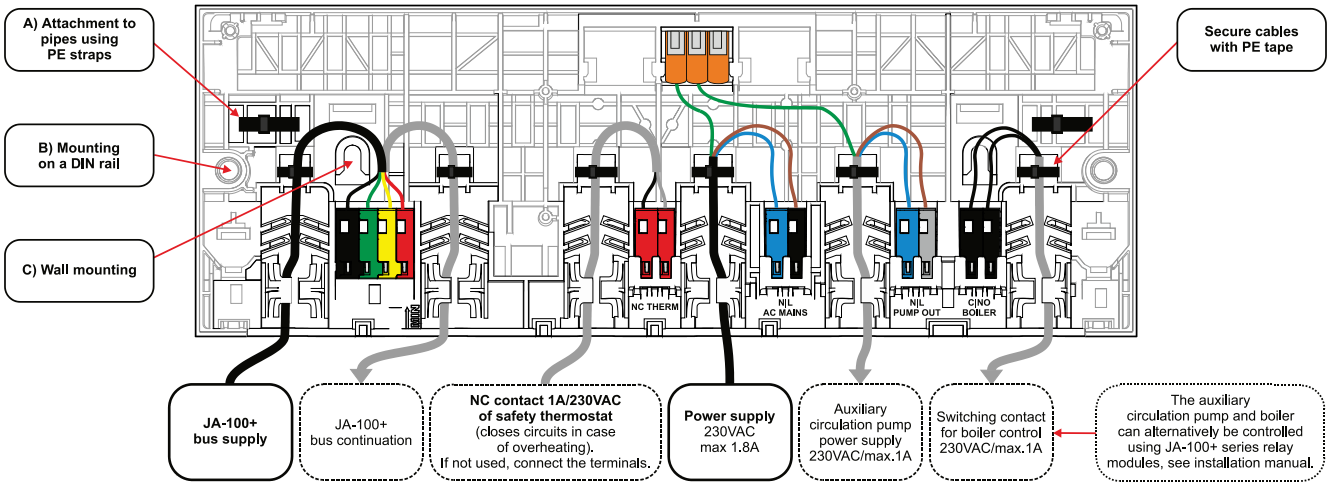
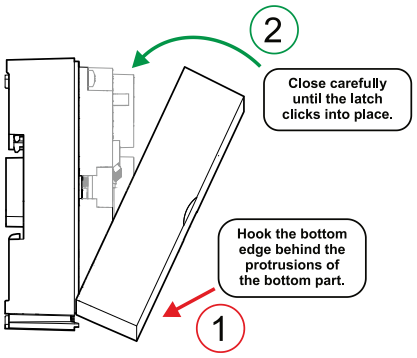
JB-128N Module for UFH control

Wiring diagram and functions in the system

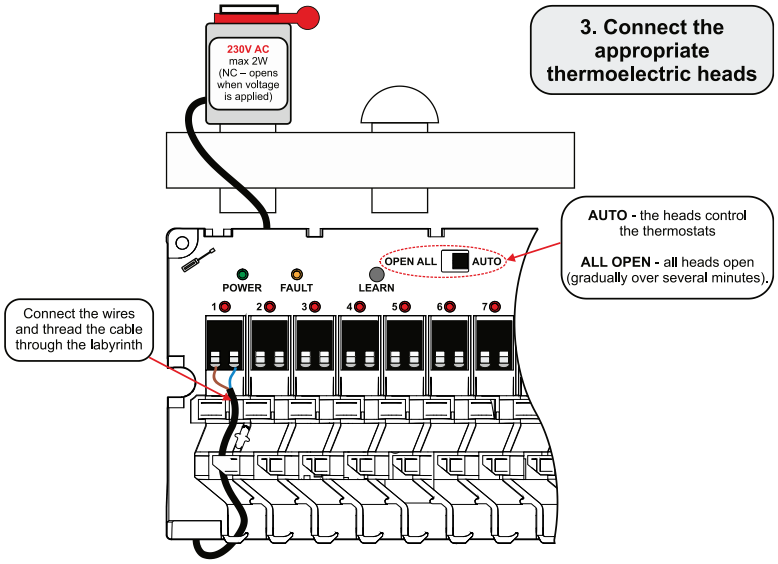
1. Install the bottom part and connect the cables



