Your little magic for the smartest home.

USER MANUAL **EN**

QUBINO FLUSH HEAT & COOL THERMOSTAT

The Qubino Flush Heat & Cool Thermostat is ideal for remotely controlling 4 pipe fan coils and chilled beams.

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About Qubino

Qubino is a family of innovative Z-Wave devices, many of them the smallest of their kind. Numerous breakthrough innovations, 100% quality control, and responsive customer service make Qubino the number one choice for making your life more comfortable.

Qubino enables you to transform – inexpensively and invisibly – any traditional electric device into a smart, connected one that you can control with your smart phone. Qubino devices are simple to install and use, but also extremely versatile - they offer a wealth of additional features and parameters for you to play with.

We love helping people who enjoy creating new ideas for their home and then using their hard work and skill to turn those ideas into reality. We admire their passion and resourcefulness. We do our best to supply you with products that will enable you to create a unique and special home for yourself. We innovate so that you can be free to make the smartest home possible. With just a touch of magic.

"Simple is smart." We believe it is smart to make complex things simple. But only when this means simple for our customers, not for ourselves. We think a lot so that you won't have to when it comes to installing or using our devices.

For more information visit: www.qubino.com

About Z-Wave:

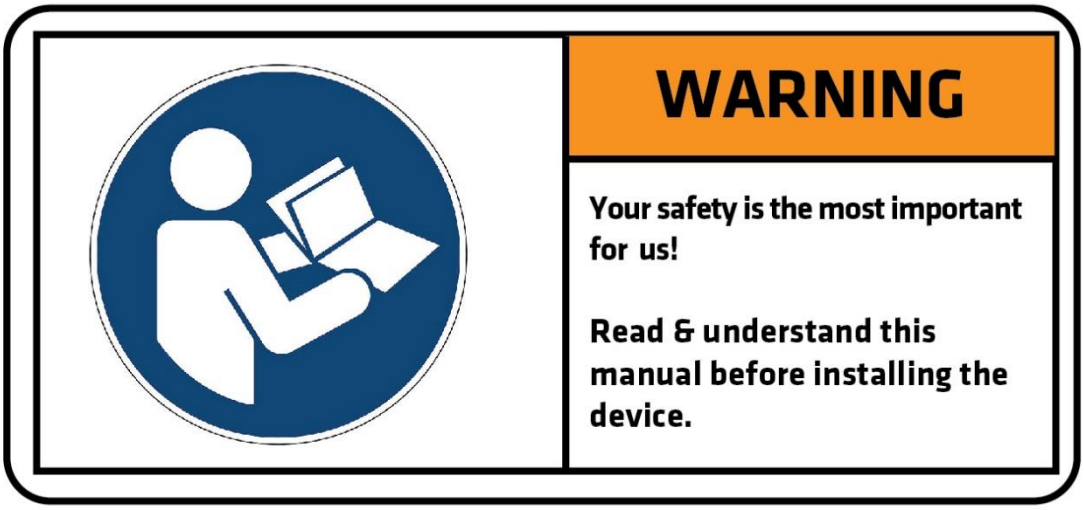
The Z-Wave protocol is an interoperable, wireless, RF-based communications technology designed specifically for control, monitoring, and status reading applications in residential and light commercial environments. Mature, proven, and broadly deployed (with over 50 million products sold worldwide), Z-Wave is by far the world market leader in wireless control, bringing affordable, reliable, and easy-to-use 'smart' products to millions of people in every aspect of daily life.

Source: www.z-wavealliance.org

Safety Information

For Qubino, safety is first, so we have prepared lots of safety tips and information that can be found throughout this manual.

To ensure your safety, please read this manual carefully before installing the device; follow the instructions exactly. The manufacturer (GOAP d.o.o. Nova Gorica) shall not be legally responsible for any equipment damage or personal injury caused by incorrect installation or operation other than that covered in this manual.



ⓘ Please check the Technical Specifications and Electrical Diagram chapters, as well as fuse requirements in the Installation chapter before installing the device.

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Flush Heat & Cool Thermostat - Available Frequencies

ORDERING CODE (MODEL NUMBER)	POWER SUPPLY FREQUENCY	Z-WAVE FREQUENCY*
ZMNHKD1	50/60 Hz	868,4 MHz
ZMNHKD2	50/60 Hz	921,4 MHz
ZMNHKD3	50/60 Hz	908,4 MHz
ZMNHKD4	50/60 Hz	869,0 MHz
ZMNHKD5	50/60 Hz	916,0 MHz
ZMNHKD6	50/60 Hz	868,4 MHz
ZMNHKD7	50/60 Hz	919,8 MHz
ZMNHKD8	50/60 Hz	865,2 MHz
ZMNHKD9	50/60 Hz	922,5 MHz
ZMNHKDA	50/60 Hz	919,7 – 921,7 – 923,7 MHz
ZMNHKDB	50/60 Hz	868,1 MHz
ZMNHKDC	50/60 Hz	868,1 MHz
ZMNHKDD	50/60 Hz	919,8 MHz
ZMNHKDE	50/60 Hz	920,9 MHz

*You can check the Z-Wave frequency in your country here:

https://z-wave.sigmadesigns.com/wp-content/uploads/Z-Wave_Frequency_Coverage-.pdf

Where To Buy

To find your nearest Qubino dealer visit: http://qubino.com/where-to-buy/

1. Introduction

The Qubino Flush Heat & Cool Thermostat is ideal for directly controlling 4 pipe fan coils and chilled beams.

The Qubino Flush Heat & Cool Thermostat can measure the power consumption of the connected electrical device and itself has an extremely low power consumption of just 0.4 W.

The Qubino Flush Heat & Cool Thermostat can operate across a wide temperature range, from a chilly -10˚C to a scorching 40˚C (14˚–104˚F). It supports the connection of a digital temperature sensor, which means you can create complex scenes and switch any device relative to a set temperature range. The Qubino Flush Heat & Cool Thermostat also acts as a Z-Wave repeater in order to improve the range and stability of the Z-Wave network.

Flush Heat & Cool Thermostat supported functions:

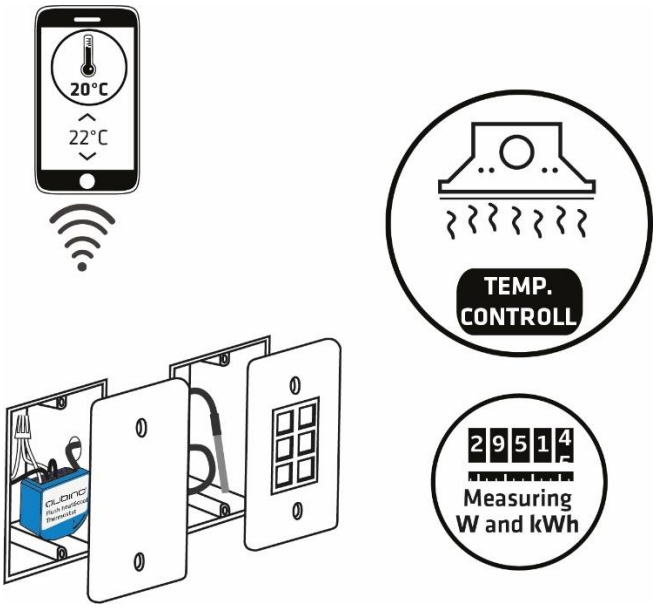
Turn ON/OFF	W Measurement	kWh Measurement	Temperature Sensor Included	Associations	Z-Wave Repeater	Auto-inclusion
✓	✓	✓	✓	✓	✓	✓

2. Use Cases

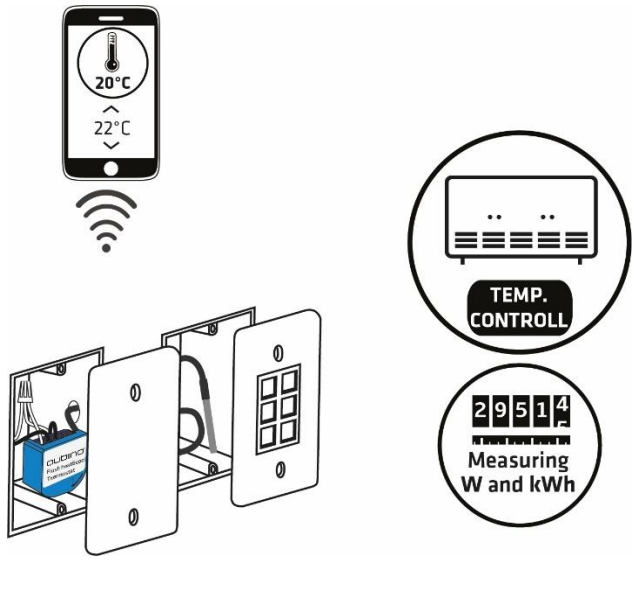
The Flush Heat & Cool Thermostat can be used in many different scenes, which can help make your life more comfortable. We have prepared a few of them for you-so you can get an idea for your next smart home project. Of course, there are countless of other options for how to use Qubino Flush Heat & Cool Thermostat to remotely control devices via your smartphone.

2.1. Installation examples where Flush Heat & Cool Thermostat is installed in the switch box

- Remotely control 4 pipes chilled beams



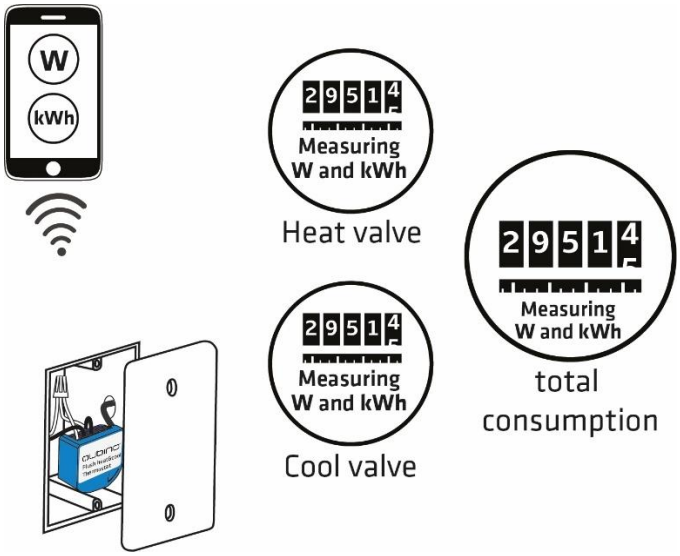
- Remotely control 4 pipes fan coils



2.2. Additional features of Flush Heat & Cool Thermostat which can make your life easier

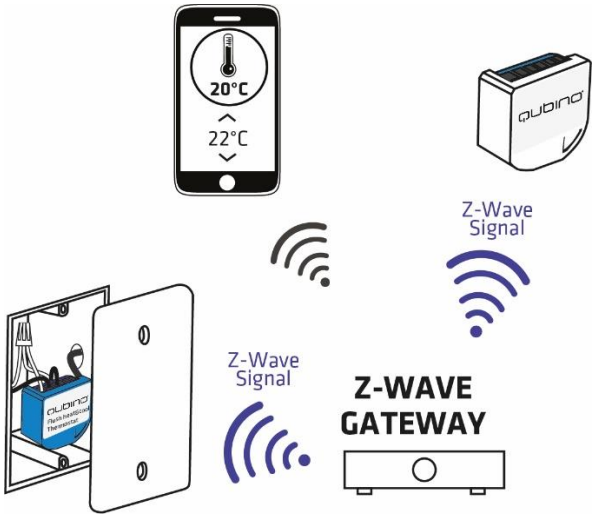
- **Do you know how much energy you consume?**

- The Flush Heat & Cool Thermostat monitors and reports energy consumption of connected devices in real time to your smart home app (your gateway (hub) needs to support this feature). Know how much power your heating system is using.



- **Want to control other devices in your Z-Wave network with the Flush Heat & Cool Thermostat?**

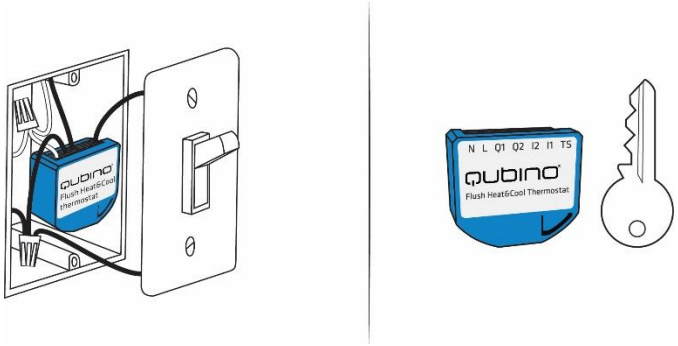
- Connect the Flush Heat & Cool Thermostat with other devices in your network to remotely and automatically trigger another Z-Wave device. And have other Z-Wave devices trigger your Qubino Flush Heat & Cool Thermostat.



