uponor

INDOOR CLIMATE

UPONOR
CONTROL SYSTEM

Uponor Control System – Installation and Operation Manual

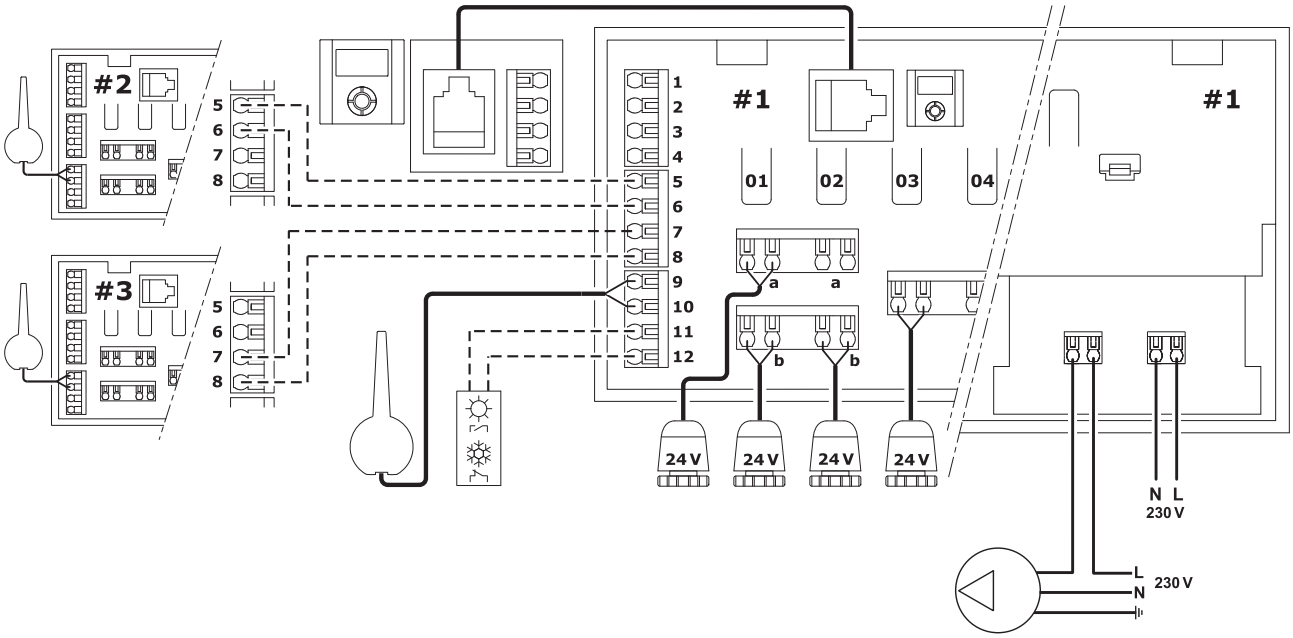
01 | 2009

Installation and operation manual

UK English

Quick start guide

This is a quick start guide to serve as a reminder for experienced installers. We strongly recommend reading the full manual before installing the Uponor Control System.



Install antenna

- Connect the antenna to terminals 9 and 10 on the controller (non-polarized).
- Attach the antenna to a wall or the rear of the controller.
- If the controller is installed inside a metal cabinet, then locate the antenna outside the cabinet.

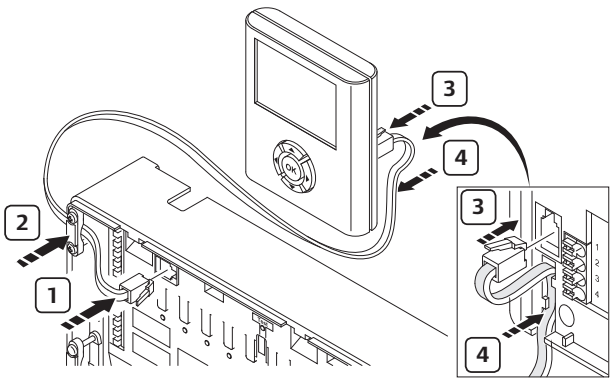
Actuator installation

- Connect only one actuator for each channel. Channels 01 and 02 have double outputs (a and b) for two actuators.
- Ensure that each actuator is connected to the correct channel so that the thermostats are controlling the correct loops.

Uponor Interface I-75/76 installation

Using the 2 m RJ-9 connector cable:

- Connect the RJ-9 connector on the controller to the RJ-9 connector on Interface I-75/76:



Using the 15 m four-wire connector cable or similar:

- Connect terminals 1, 2, 3, and 4 on the controller to terminals 1, 2, 3, and 4 on the Uponor Interface I-75/76. (Wiring is polarized, so wire 1 on the controller must be connected to 1 on the interface, and so on.)

Interface I-75/76 access levels

Uponor Interface I-75/76 has three access levels:

Basic

Advanced

Installer

The icons are visible only in Uponor Interface I-76. To go from **Basic** to **Advanced** level:

1 On the Uponor screen, simultaneously press ◀ and ▶ until the **Advanced** display appears.

2 Press **OK**. The Uponor screen appears.

To go from **Advanced** to **Installer** level:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Access level**.

2 On the access level screen, simultaneously press ◀ and ▶ until the **Installer** display appears.

3 Press **OK**. The Uponor screen appears.

The system will automatically return to **Advanced** level after 10 minutes of inactivity.

Optional: install multiple controllers

Up to three controllers can be interconnected. This is only possible if an Uponor Interface I-75/76 is used.

1 Connect terminals 5 and 6 on controller 2 to terminals 5 and 6 on controller 1 (polarized).

2 If a third controller is needed, then connect terminals 7 and 8 on controller 3 to terminals 7 and 8 on controller 1 or 2 (polarized).

When connecting multiple controllers, all controllers must have IDs. To set the controller IDs in Uponor Interface I-75/76:

3 Access the **Installer** level as described above.

4 On the Uponor screen, select **Main Menu > Settings > System Parameters > Controller ID**.

5 Select **Reset Controller ID** and press **OK**.

6 Select **Yes** and press **OK**.

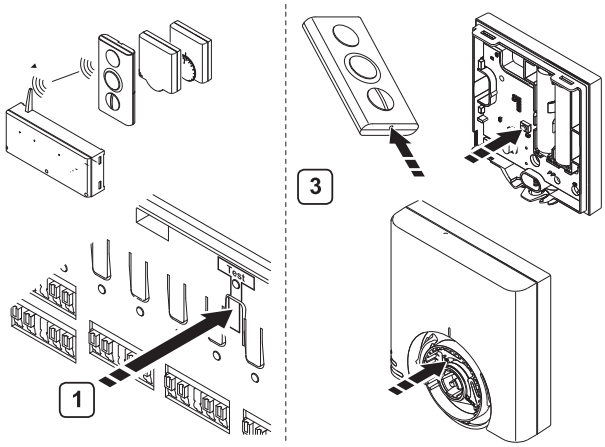
7 Select **Set Controller ID** and press **OK**.

8 The message **>1. Controller<** flashes. Press the **Test** button on controller 1 (the controller connected to Uponor Interface I-75/76).

9 Repeat the operation for controller 2 (the controller connected to terminals 5 and 6) and controller 3 (the controller connected to terminals 7 and 8).

10 Press **OK** to end identification.

Register thermostats



1 Press the **Test** button on the controller. The test LED comes on.

2 Press the button of preferred channel. The channel LED flashes.

3 Gently press and hold the registration button on the thermostat with a pointed instrument until the channel LEDs are constantly on (can take several seconds).

4 Repeat steps 2 and 3 until all thermostats are registered.

5 Press the **Test** button to end registration. The test LED goes off.

Register thermostat to multiple channels

1 Press the **Test** button on the controller. The test LED comes on.

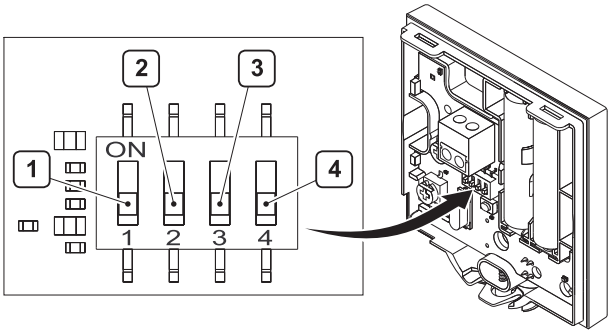
2 Press the buttons for the chosen channels. The channel LEDs flash.

3 Gently press and hold the registration button on the thermostat with a pointed instrument until the channel LEDs are constantly on (can take several seconds).

4 When all thermostats are registered, press the **Test** button. The test LED goes off.

Register thermostat with external sensor

Before the thermostat is registered, the configuration switches on the thermostat must be set according to the way Uponor Thermostat T-54 will be used:



Function	Switch 1	Switch 2	Switch 3	Switch 4
Used as a standard room thermostat	Off	Off	Off	Off
Used with a floor sensor, max. limitation	**On**	Off	Off	Off
Used with a floor sensor, min. limitation	**On**	Off	Off	**On**
Used with an outdoor sensor	Off	**On**	Off	Off
Technical alarm	Off	Off	**On**	Off
Used with Uponor Remote access module R-56	Off	Off	Off	**On**
External (floor) sensor for room temperature	Off	**On**	Off	**On**

Test communication

1 Press and release the **Test** button on the controller. The LEDs for all registered channels come on.

2 Press the registration button of each registered thermostat. If communication is good, then the LEDs for the channels registered to the thermostat go off.

3 To exit test mode, press the **Test** button on the controller.

Deregister single thermostats

1 Press and release the **Test** button on the controller. The LEDs for all registered thermostats come on.

2 Press and hold the button of the chosen channel until the channel LED goes off. The thermostat is now unregistered.

3 Press and release the **Test** button to exit. The test LED goes off.

Deregister all thermostats (factory setting)

1 Press and release the **Test** button on the controller. The LEDs for all registered thermostats comes on.

2 Press and hold the **Test** button on the controller until all channel LEDs go off (can take several seconds).

3 Press and release the **Test** button to exit. The test LED goes off.

Room by-pass (Uponor Interface I-76 only)

1 On the Uponor screen, select **Main Menu > Settings > Rooms > By Pass**.

2 Choose controller.

3 Choose the room for the by-pass function.

Auto-balance (Uponor Interface I-76 only)

The auto-balance function removes the need for manual balancing of the manifold at installation. The auto-balance function requires an Interface I-76 and is activated with **Installer** level access.

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Auto Balance**.

2 On the auto-balance screen, select **Active** and press **OK**. The auto-balance function is now activated.

When Auto-balancing is used, all balancing valves on the manifold must be fully open.

Preface

The Uponor Control System Installation and Operation Manual describes how to install and operate the components of the system.

Conventions used in this manual

The following symbols are used in the manual to indicate special precautions when installing the Uponor Control System:

WARNING
Risk of injury.

Ignoring warnings can cause injury or damage components.

CAUTION
Ignoring cautions can cause malfunctions.

Safety measures

Read and follow the instructions in the Installation and Operation Manual.

Installation must be performed by a competent person in accordance with local regulations.

It is prohibited to make changes or modifications not specified in this manual.

All power supply must be switched off before starting any wiring work.

Do not use water to clean Uponor Control System components.

Do not expose the Uponor Control System to flammable vapours or gases.

We cannot accept any responsibility for damage or breakdown that can result from ignoring these instructions!

Power

WARNING
The Uponor Control System uses 50 Hz 230 V AC power. In case of emergency, immediately disconnect the power.

Limitations for radio transmission

The Uponor Control System uses radio transmission. The frequency used is reserved for similar applications, and the chances of interference from other radio sources are very low.

However, in some rare cases, it might not be possible to establish perfect radio communication. The transmission range is sufficient for most applications, but each building has different obstacles affecting radio communication and maximum transmission distance. If communication difficulties exist, Uponor can support the system with accessories, such as repeaters, for solving exceptional problems.

Technical constraints

- To avoid interference, keep installation/data cables away from power cables for more than 50 V.
- The electrical circuits of the boiler and the pump must be protected by a circuit breaker rated at 6 A or below.

Disposal

The Uponor Control System consists of various recyclable components. Uponor would be grateful if the components (batteries, plastics, and electric or electronic parts) are sorted and disposed of at a suitable recycling centre.

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The presumption for the Manual is that the safety measures have been fully complied with and, further, that the Uponor Control System, including any components that are part of such system, covered by the Manual:

(a) is selected, planned and installed and put into operation by a licensed and competent planner and installer in compliance with current (at the time of installation) installation instructions provided by Uponor as well as in compliance with all applicable building and plumbing codes and other requirements and guidelines;

(b) has not been (temporarily or continuously) exposed to temperatures, pressure and/or voltages that exceed the limits printed on the products or stated in any instructions supplied by Uponor;

(c) remain in its originally installed location and is not repaired, replaced or interfered with, without prior written consent of Uponor;

(d) is connected to potable water supplies or compatible plumbing, heating and/or cooling products approved or specified by Uponor;

(e) is not connected to or used with non-Uponor products, parts or components except for those approved or specified by Uponor; and

(f) does not show evidence of tampering, mishandling, insufficient maintenance, improper storage, neglect or accidental damage before installation and being put into operation.

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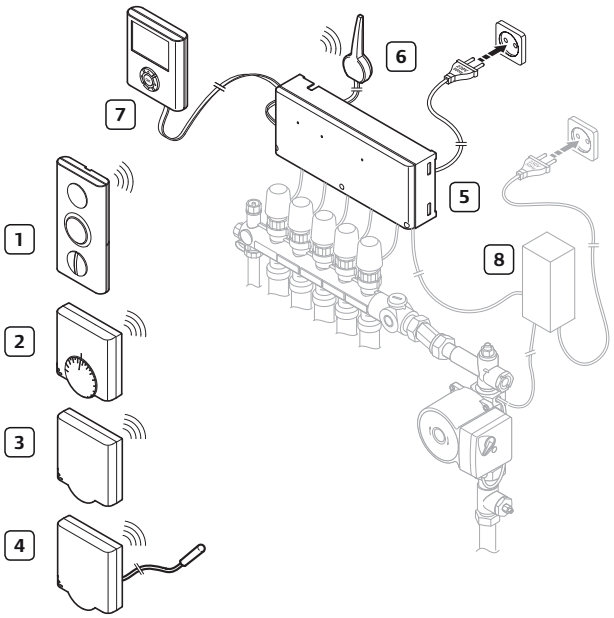
1. Uponor Control System

The Uponor Control System is a management system for underfloor heating systems. Comfort and temperature control for each room can be combined through the various components. Uponor Interface I-75 or Uponor Interface I-76 can be added to facilitate system optimization. Note that Uponor Interface I-76 is compatible only with Uponor Controller C-56, and Uponor Interface I-75 is compatible only with Uponor Controller C-55.

System example

The illustration below shows an Uponor Control System with several installation options and thermostats.

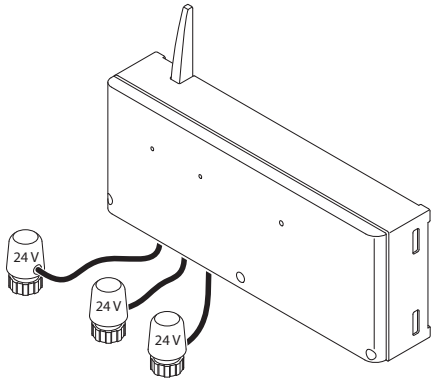


The table below describes the components of a typical installation. The item numbers correspond to the numbers in the illustration.

Item	Description
1	Uponor Thermostat with display T-75
2	Uponor Thermostat T-55
3	Uponor Thermostat T-54 Public
4	Uponor Thermostat T-54 Public with floor sensor. The floor sensor is used for maximum or minimum limitation of the floor temperature, regardless of the room temperature. Uponor Thermostat T-54 Public can also be used with an outdoor sensor
5	Uponor Controller C-55/56
6	Uponor Antenna for controller C-55/56
7	Uponor Interface I-75/76
8	External connection box for pumps (third-party product, just schematic example in illustration)

1.1 Controller C-55/56

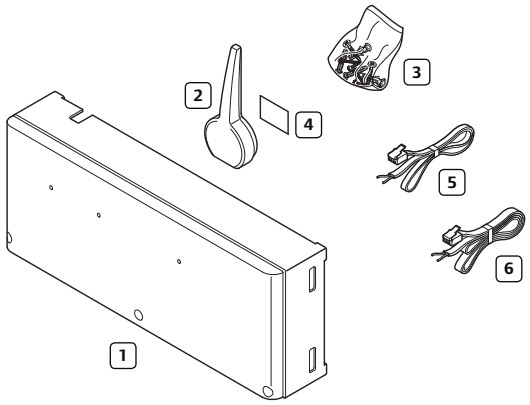
The controller manages the operation of the actuators, following a demand from the thermostats for heating or cooling, according to Uponor Interface I-75/76 settings and temperature information received from the thermostats. The controller is typically located near the hydraulic system manifolds. The illustration below shows the controller with actuators.



Observe that only 24 V actuators are compatible with Uponor Controller C-55/56.

Components of Uponor Controller C-55/56

The illustration below shows the controller and its components.



The table below describes the components of the controller. The item numbers correspond to the numbers in the illustration.

Component	Item	Description
Uponor Controller C-55/56	1	Uponor Controller C-55/56
	2	Antenna
	3	Screws
	4	Adhesive strips
	5	0.3 m antenna connection cable
	6	3 m antenna connection cable

1.2 Thermostats T-75, T-55, and T-54 Public

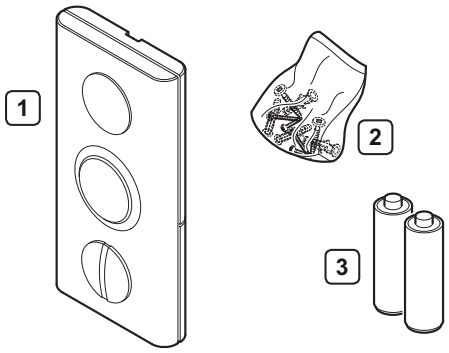
Uponor Control System Radio includes three types of indoor thermostats:

- Uponor Thermostat with display T-75
- Uponor Thermostat T-55
- Uponor Thermostat T-54 Public

The thermostats communicate with the controller through radio transmission and are used either individually or in combination with each other. They use the same battery type.

