

Qbus wireless Zigbee thermostatic valve for radiators (QWZ-RAD)



1. Product description

The QWZ-RAD is a wireless motorized radiator thermostat that can be linked to the Qbus Wireless Interface using Zigbee protocol (QWI/ZB). This allows you to easily achieve multi-zone heating control in situations where a wired solution is not possible, feasible, or desirable. Multi-zone heating control typically results in an average savings of 30%. Thanks to the connection with the Qbus controller via QWI/ZB, there are numerous applications and configurations possible. This enables various control options within the Qbus system, as well as online control using, for example, Qbus Control. Multiple QWZ-RAD units can be placed within the same zone. Radiator thermostats within the same zone are synchronized by the Qbus system, ensuring consistent and straightforward operation and control.

The radiator thermostat (QWZ-RAD) is easily operable and configurable using the round rotary and push button. It features an energy-efficient LED display, allowing the selected temperature to be visible during operation. The QWZ-RAD is powered by 2 replaceable AA batteries. Under normal conditions and average usage, battery replacement is only required once a year. You can mount the QWZ/RAD on valves using the M30 x 1.5 nut. Additionally, 3 adapters are included for mounting on Danfoss (RA), Giacomini (1/2" + short transmission), and Caleffi (1/2") valve bodies.

2. Safety Instructions



Read the complete manual before installing and activating the module.

ATTENTION

- The device should not be opened except as described for battery replacement. Warranty terms become invalid if the module is mishandled.
- Remove empty batteries to avoid damage from defective batteries, and recycle them according to local regulations.
- Use appropriate batteries of the same brand and production date.
- Do not exert pulling force on the rotary knob.

3. Installation

Installation advice:

Avoid mounting this product in the following locations:

- In a metal enclosure (e.g., collector cabinet)
- In direct sunlight.

Three adapters are provided for mounting on a valve body that is not equipped with M301.5 threading, specifically Danfoss, Caleffi, and Giacomini.

Danfoss Adapter Installation:

- Slide the adapter into place. Insert the screw and the nut into the adapter.
- Tighten the screw firmly without deforming the adapter.
- Screw the M301.5 onto the valve.

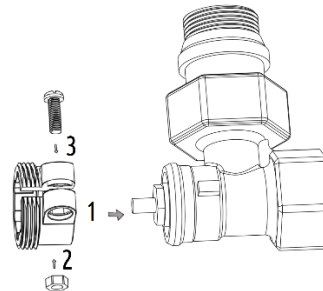


Figure 1 Danfoss adapter placement

Caleffi Adapter Installation:

- Clip the adapter onto the valve body.
- Screw the M30*1.5 onto the valve.

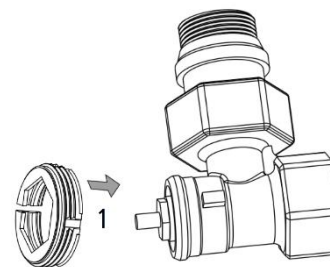


Figure 2 Caleffi adapter

Giacomini Adapter Installation:

- Clip the adapter onto the valve body.
- Place the intermediate piece on the actuator's pin.
- Follow the following steps first:

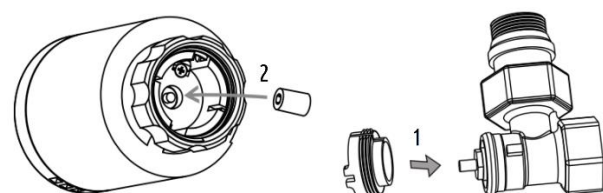
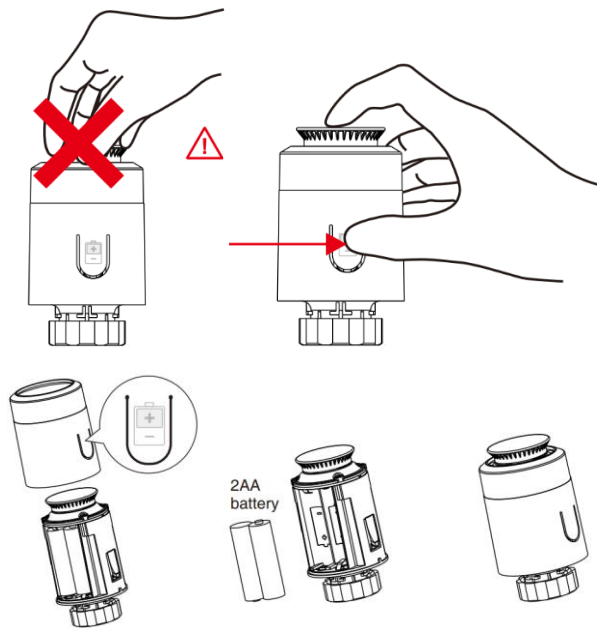


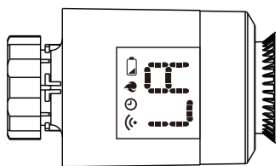
Figure 3 Giacomini

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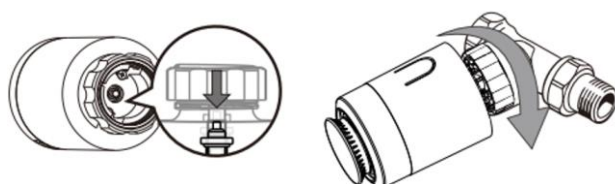
1. First, insert two AA batteries. To do this, gently press the designated button on the side of the housing to release it, and slide the housing off away from the valve body. When inserting the batteries, ensure the correct polarity by considering the markings on the thermostat valve, then replace the housing.



2. After inserting the batteries, the thermostat valve display will show "LA." The QWZ-RAD will now initiate a calibration process. This might take a few minutes. Eventually, the control rod will be fully retracted into the housing.



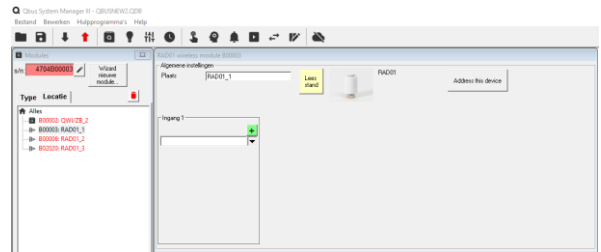
3. Check that the control rod is aligned flat with the valve head before installation on the radiator, as indicated in the drawing. Place the thermostat valve with M30*1.5 threading onto the valve body of the radiator. Use the provided adapters if necessary. A new calibration process might begin, after which the display will turn off.



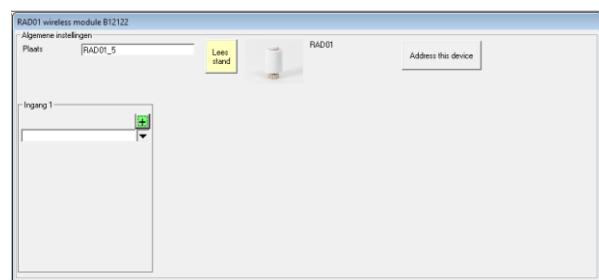
4. Commissioning

Linking to the QWI/ZB:

1. Enter the serial number of the QWZ-RAD in SMII under "modules."



2. Gently turn the knob counterclockwise until you see "OF." Now press and hold the rotary knob for about 5 seconds until two horizontal dashes appear (--). The module can now be linked by clicking "Address this device" in SMIII.



If desired, you can reverse the display text. Gently turn the knob counterclockwise until you see "OF." Once "OF" is displayed, you can reverse the text by pressing the knob quickly 5 times.