3. Qubino Flush Heat & Cool Thermostat Advantages and Highlights

3.1. Advantages

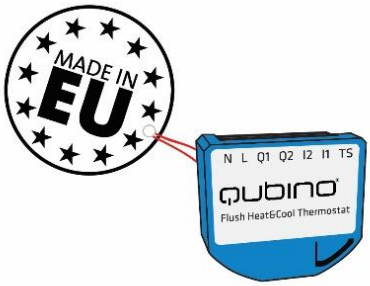
- The Qubino Flush Heat & Cool Thermostat allows the **easiest and quickest installation possible**. Because of its small size, it fits smoothly in even the smallest, most shallow and most crowded flush mounting boxes, which are stuffed with lots of electrical cables and where **every millimetre counts**. All this is possible because the Qubino Flush Heat & Cool Thermostat is **the smallest Z-Wave thermostat in the world**.



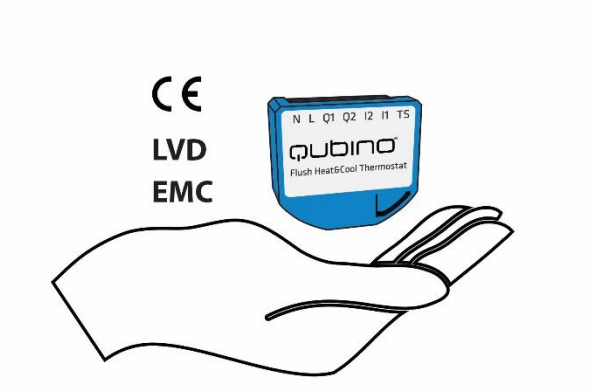
- Qubino guarantees **100% device quality**. Such high quality can be delivered because every Qubino goes through rigorous quality control standards throughout the production process. Every device has a unique serial number and part number, which are assigned to the device only after it goes through a strict testing procedure.

- By scanning the QR code on the back of your Qubino device, the serial and part numbers will be automatically copied on your mobile phone; they also provide **direct access to Qubino's technical support team**. The serial and part numbers of your device are given automatically every time you open an inquiry with our support team: this instantly shares the relevant device information we need to provide the best technical support possible. For details, please see the Device Information and Support chapter.

- The Qubino Flush Heat & Cool Thermostat is **engineered and manufactured in the EU,** and contains only the highest quality components.



- The Qubino Flush Heat & Cool Thermostat is certified by an independent European Institute and has CE, FCC, LVD and EMC certificates to ensure the highest safety standards.



3.2. Highlights

- Remote (via smartphone or PC) and local on/off control 4 pipe fan coils and chilled beams
- Works with push-button (momentary switch) and toggle switch
- Capable of measuring the power consumption of the connected device in real time via smartphone, which allows you to save on electricity bills*
- Features one of the easiest and quickest installations of devices of this kind; fits in even the smallest flush mounting boxes
- Saves and restores the last status after a power failure
- Supports auto-inclusion mode for quick set up
- Supports additional parameters for expert users, which allows for advanced configuration*
- Acts as a signal repeater which improves the range and stability of your Z-Wave network
- Can be used to remotely control and trigger other devices in your Z-Wave network

*Your gateway (hub) needs to support advanced configuration and parameter input if you wish to use this feature

4. Package Contents

- Flush Heat & Cool Thermostat Device
- Temperature Sensor
- Installation Manual

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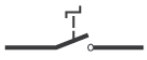
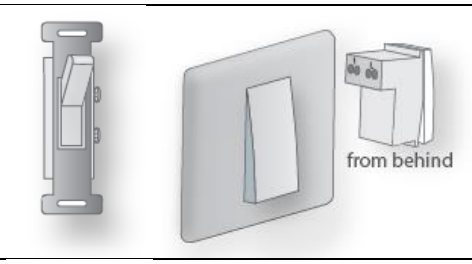
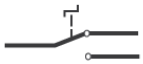
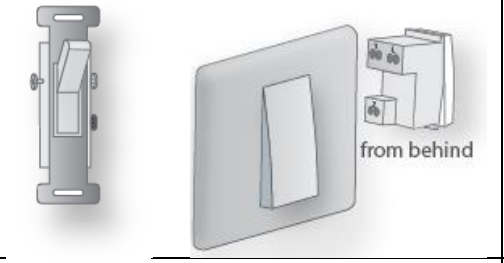
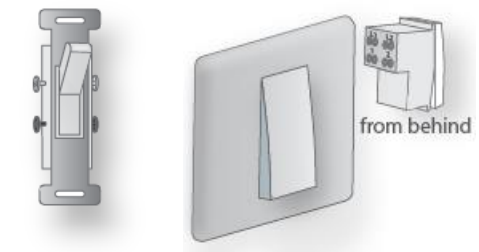
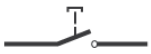
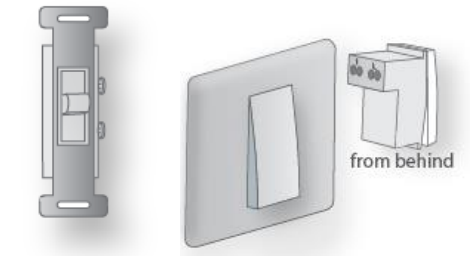
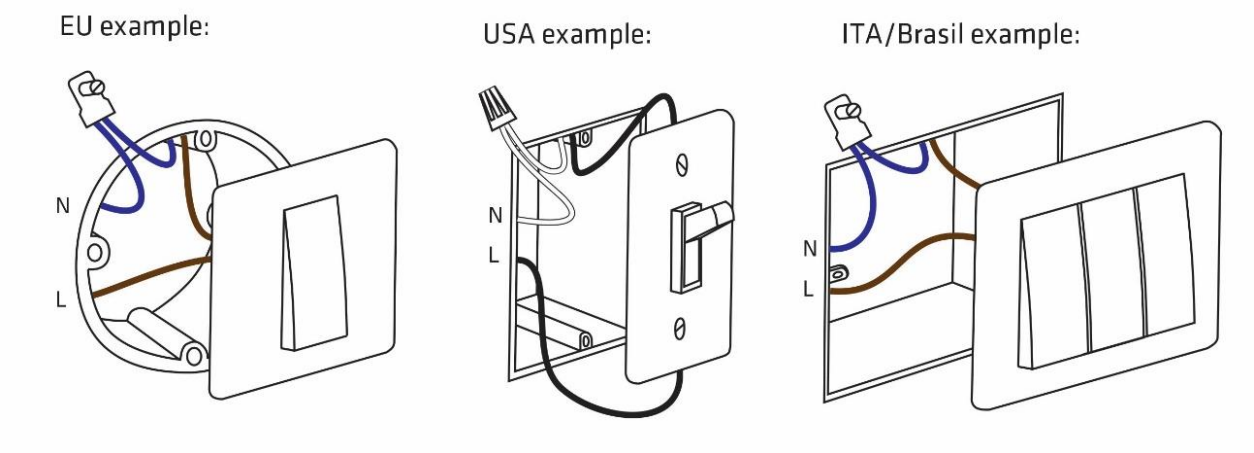
5. Technical Terms for Switches

Symbol	Switch example images	Definition	EU	USA	Qubino	Other names
		Single pole, single throw (SPST) - One switch controlling one light / circuit of lights	One-way switch	Two-way switch (regular switch)	Toggle switch	Switch; Bi-stable switch
		Single pole, double throw (SPDT) - Two switches controlling the same light / circuit of lights	Two-way switch	Three-way switch	Two-way switch	
		Used when you have three or more switches controlling the same light	Intermedi-ate switch	Four-way switch	Intermedi-ate switch	Crossover switch; Cross connection
		After being released, it goes back to its original state	Momentary switch		Momentary switch	Monostable switch; Push button

Qubino devices are installed into flush mounting boxes behind the switches. You can see some examples below:

For more information on how to install your device, please refer to the Installation chapter.



6. Compatibility with Z-Wave Gateways (hubs)

Please check compatibility with your Z-Wave gateway (hub) before you purchase this device. If you don't see your gateway (hub) in the table below, please contact us at: http://qubino.com/support/#email.

ⓘ Please note that the gateway (hub) compatibility was updated on 14.3.2018 and it may not include the latest testing data.

Flush Heat&Cool Thermostat	Heat (Q1)	Cool(Q2)	I1 updates UI	I2 updates UI	W	kWh	Temp	Comments
Domoticz V3.5877	✓	✓	×	×	✓	×	✓	
Fibaro HC Lite v 4.130	✓	✓	O	O	✓	O	✓	To enable I2 and I3 updates set Multichannel association in group 1 for root device.
Vera Edge v 1.7.2406	✓	✓	×	×	✓	×	✓	
Zipato	✓	✓	T	T	✓	✓	✓	
Z-Wave Me	✓	✓	T	T	✓	T	✓	
Homeseer	✓	✓	O	O	O	T	✓	I1 and I2 updates work when set as notification endpoint.
Open Z-Wave	✓	✓	✓	✓	✓	T	✓	
Piper	×	×	×	×	×	×	×	
SmartThings	T	T	T	T	T	T	T	
NETIChome	T	T	T	T	T	T	T	
Homey	T	T	T	T	T	T	T	
Eedomus	✓	✓	✓	✓	✓	×	✓	
Jeedom	✓	✓	✓	✓	✓	✓	✓	
Zipatile	T	T	T	T	T	T	T	
Devolo	✓	✓	×	×	×	T	✓	
Verbund	T	T	T	T	T	T	T	
Indigo 7	✓	✓	×	×	O	T	✓	To update power consumption status set parameter 40 or 42.
ImperHome	✓	✓	×	×	×	T	✓	
OpenHab	×	×	×	×	×	×	×	

Symbol	Explanation
✓	Works fully
×	Not working
O	See comment
T	Testing in progress

7. Installation

Before installing the device, please read the following carefully and follow the instructions exactly:

ⓘ **Danger of electrocution!**

Installation of this device requires a great degree of skill and may be performed only by a licensed and qualified electrician. Please keep in mind that even when the device is turned off, voltage may still be present in the device's terminals.

ⓘ **Note!**

Do not connect the device to loads exceeding the recommended values. Connect the device exactly as shown in the provided diagrams. Improper wiring may be dangerous and result in equipment damage.

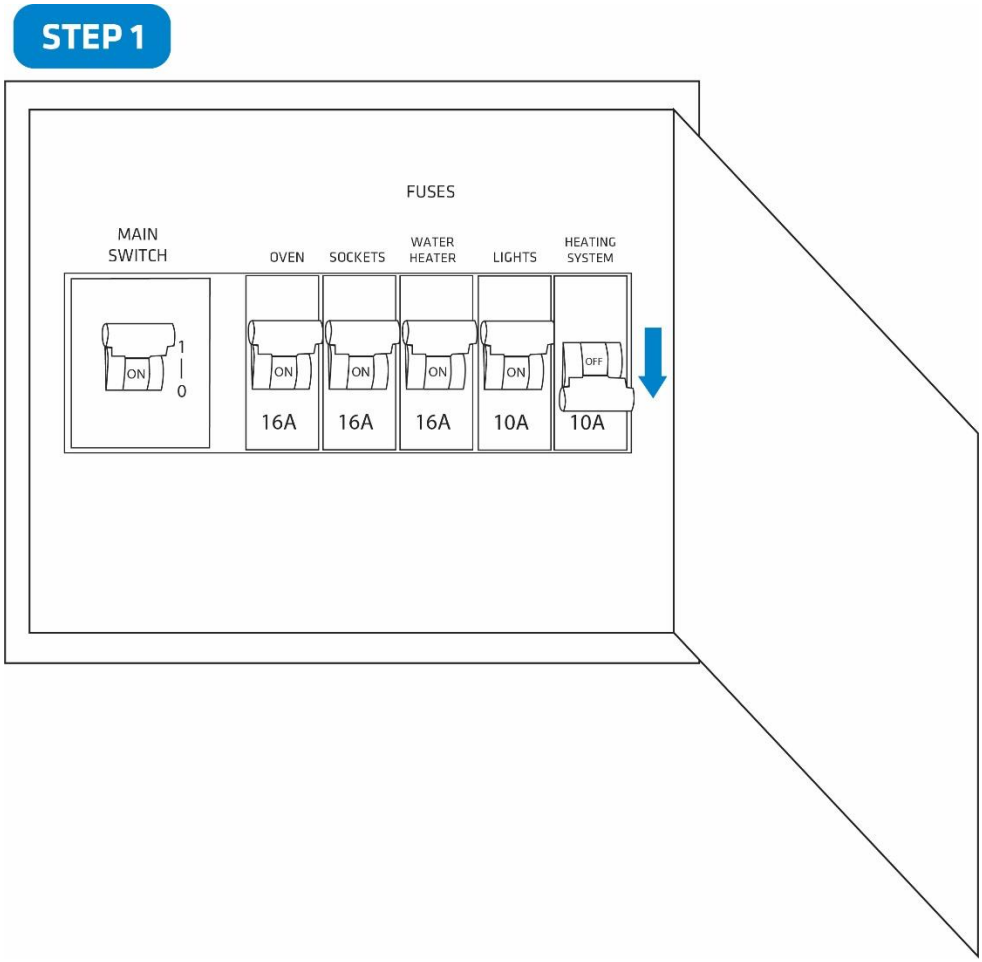
Electrical installation must be protected by directly associated overcurrent protection fuse 4A, gG or Time lag T, rated breaking capacity 1500A (ESKA 522.723) must be used according to wiring diagram to achieve appropriate overload protection of the device. The fuse must be installed in fuse holder type: Adele contact 503Si/1 DS according to the standard IEC60669-2-1.

