Uponor Smatrix Base PRO Modbus RTU X-148

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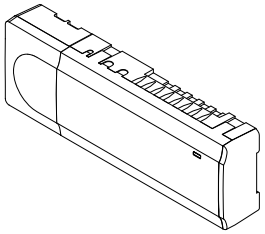

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System description

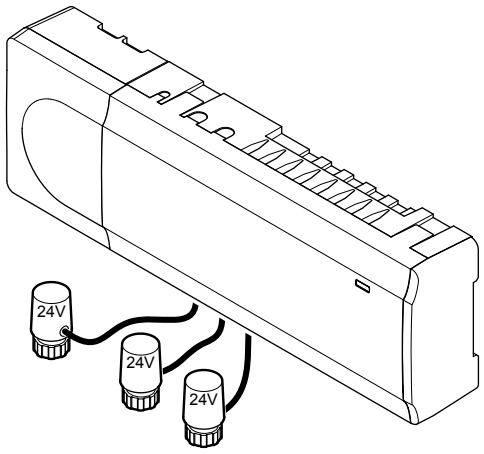
Caution!

Only 24 V AC Uponor actuators are compatible with the room controller.

The room controller operates the actuators, which in turn affect the flow of the supply water, to change the indoor temperature using information transmitted from registered thermostats and system parameters.

Up to six channels and eight actuators can be operated by the room controller which is typically located near the hydraulic system manifolds.

The illustration below shows the room controller with the transformer module and actuators.



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Special features

The Uponor Smatrix Base PRO controller X-148 Modbus RTU is suited for the connection to and the integration into a building management system (BMS) through a Modbus RTU connection over RS-485.

The BMS gets access to the following in the Uponor Smatrix Base PRO system

Read:

- Outdoor temperature
- Room temperature
- Floor temperature
- Humidity level
- Actuator status
- Pump status
- Boiler status
- General purpose input (GPI)
- Loss of thermostat connection
- Dynamic heat curve offset in integrated heat pump*

Read and write:

- Room setpoint
- Min./max. levels for setpoints
- Activation of setpoint override for analog thermostats
- Min./max. levels for floor temperature
- Heating/Cooling state
- Heating/Cooling offset
- Comfort/ECO modes
- Autobalancing on/off
- Cooling not allowed for a room
- Comfort settings
- Integrated heat pump defrost state*
- Relative humidity (RH) control

* Requires Heat Pump Integration via BMS to be activated in U_BMS.txt.

Functions

Main characteristics:

- Integrated Dynamic Energy Management functions such as autobalancing (on by default). Other functions such as comfort setting, room bypass, can be activated via the BMS
- Electronic control of actuators.
- Connection of maximum eight actuators (24 V AC).
- 2-way communication with up to six room thermostats.
- Heating/cooling function (advanced) switched by dry contact, public thermostat (heating/cooling sensor only) or touch panel interface
- Comfort/ECO mode switched by dry contact, public thermostat or via BMS
- Separate relays for control of pump and boiler.
- Valve and pump exercise.

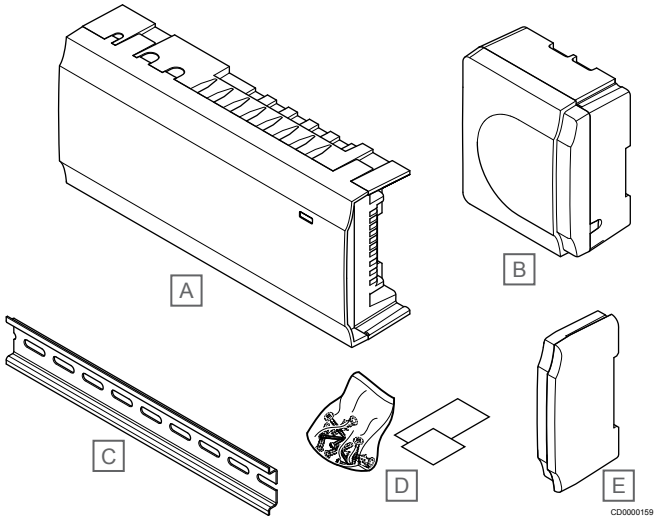
- Updates via micro SD card
- Lower indoor temperature in heating mode, or raise indoor temperature in cooling mode, with ECO mode. ECO mode is activated in all rooms at once using a dry contact, public thermostat, or by ModBus setting from the BMS. To activate ECO mode in a single room use a programmable digital thermostat, or ECO profiles.

