DATA SHEET

mH-V4

Four-channel solenoid valve module
of the F&Home system

F&Home

F&F Filipowski Sp. J.

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The mH-V4 module is a four-channel actuator module controlling solenoid valves supplied with 230 V in building heating circuits. The module cooperates through the CAN line with the sensor module from the same level. The actuator elements are semiconductor elements, thanks to which the devices have high durability (no mechanical elements - relays). The module is supplied with 230 V. If it is required to control a larger number of heating circuits, additional modules of subsequent levels should be used, bearing in mind that the valve modules of the same level should also be used (for example, S4-1 and V4-1 or S4-2 and V4-2). The selection of solenoid valves is very important. It is important that the coils are supplied with 230 V.

Inputs / outputs

The mH-V4 module is available for different levels, thus enabling the expansion of the I/O network connected to the F&Home system. First install the module from level 1, then from level 2, and so on. Each level has a separate numbering, which makes it easier to install the system. The output list for the mH-V4 module is shown in the following table.

Level		Outputs
1	69 – 72	**69** - output for controlling the solenoid valve G1 triggered on the basis of the temperature measured by the first sensor of the mH-S4 module and the programmed operating mode. **70** - output for controlling the solenoid valve G2 triggered on the basis of the temperature measured by the second sensor of the mH-S4 module and the programmed operating mode. **71** - output for controlling the solenoid valve G3 triggered on the basis of the temperature measured by the third sensor of the mH-S4 module and the programmed operating mode. **72** - output for controlling the solenoid valve G4 triggered on the basis of the temperature measured by the fourth sensor of the mH-S4 module and the programmed operating mode.
2	197 – 200	Sensor inputs operating in the same way as for level 1
3	325 – 328	Sensor inputs operating in the same way as for level 1

Power supply

The mH-V4 module is supplied with 230 V AC voltage, which is also used for supplying solenoid valves (no separation between supplying the module and supplying solenoid valves).

CAN

Two RJ-45 sockets on the module front panel are used to connect the CAN communication network cables, which must be connected to adjacent modules using the CAN cables provided with the system.
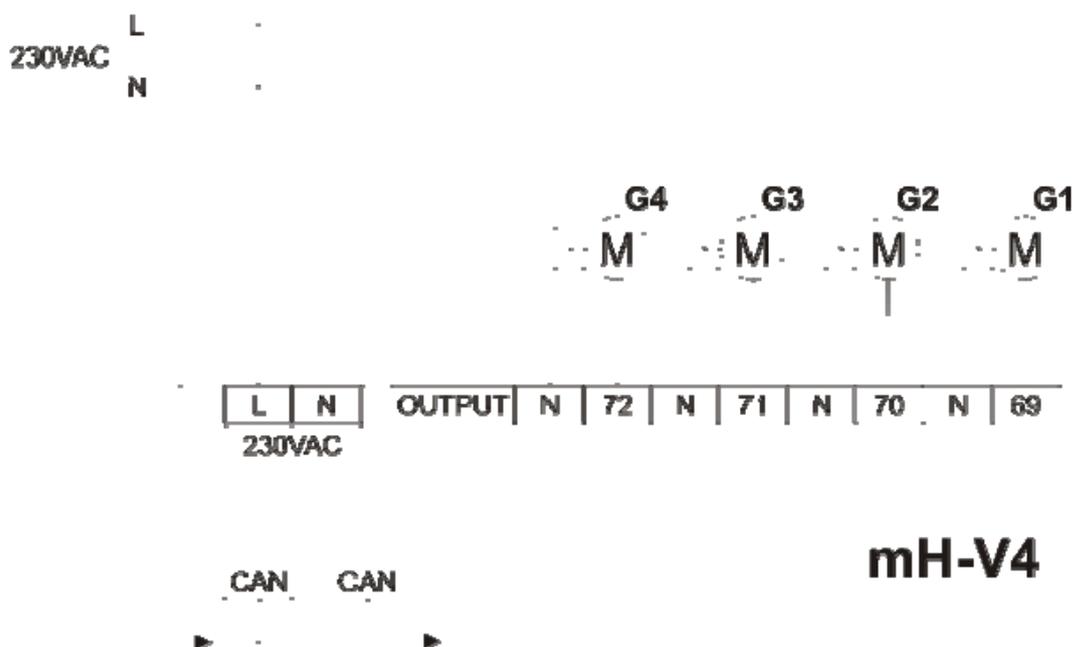
Operating principle

The mH-V4 actuator module is controlled via the CAN network from the mH-S4 sensor module at the same level. Depending on the set operating program and temperature indication, the corresponding output of the mH-V4 module will be triggered at the given sensor input. A pair of modules mH-S4 - mH-V4 operates independently of the main touch panel, which is only used to set the operating program. Damaged or missing touch panel does not interrupt the operation of the temperature control system.