7.1. Installing the device in the switch box

The installation process, tested and approved by professional electricians, consists of the following simple steps:

Step 1 – Turn OFF the fuse:

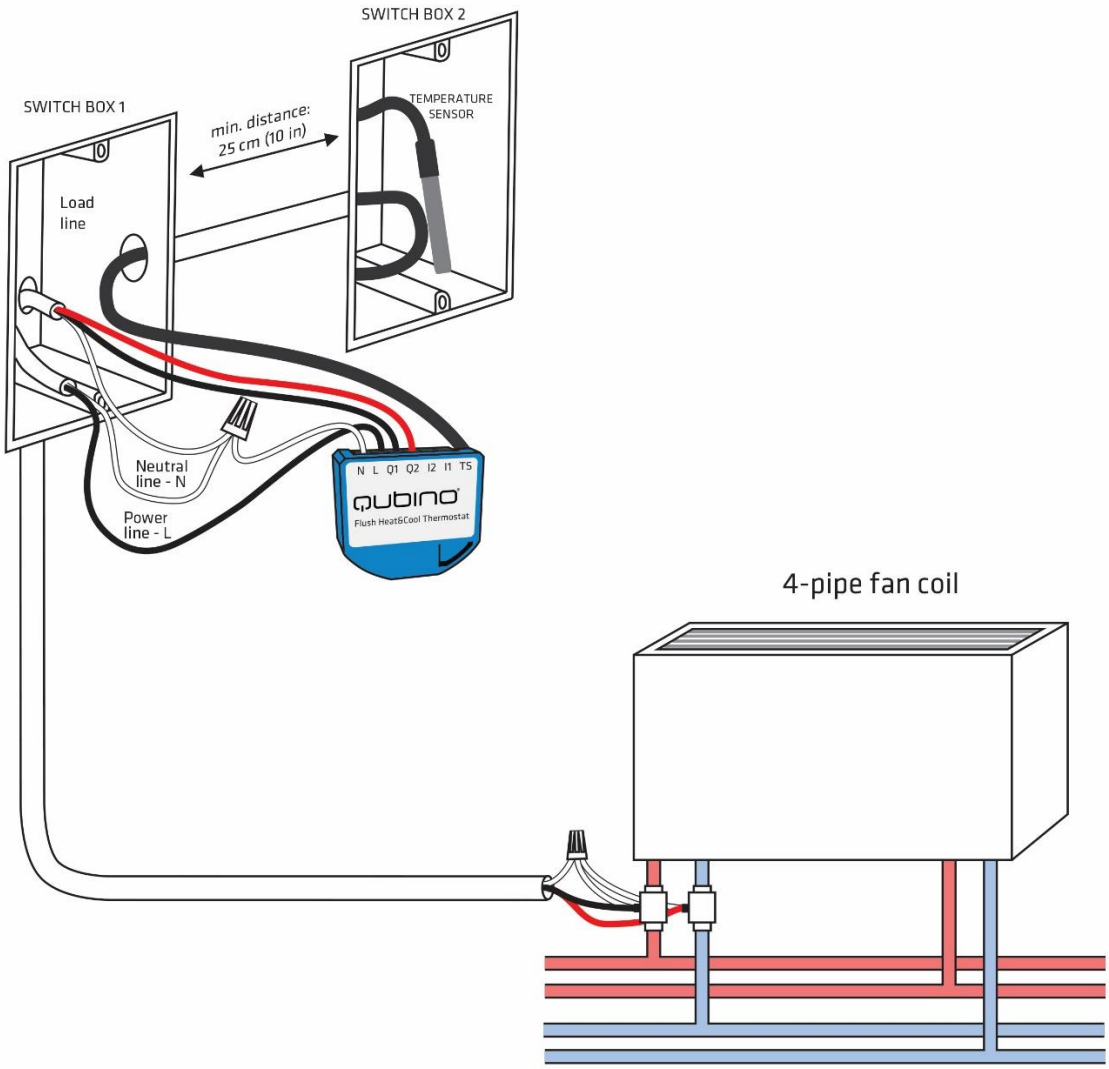
- To prevent electrical shock and/or equipment damage, disconnect electrical power at the main fuse or circuit breaker before installation and maintenance.
- Be aware that even if the circuit breaker is off, some voltage may remain in the wires — before proceeding with the installation, be sure no voltage is present in the wiring.
- Take extra precautions to avoid accidentally turning the device on during installation.



Step 2 – Installing the device:

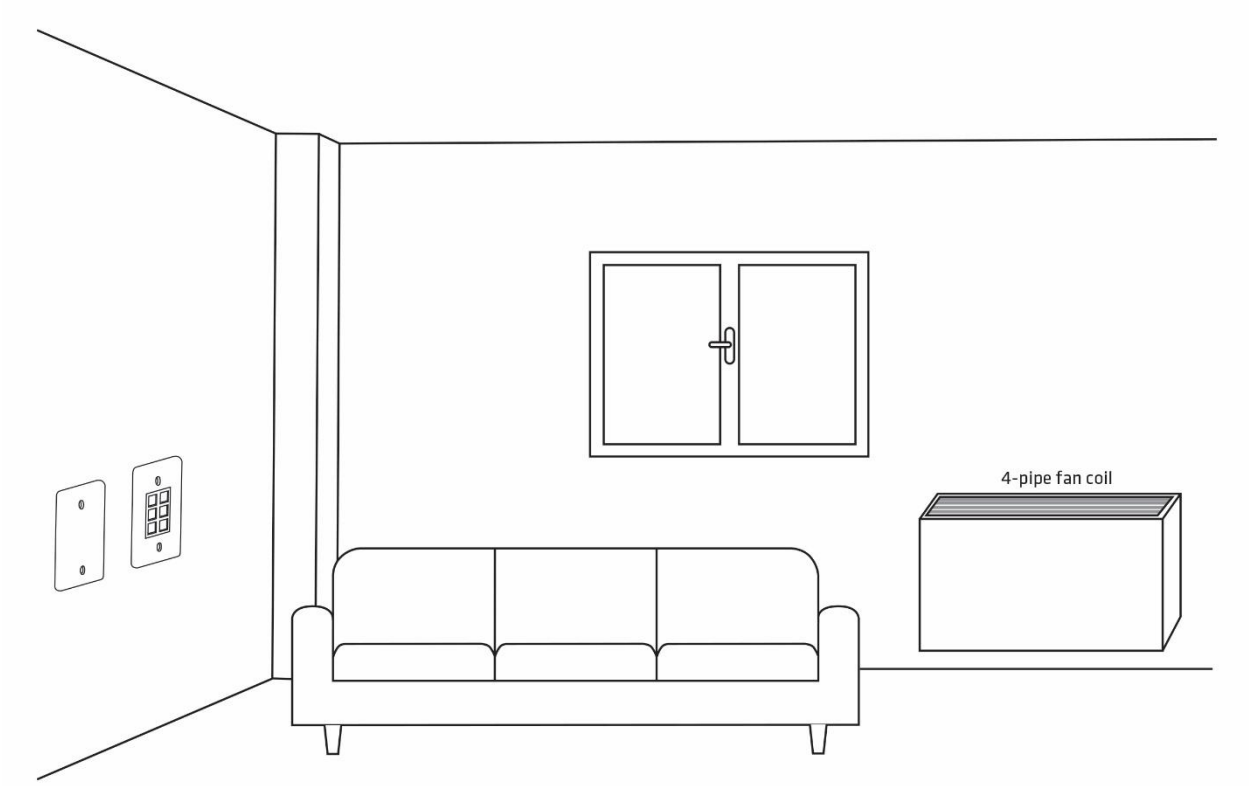
- Connect the device exactly according to the diagrams shown below

Qubino installation:

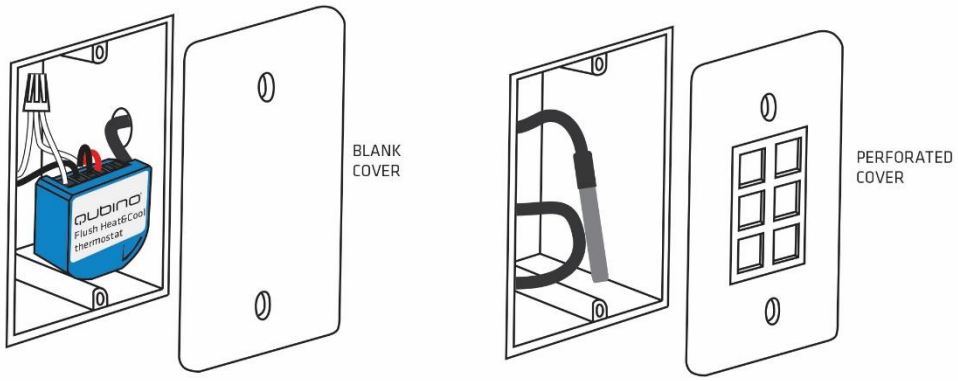


Installation and wire connections are the same in USA and EU.

After Qubino installation:



Installation in the switch box:



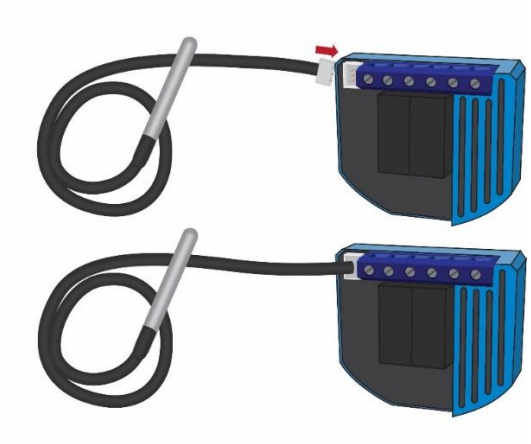
SWITCH BOX 1 SWITCH BOX 2

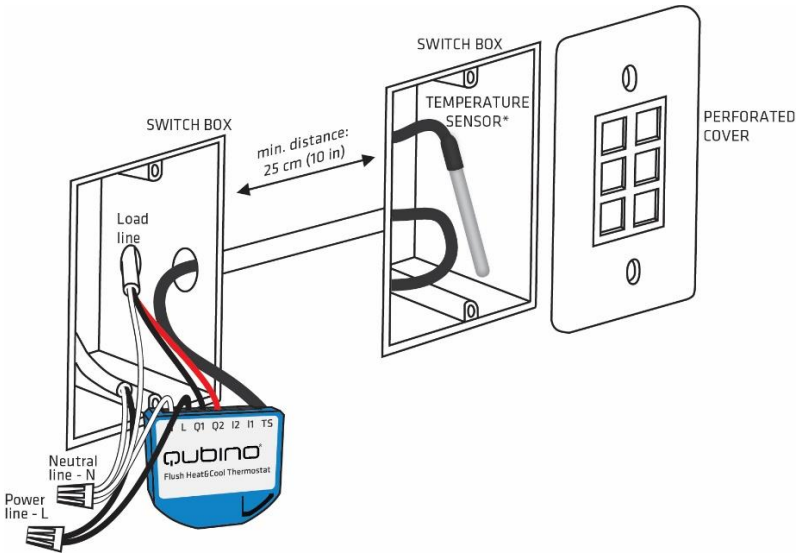
Connection of the temperature sensor:

The digital temperature sensor comes with a 1 m (3.3 ft) cord and a connector to attach it directly to a Qubino device.

