EUR_STELLAZ
Wall Radiator Thermostat Valve Control

Firmware Version : 0.4

Quick Start

S This device is a wireless sensor. All operation is performed using the little button behind the round hole in the enclosure. Please use the tool provided to operate the button. Pushing the button for 2.5 seconds will turn the device into install mode where the valve control is moved into end position to allows installation of the device. Pushing the button for 5 seconds will confirm inclusion or exclusion of the device. A single click wakes up the device when sleeping.

Attention: You must apply the device to the valve before applying any wireless setups and actions. Without the back pressure from the valve the device will turn into error mode.

Please refer to the chapters below for detailed information about all aspects of the products usage.

Product description

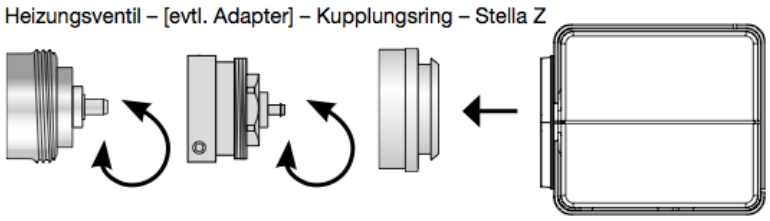
StellaZ is a wireless Thermostat Valve Control capable controlling heating, air ventilation and climate control units. Sensors, control and actuator are combined in one single device allowing stand alone energy efficient room control.The device can run in four different operation modes (Off, Energy Saving, Comfort, Direct Control) to control the temperature. The room temperature can also be reported by the device. Open windows will be recognized and lead to a lower control temperature for 20 minutes to prevent waste of energy. Further functions of StellaZ are:

Very high precision, valve speed only 3s/mm, low noise, max. valve distance: 4 mm.

Connection to Valve: M 30 x 1,5, Adapters for other valve types available (e.g. Heimeier, Danfoss, Honeywell Braukmann, Honeywell MNG, Oventrop from 1996 on) are part of scope of delivery.
Protected installation, removal only possible with special tool provided as part of scope of delivery.

Installation Guidelines

Installation



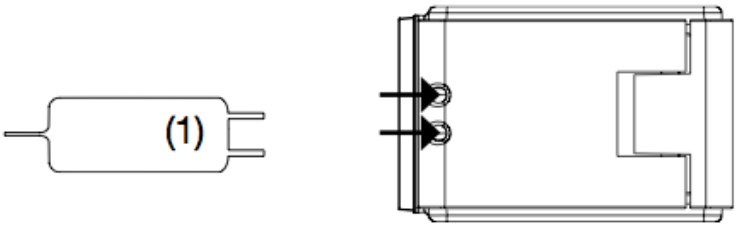
The installation of the valve control is easy with any dirt of loss of water since the heating pipe system will not be interrupted.

1. If needed select an adapter and mount this adapter to the valve.
2. Insert Batteries. Pushing the little button behind the round hole for 2.5 seconds turns the device into the install mode. In this mode the valve actuator is moved into the inner end position to simplify the installation of the device.
3. Continous pushing of the button starts the calibration function. The both end position of the valve will be detected automatically. Without further operation of the button this calibration wil starts automatically after 3 minutes. the devices will go into sleep state after finisheding the calibration.
4. Turn the white coupling ring onto the the valve resp. the adapter.
5. Push StellaZ to the white coupling ring until you hear is snapping in.

Attention: You must apply the device to the valve before applying any wireless setups and actions. Without the back pressure from the valve the device will turn into error mode.

Deinstallation

1. Push both pins of the demounting tool into the two holes on the enclosure.
2. Remove Stella Z from the adapter or valve.



Behavior within the Z-Wave network

I On factory default the device does not belong to any Z-Wave network. The device needs to join an existing wireless network to communicate with the devices of this network. This process is called **Inclusion**. Devices can also leave a network. This process is called **Exclusion**. Both processes are initiated by the primary controller of the Z-Wave network. This controller will be turned into exclusion respective inclusion

mode. Please refer to your primary controllers manual on how to turn your controller into inclusion or exclusion mode. Only if the primary controller is in inclusion or exclusion mode, this device can join or leave the network. Leaving the network - i.e. being excluded - sets the device back to factory default.