Components of Uponor Thermostat with display T-75

The thermostat shows the ambient or set temperature on the display. Temperature settings are adjusted using the +/- buttons on the front. The thermostat is affected by the temperature of surrounding surfaces as well as the ambient air temperature.

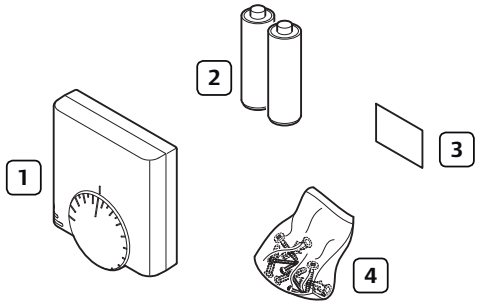


The table below describes the components of the thermostat. The item numbers correspond to the numbers in the illustration.

Component	Item	Description
Uponor Thermostat with display T-75	1	Uponor Thermostat with display T-75
	2	Screws
	3	Batteries (AAA 1.5 V)

Components of Uponor Thermostat T-55

The thermostat temperature settings are adjusted using the dial, which is removed to set minimum/maximum temperatures. The 21 °C position is marked with a larger line.

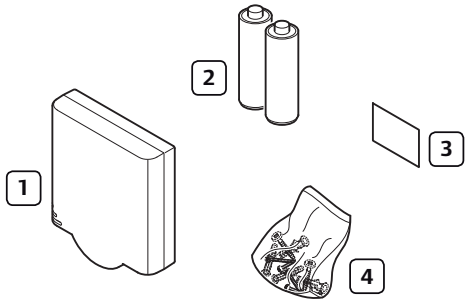


The table below describes the components of the thermostat. The item numbers correspond to the numbers in the illustration.

Component	Item	Description
Uponor Thermostat T-55	1	Uponor Thermostat T-55
	2	Batteries (AAA 1.5 V)
	3	Adhesive strips
	4	Screws

Components of Uponor Thermostat T-54 Public

The thermostat is designed for public locations. The controls are hidden by a cover, which must be removed to set the temperature. An alarm is triggered when the cover is opened. External sensors for underfloor heating or outdoor temperature can be connected to Uponor Thermostat T-54 Public, which is also required when using Uponor Remote access module R-56. The table below describes the components of the thermostat.



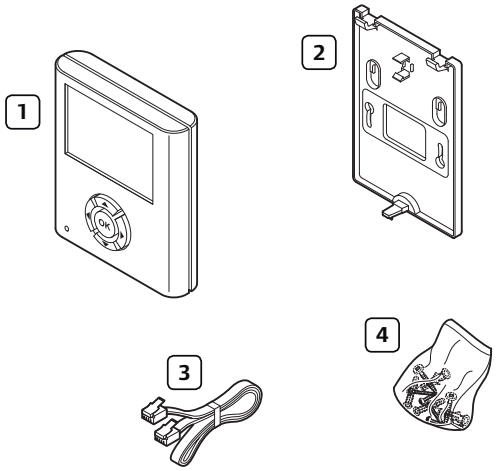
The item numbers correspond to the numbers in the illustration.

Component	Item	Description
Uponor Thermostat T-54 Public	1	Uponor Thermostat T-54 Public
	2	Batteries (AAA 1.5 V)
	3	Adhesive strips
	4	Screws

1.3 Interface I-75/76

Components of Uponor Interface I-75/76

Uponor Interface I-75/76 enables centralised and optimised management of the Uponor Control System.

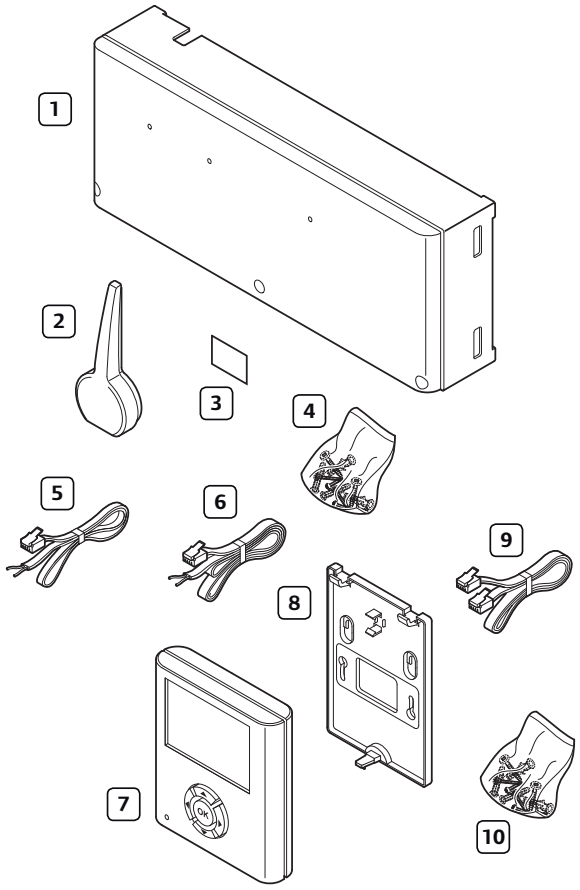


The table below describes the components of Uponor Interface I-75/76. The item numbers correspond to the numbers in the illustration.

Component	Item	Description
Uponor Interface I-75/76	1	Uponor Interface I-75/76
	2	Bracket
	3	2 m cable
	4	Screws

1.4 Interface with controller kit

Uponor Interface I-75/76 can be purchased in a kit together with Uponor Controller C-55/56.

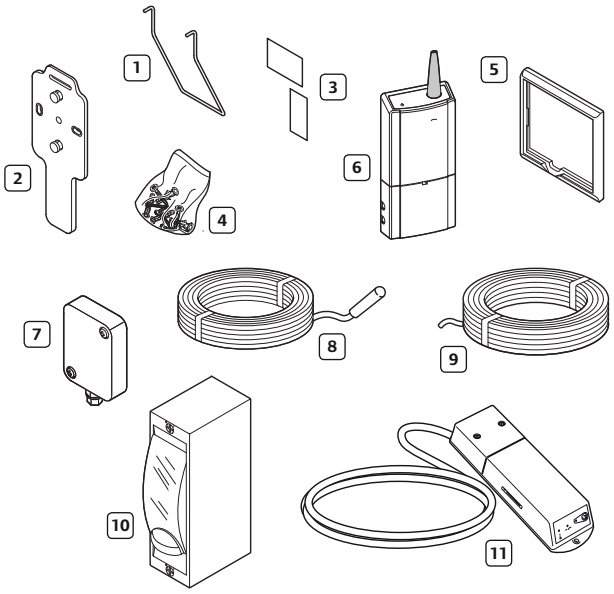


The table below describes the components of the interface with controller kit. The item numbers correspond to the numbers in the illustration.

Component	Item	Description
Uponor Controller C-55/56	1	Uponor Controller C-55/56
	2	Antenna
	3	Adhesive strips
	4	Screws for controller and antenna
	5	0.3 m antenna connection cable
	6	3 m antenna connection cable
Uponor Interface I-75/76	7	Uponor Interface I-75/76
	8	Bracket
	9	Cable
	10	Screws for interface

1.5 Accessories

Uponor offers a wide variety of accessories for use with the standard portfolio.



The item numbers in the table below correspond to the numbers in the illustration.

Component	Item	Description
Attachment options for Uponor Thermostat with display T-75	1	Table stand
	2	Wall bracket
	3	Adhesive strips
	4	Screws
Wall frame	5	Wall frame for use with Uponor Thermostat T-54 Public and Uponor Thermostat T-55
Repeater	6	Repeater to strengthen signal between thermostat and controller
Uponor outdoor sensor	7	Outdoor sensor for use with Uponor Thermostat T-54 Public
Uponor Floor sensor	8	Floor sensor for use with Uponor Thermostat T-54 Public
Connection cable for Uponor Interface I-75/76	9	15 m cable
Heating/cooling relay	10	Heating/cooling relay
Uponor Remote access module R-56	11	Remote access through mobile telephone, for use with Uponor Thermostat T-54 Public; compatible only with Uponor Controller C-56 and Uponor Interface I-76

2. Install Uponor Control System

Uponor Control System

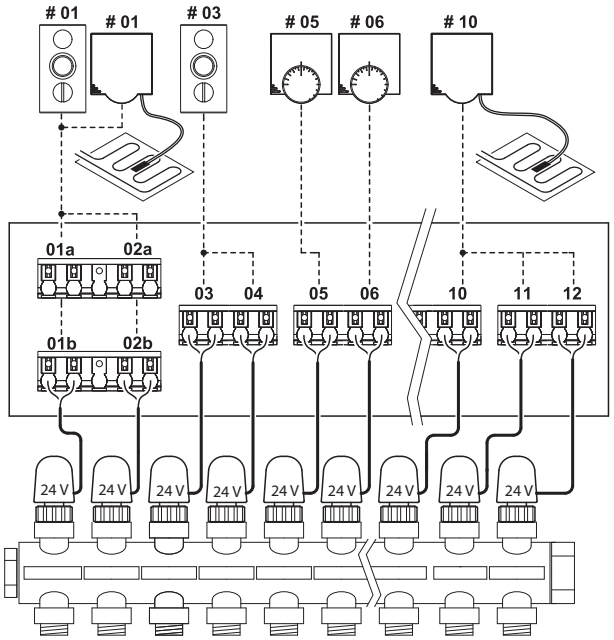
Uponor recommends following the process described below to guarantee the best possible installation results.

Uponor Interface I-75/76

Follow the process described below to install the Uponor Interface I-75/76.

Example installation

In the example installation illustrated below, the Uponor Thermostat with display T-75 01 controls channels 01a, 01b and 02a, 02b. The external sensors attached to Uponor Thermostat T-54 Public 01 and 10 communicate the floor temperature to the Uponor Controller C-55/56. The Uponor Thermostat with display T-75 03 controls channels 03 and 04.



– – – – – : Radio/Program connection

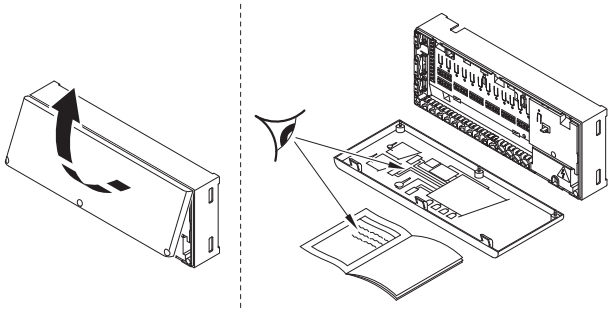
——— : Cable connection

Note that only 24 V actuators are compatible with Uponor Controller C-55/56.

2.1 Prepare for installation

Before installing the Uponor Control System:

- Check the contents of the packages against the packing list to ensure that all components are present.
- Check if an external sensor is to be installed with Uponor Thermostat T-54 Public.
- Study the wiring diagram in the fold-out or inside the Uponor Controller C-55/56 cover.



To determine the best positions, following these guidelines:

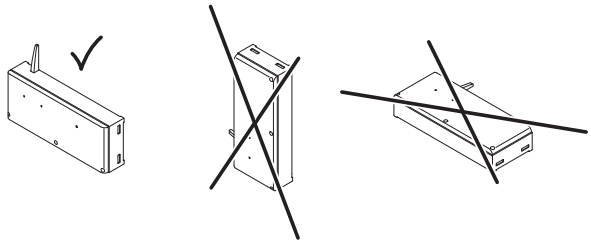
- Install an Uponor Controller C-55/56 with antenna close to each manifold.
- An AC power outlet is required to connect Uponor Controller C-55/56 to power.
- Protect installation locations from running and dripping water.

3. Install Uponor Controller C-55/56

Refer to the installation preparation guidelines (see section 2.1 on previous page), and use the following guidelines when positioning the controller:

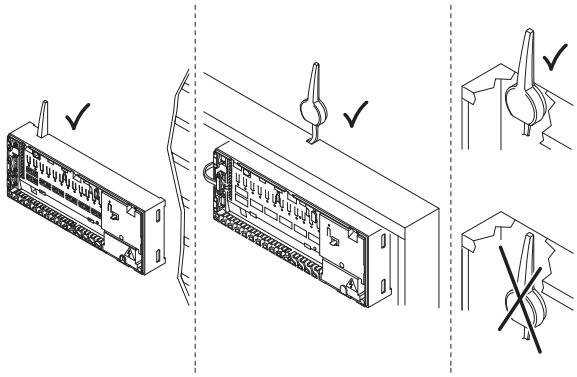
- Position the controller just above the manifold. Check the position of the 230 V power outlet.
- Check that the cover of the controller can be removed easily.
- Check that connectors and switches are easily accessible.

The controller must be attached horizontally on a wall. There is a risk of overheating if there is a high ambient temperature or if the controller is attached vertically or on a horizontal surface, as shown in the illustration below.



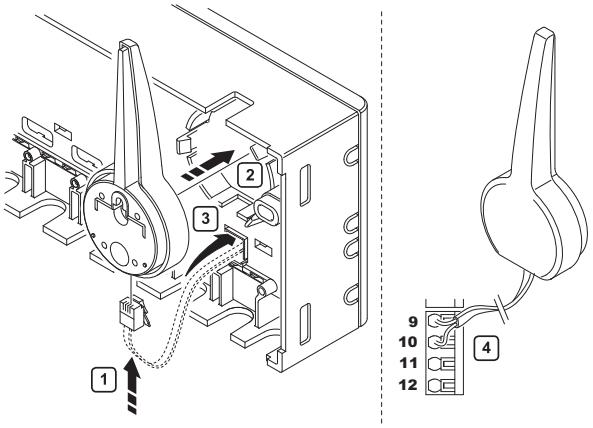
3.1 Install controller antenna

The antenna can be attached to the back of the controller or to the wall. If the controller is installed inside a metal cabinet, the entire antenna must be outside the cabinet, as shown in the illustration below.



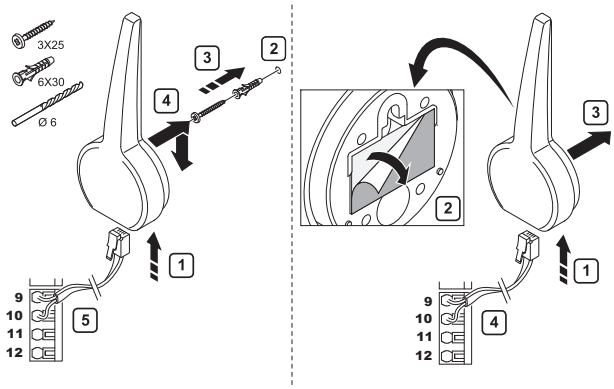
Attach antenna to controller back

The illustration below shows the antenna attached to the back of the controller using the 0.3 m antenna cable.



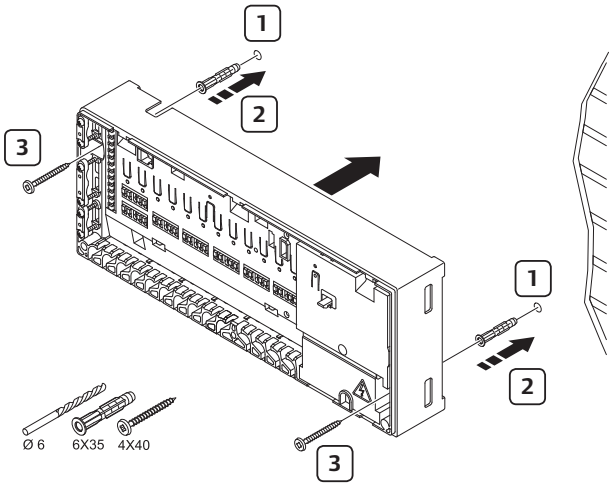
Attach antenna to wall

When attaching the antenna to the wall, the 3 m antenna cable can be used. The illustration below shows the antenna attached to the wall with screws or double-sided adhesive strips.



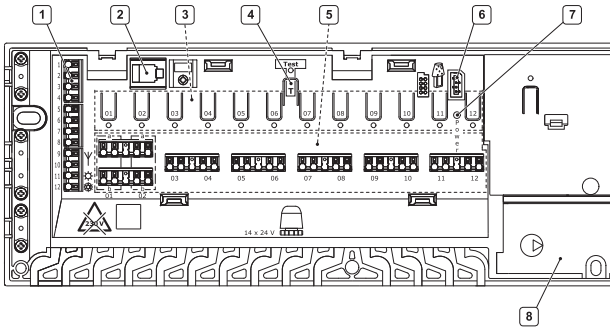
3.2 Attach controller to wall

The illustration below shows how to attach the controller to the wall with screws.



3.3 Connect components to controller

Refer to the wiring diagram in the fold-out of this document. The illustration below shows the inside of Uponor Controller C-55/56.



The list below describes the numbered items in the illustration.

Item	Description
1	Terminal block for connecting antenna and options
2	Uponor Interface I-75/76 RJ-9 connector
3	Registration buttons and LEDs for channels 01 to 12
4	Test button and LED
5	Quick connectors for actuators
6	Socket for connecting data stick
7	Power LED
8	50 Hz 230 V AC power compartment and pump management connection

Connect actuators to controller

Each thermostat can control one or more channels. To simplify installation and maintenance, Uponor recommends that actuators controlled by the same thermostat be wired in sequence to the channels.

STOP Identify the room supplied by each loop on the manifold and determine which channel it must be connected to.