Notes

The selection of solenoid valves is very important. It is important that the coils are supplied with 230 V.
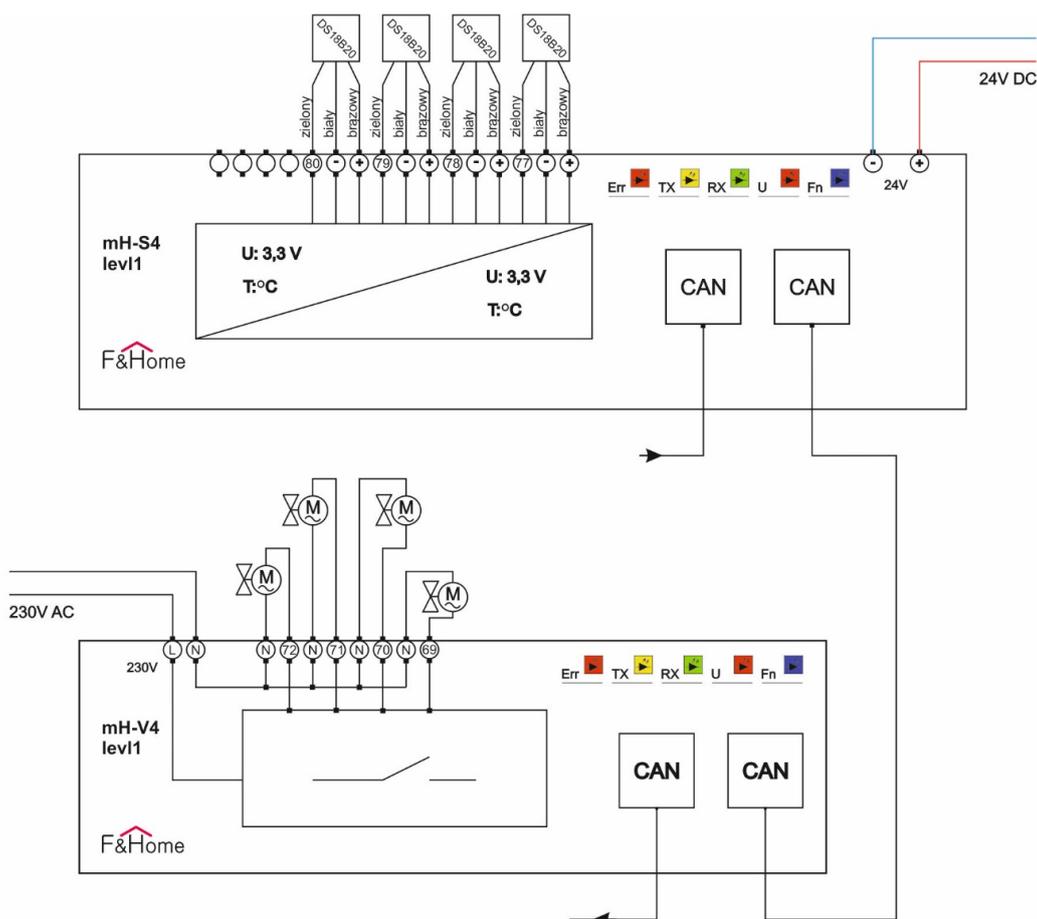
Connection diagram

WARNING: The description and numbering in the connection diagram refer to level 1. For the remaining levels, the numbering is shifted according to the relation: 33 + (N-1)x128, where N is the level number.

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Operation signaling

The operation of the mH-V4 module is indicated by four LEDs on the front of the module. The meaning of the individual controls is as follows:

U	The blinking of the U diode means that the device is connected to the power supply and is working properly. The constantly lighted U diode indicates an error or malfunction of the module.
RX	Indicates that the module is in the process of receiving data through the CAN network.
TX	Indicates that the module is in the process of sending data through the CAN network.
Err	Indicates that there is no communication between the mH-V4 module and the host computer (possible power outage /damage to the host computer or damage to the communication cables).

The connection of the valve module and the sensor module.

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Notes to the diagram:

- The polarization of sensor connection is very important.
- The actuator module is a valve module. 230 V power supply.
- Use the mH-SP (filter) protection on the supply line.
- Solenoid valves of the normally closed type - the valve opens when the power supply is switched on.
- Communication between modules via CAN bus.
- For level one the relation is as follows: input 77 - output 69; input 78 - output 70; input 79 - output 71; input 80 - output.

Technical data table	
Module type	actuator - 4 channels
Rated supply voltage	230 V AC
Power supply voltage tolerance	-20%, +10%
Actuator element	triac
Maximum load per channel	100 W
Maximum total current	8 A
Storage temperature	-20$^{\text{O}}$C to +50$^{\text{O}}$C
Operating temperature	0$^{\text{O}}$C, +45$^{\text{O}}$C
Humidity	<=85% (without condensation or aggressive gases)
Dimensions	87.5 x 65 x 90 mm (5 modules)
Dimensions of the packaging	105 x 104 x 75 mm
Ingress protection	IP20
Operating position	any
Enclosure type	for DIN rail
Net weight	163 g
Gross weight (including packaging)	206 g

WARNING

The method of connection is specified in this manual. Installation, connection and adjustment should be carried out by authorized electricians who are familiar with the operating instructions and the functions of the module.

The correct operation is affected by the way the module is transported, stored and used.
Installation of the module is not recommended in the following cases: missing components, damage to the module or its deformation.
In case of malfunction, please contact the manufacturer.

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