

## DATA SHEET



### mH-V7+

Seven-channel solenoid valve module with the central heating pump control of the F&Home system

**F&Home**

The mH-V7+ module is a seven-channel actuator module controlling solenoid valves supplied with 230 V voltage. The module cooperates with the mH-S8 sensor module operating at the same level. The actuator elements are semiconductor elements, thanks to which the devices have high durability (no mechanical elements - relays). In addition, the eighth actuator channel controls the central heating pump as follows: if at least one solenoid valve is switched on (open), the pump is also switched on. This function prevents the pump from running with all solenoid valves closed, which protects it from damage. The module is supplied with 230 V voltage. 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 sensor modules of the same level should also be used (for example, S8-1 and V7+-1 or S8-2 and V7+-2). The selection of solenoid valves is very important. It is important that the coils are supplied with 230 V.

### Inputs / outputs

The mH-V7+ 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-V7+ module is shown in the following table.

Level	Outputs	
1	69 – 76	<p><b>69</b> - output for controlling the solenoid valve G1 triggered on the basis of the temperature measured by the first sensor of the mH-S8 module and the programmed operating mode.</p> <p><b>70</b> - output for controlling the solenoid valve G2 triggered on the basis of the temperature measured by the second sensor of the mH-S8 module and the programmed operating mode.</p> <p><b>71</b> - output for controlling the solenoid valve G3 triggered on the basis of the temperature measured by the third sensor of the mH-S8 module and the programmed operating mode.</p> <p><b>72</b> - output for controlling the solenoid valve G4 triggered on the basis of the temperature measured by the fourth sensor of the mH-S8 module and the programmed operating mode.</p> <p><b>73</b> - output for controlling the solenoid valve G5 triggered on the basis of the temperature measured by the fifth sensor of the mH-S8 module and the programmed operating mode.</p> <p><b>74</b> - output for controlling the solenoid valve G6 triggered on the basis of the temperature measured by the sixth sensor of the mH-S8 module and the programmed operating mode.</p> <p><b>75</b> - output for controlling the solenoid valve G7 triggered on the basis of the temperature measured by the seventh sensor of the mH-S8 module and the programmed operating mode.</p> <p><b>76</b> - output for controlling the central heating pump</p>
2	197 – 204	Sensor inputs operating in the same way as for level 1
3	325 – 332	Sensor inputs operating in the same way as for level 1

**Power supply**

The mH-V7+ 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**

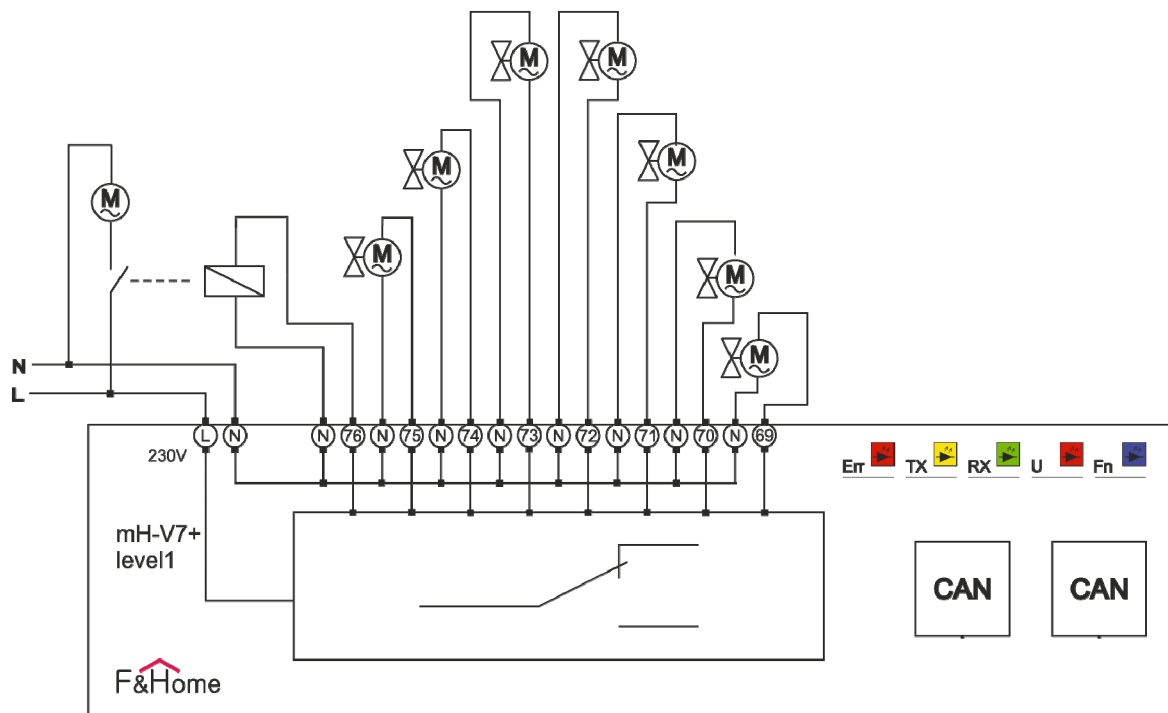
The mH-V7+ actuator module is controlled via the CAN network from the mH-S8 sensor module at the same level. Depending on the set operating program and temperature indication, the corresponding output of the mH-V7+ module will be triggered at the given sensor input. A pair of modules mH-S8 - mH-V7+ operates 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**

