

SIEMENS



Connected Home Thermostat wired
Connected Home Thermostat wireless

RDZ100ZB, RDZ101ZB

Operation Manual

Imprint

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1 About this document

1.1 Revision history

Edition	Date	Changes	Section
1	2023-01-30	First edition	All

1.2 Reference documents

Ref.	Document title	Document number
[1]	RDZ100ZB and RDZ101ZB mounting instructions	A6V13360576
[2]	RDZ100ZB and RDZ101ZB datasheet	A6V13360592
[3]	Siemens Connected Home system description	A6V13661932

Download the above documents from <http://siemens.com/bt/download> by searching the document numbers listed above.

1.3 Before you start

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Symbol identifications

NOTICE	
	This symbol identifies an important notice that you should be aware of when you are using the product.



The 'i' symbol identifies supplementary information and tips for an easier way of working.

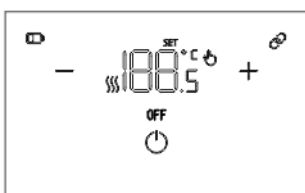
2 Product overview

Connected Home Thermostat RDZ100ZB and RDZ101ZB are designed to control heating in apartments, single family homes, dormitories and other types of residences. RDZ100ZB controls heating directly using the built-in relay. RDZ101ZB controls by wireless connection to Connected Home Receiver (RCR110.2ZB) via Connected Home Hub (GTW100ZB).

Both RDZ100ZB and RDZ101ZB can connect to mobile application "Connected Home" (downloadable from Google Play™ or Apple App Store®) for advanced functions such as setting schedules and adjusting parameters.

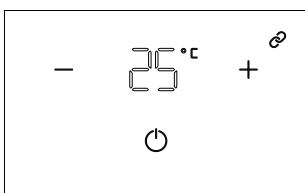
2.1 Screen display mode overview

Initial power-up mode




When the thermostat starts up for the first time, all icons are lit for about three seconds before entering **ON** mode.

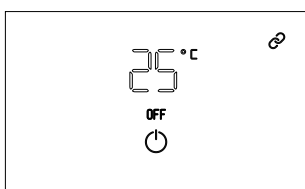
ON mode



In **ON** mode, the current room temperature, plus, minus and status icons (i.e., connection state) are displayed on screen. This mode allows you to adjust the temperature setpoint and switch between **OFF** and **ON**.

The  icon shows if the setpoint is adjusted manually via thermostat or mobile application, and indicates if the thermostat is in manual mode. It disappears after the thermostat receives the next setpoint via schedule, scene and automation from the mobile application.

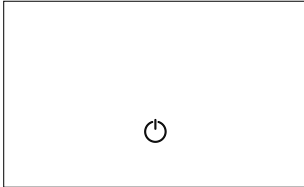
Protection mode (OFF mode)



The thermostat activates protection mode (OFF) when you touch the standby button in **ON** mode. **OFF** is displayed. If the temperature drops below 8 °C, the thermostat activates the heating output automatically until temperature reaches 8 °C.





In **OFF** mode, the present room temperature and state icons (i.e., connection state) are displayed. Switch to **ON** mode by pressing the standby button again.





Sleep mode



After 20 seconds of inaction, the thermostat enters sleep mode. The screen is turned off. Previous setpoint adjustment or operating mode (AUTO, manual or protection mode) works in the background. Wake up the thermostat by touching the standby button.

2.2 Screen display icon overview

State	Description
	The setpoint is manually adjusted to a value different from the scheduled value. It disappears after the thermostat receives the next setpoint via schedule, scene, and automation from the mobile application. Note: If the thermostat does not receive the next scheduled setpoint due to network error, the icon continues to be displayed on screen. The thermostat remains on the temporary setpoint until it receives a new scheduled setpoint after network resumes working.
	Demand for heating
	Low battery level
OFF	Thermostat in OFF mode.
	Ready to join the Zigbee network (blinking), or Zigbee network joined (steady ON)
SET	Setpoint is being adjusted.