3.4 Optional: connect heating/cooling input

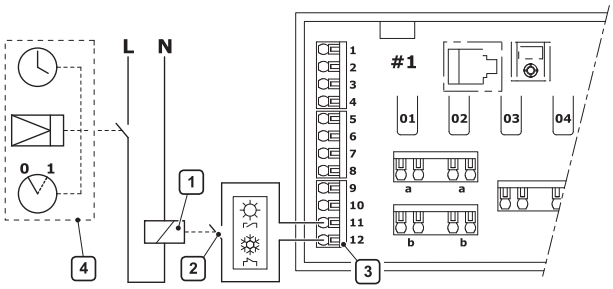
If the system is equipped with a cooling unit (requires additional products), the Uponor Control System can manage the heating/cooling switch input with the controller.

The heating/cooling input is controlled by a dry contact that functions as either an auxiliary control system or two-position relay.

- When the relay is open, the system is in heating mode.
- When the relay is closed, the system is in cooling mode.

To avoid damaging the Uponor Control System do not apply a voltage across the Uponor Controller C-55/56 heating/cooling input.

The illustration below shows components of the heating/cooling system.



The list below describes the numbered items in the illustration.

Item	Description
1	Heating/cooling relay
2	Heating/cooling contact
3	Controller heating/cooling input (potential-free dry contact)
4	Example of different type of heating/cooling relay input

For further information, see the heating/cooling relay documentation.

3.5 Optional: connect pump management

The Uponor Control System can operate a circulation pump, which stops when there is no demand for heating or cooling.

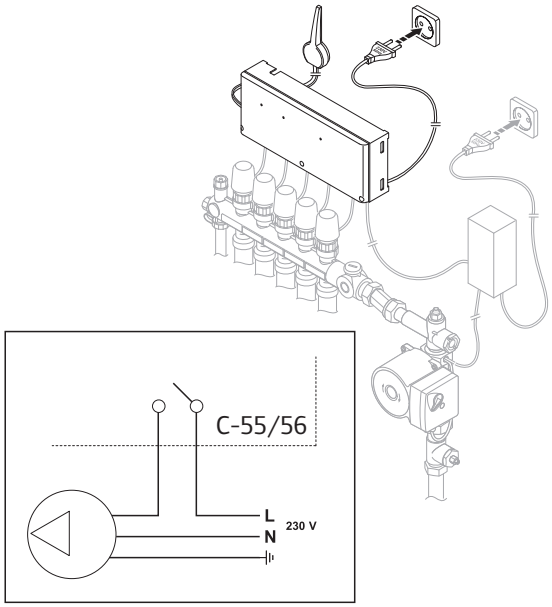
See the circulation pump supplier documentation and the relevant Uponor wiring diagram before performing the connection.

Uponor Controller C-55/56 cannot supply power source for the pump.

Uponor Controller C-55/56 uses a dry contact connection on the terminal block to control the circulation pump.

The electrical circuits of the pump must be protected by a circuit breaker with a maximum rating of 6 A.

The illustration below shows how to connect circulation pump management to the controller:



To connect circulation pump management:

1 Ensure the power is disconnected.

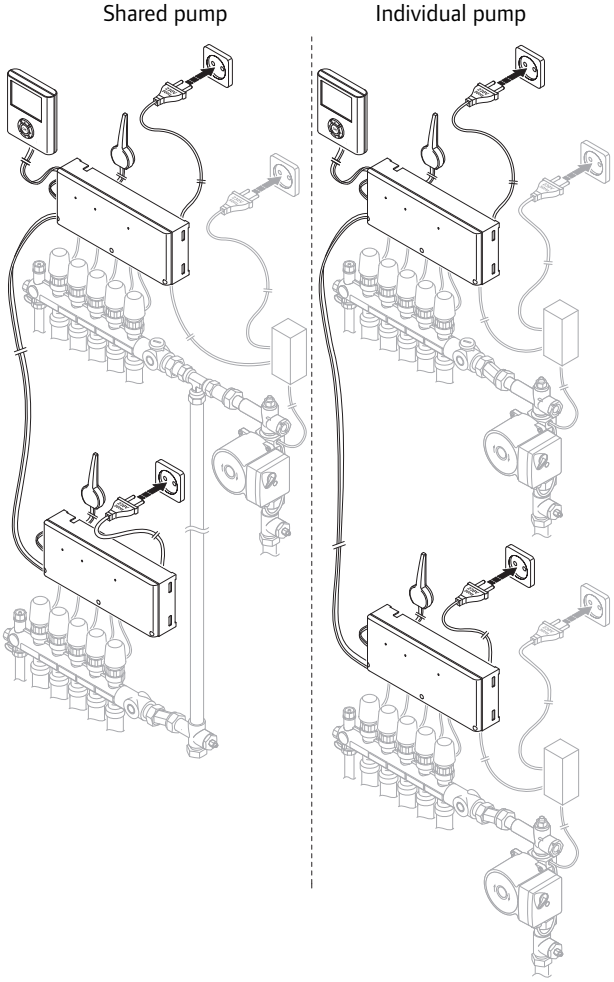
2 Open the 230 V compartment and attach the cover to the hanger.

3 Connect the L wire from/to the pump via the relay.

4 Close the 230 V compartment.

A pump for all manifolds and controllers can be connected to the closest controller.

If separate pumps are used for each manifold, each pump can be connected to be run by its own controller, as shown in the illustration below.



3.6 Connect controller to AC power

To connect one Uponor Controller C-55/56 to AC power:

1 Check that the wiring is complete for the actuators and antenna.

2 Check that the 230 V compartment is closed.

3 Connect the controller plug to the AC power.

3.7 Test actuators

Uponor Controller C-55/56 manages the temperature set point. When a temperature change occurs, the actuator opens or closes the valve to adjust the heat supply.

To test the actuators:

1 Press the button of the selected channel.

- The LED comes on, which means that the controller receives a signal and powers the actuator on the selected channel. The time for actuator opening is about 5 minutes.
- If the LED does not come on, then refer to the troubleshooting section.

2 Press the test button twice to end the actuator test or wait for 10 minutes for the system to end the test.

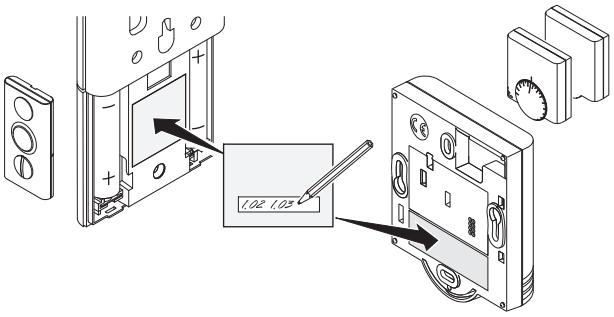
4. Install Uponor Thermostats

Label room thermostats

Label the thermostats with the channel numbers they are to control, for example, 02, 03. For a system with Uponor Interface I-75/76 and several controllers, add the ID of each Uponor Controller C-55/56, for example, 1.02, 1.03, 2.02, 2.03.

For Uponor Thermostat T-54 Public, add information for floor or outdoor sensors when applicable.

The illustration below shows where to label the thermostats.



Insert batteries

All thermostat types use two alkaline 1.5 V AAA batteries. Ensure that the batteries are correctly inserted in the thermostats.

Locate thermostats

The Uponor Wall frame can be used to hide marks on the wall or the wall box if necessary.

Refer to the installation preparation guidelines (see section 2.1 Prepare for installation on page 14) and use the following guidelines to locate all thermostats:

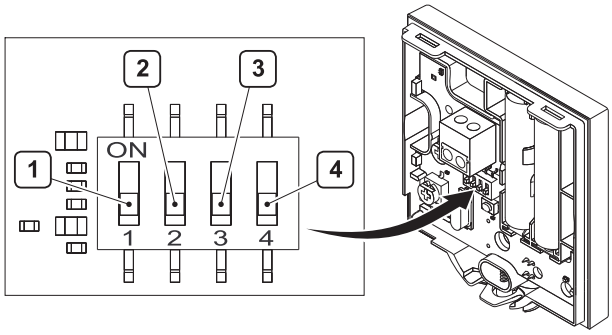
- On an interior wall.
- Away from any source of humidity.
- Away from any source of heat, such as television, electronic equipment, fireplace.
- Away from direct sunlight.
- Away from water splashes.

4.1 Optional: connect Thermostat T-54 Public to external sensor

Uponor Thermostat T-54 Public has a terminal for connecting an external sensor, which can be a floor sensor or an outdoor sensor (used with Uponor Interface I-75/76 to display the outdoor temperature).

Set switches for external sensors

The configuration switches must be set according to the way in which the thermostat is used, as shown in the illustration.



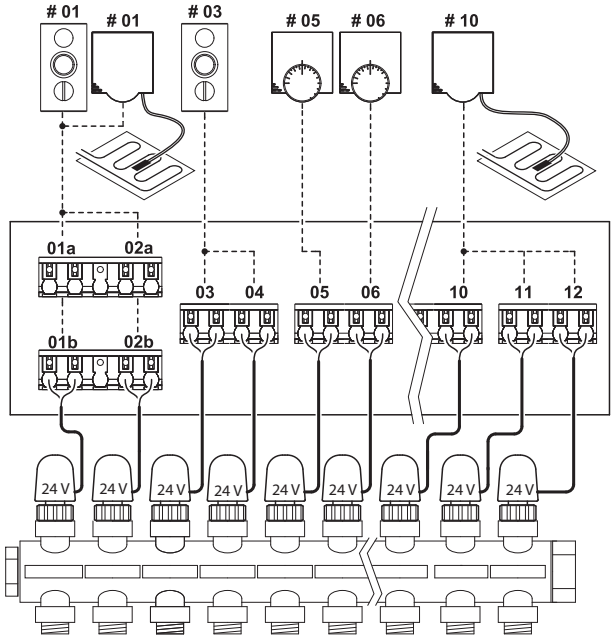
The table below describes how to set the switches shown in the illustration above, according to the way Uponor Thermostat T-54 Public is used.

Function	Switch 1	Switch 2	Switch 3	Switch 4
Used as a standard room thermostat	Off	Off	Off	Off
Used with a floor sensor, max. limitation	**On**	Off	Off	Off
Used with a floor sensor, min. limitation	**On**	Off	Off	**On**
Used with an outdoor sensor	Off	**On**	Off	Off
Technical alarm	Off	Off	**On**	Off
Used with Uponor Remote access module R-56	Off	Off	Off	**On**
External (floor) sensor for room temperature	Off	**On**	Off	**On**

The switch must be set before the thermostat is registered.

Example installation with floor sensors

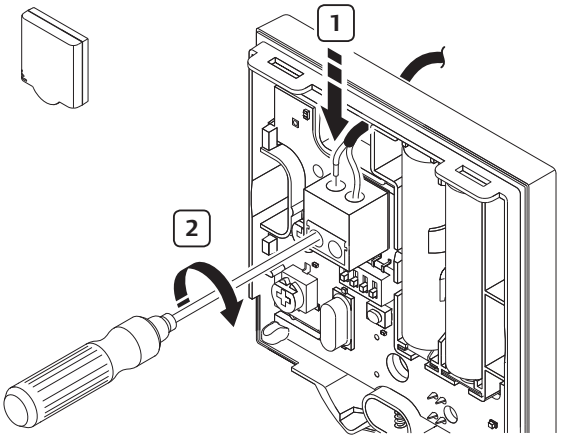
The example below shows an installation of thermostats in a room with floor sensors. Uponor Thermostat T-54 Public 01 and 10 are connected to floor sensors.



In the example, Uponor Thermostat with display T-75 #01 controls channels 01a, 01b, 02a, and 02b. Uponor Thermostat T-54 Public communicates floor temperature to the controller. Uponor Thermostat with display T-75 #03 controls channels 03 and 04.

If the external sensor thermostat is registered to a channel used by a room thermostat, then the room thermostat must be registered before registering the external sensor thermostat. Thermostats with floor sensors have a higher priority than room thermostat.

Wire external sensor to Thermostat T-54 Public



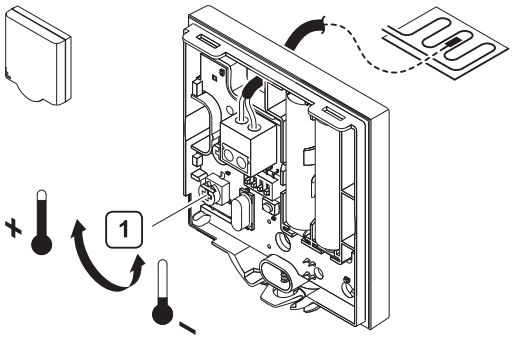
1 Connect cable from the floor or outdoor sensor (non-polarized).

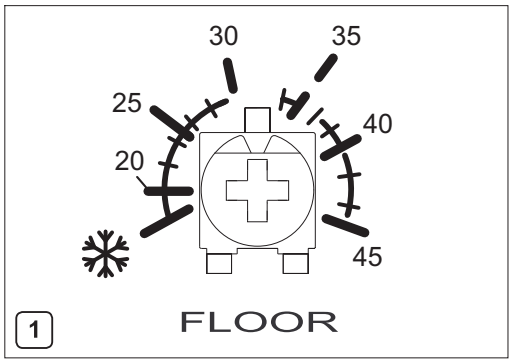
2 Tighten the screws to fix the cable wires

For accurate temperature: attach the outdoor sensor on the north side of the building where it is unlikely to be exposed to direct sunlight. Do not place it close to doors, windows, or air outlets.

Adjust floor sensor settings

The Uponor Thermostat T-54 Public sends the external sensor values to the controller. Temperature settings can be adjusted by using the potentiometer, as shown in the illustration below.



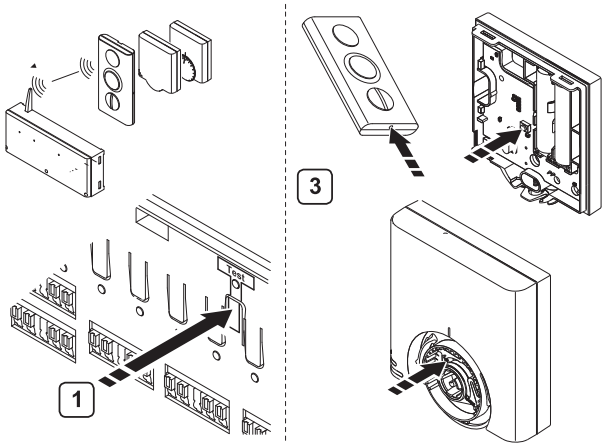


To adjust floor minimum or maximum temperature:

1 Select the required temperature with the potentiometer.

4.2 Register thermostats in controller

The illustration below shows how to register the various room thermostats associated with Uponor Controller C-55/56.



To register room thermostats in the controller:

1 Press and release the **Test** button. The test LED comes on.

2 Press the button of preferred channel. The channel LED flashes.

3 Using a pointed instrument, gently press on the registration button of the thermostat until the channel LED in the controller is constantly on.

4 Repeat steps 2 and 3 until all used room thermostats are registered.

5 Press and release the **Test** button to end registration. The test LED goes off.

To register a room thermostat for multiple channels in the controller:

1 Press and release the **Test** button. The test LED comes on.

2 Press and release the button of the chosen channels in the controller. The channel LEDs flash.

3 Using a pointed instrument, gently press the registration button of each thermostat until the channel LEDs in the controller are constantly on.

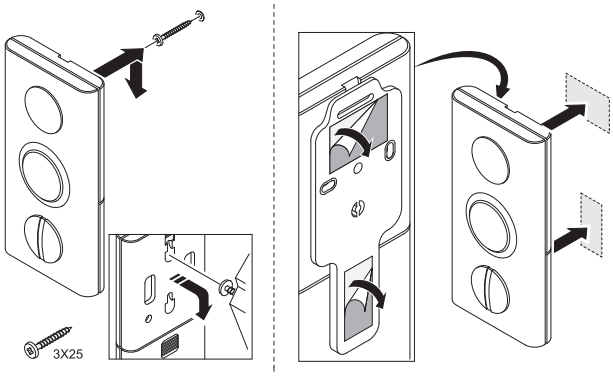
4 When all thermostats are registered, press and release the **Test** button. The test LED goes off.

To deregister already registered thermostats see section 6.2 Deregister channels in controller on page 30.

4.3 Install Thermostat with display T-75

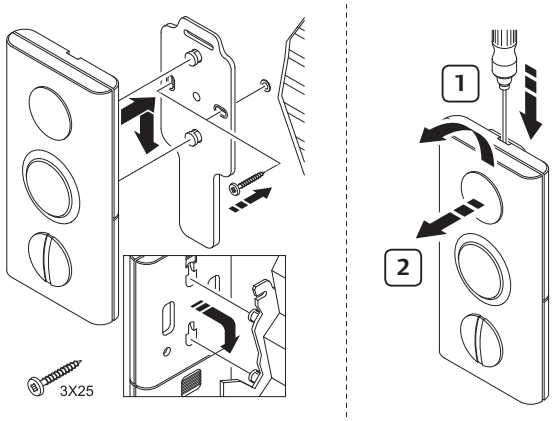
Attach to wall

The Uponor Thermostat with display T-75 can be attached to a wall with screws or adhesive strips, as shown in the illustration below.



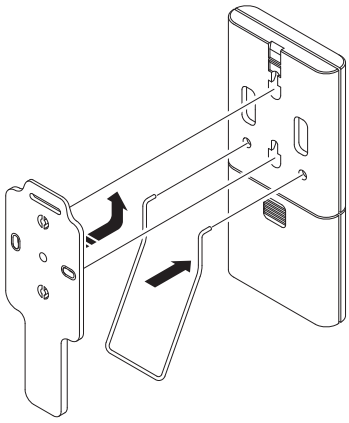
Wall bracket

The thermostat can be attached to a wall with a wall bracket, as shown in the illustration below.



