

Connected Home Receiver

RCR110.2ZB



For boiler, pump and DHW release

- Mains-powered receiver AC 230 V
- Communicates with Connected Home Hub via Zigbee network
- Output module in combination with Connected Home Thermostat wireless RDZ101ZB
- Two voltage-free contacts for boiler/pump release or DHW switch
- LED indication of operating state
- Manual override of relay outputs
- Firmware upgrade over the air via Zigbee

Use

The RCR110.2ZB is part of Siemens Connected Home ecosystem.

Typical application:

- Residential apartments
- Single family homes

To control DHW and the following plant components:

- Gas, oil boilers or non-reversible heat pumps
- Zone valves
- Pumps
- Heat exchanger
- Continuous-flow water heater
- Small water heating systems

Functions

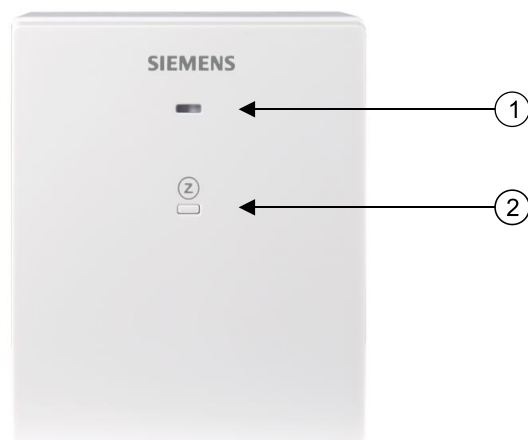
- Network joining initiator
- Configurable function via mobile application "Connected Home" (downloadable from Google Play™ or Apple App Store®) as:
 - Zigbee network repeater
 - Pump/boiler releaser
 - Pump/boiler releaser and DHW switch
- Boiler or pump releaser based on heat demand from individual rooms/zones
- Output module in combination with Connected Home Thermostat wireless RDZ101ZB
- Independent DHW switch controllable via mobile application
- Manual override of relay outputs
- Support of factory reset
- Wireless communication

Mechanical design

The RCR110.2ZB consists of two parts:

- Plastic housing which accommodates the electronics
- Mounting plate


Operation and settings



No.	Description
1	LED for operating state indication
2	Button for user operation

LED indication

Device state	LED state
Idle	Solid orange
Joining the Zigbee network	Flashes green rapidly
Successful connection	Solid green
Zigbee network failure ¹⁾²⁾³⁾	Flashes red slowly
Hardware error	Solid red ⁴⁾
Factory reset	Alternates red and green
Firmware upgrade in process	Flashes orange rapidly
Manually overwriting	Flashes green slowly
Output state change ⁵⁾	Flashes green rapidly for three times (0.5 Hz), and then changes back to the previous state.

- Relay outputs are turned off when Zigbee network fails.
- Check if the hub is powered on and try to reduce distance between the device and the hub.
- Try network reconnection.
 - Remove the device from the mobile application, press and hold down button  on the device for 10 seconds to perform factory reset, and then press and hold down the same button for 5 seconds to re-add the device to the network.
- The LED indication of hardware error is only supported in product version A. See the product version on the label (the number after "2PFS") on the back of the device.
- Output state change can be done either on the device or through the mobile application. However, frequent switching is not recommended as the device and mobile application might not be synchronized in a timely manner. The relay outputs maintain their previous states after a reboot and firmware upgrade.

Priority of LED state indication (high to low)

Zigbee network failure > manual override > normal operation (including firmware upgrade).

For example, if you perform manual override when there is a Zigbee network failure, the LED flashes red rather than green slowly.

Type summary

Type	Stock number	Description
RCR110.2ZB	S55772-T110	Connected Home Receiver

Ordering

When ordering, indicate product number, stock number and description.