2. Attach the terminal block for connecting the heads.



3. Connect the appropriate thermoelectric heads



4. Install the transparent cover and adjust using SW F-Link

Download the detailed installation manual using the QR code

JB-128N - Underfloor heating module - application diagram

Thermostats / sensors with floor probe

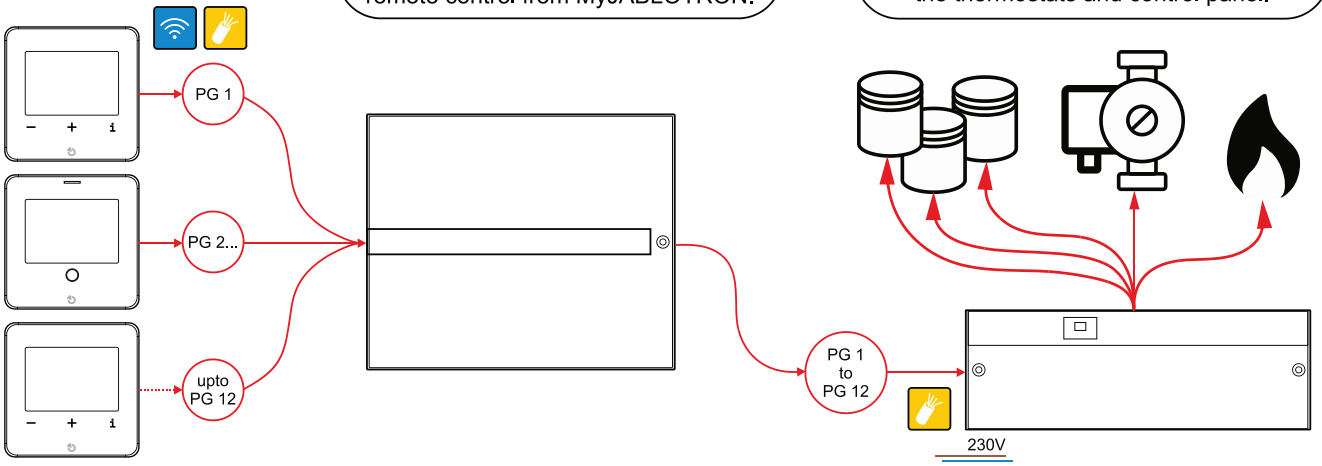
control their own PG output in individual zones

JABLOTRON 100+ control panel

provides smart functions for automatic attenuation when securing, opening a window or leaving on holiday. It allows remote control from MyJABLOTRON.

The JB-128N module

controls the heads of individual circuits, the heating source and the circulation pump in response to requests from the thermostats and control panel.



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The product is designed for switching zone control heads of hot water heating, auxiliary circulator and heating source. The individual outputs switch based on the status of the assigned PG outputs of the control panel, which are controlled by system thermostats and sensors. The product is a component of the JA-100 system and is ***compatible with JA-103K, JA-107K control panels****.*

The product is designed for installation by a trained technician with a valid Jablotron certificate.

The module, thermostats and output relay switches are only additional devices that use the alarm system installation for their operation. They have no tamper protection and for this reason the wired installation must be isolated by a bus isolator or use a separate bus interface directly at the control panel.

Should the equipment be connected directly to the communications bus together with the alarm system peripherals, it shall be connected via a suitable bus isolator located outside the equipment.

