

JA-161PW Wireless combined PIR + MW motion detector

The product is a component of the **JABLOTRON** system. It is used for spatial detection of movement of people in the interior of buildings. The combination of **PIR** and **MW** makes the detector highly resistant to false alarms. It uses a PIR sensor to detect the movement of people, which is then confirmed by a MW sensor. An alarm is triggered when both sensors are activated. The detector is designed to be installed by a trained technician with a valid Jablotron certificate. This product is compatible with JA-102K, JA-103K, JA-107K and JA-152KRY control panels.

Installation

During the installation pay attention that there should be no obstacles in the detector's view for proper PIR sensor function. We do not recommend installing the detector close to metal objects – it can cause the influence of microwave field. It is not possible to install two or more detectors in an area MW transmitters could interfere with each other.

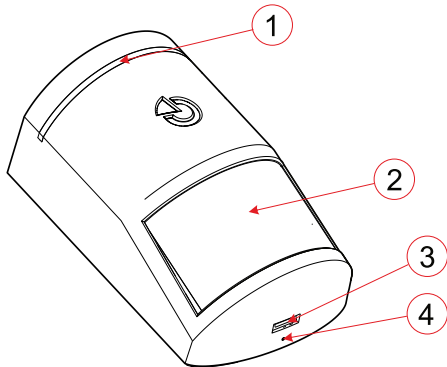


Figure 1: Description of external part of detector

1 – light guide; 2 – PIR sensor lens; 3 – cover latch; 4 – hole for the locking screw

- Open the detector cover by pressing the latch (3). Do not touch the PIR sensor (11) inside - it may be damaged.
- Release the PCB located in the rear housing part by pressing the PSB latch (5) at the top of the cover
- Screw the rear cover part to the wall (vertically, cover latch down). Recommended installation height is max. 2,5 m above floor. For proper detection of the detector being torn off the surface, use the rear holes in the oval part of the rear cover to screw it in as well
- Please also refer to the installation manual of the control panel.
- Basic procedure:
 - The control panel must feature JA-11xR radio module.
 - Go to the **F-Link** software, select the required position in the **Devices** window and launch the **Enrolment mode** by clicking on the **Enrol** option.
 - By inserting the first battery a yellow LED will start to flash, only after the inserting the second battery an enrolment signal will be transmitted and the detector enrolled onto a selected position. **Mind the correct polarity when inserting the batteries.**
 - This is followed by a detector stabilization phase (which may take up to three minutes), that is indicated by a red LED (6).
- Close the detector cover and secure with the locking screw.

Notes:

- The detector can also be enrolled into the system by entering its production code in the F-Link program. The serial number is on a label with a bar code which is placed inside the detector (5). All numbers shall be entered (example: 1400-00-0000-0001).
- If you want to remove the detector from the system, delete it from its position in the control panel.
- To comply with EN 50131-1, the cover latch (3) must be secured with the supplied locking screw into the prepared hole (4).

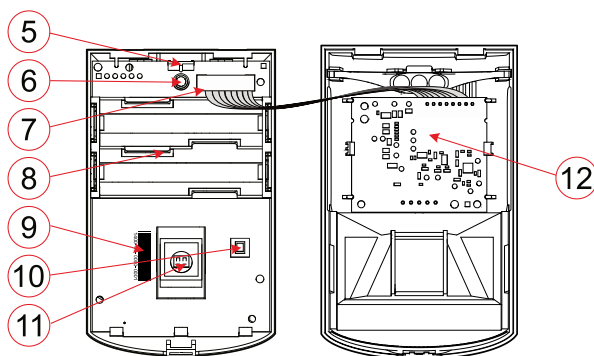


Figure 2: Description of internal parts of product

5 – PCB latch; 6 – LED; 7 – connector for MW sensor connection; 8 – battery holder; 9 – serial number; 10 – tamper contact; 11 – PIR sensor; 12 – MW sensor

Setting detector properties

The settings are made by the F-Link program, **Devices** tab. At the detector position, use the **Internal Settings** option (the yellow LED on the detector lights up). A dialogue appears in which the settings can be made (* factory settings):

PIR immunity level: determines resistance to false alarms. The **Standard*** level combines basic immunity with fast response. The **Enhanced** level provides higher immunity, but the detector responds more slowly.

MW immunity level: determines the level of motion analysis performed by the MW sensor. **Standard*** combines basic immunity with fast response. **Increased** level provides higher immunity, but the detector responds more slowly.

MW sensitivity: 100%, 75%*, 50%, 25%. In some installation cases, the microwave detection is also able to detect movement behind a wall, behind a glass window, plasterboard, etc. Therefore, perform an errand test using the **Test Mode - MW** option and in case of unwanted activations, gradually reduce the sensitivity.

MW activation: Any way secured* / Fully secured / Always / Never. The factory default setting is that confirmation of PIR sensor activation by MW detection is enabled when both partially and fully set. In the set state, MW detection is disabled (so the detector activation in the unset state is only from the PIR sensor). By switching the option to **Fully armed**, MW detection is only functional when the section is fully set. When the section is partially set and the section is in the unset state, MW detection is disabled. For the third option **Always**, the MW detection is always activated, namely even in the set state. MW detection confirmation can also be completely disabled with the **Never** option. In this case, the detector behaves like a standard PIR motion detector.

