JA-120PW Bus combined PIR and MW motion detector

*The JA-120PW is a component of the **JABLOTRON 100** system. It is used for the detection of human movement in building interiors. The combination of PIR and microwave (MW) detection gives very good protection against false alarms. When some movement is detected by the PIR detector in a guarded place, the MW part is activated and confirms the previous PIR activation. Only then an alarm is triggered and is sent to the control panel. The detector should be installed by a trained technician with a valid certificate issued by an authorised distributor.*

Installation

The detector can be installed onto a wall or in a corner of the room. There should be no objects in motion (for example: curtains above a heater) and no animals. There should be no obstacles in front of the detector which might obstruct its view and it should not be installed near metal objects (they could shield the MW field).

1. Open the detector cover by pushing the tab (7). Avoid touching the PIR sensor inside (5) – you could damage it.
2. Take out the PCB – it is held by tabs (4). It is not necessary to unplug the connector (2) for the MW part.
3. Punch through the holes for the screws and the cable in the plastic base. The recommended detector installation height is 2.5m above the floor.
4. Insert the bus cable and attach the plastic base to the wall using screws (vertically, with the cover tab (7) facing downwards).

When connecting the detector to the system bus, always switch the power off.

5. Put the PCB back and connect the bus cable to the terminals (1).

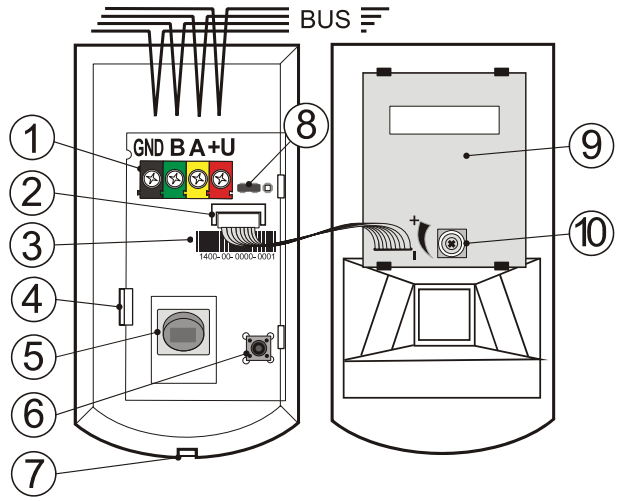


Figure: 1 – digital bus terminals; 2 – MW part connector; 3 – production code; 4 – PCB tab ; 5 – PIR sensor; 6 – tamper contact; 7 – Cover tab; 8 – test jumper; 9 – MW sensor; 10 – MW sensitivity settings;

6. Proceed according to the control panel installation manual. Basic procedure:
   a. When the device is powered, the yellow LED starts flashing repeatedly to indicate that the module has not been enrolled into the system.
   b. Go to the **F-Link** software, select the required position in the **Devices** tab and launch enrollment mode by clicking on the *Enroll* button.
   c. Press the tamper contact in the detector (6) – the detector is thus enrolled and the yellow LED indicator goes off.
7. Close the detector cover.

Detector internal settings

The detector properties can be set in the **Devices** tab of the F-Link software. When at the detector position, use the ***Internal settings*** button to open a dialog window where you can set :

Activation indicated by LED: *disable* / enable* movement indication by a red LED. In service mode indication always works .

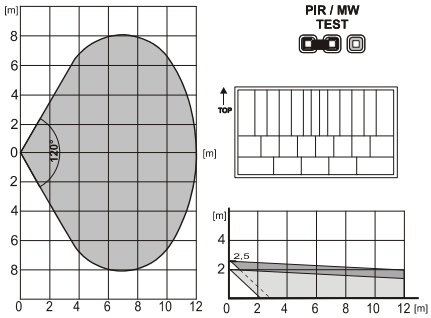
PIR immunity level: selection of immunity to false alarms.
Standard * combines very good immunity with fast sensor reactions
Increased is higher immunity with a slower reaction time and is only used for problematic installations.

MW switching: determines the level of analysis performed by the MW motion detector. *Standard* * combines very good immunity with fast sensor reactions. *Increased* is higher immunity and provides a slower reaction time.

Testing the detector

Checks the function of both sensors using jumper (8) in service mode. The jumper only works in service mode.

The PIR detector is equipped with a 110°/12m lens. Coverage – see the next figure. Check the coverage with the jumper (8) in the PIR position. Movement is indicated by a red LED.

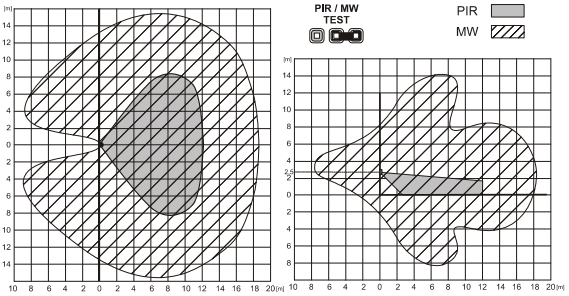


The properties can be changed by using an alternative lens:

JS-7904	Designed for long corridors – with a working range of up to 20m **Increased immunity cannot be used with this lens!**
JS-7910	Equipped only with the upper beam covering 120 degrees / 12m and not covering the floor (can ignore the movement of small pets on the floor)
JS-7902	Vertical curtain – it does not cover an area but creates a detection wall (can be used to create a barrier and report its breach)

Note: with a different lens, test whether the detector covers the area correctly (a wrongly installed lens can cause detection errors).

The MW detector reacts to movement from a 1 m to 20 m range. The detection range is set by a trimmer (10). This detector can detect the movement of non-metal substances behind fixed obstacles (behind a wall, flowing water in plastic pipes etc). It is recommended to set the MW detection range to the same range as the PIR detection range. Check the coverage with the jumper (8) in the MW position. Movement is indicated by a red LED.



Top view Side view

After coverage testing of the PIR/MW parts of the detector, disconnect the jumper completely, then the detector will react to the activation of both detectors.*

PIR / MW TEST

Technical specifications

Power	from the control panel bus 12 V (9 ... 15 V)
Current consumption in standby mode	5 mA
Current consumption for cable choice	25 mA
Recommended installation height	2.5 m above the floor
Detection angle / coverage	110 degrees / 12 m (standard lens)
MW detection range / frequency	0.5 to 20 m / 9.35 GHz
Dimensions	95 x 60 x 55 mm
Classification	Grade II
according to	EN 50131-1, EN 50131-2-4
Operational environment	EN 50131-1 II. Indoor general
Operating temperature range	-10 to +40 °C
Also complies with	ETSI EN 300 440-1, EN 60950-1, EN 50130-4, EN 55022
Can be operated according to	ERC REC 70-03

Operation requires notification national telecommunication offices of Finland, France, Italy, Serbia and Montenegro, Spain, Sweden, UK

JABLOTRON ALARMS a.s. hereby declares that the JA-120PW is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The original of the conformity assessment can be found at 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 manufacturer after use.

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