

# Climate Control Zoning System II

## instruction sheet



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The presumption for the document is all safety measures have been fully complied with and, further, that the Climate Control Zoning System II, including any components that are part of such system, covered by the manual:

- Is selected, planned and installed and put into operation by a licensed and trained 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;
- 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;
- Remain in its originally installed condition and is not repaired, replaced or interfered with, without prior written consent of Uponor;
- Is connected to potable-water supplies or compatible plumbing, heating and/or cooling products approved or specified by Uponor;
- Is not connected to or used with non-Uponor products, parts or components except for those approved or specified by Uponor; and
- Does not show evidence of tampering, mishandling, insufficient maintenance, improper storage, neglect or accidental damage before installation and being put into operation.

While Uponor has made efforts to ensure the document is accurate, Uponor does not guarantee or warrant the accuracy of the information contained herein. Uponor reserves the right to modify the specifications and features described herein, or discontinue manufacture of the Climate Control Zoning System II described at any time without prior notice or obligation. The manual is provided "as is" without warranties of any kind, either expressed or implied. The information should be independently verified before using it in any manner.

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# Overview

This instruction sheet is intended for experienced installers. Uponor strongly recommends reading the full installation and operation manual before installing the control system.

## Safety symbols

The following symbols are used in this document to indicate special precautions when installing and operating any Uponor equipment.



**Warning!** Ignoring warnings can cause injury or damage to components.



**Caution!** Ignoring cautions can cause equipment malfunctions.

## Safety measures

Conform to the following measures when installing and operating any Uponor equipment.

- Read and follow all instructions in this document.
- Ensure a trained installer performs all work in accordance with local regulations.
- Do not make changes or modifications not specified in this document.
- Switch off all power supply before starting any wiring work.
- Do not use water to clean Uponor components.
- Do not expose Uponor components to flammable vapors or gases.

Uponor cannot accept any responsibility for damage or breakdown that can result from ignoring these instructions.

## Power



**Warning!** The Uponor system uses 24 VAC, 60 Hz power. In case of emergency, immediately disconnect the power.

## Technical constraints



**Caution!** To avoid interference, keep installation/data cables away from power cables of more than 50 VAC.

## Limitations for radio transmission

The Uponor Climate Control Zoning System II 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 recommends relocating the antenna to a more optimal position and ensuring radio sources are **at least 16" (40 cm) apart** for solving exceptional problems.

## Compliance

*This device complies with part 15 of the FCC Rules.*

*Operation is subject to the following two conditions:*

- (1) This device may not cause harmful interference, and*
- (2) This device must accept any interference received, including interference that may cause undesired operation.*

**Note:** *The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.*

*This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:*

- (1) This device may not cause interference, and*
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.*

*This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*

*Consult the dealer or an experienced radio/TV technician for help.*

## Proper disposal of waste electrical and electronic equipment



This marking shown on the product or its literature indicates it should not be disposed with other household waste at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

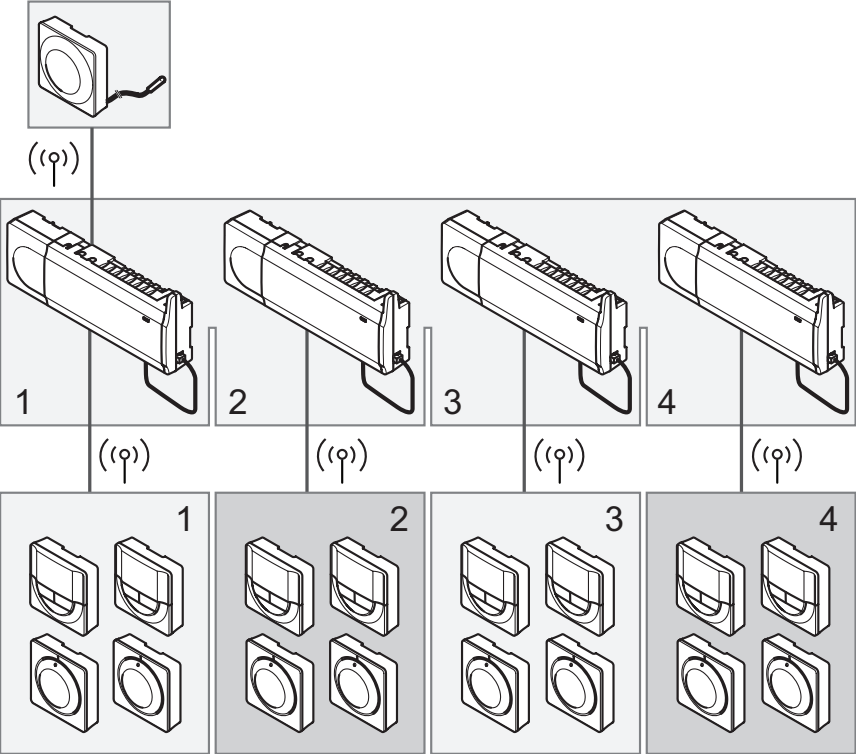
Contact your installer or local government office for details about environmentally safe recycling.