Attach to table stand

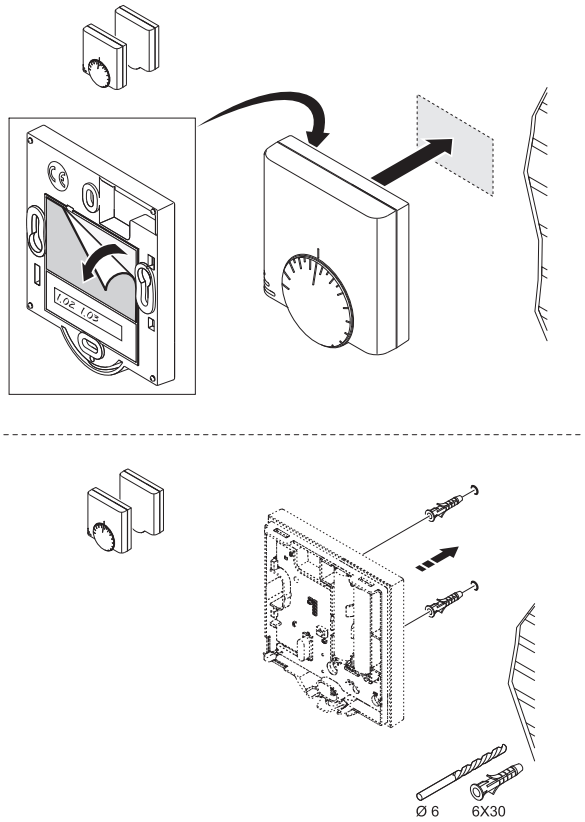
The illustration below shows how to attach the thermostat to a table stand.



4.4 Install Thermostat T-54 Public and T-55

Attach to wall

Uponor Thermostat T-54 Public and T-55 can be attached to a wall with screws or adhesive strips, as shown in the illustration below.

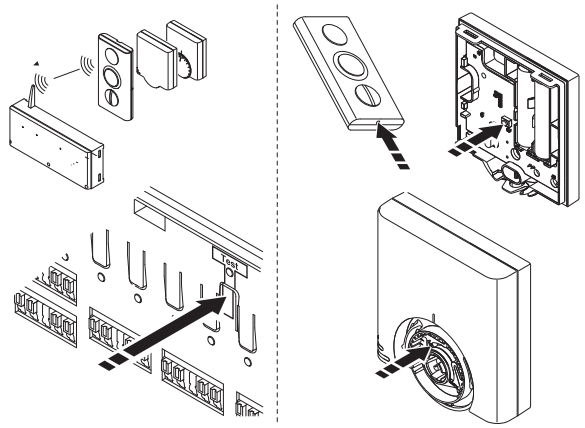


To avoid unnecessary alarms, make sure to fasten the cover correctly on Uponor Thermostat T-54 Public.

4.5 Test communication

Uponor recommends testing the communication between the thermostats and the controller after installation.

The illustration below shows the location of the test button of the controller and the registration buttons of Thermostat T-54 Public, T-55 and T-75.



To test communication between controller and all thermostats:

1 Press and release the **Test** button. The test and channel LEDs with registered thermostats comes on.

2 Using a pointed instrument, gently press the registration button of each registered thermostat.

- Communication OK: LEDs for the channels registered to the thermostat go off.
- No communication: LEDs for the channels registered to the thermostat stay on.

3 To exit test mode, press the **Test** button.

When two thermostats are connected to the same channel, each thermostat must be tested separately.

4.6 Complete controller installation

To complete the Uponor Controller C-55/56 installation:

1 Check the entire installation:

- Check that the antenna is correctly installed
- Check that the thermostats have power

2 Close all controller and thermostat covers.

3 Complete the installation report in this manual.

4 Give the manual and all system information to the end user.

5. Install Uponor Interface I-75/76

Refer to the installation preparation guidelines (section 2.1 Prepare for installation on page 14). Uponor Interface I-75/76 can be attached to a wall or to the cover of the controller.

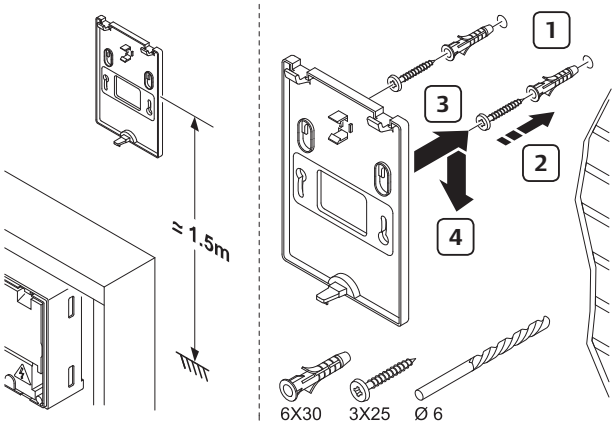
Additional controllers must be installed for installations with more than one manifold or more than 12 channels. One Uponor Interface I-75/76 supports a maximum of three controllers, where each controller must be equipped with an antenna.

WARNING
50 Hz 230 V AC power.
Disconnect all power before installing or changing the device wiring.

Uponor Interface I-75/76 is attached to a bracket that in turn is attached to either a wall or the controller cover.

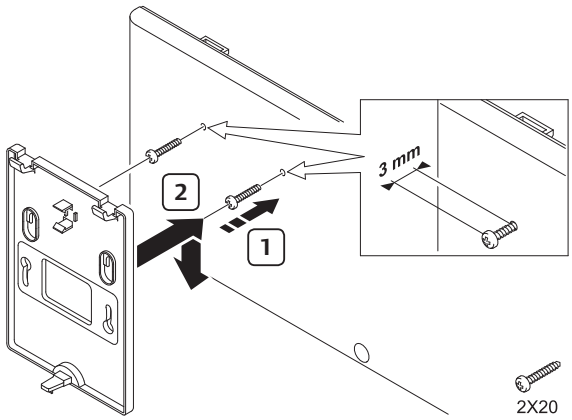
Attach bracket to wall

The illustration below shows how to attach a bracket to a wall.



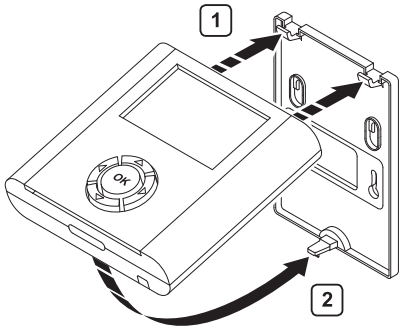
Attach bracket to controller cover

The illustration below shows how to attach the bracket to the cover of the controller.



Attach Interface I-75/76 to bracket

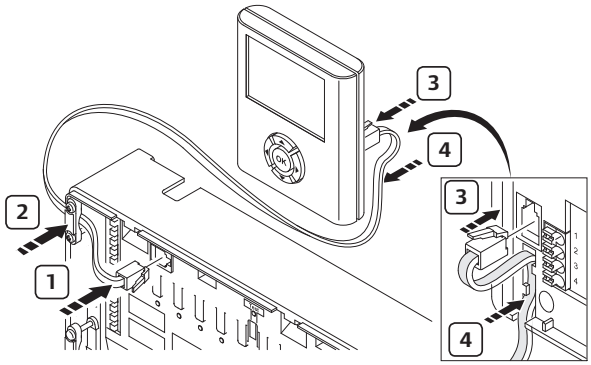
The illustration below shows how to attach Uponor Interface I-75/76 to the bracket.



5.1 Wire Interface I-75/76 to Controller C-55/56

Use RJ-9 connectors

If Uponor Interface I-75/76 is less than 2 m from Uponor Controller C-55/56, then use the 2 m cable equipped with RJ-9 connectors at each end, as shown in the illustration below.



To wire Uponor Interface I-75/76 to Uponor Controller C-55/56 with the RJ-9 cable:

1 Connect the RJ-9 cable to the controller.

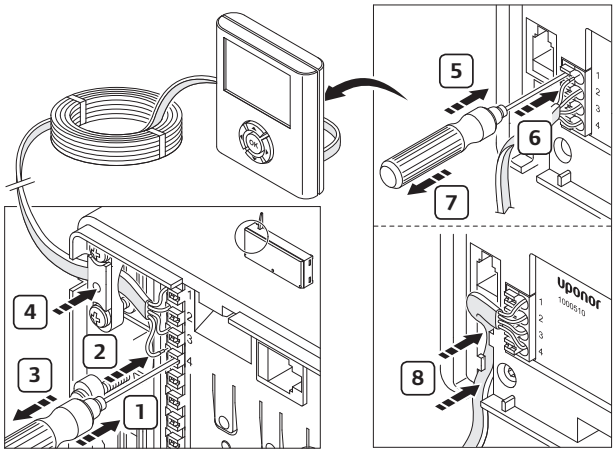
2 Secure the cable in the clamp.

3 Connect the RJ-9 cable to the back of Uponor Interface I-75/76.

4 Secure the cable in the cable guide.

Use 15 m installation cable

If Uponor Interface I-75/76 is more than 2 m from Uponor Controller C-55/56, use the 15 m four-wire connector cable or similar, as shown in the figure below.



To wire Interface I-75/76 to the Controller C-55/56 using the 15 m connector cable:

1 Insert a thin screwdriver to open the relevant push-wire connection.

2 Push in the wire.

3 Remove the screwdriver.

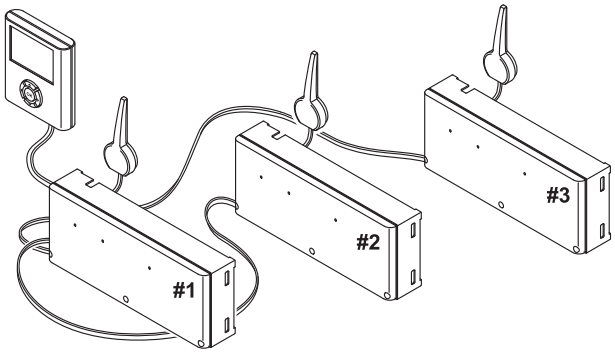
4 When all wires are connected, fasten the cable in the cable clamp.

STOP Note that the wiring is polarized, so wire 1 on the controller must be connected to 1 on the interface, and so on.

5.2 Optional: connect multiple controllers

STOP Note that multiple Uponor Controller C-55/56 units require software programming.

Up to three controllers can be connected to the same Uponor Interface I-75/76. All controllers require an antenna, as shown in the illustration below.



In the illustration:

- Controller 1 is the controller connected to the interface
- Connect terminals 5 and 6 of controller 2 to terminals 5 and 6 of controller 1.
- Connect terminals 7 and 8 of controller 3 to terminals 7 and 8 of controller 1 or controller 2.

To connect up to three controllers to the interface:

1 Check that the wiring is complete.

2 Check that the 230 V compartments are closed.

3 Connect controllers 2 and 3 to AC power.

4 Check that the 230 V compartments are closed.

5 Connect controller 1 to AC power.

STOP Note the polarity of connections between the controllers.

5.3 Use navigation keys

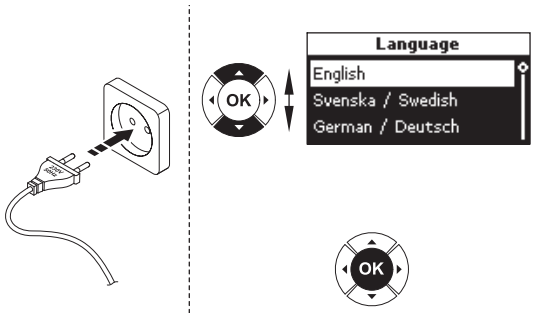
Each of the five navigation keys on Uponor Interface I-75/76 has dual functions, as described in the table below.

Key	Functions		
OK ▶	Displays next menu	or	Moves to next field
OK ◀	Displays previous menu; pressing and holding on the menu screen displays the main Uponor screen	or	Moves to previous field
OK ▲	Moves to line above	or	Increases the value
OK ▼	Moves to line below	or	Decreases the value
OK OK	Displays next screen	or	Confirms selections; displays the screen of the current menu

- Press any navigation key to activate backlighting.
- Press **OK** to go to the main menu.

5.4 Set language

When starting up Uponor Interface I-75/76 for the first time, the language menu appears.



To access the language menu when Interface I-75/76 is installed:

1 On the Uponor screen, press the **OK** button to access the **Main Menu**.

2 Select **Settings** and press **OK**.

3 Select **System Parameters** and press **OK**.

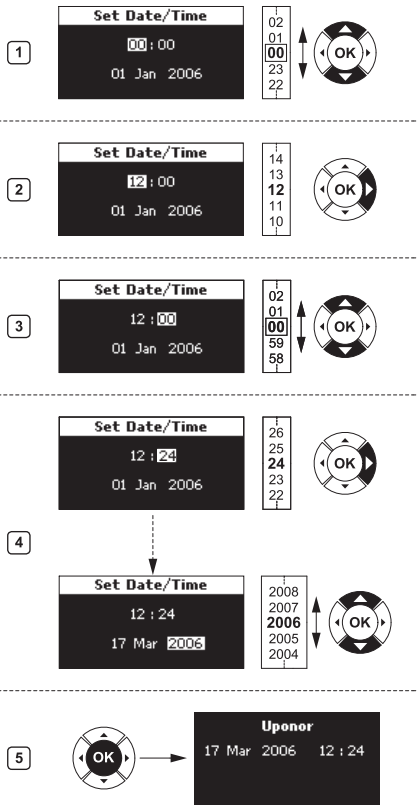
4 Select **Language** and press **OK**.

5 Now select the preferred language from the list and press **OK** to confirm.

5.5 Set time and date

The Set Date/Time screen opens automatically when the language is set.

Select time and date with keys, as shown in the illustration below.



To set the time and date on Uponor Interface I-75/76:

1 Select **Hours**.

2 Set the hour.

3 Select **Minutes**.

4 Set the minutes and continue to set the date.

5 Press **OK** to confirm the settings.

5.6 Access Installer level

Uponor Interface I-75/76 has three access levels (Interface I-76 displays these icons only):


Basic


Advanced


Installer

The **Installer** level gives access to:

- Information menu
- All parameter settings for the advanced level
- Auto-balance (Interface I-76 only)
- Room check (Interface I-76 only)
- Heating/cooling
- Pump management
- Controller ID
- By-pass (Interface I-76 only)

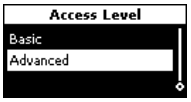
To access **Installer** level:

1 On the Uponor screen, simultaneously press ◀ and ▶ until the **Advanced** screen appears (10 seconds).

2 Press **OK** to confirm the **Advanced** access level. The Uponor screen appears again.

3 On the Uponor screen, select **Main Menu > Settings > System Parameters > Access level**.

4 On the **Access level** screen, simultaneously press ◀ and ▶ until the **Installer** screen appears (10 seconds).



5 Press **OK** to confirm the **Installer** level. The Uponor screen appears again and **Installer** level access is granted.

The system automatically returns to **Advanced** level after 10 minutes of inactivity.

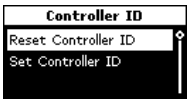
5.7 Optional: set controller IDs

Controller IDs are required only when two or three controllers are used. The IDs can be set only when Uponor Interface I-75/76 is set to Installer level access.

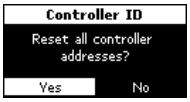
To set controller IDs for Interface I-75/76:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Controller ID**.

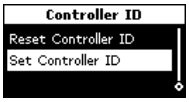
2 Select **Reset Controller ID** and press **OK**.



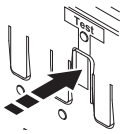
3 Select **Yes** and press **OK**.



4 Press the down arrow key to move the cursor to **Set Controller ID** and press **OK**.



5 The message **>1. Controller<** flashes. Press the **Test** button on controller 1, which is connected to Interface I-75/76.



6 Select **>2. Controller<**. Press the **Test** button on controller 2, which is connected to terminals 5 and 6 of controller 1.

(7) Select the **>3. Controller<**. Press the **Test** button on controller 3, the controller connected to terminals 7 and 8 of controller 1 or controller 2.

8 When all controllers have IDs, press **OK** to confirm. The Uponor screen appears.

5.8 Optional: set pump management

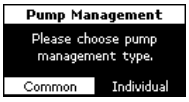
Set pump management if more than one controller is connected and the pump relay is used.

Shared pumps must not be connected to more than one Uponor Controller C-55/56.

To set pump management through Uponor Interface I-75/76:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Pump Management**.

2 Choose **Common** or **Individual** and press **OK**.



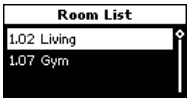
5.9 Display actuator status

To display actuator status:

1 Set Interface I-75/76 access to **Installer** level.

2 On the Uponor screen, select **Main Menu > Information > Rooms**.

3 Select the desired room and press **OK**.



The screen displays the **Actuator** status:

- **OK** – Normal operation.
- **Alarm** – A short circuit or similar problem is reported.

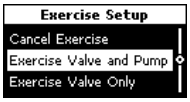
5.10 Set exercise schedule

The exercise schedule maintains the functionality of the valves and pumps. A 5-minute activation is initially scheduled for every week. Change this setting if needed.

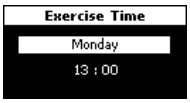
To set the exercise schedule:

1 From the Uponor screen, select **Main Menu > Settings > System Parameters > Valve/Pump Exercise**.

2 Select the desired parameter and press **OK**.



3 Set the time and date for the exercise and press **OK**.



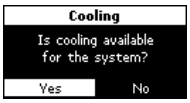
5.11 Optional: activate cooling management

Cooling mode must be activated in Uponor Interface I-75/76 if cooling is installed (requires additional product).

To activate cooling management Uponor Interface I-75/76 must have **Installer** level access, then follow procedure below:

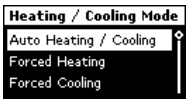
1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Cooling Available**.

2 Select **Yes** and press **OK**.



3 Select:

- **Auto heating/cooling** – manages the switchover automatically by an Uponor heating/cooling relay connected to a controller.
- **Forced heating** – manually switches to **Heating** mode; information from a heating/cooling relay is ignored.



- **Forced cooling** – manually switches to **Cooling** mode; information from a heating/cooling relay is ignored.

Press **OK**. The system automatically returns to **Advanced** level after 10 minutes.

