JA-120PC BUS PIR motion detector with a camera

*The JA-120PC is a component of the **JABLOTRON JA-100** system. It serves for the detection of human movement in building interiors and visual alarm confirmation. The camera takes colour photos with a resolution of up to 640 x 480 pixels. Taking photos is triggered by detecting human movement; this is so that the reason for the alarm is always recorded. The camera is equipped with a visible flash for taking photos in the dark. The images are saved in the internal memory of the detector and then they are forwarded to the control panel. And from the control panel they can be sent to an external mass storage area, ARC and a user. The detector can also take a picture if it is required. 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 the corner of a room. There should be no objects which quickly change temperature (electric heaters, gas appliances, etc.) or which move (e.g. curtains hanging above a radiator) or pets in the detector´s field of sight. It is not recommended to install the detector opposite windows or floodlights or in places with over-intense air circulation (close to ventilators, heat sources, air conditioning outlets, unsealed doors, etc.). There should be no obstacles in front of the detector which might obstruct its view.

Figure: 1 – flash for illumination; 2 – camera lens; 3 – PIR detector lens; 4 – cover tab;

1. Open the detector cover (by pushing the tab (4)). Avoid touching the PIR sensor inside (14) – you could damage it.
2. Take out the PCB – it is held by a tab (9).
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 facing downwards).

⚠ **When connecting the detector to the system BUS, always switch the power off.**

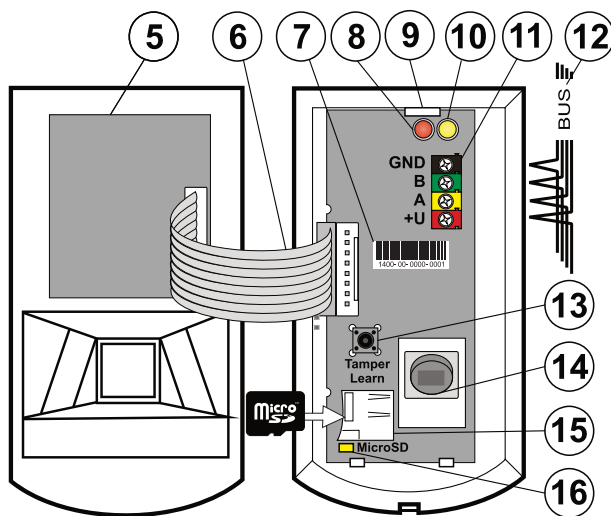5. Re-insert the PCB and connect the BUS cables to the terminals (11).

Figure: 5 – Camera module; 6 – connecting cable; 7 – production code; 8 – red LED; 9 – PCB tab; 10 – yellow LED; 11 – BUS terminals; 12 – BUS cable; 13 – tamper contact; 14 – PIR sensor; 15 – Micro SD memory card; 16 – yellow LED of micro SD card.

6. Proceed according to the control panel installation manual. Basic procedure:

a. When the device is switched on, the yellow LED (10) 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** window and launch the enrollment mode by clicking on the **Enroll** option.
c. Press the tamper contact in the detector (13) – the detector is thus enrolled and the yellow LED indicator goes off. If the detector is enrolled as a first camera PIR or a control panel is not connected to an external mass storage area, F-link shows a dialogue window with the question: "Enable image transfer to the IMG server?" We strictly recommend enabling this option with the agreement of the customer and confirming this acceptance by recording it in the system service log with his signature.

Note: If the transmission is not enabled, images will be saved in the internal memory of the detector and the control panel. Then it is impossible to send image reporting to users' cell phones and e-mails.

7. Close the detector cover.

Detector internal settings

Settings can be set by **F-Link** software (version 1.1.1 and higher) – **Devices** tab. When at the detector position, use the *Internal settings* option to open a dialog window where you can configure the settings (* default settings):

LED movement indication: *Enabled*; allows you to disable movement indication with the red LED.

PIR immunity level: Defines false alarm immunity. The *Standard* level combines basic immunity with a rapid reaction. The Increased level provides higher immunity but the detector reaction is slower.

PG output reaction: select PG outputs, by whose activation picture taking is triggered (* *No*, camera does not react to PG). For further info see Installation recommendations, cautions.

