SIEMENS

Installation Instructions
Document No. 563-067
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Room Sensor Transceiver (RSX)

Figure 1. Room Sensor Transceiver.

Product Description

The Room Sensor Transceiver (RSX) allows wireless communication between the Terminal Equipment Controller (TEC) and Wireless Room Sensor (WRS). The RSX is mounted at or near the TEC and is powered by 24 Vac. The RSX is connected to the TEC using the RSX/TEC connection cable. The antenna can be mounted directly to the radio or mounted remotely for installations where the location of the RSX causes the antenna to be shielded—for example, when the RSX is mounted inside a TEC enclosure.

Product Numbers

563-069	Room Sensor Transceiver (RSX)
563-007	Direct Mount Antenna
563-008	Remote Mount Antenna

Transceivers do not come with antennas. Antennas must be ordered separately.

Accessories

563-210-01	RSX/TEC Connection Cable (3 ft)
563-210-02	RSX/TEC Connection Cable (12 ft)
563-207	Auto-binding cable (to bind WRS/RSX pair)

Warning/Caution Notations

CAUTION:	⚠	Equipment damage or loss of data may occur if you do not follow the procedures as specified.

Expected Installation Time

10 minutes

Required Tools and Materials

- Electro-static discharge wrist strap
- Small flat-blade screwdriver
- Cordless drill/driver set

Prerequisites

- All wiring must conform to NEC and local codes and regulations.
- 24 Vac Class II power source is available with enough power to support RSX (RSX draws 1.2 VA).
- Metal Oxide Varistors (MOVs) must be used for TECs that switch high voltage devices. For details, see the FSN for *Terminal Equipment Controllers (TECs) Failing when Switching High Voltage Powered Devices*.
- Any application-specific hardware or device is installed.

Antenna Mounting

Direct Mount Antenna

The preferred mounting configuration is to mount the RSX outside the TEC enclosure in a location where it will establish the communication link with its associated WRS. For example, in a VAV application this is typically on the bottom of the VAV box in the ceiling plenum, with the entire antenna extending downwards below the VAV box (Figure 2).

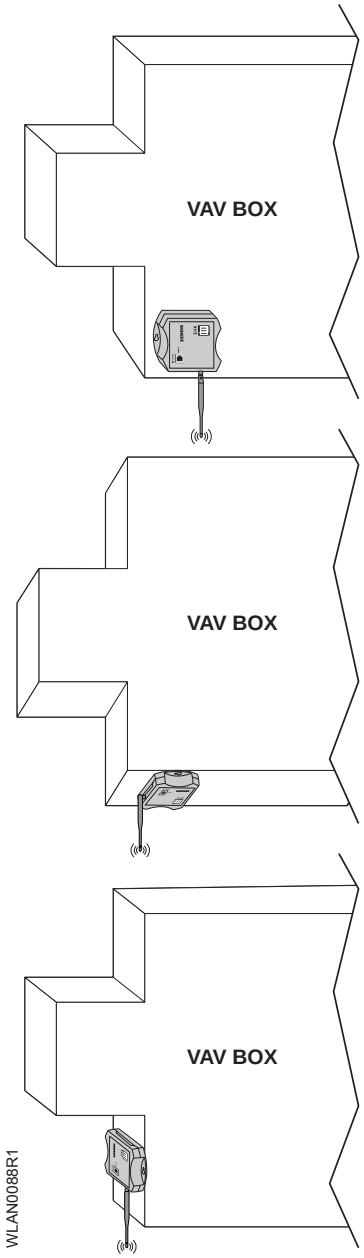

Figure 2. RSX Mounted Outside Enclosure.

Remote Mount Antenna

The RSX is mounted inside the TEC, or any metal enclosure, and the antenna is brought through a 1/2 in. (1.3 cm) knockout (Figure 3).

The antenna extension cable is 12 in. (30 cm) long.

