illuminated = detector has established a connection. Start calibration to continue.
- Glow yellow LED + regular double red LED = detector is ready to start calibration. Activate magnet to continue.

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4. Glow of yellow LED + rapid blinking of red LED = detector calibration for approx. 4 s. Please calm the magnetic detector.
5. Glow yellow LED + slow flashing red LED = detector is ready for calibration. To continue, activate the detector by opening and closing the window/door. Confirmation of detector calibration will be indicated by the red LED lighting for approx. 1 s. Then the red LED will go out and the setup status will change to complete, the yellow LED will still be lit. *Pulse mode:* Only activation of the detector is being sent to the control panel unit.

**Foreign magnetic field detection:** Once turned off, the device will calibrate its magnetic tamper detector. Should it detect a foreign magnetic field within its vicinity once its been calibrated, or a change in its own magnetic field is detected, the detector will indicate input activation and a fault.

**Note:** When the foreign magnet detection is enabled, a window or a door can only be opened in the direction in which the magnet movement has been calibrated. Otherwise, the detector will indicate Activation and fault. Therefore, this function cannot be used for windows or doors that may be open in several ways (opening, tilting).

**On:** Responds to a change in the contact connected to the input.

**Simple balanced input:** Detection of 1 k $\Omega$  simply balanced loop of external input or simple magnetic contact

**Roller blind 1, Roller blind 2** – roller blind modes, responds to repeated

and short opening pulses with sensitivity adjustable in two stages. Shutter 1 = activation after 3 pulses within 2 minutes; Shutter 2 = activation after 5 pulses within 2 minutes. If the input loop is interrupted for more than 3 s, a tamper type alarm is generated. When using the INP - Shutter 1 and INP - Shutter 2 modes, the module is idle for 10 s after the activation is broadcast.

## Detector testing

Optical indication is triggered with every activation when the system is in service mode. Every single activation can be checked in **F-link**, on the **Diagnostics** tab.

During normal operation, the optical indication is disabled.

## Battery replacement

The system sends a report automatically when the battery is low. Remember to switch the system to Service mode before changing the batteries (otherwise a tamper alarm will be triggered). Check the right function of the detector after battery replacement.

## Technical specification

Power	1x alkaline battery type LR6 AA (1.5 V/2.4 Ah) <i>Please note: Battery is not included</i>
Typical lifetime of battery	aprox. 2 years (20 activation per day)
Low battery voltage	<0.95 V
Current consumption in standby mode	74 $\mu$ A
Maximum current consumption	80 mA
Communication band	868.1 MHz, JABLOTRON protocol
Maximum radio-frequency power (ERP)	18.2 mW
Communication range	cca 300 m (open area)
Maximum length of cable for external detector	3 m
Dimensions	24 x 109 x 24 mm
Dimensions of magnet	16 x 55 x 15 mm
Weight (w/o battery)	35 g
Classification	Security grade 2/Environmental class II (according to EN 50131-1)
Operational environment	indoor general
Operational temperature range	-10 °C to +40 °C
Average operating humidity	75% RH, non-condensing
Certification body	Trezor Test s.r.o. (no. 3025)
According to	EN 50131-1, EN 50131-2-6, EN 50131-2-8, EN 50131-5-3, EN 50131-6, ETSI EN 300 220-1,-2, EN 50130-4, EN 55032, EN 62368-1, EN IEC 63000
Can be operated according to	ERC REC 70-03
Recommended screw	2 x  $\varnothing$ 3.5 x 40 mm (countersunk head)



JABLOTRON ALARMS a.s. hereby declares that the JA-152SHM is in compliance with the relevant European Union harmonisation legislation: Directives No: 2014/53/EU, 2014/35/EU, 2014/30/EU, 2011/65/EU, when used as intended. The original of the conformity assessment can be found at [www.jablotron.com](http://www.jablotron.com) – the *Downloads Section*



**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.