Operation	Description
 	<ul style="list-style-type: none"> Tap to decrease/increase temperature setpoint. Tap and hold to decrease/increase temperature setpoint continuously until the setpoint limit is reached. Tap and hold both icons at the same time for more than 10 seconds to reset the thermostat to factory settings. After three seconds of inaction, the thermostat returns to the present room temperature. In the mean time,  is displayed on screen, showing that the manually-adjusted setpoint overrides the scheduled one.
	<ul style="list-style-type: none"> Tap to turn on display or turn on/off mode. Tap and hold for more than five seconds to set the thermostat to joining/rejoining mode.

3 Mounting and installation

NOTICE



We strongly recommend hiring licensed installers to mount and install the device. See document [A6V13360576](#) for graphical instructions. See document [A6V13360592](#) for more information on mounting and wiring.

Mounting and installing RDZ100ZB

1. Switch off power to the heating system by using either your home's breaker box or the system's power switch.
2. Screw the mounting plate onto a conduit box.
3. Insert wires to the terminals on the mounting plate and tighten all inserted wires by screwing down the screws.
4. Push the small rectangle on the upper right corner of the back of the front panel to open and remove the battery cover.
5. Attach the front panel by aligning the inner side of the back of the front panel with the mounting plate from bottom to top.
6. Press the left and right sides of the front panel to secure physical connection to the terminals.
7. Tighten the screw on the top.
8. Insert the batteries and cover the battery door.
9. Switch on power to the heating system.

Mounting and installing RDZ101ZB

RDZ101ZB comes with two mounting plates: One for wall mounting (without a stand) and one for standing on a table (via stand). Select a desired method to mount and install the device.

1. Screw the mounting plate (without stand) on a wall or place the mounting plate (with stand) at a desired place in a room.
2. Push the small rectangle on the upper right corner of the back of the front panel to open and remove the battery cover.
3. Attach the front panel by aligning the inner side of the back of the front panel with the mounting plate from bottom to top.
4. Tighten the screw on the top.
5. Insert the batteries and cover the battery door.



If the adapter plate ARG101 is used, assemble its mounting frame and mounting plate so that the bigger round spot embossed on the mounting frame is on top. Cover the RDZ100ZB/RDZ101ZB mounting plate on the assembled adapter plate, then follow the above steps to mount and install the thermostat.

4 Adding the thermostat to the hub (GTW100ZB)

Add the thermostat to the hub from the mobile application following on-screen instructions.



After being added to the hub, the wireless room thermostat RDZ101ZB can be bound to RCR110.2ZB automatically, if they are located in the same room.



Re-add the thermostat to the hub, if the latter is reset to factory settings.

5 Operation on the device

You can carry out the following operations on the device:

- Add the thermostat to the hub after the mobile application initiates the joining process.
- Adjust temperature setpoints.
- Turn on/off mode operation.
- Reset the thermostat to factory settings.

See Screen display icon overview [→ 6] for information on basic operation via icons on the thermostat. Other advanced operations such as setting schedules and adjusting parameters are only available in the mobile application.

6 Parameter settings

Parameters are set to default values after the thermostat is powered up. Adjust the parameter settings later in the mobile application.

Parameter	Description	Default value
Measured temperature value correction	Temperature offset value for the built-in room temperature sensor. If the temperature on the display does not match the measured room temperature, calibrate the temperature sensor using this parameter. The sensor can be offset by ± 2.5 K.	0 K
Comfort setpoint minimum Heating	Minimum heating setpoint for "Comfort".	5°C
Comfort setpoint maximum Heating	Maximum heating setpoint for "Comfort".	30°C
Open Window detection	If set to On, this function detects if a window is opened and the room temperature drops rapidly. If yes, heating is switched to OFF mode. The thermostat resumes automatic operation when: <ul style="list-style-type: none"> • The room temperature rises faster than 1 °C/h. • The automatic schedule changes via the mobile application. • The setpoint is adjusted either locally or via the mobile application. • 20 minutes have passed even if the window is still open. 	Off
Valve exercising	If set to On, the parameter activates valves periodically (2 min per week) to prevent valve seizing after valve inactivity for at least one week. This function is also active when the thermostat is in OFF mode.	Off

