

# The JA-60V wireless outdoor PIR detector

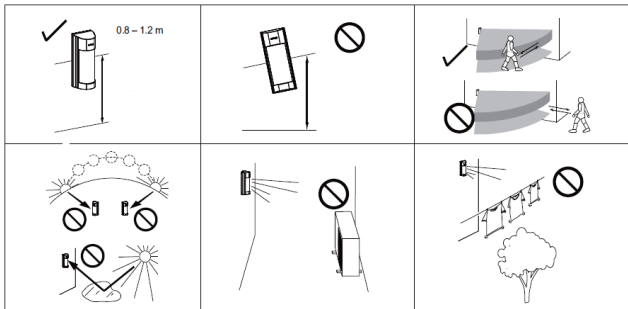
The JA-60V wireless outdoor intruder detector is designed to detect human body movement in a protected area. It supplements a double-zone PIR sensor produced by Optex with a Jablotron transmitter enabling the detector to be used within the JA-60 systems. The optical part of the detector has 2 PIR sensors and high immunity to false alarms and the detection of small animals. The detector includes an Anti-masking function – protection against covering the view and it also has two tamperers (front and back) built in. They immediately report opening the detector or attempting tampering. The detector does a self-test periodically and sends its status by a connection test to the control panel. The detector should be installed by a trained technician with a valid certificate issued by an authorised distributor.

## Installation

Choose a proper place for detector installation according to the following:

1. The detector has to be installed onto a vertical wall (in a position where its bottom surface is parallel to the watched zone).
2. The detector should 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 of the detector. Avoid direct action by strong sources of light (sun reflections, etc.).

**Note:** If multiple JA-60V detectors are used, they don't have to be installed face to face with each other and its recommended to install them with a minimum 1 m distance.



Procedure:

1. Unscrew the locking screw placed on bottom of the upper cover of the detector (1) and remove the detection part cover (1).
2. Unscrew the 2 screws which hold the detector's main board (2) and pull it out by tilting as you pull it out.
3. Remove the battery holder.
4. Remove the rear box cap (5).
5. Unscrew the 2 screws which link the rear cover (3) with the mounting plate (4).
6. The detector can be mounted onto a level mounting place by the 2 screws through the mounting plate (4). Or it can be mounted on timber by ties.
7. Put the detectors parts back together in the opposite order when it's finally fixed to the mounting place (4).

**Warning:** Do not touch the detector sensing face during handling.

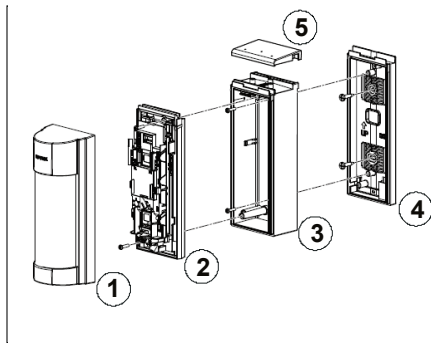


Fig. 1.: 1 – front cover, 2 – detector main board, 3 – rear cover, 4 – mounting plate, 5 – rear cover cap

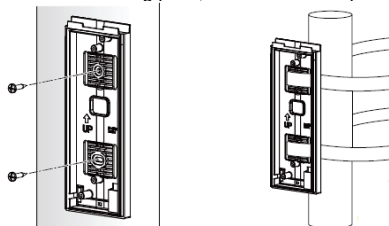


Fig. 2.: Detector installation. Standard installation and fixing by ties.

## Enrolling the detector to the system

The signal transmitter for wireless communication is located in the back plastic part under the optical part of the detector. The detector is powered by the batteries as well. Always use just AAA batteries from the same producer and if replacement is needed change both of them. The correct position of the batteries is indicated on the bottom of the plastic battery holder.