PG-state-triggered picture taking: *No flash, *With flash*
Photo taking during entrance delay: *No flash, With flash*
Photo taking during alarms: *No flash, *With flash*

Send pre-alarm image: When this parameter is enabled the detector will send pictures from the set section when an alarm has not been triggered yet (for example: during an entrance delay).

Test: takes a test picture with a flash and F-link shows it. When the **Detail** button is pressed, F-link shows the picture with a 640 x 480 pix resolution. Pictures are sent to the external mass storage area (if it is enabled).

Camera and basic reactions

The processing of how the camera takes pictures depends on the settings in the **F-link** software –**Devices** tab. Choose the Reaction button on a particular detector line.

Instant: During the alarm state the camera can be triggered 4 x (then it is auto-bypassed). Every movement takes 2 photos maximum, this depends on the detected movement. Photos are sent to the control panel (8 photos maximum).

Delay: The first activation (entrance delay) takes up to 2 photos according to the detected movement and saves them into the internal memory *(Send pre-alarm image disabled)*. When an alarm is triggered, photos are sent from the internal memory to the control panel. Then the behaviour is the same as an instant reaction. (10 photos maximum).

Caution: When in **Settings/Parameters** "Bypass after 3 x triggering" is enabled, then taking photos is blocked after the 3rd repetition. The number of taken and transferred photos could be 3 times bigger.

Detection characteristics

The standard lens that is supplied with the JA-120PC detector covers an area of 55°/12m – see picture. The detection characteristics have an influence on the camera part. The lens does not have to be changed for any other type.

The camera always has a viewing angle of 43°, the camera flash has a 3 m range (distance).

JA-120PC BUS PIR motion detector with a camera

Side view

Top view

PIR

55°

Camera

43°
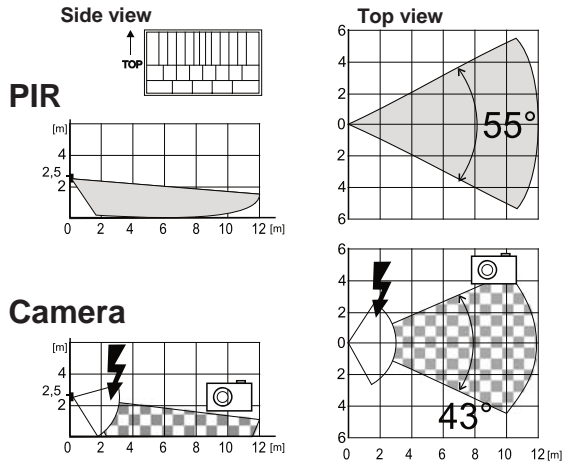
Saving and browsing the pictures

Every picture is taken as a double exposure: the first with low resolution (LQ = 320 x 240 pixels), second with high resolution (HQ = 640 x 480 pixels).

All of the exposures are saved in internal memory (micro SD on the detector PCB) into the independent folders Foto_LQ and Foto_HQ. When the card is fully loaded, the oldest pictures are replaced by new ones. Pictures saved on the micro SD card can be browsed by a usual PC browser. Note: Some antivirus software records marking data on the micro SD card. The detector will automatically format the SD card erasing this marking data. SD card formating erases all data which has been saved. For more information about formatting see Formatting the micro SD card.

Pictures are sent to the control panel in LQ. You can browse through the images by **F-Link** and **J-Link** software (For the event memory, click on event *New image*). Pictures are displayed in LQ, if you click on *Detail* you can get pictures in second exposure (HQ). Images can be searched and browsed by a file manager or picture browser. For showing the pictures it is necessary to start F-Link (J-link) software and be logged into the control panel as a service technician or Administrator and then connect the control panel memory. Under *Disc: Flexi_log /Foto* are saved all the pictures which have been sent to the control panel (LQ) and pictures which have been requested in *Detail* (HQ).