1. To prevent electrical shock, make sure that no voltage is present on the temperature sensor cable.
2. When connected to Qubino device, the temperature sensor is under high voltage, which is very dangerous.
3. Goap d.o.o. does not take responsibility for any damage or electrical shock due to incorrect sensor assembly.
4. The above instructions and description apply to a temperature sensor compatible with Qubino products only.

NOTE: When Qubino is wired to 110-240VAC (high voltage) the temperature sensor must not be in direct contact with water.



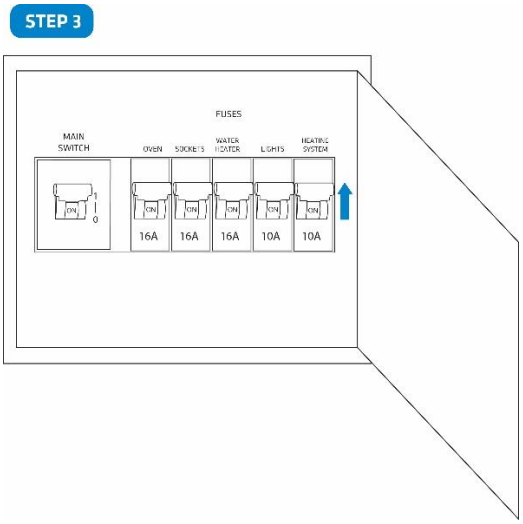


Note!

- Place the antenna as far as possible from metal elements as they may cause signal interference.
- Do not shorten the antenna.

The device's antenna should be as upright as possible. This ensures the device's operational range is maximized (up to 98 feet (30 m) line of sight).

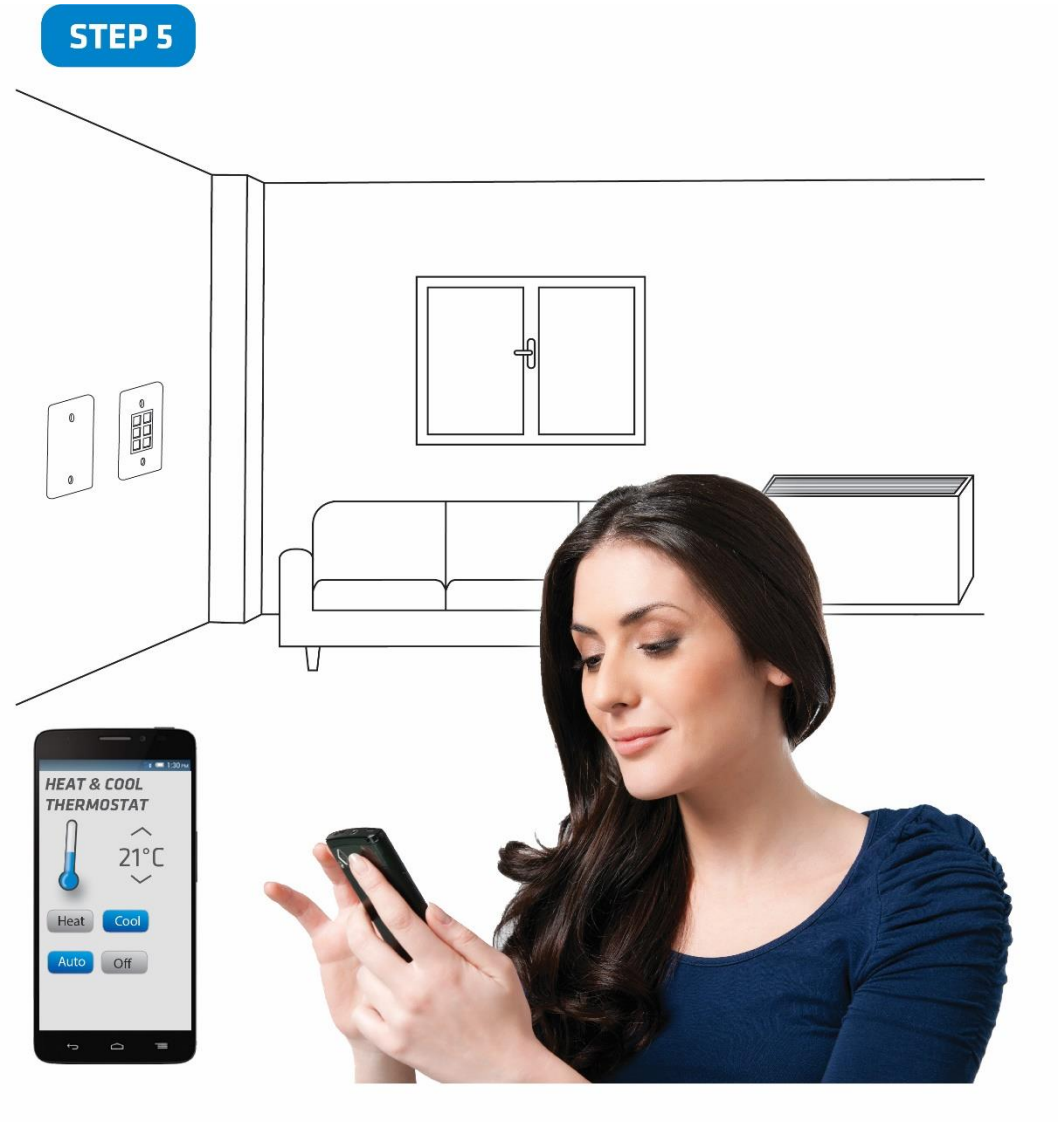
Step 3 – Turn ON the fuse:



Step 4 – Add the device to your Z-Wave network:

- For more details on how to include the device, please refer to the Z-Wave Inclusion chapter.

Step 5 – The Installation is now complete. It's time to make your life more comfortable with the help of the Qubino Flush Heat & Cool Thermostat



8. Device Information and Support

Did you know that Qubino offers Z-Wave devices with 100% quality control guaranteed throughout the production process? Every single unit is tested and examined before being approved for sale – a truly unique pledge in the industry.

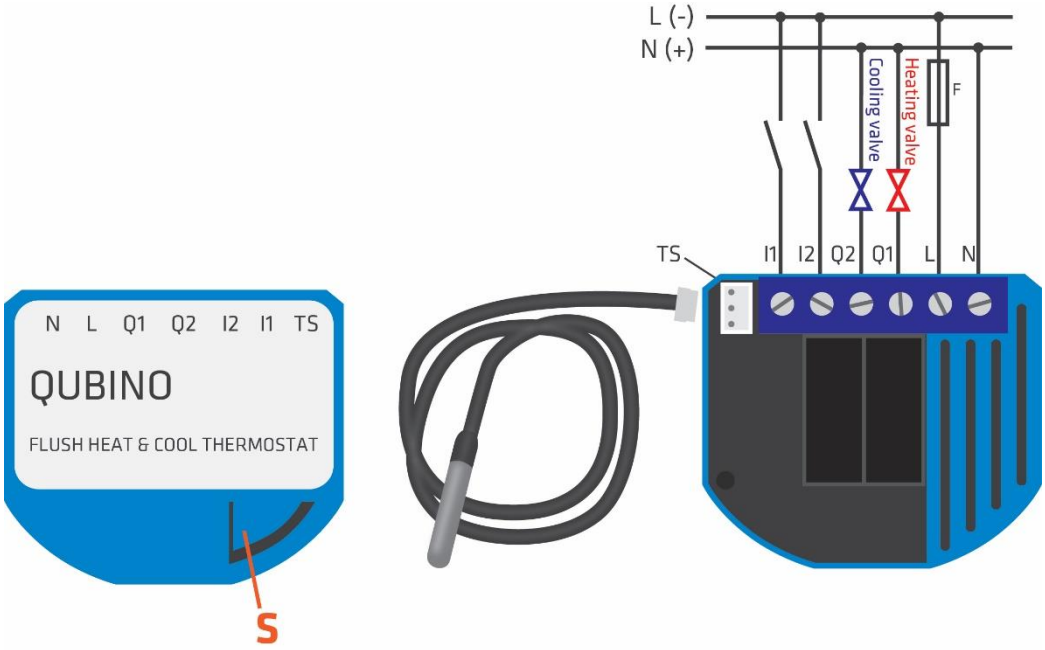
Why is this important?

Every device has a dedicated serial number and part number, which is assigned to the device only after it goes through a strict testing procedure.

By scanning the QR code on the back of your Qubino, its device title, serial number, and part number are automatically copied to your mobile phone. You can also use the code for direct access to the device page for more information. If you still don't find what you're looking for, click on the link to Qubino technical support team. They will be able to automatically read the serial and part number from your device and quickly review the production log file containing the production date as well as any relevant device parameters and information. This process allows our team to immediately identify and address issues, giving you the best support possible.

Based on customer and business partner feedback, we're proud to boast Qubino's support team as the best and fastest on the market. If you don't find the answers to your questions in this document, please contact our support team by scanning the QR code on your device or through our website: http://qubino.com/support/#email. We will try to help you as soon as possible.

9. Electrical Diagram (110 - 240VAC, 24VDC)



Notes for diagram:

N	Neutral wire (+VDC)
L	Live (line) wire (-VDC)
Q1↑	Output for heating valve
Q2↑	Output for cooling valve
I2	Input for switch/push button or sensor*
I1	Input for switch/push button or sensor*
TS	Temperature sensor terminal
S	Service button

WARNING:

The service (S) button **must NOT be used** when the device is connected to a 110-240V power supply.

The durability of the device depends on the applied load. For resistive loads (light bulbs, etc.) and 4A current consumption of each individual electrical device, the product's lifespan exceeds 70,000 toggles for each individual load.

ⓘ The temperature sensor should not be exposed to water.

10. Adding the device to a Z-Wave network (Inclusion)

AUTOMATICALLY ADDING THE DEVICE TO A Z-WAVE NETWORK (AUTO INCLUSION)

1. Enable add/remove mode on your Z-Wave gateway (hub)

2. Connect the device to the power supply (with the temperature sensor already connected).

3. Auto-inclusion will be initiated within 5 seconds of connection to the power supply and the device will automatically enroll in your network

MANUALLY ADDING THE DEVICE TO A Z-WAVE NETWORK (MANUAL INCLUSION)

1. Enable add/remove mode on your Z-Wave gateway (hub)

2. Connect the device to the power supply (with the temperature sensor already connected*)

3. Toggle the switch connected to the I1 terminal 3 times within 3 seconds

OR

If the device is powered by 24 V SELV supply, press and hold the S (Service) button between 2 and 6 seconds

4. A new multi-channel device will appear on your dashboard

*If connecting the temperature sensor, switch off the power supply and make sure the device is excluded from your network BEFORE connecting the sensor.

ⓘ Make sure the device is excluded from your network before connecting the temperature sensor. Switch off the power supply, connect the temperature sensor, and re-include the device to your network.

ⓘ If the device is included with parameters 100 or 101 (see Chapter: Configuration Parameters) with values that are different from default and the device reset in finished, please wait at least 30 seconds before next inclusion.

11. Removing the device from a Z-Wave network (Exclusion)

REMOVAL FROM A ZWAVE NETWORK (Z-WAVE EXCLUSION)

1. Connect the device to the power supply

2. Make sure the device is within direct range of your Z-Wave gateway (hub) or use a hand-held Z-Wave remote to perform exclusion

3. Enable add/remove mode on your Z-Wave gateway (hub)

4. Toggle the switch connected to the I1 terminal 3 times within 3 seconds

OR

If the device is powered by 24 V SELV supply, press and hold the S (Service) button between 2 and 6 seconds

5. The device will be removed from your network but any custom configuration parameters will not be erased

FACTORY RESET

1. Connect the device to the power supply

2. Within the first minute (60 seconds) the device is connected to the power supply, toggle the switch connected to the I1 terminal 5 times within 3 seconds (5 times change switch state).