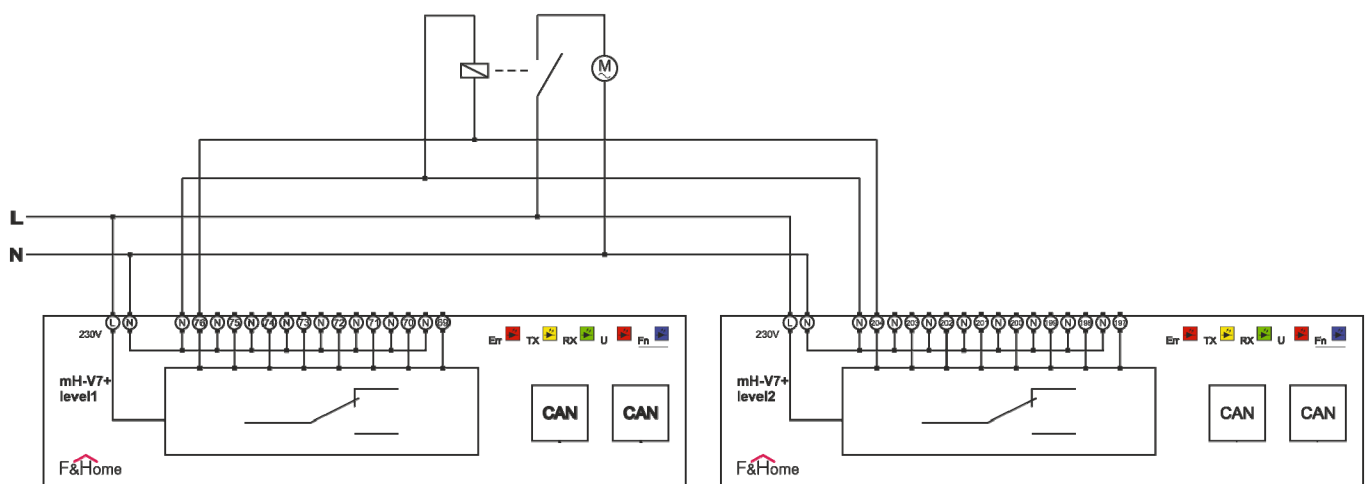
- The selection of solenoid valves is very important. It is important that the coils are supplied with 230 V.
- Due to the load capacity of the module outputs, the pump should be powered via an additional relay or contactor, and the module output should only be used to control the coil (230 V).

**Connection diagram**

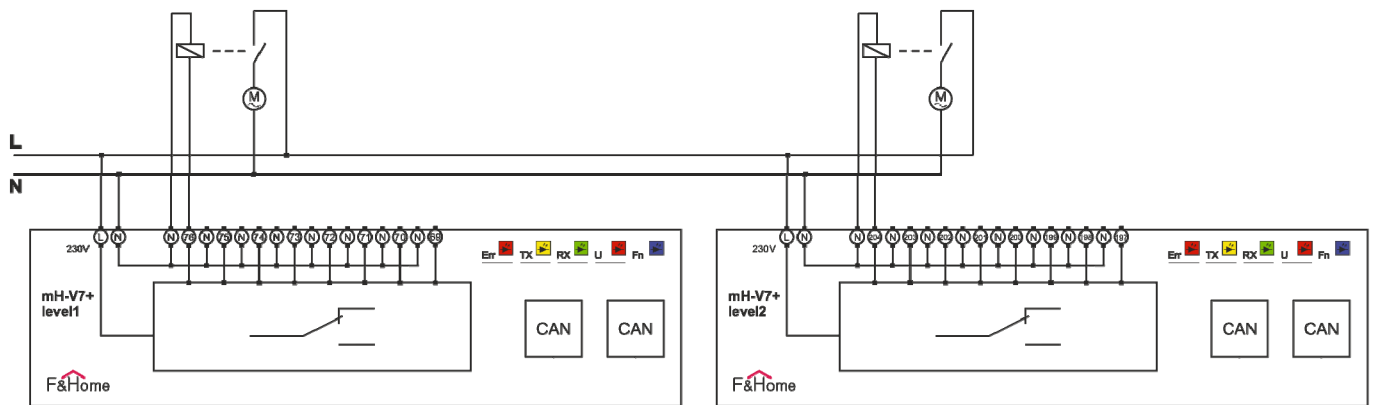
**WARNING:** The description and numbering in the connection diagram refer to level 1. For the remaining levels, the numbering is shifted according to the relation:  $33 + (N-1) \times 128$ , where N is the level number.



In order to control the central heating pump or the furnace input, it is necessary to use an additional electromagnetic relay such as PK-2P 230 V produced by F&F. The use of a relay is required because the output of the V7+ module has too little power to connect the pump directly to it. In addition, if you control the furnace input, and the furnace is triggered by low voltage (such as 24 V) - adding an additional relay is necessary. If more control channels are needed - you can use more V7+ relays and connect the last outputs in parallel. Of course, both modules must be powered from the same phase.



In the case of mixed central heating installation, with an independent underfloor heating circuit and an independent radiator circuit, the circuit pumps can be controlled independently.



### Operation signaling

The operation of the mH-V7+ module is indicated by four LEDs on the front of the module. The meaning of the individual controls is as follows:

<b>U</b>	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.
<b>RX</b>	Indicates that the module is in the process of receiving data through the CAN network.
<b>TX</b>	Indicates that the module is in the process of sending data through the CAN network.
<b>Err</b>	Indicates that there is no communication between the mH-V7+ module and the host computer (possible power outage/damage to the host computer or damage to the communication cables).

Technical data table

Module type	actuator - 7 channels + pump control
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 <sup>o</sup> C to +50 <sup>o</sup> C
Operating temperature	0 <sup>o</sup> C, +45 <sup>o</sup> 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)	215 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.