# Installation

## System components

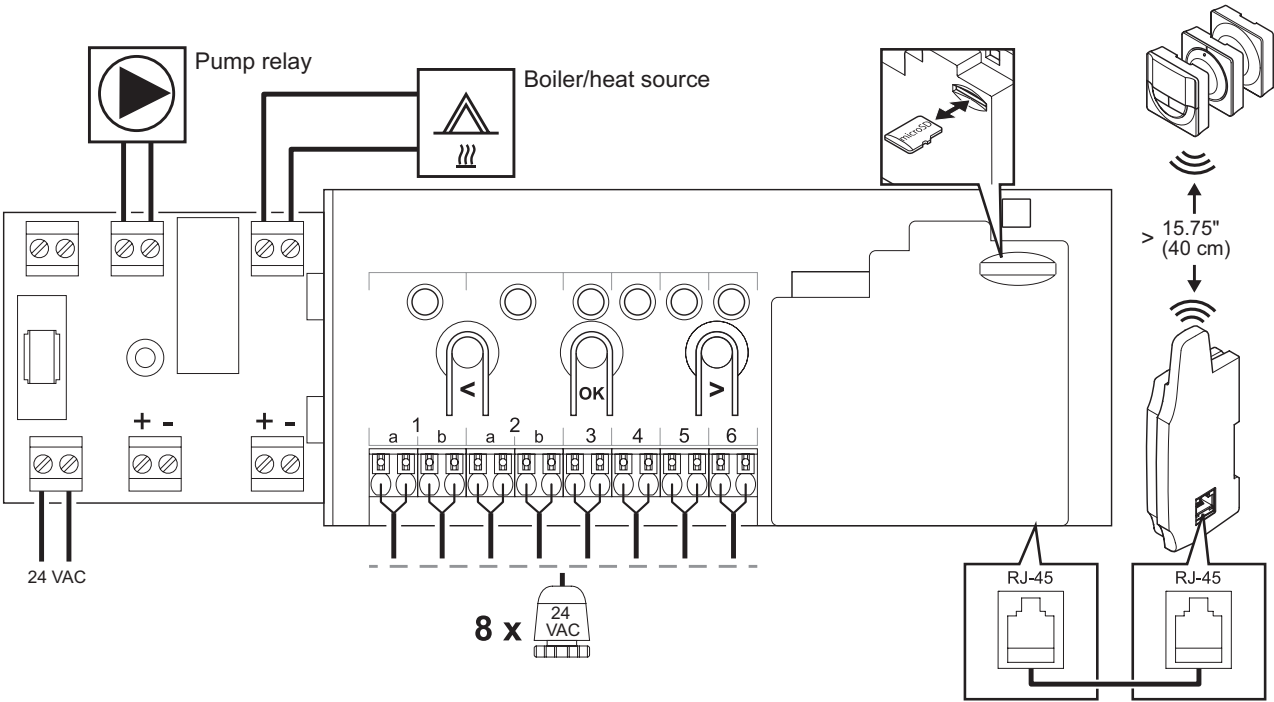
Part no.	Description
A3800165	Wireless Dial Thermostat (T-165)
A3800167	Wireless Digital Thermostat (T-167)
A3801165	Wireless Base Unit, 6 zones (X-165)
A3801160	Wireless Base Unit Expansion Module, 6 zones (M-160)

## System example



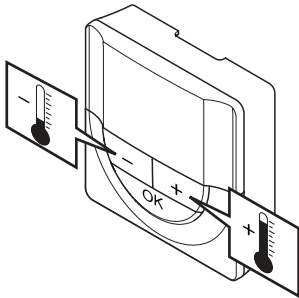
Wiring diagram

**!** **Important!** This instruction sheet serves as a reminder for experienced installers. Uponor strongly recommends using the full installation and operation manual for complete installation details.