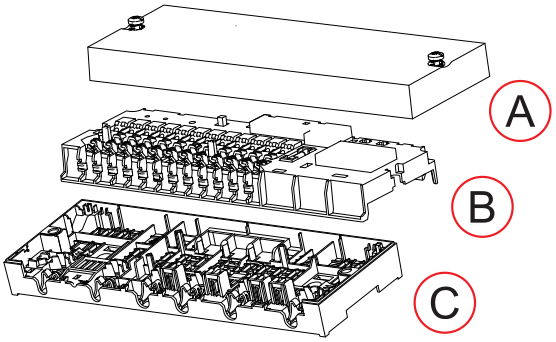


Fig. 1*: Product layout in 3 parts*
A *– top transparent cover,* ***B*** *– middle part,*
C *– mounting base*

Installation

Outputs O1-O12 are powered via a safety thermostat connected to the NC THERM terminals (5). Activation of the safety thermostat disconnects the power supply to the outputs. In case the safety thermostat is not connected, the terminals must be permanently connected with an insulated wire with a cross section ≥ 1.5 mm^{2}for product functionality!

Always connect the bus when the system power is completely off. 230 V AC is passed through the product!

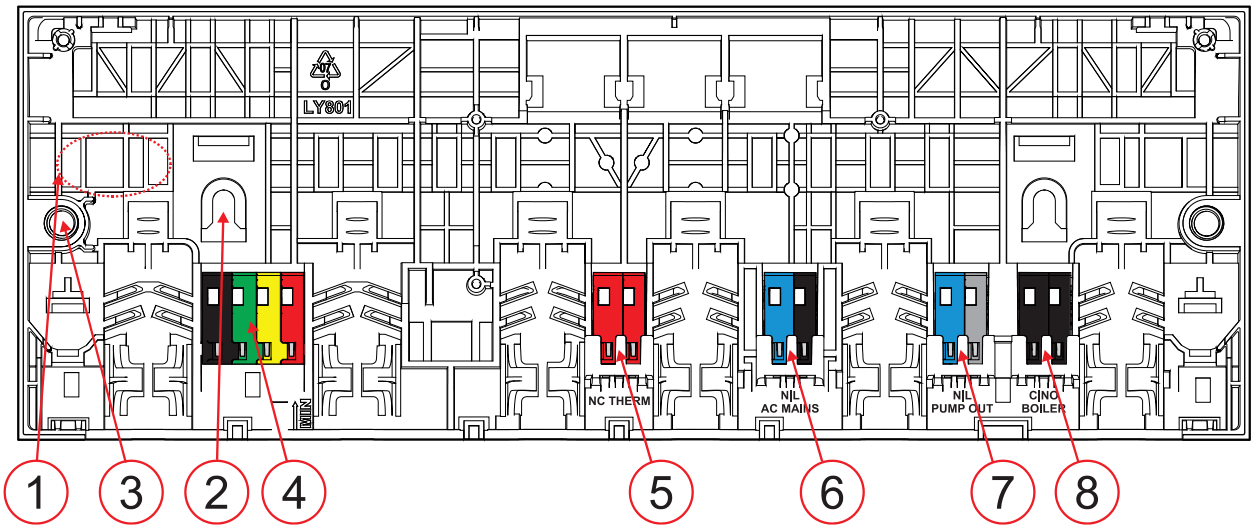


Fig. 2*: Mounting base*

1 *– holes for mounting on pipes (paired - one also on the other end of the product);* ***2*** *– holes for wall mounting (paired - 1 also on the other end of the product);* ***3*** *– holes for cover screws (paired - 1 also on the other end of the product);* ***4*** *– JA-100 bus terminal block;* ***5*** *– terminal block for the safety thermostat opening contact (must be connected for the outputs to work);* ***6*** *– terminal block for 230 V power supply;* ***7*** *– pump terminal block;* ***8*** *– terminal block for boiler connection*

