JA-122PW, JA-122PW-GR, JA-122PW-AN
Bus dual PIR and MW motion detector

*This product is a bus component of the **JABLOTRON** system. It is designed to detect human body movement inside buildings. A high immunity to false alarms is reached thanks to the combination of PIR and microwave (MW) detection. The detector works like a classic PIR detector, however when PIR detects movement in a guarded area, 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 JA-122PW features a white lens that provides standard white light immunity as defined by the norm (up to 6000 lux). The JA-122PW-GR detector features a grey lens that provides increased white light immunity, way above the requirements defined by the norm (up to 10000 lux). This lens helps to reduce false indication of alarms caused by for example: car headlight refraction, the setting sun, lightning or reflective surfaces. The immunity to false alarms can be set at two levels, PIR and MW. The detector operates with a pulse reaction (only indicates its activation) and takes up a single position in the system. This detector is intended to be installed by a trained technician with a valid certificate issued by an authorised distributor.*

Installation

Given the principles and detection characteristics of the MW detector, the best results can be achieved when the detector is installed in a corner of a room. No moving objects (e.g. waving curtains above a radiator or animals) should be in the detector's field of vision. There should be no obstacles in front of the detector which could obstruct it's view and it should not be installed near metal objects (they could affect the MW field). It is also not possible to install two or more detectors in a single area, as the MW transmitters could affect each other.

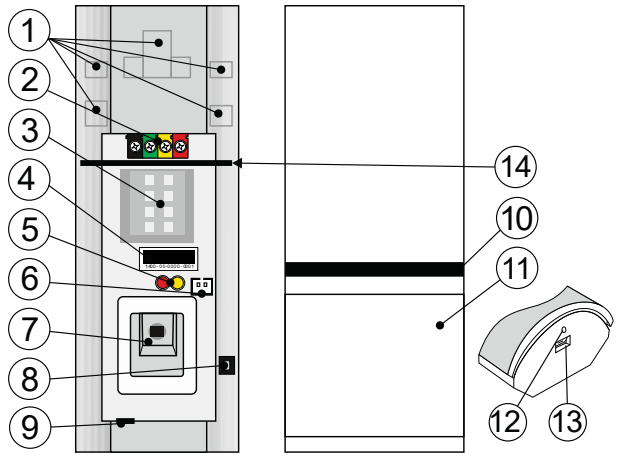

Fig 1: 1 – wiring knockout holes; 2 – digital bus terminals; 3 – MW sensor; 4 – production code; 5 – detector state indicators; 6 – The JA-191PL external tamper connector; 7 – PIR sensor; 8 – tamper contact; 9 – PCB tab; 10 – light guide; 11 – PIR lens; 12 – fixing screw hole; 13 – cover tab; 14 – MW sensor protective divider

1. Open the detector cover by pushing the tab (13). Avoid touching the PIR sensor inside (7) – you could damage it.
2. Take out the PCB – It is held in place by tabs (9) at the lower part of the cover.
3. Punch through the (1) holes for the screws and the cable in the plastic base. The recommended detector installation height is 2.5 m above the floor. In order to fully take advantage of device removal tamper detection, it is necessary to utilize the screw hole surrounded by perforation.
4. Insert the bus cable through the holes (1) and attach the plastic base to the wall using screws (vertically, with the cover tab facing downwards)

Always switch the power off before connecting the detector to the system bus.

5. Put the PCB back and connect the bus cable to the terminals (2).
6. Bus cables must not reach beyond the divider (14) that protects the MW sensor. Cables reaching into the area beyond the divider can negatively impact the functionality of the MW sensor.
7. Proceed according to the control panel installation manual. The control panel must be in service mode. 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, simultaneously, the red LED glows (for up to 3 min – detector stabilisation is in progress).
   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. Click the ***„Scan/add new BUS devices"*** button and double-click the detector which you wish to enroll from a list of detected devices. Enrollment can also be performed by pressing the (8) tamper button inside the detector. Once the detector has been enrolled, the yellow LED will cease to glow.
8. Close the detector cover. In order to be fully compliant with regulations, it is necessary to fix the cover in place with the use of a fixing screw. (12).

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 (4). All numbers must be entered (example: 1400-00-0000-0001).*
- *In order to comply with Belgium INCERT certification, installation in the center of the inner corner is required.*
- *If you wish to remove the detector from the system, delete it from its position in the control panel.*

Detector internal settings

The detector's internal settings can be adjusted in the **Devices** tab of the **F-Link** software. Use the **Internal settings** button, at the same position as the detector, to open a dialog window where you can set the following (factory settings are marked with *):

LED detector indication: turns *off*/on* movement indication by the means of a red LED (1) during operation. During service mode the LED indicates every movement regardless of this setting.

PIR immunity level: determines the level of immunity to false alarms. *Standard** combines basic immunity with a fast sensor reaction. *Increased* has stronger immunity with a slower reaction time.

MW immunity level: determines the level of analysis performed by the MW motion detector. *Standard** combines basic immunity with a fast sensor reaction. *Increased* has stronger immunity and provides a slower reaction time.

MW sensitivity: *100%**, *75%*, *50%*, *25%*. In some instances the microwave detection is capable of detecting movement behind solid obstacles – such as walls, glass panels, plasterboard walls, etc. It is recommendable to perform a test in the test mode – *MW,* and in case of any unwanted triggers, gradually decrease the sensitivity.

