

The JA-111R BUS interface for JA-100 wireless devices

The JA-111R is a BUS module of the **JABLOTRON 100** system. It serves for communication with wireless devices in the system. It is supplied in a form of a PCB to be installed either directly into a holder in the control panel (A) or into the PLV-JA111R plastic intended for an installation outside the control panel (B) within the BUS range. Up to three radio modules can be used in one system to extend the radio signal coverage. The radio module takes one position in the system and it should be installed by a trained technician with a valid certificate issued by an authorised distributor.

Installation

The JA-111R radio module should be installed at an appropriate place inside the building where the wireless communication is not affected. It means it should not be installed near bigger metal objects, electronic appliances or switchboards (the recommended distance from such objects is at least 2 m). The radio module also works the best when installed at least 2 m from the control panel.

Although the ideal distance between the radio module and the control panel is 2 m, we state that the output of the radio module placed in the holder in the control panel is sufficient enough to cover most installations of small and medium-sized family houses, flats or offices. For large installations (e.g. multi-storey apartment buildings) up to three radio modules can be installed in the system. In such cases a minimum distance between the radio modules of 10 m in an open area or one wall or one floor inside a building must be met.

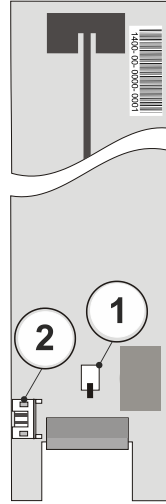


Figure 1: 1 – tamper contact; 2 – connection cable connector

After completing the whole installation in the given object, it is always necessary to check the signal level in the **Diagnostics** tab in the **F-Link** software. The signal level of wireless devices in the given installation should not be less than 20 % due to the possible connection loss. In such case it is necessary to find a more convenient place to install the radio module or to add another radio module to the installation.

Installation of the radio module into the control panel (A)

The PCB of the radio module can be placed into the holder directly in the control panel. The connection to the control panel is made with a flat cable supplied with the control panel (always at the required length depending on the type of the control panel).



The BUS connector on the control panel PCB is exclusively designed for the connection of one radio module placed in the holder in the control panel.

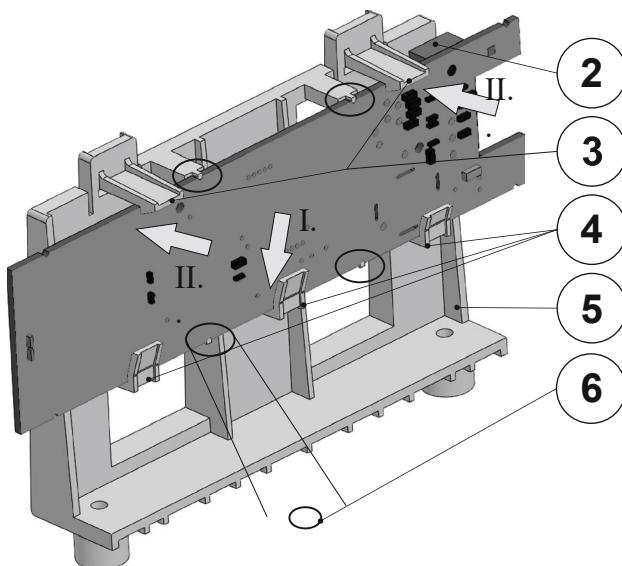


Figure 2: 2 – connection cable connector; 3 – upper holder tabs; 4 – lower inclined locking tabs; 5 – radio module holder; 6 – locking detail

1. Insert the PCB of the radio module (orientation according to Figure 2) into the holder (5) in a direction indicated by arrow I. at an angle given by the three lower inclined locking tabs (4). Make sure that the PCB of the radio module sits with its half-round cutouts

on the half-round tabs – see detailed locking (6). This is very important because the next step is securing the radio module with the upper tabs (3) in a direction indicated by arrow II. during which the tamper contact (1) on the top side of the radio module must be triggered.

2. Plug the connection cable (supplied with the control panel) to the radio module connector (2) and then to the connector of the control panel (see the installation manual of the control panel).
3. Proceed by following the *Module enrollment into the system* chapter in this manual.

