

Uponor Smatrix Wave thermostat D+RH T-267



Operation manual

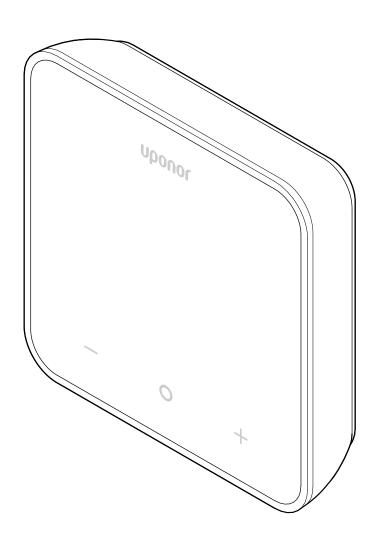


Table of contents

1	Copyright and disclaimer	3
2	Preface	4
2.1	Safety instructions	4
2.2	Correct disposal of this product (Waste Electrical and	
	Electronic Equipment)	4
3	System description	5
3.1	Thermostat features	
3.2	System compatibility	5
3.3	Components of the thermostat	5
4	Operation	6
4.1	Thermostat operation	
4.2	Display descriptions	
4.3	Main screen	
4.4	Change setpoint	
4.5	Sensor readings	
4.6	Digital thermostat functions	
4.7	Replace batteries	
4.8	Factory reset	11
5	Troubleshooting	12
5.1	General	
5.2	Troubleshooting after installation	
5.3	Flash-illuminated alarm symbols	
5.4	Digital thermostat alarms/problems	
5.5	Speak to the installer	
5.6	Installer instructions	14
6	Technical data	15
6.1	Technical specifications	
6.2	Performance curves	
6.3	Dimensions	15

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2 Preface

This operation manual explains the operation of this product and its components.

2.1 Safety instructions

Safety messages used in this document



Warning!

Risk of injury and damage. Ignoring warnings can cause personal injury and/or damage to products and other property.



Caution

Risk of malfunctions. Ignoring cautions can cause the product to not operate as intended.



Note

Important information to the section in the manual.

Uponor uses safety messages in the document to indicate special precautions required for the installation and operation of any Uponor product.

Technical constraints



Caution!

To avoid interference, keep data cables away from components bearing power of more than 50 V.

Safety measures



Note

For safe and proper use, obey the instructions given in this document. Keep them for future reference.

The installer and operator agree to comply with following measures regarding Uponor products:

- Read and obey the instructions and processes in the document.
- The installation must be performed by a qualified installer in accordance with local regulations.
- Uponor is not liable for modifications not specified in this document.
- Switch off all connected power supplies before starting any wiring work
- Do not expose the Uponor components to flammable vapours or cases.
- Do not use water to clean electrical Uponor products/ components.

Uponor is not liable for damage caused by ignoring the instructions in this document or the applicable building code.

2.2 Correct disposal of this product (Waste Electrical and Electronic Equipment)



Note

Applicable in the European Union and other European countries with waste separation systems.

This icon on the product, or in the related documents indicates that it should not be disposed with household waste. Please, recycle responsibly to support the sustainable use of resources and prevent possible harm to human health and/or the environment.

Household users should contact the retailer where they purchased this product, or their local government office, for details on where and how they can take it for recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. Do not dispose this product with other commercial waste

3 System description



The Uponor Smatrix Wave thermostat D+RH T-267 comes with a big LED display and capacitive keys.

The capacitive keys and the front glass make cleaning of the front of the thermostat easy.

3.1 Thermostat features

Main characteristics for the thermostat:

- Mounting
 - on wall
 - on table
- Optional: an external temperature sensor can be connected to the thermostat, to measure the room, floor or outdoor temperature

Software features

Main characteristics of the thermostat software:

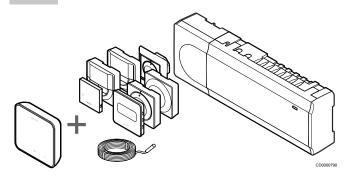
- · Heating/cooling demand indication
- Relative humidity (RH) measured value
- · Comfort/ECO modes indication
- ECO setback modification
- Cooling allowed function (room by room)
- Temperature display in Celsius or Fahrenheit
- Operating modes
 - RT: room temperature sensor
 - RFT: room temperature sensor and floor temperature sensor
 - RS: remote sensor
 - RO: room temperature sensor and outdoor temperature sensor
- Room temperature calibration
- Optional: floor, remote or outdoor sensor can be connected
- Factory reset

3.2 System compatibility



Note

For more detailed information, product range and documentation please visit the Uponor website: www.uponor.com.