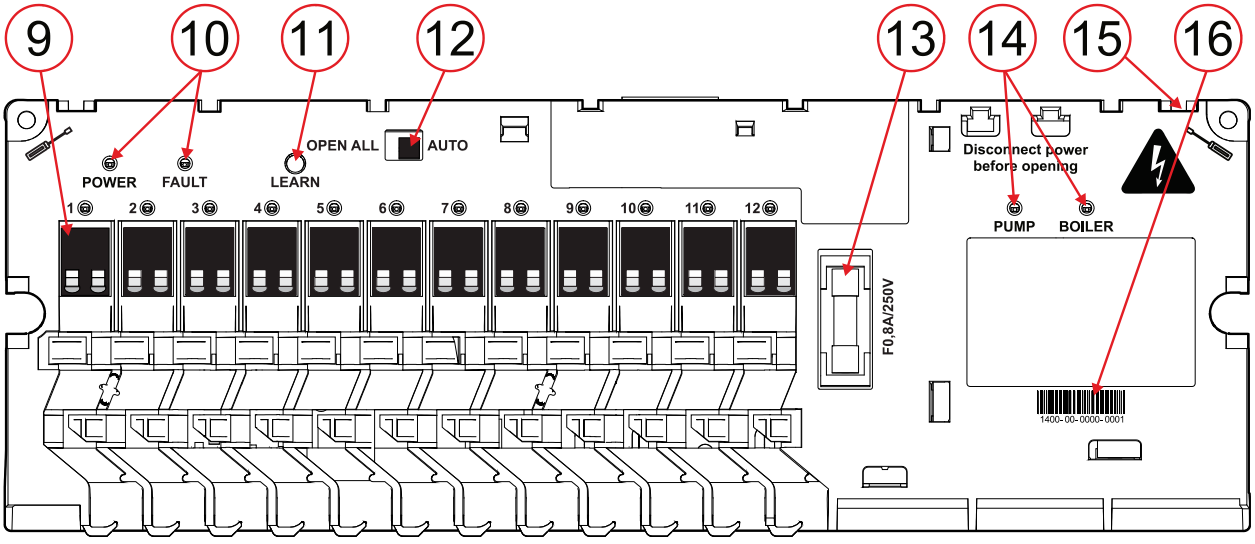


Fig. 3*: Middle part*

9 *– inputs for connecting the heads;* ***10*** *– indication LED;* ***11*** *– button for learning the system;* ***12*** *– switch for manual activation of all outputs;* ***13*** *– overload fuse of outputs;* ***14*** *– LED indication of pump and boiler status;* ***15*** *– latches of the middle part (on both sides - marked with a screwdriver icon);* ***16*** *– label with the serial number of the product*

1. Select a suitable place to mount the module. Unscrew the top cover and the middle piece from the mounting base. Use one of the following methods to attach the mounting base.
   A) By attaching to the pipes directly in the floor distributor using PE strips
   B) By mounting on a DIN rail
   C) By mounting on the wall
   Connect the bus wires to the module terminal block (4), the safety thermostat opening contact (5), the power supply (6) and, if necessary, the pump bus wires (7) and the boiler bus wires (8).

***Notes**:*

- Pull the cables through and fix with the cable fixing clip, which is always located next to the terminal block, see the installation diagram from the package.
- Alternatively, the auxiliary circulator and the boiler can be controlled by relay modules of the JA-100+ series

2. Insert the bottom edge of the middle part with the latches (15) behind the projections of the mounting base and carefully slide the top part onto the mounting base until the latches click into place, see diagram in the package.
3. Plug the wires of suitable thermoelectric heads (230 V AC, max 2 W) into the prepared terminal blocks (9) and thread the cable through the labyrinth.
4. Fit the transparent cover on the middle piece and connect the 230 V power supply by switching on the circuit breaker. Without main power supply the product is not functional.
   Basic procedure:
   a. In the ***F-Link*** program, select the desired position in the ***Peripherals*** tab and use the ***Assign*** button to switch on the learning mode.
   b. Open the ***Learn*** **unassigned** selection and double-click to select the appropriate module. If a large number of peripherals are displayed, the **Learn** button (11) can be pressed on the module with a screwdriver and the module will be learned automatically. Then proceed to the **Internal** peripheral **settings**.

