SIEMENS

Zigbee Room Thermostat, wired and wireless, battery powered

RDZ100ZB, RDZ101ZB

For heating systems

- Room temperature control
- Communicates with Connected Home Hub via Zigbee network
- 2-position/TPI control with On/Off output for heating
  - RDZ100ZB: With built-in relay
  - RDZ101ZB: With wireless output module
- Open window detection
- Frost protection
- Schedule via mobile application "Connected Home" (downloadable from Google Play™ or Apple App Store®)
- Adjustable commissioning and control parameters via mobile application
- Battery-powered (2xAA batteries)

Use

The RDZ100ZB/RDZ101ZB is part of Siemens Connected Home ecosystem. It is used to control the room temperature in heating systems.

Typical application:

- Apartments
- Single family homes

To control the following pieces of equipment:

- Thermal valves or zone valves
- Gas or oil boilers
- Heat pumps
- Circulating pumps
- Floor heating

Functions

- Room temperature control via built-in sensor
- Selection of operating mode “On” or “Off” (protection mode, frost protection active)
- Setting schedule via the mobile application
- Display of current room temperature
- Setpoint override (manual mode) until the next scheduled switching point
- Limitation of minimum/maximum setpoint adjustments for heating
- Remote operation and monitoring via mobile application
- Open window detection
- Valve/pump exercising
- Heat demand-based boiler or pump release in combination with e.g. Connected Home Receiver RCR110.2ZB
- Factory reset
- Wireless communication
- Firmware upgrade via Zigbee
- Auto sleep function to save battery

Type summary

Type	Stock number	Description
RDZ100ZB	S55772-T113	Wired, heating, battery powered
RDZ101ZB	S55772-T114	Wireless, heating, battery powered
RCR110.2ZB	S55772-T110	Wireless output module for RDZ101ZB

Accessories

Type	Stock number	Description
ARG101	S55772-T112	Italian adapter plate for RDZ100ZB and RDZ101ZB

Delivery

RCR110.2ZB and ARG101 are not included in the delivery and must be ordered separately.

Inbox item

RDZ100ZB

Items	Quantity
RDZ100ZB mounting plate	1
RDZ100ZB front panel	1
Battery	2
Mounting instructions	1

RDZ101ZB

Items	Quantity
RDZ101ZB mounting plate	1
RDZ101ZB table stand	1
RDZ101ZB front panel	1
Battery	2
Mounting instructions	1

Equipment combinations

Type of unit		Product number	Data Sheet[1)]	Use with the type of temperature control[2)]
Electromotoric actuator		SFA21...	4863	2-position & TPI slow
Thermal actuator (for radiator valves) AC 230 V, NO		STP321	A6V12986007	2-position & All TPI
Thermal actuator AC 230 V (for small valves 2.5 mm), NC		STA321	A6V12986007	2-position & All TPI
Damper actuator		GDB...	4634	2-position & TPI slow
Damper actuator		GSD...	4603	2-position & TPI slow
Damper actuator		GQD...	4604	2-position & TPI slow
Rotary damper actuator		GXD...	4622	2-position & TPI slow

[1] The documents can be downloaded from www.siemens.com/bt/download.

[2] See more information on 2-position and TPI control in document A6V13360586, which can also be found in the above link.

Product documentation

Title	Document ID
Mounting instructions	A6V13360576
Operation manual	A6V13360586
CE declaration	A5W00270102A
UKCA declaration	A5W00270107A
Product environmental declaration	A5W00269582A
Siemens Connected Home system description	A6V13661932

Related documents such as environmental declarations, CE declarations, and so on, can be downloaded at: http://siemens.com/bt/download.

Notes

Safety

⚠ CAUTION

National safety regulations

Failure to comply with national safety regulations may result in personal injury and property damage.

- Observe national provisions and comply with the appropriate safety regulations.

