The JA-157P dual zone outdoor wireless motion detector - curtain

The JA-157P wireless outdoor detector is a component of JABLOTRON system. It is designed to detect human body movement in an outdoor environment. It is the FTN-RAM-PT detector produced by Optex with a transmitter JA-150TX-V1 produced by JABLOTRON a.s.

The optical part of the detector has curtain characteristics of its lenses with a 5°angular width detection zone which makes it very suitable for guarding narrow spaces such as balconies, French doors, terraces, etc. The detector is equipped with dual-beam optics with a high immunity against false alarms and the detection of small animals. The detector also has an anti-masking function – i.e. protection against shielding its view. It is also equipped with two tamper contacts both of them immediately reporting tampering of the detector or removal from the installation place. The detector should be installed by a trained technician with a valid certificate issued by an authorised distributor.

Installation

Installation rules:

1. Detector has to be installed onto a vertical wall.
2. Detector has to be installed 0.8 – 1.2 m above the ground.
3. The best movement detection is provided when the detection beams intersect.
4. No other moving objects (bushes, trees, high grass, air-conditioners, etc.) should be situated in the field of sight.
5. Avoid direct action by strong sources of light (sun reflections, sunset, sunrise, etc.).

Procedure:

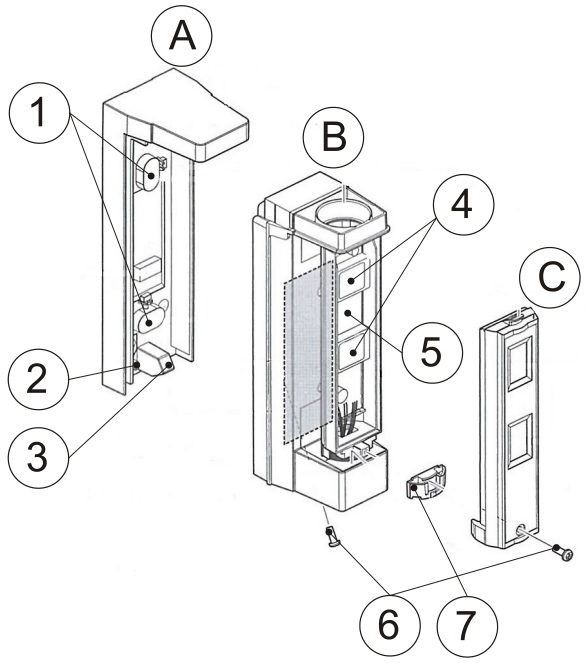


Figure 1: *Detector housing: A – detector installation pad, B – detector base with the PCB, C – front cover of the detector with lenses, 1 – mounting holes, 2 – blasting part of tamper contact, 3 – facing surface to be assembled by a screw, 4 – lenses, 5 – DIP switch for setting up, 6 – locking screws for assembling, 7 – retractable fixation bracket*

1. Unscrew the locking screws (6) and separate parts A and B.
2. Fix the installation pad (A) to the required place using mounting holes (1). Caution, if you want to use a tamper contact it is necessary to screw the blasting part (2) of the housing to ensure when someone tamper the detector it breaks off this part.
3. Now take out the front cover to set up the detectors view and options by DIP switches (5).
4. Position of the detection part is fixed by a plastic bracket (7), remove it in upper direction.
5. When you set up the required angle of view, lock it by pushing of plastic bracket (7) back to default position.
6. Set the required options by the DIP switches (5).
7. Now enroll the detector to the system.

Do not touch the detector sensing face during the handling

If you touch it coincidently, it is necessary to clean it up by a piece of cotton wool soaked in alcohol.

Switching the detector on and its enrolling to the system

The signal transmitter for wireless communication is located under the main board part (B) of the detector. The batteries are inserted to the battery holder located on the transmitter. **Always use the CR123A (3.0 V / 1.4 Ah) lithium battery.** The correct position of the batteries is indicated on the battery holder.

Enrolling procedure:

a. Go to the ***F-Link*** software, select required position in the *Devices* window and launch the enrolment mode by clicking on the *Enroll* option.

b. Insert the battery (mind the correct polarity). When the battery is inserted into the battery holder an enrolment signal is transmitted to the control panel and the detector is enrolled to the selected position.

c. Assemble the detector in opposite order then it was disassembled.

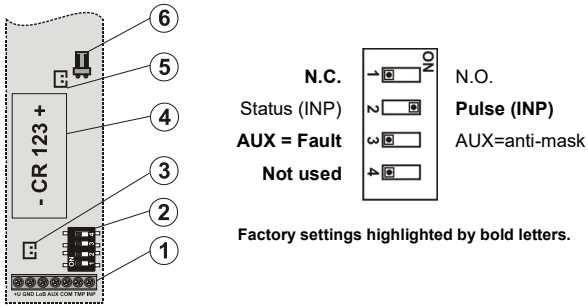


Figure 2: *Radio transmitter: 1 – terminals, 2 – option DIP switch (pre-set from factory, see picture), 3 – external tamper contact jumper, 4 – battery holder, 5 – external antenna jumper, 6 – external antenna connector*

Notes:

- *There must be a radio module JA-11xR installed in the control panel*
- *The detector can also be enrolled into the system by entering its production code in the F-Link software. You can find the production code on the sticker, glued onto the PCB. All numbers under the bar code shall be entered (1400-00-0000-0001).*
- *If needed the transmitter can be equipped with an AN-868 (2PIN) external antenna connected to the connector (6) and disconnect the jumper (5).*

Setting up the optical part of the detector

The detection distance can be set to 5 m or 2 m. The setup is done by turning around by lower lens (near to the centre of housing). The shape of the lens is adjusted that it shows by special molded digit with selected detection distance (see fig. 3.). **Don´t turn around the upper lens!**

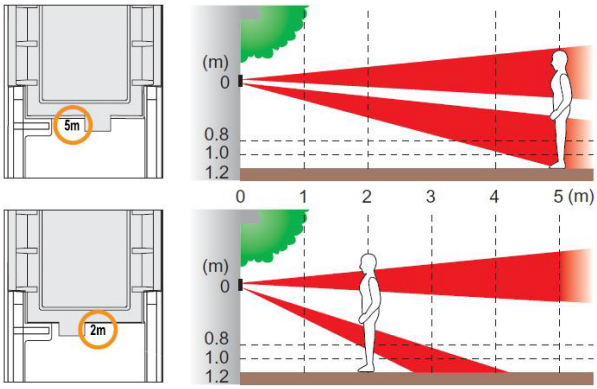


Figure 3.: Characteristics 5 m and 2 m

Protection against masking

The detector has an Anti-masking function – protection against shielding its view. When the function is enabled the detector sends infra-red pulses and detects possible shielding. The shielding is indicated if the obstacles are less than 10 cm from the detector.

When battery is inserted and both plastic covers closed the detector analyses its view in front of it for 1 minute – self-

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calibration. No movement should be detected at this moment for less than a 1 m distance. Then a 10 minute test mode runs. In the test mode pulses are sent every 20 s, so covering is indicated at least 20 s after covering starts. When test mode expires the detector goes to the normal mode. Then the pulses are sent every 3 minutes so covering is indicated at least 3 minutes after covering starts. Covering is indicated as detector tampering. Detection is restored at least 20 s after the obstacle disappears. The function is disabled as default.

Other options are adjustable by DIP switches inside the detector



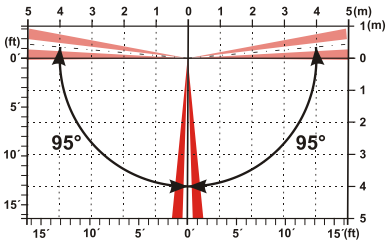
NORM
Power save mode 120 s
NC
LED OFF
Increased immunity
Anti-masking

TEST
5 s.
Fault signal switches NO
LED ON
Basic immunity
OFF Anti-masking ON

Factory settings highlighted by bold letters.

1. ***TEST mode**: LED indication ON; Power save mode OFF completely (DIP switches 2 and 4 are not respected);*
2. *Normal mode: DIP switches 2 and 4 are respected*
3. *Power save mode: After movement detection detector goes to sleep mode for 5 or **120 s***
4. *Output relay logic selection in standby mode (**NC**/NO, for all Jablotron systems use always option OFF)*
5. *Enables / **Disables** LED indicates movement detected by the detector*
6. *False alarm immunity level*
7. *ANTI-MASKING – see paragraph Protection* against masking

The detection part can be turned by 190° with locking by every 5°. When the required angle has been set, use the plastic lug to prevent further movement. The angle is fixed completely when the cover with the lenses is put back and the screw is tightened.



Battery check and its replacement

The detector checks the battery status automatically. Nearly drained battery is reported by continuous flashing of yellow signalling LED on the detector (1 flash per sec) and at the same time low battery status is reported to the control panel. The detector remains fully functional. The battery should be changed as soon as possible.

The control panel must be in service mode **before battery changing** (see the control panel installation manual). Tamper contact must be pressed several times after opening the cover and removing the battery to discharge capacitors.

Use only lithium batteries CR123A (3 V, 1.4 Ah).

Note: If you insert a nearly drained battery into the detector by mistake, the sensor does not start working and this status is indicated with the transmitter LED flashing. If the battery is completely drained, the detector does not react at all.

Technical specifications

Power	*1x* Lithium battery type CR123A (3.0 V/1.4 Ah) Please note: Battery is not included
Current consumption (nominal/maximal)	*30 µA/53 mA*
Typical average battery lifetime	*approx. 3 years (120 s saving mode)*
Communication band	*868.1 MHz, Jablotron protocol*
RF range – distance from the CP	*up to 300 m (open area)*
Optex detector parameters	
Detection characteristics	*2 or 5 m/5°*
Installation height	*0,8 – 1,2 m*
Object motion speed	*0,3 – 1,5 m/s*
Detector cover conformance	*IP55*
Operational environment	*IV according to EN 50131-1*
Operational temperature range	*-20 °C to +60 °C*
Max. relative humidity	*95 %*
Security grade	*according to OPTEX*
Complies with	*ETSI EN 300 220, EN 50130-4, EN 55022, EN 60950-1*
Dimensions	*52 x 176 x 66 mm*
Weight	*180 g*
Can be operated according to	*ERC REC 70-03*

JABLOTRON a.s. hereby declares that the JA-157P 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 - 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.