Inbox item

Items	Quantity
RCR110.2ZB	1
Set of mounting accessories	1
Mounting instructions	1
Wiring sticker	1

Equipment combinations

Connected Home Hub

Product number	Stock number	Description
GTW100ZB	S55772-T109	Connected Home Hub

Wireless actuator

Product number	Stock number	Description
SSA911.02ZB	S55181-A105	Radiator Valve act. Zigbee

Wireless thermostat

Product number	Stock number	Description
RDZ101ZB	S55772-T114	Connected Home Thermostat wireless

Product documentation

Title	Document ID
Mounting instructions	A6V12680334
Quick start guide	A6V12680330
CE declaration	A5W00218224A
UKCA declaration	A5W00218226A
Product environmental declaration	A5W90009801

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

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.

Mounting

- The device is suitable for wall mounting and surface mounting.
- Enclose the conductors in a conduit when surface mounting.
- Reserve at least 10 cm of free space around the receiver for ventilation.
- Avoid direct solar radiation.
- Adhere to allowed ambient conditions.
- Install the receiver 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.
- Choose the location to ensure largely interference-free reception. When mounting the receiver, observe the following:
 - Do not mount in a control panel
 - Do not mount on metallic surfaces
 - Do not mount near 2.4 GHz wireless electronic devices such as PCs, WLAN routers, microwaves, and so on
 - Do not mount near constructional elements with fine metal or large metallic structures such as a distribution box

Wiring

- The AC 230 V mains supply line must have an external circuit breaker with a rated current of no more than 16 A.
- Ensure that wiring, protection and grounding comply with local regulations.
- Screw down all terminals regardless of whether cables are connected or not.
- Screw down the cables tightly and make sure no bare copper is exposed.
- Observe local regulations for wiring size and the rated value of the installed overcurrent protection device.
- Disconnect from power supply before removing the unit from its mounting plate.
- Ensure that the device is not connected to power during wiring.

Maintenance

The device is designed for maintenance-free operation.

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
A6V13038922 (only for product version A*), A6V13959823	RCR110.2ZB

* See the product version on the label (the number after "2PFS") on the back of the device.

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 [► 4]. Siemens rejects any and all warranties in the event that third-party products are used.

Technical data

Power supply	
Operating voltage	AC 230 V (+10/-15 %)
Frequency	48...63 Hz
Power consumption including connected field devices	5 VA

Radio parameters	
Frequency band	2.4...2.4835 GHz
Maximum radio-frequency power	15 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

Switching capacity of relays	
Voltage	AC 24...230 V
Current	Q11- Q12 Maximum 5 A Q11- Q14 Maximum 8 (2) A Q21- Q22 Maximum 5 A Q21- Q24 Maximum 8 (2) A

⚠ WARNING	
	No internal fuse. External preliminary protection with maximum 16 A circuit breaker in the supply lines is required under all circumstances.

External protection for incoming cable	
Circuit breaker	Maximum 16 A
Circuit breaker tripping characteristic	Type B, C or D as per EN 60898 and EN 60947
Contact life at AC 230 V At 8 A res.	Guided value: 1 x 10 ⁵ cycles
Insulation strength Between relay contacts and coil Between relay contacts (same pole)	AC 5,000 V AC 1,000 V

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

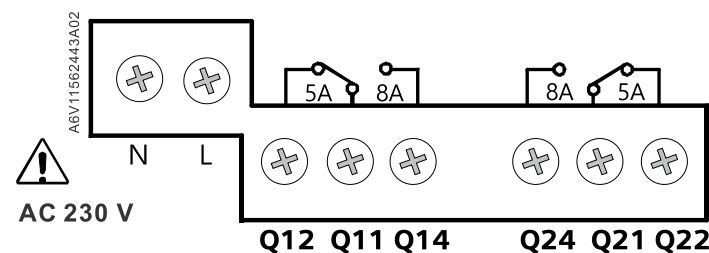
Ambient conditions and protection classification	
Safety class as per EN60730	Class II
Degree of protection of housing as per EN 60529	IP30
Classification as per EN 60730	
Function of automatic control devices Operation altitude Degree of pollution Overvoltage category	Type 1 < 3000 m 2 III
Climatic ambient conditions	
Transport (packaged for transport) as per EN 60721-3-2 Storage as per EN 60721-3-1 Operation as per EN 60721-3-3	Transport/Storage: Temperature -25...60 °C (-13...140 °F) Air humidity 5...95 % r.h. (non-condensing) Operation: Temperature 0...50 °C (32...122 °F) Air humidity 5...95 % r.h. (non-condensing)
Mechanical ambient conditions	
Transport as per EN 60721-3-2 Operation as per EN 60721-3-3	Class 2M2 Class 3M2