OR

If the device is powered by 24 V SELV supply, press and hold the S (Service) button more than 6 seconds

ⓘ By resetting the device, all custom parameters previously set on the device will return to their default values, and the owner ID will be deleted. Use this reset procedure only when the main gateway (hub) is missing or otherwise inoperable.

12. Associations

Use associations for direct communication between the Flush Heat & Cool Thermostat and other devices within your Z-Wave network without the need of your primary gateway (hub).

Association Groups:

- Group 1: Lifeline group (reserved for communication with the primary gateway (hub)), 1 node allowed.
- Group 2: Basic on/off (status change report for Q1 or Q2 load), up to 16 nodes.
- Group 3: SENSOR_MULTILEVEL_GET (triggered once per minute if Parameter 121 is not 0) up to 16 nodes.
- Group 4: Basic on/off (triggered when actual temperature reach Too high or Too Low temperature limit, it sends FF/00 in Cool Mode, 00/FF in Heat Mode and 00 when thermostat is off; hysteresis is 1°C) up to 16 nodes.
- Group 5: THERMOSTAT_SETPOINT_GET (triggered once per minute if Parameter 121 is not 0) up to 16 nodes.
- Group 6: Basic on/off (trigged by change of I1 if window sensor functionality is selected by parameter no. 11) up to 16 nodes.
- Group 7: Basic on/off (trigged by change of I2 if condense sensor functionality is selected by parameter no. 12) up to 16 nodes.
- Group 9: Sensor multilevel report (trigged by change of temperature) up to 16 nodes.
- Group 10: Basic on/off (triggered by change of the output Q state and reflecting its state), up to 16 nodes, Basic Set ON/OFF command is delayed for the time defined in parameter no. 77.

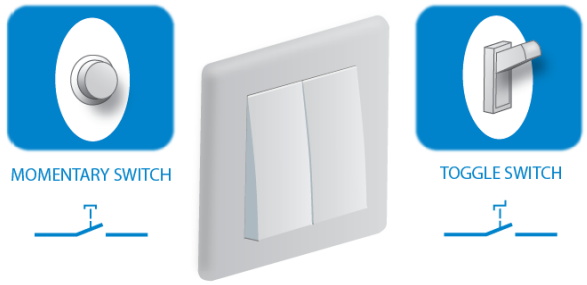
13. Configuration Parameters

Parameter no. 1 – Input I1 switch type

With this parameter, you can select between push-button (momentary) and on/off toggle switch types.

Values (size is 1 byte dec):

- default value 1
- 0 - push-button (momentary)
- 1 - on/off toggle switch

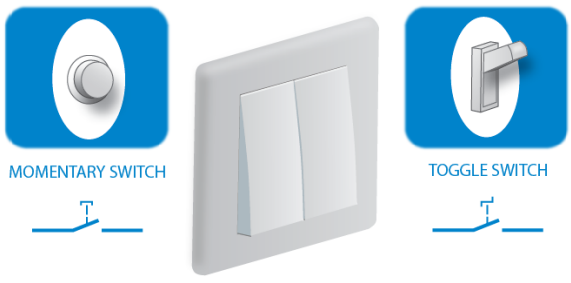


Parameter no. 2 – Input I2 switch type

With this parameter, you can select between push-button (momentary) and on/off toggle switch types.

Values (size is 1 byte dec):

- default value 1
- 0 - push-button (momentary)
- 1 - on/off toggle switch

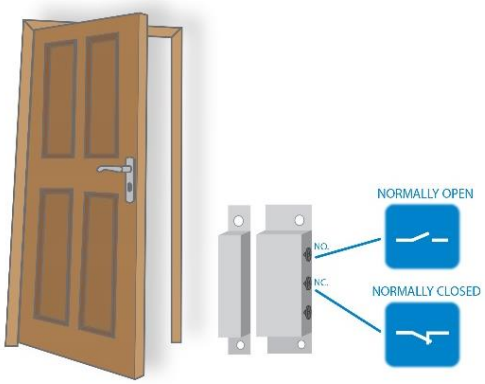


Parameter no. 4 – Input 1 contact type

This parameter determines how the sensor is connected (for example: door/window sensor) Set this parameter according to the type of sensor you use.

Values (size is 1 byte dec):

- default value 0
- 0 - NO (normally open) input type
- 1 - NC (normally close) input type



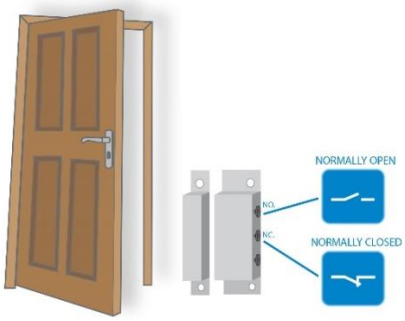
NOTE: This parameter has influence only when parameter no. 11 is set to the value “2”. After setting this parameter, switch the window sensor once, so that the device can determine the input state.

Parameter no. 5 – Input 2 contact type

This parameter determines how the sensor is connected (for example: door/window sensor). Set this parameter according to the type of sensor you use.

Values (size is 1 byte dec):

- default value 0
- 0 - NO (normally open) input type
- 1 - NC (normally close) input type



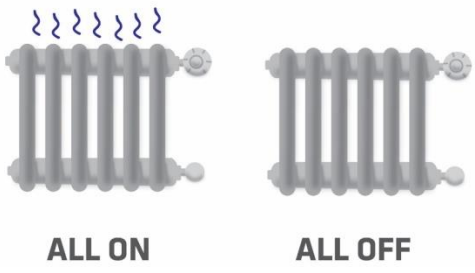
NOTE: This parameter has influence only when parameter no. 12 is set to the value “2000”. After setting this parameter, switch the condense sensor once, so that the device can determine the input state.

Parameter no. 10 - Activate / deactivate ALL ON / ALL OFF Functionality

Flush Heat & Cool Thermostat device responds to commands ALL ON / ALL OFF that may be sent by the primary or secondary gateway (hub) within the Z-Wave network.

Values (size is 2 byte dec):

- default value 255
- 255 - ALL ON active, ALL OFF active.
- 0 - ALL ON not active, ALL OFF not active
- 1 - ALL ON not active, ALL OFF active
- 2 - ALL ON active, ALL OFF not active

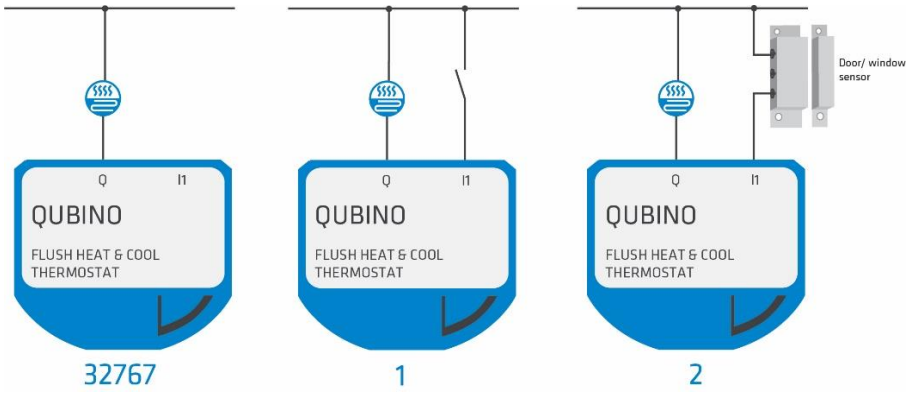


Parameter no. 11- I1 Functionality selection

Values (size is 2 byte dec):

- default value 1
- 32767 – input I1 doesn't influence on the Heat & Cool process
- 1 - input I1 changes the mode of the thermostat between Off and Auto. In this case function on window sensor is disabled
- 2 - input I1 influences on cooling and heating valves according to status of window sensor. In this case function of Off and Auto selection by I1 is disabled.

NOTE: If "Window Sensor" selected (value set to "2"), parameter 100 (enable/disable endpoint) must be set to non-zero value and module re-included!

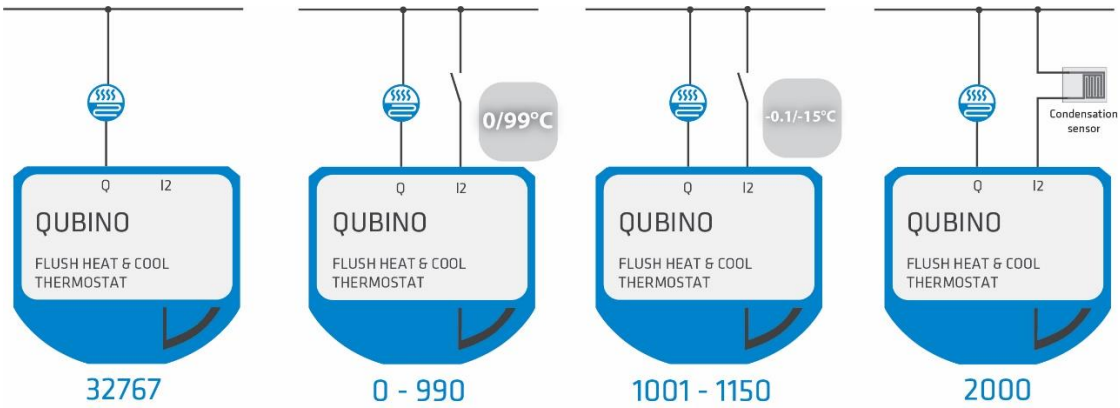


Parameter no. 12 – I2 Functionality selection

Values (size is 2 byte dec):

- default value 32767
- 32767 - input I2 does not influence on the Heat/Cool process
- From 0 to 990 - Temperature set point from 0.0 °C to 99.0 °C. When I2 is pressed, it automatically sets temperature setpoint according to value defined here. In this case function of condense sensor is disabled
- From 1001 to 1150 - Temperature set point from -0.1 °C to -15.0 °C. When I2 is pressed, it automatically set temperature setpoint according to value defined here. In this case function of condense sensor is disabled
- 2000 - Input I2 influences on the cooling valve according to status of condense sensor, in this case function of setpoint selection with I2 is disabled

NOTE: If "Condense Sensor" selected (value set to "2000"), parameter 101 (enable/disable endpoint) must be set to non-zero value and device re-included!



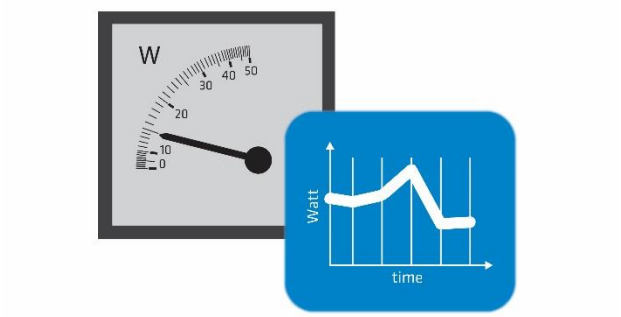
Parameter no. 40 – Watt Power Consumption Reporting Threshold for Q↑ Load

Choose by how much power consumption needs to increase or decrease to be reported. Values correspond to percentages so if 10 is set, for example, the device will report any power consumption changes of 10% or more compared to the last reading.

Values (size is 1 byte dec):

- default value 0
- 0 - Power consumption reporting disabled
- 1 - 100 = 1% - 100% Power consumption reporting enabled. New value is reported only when Wattage in real time changes by more than the percentage value set in this parameter compared to the previous Wattage reading, starting at 1% (the lowest value possible).

NOTE: Power consumption needs to increase or decrease by at least 1 Watt to be reported, REGARDLESS of percentage set in this parameter.

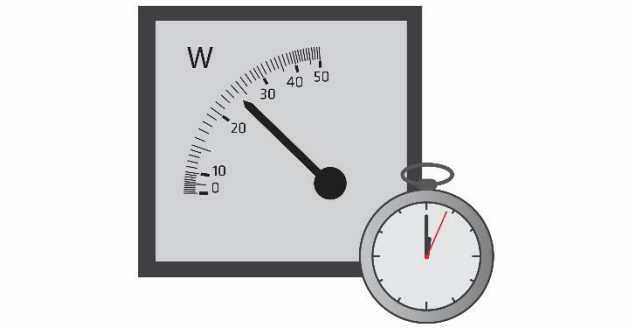


Parameter no. 42 – Watt Power Consumption Reporting Time Threshold for Q↑

Set value refers to the time interval with which power consumption in Watts is reported (0 – 32767 seconds). If for example 300 is entered, energy consumption reports will be sent to the gateway (hub) every 300 seconds (or 5 minutes).