5.12 Optional: heating/cooling in separate systems (Controller C-56 only)

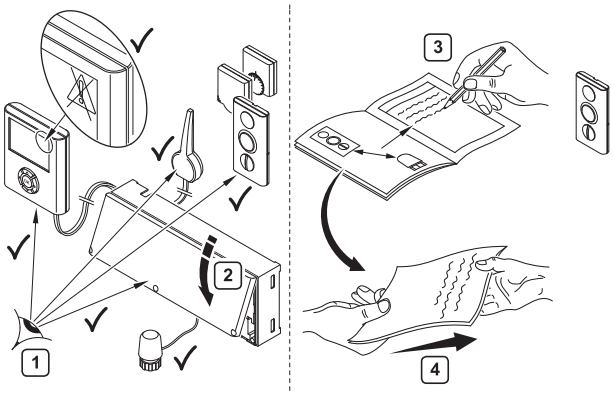
It is possible to apply the Uponor Control System for heating and cooling simultaneously with one thermostat. This control setup is typically used when combining underfloor heating with ceiling cooling panels.

This requires two controllers: one set in heating mode and one set in cooling mode. Since they are in different modes, the controllers must not be interconnected.

Note that the set point of the thermostat is defined as the heating set point. The cooling set point is defined as the heating set point +1.5 degrees. This creates a dead zone between heating and cooling to increase system performance and stability.

5.13 Complete Interface I-75/76 installation

The illustration below shows how to complete the Uponor Interface I-75/76 installation.



To complete the Interface I-75/76 installation:

1 Check the entire installation.

- Check that Interface I-75/76 and thermostats have power.
- Check Interface I-75/76 for alarms.

2 Close the controller cover.

3 Fill in the installation report included in this manual and give all information about the system to the end user.

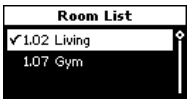
5.14 Optional: room by-pass (Interface I-76 only)

It is possible to use one room per controller as a by-pass. This means that the loops are opened for this room when all other loops on the controller are closed. This is needed by some heat pumps that need a minimum flow and load to operate correctly. If more than one controller is used it is possible to choose one for each controller. To reach the by-pass settings Interface I-76 must be set to **Installer** level access.

1 On the Uponor screen, select **Main Menu > Settings > Rooms > By Pass**.

2 Select **Controller** from the list and confirm by pressing **OK**.

3 Choose the relevant room for the by-pass function.



5.15 Optional: auto-balance (Interface I-76 only)

The auto-balance function removes the need for manual balancing of the manifold at installation. The principle for automatic balancing is that the energy required by each loop is distributed in pulses. The length of the pulses in each loop is calculated from the actual heat demand of the room. The auto-balance function requires an Interface I-76 set to **Installer** level access. To activate the auto-balance function of Interface I-76:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Auto Balance**.

2 In the **Auto Balance** screen, select **Active** and press **OK**. The auto-balance function is now activated.

When Auto-balancing is used all balancing valves on the manifold must be fully open.

5.16 Room check (Interface I-76 only)

The room check function checks that the loops and thermostats are correctly mapped. It works best at night to minimize interference from sunlight, kitchen appliances, and so on. It works only if there is a heat demand and the heating is running. You can choose which rooms to include in the test. To start the room check Interface I-76 must be set to **Installer** level access:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Room Check**.

2 On the **Room Check** screen, select **Room Check Start/Stop** and press **OK**.

3 On the new **Room Check** screen the **Room check** function can be either started or stopped. Confirm selection by pressing **OK**.

5.17 Supply diagnostics (Interface I-76 only)

Supply diagnostics is a help function that can be activated in Uponor Interface I-76. It monitors the behaviour of the system and issues a warning if the system is under- or overpowered. Underpowered means that the system cannot reach its set point in one or more zones. This can be caused by a supply temperature or pump speed that is too low. The opposite case, overpowered, is caused by a supply temperature that is too high. To activate the supply diagnostic screen:

1 On the Uponor screen, select: **Main Menu > Settings > System Parameters > Supply Diagnostic**.

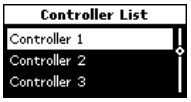
2 On the **Supply Diagnostic** screen, select **Activate** and press **OK**.

5.18 Optional: comfort setting (Interface I-76 only)

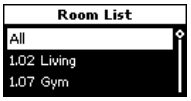
The comfort setting function adds background heating for increased comfort in selected rooms. This means that the room is heated even if the room temperature is above the set point. This prevents the floor from cooling when using a fireplace. Note that this feature must be used selectively to prevent unnecessary energy consumption. To activate the comfort setting function:

1 On the Uponor screen, select: **Main Menu > Settings > Rooms > Comfort Setting**.

2 Select **Controller** in the **Controller List** screen and press **OK**.

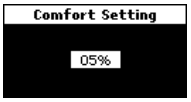


3 Select the room you want to apply the comfort setting for and press **OK**.



4 Select the percentage for the comfort setting with the ▲ and ▼ buttons.

5 Confirm by pressing **OK**.



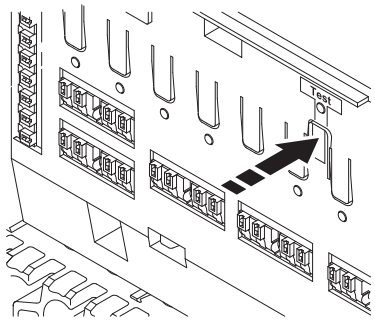
6. Troubleshoot installation

The table below describes troubleshooting after installation.

Failure	Indication	Causes	Solution
System does not start	Power LED off in Uponor Controller C-55/56	No voltage	Check that the controller is connected to the AC power and that the wiring in the 230 V compartment is correct
Poor radio reception	Repeated radio alarms	Antenna installed inside a metal cabinet or too close to other shielding objects Building structure unfavourable for radio transmission	Change the antenna location. If the problem persists, contact the installer for help checking radio transmission and test with a radio repeater
Thermostats is not registrating	Channel LEDs in Uponor Controller C-55/56 continue flashing	Antenna is not installed correctly	Check wiring and antenna connection

6.1 Reset controller

If problems, such as inaccurate channel registration exist, reset the controller. The illustration below shows the location of the reset button in Uponor Controller C-55/56.



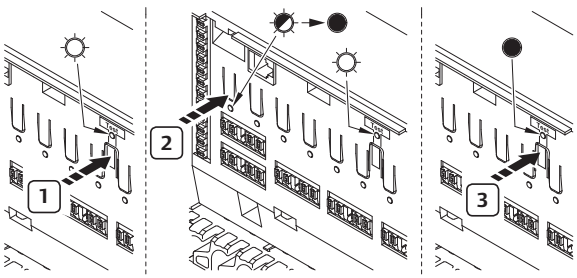
To reset Uponor Controller C-55/56:

1 Press the **Test** button until the test LED flashes and all LEDs except the power LED go off. All parameters are erased.

2 Installation and registration are required after resetting the controller.

6.2 Deregister channels in controller

When a channel is inaccurately registered, it is possible to cancel the registration, as shown in the illustration below.



To cancel a channel registration:

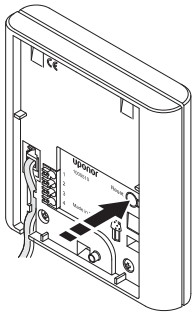
1 Press the **Test** button. The test and channel LEDs with registered thermostats come on.

2 Select the channel to cancel and press the button until the LED flashes and then goes off.

3 Press the **Test** button to end registration. The test LED goes off.

6.3 Reset Interface I-75/76

If Uponor Interface I-75/76 is not functioning as expected, then reset the device, using the button shown in the illustration below.



To reset Uponor Interface I-75/76:

1 Gently press the **Reset** button.

2 This resets time and date. There is no need to register the thermostats again.

7. Operate Uponor Controller C-55/56

If no Uponor Interface I-75/76 is connected to the system, then Uponor recommends occasionally opening the controller cover to check for alarms. The controller LED flashes continuously for general alarms, so it is necessary to determine which thermostats are issuing alarms.

7.1 Normal controller operation

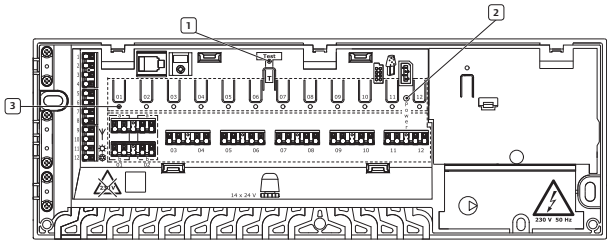
During normal operation the power LED of the controller is on.

All the channel LEDs are off when there is no demand for heating or cooling. The LEDs come on when the corresponding actuators are activated.

No more than six actuators can be in the opening process at the same time. They open sequentially. The LED of the seventh actuator and followings flash while they are waiting for the previous actuators to be fully open.

Controller LEDs

The illustration below shows the position of the controller LEDs.



The table below describes the numbered items in the illustration.

Item	Description
1	Test button and LED
2	Power LED
3	Channel LEDs

The table below describes the status of the controller LEDs.

LED	Status
Power LED	Power LED of the controller is always on and flashes when a problem occurs, such as: • Loss of radio transmission from a thermostat for more than 3 hours • Low batteries in a thermostat • Short-circuited actuator • Cover alarm (Thermostat T-54 Public)
Channel LEDs	• On – actuators activated • One flash a second – waiting for thermostat to be registered • Two flashes a second – Alarm • One flash every two seconds – waiting for actuators to be activated • Off – no demand for heating or cooling
Flashing AC power LED	A flashing AC power LED indicates an alarm or an error message.

Automatic exercise function

Uponor Controller C-55/56 has an automatic exercise function that is scheduled to be performed weekly. The exercise is designed to prevent the pump and actuators from seizing if they have not been activated for a long period.

If the system includes an Interface I-75/76, the exercise function can be used at any time.

Clean controller

Use a dry, soft cloth to clean Uponor Controller C-55/56.

STOP Do not use detergent or any other liquids.

8. Operate Uponor Thermostats

Batteries for thermostats

All thermostats use two alkaline 1.5 V AAA batteries. Ensure that the batteries are correctly inserted in the thermostats.

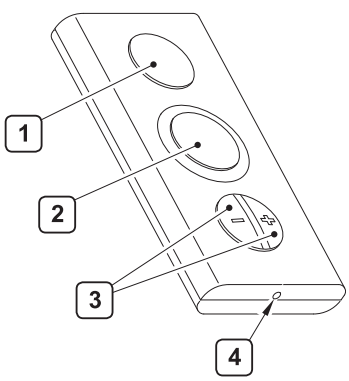
Clean thermostats

Use a dry soft cloth to clean the thermostats.

STOP Do not use detergent or any other liquids.

8.1 Operate Thermostat with display T-75

The thermostat displays the room temperature during normal operation, as shown in the illustration below.




LCD display


Initial display shows room temperature

The table below describes the numbered items in the illustration.

Item	Description
1	LCD display
2	Temperature sensor for ambient temperature
3	+ and - keys to set temperatures
4	Thermostat registration button

Thermostat with display T-75 icons

The table below describes the icons displayed on the Uponor Thermostat with display T-75.

Icon	Description
	Temperature display with menus and a precision of 0.1°
	Displayed when setting the temperature set point
	Displayed during radio transmission
	Temperature format for the display
	Low battery indicator

Change temperature format

To change the temperature format to Celsius or Fahrenheit:

1 Simultaneously press the + and - keys until the SEL menu appears.

2 Press + or - to change the temperature format (°C or °F) and wait until the thermostat returns to the initial display.

Adjust temperature

Use the + or - key of the thermostat to adjust the temperature. To reset the temperature set point to the startup value of 22.0°C (72.0 °F), gently press the + and - keys simultaneously.

To change the temperature set point:

1 Press the + or - key. The set point icon and value are displayed.

2 Press + or - to change the set point value:
For °C, setting by 0.5 °C steps.
For °F, setting by 1 °F steps.

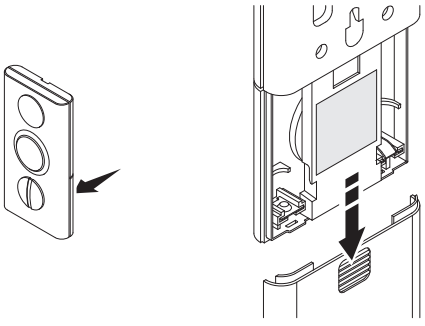
3 Wait until the radio transmission icon is displayed, confirming that the set point is changed, and the display returns to normal.

Set minimum/maximum temperatures

The minimum and maximum temperatures (5 °C and 35 °C) of the thermostat are set and cannot be changed unless the system is equipped with Uponor Interface I-75/76.

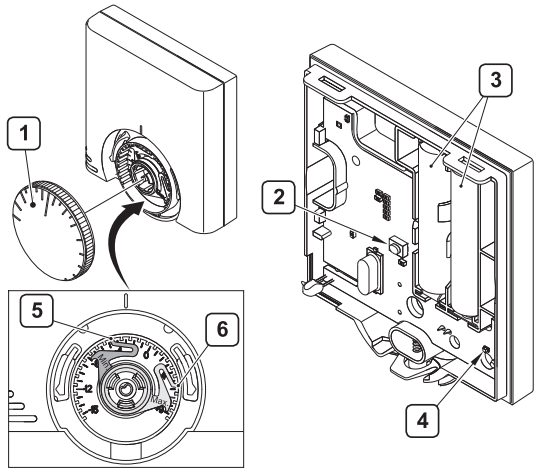
Replace batteries

The thermostat is powered by batteries. Replace the batteries of the thermostat when the symbol is displayed. The illustration below shows how to open the thermostat.



8.2 Operate Thermostat T-55

During normal operation the thermostat LED flashes once only with each radio transmission. The illustration below shows the parts of the thermostat.

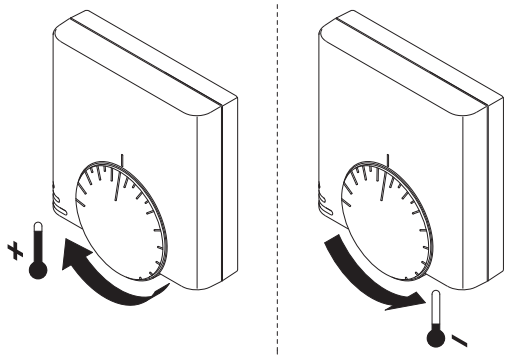


The table below describes the numbered items in the illustration.

Item	Description
1	Room temperature set point dial control
2	Registration button
3	Batteries
4	Radio transmission LED
5	Blue cam to set minimum temperature
6	Red cam to set maximum temperature

Adjust temperature

Use the control dial of the thermostat to adjust the temperature. The illustration below shows how to adjust the thermostat temperature set point.

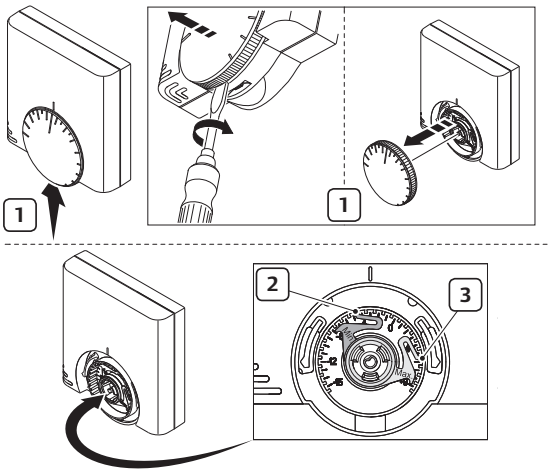


To adjust the thermostat temperature:

- Rotate the dial clockwise for a higher temperature
- Rotate the dial anti-clockwise for a lower temperature

Set minimum/maximum temperatures

The illustration below shows how to set minimum and maximum temperatures in the thermostat. If the system is equipped with Uponor Interface I-75/76, all minimum/maximum settings can be handled from there, and the procedures below are not necessary.



To set minimum and maximum temperatures:

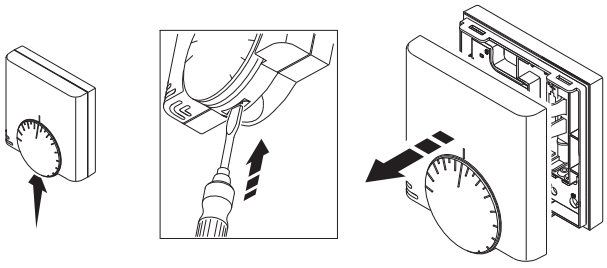
1 Remove the dial with a screwdriver.

2 Set the desired minimum temperature of the room with the blue cam.

3 Set the maximum temperature with the red cam.

Replace batteries

The thermostats are powered by batteries. Replace the batteries of the thermostat when the red LED inside the thermostat flashes twice during a heating or cooling demand. The illustration below shows how to open the thermostat.

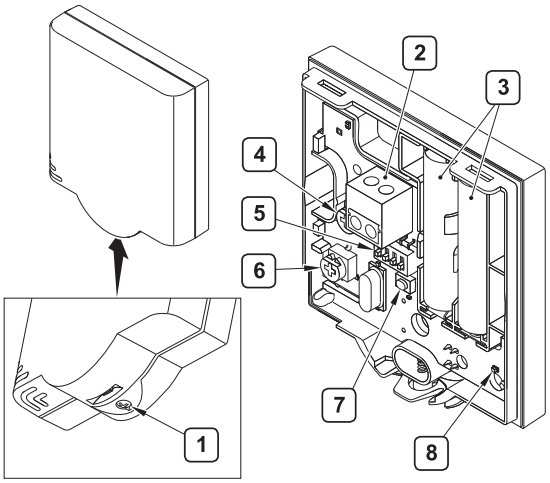


8.3 Operate Thermostat T-54 Public

Uponor Thermostat T-54 Public contains a switch that sends an alarm when the thermostat cover is opened. The alarm is transmitted by radio, causing both the power LED and related channel LED to flash.