Picture transmission from the control panel

Choose one of these options to send pictures to the user:

Transfer pictures to the Jablotron Web Self Service

When the SIM card which is supplied by device distributor is used and the customer uses Web Self Service services, then access to the photos is automatically allowed. Settings of the control panel for transfer pictures are done when the panel is registered. All of the photos are saved and visible in the WSS. Every single photo can be requested in HQ resolution. The WSS has an option to fill in telephone numbers (for SMS) or e-mail to get the photos when they are taken. Using the WSS it is possible to request a new picture without PG output activation (see Installation recommendations, cautions*)*.

Transfer pictures to external mass storage

If the WSS is not available, photos can be transferred to external mass storage for example: http://img.jablotron.cz. Communication parameters are preset in the factory and they are activated when the first PIR detector with a camera is enrolled to the system. When communication works properly create an account at http//:img.jablotron.cz. Enter your Login and password, then fill in the registration code of the control panel and the photos will be immediately accessible for browsing. The registration code is on the control panel PCB or you can read it via **F-Link** software, **Communication** tab, *Registration code* field. From this mass storage area a report of new pictures can be sent as an e-mail.

In both cases sending a report straight from the control panel will normally work. When the picture is saved on the WSS or http://img.jablotron.cz, the control panel sends an SMS report to all users according to the **F-link** software, **User reports** tab, **Alarm photo** settings. Sent SMSes include an http link for displaying the photo. On cell phones with an internet connection the photos can also be browsed.

CAUTION: Because this detector allows you to take photos when the system is unset by a PG state or from the WSS, the producer strictly warns the user that the detector has to be used within the limits given by particular laws or norms, especially norms about the protection of personal privacy.

The use of the detector is also subject to regulations on the protection of personal data and the manufacturer recommends that users be aware of the obligations applicable to the operation of CCTV.

According to these regulations users have an obligation to ensure the approval of persons in range of the detector during the acquisition of video recordings or the obligation to indicate the image capture area shown by the detector information tables.

Formatting the micro SD card

The detector is supplied with a formatted Micro SD card (15). The indication LED (16) is turned off in normal detector mode. Slow LED flashing indicates that some recording has been done on the SD card, or the SD card has been changed. The detector works normally with a new SD card only if the detector performs a card format. Formating the SD card is done after pressing the tamper contact (13). The formatting procedure is indicated by quick flashing of the LED (16). During this process all photos on the SD card are erased.

Installation recommendations, cautions

- Several JA-120PCs can be installed in the system. When several detectors are triggered at the same time, the transmission time to the control panel and outward is extended. A whole transmission can take a few minutes.
- For taking photos by PG status set *PG outputs / Function* Impulse to a time of 15 sec. minimum via *F-Link* software. The PIR has an internal algorithm which limits taking a photo by PG status to 1 photo per minute.
- The number of pre-alarm photos taken by a PG output is limited to 40 photos per day. The photo counter is reset at 00:00 hrs. Alarm photos and photos via the WSS have no limitation.
- In the WSS **Photo gallery / Sending notifications** and in http://img.jablotron.cz **Premises / Share** and during maintenance mode by J-Link software all users have access to the photos from all the system sections.
- Before you start using the WSS or external mass storage area check the cost for GPRS transfers with your GSM provider.

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	110 mA
Recommended installation height	2.5 m above the floor
Detection angle / detection coverage:	55° / 12 m (supplied lens)
Horizontal camera capture angle	43°
Range of the flash	max. 3 meters
Resolution of the camera	LQ 320*240; HQ 640*480 pixels
Photo size LQ/HQ (typically)	210 kB / 264 kB (6 kB / 35 kB)
Typical (LQ) photo transmission time to the control panel	20 s. (10 s)
Typical (LQ) photo transfer time from the system to server	15 s / GPRS; 2 s / LAN
Operational environment according to EN 50131-1	II.Indoor general
Operational temperature range	-10 to +40 °C
Dimensions, weight	110 x 60 x 55 mm, 102 g
Classification	Grade 2
According to	EN 50131-1, EN 50131-2-2
Also complies with	EN 50130-4, EN 55022, EN 50581

CE

JABLOTRON ALARMS a.s. hereby declares that the JA-120PW is in compliance with the essential requirements and other relevant provisions of Directive 2004/108/EC and 2011/65/EU. 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.