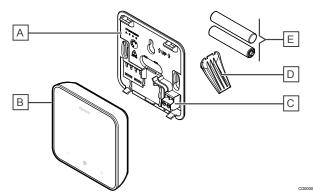


The Uponor Smatrix Wave thermostat D+RH T-267 is compatible with the components listed below:

- Uponor Smatrix Wave controller PULSE X-265 6X
- Uponor Smatrix floor/remote sensor S-1XX

3.3 Components of the thermostat

The illustration below shows the thermostat and its components.



Description
Thermostat back cover
Thermostat body
Terminal for external sensor (non-polarised)
Stand
Batteries (AAA 1.5 V)

4 Operation

4.1 Thermostat operation



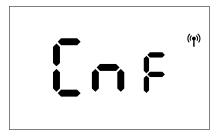
Power on/reset display



The software version is displayed for **3 seconds** after power on, or performing a factory reset (followed by a restart), after which it will swtich to the main screen. The LEDs will remian on for 20 seconds, and if there is no activity (no button is pressed), they will automatically turn off.

When a button is pressed, the main screen reappears, and the LEDs light up again. If there is no further activity, the LEDs will turn off again after 20 seconds.

Register thermostat to the room controller



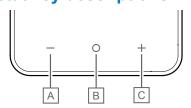
After the Smatrix controller is set to registration mode and the required channels are selected, proceed to the thermostat and press the + and - buttons for 5 seconds to initiate the registration process.

The screen will display "CnF" and the icon () will flash, indicating that the registration is in progress. After successful

registration, the icon () will remain steady, and the screen will switch to run mode, displaying the main screen.

If the registration process is not completed successfully within the 20seconds timeout period, the thermostat will display the "not paired" icon (). After a few seconds, it will return to run mode, displaying the main screen.

Thermostat key descriptions



Item	Key/icon	Description
Α	-	Minus/decrease
В	0	ОК
С	+	Plus/increase

- and + keys

The keys - and + are used to

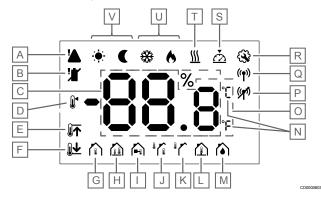
- · Activate the thermostat
- Adjust setpoint temperature
- Move from one parameter to the next/previous one in the settings menu

O (OK) key

The key O (OK) is used to

- Activate the thermostat
- Toggle between current status data, and values of available sensors connected to the thermostat
- Enter and exit the settings menu (holding the key for about 3 seconds)
- Confirm a setting

4.2 Display descriptions



Symbols/icons

The figure shows all possible symbols and characters that can be shown on the display:

Item	Icon	Description
A	14	Alarm
В		Low battery
С	88.8	Relative humidity measured with the RH sensor
D		Setpoint
Е		High limitation of floor temperature
F	<u> </u>	Low limitation of floor temperature
G		Control mode, Room temperature sensor
Н		Control mode, Room temperature sensor and floor temperature sensor
I		Control mode, Remote sensor
J		Control mode, Room temperature sensor and outdoor temperature sensor
K		Outdoor temperature sensor
L		Floor temperature sensor
М	(Relative humidity
N	°E	Temperature unit
0	88.8	Temperature
Р	((9/1)	Pairing not okCommunication lost
Q	((†))	 Pairing ok Active communication (flashes to indicate active communication during run mode)
R	(3)	Settings menu
S	$\stackrel{\bullet}{\triangle}$	Calibration
T	<u> </u>	Demand
U	♦ / ※	Heating/cooling mode

Item	Icon	Description	
V	 /(Comfort/ECO mode	

4.3 Main screen

The display below shows the main screen after activation:



CD000079

4.4 Change setpoint

On the main screen, pressing the – or + button for the first time will switch the display from the main screen to the setpoint adjustment screen, where the current setpoint value will be shown.

The change setpoint display could show any of the symbols listed below:



CD000

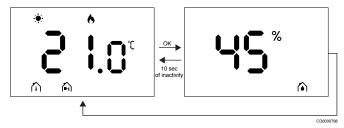
The setpoint adjustment screen can display various icons, including those for ECO/Comfort mode, Heating/Cooling, Demand/No Demand, Regulation mode, and units. However, not all icons are shown simultaneously; they appear according to the current system status.