During normal operation the thermostat LED flashes once only with each radio transmission.

The illustration below shows Uponor Thermostat T-54 Public.



The table below describes the numbered items in the illustration.

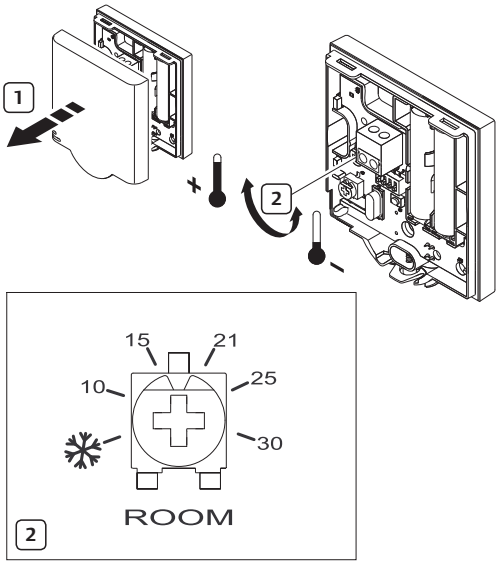
Item	Description
1	Screw for opening the thermostat
2	Terminal for external sensor (non-polarized)
3	Batteries
4	Setpoint temperature potentiometer
5	Configuration switches
6	Floor sensor potentiometer
7	Registration button
8	Radio transmission LED

CAUTION
Thermostats are located in specific areas for optimum performance. Changing the location of thermostats can cause abnormal temperature control.

Change temperature set point

It is not possible to set minimum and maximum temperatures using Uponor Thermostat T-54 Public unless Uponor Interface I-75/76 is installed.

The illustration below shows how to change the temperature set point in Uponor Thermostat T-54 Public.



To change the Uponor Thermostat T-54 Public temperature setpoint:

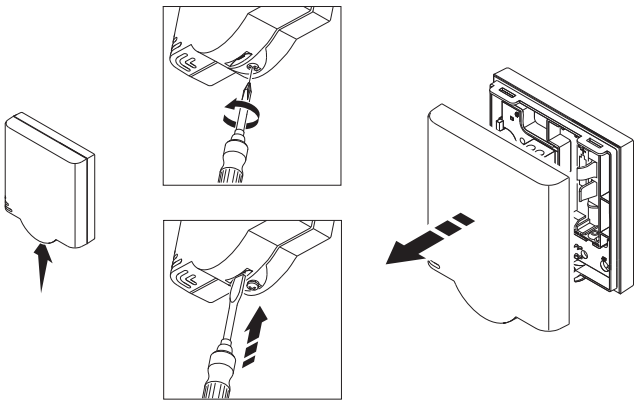
1 Remove the cover.

2 Select the desired temperature using the potentiometer.

3 Put back the cover and tighten it in place.

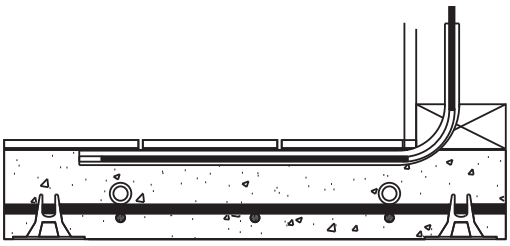
Replace batteries

Replace the batteries of the thermostat when the red LED inside the thermostat flashes twice during a heating or cooling demand. The illustration below shows how to open the thermostat.

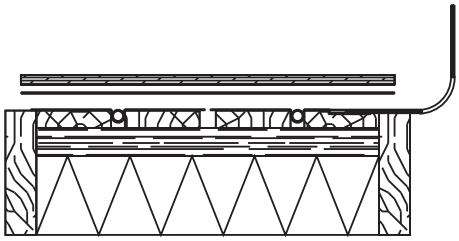


Adjust floor sensor

If the system includes a floor sensor, the potentiometer behind the cover of Uponor Thermostat T-54 Public allows minimum or maximum temperature settings of the floor sensor.

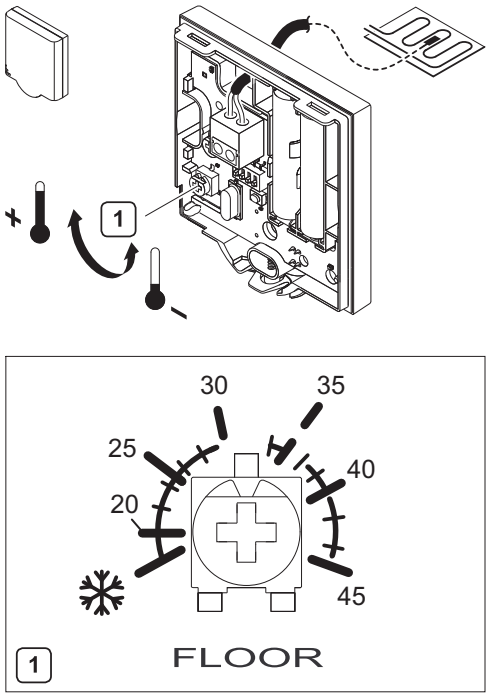


Embedded in concrete or slab



Embedded in wooden suspended floor

The floor sensor limits the maximum or minimum floor temperature, regardless of the room temperature. The maximum limitation can be used to prevent a sensitive floor covering from exposure to excessive high temperature when there is a high heat demand.

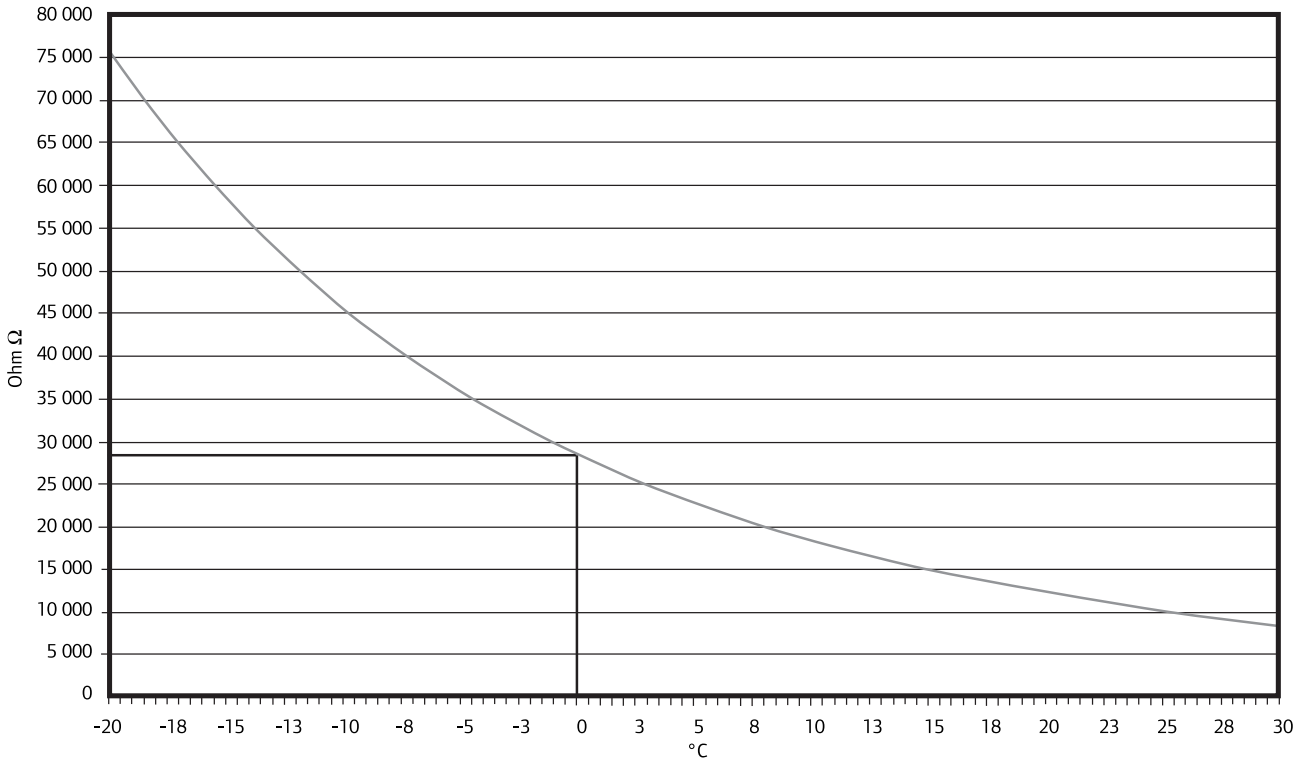


To change Uponor Thermostat T-54 Public floor sensor settings.

1 Select the desired temperature using the potentiometer.

For information how to set the switches, see section 4.1 Optional: connect Thermostat T-54 Public to external sensor on page 19.

Sensors, outdoor and external

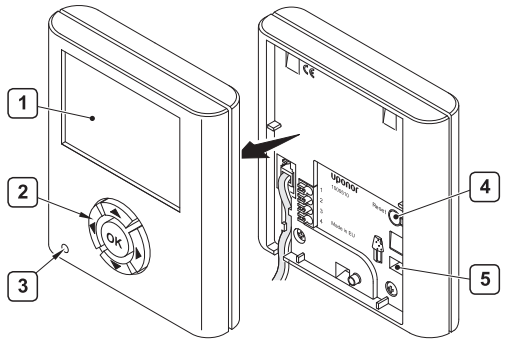


9. Operate Uponor Interface I-75/76

Adding Uponor Interface I-75/76 to the Uponor Control System provides:

- Centralized management of the underfloor system
- Rapid display and update of system settings

The illustration below shows the exterior and interior of Uponor Interface I-75/76.



The table below describes the numbered items in the illustration.

Item	Description
1	Screen
2	Navigation keys
3	Fault indicator
4	Reset button
5	Data stick connection

9.1 Use navigation keys

Each of the five navigation keys on Uponor Interface I-75/76 has dual functions, as described in the table below.

Key	Functions		
OK ▶	Displays next menu	or	Moves to next field
OK ◀	Displays previous menu. Pressing and holding in a menu screen displays main Uponor screen	or	Moves to previous field
OK ▲	Moves to line above	or	Increases value
OK ▼	Moves to line below	or	Decreases value
OK OK	Displays next screen	or	Confirms selections; displays screen of current menu

- Press any navigation key to activate backlighting.
- Press **OK** to go to the main menu.

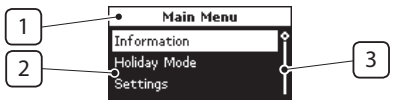
9.2 Interface I-75/76 main screen

The table below describes icons displayed on the Uponor main screen:

Icon	Description
	Holiday Mode
	Alarm/error message
	Temperature set point
	Temperature measured
	Floor temperature (when floor sensor is installed)
	Batteries sufficiently charged
	Batteries discharged, replace batteries
	Basic access level (Interface I-76 only)
	Advanced access level (Interface I-76 only)

The outdoor temperature is displayed if the system has Thermostat T-54 Public with an outdoor sensor installed.

9.3 Interface I-75/76 main menu



The table below describes the numbered items in the example.

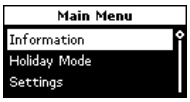
Item	Description
1	Upper banner displays menu heading
2	Information zone: the selected line is highlighted
3	Scroll bar

9.4 Access and navigate menu

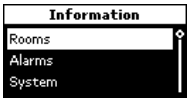
To access room information from the menu:

1 Press the **OK** navigation key to display the **Main Menu**.

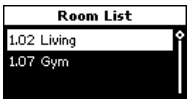
2 Select **Information** and press **OK**. The information menu is displayed.



3 Select **Rooms** and press **OK**. The list of rooms is displayed.



4 Select the desired room and press **OK**. Information for the selected room is displayed.



5 Display the desired information using the navigation keys.

Use ◀ and ▶ to display the previous/next screen.

Use ▲ and ▼ to display the previous/next thermostat.

Press **OK** to return to the room list.

9.5 Select access level

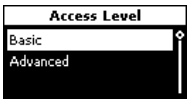
Two access levels are available for operation:

- **Basic** allows the users to view basic information but not to modify settings. Basic mode can be used in a public location or rented accommodation, for example.
- **Advanced** allows users both to view and modify settings.

To select the access level:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Access Level**.

2 Select **Basic** or **Advanced** and press **OK**.



To switch from **Basic** to **Advanced** level, on the Uponor screen, simultaneously press ◀ and ▶ until the **Advanced** screen appears.

Select **Advanced** and press **OK** to put the system in advanced level.

9.6 Display room information

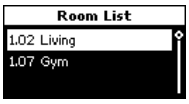
The digits at the beginning of the room name on the display mean:

- 1st digit – controller number (1, 2, 3).
- 2nd and 3rd digits – number of the first channel controlled by this thermostat (01, 02, 03, and so on). If several channels are controlled by the thermostat, only the lowest channel number is displayed.

To display room information:

1 On the Uponor screen, select **Main Menu > Information > Rooms**.

2 Select the desired room and press **OK**.

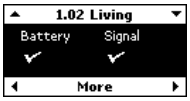


Meanings of the temperature icons as shown in the example screens below.

Icon	Description of use	Screen example
	If temperature set on thermostat is outside allowed temperature range for room, limitation temperature is displayed as set point.	
	Measured temperature is 21.2 °C.	
	Temperature setting for room when in ECO mode. (Current setting 19 °C). Options for current status: **COMF**: Comfort mode. **ECO**: Economy mode.	
	This screen is displayed if there is a floor sensor in the room. Floor temperature is 23 °C. **Max** and **Min** - Minimum and maximum floor temperature set point is displayed.	

9.7 Display battery and communication status

To display battery and communication status:

Icon	Description	Screen example
	Battery: batteries are sufficiently charged. **Signal**: radio signal from the thermostat and antenna is good.	
	Battery: batteries are discharged. **Signal**: radio signal from antenna or thermostat is poor or faulty.	

9.8 Display room thermostat status

To display thermostat and actuator status of a room:

Icon	Description of use	Screen example
Stat call	**Yes**: thermostat is calling for heating (or cooling). **No**: thermostat is reporting that room temperature is OK.	
Act.	**Open**: actuators are powered and open or on delay and will open soon. **Closed**: no power to the actuators, which are closed (or closing).	
Min.	Minimum set point of room is set at 20 °C.	
Max.	Maximum temperature set point of room is set at 26 °C.	

9.9 Select heating or cooling mode

To select heating or cooling mode:

System Status	Heating or cooling mode is activated for the whole system.	
Room Cooling	**Enable**: Cooling the room is allowed. **Disable**: Cooling the room is not allowed.	

9.10 Use holiday mode

Use holiday mode to set a common temperature reduction for all rooms for a specified time. The thermostat settings are ignored during this period.

The reduced holiday set point applies to all installed room thermostats. The setting range is 5 to 35 °C.

The minimum and maximum thermostat limitations have priority over the holiday mode. For example, if the maximum/minimum temperature range of a room thermostat is set to 20 °C to 25 °C, and holiday mode temperature is set to 15 °C for all rooms, the temperature for this room will not go below 20 °C.

Floor sensor thermostat settings have priority over holiday mode maximum and minimum limitations.

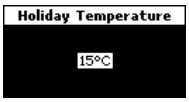
To apply holiday mode:

1 On the Uponor screen, select **Main Menu > Holiday Mode > Apply Holiday Mode**.

2 Enter the time and date for the start of the holiday period and press **OK**.

3 Enter the time and date for the end of the holiday period and press **OK**.

4 Enter the holiday temperature set point and press **OK**.

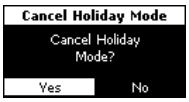


The icon  on the main screen indicates that the system is in holiday mode.

To cancel holiday mode:

1 On the Uponor screen, select **Main Menu > Holiday Mode > Cancel Holiday Mode**.

2 Select **Yes** and press **OK**.



9.11 Assign room name

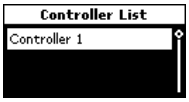
The digits at the beginning of the room name on the display mean:

- 1st digit – controller number (1, 2, 3).
- 2nd and 3rd digits – number of the first channel controlled by the thermostat (01, 02, 03, and so on). If several channels are controlled by the thermostat, only the lowest channel number is displayed.

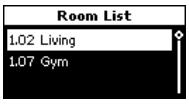
To assign a room name:

1 On the Uponor screen, select **Main Menu > Settings > Rooms > Room names**.

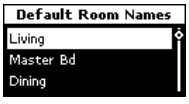
2 Select the desired controller (applies only when more than one is installed) and press **OK**.



3 Select the desired room or thermostat and press **OK**.



4 Select the room name from the list and press **OK**.



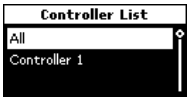
9.12 Set minimum/maximum temperatures

Example: If the temperature set point of the thermostat is set to 5 °C, the temperature will not fall below 12 °C because the minimum and maximum limitations for this room are set to 12 and 26 °C respectively.

To set minimum and maximum temperatures:

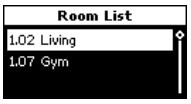
1 On the Uponor screen, select **Main Menu > Settings > Rooms > Min/Max Temperatures**.

2 Select the desired controller or **All** for all rooms on all controllers and press **OK**.

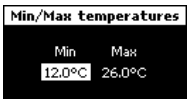


Selecting **All** sets the same minimum and maximum temperatures for all rooms.

3 Select a thermostat or room and press **OK**.



4 Set the temperatures. Use ▲ and ▼ to increase and decrease the value. Use ◀ and ▶ to toggle between minimum and maximum.



Press **OK**.

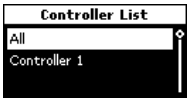
9.13 Disable cooling

Use this setting to exclude specific rooms from cooling mode, for example, a bathroom or garage. This menu is displayed only when cooling is activated during installation.