Enrollment procedure to the system:

- a. Read the installation manual of the receiving unit before you insert the batteries into the detector.
- b. There must be a radio module installed in the control panel.
- c. Open the enrollment mode on the receiving unit.
- d. Insert the batteries (mind the correct polarity). When the first battery has been inserted into the battery holder an enrollment signal is transmitted to the control panel and the detector is enrolled to the selected position. Assemble the detector.
- e. By DIP switch no.1 set the reaction to detected movement (ON = Instant, 1 = delay). Leave DIP switch no.2 in the ON position.

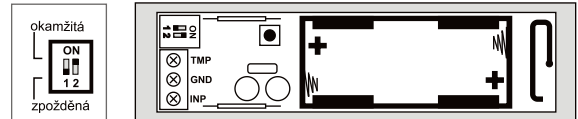


Fig. 3 – A view of the JA-60N transmitter

## Setting up the optical part of the detector

The optical part of the detector includes 2 PIR sensors with AND logic. They detect movement in two planes. The detecting angle of the lower PIR sensor can be adjusted to a wide angle range. The alarm signal is triggered if only both detecting planes are triggered at the same time. By shifting the lens set up the tilt of the lower detecting plane according to the following picture and table.

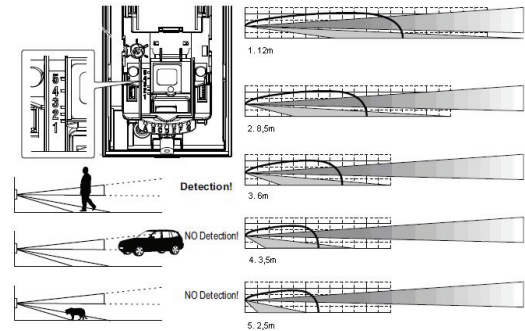


Fig. 4.

The following table represents the values included in the figure:

Position	Maximum range of the lower detecting part	
	Average value	see following warning:
1	12 m	10 to 17 m
2	8.5 m	7 to 12 m
3	6 m	5 to 8.5 m
4	3.5 m	3 to 6 m
5	2.5 m	2 to 3.5 m

Table 1.

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

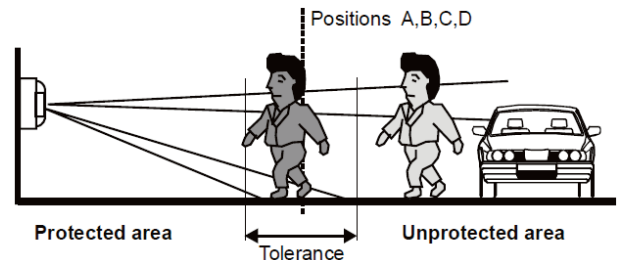


Fig. 5.

The detection area angle is 90°. The direction can be adjusted from position A–G by rotating the detector's plastic part. Each step is circumscribed. The detector lens covers the whole angle of 180° - therefore it does not require any adjustment.

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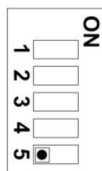
You can restrict the detection angle by adhesive masking strips supplied with the package. This way you can eliminate problematic parts of the detection area. The strips are to be stuck on the relevant lens segment from the inner side.

The PIR detection sensitivity can be configured by a 3-pole switch located under the upper sensor. The letters correspond to sensitivity levels as follows:

- L** low – applicable to bad conditions
- M** middle
- H** high

Other parameters can be configured using a DIP switch:

**NORM**  
**120s**  
**N.C.**  
**LED OFF**  
Antimasking OFF



**TEST**  
5s  
N.O.  
LED ON  
**Antimasking ON**

Factory settings highlighted by bold letters.

The LED serves for PIR detector testing – checking the coverage. The detector always sends information to the control panel. For normal detector operation the LED should be turned off in order to save the battery.

The power save mode can be set up by DIP switch no. 2, select 5 s / 120 s.

## Testing (coverage test)

By DIP switch no. 1, enter test mode and by DIP switch no. 4 turn on the LED indication. Close the detector. Test the detection range of the protected area and immunity out of the protected area.