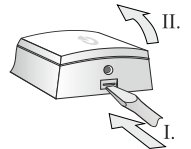


In case of an installation into the control panel it is necessary to check the tamper contact status in the Diagnostics tab in the F-Link software (after enrolling the radio module into the system). If the tamper contact is active check the positioning of the PCB in the holder.

Installation of the radio module outside the control panel (B)

The PCB of the radio module can be installed outside the control panel within the BUS range by placing it into the **PLV-JA111R** plastic cover. The plastic cover comes with a mounting package including labelled BUS terminals. To take out the radio module from the holder in the control panel unplug the connection cable, release the upper tabs (3) and take out the radio module from the holder.

1. Open the plastic cover by pressing the tab in the rear part in the direction indicated by the arrow I. and by tilting the front part in the direction indicated by the arrow II. The plastic parts of the radio module cover will become separated.



2. Place the radio module into the front part of the cover (orientation – indication LED up, terminal down). We recommend holding the radio module by the BUS connector (components of the radio module facing up), place the left side of the radio module at an angle under the locking tabs on the left side and then place the other side under the locking tabs on the right side of the part of the plastic cover. The correct position is defined by the half-round cutouts in the radio module PCB and the guiding grooves in the inner side of the front part of the plastic cover (9). For a proper fitting into the plastic part a slight force must be used, it is advised to push on the label with the production code (7) and the shielding plate (8).

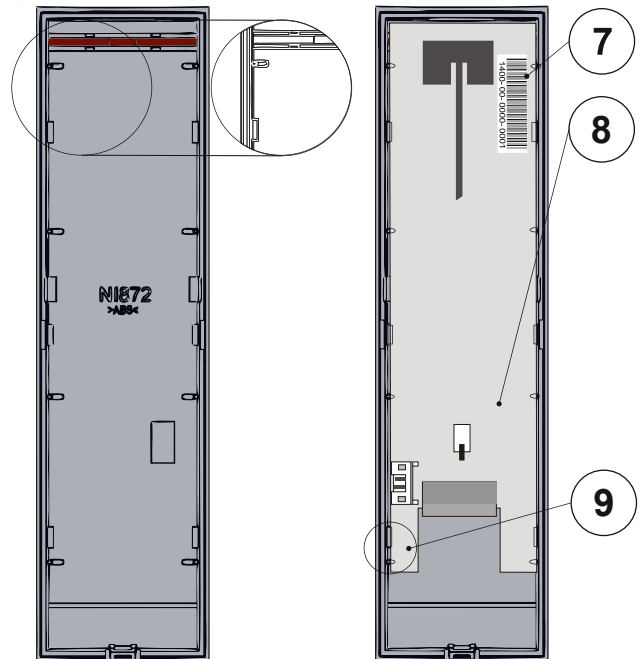


Figure 3: 7 – production code; 8 – shielding plate; 9 – locking tab and guiding groove for module attachment

3. Prepare holes for the BUS cable in the bottom of the rear part (16). Put the BUS cable through.
4. Screw on the rear part (13) including the attachment of the segment for a tamper detection (14).

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- Shorten the BUS cable to a suitable length and remove the top insulation (for a better positioning of the wires in the cover).
- Connect the BUS cable to the labelled terminal from the PLV-JA111R mounting package.



When connecting the radio module to the BUS, always switch the power off.

- Plug the connected terminal (11) to the counterpart of the terminal on the radio module (orientation given by the locks of the terminal).
- Close the radio module cover. Wires of the BUS cable must be only in the space separated by the cable separator (15).

