JA-154P Wireless PIR motion detector

*The product is a component of the **JABLOTRON** system. It is used for spatial detection of movement of persons inside buildings. Its detection characteristics can be changed by using an alternative lens. Resistance to false alarms is selectable in two levels. The detector has a pulse response (it only reports its activation), communicates wirelessly, is powered by two alkaline batteries and occupies one position in the system. The detector is intended for installation by a trained technician with a valid Jablotron certificate.*

Compatibility with specific control panels can be verified using the QR code at the end of the manual.

To comply with EN 50131 and INCERT (T 031) requirements, the Standard level must be used.

Installation

The detector can be mounted on a wall or in a corner of the room at a height of 2.2–2.5 m. There should be no objects that change temperature rapidly (electric heaters, gas appliances, etc.), no moving objects (e.g. waving curtains above a radiator, robotic vacuum cleaner, etc.) and no pets in its field of view. It is not recommended to install the detector opposite windows or reflectors, or in places where air flows (ventilation, air conditioning, vents, leaky doors, etc.). There must be no obstacles in the field of view that would obstruct its view of the protected area.

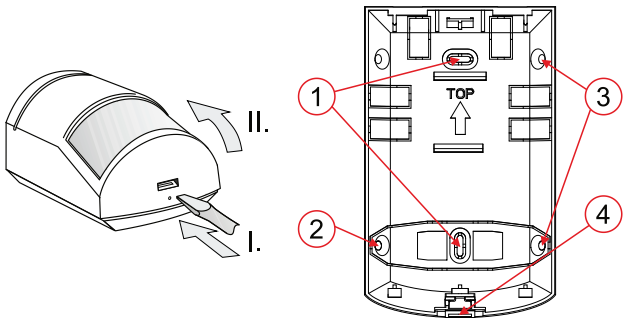


Figure 1: How to open the product and description of the rear parts of the product

***1** – holes for mounting on a flat wall;*
***2, 3** – holes for mounting at an angle (in a corner); **4** – cover latch*

1. Open the detector cover by pressing the latch (4). Do not touch the PIR sensor inside (9) – there is a risk of damage.
2. Remove the electronics.
3. Break out the holes for the screws in the rear plastic and place it on the wall.
4. Replace the electronics and follow the installation manual for the control panel. Basic procedure:
   a. The control panel must contain a JA-11xR radio module.
   b. In the ***Devices*** tab of the ***F-Link*** software, select the position and press the *Enrol* button to activate enrolment mode.
   c. Insert both batteries into the detector (ensure correct battery polarity). When the second battery is inserted, the enrolment signal is transmitted to the control panel, and the detector is enrolled at the selected position. After inserting the batteries, the detector stabilises (up to three minutes). This status is indicated by the LED indicator (5).
5. Close the detector cover. To properly meet the requirements of the standards, it is necessary to secure the top part with the locking screw from the package.

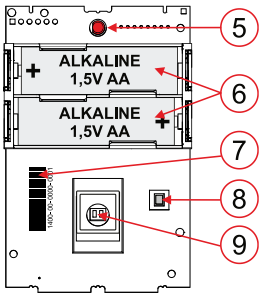


Figure 2: Description of the internal parts of the product

***5** – LED indicator; **6** – batteries; **7** – serial number; **8** – tamper switch; **9** – PIR sensor*

Notes:
- *If the detector is enrolled into the system after the batteries have already been inserted, first disconnect them, then press and release the tamper switch (8) to consume the residual energy, and only then program the detector.*
- *The detector can also be enrolled into the system by entering the serial number (7) in the F-Link software or using barcode reader. Enter all the digits shown under the barcode (1400-00-0000-0001).*
- *To remove the detector from the system, delete it from the corresponding position in the control panel.*
- *To comply with EN 50131-3, the cover latch (4) must be secured with the screw supplied in the package.*

Detector communication in the system

The detector is equipped with new two-way asynchronous communication with the JA-11xR radio module. The reason for this is to maintain comfort for possible changes in internal settings (as with bus detectors), while also considering battery life in normal operating mode.

After enrolment into the system, the detector operates in *the so-called accelerated 90s mode* until it leaves service mode (but no longer than 24 hours). This means that every 90 seconds it checks whether the system is still in service mode, whether it should accept new settings.

In normal system operation, the detector does not receive signals as standard (it only receives regular reports, at most once every 20 minutes). When switching from operating mode to service mode, it can therefore take up to 20 minutes for the detector to learn about the service status of the control panel or to accept changes to the internal settings. This time can be shortened by activating the detector (e.g. by moving in front of the detector or opening = activating the tamper sensor), which immediately switches to accelerated 90-second mode.

***Important:** When requesting a change to the internal settings, it is not necessary to wait 90 seconds (or 20 minutes) for the detector to confirm acceptance of the settings. The system remembers the requested change and transmits the new detector settings during regular communication.*

Setting properties

The settings are made using the F-Link software – ***Devices*** tab. Use the ***Internal settings*** option for the detector position. A dialogue box will appear where you can set *(* factory settings):*

Immunity level: determines resistance to false alarms. The *Standard** level combines basic resistance with a fast response. The ***Increased* level** provides higher immunity, but the detector reaction is slower. To comply with EN 50131 and INCERT (T 031) requirements, the ***Standard* level** must be used.