Values (size is 2 byte dec):

- default value 0 (power report is disabled)
- 0 - Power consumption reporting disabled
- 1 - 32767 = 1 - 32767 seconds. Power consumption reporting enabled. Report is sent according to time interval (value) set here.

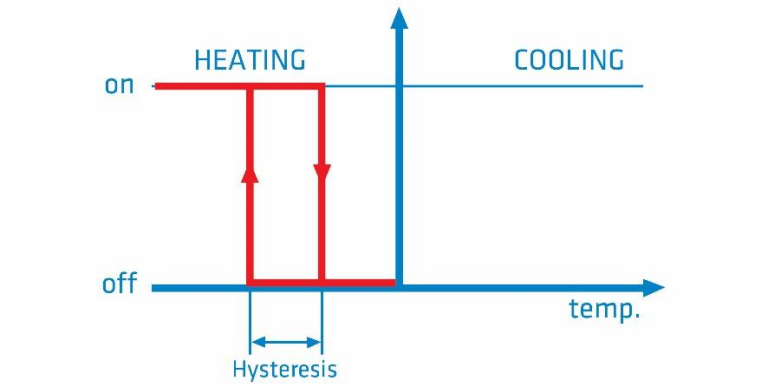


Parameter no. 43 – Hysteresis heating On

This parameter defines temperature difference between measured temperature and set-point temperature to turn heating on.

Values (size is 2 byte dec):

- default value 1010 (-1.0 °C)
- 0 - 255 = 0,0°C to 25,5 °C
- 1001 - 1255 = - 0,1°C to - 25,5 °C

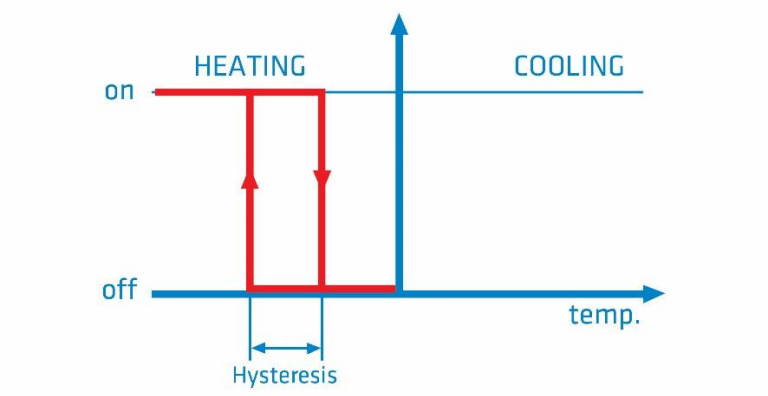


Parameter no. 44 – Hysteresis Heating Off

This parameter defines temperature difference between measured temperature and set-point temperature to turn heating off.

Values (size is 2 byte dec):

- default value 2 (+0.2 °C)
- 0 - 255 = 0,0°C to 25,5 °C
- 1001 - 1255 = - 0,1°C to - 25,5 °C

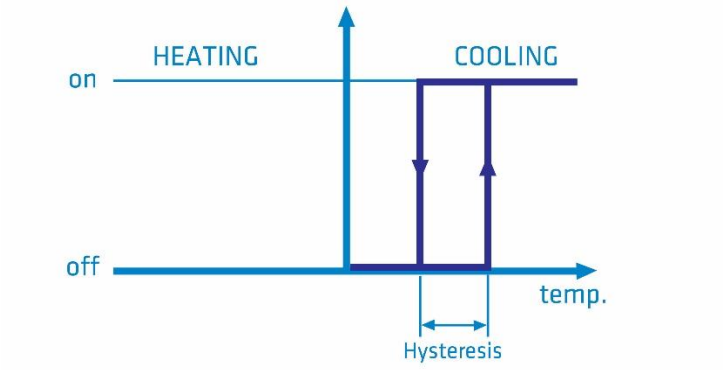


Parameter no. 45 – Hysteresis Cooling On

This parameter defines temperature difference between measured temperature and set-point temperature to turn cooling on.

Values (size is 2 byte dec):

- default value 5 (+0.5 °C)
- 0 - 255 = 0,0°C to 25,5 °C
- 1001 - 1255 = - 0,1°C to - 25,5 °C

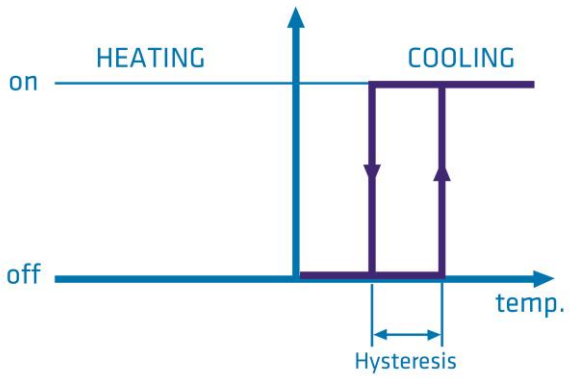


Parameter no. 46 – Hysteresis Cooling Off

This parameter defines temperature difference between measured temperature and set-point temperature to turn cooling off.

Values (size is 2 byte dec):

- default value 1002 (-0.2 °C)
- 0 - 255 = 0,0°C to 25,5 °C
- 1001 - 1255 = - 0,1°C to - 25,5 °C



Parameter no. 47 – Antifreeze

Set value means at which temperature the device will be turned on even if the thermostat was manually set to off.

Values (size is 2 byte dec):

- default value 50 (5,0 °C)
- 0 - 127 = 0,0°C to 12,7 °C
- 1001 - 1127 = - 0,1°C to - 12,7 °C
- 255 - Antifreeze functionality disabled

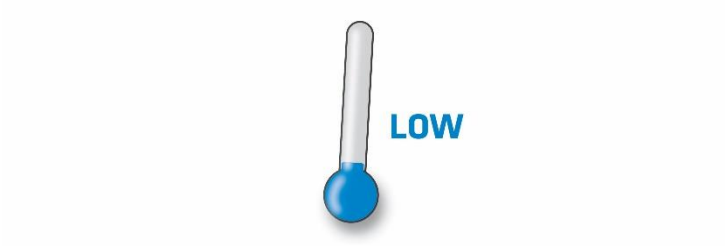
NOTE: Antifreeze is activated only in heating mode. It uses a hysteresis determined in parameters no. 43 and 44.

Parameter no. 60 – Too low temperature limit

This parameter determines the temperature at which the device sends a command to the associated device - to turn ON device or to turn OFF device.

Values (size is 2 byte dec):

- Default value 50 (Too low temperature limit is 5.0 °C)
- 1 - 1000 = 0.1 °C to 100.0 °C, step is 0.1 °C.
- 1001 - 1150: - 0.1 °C to – 15.0 °C



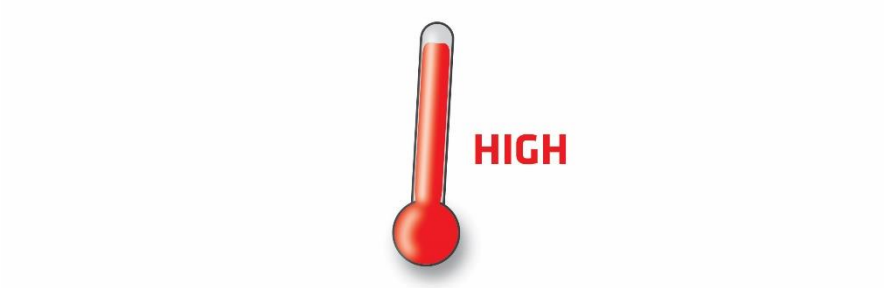
NOTE: Too low temperature limit is used with Association Group 4.

Parameter no. 61 – Too high temperature limit

This parameter determines the temperature at which the device sends a command to the associated device, to turn ON device or to turn OFF device.

Values (size is 2 byte dec):

- default value 700 (too high temperature limit is 70.0 °C)
- 1 - 1000 = 0.1 °C - 100.0 °C, step is 0.1 °C. Too high temperature limit is used with Association Group 4.



Parameter no. 64 – Output Switch selection Q1

Set value means the type of the device that is connected to the Q1 output. The device type can be normally open (NO) or normally close (NC).

Values (size is 1 byte dec):

- default value 0
- 0 - When system is turned off the output is 0V(NC).
- 1 - When system is turned off the output is 240V or24V(NO).

Parameter no. 65 – Output Switch selection Q2

Set value means the type of the device that is connected to the Q2 output. The device type can be normally open (NO) or normally close (NC).

Values (size is 1 byte dec):

- default value 0
- 0 - When system is turned off the output is 0V(NC).
- 1 - When system is turned off the output is 240V or 24V(NO).

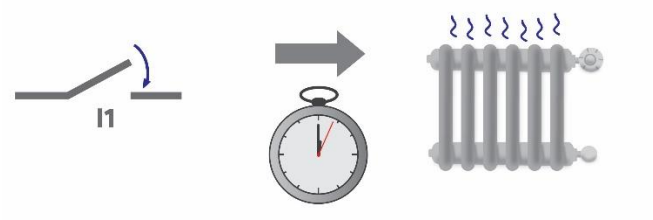
Parameter no. 70 – Input 1 status on delay

This parameter specifies the delay before the device executes command, after input I1 is activated. For example, if you set the parameter to 30 seconds and close the window, heater will turn ON after 30 seconds.

Values (size is 2 byte dec):

- default value 0
- 1 - 32000 seconds

If the value of parameter is different to 0, means that the Influence of this input to heating or cooling will react after inserted time. This parameter has influence only when the window sensor functionality is selected by the parameter no. 11.



NOTE: Device status on UI change immediately, but the command will be sent after time set.

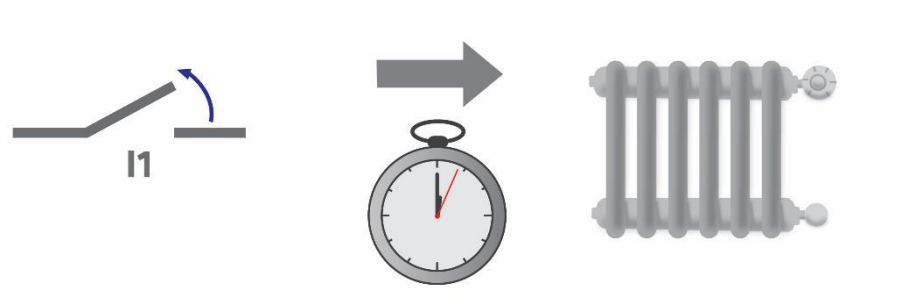
Parameter no. 71 – Input 1 status off delay

This parameter specifies the delay before the device executes command after input I1 is deactivated. For example, if you set the parameter to 30 seconds and close the window, heater will turn OFF after 30 seconds.

Values (size is 2 byte dec):

- default value 0
- 1 - 32000 seconds

If the value of parameter is different to 0, means that the Influence of this input to heating or cooling will react after inserted time. This parameter has influence only when the window sensor functionality is selected by the parameter no. 11.



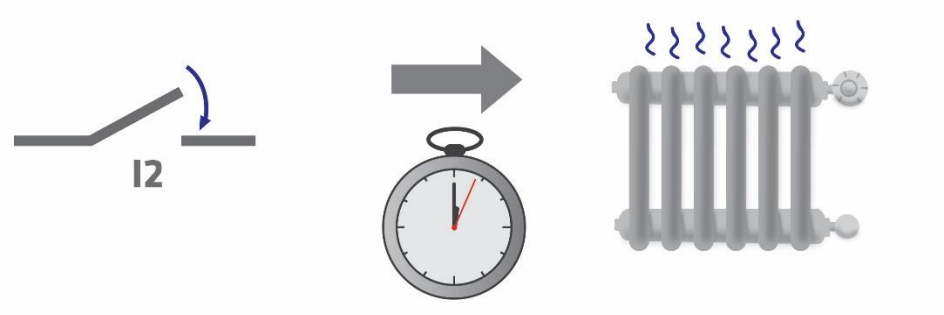
NOTE: Device status on UI change immediately but the command will be send after the set time.

Parameter no. 72 – Input 2 status on delay

This parameter specifies the delay before the device execute command after input I2 is activated.

Values (size is 2 byte dec):

- default value 0
- 1 - 32000 seconds



NOTE: This parameter has influence only when the condense sensor functionality is selected by the parameter no. 12.

