

# JA-116H BUS expander – 16 inputs

This product is a component of the **JABLOTRON 100 system**. It is used for powering and connecting up to 16 detectors with contact outputs. It is possible to install the module straight into the JA-106K control panel. It should be installed by a trained technician with a valid certificate issued by an authorised distributor.

## Installation

- Put the module into the JA-106K box in the bottom right corner or to an installation box.
- Connect every single loop to the input terminals from 1 to 16 and the COM common terminals. Take power for the detectors from the +U and GND output terminals. The max. load current of connected devices is 100mA for each +U GND terminals.

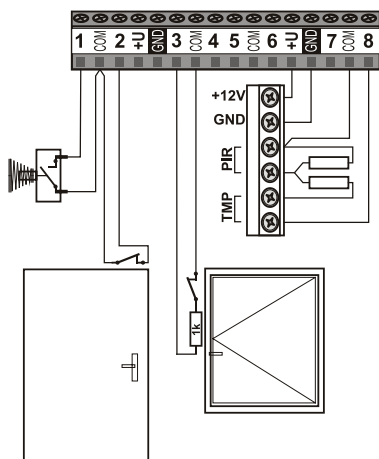


Figure: Loop connection example

The mode of the connection is selectable for every input individually using F-Link sw in the module **Internal settings**.

- Zones can be connected as NO (example: 1-COM), as NC (example: 2- COM), as a single balanced loop (example: 3-COM) or as a double balanced loop (example: 8-COM). Activation by repeated pulses (e.g. a roller blind) is available for input terminals 1 to 8.

- Balancing resistors for single and double balancing are selectable from these: 1k, 2k2, 3k3, 4k7, 5k6, 10k. The selection is common to all expander inputs. There are 32x 1k resistors in the module accessories.
- You are able to connect up to 5 devices (magnetic, PIR, or any other detectors) to one input terminal when you use a double balanced zone with 1k resistors
- The maximum length of a wired loop is 100m.

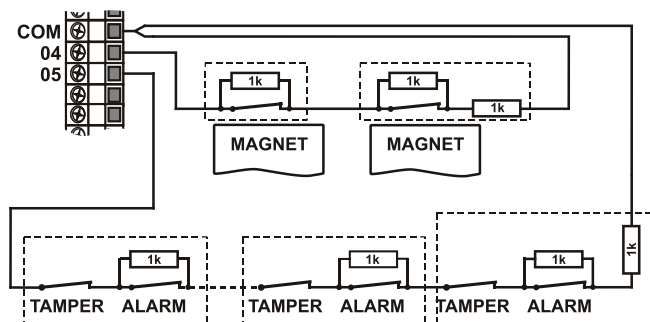


Figure: Example of wiring more detectors to one input terminal when the loop is double balanced by 1k resistors. Connection of 2 magnetic contacts to the 4-COM input terminals. Connection of detectors with alarm and tamper contacts to the 5-COM input terminals.

- When the module is mounted in an installation box, this box has to be equipped with a tamper contact. For external tamper contact connection, use any wired input terminal.
- Connect the BUS cable.



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

- Proceed according to the control panel installation manual. Basic procedure:
  - When the device is connected, the yellow LED (4) starts flashing repeatedly to indicate that the module has not been enrolled to the system.

- Go to the F-Link software, select the required position in the Devices window and launch enrollment mode by clicking on the **Enroll** button. **Necessary condition:** After the selected position, the next 15 positions have to be free.
  - Press the **LEARN** button (5) – the module is enrolled into the 16 selected positions and the yellow LED goes off. Warning – the module is enrolled to sixteen (16) consecutive positions (each input is enrolled to one position). If some positions in those 15 are already occupied, they will be overwritten. When there are not enough positions at the end of the list of devices, only a limited number of inputs will be enrolled to fill in the rest of the positions.
- Close the installation box.