Options:

- The room controller can be expanded with an extension module which adds an extra six thermostat channels and six actuator outputs.
- Modular placement (detachable transformer).
- Cabinet or wall mounted (DIN rail or supplied screws).
- Free placement and orientation when installing the controller.

Item	Description
A	Uponor Smatrix Base PRO X-148 Modbus RTU
B	Transformer module
C	DIN-rail
D	Mounting material
E	End cap

Components of the room controller



Technical data

Technical specifications

Room controller	X-148
IP	IP20, class II (IP: degree of inaccessibility to active parts of the product and degree of water)
Max. ambient RH (relative humidity)	85% at 20 °C
CE marking	
ERP (with interface)	VIII
ERP (without interface)	IV
Low voltage tests	EN 60730-1* and EN 60730-2-1**
EMC (electromagnetic compatibility requirements) tests	EN 60730-1
Power supply	230 V AC +10/-15%, 50 Hz or 60 Hz
Internal fuse	T5 F3,15AL 250 V; 5x20 3,15 A; quick acting
Rated impulse voltage	2.5 kV, OVC II
Pollution degree	2
Software class	A
Operating temperature	0 °C ... +45 °C
Storage temperature	-20 °C ... +70 °C
Maximum consumption	45 W
Pump and boiler relay outputs	230 V AC +10/-15%; 250 V AC 8 A maximum Micro gap, normally open
General purpose input (GPI)	Only dry contact

Room controller	X-148
Heat pump input	12 – 24 V DC /5 – 20 mA
Heat pump output	5 – 24 V DC/0.5 – 10 mA, current sink ≤ 100 mW
Valve outputs	24 V AC; 0,2 A average; 0,4 A peak
Power connection	1 m flexible cord, with europlug (except UK), which is connected to the controller
Connection terminals for power, pump, GPI and boiler	Up to 4.0 mm² solid, or 2.5 mm² flexible with ferrules
Connection terminals for bus communication	0,5 mm² ... 2,5 mm²
Connection terminals for valve outputs	0,2 mm² ... 1,5 mm²

*) EN 60730-1 Automatic electrical controls for household and similar use -- Part 1: General requirements

**) EN 60730-2-1 Automatic electrical controls for household and similar use -- Part 2-1: Particular requirements for electrical controls for electrical household appliances

***) EN 60730-2-9 Automatic electrical controls for household and similar use -- Part 2-9: Particular requirements for temperature sensing controls

Usable in all Europe CE

Declaration of conformity:

We hereby declare under our own responsibility that products dealt with by these instructions satisfy all essential demands linked to the information stated in the Safety instruction booklet.

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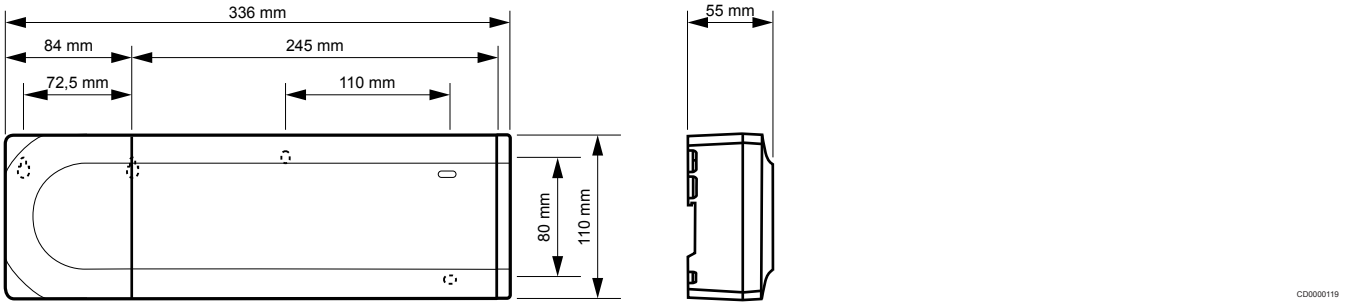
Dimensions



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