Operating mode: **Smartwatch** or **One-minute** interval function.

Smartwatch: If continuous movement is detected in the Smartwatch function, up to three reports are sent every 20 seconds, then the next report is sent after 2 minutes. If no movement is detected in front of the detector for more than 10 minutes, the three reports every 20 seconds mode is activated again.

One-minute interval: In one-minute motion detection mode, the detector goes to sleep for a minute after activation, and after a minute's delay it is ready to detect again.

Detector testing

In control panel service mode, the detector LEDs indicate every movement. After leaving service mode, the detector switches to the operating mode set in the internal settings. Individual detector activations can also be checked in the ***F-Link*** software, in the ***Diagnostics*** tab.

In normal detector operating mode, the LEDs are completely turned off, including the yellow fault LED.

Replacing the batteries in the detector

The system automatically reports when the batteries are low. We recommend replacing the batteries within 2 weeks of the low battery signal. The replacement is performed by a technician in the control panel service mode. It is always necessary to replace both batteries with new ones at the same time!

Before inserting new batteries, wait 10 seconds or press the cover tamper switch (10) to discharge any residual current.

Notes:
- *The detector immediately indicates a low battery by flashing the yellow LED for the duration of the detector stabilisation (min. 15 seconds).*
- *The battery status can be checked in the F-Link software, in the Diagnostics tab.*
- *For the detector to function properly, we recommend using batteries supplied by the Jablotron distribution network (LR6 (AA) 1.5 V) or other high-quality branded alkaline batteries.*
- *Do not dispose of used batteries in the waste, but take them to a collection point.*

Detection characteristics

The detector is factory-fitted with a JS-7911 lens with a coverage of 110 ° / 12 m. The space is covered by 3 fans (curtains) – see the following figure.

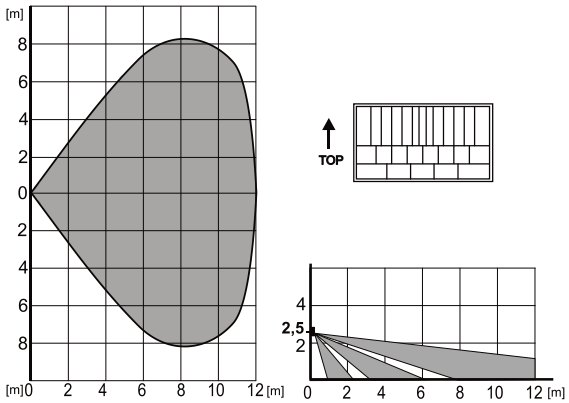


Figure 3: Detection characteristics
The coverage diagram shown is valid for standard immunity levels.

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

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The characteristics can be changed by using an alternative lens:

JS-7910	It only has an upper fan of 90° / 7 m and does not cover the floor (it can eliminate the movement of small animals on the floor). When using this lens, the detector corresponds to the JA-154P PET type.
JS-7904	It is designed for long corridors and has a range of up to 20 m. When using this lens, the increased immunity level cannot be used! When using this lens, the detector does not meet the requirements of EN 50131 2-2:2021.
JS-7902	Vertical curtain – does not cover the area, but forms a detection wall (a barrier can be defined, the passage of which is reported). When using this lens, the detector does not meet the requirements of EN 50131 2-2:2021

***Note**: After replacing the lens, check that the detector covers the area correctly (an incorrectly installed lens may cause false detection).*

Technical parameters

Power	*2x alkaline batteries, type LR6 (AA) 1.5 V*
	Note: Batteries are not included.
Typical battery life	*approximately 4 years*
Low battery voltage	*<2.4 V*
Nominal current consumption	*36 µA*
Maximum current consumption	*50 mA*
Communication frequency	*868.1 MHz, JABLOTRON protocol*
Maximum radio-frequency power (ERP)	*<25 mW*
Communication range	*approx. 500 m (open terrain)*
Recommended installation height	*2.2 to 2.5 m above floor level*
Detection angle / detection coverage	*110 ° / 12 m (with basic lens)*
Dimensions	*60.8 x 97.5 x 51.8 mm*
Weight (without batteries)	*82 g*
Classification	*security grade 2 / environment class II (according to EN 50131-1)*
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), Kiwa Nederland b. v.*
Complies with	*EN 50131-2-2, EN 50131-5-3, EN 50131-6, EN 50130-4, ETSI EN 300 220-2, EN 55032, EN IEC 62368-1, EN IEC 63000, T 031*
Operating conditions according to general authorisation	*ERC REC 70-03*
Recommended screw	*2x ø 3.5 x 40 mm (countersunk head)*

JABLOTRON a.s. declares that the JA-154P product is designed and manufactured in accordance with the harmonised legal regulations of the European Union: Directives No.: 2014/53/EU, 2014/35/EU, 2014/30/EU, 2011/65/EU, when used as intended. The original declaration of conformity is available at www.jablotron.com in the *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. For more detailed information, visit www.jablotron.com in the *Downloads* section.

QR code compatibility