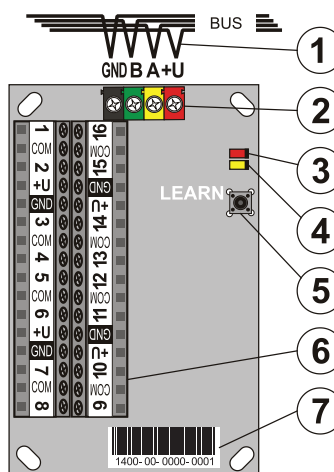


Figure:

- BUS cable;
- digital BUS terminals;
- red LED indicator;
- yellow LED indicator;
- LEARN (enroll) button;
- input terminals;
- production code

**Note:** Enrolling the module to the system is possible by entering the production code (7) via F-link software or by a production code reader. All digits under the production code are required (1400-00-0000-0001).

## Module settings

The Internal settings option (at any module position) in the **Devices** window in the F - Link software opens a dialog window where you can set the following options for each output: (\* factory settings):

**LED activity indication:** *Enabled* \*: A short flash (3) indicates a status change on any input (activation and deactivation).

**Balanced inputs:** The chosen value of balancing resistor R is common for all terminals of the module. You can choose between 1k\*, 2k2, 4k7, 5k6, or 10k. Valid for single and double balanced inputs.

**Inputs 1 - 8 and Inputs 9 - 16:** *Disabled* – no reaction (input is completely disabled), *Enabled* \* – input reacts to status change connected to the input terminal (NC is standby), *Balanced* – contact is connected in series with balancing resistor R (32 x 1k resistors are available in the accessories). Activation happens if the resistance rises or drops by more than 30% of the EOL resistor value, *Rollerblind* – (inputs 1 - 8 only) reacts to short repeated pulses with sensitivity adjustable to two levels: *Impulse 1* = activation by 3 pulses up to max. 2 minutes; *Impulse 2* = activation by 5 pulses up to max. 2 minutes. *Double balanced* – standby: connection to COM via the EOL resistor R ( $\pm 20\%$ ), Activation: connection to COM via the EOL resistor 2R ( $\pm 30\%$ ), Tamper: connection to COM via EOL resistor lower than R –30% or higher than 2R+30%.

**Inverted input reaction:** (valid for Enabled or Balanced input). The default reaction is set to disconnection from COM (NC)\*. By this you can set the opposite reaction to grounding (NO).

**Pulse mode:** (valid for Enabled or Balanced input and inputs 1 to 8). The default is a status reaction, the input reacts to activation (disconnection from COM) and deactivation (connecting back to COM)\*. If you tick this option, the input will only react to disconnection from COM (after 2s it returns to standby mode).

**Delayed input reaction:** a time filter for increasing the immunity and to suppress false activations, 0.5 s\* (options: 0.5s ... 300 s). This tells you how long the input has to be activated to trigger an alarm in the control panel. It is possible to use the parameter with the input set as enabled (options from 0.1s), balanced and double balanced.

**Note:** The expander faulty reports are recorded in the event memory of the control panel. The source of these events is the 1<sup>st</sup> input position, defined by enrolling.



**The manufacturer only guarantees correct functioning of the module. However, it cannot guarantee the correct functioning of connected detectors. We therefore strongly recommend using Jablotron JA-100 bus detectors.**

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## Technical specifications

Power	12 V (9 ... 15 V)
Current consumption (all outputs turned on)	25 mA
<i>Caution: the consumptions of the detectors connected to the +U and GND terminals have to be added to the system power backup calculation.</i>	
Maximum acceptable load of one output from +U and GND	100 mA
Maximum acceptable load of all outputs from +U GND	4 x 100 mA
Dimensions	102 x 66 x 20 mm
Classification	Grade II
according to	EN 50131-1, EN 50131-3
Operational environment according to	EN 50131-1 II. Indoor general
Operating temperature range	-10 to +40 °C
Also complies with	EN 50130-4, EN 55022



JABLOTRON ALARMS a.s. hereby declares that the JA-116H 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](http://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.