Shelly BLU TRV

Device identification

- Device name: **Shelly BLU TRV**
- Device model: **SBTR-001AEU**
- Device Bluetooth ID: **0x0008**

Short description

Shelly BLU TRV is a smart thermostatic radiator head with Bluetooth connectivity. It controls the temperature of a room by changing the flow of the hot water through the radiator. If needed, the temperature can be changed at any time by turning the Device rotating knob to the left or right, or through your mobile phone, tablet, or PC. The Device can also maintain the room temperature according to a set weekly schedule. It is powered by 2 AA, 1.5 V batteries. The Device can also

maintain the room temperature according to a set weekly schedule. It is powered by 2 x AA, 1.5 V batteries.

Advanced Setup and Installation

- How to pair Shelly BLU TRV with Shelly BLU Gateway Gen3
- How to pair Shelly BLU TRV with Shelly BLU Door/Window sensor
- How to pair Shelly BLU TRV with Shelly BLU H&T sensor

Main features

- Bluetooth
- 2x1.5 V battery AA (included)
- Precise temperature control
- Boost mode for fast warm-up of the room
- Smart scheduling
- External sensor support (compatible with Shelly BLU H&T, Shelly BLU Door/Window sensors, associated via Blu Gateway Gen3)
- Integration with most smart home systems
- Requires Blu Gateway Gen3

Use cases

- **Remote temperature control:** Make sure that your home is warm upon arrival and save energy by not heating the home unnecessarily when it is not occupied.
- **Smart scheduling for energy efficiency:** Set up smart schedules in the cloud application to optimize your heating schedule and save on energy costs.
- **Boost mode for rapid heating:** Activate Boost mode locally via the rotary encoder, or remotely through the cloud. This mode fully opens the valve to rapidly reach a comfortable temperature.
- **Room-by-room temperature control:** Manage the temperature independently for each room. Achieve personalized comfort and improved energy efficiency by heating rooms according to their specific use.

- **Adaptive learning for personalized heating:** Adjust your heating system for optimal comfort and safety using data from external sensors, such as Shelly BLU H&T and Shelly BLU Door/Window.

Connectivity

- Bluetooth

User interface

Inputs

- User (reset) button
    - Press once to activate Bluetooth pairing mode
    - Press 3 times to activate Zigbee network association
    - Press and hold for 30 seconds to factory reset the Device.
- Rotating knob
    - Turn at least 1 step clockwise (CW) or counterclockwise (CCW) to activate the LEDs.
    - Turn the knob in quick short movements for less tan 10 steps CCW > CW > CCW> CW (start in either direction) to access the TRV user menu. The menu starts with a battery level indication
        - Turn 4 steps CW to activate the Bluetooth pairing mode (active 30 seconds)
        - Turn 2 steps CW to activate Zigbee network association (active 30 seconds)
    - Turn 1 step CW to increase temperature with 0.1 °C
    - Turn 1 step CCW to decrease temperature with 0.1 °C
    - Turn the knob quickly for more than 10 steps CW to turn on Boost mode
    - Turn the knob quickly for more than 10 steps CCW to turn off Boost mode

Outputs

3-digit, 7-segment LED display:

- Mounting

- bPL TRV head not mounted on the backplate

- Calibration
  - CAL Calibration in progress
  - C0 Calibration passed
  - C1 Calibration failed

- Temperature setting
  - 23.5 Temperature setting in progress
  - 23.5 Confirming the set temperature

- Boost mode
  - On Boost mode on
  - OFF Boost mode off

- Battery level
  - b 0-25%
  - b_ 25-50%
  - b= 50-75%
  - b≡ 75-100%
  - bLo Low battery level. Change batteries.

- Pairing & Association
  - bLE Bluetooth pairing (active 30 seconds)
  - PC1 Number of paired BLE devices
  - PC0 No paired BLE devices
  - YES Result of pairing/association
  - no Result of pairing/association
  - ZbE Zigbee network association (active 30 seconds)
  - Zb0 Zigbee network status
  - Zb1 Zigbee network status - associated
  - Zid Zigbee identifying

- User menu
  - b≡ Battery level (default entry)
  - PC1 Number of paired BLE devices (1 step CW)
  - Zb0 Zigbee network status (2 steps CW)
  - E_1 Number of errors (3 steps CW)
  - bLE Bluetooth pairing (4 steps CW)
  - bAC Prompt to exit user menu (5 steps CW)

- Updates
  - OtA Over-the-air update in progress

- Errors
  - E_0 No errors
  - E_1 Number of errors
  - C1 Calibration error
  - 888 Insufficient voltage or current output. Change batteries

