

JA-169P outdoor dual PIR motion detector

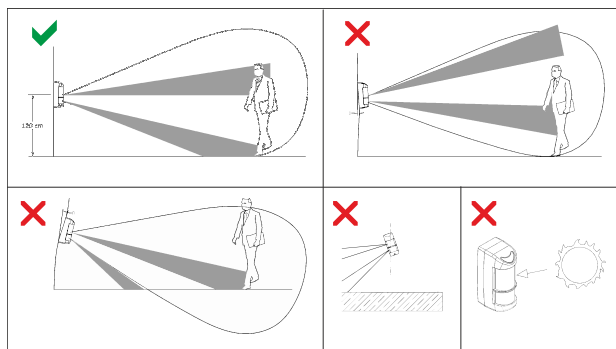
This detector is a component of the **JABLOTRON** system. The JA-169P dual wireless outdoor intruder detector is designed to detect human body movement in an outdoor environment. The detector consists of JL01 detector produced by LINCE Italia S.r.l., and a JA-150TX-V1 transmitter produced by JABLOTRON ALARMS. The optical part of the detector has 2 PIR sensors (dual zone detection) and a high immunity to false alarms and detection of small animals. The detector is equipped with one tamper contact. Tamper contact immediately reports any attempt on opening the detector or demount from mounting place.

The detector should be installed by a trained technician with a valid certificate issued by an authorised distributor.

Installation

Conditions:

1. The detector has to be installed onto a vertical wall (in a position where its bottom surface is parallel to the guarded zone).
2. The detector should be installed 1–1.2 m above the ground.
3. The best movement detection is provided when the detection beams intersect.
4. No other objects capable of causing detection interference (bushes, trees, high grass, air-conditioners, etc.) should be situated in the field of view of the detector.
5. Avoid direct effects of strong sources of light (sun reflections, etc.).



Procedure:

1. Unscrew the locking screw (2) on the bottom of the upper cover of the detector and remove the detection part's cover (3).
2. Unscrew all screws (1) which hold the detector's main board (5) to its mounting plate (7) and pull it out by tilting as you pull it out. There is a radio transmitter fitted onto the rear side of the detector's PCB.
3. The detector can be mounted onto a level mounting place by the 4 screws through the mounting plate. Or it can be mounted on a pole by metal ties (not supplied).

Warning: Do not touch the detector sensors during handling



In case that physical contact does occur, it's necessary to clean the sensor with the use of a cotton swab dipped in rubbing alcohol.

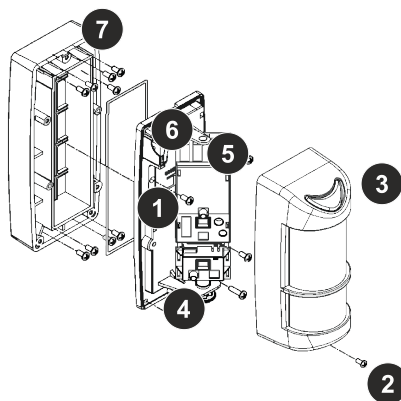


Fig. 1.: 1 – bracket screws, 2 – locking screw, 3 – front cover, 4 – adjustment knob for lower PIR (PIR2), 5 – PCB holder, 6 – tamper contact 7 – mounting backplate

Enrolling the detector to the system

Signal transmitter for wireless communication is located underneath the main board part of the detector. The battery is inserted into the battery holder placed on the transmitter's PCB.

Enrolment procedure to the system:

- 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 batteries (mind the correct polarity). When the first battery has been inserted into the battery holder an enrolment signal is transmitted to the control panel and the detector is enrolled to the selected position.
- Assemble the detector in opposite order in which it was disassembled.

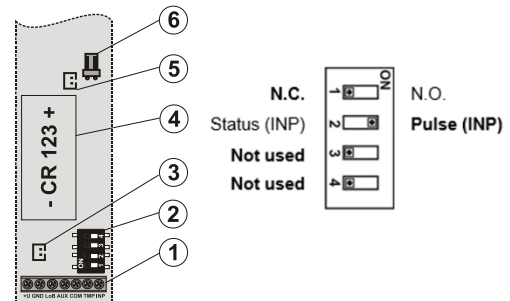


Fig. 2 – Transmitter JA-150TX-VX1: 1 – wire terminals, 2 – settings DIP switch (pre-set from factory, see picture), 3 – external tamper contact jumper, 4 – battery holder, 5 – external antenna jumper, 6 – external antenna connector

Notes:

- There must be a JA-11xR radio module installed in the control panel.
- The detector can also be enrolled into the system by entering its serial number (7) in the F-Link software. You can find the serial number on the sticker, glued onto the PCB. All numbers under the bar code has to 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).
- For a DIP switch change of settings, the detector has to be completely turned off.

Normal operation mode

The detector sends an activation radio signal when it is triggered. In the case of tampering with the detector or tearing the detector off its location, the detector sends a tamper signal. A status report is sent every 9 minutes to the control panel.

