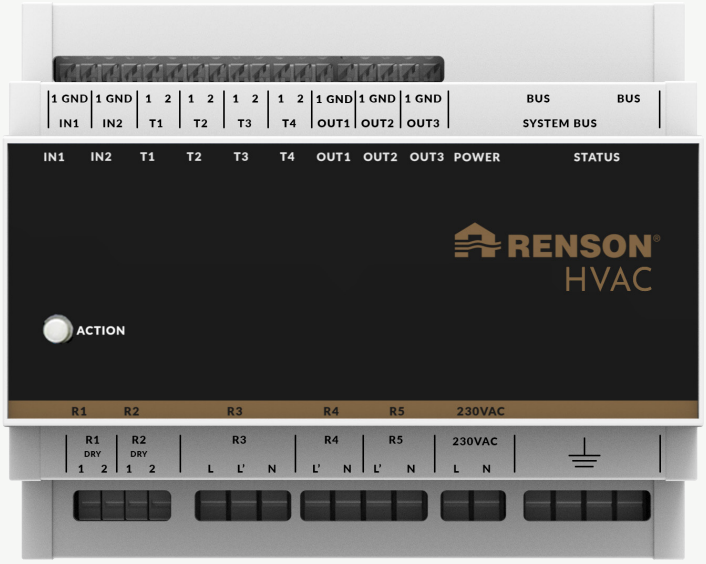
EN

Technical data sheet
HVAC module

The Renson HVAC module is a DIN-rail module designed to control and read hydraulic components. Connected components include pumps, a three-way valve, motorised valves and various temperature and pressure sensors. This module can only be used as part of a Renson HVAC installation in combination with the Renson Brain module.



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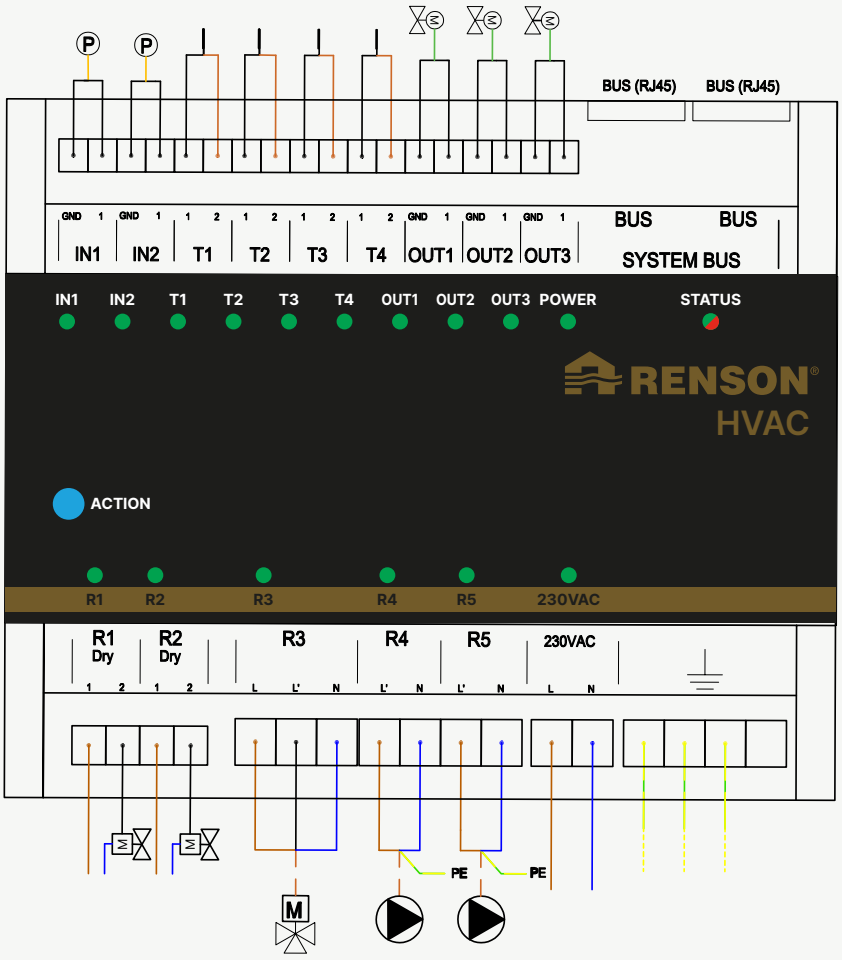
Connection diagram



	Pressure sensor
	Motorised valve 0-10V
	Motorised valve on/off
	Three-way valve
	Pump

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Technical specifications

General	
Supply voltage	24 VDC
Operating voltage R3, R4, R5	230 VAC
Consumption (bus load)	Typically 40 mA; 100 mA during relay switching
Ambient temperature	0° - 45°C, non condensing.