⚠ WARNING

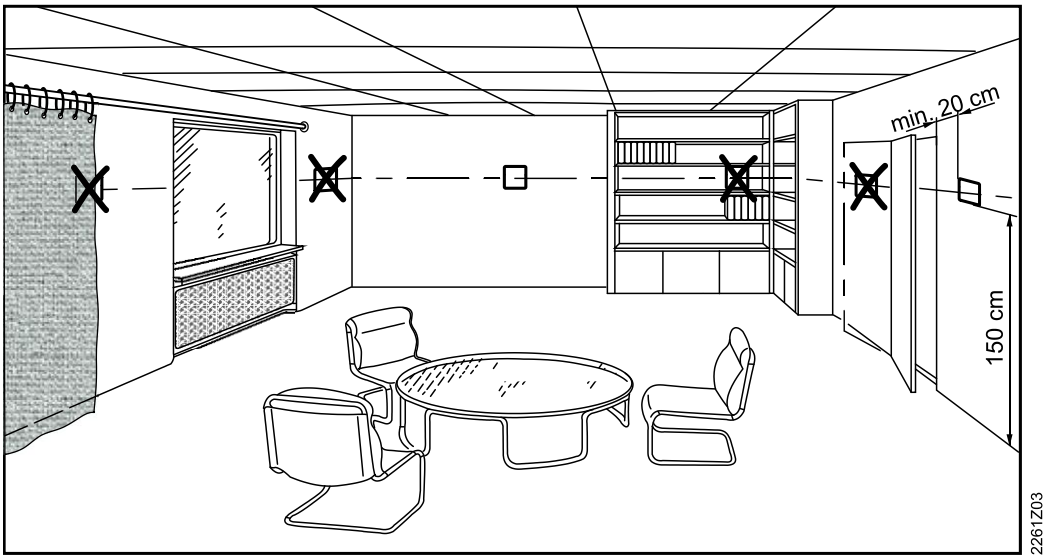
Explosion due to fire or short-circuit, even with discharged batteries

Risk of injury due to flying parts

- Prevent the batteries from coming in contact with water.
- Do not recharge batteries.
- Do not damage or disassemble batteries.
- Do not heat batteries over 60 °C.

⚠ WARNING	
	**Electrolyte leakage** Chemical burns ● Only grasp damaged batteries using suitable protective gloves. ● If electrolyte comes into contact with eyes, immediately rinse eyes with plenty of water. Consult a doctor.

Mounting



Mounting

- RDZ100ZB is suitable for wall mounting.
- RDZ101ZB is suitable for wall mounting and table standing.
- Recommended height for wall mounting: 1.50 m above the floor.
- Mount the thermostat close to Connected Home Hub if possible. Note that the communication range can vary because walls, floors, wireless interference and other factors may reduce the signal strength.
- Do not mount or place the thermostat in recesses, behind curtains or doors, or above or near heat sources.
- Do not mount or place the thermostat near large metal structures or other construction elements with fine metal meshes like special glass or special concrete.
- Do not mount or place the thermostat in a location where it is exposed to dripping water, moisture or excessive heat.
- Do not mount or place the thermostat on metal surfaces.
- Avoid placing RDZ101ZB inside or near metal or sources of radio or electromagnetic energy or interference, for example, do not place under or on top of a WLAN router.
- Avoid direct sunlight.
- Seal the conduit box or the installation tube if any, as air currents can affect sensor readings.
- Observe allowed ambient conditions.
- Keep the thermostat out of the reach of people (including children) whose physical, sensory or mental capabilities, knowledge, or experience prevents them from using the thermostat safely without supervision or instructions.
- If the adapter plate ARG101 is used, assemble its mounting frame and mounting plate in such a way that the bigger round spot embossed on the mounting frame is atop.

Wiring (for RDZ100ZB only)

- Make sure wiring, protection, and earthing comply with local regulations.
- Disconnect from power supply before mounting/dismantling and wiring.
- Correctly size the cables to the thermostat and the valve actuators.
- Use only valve actuators rated for AC 24…230 V.