Bear in mind the potential changing of detecting distance influenced by the environment.

Each movement is indicated by LED and it sends the information to the control panel.

We recommend turning off the indication LED when the testing procedure is finished. And set up the power save mode to 120s to get a longer battery lifetime.

## Normal operating mode

The detector sends a radio signal about activation when it is triggered. In the case of tampering with the detector or tearing the detector off its position the detector sends a tamper signal. The communication checking is automatically performed at 15 minute intervals for the system to test that all its devices are present and ready for operation.

## Checking the status of and replacing batteries

The detector checks its battery status automatically and if the batteries are running low it informs the system that they need replacing. The detector remains fully functional. The batteries should be changed as soon as possible (within 1 week).

**Before battery replacement** the control panel has to be switched to service or maintenance mode (see installation manual of the control panel) and then it is possible to open the cover of the detector. Always use alkaline AAA (2 x 1.5V) batteries. When you close the cover the detector goes to the normal operating mode automatically.

**Note:** If you insert a discharged batteries coincidentally then detectors won't start working.

**Caution:** Dispose of batteries safely depending on the type of the batteries and local regulation. Although this product does not contain any harmful materials we suggest you to return the product to the dealer or directly to the producer after usage.

## Troubleshooting

Problem	Problem cause	Solution
The detector makes false intrusion alarms	Lower detection area is unnecessarily long.	Set the detection area properly.
	The detector is exposed to direct/reflected light (sun light, car light etc.).	Remove the reflector, mask the area exposed to the reflection of light or change the detector position.
	There is a moving object in the area (laundry on the clothes-line, plants etc.).	Remove the moving object or change the detector position. Or put the stickers on part of the lens to avoid detection in a problematical place.
Occasionally no reaction to movement	Lower detection area is unnecessarily long	Set the detection area properly
	Sensitivity is set to low (L).	Change sensitivity to medium (M) or high (H).
	The detector is in battery-save mode	While testing operation, set the battery-save timer to 5 seconds.
Detector ignores any movements	Low battery	Replace the battery
	LED does not light	Turn the LED switch ON
	LED indicator lights but there is no reaction in the control panel.	The control panel is out of range, check the battery, try to reposition detector or control panel

5 s ... šetřící režim

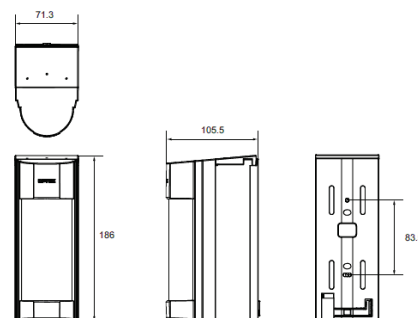


Fig. 6. Detector dimensions (mm)

## Technical specifications

Power	2 x alkaline batteries type AAA (1.5 V)
Average battery lifetime	approx. 1 year* -power save mode 120 s
Communication band	433,92 MHz
RF range – communication range	up to 100 m (open area)
Optex detector parameter	
Detection characteristics	12 m / 90 °; 16 segments
Recommended installation height	0.8 – 1.2 m
Object motion speed	0.3 – 1.5 ms <sup>-1</sup>
Battery saving timer	adjustable 5 s or 120 s during a coverage test
LED indication	IV
Operational environment according to EN 50131-1	according to Optex
Security grade	-20 °C to +60 °C
Operating temperature range	IP55
Detector cover conformance	95 %
Max. relative humidity of the environment	
Dimensions	186 x 71.3 x 105.5 mm
Weight	500 g
Can be operated according to	ERC REC 70-03



JABLOTRON ALARMS a.s. hereby declares that the JA-60V is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC and 2011/65/EU. The original of the conformity assessment can be found at [www.jablotron.com](http://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. For more detailed information visit [www.jablotron.com](http://www.jablotron.com).