

Wireless Room Sensor (WRS)



Figure 1. Wireless Room Sensor (Full-Featured).

Product Description

Wireless Room Sensors eliminate the need to run wire between Terminal Equipment Controllers (TECs) and their respective room temperature sensor. The sensor communicates wirelessly with the TEC using a Room Sensor Transceiver (RSX) mounted at the TEC.

Product Numbers

Siemens Logo

QAA2291.EWSC	Wireless Room Sensor (WRS) – Sensing only
QAA2291.DWSC	Wireless Room Sensor (WRS) – Sensing with temperature display
QAA2291.FWSC	Wireless Room Sensor (WRS) – Sensing with override, setpoint, and temperature display

No Logo

QAA2291.EWNC	Wireless Room Sensor (WRS) – No logo – Sensing only
QAA2291.DWNC	Wireless Room Sensor (WRS) – No logo – Sensing with temperature display
QAA2291.FWNC	Wireless Room Sensor (WRS) – No logo – Sensing with override, setpoint, and temperature display

Accessories

563-207	Auto-binding cable (to bind WRS/RSX pair)
544-643A	RTS passkey (to change display to DIAG mode)
N/A	Replacement 3.6 Volts lithium AA battery –SAFT part number LS14500BA (See <i>Field Purchasing Guide</i> .)
540-143	Laptop computer cable (RJ-11 to DB-9)
141-570	Lockable Thermostat Guard, vented clear plastic.

Related Products

563-069	Room Sensor Transceiver (RSX)
563-007	Direct Mount Antenna (for RSX)
563-008	Remote Mount Antenna (for RSX)
563-210-01	RSX/TEC Connection Cable (3 ft)
563-210-02	RSX/TEC Connection Cable (10 ft)

Expected Installation Time

10 minutes

Caution Notations

CAUTION:		Equipment damage or loss of data may occur if you do not follow a procedure as specified.
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Prerequisite

Install the associated transceiver per *Room Sensor Transceiver (RSX) Installation Instructions* (563-067).

Required Tools

- Phillips screwdrivers, sizes 1 and 2
- Medium and small flat-blade screwdrivers
- 1/16" hex key
- Medium-duty electric drill and 3/16-inch (4.8 mm) drill bit
- Small level and tape measure

NOTE: Depending on the actual installation (surface mounting) some of these tools may not be required.

Binding Instructions



CAUTION:

Do not mount the WRS within 10 feet of other RF devices such as microwave ovens, Wi-Fi/802.11 access points, and so on.

1. Remove the plastic insulating strip between the battery in the WRS battery holder (or insert the battery) to power-up the WRS.

NOTE: Even though the WRS is powered, it stays in a low-power sleep mode until commissioned.

If the WRS has an LCD panel, the displayed value does not change until the WRS is bound to an RSX.

2. Bind WRS to associated RSX using optional auto-binding cable (part number 563-207) or HMI commands.

NOTE: Verify associated RSX is installed and powered up before binding.

Binding Using Auto-Binding Cable

To bind your WRS to its associated RSX using the optional auto-binding cable, follow these steps:

1. Using the Auto-binding cable (563-207), plug the connector labeled **Room Sensor Port** into RJ-11 port on WRS.
2. Plug the other cable connector into the RJ-11 port on RSX.
3. If the RSX indicator light does not immediately turn solid yellow, power cycle the RSX to enter binding mode.

When binding is successful, the indicator light on the RSX turns solid yellow. When successful, remove the auto-binding cable.

Binding Using HMI Commands

To bind your WRS to its associated RSX using HMI commands, follow these steps:

1. Connect a PC cable (540-143) from a computer to the RJ-11 port on the bottom of the WRS.
2. Start a HyperTerminal session, log on (1200 baud, 8 data bits, no parity, 1 stop bit, no flow control), and then press **ENTER** to display the WRS prompt.
3. At the WRS HMI prompt, type **BIND RSX a** (where *a* = EUID of the RSX), and then press **ENTER**.

When binding is successful, the LED on the RSX turns solid yellow, and the WRS initiates a communication check with the RSX to verify link quality.

When successful remove the computer cable from the WRS. By default the HMI will time out after five minutes. Remove and reinsert plug to reactivate.

For additional information on using HMI commands to change the default configuration, troubleshoot binding, placement or other diagnostics, see the *Wireless Room Sensor Solution User's Guide* (563-068).