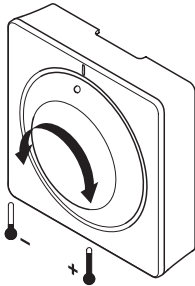


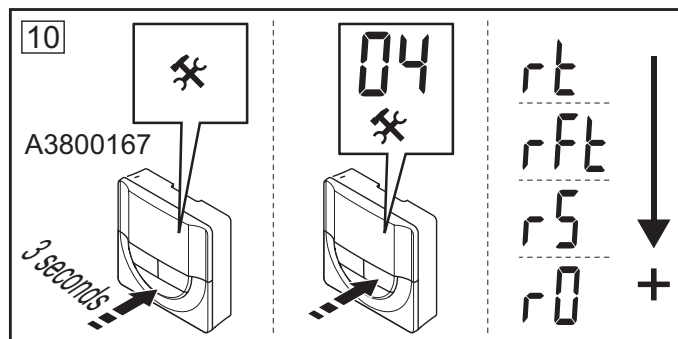
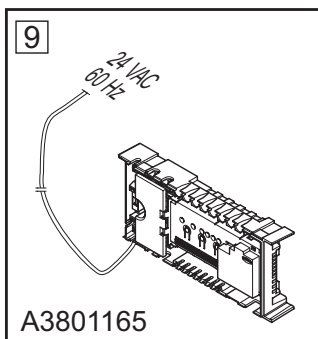
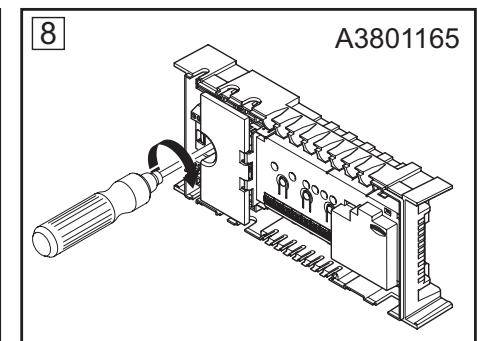
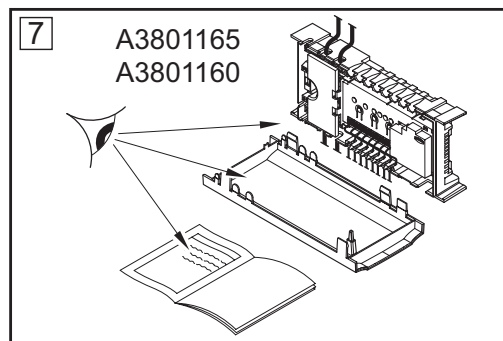
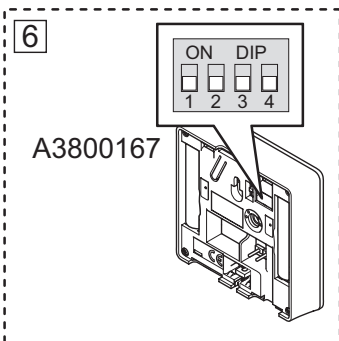
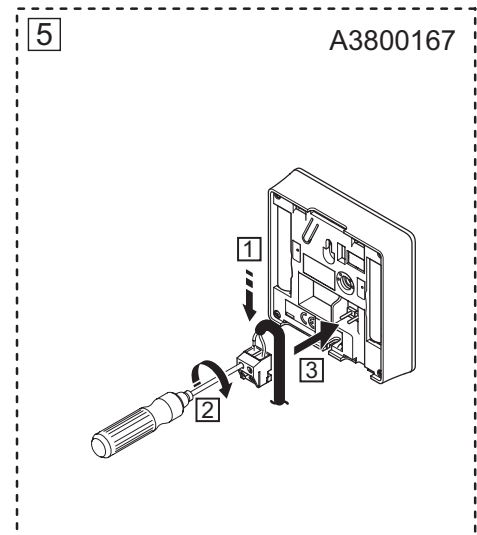
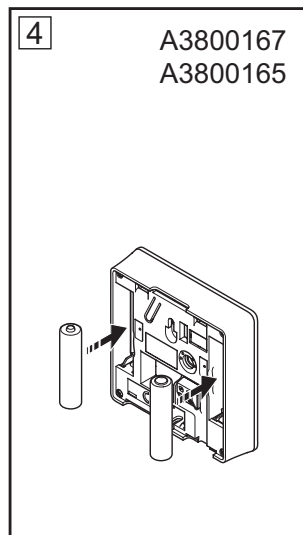
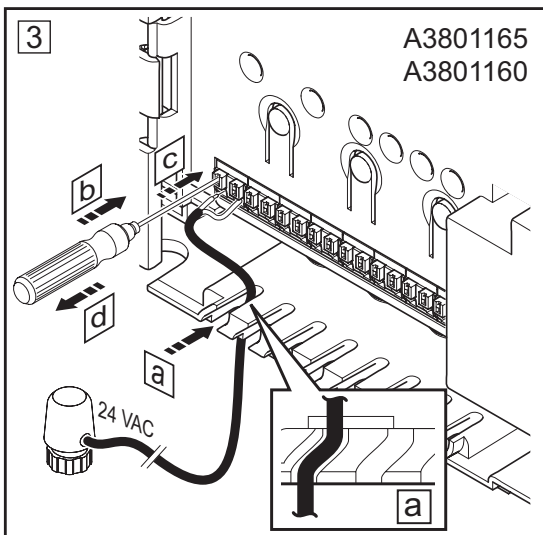