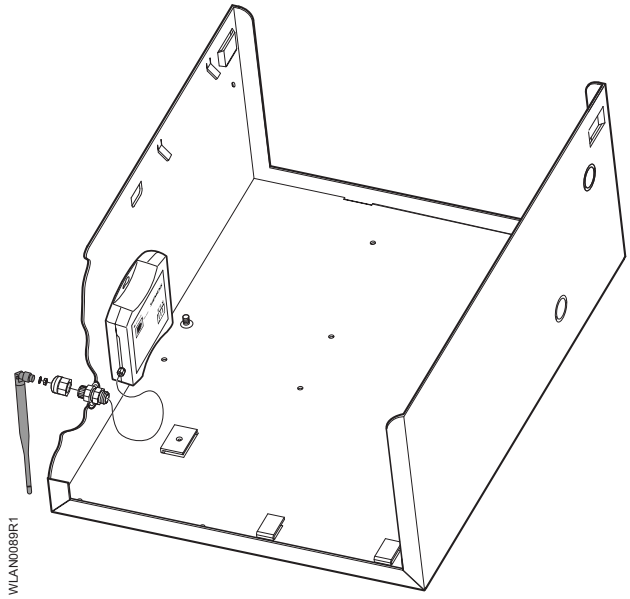

Figure 3. RSX Mounted Inside Enclosure.

NOTE: Due to small attenuation in the remote mount antenna cable, ranges are decreased slightly compared to the direct mount antenna.

Installation

1. Determine the optimal location of the RSX and antenna for RF communications.

   Ideally, the antenna should extend below the terminal box.

2. Mount the RSX using the provided screws.

3. Connect the RTS communication port of the TEC device to the RSX (Figure 4). The maximum cable length is 100 ft (30 m).

NOTE: If you do not have the proper cable to connect the TEC device to the RSX in step 3, Table 1 on page 4 provides pin connections to make your own cable.

4. Connect to 24 Vac power (Figure 4).

   a. Connect “H” and “N” on the RSX power connector to the TEC power source as shown.

   b. Connect “E” on the RSX power connector to earth ground as shown.