MW activation: *Any set* / Full / Always / Never*. By default, PIR activation confirmed by MW detector is turned on both in partial and full setting when the system is set. In an unset state the MW detection is turned off (therefore the detector is activated in an unarmed state by the PIR sensor). By changing the setting to *Full*, MW detection is active only if a section is fully set. MW detection is disabled if a section is partially set or in an unset state. If the third setting is chosen, the MW detector is always activated, even in an unarmed set state. (**Please note, this setting can drastically impact detector battery life expectancy, depending on the number of activations**). Confirmation by MW detection can be completely turned off by choosing the *Never* option, in which case the detector behaves like a standard PIR detector.

Sensor of tearing-off from the wall: turns the detection *off*/on* on the additional tamper sensor featured on the JA-191PL PIR jointed bracket.

Completely disable PIR detection: *YES/NO**. If the installation requires it (e.g. a long corridor where PIR detection is insufficient), it is possible to completely disable PIR motion detection and therefore turn the detector into a MW detector with the use of this setting.

Test mode: The *PIR+MW* and *MW* buttons are intended to be used for detector testing. In order to initialize the test mode, the control panel must be in service mode. By pressing the *PIR+MW* button, the detection test mode of regular operation is initiated. By pressing the *MW* button, the MW detection test mode is initiated, which allows for a thorough control of detection sensitivity in order to prevent the possibility of initiating a false alarm. In both modes, detection is indicated by the flash of a red LED light, at the same time a signal is transmitted to the control panel – which can be seen on the Diagnostics tab within F-Link. The test mode is exited either by pressing the *PIR+MW* button or leaving the internal settings tab.

Detector testing

If the control panel is in service mode, every movement registered by the detector is indicated by an LED. By exiting the service mode, the control panel will enter the operational mode, which is set within the internal settings. Individual detector activations can be seen within the **F-Link** program under the **Diagnostics** tab.

The PIR sensor is equipped with a 90°/12m lens – white characteristic. For coverage see - Fig 2.

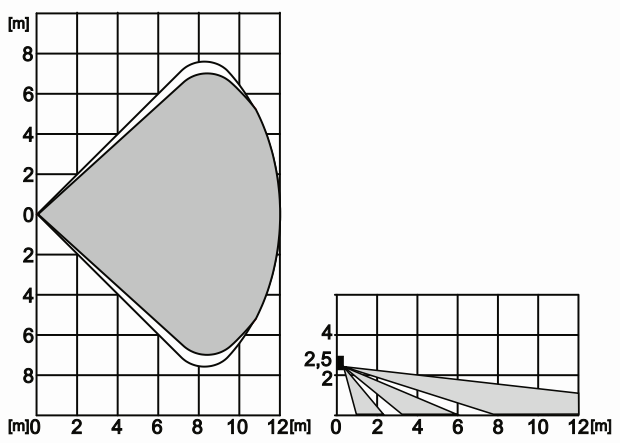

Fig 2: Detection characteristics

JABLOTRON ALARMS a.s.
Pod Skalkou 4567/33 | 46601 | Jablonec n. Nisou
Czech Republic | www.jablotron.com

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The MW sensor reacts to movement within the range of 0 m to 12 m – grey characteristic. The MW sensor can in certain instances detect movement behind non-metallic solid objects, (such as: walls, doors, glass, etc.). Due to the nature of MW detection, the detection characteristic can drastically change in relation to the size, shape and furnishing of a protected area, especially with regard to metallic materials which can reflect or block transmitted MW signals.

The JA-122PW features a white lens that provides standard white light immunity as defined by the norm (up to 6000 lux). The JA-122PW-GR detector features a grey lens and the JA-122PW-AN detector futures with black lens that provides increased white light immunity, way above the requirements defined by the norm (up to 10000 lux).

During installation, it's always necessary to test whether the detector sufficiently covers the area.

Installation accessories

JA-196PL-L – Detector wall holder.

If a more aesthetic installation is required, it is possible to use the JA-196PL-L wall bracket, it is supplied in two colours – white and grey. With the use of this bracket, it is possible to partially put the detector in a wall or plasterboard wall.

JA-191PL – PIR jointed bracket.

It is used for special placement, such as installation on the ceiling or at a tilted angle (greater installation height). The jointed bracket is a certified detector accessory having its own tamper contact which is to be connected to a connector inside the detector (6).

JS-LT82601B – Gray lens

Detector futures with a grey lens that provides increased white light immunity.

Technical specifications

Power supply:	from the control panel bus 12 V DC (9 ... 15 V)
Current consumption:	
- in standby mode	5 mA
- for cable choice	16 mA
Recommended installation height:	2.5 m above floor level
Detection angle/PIR coverage:	90°/12 m
Detection angle/MW coverage:	80°/12 m
MW Frequency:	24.125 GHz
Maximum MW radio-frequency power (ERP):	30 mW
Dimensions:	150 x 63 x 40 mm
Weight:	120 g
Classification:	Security grade 2/Environmental class II (According to EN 50131-1)
Environment:	Indoor general
Operating temperature range:	-10 °C to +40 °C
Average operational humidity:	75 % RH, w/o condensation
Certification body:	Trezor Test s.r.o. (no. 3025)
In compliance with:	ETSI EN 300 440, EN 50130-4, EN 55032, EN 62368-1, EN IEC 63000, EN 50131-1, EN 50131-2-4
Operating conditions according to general authorization	ERC REC 70-03
Recommended screw	2 x ø 3.5 x 40 mm (countersunk head)

JABLOTRON ALARMS a.s. hereby declares that the JA-122PW, JA-122PW-GR, JA-122PW-AN products are in a compliance with the relevant European 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 - Downloads section.

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.