When the – or + buttons are pressed, the setpoint adjusts in 0.5° increments. Once the desired setpoint is selected, either pressing the OK button or waiting for 10 seconds of inactivity will cause the display to return to the main screen.

4.5 Sensor readings

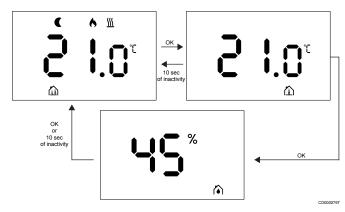
This thermostat has a RH sensor that measures the room's relative humidity. When the regulation mode is set to **RFT** or **RO**, an external sensor measures a second temperature (floor temperature for **RFT** or outdoor temperature for **RO**). To see the readings from the other sensors, press the **OK** button on the main screen.

Regulation mode is RT or RS



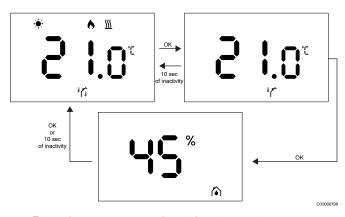
- Only one temperature will be measured, which is already displayed on the main screen.
- When you press the **OK** button, the display switches from the main screen to the humidity measurement screen.
- After 10 seconds of inactivity, the display will automatically return to the main screen.

Regulation mode is RFT



- · External sensor measures the floor temperature.
- The room temperature, measured by the internal sensor, is already displayed on the main screen.
- When you press the **OK** button, the display switches from the main screen to the floor temperature screen. Pressing the **OK** button again will take you to the humidity measurement screen.
- After 10 seconds of inactivity, the display will automatically return to the main screen.

Regulation mode is RO



- · External sensor measures the outdoor temperature.
- The room temperature, measured by the internal sensor, is already displayed on the main screen.
- When you press the **OK** button, the display switches from the main screen to the outdoor temperature screen. Pressing the **OK** button again will take you to the humidity measurement screen.
- After 10 seconds of inactivity, the display will automatically return to the main screen.

4.6 Digital thermostat functions

Run mode

The thermostat is in run mode during normal operation.

The display turns off after 20 seconds of inactivity and can only be reactivated by pressing a button.

Control mode



Caution

The thermostat control mode must be set before the thermostat is registered to the room controller.

To make subsequent changes to this setting, you must register the thermostat again.



Note

While in a submenu, if no button on the thermostat is pushed for approximately 10 seconds, the current values will be saved, and the software will return to the settings menu. Approximately 10 seconds later, the software will return to main screen.

The thermostat has four different control modes. These modes can be set in the settings menu.

Display	Display text	Thermostat function
- -	RT	Room temperature sensor
rF Ł ®	RFT	Room temperature sensor and floor temperature sensor
-5	RS	Remote sensor
r Q	RO	Room temperature sensor and outdoor temperature sensor

Thermostat settings



Note

While in a submenu, if no button on the thermostat is pushed for approximately 8 seconds, the current values will be saved, and the software will return to the settings menu. Approximately 60 seconds later, the software will return to main screen.

All the parameters for thermostat operation can be set in this menu.

Change the settings

To enter the settings menu:

- 1. Push and hold the **OK** button for approximately 3 seconds.
- The settings icon and menu numbers are displayed in the center of the display.
- Use the or + button to change the numbers to locate a submenu (see list below).

02

Heating/cooling changeover

This menu is not visible if the thermostat is registered to a Uponor Smatrix Wave Pulse room controller.

This menu is visible only if the thermostat is registered to a Uponor Smatrix Wave Move controller or Uponor Smatrix Wave relay module.

03

ECO mode setback temperature

This menu is not visible if a communication module is connected to the system. The setting is then available in the Uponor Smatrix Pulse app.

04

Control mode

05

High floor temperature limitation

This menu is only visible if control mode RFT is activated in settings menu 04. For systems with a communication module, this menu only shows the set value. Changes can be made in the Uponor Smatrix Pulse app.

06

Low floor temperature limitation

This menu is only visible if control mode RFT is activated in settings menu 04. For systems with a communication module, this menu only shows the set value Changes can be made in the Uponor Smatrix Pulse app.

07

Cooling allowed

This menu is not visible if a communication module is connected to the system. The setting is then available in the Uponor Smatrix Pulse app.