Parameter	Description	Default value
Control behavior	<p>The thermostat offers the following temperature control modes:</p> <ul style="list-style-type: none"> • 2-position, 1 K • 2-position, 0.3 K • TPI slow • TPI medium • TPI fast <p>The first two control modes adopt a 2-position control algorithm while the last three TPI (Time Proportional Integral) control algorithm:</p> <ul style="list-style-type: none"> • 2-position control switches on and off heating within a switching differential as per the comparison between setpoint setting and the measured room temperature. • TPI control switches on and off heating periodically. Both period and pulse length of the control signal (PWM) are determined by the setpoint and the measured room temperature. <p>Different control modes are for different applications. See the following for more details.</p>	TPI slow

2-position, 1 K

- 2-position controller with 1 [K] switching hysteresis
- For systems with small capacity that appear slow
- For applications requiring extended runtimes or where frequent switching causes problems
- For difficult control loops where hunting may result

Typical applications:

- Dry floor heating
- Heat pumps
- Electric heating with contactors

2-position, 0.3 K

- 2-position controller with 0.3 [K] switching hysteresis
- For general control. Provides better comfort than 1 [K] switching hysteresis
- Can also be used for difficult control situations.

TPI slow

TPI control behavior for slow heating systems requiring longer minimum **On** times and limited numbers of switching cycles per hour.

Typical applications:

- Wet floor heating, oil-fired boilers
- Can be used for all other types of heating applications (alternative setting)

Minimum switch-on/off time	> 4 minutes
Minimum period	Approximately 12 minutes

TPI medium

TPI control behavior for general heating applications such as radiators and thermal actuators.

Minimum switch-on/off time	> 1 minute
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Minimum period	Approximately 20...25 minutes
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TPI fast

TPI control behavior for fast heating systems tolerating a high number of switching cycles.

Typical applications:

- Electric heaters with current valve
- Gas boilers
- Fast thermal actuators


Minimum switch-on/off time	> 1 minute
Minimum period	Approximately 6 minutes

⚠ WARNING

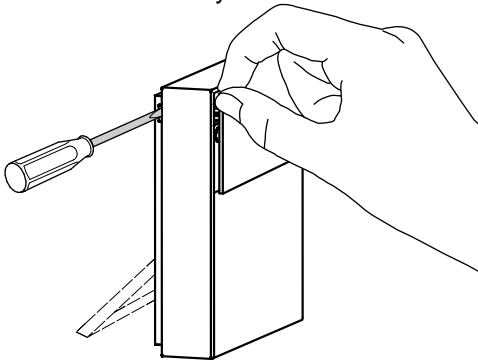


Do not use TPI fast for oil boilers or electric mechanical actuators!

7 Replacing batteries

The thermostat is powered by two alkaline batteries type AA. If battery level is low, notifications are sent to the mobile application and  is displayed on the local screen. Replace the batteries when notified of a low battery level.

1. Get two new alkaline batteries type AA.
2. Remove the battery door as shown in the following illustration.



3. Remove the old batteries and insert the new ones.
4. Dispose of the exhausted batteries in compliance with environmental requirements.

8 Updating firmware

Firmware version of the device is displayed in the mobile application. Once a new firmware version is available, you can update the firmware via the mobile application.

NOTICE	
!	If upgrading firmware from v1000x to v20007 or higher, perform a factory reset on the RCR110.2ZB, remove the device from the mobile application, and then re-add it based on its field application.

9 Cyber security disclaimer

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