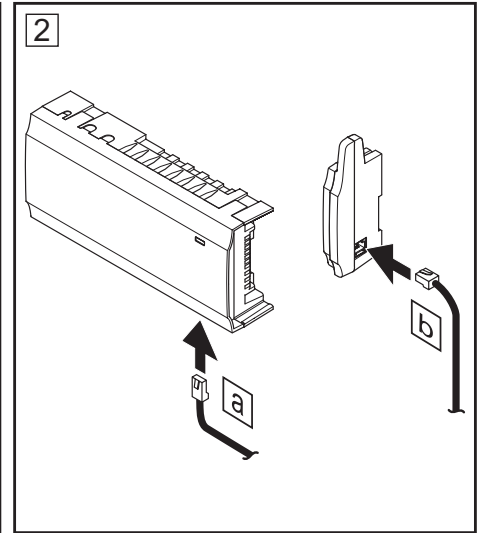
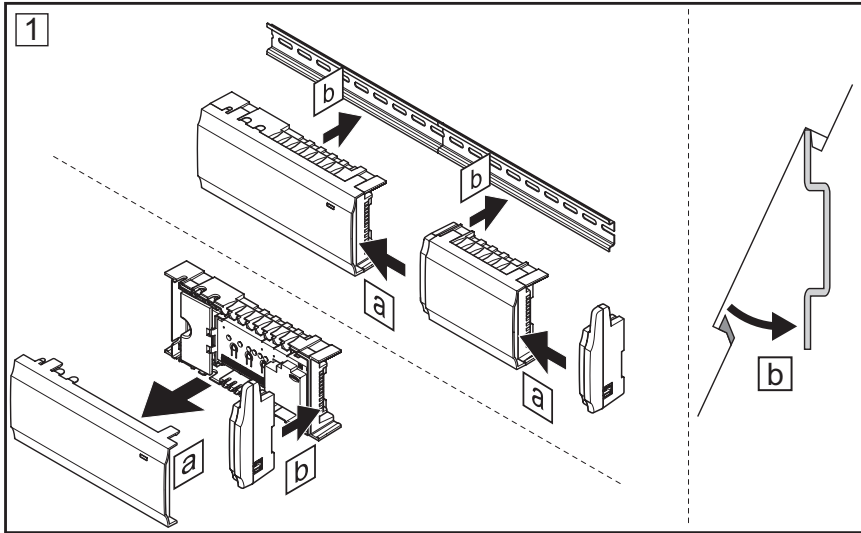
Thermostat operating instructions

Wireless Digital  
Thermostat (A3800167)



Wireless Dial  
Thermostat (A3800165)





## System setup



**Important!** Connect only one actuator for each channel. Channels 01 and 02 have double outputs (a and b) for two actuators.