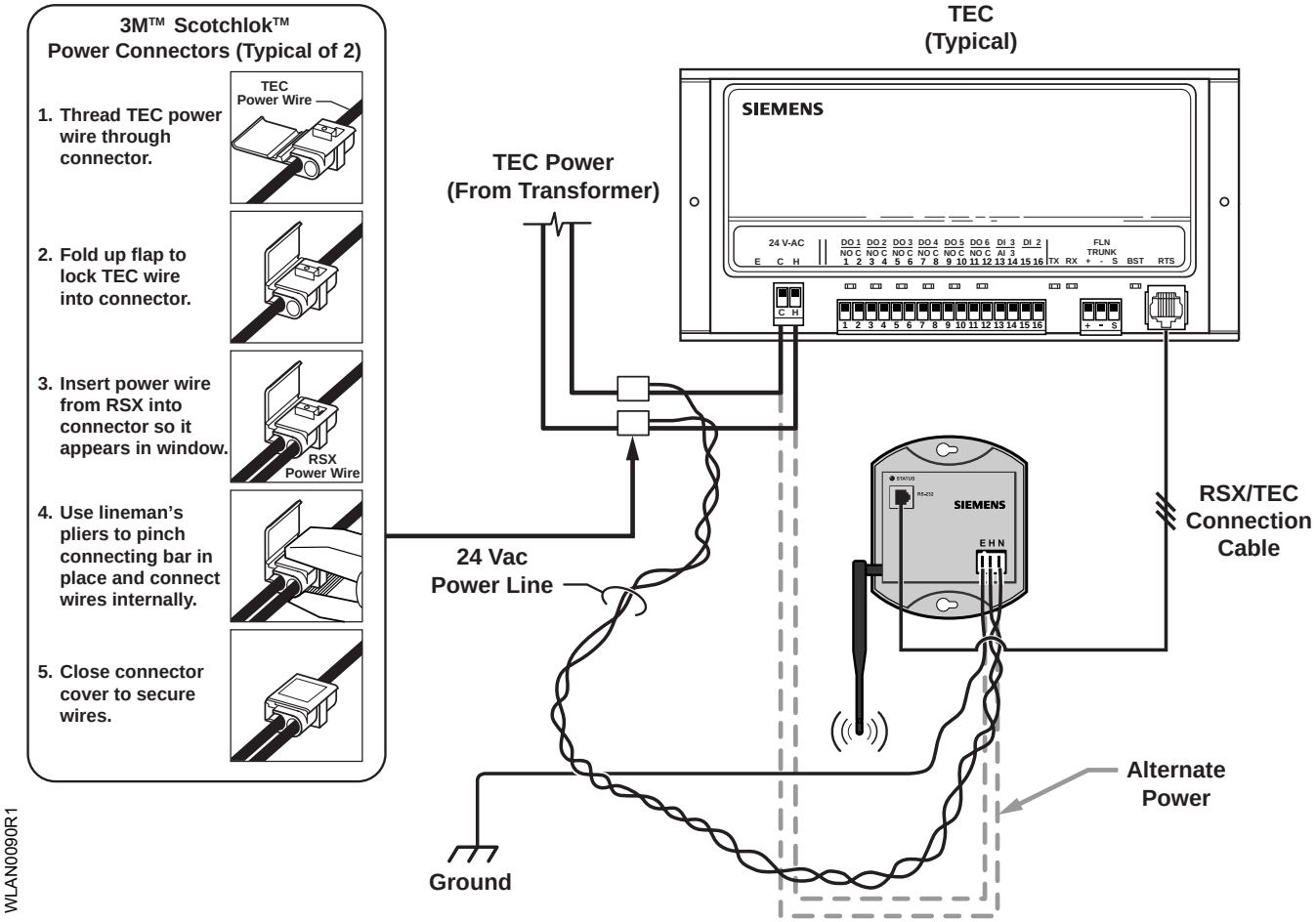

Figure 4. RSX Communication and Power Wiring.

5. Connect the antenna. **Be sure the antenna is securely connected to the RSX.**

   For a remote mount antenna, do the following:

   a. Locate the liquid tight fitting so the antenna extension cable does not incur excessive pull force. At the enclosure, punch a 1/2 in. (1.3 cm) knockout and use the locknut to secure the body of the liquid tight fitting into the knockout.

   b. Route the antenna through the body of the liquid tight fitting (Figure 5). Hand-tighten the liquid tight fitting nut to secure the antenna in place.

   Make certain the liquid tight fitting nut tightens on the antenna base, not the antenna itself, so the antenna can be adjusted.

   c. Connect the antenna wire securely to the RSX.

6. Position the antenna in a vertical orientation (up or down).

7. Install and bind associated Wireless Room Sensor (WRS) to the RSX.

   - If the associated WRS is new or is shipped with the RSX, install WRS per the *Wireless Room Sensor (WRS) Installation Procedure* (563-065).
   - If the associated WRS is already installed, bind the RSX and WRS per the *Wireless Room Sensor Solution User Guide* (563-068).

The RSX installation is complete.

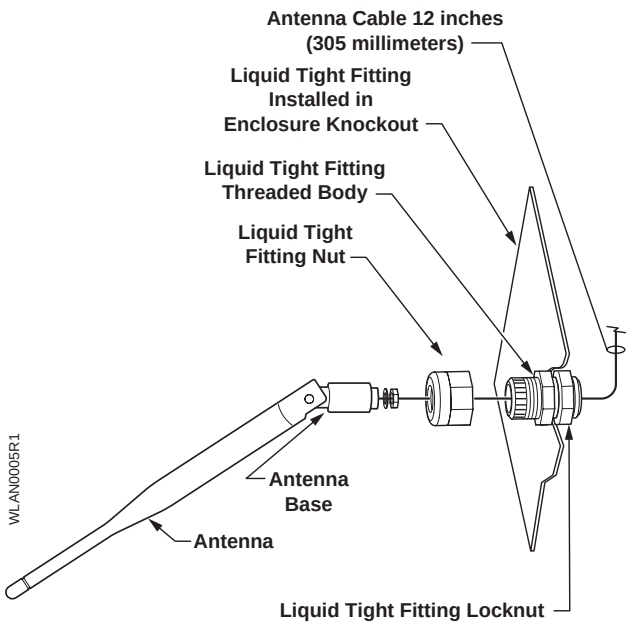

Figure 5. Remote Mount Antenna.

Table 1. RSX-to-TEC Cable Pin Connections.

Connector A (RJ-11)	Connector B (RJ-11)
Pin 1	Pin 1
Pin 2	Pin 2
Pin 3	Pin 3
Pin 4	Pin 4
Pin 5	Pin 6
Pin 6	Pin 5

FCC Notes

This device complies with Part 15 of the FCC Rules. 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.

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.

Industrie Canada Certification

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 Room Sensor Transceiver (RSX) is to 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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