08

Display unit

09

Climatic controller integration

11

Room temperature calibration

- 4. Push **OK** to enter parameter edit mode.
 - The parameter starts to flash.
- 5. Change the parameters by pressing or + button.
- Push and hold the **OK** button for approximately 3 seconds to exit the settings menu.

02 Heating/cooling changeover

Default: 0

Setting range: Heating/Cooling

This menu is not visible if the thermostat is registered to a Uponor Smatrix Wave Pulse room controller.

This menu is visible only if the thermostat is registered to a Uponor Smatrix Wave Move controller or Uponor Smatrix Wave relay module.

See Change the settings, Page 9, for how to change the setting.

03 ECO mode setback temperature

Default: 4 °C

Setting range: 0 - 11 °C, 0.5 °C increments

In this menu, you can change the setback temperature for whenever the channel is in ECO mode.

The setting adjusts the current setpoint with the set value. In heating mode, the setpoint is decreased. In cooling mode, the setpoint is increased.

If the setback temperature is set to 0, the thermostat will remain unaffected if a program sets the system in ECO mode.

This menu is not visible if a communication module is connected to the system. The setting is then available in the Uponor Smatrix Pulse app.

See Change the settings, Page 9, for how to change the setting.

04 Control mode

Default: 0

Setting range: 0=RT, 1=RFT, 2=RO, 3=RS

In this menu, you can set the control mode for the thermostat.

If an external sensor is connected to the thermostat, you must choose a control mode to accommodate the extra functionality of the sensor.

The current control mode is displayed (RT, RFT, RS or RO).

See Change the settings, Page 9, for how to change the setting.

Display	Display text	Thermostat function
~ F	RT	Room temperature sensor
<u> ۴</u> ۲	RFT	Room temperature sensor and floor temperature sensor
-5	RS	Remote sensor
	RO	Room temperature sensor and outdoor temperature sensor

05 High floor temperature limitation



Note

This parameter must be higher than the **06 Low floor** temperature limitation.

Default: 26 °C

Setting range: 20 - 35 °C, 0.5 °C increments

In this menu, you can set the maximum permitted floor temperature.

This menu is only visible if control mode RFT is activated in settings menu 04. For systems with a communication module, this menu only shows the set value. Changes can be made in the Uponor Smatrix Pulse app.

See Change the settings, Page 9, for how to change the setting.

06 Low floor temperature limitation



Note

This parameter must be lower than the **05 High floor temperature limitation**.

Default: 20 °C

Setting range: 10 - 30 °C, 0.5 °C increments

In this menu, you can set the minimum permitted floor temperature.

This menu is only visible if control mode RFT is activated in settings menu 04. For systems with a communication module, this menu only shows the set value Changes can be made in the Uponor Smatrix Pulse app.

See Change the settings, Page 9, for how to change the setting.

07 Cooling allowed

In this menu it is set whether cooling is allowed in the room or not.

This menu is not visible if a communication module is connected to the system. The setting is then available in the Uponor Smatrix Pulse app.

See Change the settings, Page 9, for how to change the setting.

08 Display unit

In this menu, you can set the temperature unit (°C or °F) that you want to see on the display.

Display	Display text	Description
٥	°C	Degrees Celsius
°F	°F	Degrees Fahrenheit

See Change the settings, Page 9, for how to change the setting.

09 Climatic controller integration

In this menu, you can set if the thermostat will also be integrated with an Uponor Smatrix Move supply controller and share temperature data with it.

This menu can be used when registering the thermostat to a relay module. You can use the relay module to control the distributed manifolds.

Default value: no

Display	Display text	Description
∩0	no	Not integrated
98 s	YEs	Integrated (must be registered with the Move supply controller first)
Cnf	CnF	Register with the Move supply controller/relay module, confirm on the Move supply controller/relay module

See Change the settings, Page 9, for how to change the setting.

11 Room temperature calibration

Default: 0.0 °C

Setting range: -6.0 - 6.0 °C, 0.1 °C increments

In this menu, you can calibrate the room temperature shown on the thermostat display.

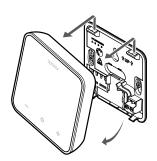
See Change the settings, Page 9, for how to change the setting.

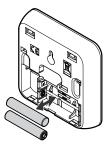
4.7 Replace batteries

Replace the battery of the thermostat when the low battery icon



is shown on the display (alarm list).