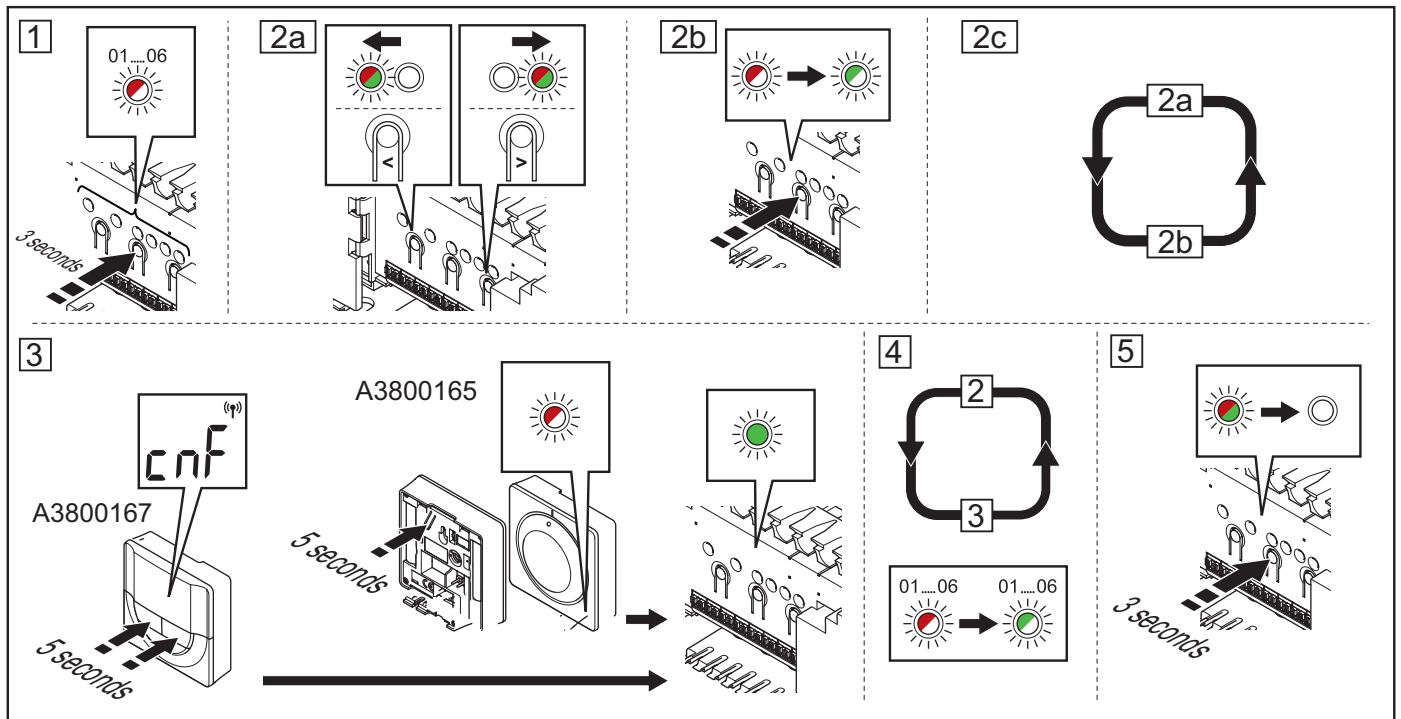


**Caution!** Ensure that each actuator is connected to the correct channel so that the thermostats are controlling the correct loops.

1. Attach the full assembly, or parts of it, to the wall either with a DIN rail or by using wall screws and plugs. If installing the controller inside a metal cabinet, locate the antenna outside the cabinet.
2. Connect the antenna to the controller using the supplied antenna cable.
3. Connect the actuators.
4. Insert batteries into the thermostats.
5. Connect optional external sensor (A3800167 only).
6. Set the desired DIP switch setting (A3800167 only).
7. Check that all wiring is complete and correct for the actuators and output (to pump relay or boiler).
8. Close the 24 VAC compartment of the controller and tighten the fixing screw.
9. Connect the power cable to a 24 VAC transformer, or if required by local regulations, to a junction box.
10. Set a time and date on the digital thermostats (A3800167) and select thermostat control mode in settings menu **04** (Default: **RT**).

Now, proceed to registering the thermostats to the correct base unit (if multiple exist in the system). See **pages 8-9** for details.