If the device already belongs to a network, follow the exclusion process before including it in your network. Otherwise inclusion of this device will fail. If the controller being included was a primary controller, it has to be reset first.

One Click on the button behind the round hole in the enclosure will confirm inclusion and exclusion. Right after inserting the battery the device will stay in the auto inclusion mode for 3 minutes. In this mode a controller in inclusion mode can include the device without any further manual confirmation on the device.

Operating the device

The device does not allow any local operation on the device itself but control via Z-Wave radio from a Z-wave controller only. The thermostat has four operating modes. They are switched wirelessly as well:

1. **Frost Protection:** The temperature in the room will be regulated to about 6 °C.
2. **Comfort:** The temperature in the room will be regulated to a comfortable level. On factory default this is 22 °C but the value can be adjusted by the respective Z-Wave command 'Thermostat Setpoint' to a value between 0 °C and 50 °C. This mode is active on factory default.
3. **Energy Saving:** The temperature in the room will be regulated to a energy saving level. On factory default this is 18 °C but the value can be adjusted by the respective Z-Wave command 'Thermostat Setpoint' to a value between 0 °C and 50 °C.
4. **Direct Valve Control:** This mode allows the direct control of the valve as percentage value of opening using the Z-Wave command class 'Switch Multilevel'. The regulation of a temperature within the device is deactivated.

Additionally to regulating the temperature the valve control is reporting the measured temperature on request (using the command class 'Sensor Multilevel' implementing communication pattern 3). It may happen that the reported temperature will remain 0 °C for some minutes due to calibration. After the first regular wakeup the temperature value will however be correct. Switching between the four modes is accomplished using the Z-Wave command classes 'Thermostat Mode' and 'Basic'. The following mappings apply:

Frost Protection: BASIC SET 0x01, THERMOSTAT MODE SET 0x00
Energy Saving: BASIC SET 0x00, THERMOSTAT MODE SET 0x0b
Comfort: BASIC SET 0xff, THERMOSTAT MODE SET 0x01
Direct Control: BASIC SET 0xfe, THERMOSTAT MODE SET 0x1f

Wakeup Intervals - how to communicate with the device?

W This device is battery operated and turned into deep sleep state most of the time to save battery life time. Communication with the device is limited. In order to communicate with the device, a static controller **C** is needed in the network. This controller will maintain a mailbox for the battery operated devices and store commands that can not be received during deep sleep state. Without such a controller, communication may become impossible and/or the battery life time is significantly decreased.

This device will wakeup regularly and announce the wakeup state by sending out a so called Wakeup Notification. The controller can then empty the mailbox. Therefore, the device needs to be configured with the desired wakeup interval and the node ID of the controller. If the device was included by a static controller this controller will usually perform all necessary configurations. The wakeup interval is a tradeoff between maximal battery life time and the desired responses of the device.

One Click on the button behind the round hole in the enclosure will wakeup the device and keeps it awake for 5 seconds. The wakeup interval can be defined between 4 minutes and 180 day in steps of 4 minutes. The factory default value is 7 days.

It is possible to set the node ID to 255 to send wakeup notifications as broadcast. In this mode device takes more time to go to sleep and drains battery faster, but can notify all it's direct neighbors about a wakeup.

Node Information Frame

NI The Node Information Frame is the business card of a Z-Wave device. It contains information about the device type and the technical capabilities. The inclusion and exclusion of the device is confirmed by sending out a Node Information Frame. Beside this it may be needed for certain network operations to send out a Node Information Frame.

A single click on the button behind the round hole in the enclosure sends out a Node Information Frame.

LED Control

Z-Wave OK: 2 Seconds Green
Z-Wave Error: 2 Seconds Red
Network Wide Inclusion: blinking Red-Green
Installer-Mode: blinking green
Internal Error: blinking red

Technical Data

IP Rating	IP 20
Battery Type	2 * AA
Explorer Frame Support	Yes
SDK	4.54 pl1
Device Type	Slave with routing capabilities
Generic Device Class	Thermostat
Specific Device Class	Thermostat General V2
Routing	No
FLiRS	No
Firmware Version	0.4