***Notes**: learning can also be done by entering the serial number in the F-Link program. Enter all digits (serial number pattern: 1400-00-0000-0001).*

Module operating modes and functions

The device does not have any detector or switch (tamper) to detect cover opening or removal from mounting. Hazardous electrical voltages are present at the module outputs. Power to the module must be disconnected before opening the cover.

A slide switch (12), accessible through the top cover, allows switching between basic operating modes:

Normal mode (Auto)

Basic operating mode. Outputs O1 to O12 are controlled by the associated PG outputs. The auxiliary pump and heating source outputs are controlled based on the status of the O outputs, according to the module's internal settings.

Manual mode (Open all)

Manual mode is designed for situations where heating is required and the control panel of the alarm system is not available. For example, prior to installation for drying out the building, in case of a longer service intervention, etc. In manual mode, the module permanently switches on all O outputs as well as the output of the auxiliary pump and the heating source (any delays and overlaps set in the internal settings are respected). Manual mode cannot be used to bypass a disconnected protective thermostat.

Protection against freezing

This function prevents the valves and pump from freezing up based on 7 or more days of inactivity. Every Sunday at 02:00, all inactive outputs O1-O12 are triggered for 5 minutes. Activation of the function is indicated by flashing red lights. The PG output and the heating source are not activated during this operation. If the corresponding PG is activated at the time of active protection, the output will go into standard mode as requested by the control panel. The function can be deactivated in the internal settings of the peripheral.

Freeze protection

In the event of an interruption in communication between the module and the control panel of the alarm system lasting for the set period A (default 24 h), the module automatically switches all outputs on for the set period B (default 20 min). The switching off the outputs is repeated periodically after the set time C (default 4 hours) until the communication with the control panel is restored. The circulator and heater outputs are also automatically switched off during the time that outputs O1 to O12 are switched off, including the set delay and overlap. The timing can be adapted to the individual needs of the building in the internal settings of the periphery, where the function can be switched off completely.

Overtemperature protection

Fixed protection to prevent the system from overheating in the event of a communication failure. The outputs switch off after 20 minutes, the pump and heat source switch off according to preset times. If the outage lasts longer than 24 hours, freeze protection is activated.

Setting properties in F-Link

The following parameters can be adjusted in the internal settings of the JB-128N. An asterisk * indicates the default setting.

Outputs 1 to 12 copy the selected PG

The list of outputs is displayed **with indication of the actual state of** the physical output of the module without dependence on the state of the PG: **On/Off/ N/A** and the possibility to choose the PG that should copy the output - drop-down menu of available PGs of the control panel. The PG output controlled by the thermostat in the relevant room must be assigned to the correct O output of the module that switches the heating loop head in the same room.

***Note:** It is possible to select one PG for multiple outputs, but not multiple PGs for one output.*

Manual mode

Indication of the status of a physical switch on the product to manually turn on all outputs. Possible indications:

Auto* = Off (module is controlled automatically by PG).

Manual = Active (module is continuously heating, regardless of the status of the assigned PG).

Module offline

Protection functions

✓ ***Protection against the heads and pump freezing outside the heating season***

Switches on the related function of automatic opening of the heads and starting of the pump as protection against freezing. The function is enabled by default.

✓ ***Protection against freezing when connection is lost***

If the module does not detect the control panel, it switches on the related function of automatic opening of the heads, starting of the pump and heating source according to the set time intervals. The function is enabled by default.

***If the module does not communicate with the control panel for more than: xy h** (adjustable range is 6-27 h; default: 24 h)*

***Switch off all outputs for: xy min** (configurable range is 15-255 min; default: 20 min)*

***Periodically every xy hours** (configurable range is 1-24 hours; default: 4 hours)*

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Expansion module

Output of circulator and heating source

This section allows setting the timing of the delay and overlap of the switching of the circulator and the heat source. The delay and overlap should replicate the time required to fully open and close the connected heads. The function prevents unnecessary running of the pump and heat source into a closed system.