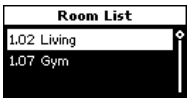
To disable cooling:

1 On the Uponor screen, select **Main Menu > Settings > Rooms > Disable Cooling**.

2 Select the controller (applies only when more than one is installed) and press **OK**.



3 Select a thermostat or room and press **OK**.



4 Select **Yes** to disable cooling for the room (or all rooms) and press **OK**.

9.14 Set temperature unit

To set the temperature unit:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Temperature Unit**.

2 Select **°C** or **°F** and press **OK**.

9.15 Set time and date

To set the time and date:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Clock Settings > Set Date/Time**.

Toggle between the fields using the ◀ and ▶ keys. Change the values using the ▲ and ▼ keys.

2 Change the time and date and press **OK**.

Set time format

To set time format:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Clock Settings > Time Format**.

2 Select **24 hour** or **AM/PM** and press **OK**.

Set date format

To set date format:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Clock Settings > Date Format**.

2 Select the format and press **OK**.

Set automatic daylight saving

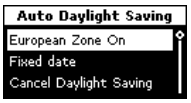
For European zone CET, an automatic time adjustment is made complying with European directive 2000/84/EC.

For countries in the southern hemisphere, set the end date earlier than the start date.

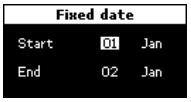
To set automatic daylight saving:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Clock Settings > Auto Daylight Saving**.

2 Select the desired setting and press **OK**.



3 Fixed date allows manual setting of the dates.



Enter **Start** date and **End** date of summer time and press **OK**.

9.16 Use ECO mode

Use ECO to save energy. In heating mode, ECO mode reduces room temperatures at the set times. In cooling mode, it increases the temperature. Different ECO profiles may be applied to a thermostat for each day of the week.

The ECO profile provides five different time/temperature profiles. The names indicate their specific application. All profiles can be modified. In the event of a power failure, all customised settings are saved.

Cooling ECO profiles are displayed only when cooling is activated and set in the system parameters menu.

ECO mode setting	Description
ECO Off	
ECO All	ECO mode active: From 9.30 a.m. to 2.30 p.m.
ECO Night & Day	For example, ECO mode active: From 10.30 p.m. to 5.00 a.m. From 9.30 a.m. to 2.30 p.m.
ECO Custom	For example, ECO mode active: From 00.30 a.m. to 5.30 a.m. From 12.00 a.m. to 5.30 p.m.
ECO Night	For example, ECO mode active: From 10.30 p.m. to 5.00 a.m.

The Uponor Remote access module R-56 allows switching between Comfort mode and ECO mode, by using a mobile telephone.

Edit ECO profiles

After making modifications, profiles cannot be reset to their initial values, except by modifying them again.

Modify the profiles first, then define the thermostats that each profile controls. To edit ECO profiles:

1 On the Uponor screen, select **Main Menu > Settings > Edit ECO Profiles**.

2 Select the ECO profile to modify and press **OK**.

Modify ECO profile, then confirm by pressing **OK**.

3 To modify the profile, select the time using the ◀ and ▶ keys to move in increments of 30 minutes. The set time is indicated above the time profile.

Apply **Comfort** mode by pressing the ▲ key.

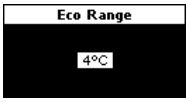
Apply **ECO** mode by pressing the ▼ key.

4 To set a complete period with the same mode:

- Move the cursor to the start time of the period.
- Set the start time: by briefly pressing the ▲ or ▼ key.
- Move the cursor to the end time of the period.
- Press and hold the ▲ or ▼ key.

The profile applies from start time to end time.

5 Modify the correction value of the temperature set point for the ECO mode and press **OK**.



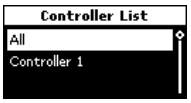
Apply ECO profiles

To check the ECO profile settings, select the days to check by using ◀ and ▶ for each day. The assigned timer programme is displayed.

To apply ECO profiles:

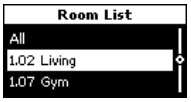
1 On the Uponor screen, select **Main Menu > Settings > Rooms > Apply ECO profile**.

2 Select the desired controller or all controllers (applies only when more than one is installed) and press **OK**.



3 Select the desired room or **All** and press **OK**.

If one ECO profile is used in most rooms, apply the profile to every room by selecting the setting **All**.



4 Select the day by using the ◀ and ▶ keys and briefly pressing the ▼ key on the desired day. The current profile is displayed.

5 Select **ECO Profiles** mode by pressing the ▼ key.

6 Select the desired ECO profile and press **OK**. Repeat the settings for each day.

9.17 Exercise functionality of valves and pumps

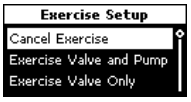
The exercise function maintains the functionality of the valves and pumps. A 5-minute activation is scheduled each week.

Cancel exercise

To cancel the exercise:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Valve/Pump Exercise > Cancel Exercise**.

2 Select **Cancel Exercise** and press **OK**.

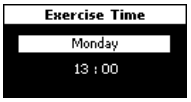


Exercise valves and pumps

To run the exercise for both valves and pumps:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Valve/Pump Exercise > Exercise Valve and Pump**.

2 Set the time and date for the 5-minute activation and press **OK**.

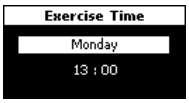


Exercise valves only

To run the exercise for valves only:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Valve/Pump Exercise > Exercise Valve Only**.

2 Set the time and date for the 5-minute activation and press **OK**.

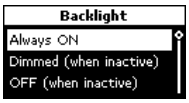


9.18 Set display backlight

To set the display backlight:

1 On the Uponor screen, select **Main Menu > Settings > System Parameters > Backlight**.

2 Select:



- **Always ON**
- **Dimmed (when inactive)** for reduced screen brightness.
- **OFF (when inactive)** backlighting is off.

Press **OK**.

9.19 Display software version

To display the software version of Uponor Interface I-75/76:

1 On the Uponor screen, select **Main Menu > Information > System > Software Version**.

X.X.X Software version.

(X.X.X) Hardware version.

10. Identify alarms

A flashing power indicator on Interface I-75/76 and Controller C-55/56 indicates an alarm or error message.

In the event of unread alarm, Interface I-75/76 displays an alarm icon in the upper right of the Uponor screen. The icon disappears when the message is read, even if the problem remains.

The Interface I-75/76 power LED flashes if there is an unresolved problem. An exclamation mark (!) indicates that the error is still present and has not been resolved.

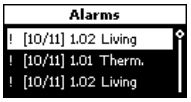
The Controller C-55/56 power LED and LED for referring channels flash if there is an unresolved problem.

10.1 Display alarms

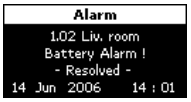
Display the alarm menu to determine the location of alarms. To display the alarm list:

1 On the Uponor screen, select **Main Menu > Information > Alarms > All Alarms**.

All alarms are displayed in a list.



2 Select the desired alarm and press **OK**. The screen displays **Resolved** when the cause of the alarm is resolved.



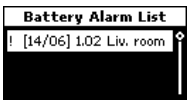
Battery alarm

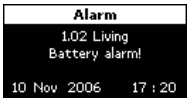
To identify a battery alarm:

1 On the Uponor screen, select **Main Menu > Information > Alarms > Battery Alarm**.

2 Select the desired alarm and press **OK**.

The example screens, show a battery alarm for a living room thermostat.





Change batteries in both room and sensor thermostats at the same time.

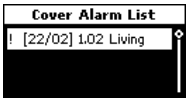
Cover alarm

To identify a cover alarm for Uponor Thermostat T-54 Public:

1 On the Uponor screen, select **Main Menu > Information > Alarms > Cover Alarm**.

2 Select the desired alarm and press **OK**.

The alarm indicates that the cover of Uponor Thermostat T-54 Public in the living room is open.



Short circuit alarm

To identify a short circuit alarm:

A short circuit is detected on the circuit controlled by thermostat 1.01. The terminals for the actuators are protected against short circuits, so an error exists in the wiring or in the actuator.

Radio signal lost

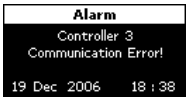
To identify a lost radio signal alarm:

The radio signal of thermostat 1.02 is lost.

Communication error

To identify a communication error alarm:

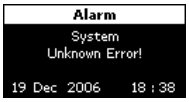
In this example, controller 3 has a communication error.



Unknown error

To identify an unknown error alarm:

The system has an unknown error.



11. Problems and recommended solutions

The table below shows problems and alarms that can occur with the Uponor Control System and describes solutions.

Problem	Indication	Causes	Solutions
Uneven floor temperature	Floor temperature is changing abnormally between hot and cold in heating mode	Supply water temperature too high	Check boiler or shunt If Interface I-75/76 is connected to the system, run Supply Diagnostic test
Room too cold (or too warm in cooling mode)	Press + or – key to display the temperature set point on the thermostat Temperature setpoint is displayed on Interface I-75/76 in room information menu	Thermostat setting too low	Change temperature set point Use maximum and minimum settings to protect system from consequences of unreasonable temperature settings
	Temperature displayed on thermostat drops after thermostat is moved	Thermostat may be influenced by external heat source	Change location of thermostat
	See installation report and controller/channel numbering under thermostat cover Force thermostat to transmit and check if the corresponding LEDs flash	Thermostats of individual rooms are incorrectly registered	Place thermostat in correct room or change thermostat registration in Controller C-55/56
	White indicator cannot be seen in indicator window of actuator	Actuator does not open	Replace actuator Contact installer
	Set point temperature displayed in room information menu is lower than temperature set on thermostat	Incorrect minimum/ maximum limitation	Change minimum/maximum limitation
	ECO in room information menu	ECO mode	Change ECO profile or assign another profile to room Cancel rest of ECO period by pressing a thermostat key
Room too warm (or too cold in cooling mode)	Corresponding loop is warm even after a long period without heat call	Actuator does not close	Contact installer Check that actuator is correctly installed Replace the actuator
Floor is cold	No heat demand from underfloor heating system Room is heated by another heat source	Room temperature OK but floor is cold	
All rooms are cold (or warm in cooling mode)	Holiday Mode	Icon displayed in Interface I-75/76	Cancel Holiday mode
	ECO mode for rooms in room information menu	ECO mode	Change ECO profile or assign another profile to room Cancel rest of ECO period by pressing all thermostat keys
	Check system information and operation mode of Interface I-75/76	System in cooling (heating) mode	Correct signal from external device needed

Problem	Indication	Causes	Solutions
Disturbing noise from pump at same time and day of week			Change time for pump test exercise
Short circuit	Short circuit alarm on Interface I-75/76 Power LED and associated channel LED flash	Short circuit on a connected actuator Short circuit on the actuator terminal	Contact installer Check wiring of actuators; replace the actuator
No communication	Communication error Software versions incompatible	Wire disconnected or damaged	Contact the installer Check wiring of Interface I-75/76 and Controller C-55/56 Replace the wire
Communication failure between controllers	Communication error Controller 3 disappears	Wrong wiring of several controllers, wrong numbering of the controllers (1, 2 or 3, a number assigned twice), wire disconnected or damaged	Contact installer Check wiring of Interface I-75/76 and Controller C-55/56 Check Controller C-55/56 configuration Replace wire
Frozen display in Interface I-75/76	No response when pressing key	General failure	Set time and date; all other parameters are saved Reset Interface I-75/76

11.1 Thermostat with display T-75 alarms/problems

An alarm is sent when more than 3 hours have elapsed since the controller received the last radio signal from the thermostat.

The table below shows problems that can occur in the Uponor Thermostat with display T-75.

Indication	Causes	Solutions
Battery icon displayed	Thermostat battery power is running low	Replace batteries
Display is off	Batteries discharged or wrong type of battery used	
	Batteries installed upside down (reverse polarity)	Install batteries correctly
Radio transmission icon is displayed but signals are received only when thermostat is close to antenna	Transmitter working with reduced signal intensity	Force thermostat to transmit by changing temperature set point Replace thermostat
	New installations in building shield radio signals (for example, metal door safe)	Try to find new position for thermostat and/or antenna, or, if possible, shielding object
No radio transmission icon displayed on thermostat screen when +/- keys are pressed	Transmitter broken in thermostat	Force thermostat to transmit by changing temperature set point Replace thermostat

11.2 Thermostat T-55 alarms/problems

An alarm is sent when more than 3 hours have elapsed since the controller received the last radio signal from the thermostat.

The table below lists problems that can occur in Thermostat T-55.

Indication	Causes	Solutions
LED flashes twice	Thermostat battery power is running low	Replace batteries

11.3 Thermostat T-54 Public alarms/problems

An alarm is sent when more than 3 hours have elapsed since the controller received the last radio signal from the thermostat.

The table below shows problems that can occur in Thermostat T-54 Public.

Indication	Causes	Solutions
Power LED and channel LED flashes	Cover of thermostat is opened	Check thermostat settings and replace thermostat cover
LED flashes twice	Thermostat battery power is running low	Replace the batteries

11.4 Controller C-55/56 alarms/problems

An alarm is sent when more than 3 hours have elapsed since the controller received the last radio signal from the thermostat.

The table below shows problems that can occur in the Controller C-55/56.

Indication	Causes	Solutions
Power LED and channel LEDs in the Controller C-55/56 flash	Antenna out of position or wire disconnected	Install antenna in correct position with wire correctly connected
Alarm in Interface I-75/76 Battery icon ☒ displayed in room information on Interface I-75/76	Batteries in thermostat are discharged	Replace batteries When error is resolved, thermostat screen displays room temperature and battery icon ☒ is replaced with ✔
Radio alarm in Interface I-75/76 Radio icon ☒ in room information on Interface I-75/76 Power LED and thermostat LED's in the Controller C-55/56 for connected channels flash	Thermostat is out of correct position	Reduce distance between thermostat and Controller C-55/56 or change location of thermostat in the room

11.5 Contact installer

For installer contact information, see the installation report in the fold-out of this document. Prepare the following information before contacting an installer:

- Installation report
- Drawings of the underfloor heating system (if available)
- List of all alarms, including time and date

11.6 Installer instructions

To determine if a problem is caused by the supply system or the control system, loosen the actuators from the manifold for the room concerned, wait a few minutes and check if the flow pipe of the floor 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 could be the room control system.

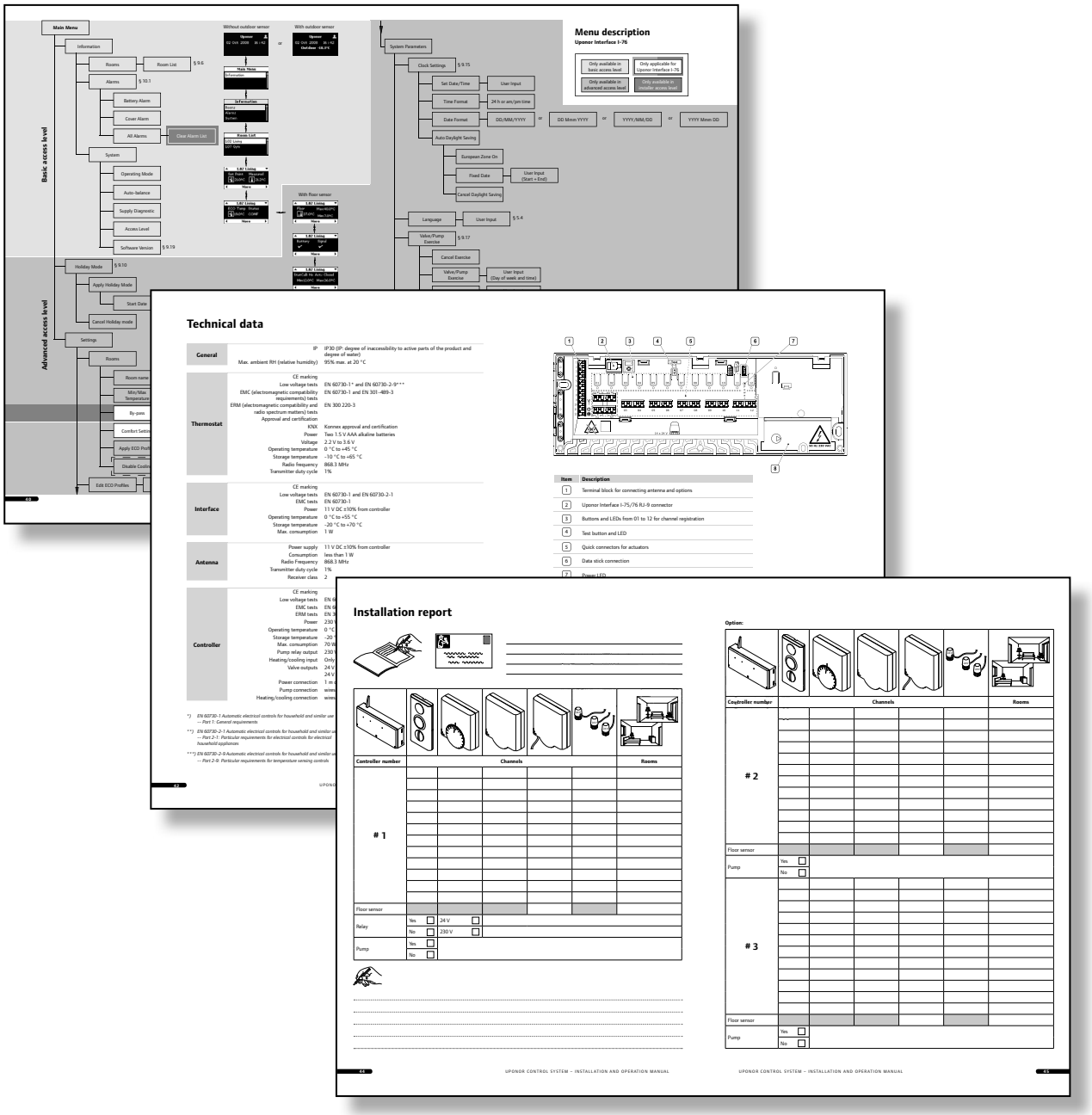
A supply system defect can be indicated by no warm water in the manifold. Check the boiler and circulation pump.