Housing	
Dimensions	W 107 mm x H 90 mm x D 58 mm
DIN size	6 modules
Material	Polycarbonate
Colour	- Top: RAL 7035 light gray - Bottom: RAL 7016 anthracite gray
Fire resistance classification	UL 94 V-0

Relay R1-2	
Function	Voltage-free contacts: switching max 6A@230VAC
Quantity	2
Connector	4×4 pole, type 1
Wiring	According to local electrical regulations
Note: current protection must be provided via the external circuit breaker! There is no current protection in the module.	

Relay R3-R5	
Function	Switching consumers on 230 VAC up to max. 6 A
Quantity	3
Connector	4×4 pole, type 3

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SYSTEM BUS	
Function	Connection with the system bus (which also includes the Brain or Brain+ module) and looping to the next Smart Living DIN rail modules in the same installation (RJ45 connectors). The system bus contains connections for power supply and network connection for automatic detection and communication.
Quantity	2
Connector	RJ45
Wiring	- Type: UTP Cat5e (EIA/TIA568A/B) - Total bus length: Max. 600 m

Note:
- Unused RJ45 SYSTEM BUS connectors must always be fitted with an RJ45 bus termination plug! This means that every installation – regardless of its size – must be equipped with exactly 2 RJ45 bus termination plugs, placed on the first and last module on the bus.
- Do not use these connections for network (internet) connection.

0/1-10V OUT	
Function	Controlling injection 2-way valve, bypass or mixing valve
Quantity	3
Connector	11-pole, type 2
Supports 'sourcing' 0-10 V and 'sinking' 1-10 V devices	- 0-10 VDC sourcing: max. 10 mA - 1-10 VDC sinking: max. 10 mA per - Common GND for connection with analogue devices

Note:
- The outputs of this module cannot be connected to 230 VAC.
- Connecting multiple analogue devices on the same channel is strongly discouraged. If this is chosen, the current consumption on the analogue side of the connected devices must be thoroughly checked. They must be within the limits of the current that the 0/1-10V output can deliver.

Input 0-10V	
Function	Reading pressure sensors
Quantity	2 inputs
Connector	11-pole, type 2
Pulse counter	Max. 15 pulses per second

Note:
- Individual GND connections for connection with input signals
- Input protection against voltage spikes (max. 12 VDC)
- Inputs must not be connected to the mains voltage (230 VAC)

NTC 5K	
Function	Reading temperature sensors
Quantity	4
Connector	Type 2

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Connectors

Type 1	
Max. voltage	300 V
Max. current	10 A
Cable type	- Solid: 0.5 ... 1.5 mm² - Stranded: 0.75 ... 1.5 mm² - Stranded with ferrule: 0.25 ... 1 mm²
Strip length	9-10 mm

Type 2	
Max. voltage	300 V
Max. current	10 A
Cable type	- Solid: 0.2 ... 1.5 mm² - Stranded: 0.2 ... 1.5 mm² - Stranded with ferrule: 0.25 ... 1 mm²
Strip length	9-10 mm

Type 3	
Max. voltage	300 V
Max. current	24 A
Cable type	- Solid: 0.25 ... 2.5 mm² - Stranded: 0.25 ... 2.5 mm² - Stranded with ferrule: 0.25 ... 1.5 mm²
Strip length	10-11 mm

System scope and limits

The HVAC module has the following limits that must be considered:

- Relay outputs R3-5 have a common L and N connection. This common connection must be protected with a 16 A fuse. Each relay can switch the full 16 A/230 VAC.
- When multiple outputs are placed in motor configuration, only one of the outputs can be on at the same time.
- When multiple outputs are connected in parallel, the total current must not exceed 16 A.

For the system scope and limits of the entire system, please refer to the Brain and/or Brain+ datasheet.

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Legal provisions

It is not permitted to dispose of this product with unsorted (residual) waste. Take this discarded product to a recognised collection point or processing facility.

CE This product has been evaluated according to the standards: see DoP

Warranty

This product is subject to the standard warranty terms and conditions as available on our website.

Direct link: www.renson.net/generalconditions

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