Testing mode: the **PIR+ MW** and **MW** buttons are used to test the detector in the control panel service mode, when it is necessary to check the detector activations by a walk test. Pressing the **PIR+ MW** button invokes the test mode of the detector as a whole for an errand test in the guarded room. Pressing the **MW** button invokes the test mode for MW detection only to check the sensitivity outside the guarded area, for the prevention of false alarms. In both cases, confirmation of activation is indicated by a red detector signal and an activation signal is sent to the control panel - F-Link diagnostics tab. The MW detection test itself is interrupted either by switching the **PIR+MW** button or by leaving the internal settings of the detector under test.

Battery replacement

The system sends automatic reports when the battery is low. We recommend changing the batteries within two weeks since a low battery status has been indicated. Battery replacement is done by a technician with the control panel in service mode, or by an authorized user in the maintenance mode.

It is necessary to wait for 10 seconds before inserting new batteries or triggering the cover tamper contact (10) and thus discharging remaining charge from within the detector.

Notes:

- Insertion of empty batteries is immediately indicated by the detector by flashing the red LED for the duration of detector stabilisation (15 seconds).
- Battery status can be seen in the F-Link program, within the Diagnostics tab.
- For proper function of the detector, we recommend using BAT-1V5-AA batteries supplied by the Jablotron distribution network.
- Please do not discard used batteries into trash, instead take them to a designated collection bin.

Function test

In the control panel service mode, the LED indicates any movement. After leaving the service mode, the detector switches to the operating mode according to the selected parameters of the internal settings. The individual detector activations can also be checked in the **F-Link** program under the **Diagnostics** tab.

The **PIR sensor** is factory fitted with a 110 ° / 12 m lens. The coverage of the area is according to the following picture - white characteristic.

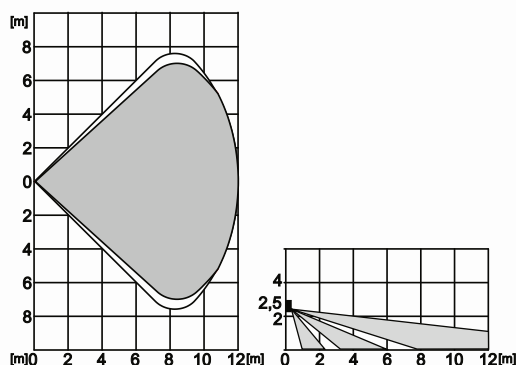


Figure 3: Coverage characteristics

The **MW sensor** is guaranteed to react to movement from 0 m to 12 m. In certain cases, it can detect motion behind fixed obstacles non-metallic materials (behind a thin wall, door, glass, running water in plastic pipes, etc.).

Due to the principle of operation of the MW part of the detector, the detection characteristics of the MW coverage may vary significantly depending on the size, shape and equipment of the room in which the detector is installed, especially with regard to metallic materials that cause reflections or shielding of the generated MW signal.

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Always check the coverage of the guarded area carefully during installation.

Technical specifications

Power	2x alkaline battery, type LR6 (AA) 1.5 V / 2.45 Ah Please note: Batteries are not included.
Typical lifetime of batteries	approx. 2 years
Low battery voltage	<2.4 V
Quiescent current consumption	70 µA
Maximal current consumption	40 mA
Communication band	868.1 MHz, JABLOTRON protocol
Maximum radio-frequency power (ERP)	<25 mW
Recommended installation height	2.5 m
Detection angle / detection coverage (PIR)	110 ° / 12 m
Detection angle / detection coverage (MW)	90 ° / 12 m
Operating frequency MW	24.125 GHz
Maximum effective radiated power MW (EIRP)	50 mW
Dimensions	60 x 98 x 52 mm
Weight (without batteries)	93 g
Classification	security grade 2 / environmental class II (according to EN 50131-1)
With increased immunity against false alarms, EN 50131-1 does not meet.	
Environment	indoor general
Operating temperature range	-10 °C to +40 °C
Average operating humidity	75 % RH, non-condensation
Certification body	Trezor Test s.r.o. (no. 3025)
In compliance with	EN IEC 63000, EN 50130-4, EN 55032, EN 50131-1, -2-4, -5-3, -6, EN IEC 62368-1, EN ETSI 300 220-1, -2, EN ETSI 300 440
Can be operated according to	ERC REC 70-03
MW Frequency band according to ERC REC 70-03	band m)
ITU designation for MW	P0N
ITU designation for SRD	80K0F1DAN
Recommended screw	2x  ø 3.5 x 40 mm (countersunk head)

We recommend that you familiarize yourself with the terms and conditions set by local telecommunications authorities.

This detector must not be used in Great Britain as the frequency 24.05-24.15 GHz in this frequency band is allocated for police speed meters. In France, no restrictions for fixed installations, otherwise limited to 0.1 mW e.i.r.p. in 24.10-24.15 GHz. In Russia, fixed installations are permitted with a maximum of 100 mW e.i.r.p., subject to specific installation requirements.



JABLOTRON a.s. hereby declares that the JA-161PW product is in a compliance with the relevant Union harmonisation legislation: Directives No.: 2014/53/EU, 2014/35/EU, 2014/30/EU, 2011/65/EU, if it is used as intended. 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.