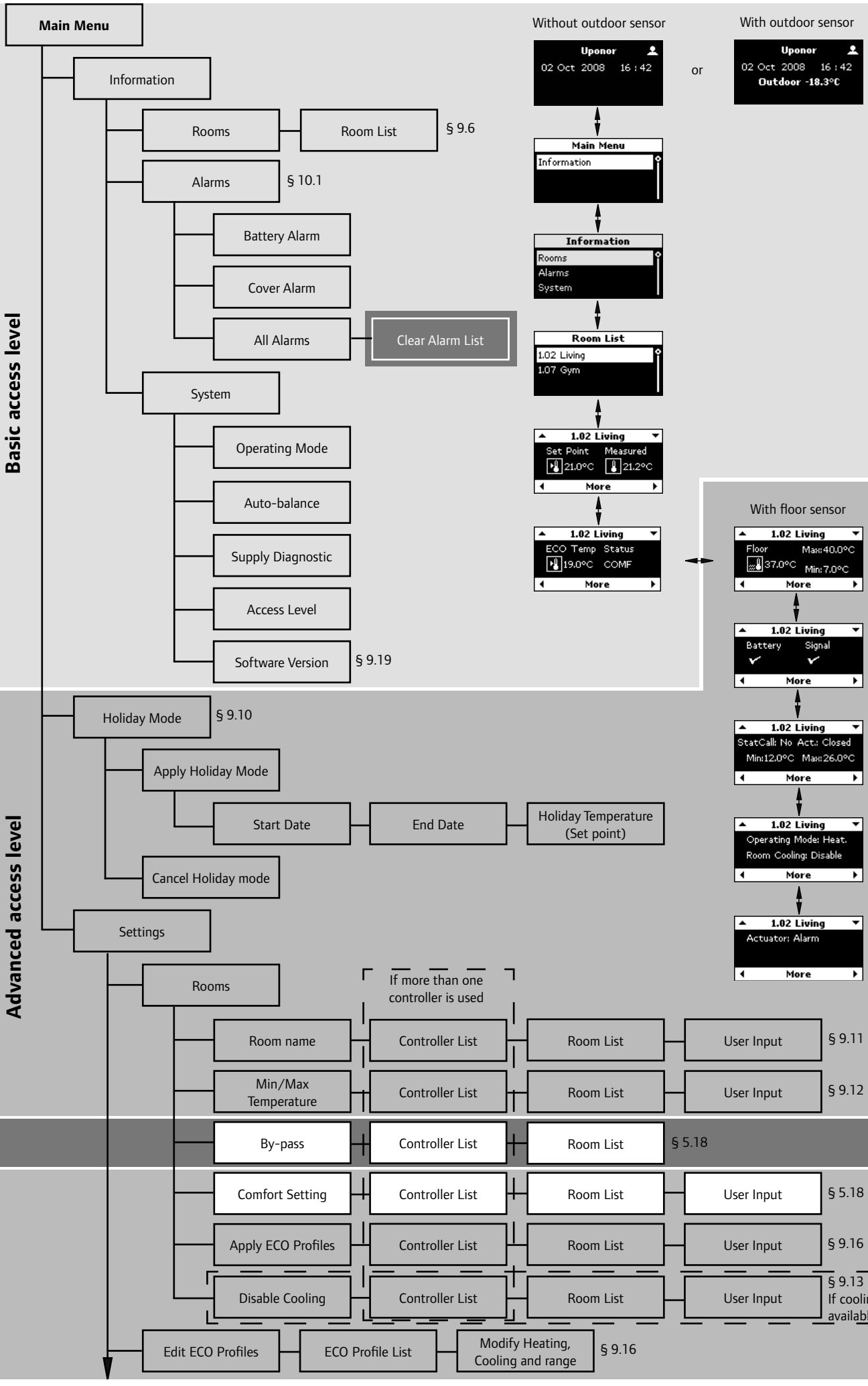
The products in this document might not be compatible with older versions of the Uponor Control System.

11.7 Technical specifications

Cables	Standard cable length guaranteed without EMC problems	Maximum cable length guaranteed without any EMC problems	Gauge wire
Cable from controller to antenna	0.30 m 3 m	25 m	Controller: 0.2 mm² to 1.5 mm² Antenna: Plug connector
Cable from controller to interface	2 m 15 m	20 m	Controller/Interface: 0.2 mm² to 1.5 mm² or plug connector
Cable from controller to actuator	0.75 m	2 m	Controller: 0.2 mm² to 1.5 mm²
Cable from controller to controller	15 m	20 m	Controller: 0.2 mm² to 1.5 mm²
External sensor cable to thermostat	5 m	5 m	0.6 mm²
Floor sensor cable to thermostat	4 m	4 m	0.75 mm²
Cable from relay switch to controller heating/cooling input	2 m	20 m	Controller: 0.2 mm² to 1.5 mm² Relay: 1.0 mm² to 4.0 mm²
Cable from external heating/cooling controller to relay coil	10 m	Can be extended up to 100 m but must be checked by installer	External heating/cooling controller: manufacturer-specific Relay: 1.5 mm² to 4.0 mm²

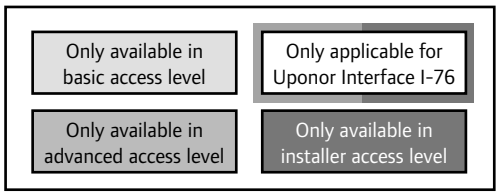
12. Appendixes




Main Menu
Information
Rooms
Room List
§ 9.6
Alarms
§ 10.1
Battery Alarm
Cover Alarm
All Alarms
Clear Alarm List
System
Operating Mode
Auto-balance
Supply Diagnostic
Access Level
Software Version
§ 9.19
Basic access level
Holiday Mode
§ 9.10
Apply Holiday Mode
Start Date
End Date
Holiday Temperature (Set point)
Cancel Holiday mode
Settings
Rooms
If more than one controller is used
Room name
Controller List
Room List
User Input
§ 9.11
Min/Max Temperature
§ 9.12
By-pass
§ 5.18
Comfort Setting
Apply ECO Profiles
§ 9.16
Disable Cooling
§ 9.13
If cooling is available
Edit ECO Profiles
ECO Profile List
Modify Heating, Cooling and range
Advanced access level
Without outdoor sensor
With outdoor sensor
or
Uponor
02 Oct 2008 16 : 42
Outdoor -18.3°C
Main Menu
Information
Rooms
Alarms
System
Room List
1.02 Living
1.07 Gym
Set Point
Measured
21.0°C
21.2°C
More
ECO Temp
Status
19.0°C
COMF
With floor sensor
Floor
Max:40.0°C
37.0°C
Min:7.0°C
Battery
Signal
StatCall: No Act.: Closed
Min:12.0°C Max:26.0°C
Operating Mode: Heat.
Room Cooling: Disable
Actuator: Alarm

Menu description

Uponor Interface I-76



- System Parameters
  - Clock Settings § 9.15
    - Set Date/Time — User Input
    - Time Format — 24 h or am/pm time
    - Date Format — DD/MM/YYYY or DD Mmm YYYY or YYYY/MM/DD or YYYY Mmm DD
    - Auto Daylight Saving
      - European Zone On
      - Fixed Date — User Input (Start + End)
      - Cancel Daylight Saving
  - Language — User Input § 5.4
  - Valve/Pump Exercise § 9.17
    - Cancel Exercise
    - Valve/Pump Exercise — User Input (Day of week and time)
    - Exercise Valve Only — User Input (Day of week and time)
  - Temperature Unit — °C or °F § 9.14
  - Backlight — Always ON or Dimmed (when inactive) or OFF (when inactive) § 9.18
  - Log Mode — Detailed or Long Term § 5.15
  - Access Level — Basic or Advanced § 9.5

Installer access level

  - Supply Diagnostic — Supply Water Diagnostic Active § 5.17
  - Auto-balance — Active or Inactive § 5.14
  - Room Check — Room check start/stop § 5.16
  - Cooling Available — Auto Heating/Cooling or Forced Heating or Forced Cooling § 5.11
  - Pump Management — Common or Individual § 5.8
  - Controller ID — Reset Controller ID or Set Controller ID § 5.7

Technical data

General	IP	IP30 (IP: degree of inaccessibility to active parts of the product and degree of water)
	Max. ambient RH (relative humidity)	95% max. at 20 °C
Thermostat	CE marking	
	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
	Approval and certification	
	KNX	Konnex approval and certification
	Power	Two 1.5 V AAA alkaline batteries
	Voltage	2.2 V to 3.6 V
	Operating temperature	0 °C to +45 °C
	Storage temperature	-10 °C to +65 °C
	Radio frequency	868.3 MHz
	Transmitter duty cycle	1%
Interface	CE marking	
	Low voltage tests	EN 60730-1 and EN 60730-2-1
	EMC tests	EN 60730-1
	Power	11 V DC ±10% from controller
	Operating temperature	0 °C to +55 °C
	Storage temperature	-20 °C to +70 °C
	Max. consumption	1 W
Antenna	Power supply	11 V DC ±10% from controller
	Consumption	less than 1 W
	Radio Frequency	868.3 MHz
	Transmitter duty cycle	1%
	Receiver class	2
Controller	CE marking	
	Low voltage tests	EN 60730-1* and EN 60730-2-1**
	EMC tests	EN 60730-1 and EN 301-489-3
	ERM tests	EN 300 220-3
	Power	230 V AC +10/-15%, 50 Hz
	Operating temperature	0 °C to +55 °C
	Storage temperature	-20 °C to +70 °C
	Max. consumption	70 W
	Pump relay output	230 V AC +10/-15%, 250 V AC 2 µA max.
	Heating/cooling input	Only dry contact
	Valve outputs	24 V DC ±10%, 436 mA max. for outputs 1 and 2 24 V DC ±10%, 218 mA max. for outputs 3 to 12
	Power connection	1 m cable with europlug
	Pump connection	wires 1.5 mm² max
	Heating/cooling connection	wires 1.5 mm² max

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

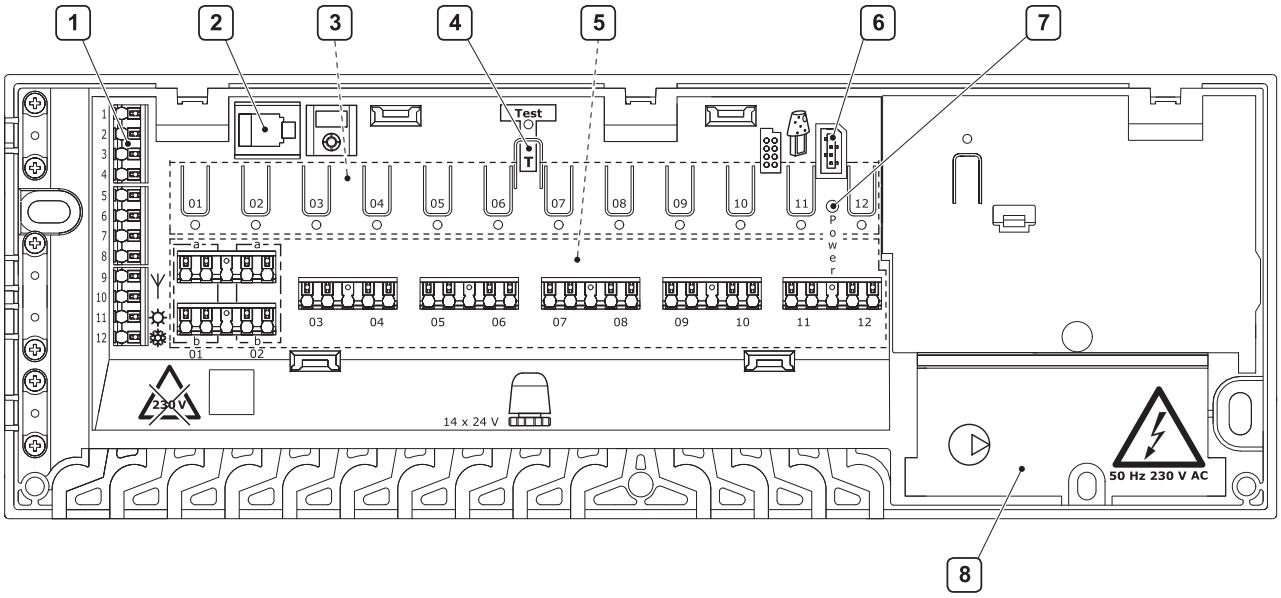
**) *EN 60730-2-1 Automatic electrical controls for household and similar use -- Part 2-1: Particular requirements for electrical controls for electrical household appliances*

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

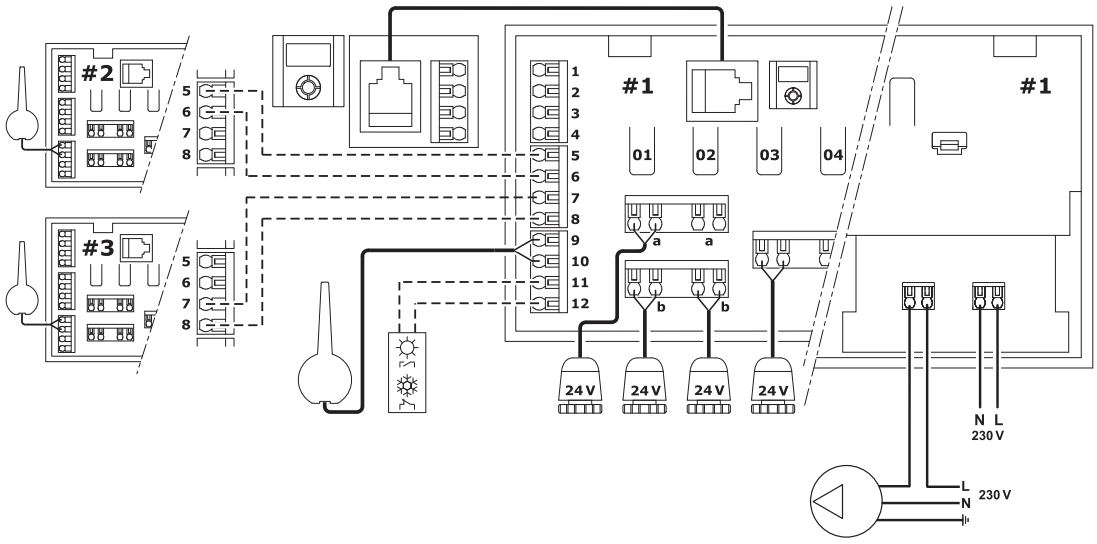
Usable in all Europe CE 0682

Declaration of conformity:

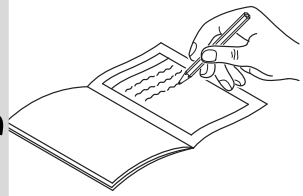
We hereby declare under our own responsibility that products dealt with by these instructions satisfy all essential demands linked to the R&TTE 1999/5/CE Directive dated March 1999.

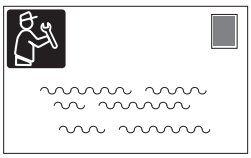


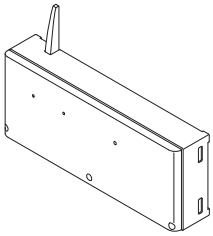
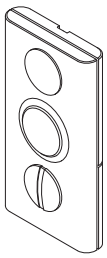
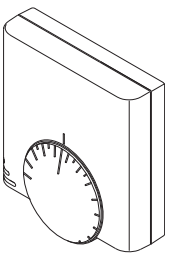
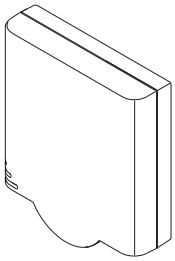
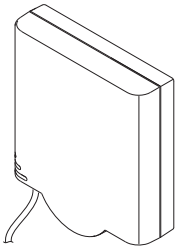
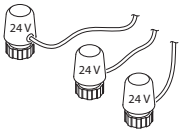
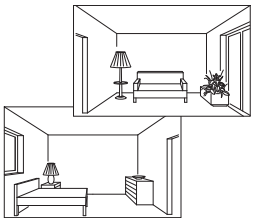
Item	Description
1	Terminal block for connecting antenna and options
2	Uponor Interface I-75/76 RJ-9 connector
3	Buttons and LEDs from 01 to 12 for channel registration
4	Test button and LED
5	Quick connectors for actuators
6	Data stick connection
7	Power LED
8	50 Hz 230 V AC power compartment and pump management connection



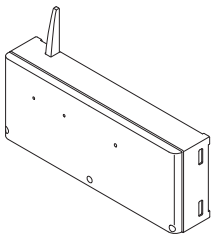
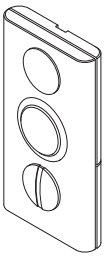
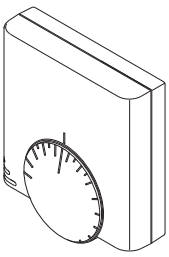
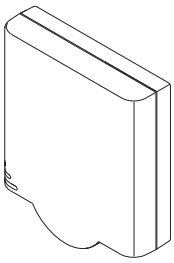
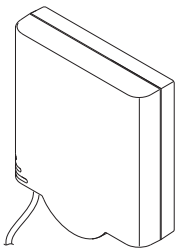
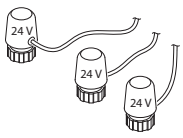
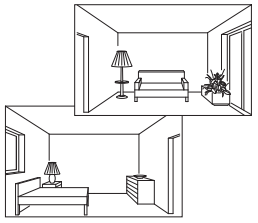
Installation report





						
Controller number	**Channels**					**Rooms**
# 1						
Floor sensor						
Relay	Yes ☐	24 V ☐				
	No ☐	230 V ☐				
Pump	Yes ☐					
	No ☐					

Option:

						
Controller number	**Channels**					**Rooms**
# 2						
Floor sensor						
Pump	Yes ☐					
	No ☐					
# 3						
Floor sensor						
Pump	Yes ☐					
	No ☐					

2009-01-14 UK Production: Uponor AB, Product Line Management, Virsbo; Sweden

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