S10000

- . Remove the thermostat from the wall.
- 2. Remove the batteries.
- 3. Put in new batteries.

4.8 Factory reset

Note

Do not do a factory reset of the thermostat unless it is absolutely necessary.

Note

A factory reset erases the registration data from the thermostat.



Follow the instructions below to reset the thermostat (factory reset):

- 1. Hold all three keys — and ${\bf O}$ (OK) and + for ${\bf 10}$ seconds
- The assignment to the controller is removed, and all parameter values are restored to their default settings
- The thermostat initiates a restart.

5 Troubleshooting

5.1 General

This section describes general problems and alarms that can occur with the Uponor Smatrix system and gives solutions for them. Problems are frequently caused by loops that are installed incorrectly or by thermostats that are in the incorrect room or that are registered incorrectly.



Note

For more information, please refer to the Uponor OM Smatrix Wave Pulse.

5.2 Troubleshooting after installation



Note

For more information, please refer to the Uponor OM Smatrix Wave Pulse.

5.3 Flash-illuminated alarm symbols

Icon	Description	
	Low battery indicator	
((9/1)	Communication lost indicator	
+	Faulty room temperature sensor	
	Faulty floor temperature sensor	
+	This symbol is only visible if control mode is set to RFT .	
IA A	Faulty remote temperature sensor	
+	This symbol is only visible if control mode is set to $\ensuremath{\mathbf{RS}}.$	
	Faulty outdoor temperature sensor	
	This symbol is only visible if control mode is set to ${\bf RO}. \label{eq:RO}$	
	Relative humidity limit reached	

5.4 Digital thermostat alarms/ problems

Battery icon is displayed in the alarm list

- Thermostat battery power is low
 - Replace the battery.

The display remains inactive after pressing a button

- The battery has no more power, or the wrong type of battery is used
 - Replace the battery.
- The battery is installed incorrectly (reverse polarity)
 - Install the battery correctly.

Communication failure icon is displayed in the alarm list

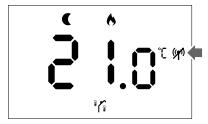


Figure 1. Example from a heating system operating in eco mode without demand, in control mode RO

- · The transmitter in the thermostat is defective
 - Change the temperature setpoint to cause the thermostat to transmit.
 - Replace the thermostat.
- The transmitter operates with decreased signal intensity
 - Change the temperature setpoint to cause the thermostat to transmit.
 - Replace the thermostat.
- The room controller antenna is installed inside a metal cabinet or near other shielding objects
 - Change the location of the antenna. If the problem continues, speak to the installer.
- The communication module is installed inside a metal cabinet or near other shielding objects
 - Change the location of the communication module. If the problem continues, speak to the installer.
- New installations in the building prevent radio signals (for example a safe with a metal door)
 - Find a new position for the thermostat and/or antenna or move the object that prevents the signal communication.

This symbol is only visible if cooling is active and RH control is enabled in the Uponor Smatrix

Pulse app (which requires a communication

Room temperature sensor icon is displayed in the alarm list

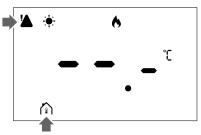


Figure 2. Example from a heating system operating in comfort mode without demand, in control mode RT

- Defective temperature sensor
 - Speak to the installer or replace the thermostat.

Floor temperature sensor icon is displayed in the alarm list

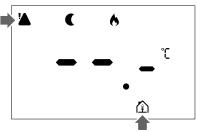


Figure 3. Example from a heating system operating in eco mode without demand, in control mode RFT

- · Defective temperature sensor
 - Make sure that the floor sensor is connected correctly.
 - Disconnect the temperature sensor and examine it with an ohmmeter. Make sure that the value agrees with the temperature sensor diagram.
- Incorrect thermostat control mode
 - Select the correct thermostat control mode (settings menu 4).
- · Temperature sensor not connected
 - Connect the temperature sensor.

Remote temperature sensor icon is shown in the alarm list

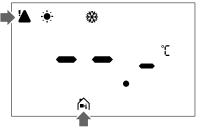


Figure 4. Example from a cooling system operating in comfort mode without demand, in control mode RS

- · Defective temperature sensor
 - Make sure that the remote sensor is connected correctly.
 - Disconnect the remote temperature sensor and examine it with an ohmmeter. Make sure that the value agrees with the temperature sensor diagram.
- · Incorrect thermostat control mode
 - Select the correct thermostat control mode (settings menu 4).
- Temperature sensor not connected
 - Connect the temperature sensor.