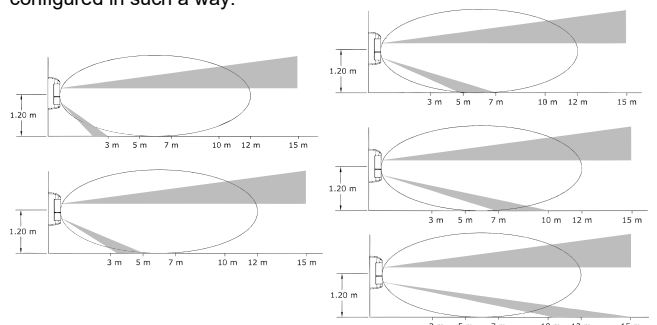
Checking and replacing the batteries

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 replaced as soon as possible.

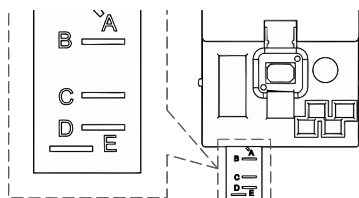
The control panel must be in service mode **before battery replacement** (see the control panel installation manual). Tamper contact must be pressed several times after opening the cover and removing the battery to discharge capacitors.

Setting up the optical part of the detector

The optical part of the detector includes 2 PIR sensors with an optional AND logic. They detect movement in two planes. The detecting angle of the lower PIR sensor can be adjusted. The alarm signal is triggered only if both detecting planes are triggered at the same time if the detector is configured in such a way.



JA-169P outdoor dual PIR motion detector



The following table represents the values included in the figure:

Position	Maximum range of the lower detecting part
A	3 m
B	5 m
C	7 m
D	10 m
E	15 m

Table 1: Detection range

Warning: The maximum detection length of the lower detection plane may vary from the values listed above due to varying environmental thermal conditions. This must be taken into consideration during detection range adjustment.

The detection area angle is 85°. Direction of the detection angle can be adjusted to positions A – G by rotating the detector's adjustment knob. Each step is marked. The detector's lens covers the angle of 180° - therefore the lens does not require any adjustment.

The PIR detection sensitivity can be configured by a 10-pole switch located next to the upper sensor.

DIP2	DIP3	PIR sensitivity
OFF	OFF	low
OFF	ON	low / medium
ON	OFF	medium / high
ON	ON	high

Table 2: PIR sensitivity

DIP4	DIP5	Working Logic
OFF	OFF	PIR1 - ON, PIR2 - ON
OFF	ON	PIR1 - ON, PIR2 - OFF
ON	OFF	PIR1 - OFF, PIR2 - ON
ON	ON	not available

Table 3: Working logic

The detector sends information to the control panel every 9 minutes. For normal detector operation we recommend the LED indication to be turned off in order to save battery life. The inhibition mode can be set by DIP switch no. 9, selecting between 180 s and 30 s. It determines the time period after which the detector is able to detect movement again and send a new activation signal.

Testing (coverage test)

The detector enters test mode when it is powered on. Close the detector cover and use your movement to test the correct coverage of the protected area, as well as that the detector does not react to movement outside the set protected area. Respect the possible variation of the detection distance depending on the change of temperature conditions. Each activation is indicated by the detector flashing a red LED and simultaneously sends information to the system (can be checked using diagnostics in the F-Link SW). After 4 minutes without activation, the detector automatically exits the test mode. When testing in normal operation, the detector may be activated only as often as the setting of the inhibition mode permits (30 s or 180 s). To restart the test mode, the battery must be removed for at least 30 s and then placed back. Starting the test mode is indicated by the detector by successive cyclic flashing of 2 green and 1 red LED.

After testing, we recommend DIP 9 to OFF (180s) in order to save battery life.

Troubleshooting

False alarms:

- Check if it's mounted in right height range and perpendicular to the ground
- Check if the detection area of lower PIR sensor is not wider than required
- Check if the detection area doesn't contain moving objects

Terminal description of JA-150TX-V1		
IN	detector activation	brown
TMP	tamper contact	white
COM	common ground	gray, pink
AUX	connected with GND	
LoB	connected with GND	
GND	ground	yellow
+U	power	green

Table 4: Connection description between JL01 and JA-150TX-V1

Technical specifications

Power:	1x Lithium battery type CR123A (3.0 V/1.4 Ah)
	Please note: Batteries are not included
Current consumption (quiescent/maximal)	30 µA/55 mA
Typical lifetime of battery	approx. 3 years
	- when 180 s saving mode is used
Communication band	868.1 MHz
RF range	up to 300 m (open area)
Maximal radiofrequency power (ERP)	25 mW
Detection characteristics	15 m/85°; 11 segments
Weight (w/o battery)	380 g
Recommended installation height	1–1.2 m
Speed of object movement	0.3–1.5 m/s
Saving power timer of battery	30 s or 180 s
Operating temperature range	-25 °C to +60 °C
Detector cover conformance	IP45
Average operating humidity	75%, non-condensing
Dimensions	189 x 81 x 98 mm
Weight (w/o battery)	380 g
Can be operated according to	ERC REC 70-03



JABLOTRON ALARMS a.s. hereby declares that the JA-169P detector 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 - Technical 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.