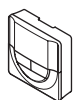
## Register thermostat and/or system device to a controller

### Enter registration mode

1. Press and hold the **OK** button on the controller for about 3 seconds until the LED for channel 1 (or the first unregistered channel) flashes red.
2. To register a thermostat, select a thermostat channel.
  - a. Use buttons < or > to move the pointer (LED flashes red) to a preferred channel.
  - b. Press the **OK** button to select the channel for registration. The LED for the selected channel starts flashing green.
  - c. Repeat steps 2a and 2b until all channels to be registered with the thermostat are selected (LEDs flashing green).

**Note:** Uponor recommends registering all channels to the thermostat at the same time.

3. Select a thermostat.



- a. For the Wireless Digital Thermostat (A3800167), press and hold both - and + buttons on the thermostat until the text **CnF** (configure) and a communication icon displays. The selected channel LED in the controller turns fixed green and the registration is complete.



- b. For the Wireless Dial Thermostat (A3800165), gently press and hold the registration button on the thermostat for about 5 seconds. Release when the LED on the front of the thermostat starts flashing. The selected channel LED in the controller turns fixed green and the registration is complete.

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

### Exit registration mode

5. Press and hold the **OK** button on the controller for about 3 seconds until the green LEDs turn off. This will end registration mode and return the system to run mode.

## Unregister one channel

When a channel is inaccurately registered, or if a thermostat registration needs to be redone, it is possible to remove the current registration from the controller.

To unregister a channel:

1. Enter registration mode. Channel 1 LED flashes red/green, or the first unregistered channel flashes red.
2. Use buttons < or > to move the pointer (LED flashes red) to the selected channel (flashes green if registered) to unregister.
3. Press the < and > buttons simultaneously for about 5 seconds until the LED for the selected channel starts flashing red.

## Unregister all channels

When one or more channels (thermostats) are inaccurately registered, it is possible to remove all registrations at the same time.

To cancel all channel registrations:

1. Enter registration mode. Channel 1 LED flashes red/green or the first unregistered channel flashes red.
2. Press the < and > buttons simultaneously for about 10 seconds until the LEDs for all channels (except one) turn off. The remaining LED flashes red.

## Actuator autobalancing

Refer to the Climate Control Zoning System II installation and operation manual for more information about autobalancing of actuators (eliminating the need for manual balancing, on by default), heat pump integration, cooling, comfort/ECO settings, room check, supply check, etc.

# Technical data

## General

IP	IP20 (IP: degree of inaccessibility to active parts of the product and degree of water)
Maximum ambient RH (relative humidity)	85% at 68°F (20°C)

## Antenna

Power supply	From controller
Radio frequency	912 MHz
Transmitter duty cycle	<1%
Receiver class	2

## Thermostats

ERP	IV
Low-voltage tests	EN 60730-1* and EN 60730-2-9***
EMC (electromagnetic compatibility requirements) tests	EN 60730-1 and EN 301-489-3
ERM (electromagnetic compatibility and radio spectrum matters) tests	EN 300 220-3
Power supply	Two 1.5 V AAA alkaline batteries
Voltage	2.2 V to 3.6 V
Operating temperature	32°F to 113°F (0°C to 45°C)
Storage temperature	14°F to 149°F (-10°C to 65°C)
Radio frequency	912 MHz
Transmitter duty cycle	<1%

## Base unit

Low-voltage tests	EN 60730-1* and EN 60730-2-1***
EMC (electromagnetic compatibility requirements) tests	EN 60730-1 and EN 301-489-3
ERM (electromagnetic compatibility and radio spectrum matters) tests	EN 300 220-3
Power supply	24 VAC +10/-15%, 60 Hz, VA maximum
Internal fuse	T5 F3.15AL 250 V, 5x20 3.15A quick acting
Internal fuse, heat output	TR5-T 8.5 mm Wickmann 100 mA time lag
Operating temperature	32°F to 113°F (0°C to 45°C)
Storage temperature	-4°F to 158°F (-20°C to 70°C)
Maximum consumption	45 W
Pump and boiler relay outputs	24 VAC 8 A maximum
General purpose input (GPI)	Only dry contact
Valve outputs	24 VAC, 4 A maximum

\*) 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



A series of horizontal dotted lines spanning the width of the page, providing a guide for handwriting practice.

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