Outdoor temperature sensor icon is displayed in the alarm list

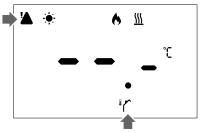


Figure 5. Example from a heating system operating in comfort mode with demand, in control mode RO

- · Defective temperature sensor
 - Make sure that the outdoor sensor is connected correctly.
 - Disconnect the temperature sensor and examine it with an ohmmeter. Make sure that the value agrees with the temperature sensor diagram.
- Incorrect thermostat control mode
 - Select the correct thermostat control mode (settings menu 4).
- · Temperature sensor not connected
 - Connect the temperature sensor.

Relative humidity icon is displayed in the alarm list



Figure 6. Example from a cooling system operating in comfort mode without demand, in control mode RT

Note

Relative humidity control is activated in the Uponor Smatrix Pulse app (requires communication module).

- The relative humidity limit is reached
 - Decrease the humidity level by increasing the ventilation or by activating a dehumidifier.

5.5 Speak to the installer

For the installer's contact information, refer to the installation report. Prepare this information before you speak to an installer:

- Installation report
- · Drawings of the underfloor heating system (if available)
- · List of all alarms, including times and dates

5.6 Installer instructions

To determine if a problem is caused by the supply system or the control system, do these steps:

Loosen the actuators from the manifold for the applicable room. Wait few minutes. Then examine if the flow pipe of the underfloor heating loop becomes warm.

If the pipe does not become warm, the problem is in the heating system. If the loop becomes warm, the cause can be the room control system.

A supply system malfunction can be identified by no warm water in the manifold. Do a check of the boiler and circulation pump.

6 Technical data

6.1 Technical specifications

Description	Value	
Product name	Uponor Smatrix Wave thermostat D+RH T-267	
IP	IP20, class III (IP: degree of inaccessibility to active parts of the product and degree of water)	
Max. ambient RH (relative humidity)	85 % at 20 °C	
Marking	CE	
ERP	Class IV	
Low-voltage tests	EN 60730-1* and EN 60730-2-9**	
EMC (electromagnetic compatibility requirements) tests	EN 60730-1 and EN 301-489-3	
ERM (electromagnetic compatibility and radio spectrum matters) tests	EN 300 220-3	
Power supply	Two 1,5 V AA alkaline batteries	
Voltage	2,1 V to 3,6 V	
Pollution degree	2 - Normal household environment	
Software class	A	
Operating temperature	0 °C to +45 °C	
Storage temperature	-10 °C to +65 °C	
Radio frequency	868,290 MHz ± 20 KHz – ERP < 25 mW	
Transmitter duty cycle	3 – 6 min	
Connection terminals	13,5 A/250 V/4 kV/3/ IEC61984/0,08 – 1,5 mm ²	
Purpose of control	Thermostat	
Construction of control	Electronic independently mounted control	
Terminal method of disconnection	Type Y	
*\ EN 60720 1 Automatic algebraical controls for boundhald and similar		

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

Regulatory conformance

The Uponor Smatrix Wave thermostat D+RH T-267 complies with the following directives.

- CE
- UKCA

EU/UK Declaration of conformity

Hereby, Uponor declares that the Uponor Smatrix Wave thermostat D+RH T-267 is in compliance with the relevant Community harmonisation legislation. ¹⁾



The full text of the EU/UK declaration of conformity is available at the following internet address:

https://www.uponor.com/doc/1071660

1) Refer to the related Uponor product for the specified certification and compliance marks.

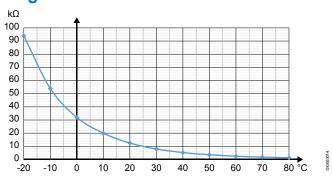
Additional product information and instructions are delivered with the Uponor product. They are available at the website www.uponor.com/

services/download-centre and at the national Uponor websites in local language.



6.2 Performance curves

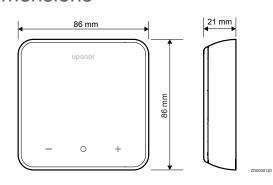
External temperature sensor resistance diagram



Temperature (°C)	Resistance (kΩ)
-20	94
-10	54
0	32
10	20
20	12.5
30	8
40	5.3
50	3.6
60	2.5
70	1.8
80	1.3

6.3 Dimensions





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





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