Unlinking::

If the module is linked to the QWI/ZB and you want to erase this connection, follow these steps to reset the module:

- In SMIII, open the configuration screen of the QWZ-RAD and click on the "Remove from network" button.
- OR
- Gently turn the knob counterclockwise until you see "OF." Once "OF" is displayed, you can unlink the actuator by pressing and holding the knob for a longer time (+/-5s). You will see 2 horizontal dashes appear.

5. Protection functions

The following functions are built into the control of the thermostatic radiator valve:

1. Open window detection:
If the room temperature drops by 6°C within 4 minutes, the valve will interpret this as an open window situation and close the valve. The valve will resume operation once the temperature rises by 2°C.
2. Anti-blocking:

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To prevent the valve body from getting stuck due to sediment buildup, an integrated safety feature is provided. If the radiator valve hasn't been operated for two weeks, the QWZ-RAD will open and close the valve for 30 seconds. During this operation, "AS" (Anti-scaling) will be displayed on the screen. The QWZ-RAD will then return to normal operation.

3. Child lock:

You can activate the child lock function to block operation or prevent unwanted adjustments. Set the desired temperature by gently turning the knob. Press and hold the knob for about 10 seconds to activate the lock. The requested temperature can still be adjusted using Qbus controls. Press the same button again for more than 10 seconds to deactivate the lock..

4. Low battery alarm:

When the battery level is very low, the battery icon will be displayed. To ensure proper operation, replace both batteries immediately.

5. Antifreeze functions

If the QWZ-RAD is in "OFF" mode and the room temperature drops below 5°C, the valve will open, and the flame symbol will be displayed. If the temperature rises above 8°C and the valve is still in "OFF" mode, the QWZ-RAD will close the valve.

6. Defect

If the temperature sensor is defective, the text "Er" will appear. The actuator will no longer function and must be replaced.

7. Switching delay:

To protect battery life, the valve will respond with a delay to changes in temperature demand. After adjusting the requested temperature, the QWZ-RAD will wait briefly before implementing the change.

6. Troubleshooting

If the QWZ-RAD does not respond to commands from the Qbus system or if changes made via the radiator knob are not synchronized with the Qbus system:

- Check the configuration of the QWI/ZB and ensure that the link with this module is still active. The connection might have been accidentally removed due to incorrect actions on the QWZ-RAD radiator thermostat.

If the module is not functioning:

- The display does not light up when operated => Check the battery position and/or replace the batteries.

If the desired temperature can only be adjusted within certain limits:

- Select a different mode via the Qbus controls. The maximum deviation for the requested temperature might be limited in the thermostat mode of the Qbus system. This setting can be changed via SMIII.

7. Technical data

General specifications

- Power supply: 2 AA batteries (do not use rechargeable batteries)
- Battery lifespan under normal use: 1 year.
- Temperature accuracy: 0.5 °C
- Display range of room temperature: 0-50°C
- Control range of room temperature: 5-30°C
- Storage environment temperature: -10°C to 60°C
- Display: LED
- Frequency: 2.4GHz
- Wireless communication protocol: Zigbee
- Maximum humidity: 93%, no condensation
- Maximum installation height: 2,000 meters above sea level

Zigbee RF signal distances from QWZ-RAD to the next active participant:

- Within the same building and on the same floor: 15m with normal masonry.
- Within the same building but on a different floor: 10m with normal masonry.
- Open air: 50m

Physical specifications

- Protection class: IP21
- Dimensions: 94x55x55 mm
- Standard connection: M30x1.5mm

CE Marking

- Qbus declares that this product complies with all applicable European directives and regulations.
- The EU Declaration of Conformity can be consulted on our website www.qbus.be.

8. Declaration of symbols



Before connecting the device, it is mandatory to read the manual of the respective product. ISO7000-0434.



Do not dispose of electronic products in the general waste stream. Directive 2002/96/EC.



CE conformity. All declarations of conformity are available upon request.

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9. Warranty terms

Warranty period: 2 years from the delivery date. The warranty is no longer valid if the module has been opened!

In case of defects, Qbus support should be contacted first. In the event of a defect, modules will be sent to our service department without the seal:

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