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 MyJABLOTRON or ARC. The detector can also take a picture if it is required. The detector takes one position in the system and should be installed by a trained technician with a valid certificate issued by an authorised distributor.*

⚠ **The photo-verification can be used only after the registration of the system to MyJABLOTRON or with subsequent ARC service.**

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.

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

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

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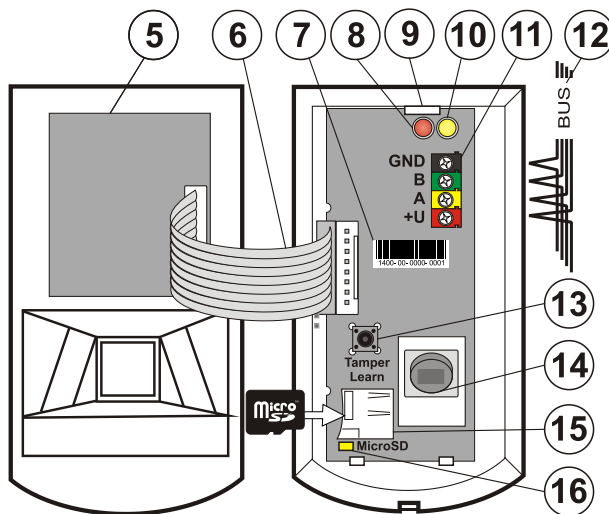

Figure: 5 – Camera module; 6 – connecting cable; 7 – production code; 8 – red LED; 9 – PCB tab; 10 – yellow LED; 11 – BUS terminals; 12 – BUS cable; 13 – tamper contact; 14 – PIR sensor; 15 – Micro SD memory card; 16 – yellow LED of micro SD card.

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. Click on the option **Scan/add new BUS devices**, select the JA-120PC detector and double click to confirm – the detector is enrolled into the selected position and the yellow LED (10) goes off.
   d. If the detector is enrolled as a first camera PIR or the control panel is not connected to MyJABLOTRON, F-link shows a dialogue window with the question about enabling data transfer. 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 only in the internal memory of the detector and the control panel. Then it is impossible to send the photos to MyJABLOTRON or to ARC.
7. Close the detector cover.

Notes:

– *The detector can also be enrolled into the system by pressing the cover tamper sensor (13).*

– *The detector can also be enrolled into the system by entering its production code (7) in the F-Link software (or with a barcode scanner). All numbers under the bar code must be entered (1400-00-0000-0001).*

– *To remove the detector from the system, erase it from its position in the control panel.*

– *To meet the EN 50131-3 standard it is necessary to secure the cover tab (4) with the supplied screw.*

Detector internal settings

Settings can be set by **F-Link** software – **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

Flash intensity: Low, *Medium, High* – in the case of overexposed scene with a flash (e.g. in a small room) the intensity of the flash can be reduced. For larger spaces it can be increased. **Caution:** If there are more detectors with the ability to simultaneously take a photo with high intensity flash in the system (e.g. when PG output is activated) there is a risk of a one-time high consumption from the BUS, which may cause a short-term power outage. We therefore recommend checking and counting the total consumption.

Increased number of photos during alarm: When enabled, 3 photos are sent instead of 2 during each alarm event, that means more data transfer between the detector and the control panel and between the control panel and MyJABLOTRON or ARC. This option is for specific markets so we don't recommend enabling by default.

Send pre-alarm photos: When enabled, the photos are sent also during an unconfirmed alarm, if the repeated or confirmed reaction is set. During each entrance delay, if the detector is triggered up to 2 photos can be sent even in case of successful unsetting of the system.

This option will cause a significant increase of the data amount transferred to MyJABLOTRON. In case of alarm being not unset (an alarm is triggered) the photos are sent automatically regardless of this option.

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 px resolution.

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 3 x (then it is auto-bypassed). Every movement takes 3 photos maximum, this

depends on the detected movement and settings. Photos are sent to the control panel (9 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. (11 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.

Installation recommendations, cautions

Multiple detectors can be installed in the system. However, when there is a simultaneous activation of multiple detectors, the time for transferring the photos to the control panel and MyJABLOTRON is prolonged. The complete transfer can take up to several minutes.

For taking a photo by PG output, in the **PG outputs** tab in the **F-Link** software select **Function** *"Impulse"* and set the time to at least 1 min. The detector has a build-in limitation to take 1 photo per minute when requested by PG output.

The amount of pre-alarm photos taken by PG output request is limited to 40 photos per day. The photo counter resets at 00:00 hrs. These limitations do not affect taking photos during an alarm and photos requested by MyJABLOTRON.

In the MyJABLOTRON **Photo gallery / Sending notifications** and during maintenance mode by J-Link software all users have access to the photos from all the system sections.

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).
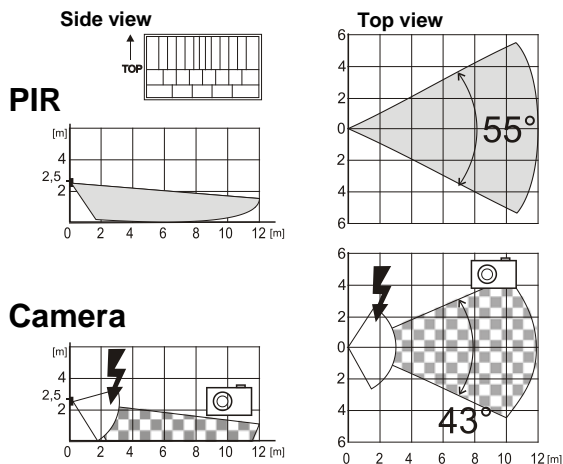
Saving and browsing the pictures

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 on the micro SD 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 formatting 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 to MyJABLOTRON

When the SIM card which is supplied by device distributor is used and the customer uses MyJABLOTRON service, 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 MyJABLOTRON. Every single photo can be requested in HQ resolution. MyJABLOTRON has an option to fill in telephone numbers (for SMS) or e-mail to get the photos when they are taken. Using MyJABLOTRON it is possible to request a new picture without PG output activation (see *Installation recommendations, cautions*).

MyJABLOTRON respects the rights of individual users in the photo-verification area according to access rights of users into sections (e.g. user of section 1 cannot view photos in section 2)

CAUTION: Because this detector allows you to take photos when the system is unset by a PG state or from MyJABLOTRON, 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. The manufacturer recommends the users to familiarize themselves with these regulations as well as with the regulations governing the operation of CCTV before the use of the detector. Furthermore, the manufacturer recommends the users to familiarize with General Terms and Conditions of Cloud JABLOTRON and with Privacy Policy (https://gdpr.jablotron.cz/).

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. Formatting 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.

Technical specifications

Power	from the control panel BUS +12 V (+9 ... +15 V)
Current consumption:	
- nominal consumption to calculate backup time	5 mA
- maximum consumption for cable choice	250 mA (high flash intensity)
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)	2-10 kB/2-64 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
Dimensions, weight	110 x 60 x 55 mm, 102 g
Classification	Security grade 2 / Environmental class II.
- according to	EN 50131-1, EN 50131-2-2
- operational temperature range	-10 to +40 °C
- operational environment	indoor general
- certification body	Trezor Test s.r.o. (no. 3025)
Also complies with	EN 50130-4, EN 55032

JABLOTRON ALARMS a.s. hereby declares that the JA-120PC is in a compliance with the relevant Union harmonisation legislation: Directives No: 2014/30/EU, 2011/65/EU. The original of the conformity assessment can be found at www.jablotron.com - Section Downloads.

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.