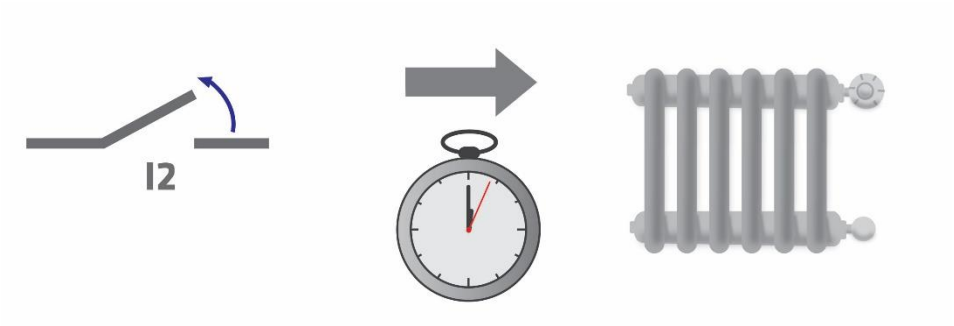
Parameter no. 73 – Input 2 status off delay

This parameter specifies the delay before the device execute command after input I2 is deactivated.

Values (size is 2 byte dec):

- default value 0
- 1 - 32000 seconds

NOTE: This parameter has influence only when the condense sensor functionality is selected by the parameter no. 12.



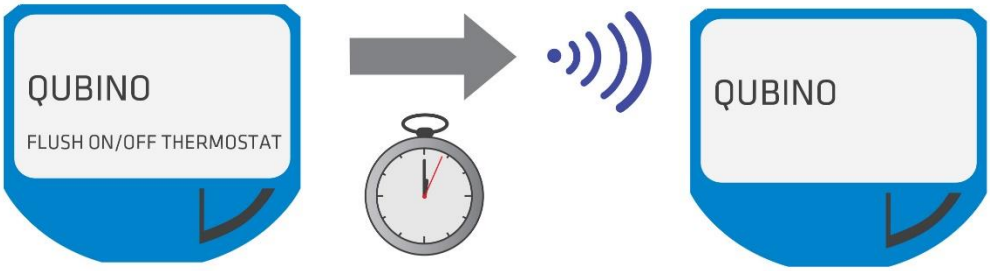
Parameter no. 76 – Association group 2, 10 - reporting on time interval

Determinates the time interval of sending device status ON/OFF to the associated device.

Values (size is 1 byte dec):

- Default value 30 = 30 minutes
- 0 = Reporting disabled
- 1-127 = 1 minute – 127 minutes, reporting enabled

NOTE: If the Association groups 2 or 10 are set, the device is reporting its state (Basic Set ON/ OFF) on change and on time interval (if this parameter is set).



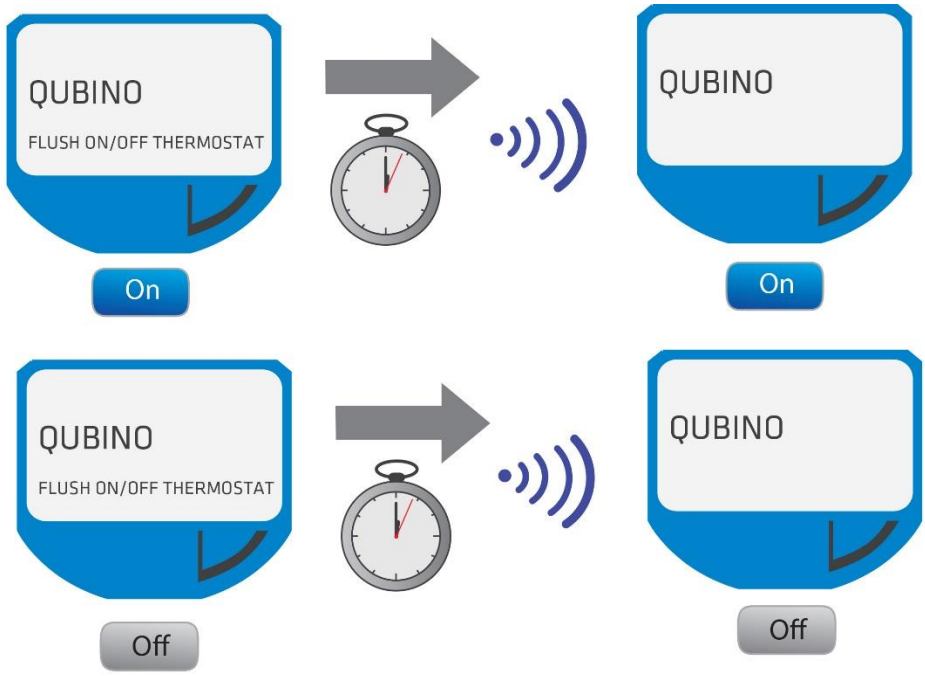
Parameter no. 77 – Association group 10 - delay before sending Basic Set ON

Set a time delay before sent Basic set ON to the associated device. The same time frame also applies for the Basic set OFF.

Values (size is 2 byte dec):

- Default value 180 = 3 minutes
- 0 = Reports with no delay
- 1-32767 = 1 second– 32767 seconds, reporting enabled

NOTE: If this parameter is set, Basic Set ON/OFF Report is delayed for the time defined in this parameter.



Parameter no. 78 – Scale Selection

This parameter determines in which measurement unit the device will report temperature - Fahrenheit or Celsius.

Values (size is 1 byte dec):

- Default value 0 = degrees Celsius
- 0 = degrees Celsius
- 1 = degrees Fahrenheit

NOTE: This scale has influence on Temperature reporting and scale reporting. The device is capable of receiving a Set point in all supported scales

Parameter no. 100 – Enable / Disable Endpoint I1 or select the Notification Type and the Notification Event

Choose whether the Endpoint I1 is disabled (and not shown on the UI) or enabled (and displayed on the UI). By enabling this endpoint (setting it to be either a notification sensor or a binary sensor), the user also selects a Notification Type and a Notification Event for which notification reports will be sent (in case the endpoint is configured as a notification sensor).

Endpoint device type selection:

-notification sensor (1 - 6):

GENERIC_TYPE_SENSOR_NOTIFICATION,
SPECIFIC_TYPE_NOTIFICATION_SENSOR

Values (size is 1 byte dec):

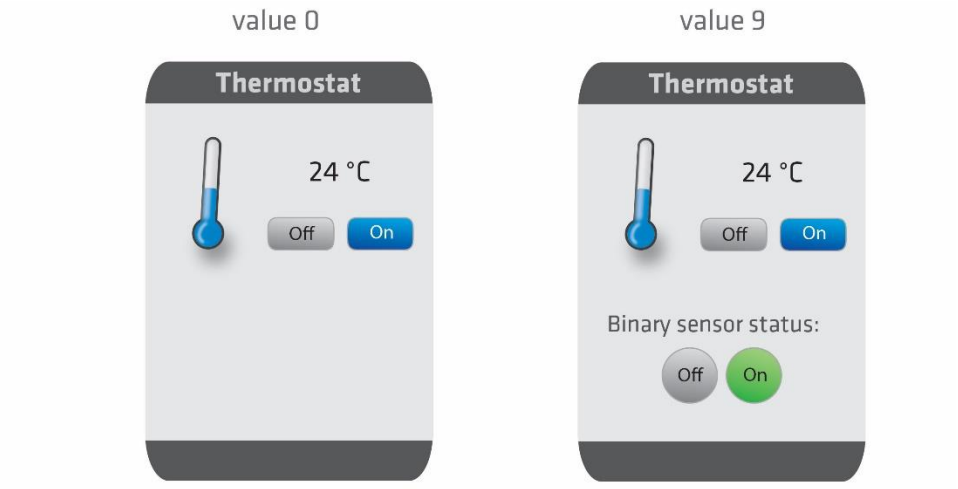
- default value 0
- 1 - Home Security; Motion Detection, unknown location
- 2 - CO; Carbon Monoxide detected, unknown location
- 3 - CO2; Carbon Dioxide detected, unknown location

- 4 - Water Alarm; Water Leak detected, unknown location
- 5 - Heat Alarm; Overheat detected, unknown location
- 6 - Smoke Alarm; Smoke detected, unknown location
- 0 - Endpoint, I1 disabled

-sensor binary (9): GENERIC_TYPE_SENSOR_BINARY, SPECIFIC_TYPE_NOT_USED

Values (size is 1 byte dec):

- 9 - Sensor binary



NOTE1: After changing the values of the parameter, first exclude the device (without setting the parameters to their default values), then wait at least 30s and then re-include the device!
NOTE 2: When the parameter is set to the value 9 the notifications are sent for the Home Security notification type.
NOTE3: If "endpoint enabled" (value is set to 1-9), parameter 11 must be set to "2" as "Window Sensor" to determine how device input I1 will operate

Parameter no. 101 – Enable / Disable Endpoint I2 or select the Notification Type and the Notification Event

Choose whether the Endpoint I2 is disabled (and not shown on the UI) or enabled (and displayed on the UI). By enabling this endpoint (setting it to be either a notification sensor or a binary sensor), the user also selects a Notification Type and a Notification Event for which notification reports will be sent (in case the endpoint is configured as a notification sensor).

Endpoint device type selection:

-notification sensor (1 - 6):

GENERIC_TYPE_SENSOR_NOTIFICATION,
SPECIFIC_TYPE_NOTIFICATION_SENSOR

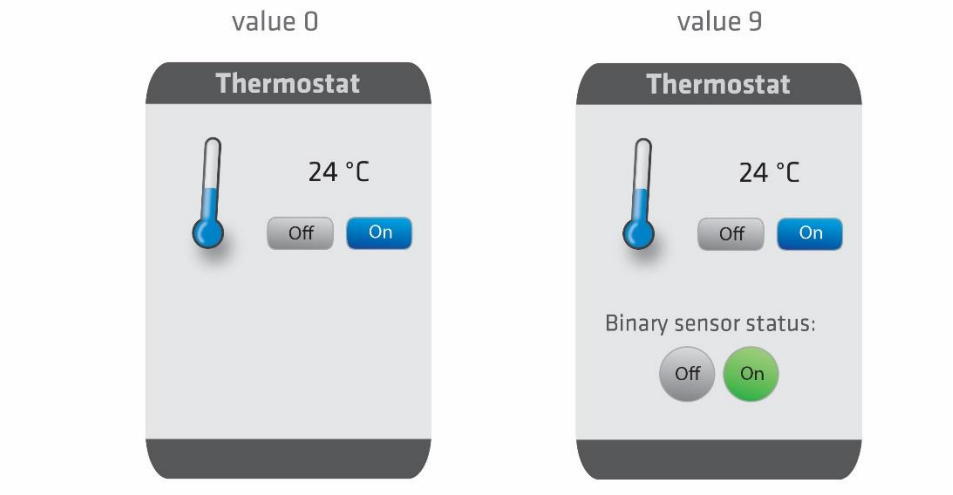
Values (size is 1 byte dec):

- default value 0
- 1 - Home Security; Motion Detection, unknown location
- 2 - CO; Carbon Monoxide detected, unknown location
- 3 - CO2; Carbon Dioxide detected, unknown location
- 4 - Water Alarm; Water Leak detected, unknown location
- 5 - Heat Alarm; Overheat detected, unknown location
- 6 - Smoke Alarm; Smoke detected, unknown location
- 0 - Endpoint, I2 disabled

-sensor binary (9): GENERIC_TYPE_SENSOR_BINARY, SPECIFIC_TYPE_NOT_USED

Values (size is 1 byte dec):

- 9 - Sensor binary



NOTE: If "endpoint enabled" (value is set to 1-9), parameter 12 must be set to "2000" as "Condense Sensor" to determine how device input I2 will operate

Parameter no. 110 – Temperature Sensor Offset Settings

Set value is added to or subtracted from the actually measured value to adjust the temperature report sent by an external sensor. This parameter only applies to the Celsius temperature unit (the Fahrenheit unit is currently not supported).

Values (size is 2 byte dec):

- default value 32536
- 32536 - Offset is 0 °C.
- 1 - 100 - Where 1 stands for 0.1°C and 100 stands for 10.0 °C added to the actual measurement.
- 1001 - 1100 – Where 1001 stands for -0.1 °C and 1100 stands for -10.0 °C subtracted from the actual measurement.