- External preliminary protection with maximum C 10 A circuit breaker in the supply lines is required under all circumstances.

Installation

⚠ WARNING	
	**No internal line protection for supply lines to external consumers** Risk of fire and injury due to short-circuits ● Adapt the line diameters as per local regulations to the rated value of the installed fuse.

⚠ CAUTION	
	**Risk of explosion** Personal injury and property damage ● Insert the battery at the correct polarity (+/-) using the illustration in the battery compartment. ● Insert only the correct battery types according to the indication in the battery compartment. ● Store, transport and dispose of the batteries in compliance with local requirements, regulations and laws, and observe the instructions of the battery manufacturer.

Observe the following:

- The batteries must be undamaged.
- Do not mix new and used batteries.

Commissioning

Commissioning

- The thermostat is ready for commissioning after batteries are inserted.
- After joining is initiated from the mobile application, tap and hold ⏻ for more than five seconds on the thermostat to join the Zigbee network.
- After joining the network, set schedules and change parameters in the mobile application to ensure optimum performance of the entire system. See the operation manual (http://www.siemens.com/download?A6V13360586) for more information about parameters.

Wireless output module

The wireless room thermostat RDZ101ZB requires a wireless output module, e.g. RCR110.2ZB, to control HVAC equipment. Binding the thermostat to the output module is automatic, if located in the same room. Max. 5 wireless output modules can be bound to one wireless room thermostat RDZ101ZB.

Operation

See the operation manual (http://www.siemens.com/download?A6V13360586) for detailed information.

Maintenance

Apart from replacing batteries upon low battery notification on the local screen or in the mobile application, the thermostat is maintenance-free. See the operation manual (http://www.siemens.com/download?A6V13360586) for information about battery replacement.

Open Source Software (OSS)

Software license overview

These devices use Open Source Software (OSS). All Open Source Software components used in the product (including copyrights and licensing agreement) are available at http://siemens.com/bt/download.

OSS document ID	Device
A6V13562630	RDZ100ZB, RDZ101ZB

Disposal

	This symbol or any other national label indicate that the product, its packaging, and, where applicable, any batteries may not be disposed of as domestic waste. Delete all personal data and dispose of the item(s) at separate collection and recycling facilities in accordance with local and national legislation. For additional details, refer to Siemens information on disposal.

Warranty

Technical data on specific applications are valid only together with Siemens products listed under Equipment combinations [► 3]. Siemens rejects any and all warranties in the event that third-party products are used.

General technical data

Power supply	
Operating voltage	DC 3 V (2 x 1.5 V AA alkaline batteries)
Battery life	1 year

Radio parameters	
Frequency band	2.4…2.4835 GHz
Maximum radio-frequency power	6 dBm
Communication standard	Based on Zigbee 3.0
MAC protocol	IEEE 802.15.4
Zigbee channels	11...26
Pairing method with GTW100ZB	Global Link Key

Functional data	
Protection mode	8 °C
Setpoint setting range	5…35 °C
Built-in room temperature sensor	
Accuracy at 25 °C	< ±0.5 K
Temperature calibration range	±2.5 K
Resolution of settings and displays	
Setpoints	0.5 °C
Room temperature	0.5 °C

Ambient conditions and protection classification	
Degree of protection of housing as per EN 60529	IP30
Protection against electrical shock as per EN 60730-1	
RDZ100ZB	Protection class II
RDZ101ZB	Protection class III
Classification as per EN 60730-1	
Function of automatic control devices	Type 1
Degree of pollution	2

Ambient conditions and protection classification	
Overvoltage category	
RDZ100ZB	III
RDZ101ZB	I
Rated impulse voltage	
RDZ100ZB	4000 V
RDZ101ZB	330 V
Climatic ambient conditions	
Transport and storage (in packaging)	• Temperature: -25…+70 °C (-13…+158 °F) • Ambient humidity: < 95 % r.h. (non-condensing)
Operation (in dry locations having no temperature or humidity control)	• Temperature: 0...50 °C (32...122 °F) • Ambient humidity: < 95 % r.h. (non-condensing)
Mechanical ambient conditions	
Transport (in transport packaging) as per IEC/EN 60721-3-2	Class 2M4
Operation as per IEC/EN 60721-3-3	Class 3M11