Standards, directives and approvals	
EU conformity (CE)	A5W00218224A*
UKCA	A5W00218226A*
Environmental compatibility	The product environmental declaration A5W90009801* contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

* The documents can be downloaded from <http://siemens.com/bt/download>.

General	
Receiver with box, user document and accessory	262 g
Receiver	174 g
Housing color	RAL9003

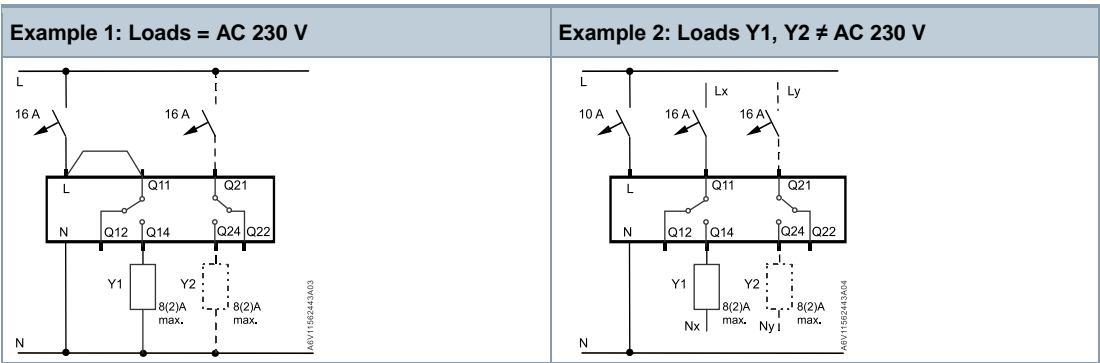
Connection terminals



Terminal	Designation
L, N	Power supply, AC 230 V
Q11, Q21	Control input (com)
Q12, Q22	Control output, NC contact
Q14, Q24	Control output, NO contact

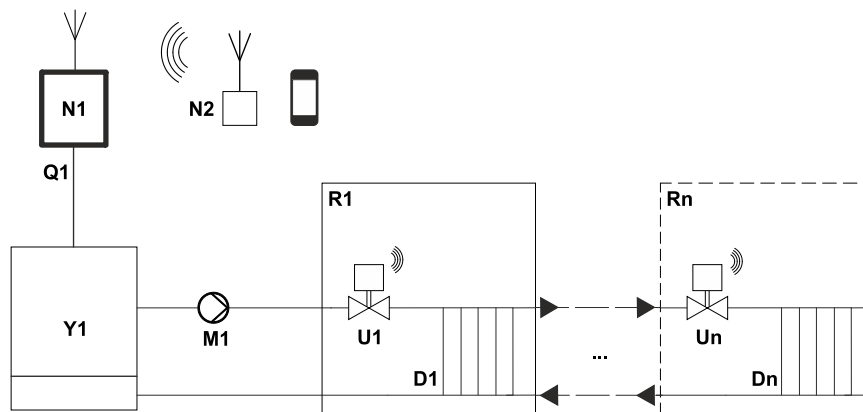
Wiring diagrams

Example 1 illustrates a convenient wiring method (AC 230 V with bridge). If the load is not AC 230 V, see example 2.