Mounting Instructions



CAUTION:

If the WRS cannot communicate with its RSX for an extended period of time due to the RSX not being commissioned or the RSX is out of range, remove the battery to avoid excessive battery drain.

1. Select a location for the WRS, following the standard rules for room temperature sensor placement.

Always mount the sensor vertically. Locate the sensor as follows:

- No further than 100 feet (30 m) from the RSX, ideally in a location where there are no major RF obstructions (for example, metal or concrete walls) between the two devices.
- Per design specifications, and local regulations.
- Where the air circulates around it freely (not in recessed areas or behind doors).
- Allow a minimum of 4 inches (10 cm) free space above and below for the front cover removal tool and to allow proper airflow.

- Away from drafts caused by doors, windows, outside walls, air registers, return air plenums, and so on.
 - Away from heat sources such as strong lights, fireplaces, direct sunlight, and so on.
 - On an inside wall, about 5 feet (1.5 m) above the finished floor.
2. Mount the WRS base plate to the wall.
 - If used, leave sufficient room to install the Lockable Thermostat Guard. See *Lockable Thermostat Guard Technical Instructions* (155-723).
 - If mounting to drywall, see *Drywall Base Plate Mounting* for instructions.
 3. Snap the sensor front to the sensor base plate by first hooking the sensor front to the top latches, and then rotating the cover downward until it latches.
 4. Loosen the safety set screw at the bottom of the base one or two revolutions to lock the cover to the base. Be careful not to loosen too far, as the screw can be completely removed from the base.

NOTE: There is a perforated label containing the 16-digit EUID number on the back of the WRS. It can be removed and placed on a schedule to facilitate future commissioning of a replacement WRS device, if required.

Drywall Base-Plate Mounting (See Figure 2)

1. Using the sensor base plate as a template, mark the top and bottom mounting hole locations for drywall mounting.
2. Drill two 3/16-inch (4.8 mm) mounting holes and mount the two wall anchors.
3. Orient the **UP** arrow on the base plate at the top and mount on the wall as follows:
 - a. Level the sensor base plate.
 - b. Tighten the two mounting screws to the sensor base plate.



CAUTION:

Over-tightening may cause the sensor base plate to crack or bend.

Optional Guard Mounting

If used, install the Lockable Thermostat Guard per the *Lockable Thermostat Guard Technical Instructions* (155-723).

The installation is now complete.

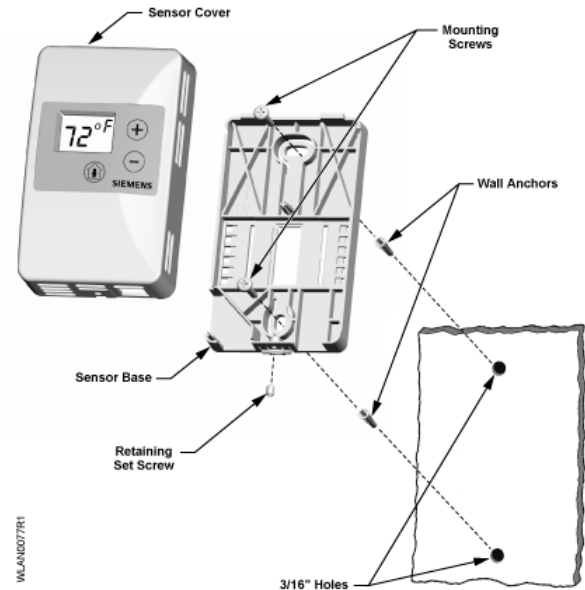


Figure 2. Drywall Mounting.

Section 7.1.5 of RSS-GEN

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

FCC NOTE:

This device complies with Part 15 of the FCC rules. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To comply with FCC's RF exposure limits for general population/uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Interference Statement Part 15.105 (b)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada Statement per Section 4.0 of RSP-100:

The term "IC:" before the certification/registration number only signifies that the Industry Canada technical specifications were met.

This device has been designed to operate with an antenna having a maximum gain of 5dBi. An antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50Ω.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.

The Wireless Room Sensor (WRS) must be installed or replaced by professional installation personnel only.

NCC Interference Statement (Taiwan)

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

According to "Administrative Regulations on Low Power Radio Waves Radiated Devices," without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to approved, low power radio-frequency devices. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said legal communications means radio communications is operated in compliance with the Telecommunications Act. The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

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