Standards, directives and approvals	
EU conformity (CE)	See EU declaration of conformity A5W00270102A*
UK conformity (UKCA)	See UK-declaration of conformity A5W00270107A*
Environmental compatibility	The product environmental declaration (A5W00269582A*) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

* The documents can be downloaded from www.siemens.com/bt/download.

Eco design and labeling directives		
Based on EU Regulation 813/2013 (Eco design directive) and 811/2013 (Labelling directive) concerning space heaters, combination heaters, the following classes apply:		
Application with On/Off operation of a heater	Class I	value 1%
TPI (PWM) room thermostat, for use with On/Off output heaters	Class IV	value 2%

General	
Housing color	RAL9003
Thermostat with box, user document and accessory	
RDZ100ZB	210 g
RDZ101ZB	226 g
Thermostat	
RDZ100ZB	157 g
RDZ101ZB	173 g

Technical data (RDZ100ZB only)

Switching capacity of relay	
Voltage	AC 24...230 V
Lx rating min., max. resistive (inductive)	8 mA...5 (2) A
Contact life at AC 230 V At 5 A res.	Guided value: 1 x 10^5 cycles

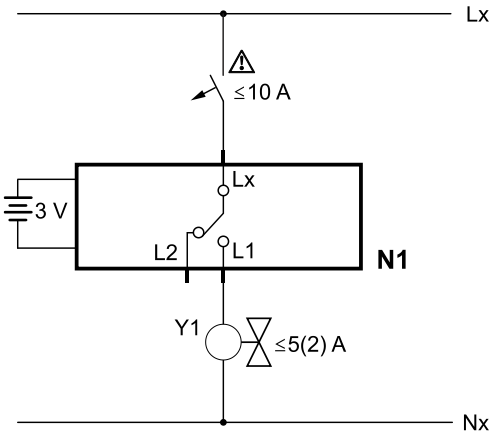
⚠ WARNING	
	**No internal fuse.** External preliminary protection with maximum 10 A circuit breaker in the supply lines is required under all circumstances.

External protection for the thermostat	
Circuit breaker	Maximum 10 A
Circuit breaker tripping characteristic	Type B, C or D as per EN 60898 and EN 60947

Electrical connections	
Connection terminals	Screw terminals
For solid wires or prepared stranded wires	2 x 1.5 mm^2 or 1 x 2.5 mm^2 (min. 0.5 mm^2)

Connection diagrams

RDZ100ZB

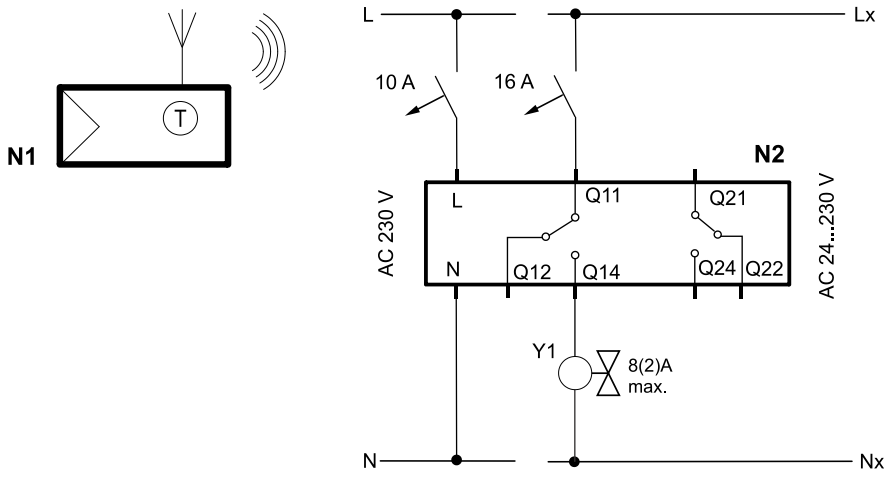


Lx	Live, AC 24...230 V	Nx	Neutral conductor, AC 24...230 V
Lx, L2	NC contact (for NO valves)	N1	Wired room thermostat RDZ100ZB
Lx, L1	NO contact (for NC valves)	Y1	Actuating device