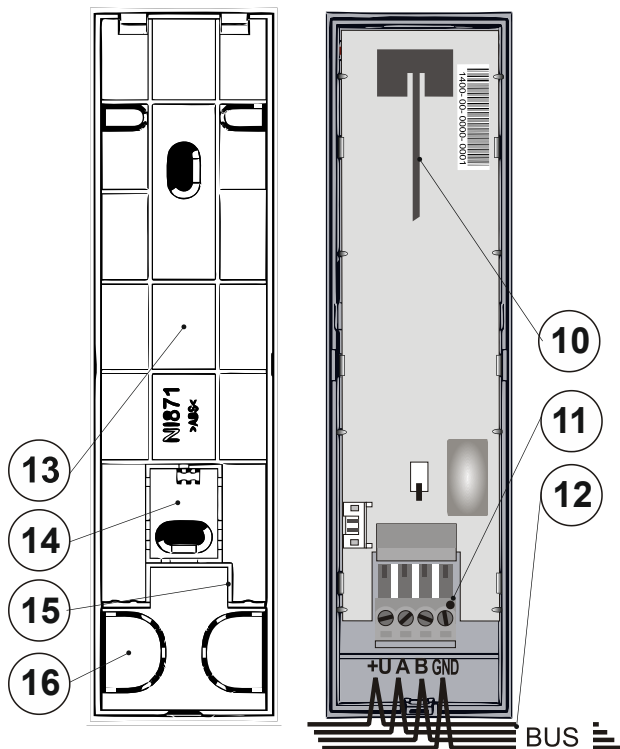


Figure 4: 10 – antenna; 11 – plug and play BUS connector; 12 – BUS cable; 13 – rear part of the cover; 14 – segment for tamper detection; 15 – cable separator; 16 – holes for BUS cable

Module enrollment into the system

- Proceed according to the control panel installation manual.
Basic procedure:
 - When the system is switched on, the yellow LED on the radio module starts flashing repeatedly to indicate that the module has not yet been enrolled into the system.
 - Go to the **F-Link** software, select the required position in the **Devices** tab and launch the **Enrollment mode** by clicking on the **Enroll** option.
 - Click on **Add new BUS devices**, select the radio module and by a double press confirm enrolling – the yellow LED goes off.

Notes:

- The module can also be enrolled into the system by entering its production code in the F-Link software. You can find the production code on the sticker (7) placed on the module. All numbers under the bar code must be entered (example: 1400-00-0000-0001).
- If you want to remove the radio module from the system, erase it from its position in the control panel.
- More information about the installation of more radio modules to the system and about the RF signal level check in the F-Link software can be found in the control panel installation manual.



To set the radio module to comply with the Grade 2 classification, use the System profiles function in the Parameters tab in the F-Link software (the Default profile does not meet the Grade 2 classification); for more information see the JA-10xK control panel installation manual.

Setting the radio module properties

The module properties can be set in the **Devices** tab in the **F-Link** software. At the module position, click on the **Internal settings** option to open a dialogue window where you can set the following parameters:

Activation indicated by LED: The default setting is that the radio module indicates communication with wireless devices by a red LED. This indication can be disabled.

RF jamming level: It is disabled as a default. However, it can be set to two levels – **low** (interference lasts longer than 30 s per one minute) and **high** (interference lasts longer than 10 s per 20 s). If the detection is enabled, the system reports a fault or a tamper when the communication band interference / RF jamming occurs.

Enrollment signal: When this option is used, the module sends an enrollment signal (intended only for wireless devices with a built-in receiver, for example JA-150N).

Technical specifications

Power	from control panel BUS 12 V DC (9 ... 15 V)
Current consumption in standby mode	35 mA
Current consumption for cable selection (maximum)	80 mA
Communication band	868.1 MHz, JABLOTRON protocol
Maximum radio-frequency power (ERP)	25 mW
RF range	300m
Dimensions	43 x 160 x 23 mm
Weight (PBC only)	70 g
Classification	Security grade 2 / Environmental class II / ACE type B (According to EN 50131-1)
Operational environment	Indoor general
Operational temperature range	-10 °C to +40 °C
Average operational humidity	75 % RH, non-condensing
Certification body	Trezor Test s.r.o. (no. 3025), Telefication B.V.
Complies with	EN 50131-1 ed. 2+A1+A2, EN 50131-3, EN 50131-5-3+A1, ETSI EN 300 220-1-2, EN 50130-4 ed. 2+A1, EN 55032, EN 62368-1, EN 50581, T 031
Can be operated according to	ERC REC 70-30



JABLOTRON ALARMS a.s. hereby declares that the JA-111R is in a compliance with the relevant European Union harmonisation legislation: Directives No: 2014/53/EU, 2014/35/EU, 2014/30/EU, 2011/65/EU, when used as intended. 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 this product to the dealer or directly to the producer after use.