Supported valves

Without adapter

- M30 x 1.5

With supplied adapter

- Danfos
  - RA
  - RAV
  - RAVL
- Caleffi
- Giacomini
- M28 x 1.5
  - Sam
  - Slovarm
  - Comap
  - Markardys
  - TA
  - Herz
  - MMA
  - Remagg
  - Pont a Mousson

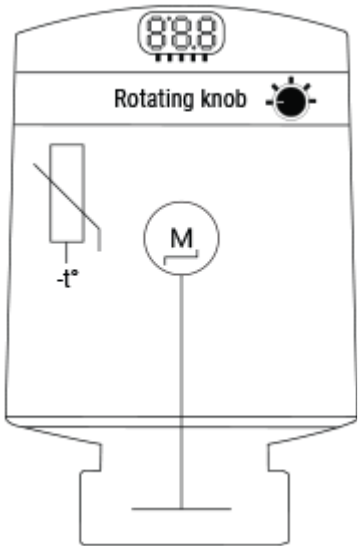
With third-party adapter

- Gampper (27 mm thread and inner thread M22)
- Glacomini
- Ista
- Meges (M38 x 1.5)
- Ondal (M38 x 1.5)
- Oventrop (M30 x 1.0 with 4 prongs)
- Rossweiner (M33 x 2.0)
- Vallant (30.5 mm)

View the full list of valves and their compatibility:

- Shelly-TRV-Valves-compatibility-list-new.pdf

Simplified internal schematics



Specifications

Quantity	Value
Physical	
Size (HxD):	78 x Ø54 mm / 3.07xØ2.13 in
Weight:	107 g / 3.77 oz

Mounting:	M30 / 15
Mounting ring material:	Nickel-plated brass
Shell material:	Plastic
Shell color:	White
Environmental	
Ambient working temperature:	-20°C to +60°C / 68°F to 140°F
Humidity:	25% to 80% RH
Pollution degree:	2
Electrical	
Power supply:	2x AA, 1.5 V (included)
Estimated battery life:	up to 2 years
Sensors, meters	
Temperature sensor:	Yes
Radio	
Bluetooth	
Protocol:	4.2
RF band:	2400 - 2483.5 MHz
Max. RF power:	< 5 dBm
Range:	Up to 30 m / 98 ft outdoors, up to 10 m / 33 ft indoors (depending on local conditions)
Firmware capabilities	

Schedules:	Yes
Encryption:	AES (CCM mode)

Troubleshooting

Problem	Possible cause	Solution
The Device cannot enter Bluetooth pairing mode using the reset button.	The issue has been reported after the Device was updated to firmware version 1.1.3. It will be solved in the next firmware version.	Put the Device into paring mode using the rotating knob: 1. Access the TRV Menu by turning the knob: CCW** > CW* > CCW> CW (start in either direction). The Menu starts with a battery level indication that looks like this . 2. To activate the Bluetooth pairing mode, turn 4 steps CW. The display shows . Pairing mode remains active for the next 30 seconds.
The Device cannot take readings from an external temperature sensor to set the target temperature.	*Underfloor Heating* feature not enabled through the Shelly Smart Control app or the web interface of the Gateway Gen3. When enabled, the built-in sensor of the Device is overridden by the external sensor.	Enable the *Underfloor Heating* feature: 1. Login to the Shelly Smart Control app or access the Gateway Gen3 web interface. 2. Select the TRV you want to configure.

		3. Go to *Settings>TRV Behavior*. 4. Enable the *Underfloor heating* feature.
The Device's valve appears to be open, even though it is set to OFF.	The OFF display message appears when *Boost mode* is turned off (the knob is turned CCW for more than 10 steps). For more details, see section User interface https://kb.shelly.cloud/knowledge-base/shelly-blu-trv#ShellyBLUTRV-Userinterface	If you want to close the valve, decrease the target temperature by turning the knob CCW for less than 10 steps.
Calibration fails and the display shows 888 or bLo message.	Insufficient output voltage or current from the batteries.	Change the batteries. Calibration starts automatically upon mounting the TRV head on the back plate.

*CW - clockwise
*CCW - counterclockwise

In case you did not find solution to your problem, join our https://www.facebook.com/groups/Shelly-support-group-(English-Version)-1686781668087857/?locale=it_IT&_rdr or contact us at support@shelly.cloud.

Components and APIs

- This device
- All Shelly devices and services

Compliance

- Shelly BLU TRV multilingual EU declaration of conformity.pdf
- Shelly BLU TRV UK PSTI ACT Statement of compliance.pdf

Printed user guide

- Shelly BLU TRV multilingual printed user and safety guide.pdf