⚠ WARNING

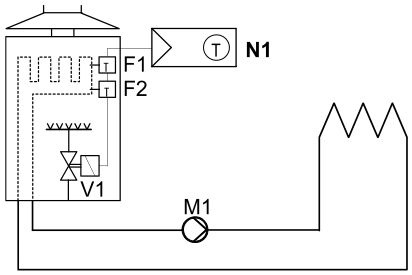
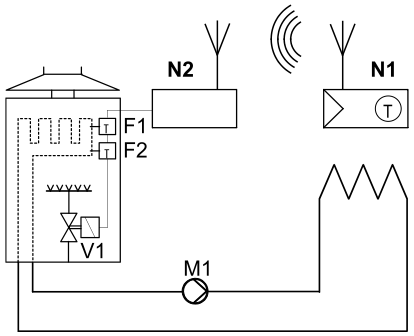
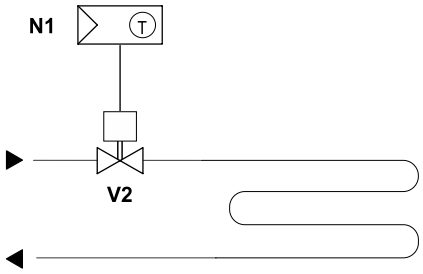
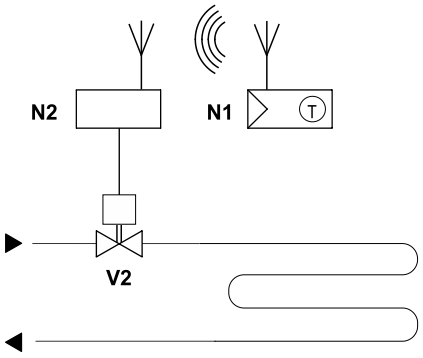
Current higher than 5 (2) A is not allowed to go through RDZ100ZB controller. For high current device, an additional relay or contactor must be installed.

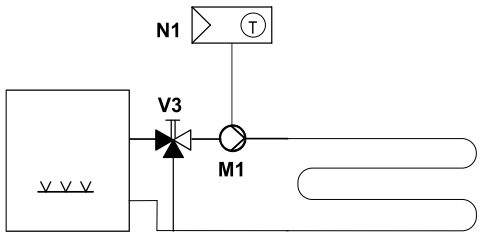
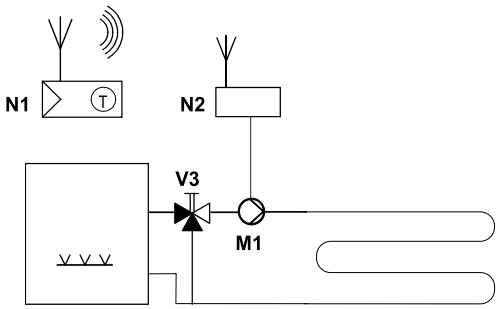
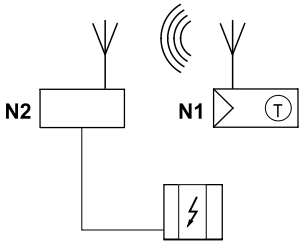
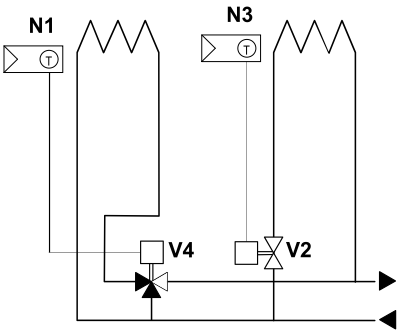
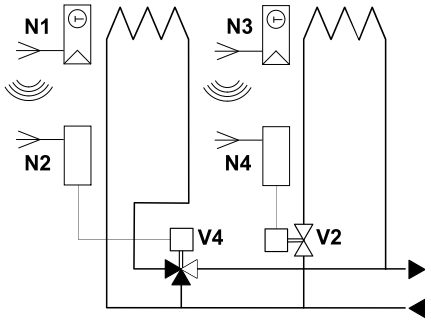
RDZ101ZB