- **Seps:** xy minutes after the first output is activated - adjustable range 0-10 min – default 3 min (for both pump and source)
- **Disconnects:** xy min after the last output is deactivated - adjustable range 0-10 min – default 3 min for pump and 0 min for source)
- **Output status**: On / Off / Module is offline (Indication of the actual status of the physical outputs.)

Peripheral system states

The module diagnostics are the same as for the JA-100+ system peripherals and display the following statuses.

OK – All connected outputs are off – no error is reported.

AKT – At least 1 of the header outputs (O1 – O12) or the expansion module outputs is ON. The peripheral has a default "None" response assigned and locked. Any active status is ignored by the control panel when checking the system during arming. Activation of the JB-128N is not a barrier to arming and if it occurs in the armed state, the panel does not respond with an alarm. However, a PG (e.g. externally mounted relay module switching the boiler) can be linked to the peripheral activation.

Loss – The control panel does not detect the module on the bus. The loss of the module can also be caused by a 230 V power failure (without external power supply the module is completely inoperable).

Error – An error declared directly by the module, e.g. in case of a blown fuse or an open protective thermostat. The module does not allow error resolution.

Optical indication

LED indicator	Colour and type of signalling	what is happening
Fault	lights yellow	Fault/ loss of communication with control panel/ entering internal settings in F-Link
Fault	Flashes yellow	detects control panel but not assigned, learning is possible - no fault.
Power	lights green	Module power supply in operation
LEDs of outputs O1-O12	lights red	output activation
Output LEDs O1-O12	Flashes red (fast flashing)	activation due to protection sequence running
Pump	Flashes green (fast flashing)	timing of the protection sequence
Pump	flashes green (slow flashing)	On/off delay in progress
Pump	lights green	Pump active
Boiler	Flashing green (fast flashing)	timing of the protection sequence
Boiler	Flashes green (slow flashing)	On/off delay in progress
Boiler	lights green	active heat source

Technical parameters

Control unit:

Supply voltage ..... *230 V AC, 50 Hz*
Maximum supply current ..... *1.8 A*
Recommended protection (circuit breaker) ..... *4 A type B*
Device power consumption (without heads and pump) ..... *max. 2.3 W (10 mA / 230 V), idle 0.6 W (2.6 mA / 230 V AC)*
System connection ..... *control panel bus 12 V DC (8 to 15 V), constant current consumption up to 10 mA*

Thermoelectric heads

Supply voltage ..... *230 V AC, 50 Hz*
Maximum load per output ..... *continuous 2 W (9 mA / 230 V), peak 300 mA for 200 ms.*
Common protection for heads outputs ..... *0.8 A protection, type F*
Number of outputs *12*

Input for safety thermostat

Required load capacity of thermostat NC contact ..... *250 W (1 A / 250 V AC)*

Voltage output for circulation pump:

Maximum load ..... *230 W (1 A / 230 V AC)*

Potential-free output for heating source:

Maximum switching voltage ..... *230 V AC / 30 V DC*
Maximum contact current *1A*
Protection class ..... *II*
Mounting type ..... *Wall / pipe / DIN rail*
Dimensions ..... *245 x 90 x 50 mm*
Degree of protection IP *IP20*
Environment ..... *indoor general*
Average operating humidity ..... *max. 85 % RH (non-condensation)*
Operating temperature range (ambient) ..... *5 °C to +45 °C*
In compliance with ..... *EN 50130-4, EN 55032, EN 62368-1, EN IEC 63000, EN 60730-1*

JABLOTRON a.s. declares that the product JB-128N is designed and manufactured in compliance with the harmonisation legislation of the European Union: directives no: 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: Although the product does not contain any harmful materials, do not dispose of it in the garbage but take it to an e-waste collection point. For more information, see www.jablotron.com in the Downloads section.