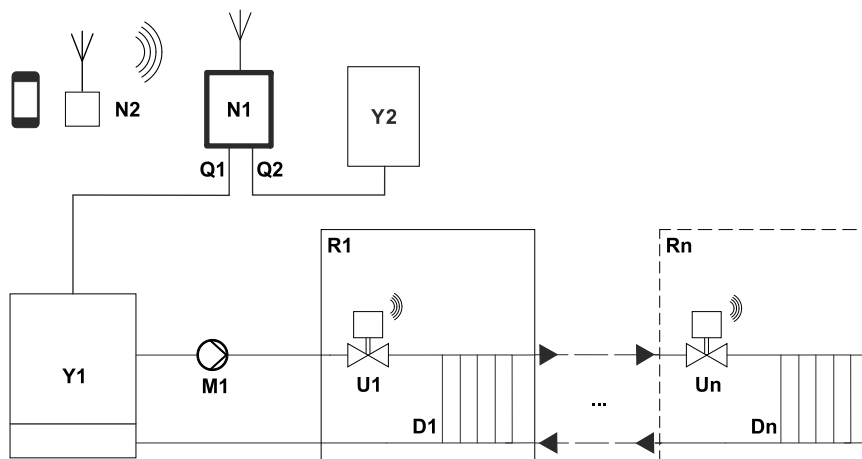


Y1	Boiler, circulation pump, main zone valve or non-reversible heat pump
Y2	DHW

Gas boiler, multi-zone

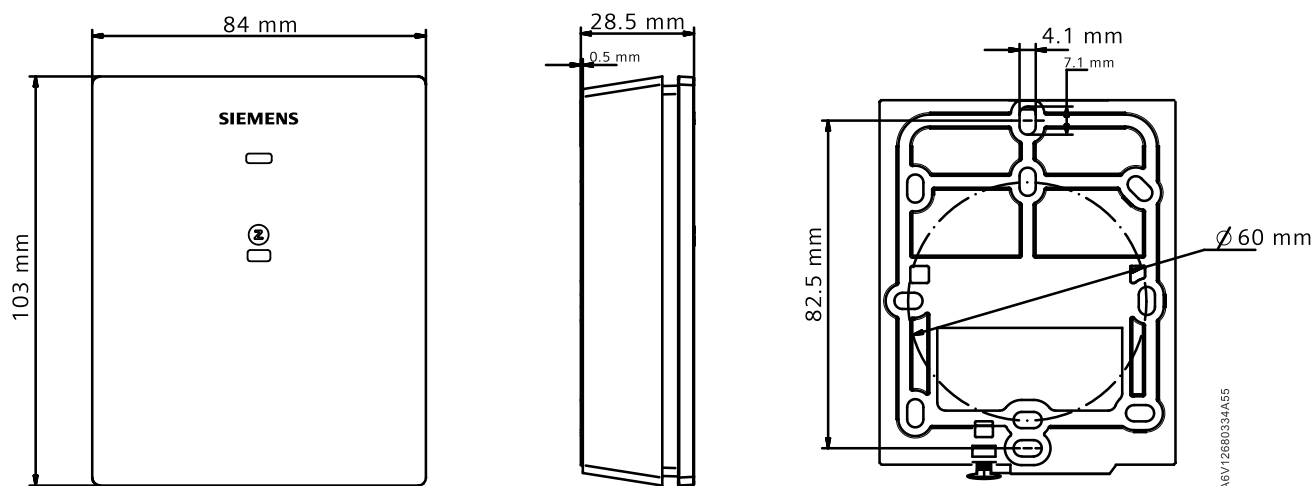


Gas boiler and DHW, multi-zone



N1	Connected Home ReceiverRCR110.2ZB
N2	Connected Home HubGTW100ZB
Q1, Q2	Relay outputs
Y1	Heat generator (e.g., boiler)
Y2	Domestic hot water boiler
M1	Circulating pump
R1, Rn	Individual room/zone
U1, Un	Radiator Valve act. Zigbee
D1, Dn	Radiator

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).

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Document ID A6V12680327_en--_g
Edition 2024-02-01