L	Live, AC 230 V	Nx	Neutral conductor, AC 24...230 V
Lx	Live, AC 24...230 V	N1	Wireless room thermostat RDZ101ZB
Q11, Q12	NC contact (for NO valves)	N2	Wireless output module RCR110.2ZB
Q11, Q14	NO contact (for NC valves)	Y1	Actuating device
N	Neutral conductor, AC 230 V		

Application examples

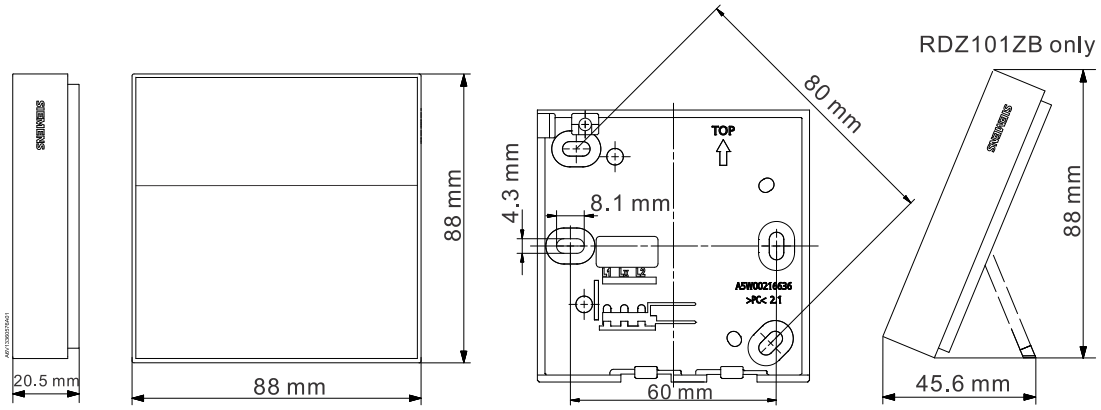
RDZ100ZB	RDZ101ZB (with RCR110.2ZB)
Room thermostat with direct control of a gas-fired wall-hung boiler 	Room thermostat with wireless control of a gas-fired wall-hung boiler 
Floor heating with valve 	Floor heating with valve 

RDZ100ZB	RDZ101ZB (with RCR110.2ZB)
Floor heating with pump 	Floor heating with pump 
Electric radiator* 	Electric radiator* 
Zone valve 	Zone valve 

* Check relay ampere limit to control electric heater: max. 5 (2) A for RDZ100ZB and max. 8 (2) A for RCR110.2ZB.

F1	Thermal reset limit thermostat	V1	Magnetic valve
F2	Safety limit thermostat	V2	2-port valve
N1, N3	RDZ100ZB/RDZ101ZB	V3	Mixing 3-port valve with manual adjustment
N2, N4	RCR110.2ZB	V4	3-port valve
M1	Circulating pump		

Dimensions



Regulatory compliance information

Radio equipment directive

The equipment uses harmonized frequency in Europe and complies with Radio Equipment Directive 2014/53/EU (formerly 1999/5/EC).

Issued by
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Document ID A6V13360592_en--_d

Edition 2024-02-01