NOTE: If the Parameter 78 is set to 1, the report will be in Fahrenheit, but offset setting must be done in Celsius.

Parameter no. 120 – Temperature Sensor Reporting Threshold

If an external digital temperature sensor is connected to the device, it reports temperature readings based on the threshold defined in this parameter. This parameter only applies to the degrees temperature unit (the Fahrenheit unit is currently not supported).

Values (size is 1 byte dec):

- Default value 5 = 0.5°C
- 0 – Reporting disabled
  1 - 127 = Where 1 stands for 0.1°C and 127 stands for 12.7 °C

NOTE: If the Parameter 78 is set to 1, the report will be in Fahrenheit, but offset setting must be done in Celsius.

Parameter no. 121 – Digital temperature sensor / Set point selector

If digital temperature sensor is not connected, device can grab measured temperature from external secondary device.

Values (size is 1 byte dec):

- default value 0
- 0 - internal digital temperature sensor is mounted, setpoint is set by gateway (hub)
- 1 - (bit 0) temperature is grabbed from external always on sensor with sensor_multilevel_get sent by association 3
- 2 - (bit 1) temperature is grabbed from external battery powered room sensor declared in parameter 122
- 4 - (bit 2) setpoint is grabbed from external always on device with thermostat_setpoint_get sent by association 5
- 8 - (bit 3) setpoint is grabbed from external battery powered room sensor declared in parameter 122.
- 10 – (bit 1 and bit 3) temperature and setpoint are grabbed from external battery powered room sensor declared in parameter 122

Parameter no. 122 – Node ID of external battery powered room sensor

If digital temperature sensor is not connected, device can grab measured temperature from external battery powered room sensor defined by this parameter.

Values (size is 1 byte dec):

- default value 0
- 0 – external battery powered room sensor not in function
- 1 - 254 = Node ID of external battery powered room sensor

NOTE: Get sensor Node ID from gateway (hub) and set parameter 122 immediately after sensor weak up (after button press on it etc.): This has to be done according to external battery powered sensor manual.

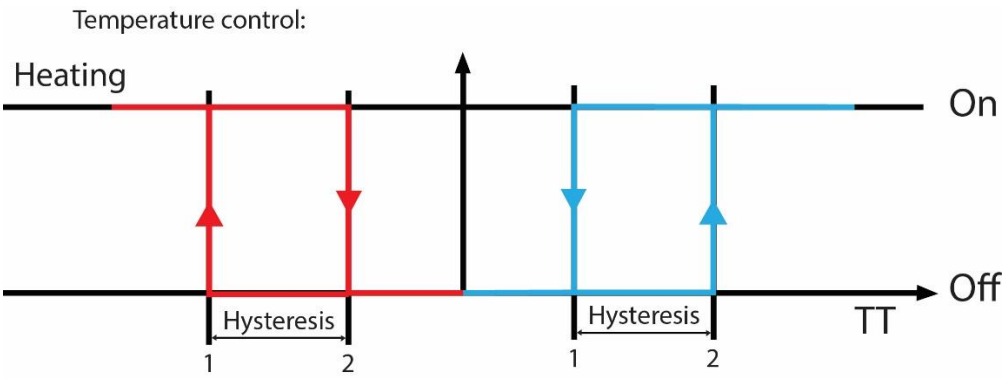
14. Technical Specifications

Power supply	110 - 240 VAC ±10% 50/60Hz, (24-30VDC)
Rated load current of AC/DC output (resistive load)*	2 X 4A / 240VAC / 30VDC
Output circuit power of AC/DC output (resistive load)	2 X 920W (240VAC) / 2 X 96W (24VDC)
Power measurement accuracy	P=0-200W, +/-2W P>200W, +/-3%
Operation temperature	-10 ~ +40°C (14 ~ 104°F)
Z-Wave operation range	up to 30 m indoors (98 ft)
Dimensions (WxHxD) (package)	41,8x36,8x16,9 mm (79x52x22 mm) / 1,65x1,45x0,66 in (3,11x2,05x0,87 in)
Weight (with package)	48 g (64 g) / 1,69oz (2.26oz)
Electricity consumption	0,4W
For installation in boxes	Ø ≥ 60 mm (2,36 in) or 2M, depth≥ 60 mm (2,36 in)
Digital temperature sensor range	-50 ~ +125°C (-58 ~ 257°F), resolution 0.1°C
Digital temperature sensor cable length	1000 mm (39,37 in)
Switching	Relay (2x)
Z-Wave Repeater	Yes

* In case of loads other than resistive loads, please pay attention to the value of cos ϕ. If necessary, connect loads less powerful than what they're rated for – this applies to all motor loads. Max current for cos ϕ=0,4 is 2A at 250VAC, 3A at 24VDC. Max Power Limit is automatically set by a software. If max power is exceeded, the output is turned off up to next restart of the module.

Functionality:

Thermostat has 2 working modes, Off and Auto. Selection between Off and Auto is possible to with I1 push button or with the gateway (hub). When the thermostat is turned On it automatically regulates the temperate according to the picture below:



When the temperature is decreasing and it reaches point 'Heating On' (defined by parameter 43), heating is turned on and remains active until the temperature in the room is not increased to reach 'Heating Off' (defined by parameter 44). At this point heating and cooling valves are turned off – deadband zone. If the temperature rises over 'Cooling On' (defined by parameter 45) point the cooling valve will switch on. The consequence will be temperature dropping, and when temperature drops below 'Cooling Off' (defined by parameter 46) cooling valve will switch off.

When the thermostat is turned off, then it is working in antifreeze regime. The antifreeze regime turns on heating when the temperature is lower or equal to the temperature set by parameter 47 (default 5.0C).

Energy saving mode:

If parameter 11 is set to value 2 and if the state of the input I1 is active (window opened active) both outputs (Q1 and Q2) are turned off.

Condensation:

If parameter 12 is set to value 2000 and if the state of the input I2 is active (condensation sensor active) Q2 output (cooling) is turned off.

15. Z-Wave Command Classes

ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_ON
GENERIC_TYPE_THERMOSTAT
SPECIFIC_TYPE_THERMOSTAT_GENERAL_V2
Z-Wave supported Command Classes
COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_VERSION_V2
COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2
COMMAND_CLASS_DEVICE_RESET_LOCALLY
COMMAND_CLASS_POWERLEVEL
COMMAND_CLASS_BASIC
COMMAND_CLASS_SWITCH_ALL
COMMAND_CLASS_SENSOR_BINARY
COMMAND_CLASS_THERMOSTAT_MODE_V2
COMMAND_CLASS_THERMOSTAT_SETPOINT_V2
COMMAND_CLASS_NOTIFICATION_V5
COMMAND_CLASS_METER_V4
COMMAND_CLASS_SENSOR_MULTILEVEL_V7
COMMAND_CLASS_MULTI_CHANNEL_V4
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2
COMMAND_CLASS_CONFIGURATION_V2
COMMAND_CLASS_MARK
COMMAND_CLASS_BASIC
Endpoint1
Device Class:
GENERIC_TYPE_THERMOSTAT
SPECIFIC_TYPE_THERMOSTAT_GENERAL_V2
Command Classes:
COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_VERSION_V2
COMMAND_CLASS_BASIC_V2
COMMAND_CLASS_SWITCH_ALL
COMMAND_CLASS_THERMOSTAT_MODE_V2
COMMAND_CLASS_THERMOSTAT_SETPOINT_V2

COMMAND_CLASS_METER_V4
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
COMMAND_CLASS_ASSOCIATION_GRP_INFO
COMMAND_CLASS_MARK
COMMAND_CLASS_BASIC

Endpoint 2 (I1):

Device Class:

GENERIC_TYPE_SENSOR_BINARY
SPECIFIC_TYPE_NOT_USED

Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_VERSION_V2
COMMAND_CLASS_BASIC_V2
COMMAND_CLASS_SENSOR_BINARY
COMMAND_CLASS_NOTIFICATION_V5
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
COMMAND_CLASS_ASSOCIATION_GRP_INFO
COMMAND_CLASS_MARK
COMMAND_CLASS_BASIC_V2

Endpoint 3 (I2):

Device Class:

GENERIC_TYPE_SENSOR_BINARY
SPECIFIC_TYPE_NOT_USED

Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_VERSION_V2
COMMAND_CLASS_BASIC_V2
COMMAND_CLASS_SENSOR_BINARY
COMMAND_CLASS_NOTIFICATION_V5
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
COMMAND_CLASS_ASSOCIATION_GRP_INFO
COMMAND_CLASS_MARK
COMMAND_CLASS_BASIC_V2

Endpoint 4 (I3):
Device Class:
GENERIC_TYPE_SENSOR_BINARY
SPECIFIC_TYPE_NOT_USED
Command Classes:
COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_VERSION_V2
COMMAND_CLASS_BASIC_V2
COMMAND_CLASS_SENSOR_BINARY
COMMAND_CLASS_NOTIFICATION_V5
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
COMMAND_CLASS_ASSOCIATION_GRP_INFO
COMMAND_CLASS_MARK
COMMAND_CLASS_BASIC_V2
Endpoint 5 (SENSOR MULTILEVEL):
Device Class:
GENERIC_TYPE_SENSOR_MULTILEVEL
SPECIFIC_TYPE_ROUTING_SENSOR_MULTILEVEL
Command Classes:
COMMAND_CLASS_ZWAVEPLUS_INFO_V2
COMMAND_CLASS_VERSION_V2
COMMAND_CLASS_SENSOR_MULTILEVEL_V7
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
COMMAND_CLASS_ASSOCIATION_GRP_INFO
COMMAND_CLASS_BASIC

The basic command class supports the functions BASIC SET and BASIC GET. Through the function basic SET is possible to set the mode of the device. Basic SET can send the values 0xff which means Auto and 0x00 which means Off. Through the function basic GET is possible to read the mode of the device. The device returns 0xff which means Auto or 0x00 which means Off.

COMMAND_CLASS_SENSOR_MULTILEVEL

Flush Heat & Cool Thermostat supports reading of actual temperature which is 2 bytes long, scale is °C and its precision is 1 (it means 0,1°C).

COMMAND_CLASS_THERMOSTAT_MODE

Flush Heat & Cool thermostat supports the following modes:

- Mode Off
- Mode Auto

COMMAND_CLASS_THERMOSTAT_SETPOINT

Flush Heat & Cool Thermostat supports temperature set point, which is 2 bytes long, scale is °C and its precision is 1 (it means 0,1°C).

This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from any other manufacturers. All constantly powered nodes in the same network will act as repeaters regardless of the vendor in order to increase reliability of the network.

COMMAND_CLASS_METER

- Default values:
    - Rate Type = 1 (Import)
    - Scale = 0 (kWh)

16. Important Disclaimer

Z-Wave wireless communication is not always 100% reliable. This device should not be used in situations in which life and/or valuables are solely dependent on its functioning. If the device is not recognized by your gateway (hub) or shows up incorrectly, you may need to change the device type manually and make sure your gateway (hub) supports multi-channel devices. Contact us for help before returning the device: http://qubino.com/support/#email

17. Warning

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being. When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal free of charge.

18. Regulations

FCC COMPLIANCE STATEMENT:

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: 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 in-stalled 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.

Legal Notice

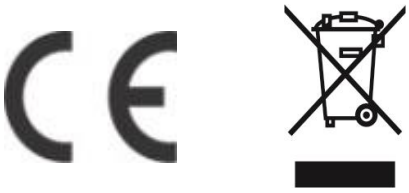
This user manual is subject to change and improvement without notice. GOAP d.o.o. Nova Gorica reserves all rights to revise and update all documentation without any obligation to notify any individual or entity.

Declaration of Conformity

Qubino Flush Heat & Cool Thermostat device is in compliance with the essential requirements and other relevant provisions of the Low voltage (LVD) Directive (2014/35/EU), Electromagnetic Compatibility (EMC) Directive (2014/30/EU), Radio Equipment Directive (2014/53/EU), Directive RoHS 2 (2011/65/EU) and Directive ErP (2009/125/EC).

WEEE

According to the WEEE (Waste electrical and electronic equipment) Directive, do not dispose of this product as household waste or commercial waste. Waste electrical and electronic equipment should be appropriately collected and recycled as required by practices established for your country. For information on recycling of this product, please contact your local authorities, your household waste disposal service or the shop where you purchased the product.



NOTE: User manual is valid for device with SW version S5 (SW version is part of P/N)! Example:P/N: ZMNHKDx HXS5PX

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