SIEMENS

Installation Instructions
Document No. 129-609
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Series 2200 Carbon Dioxide Room Units for Programmable BACnet Terminal Equipment Controllers (TECs)

Product Description

The Series 2200 CO_2 room units allow users to measure and communicate carbon dioxide and temperature values to a Programmable BACnet TEC Zone Controller (PTEC). Local viewing of the measured values and temperature setpoint adjustment are also possible through the room unit's buttons and digital display.

These devices work with all PTECs. They incorporate a solid state or sensing element to detect temperature, as well as a CO_2 module for carbon dioxide measurement. Relative humidity measurement is also possible with some models. The effective temperature sensing and setpoint range is 55°F to 95°F (13°C to 35°C). CO_2 is measured over the range of 0 to 2000 parts per million (PPM).

These room units can be mounted on electrical boxes, stud-type mounting brackets, or drywall. Obtain the necessary mounting hardware and follow the appropriate mounting procedures for the type of installation required.

Product Numbers

QPA228x.xWNC
QPA228x.xWSC

Accessories

AQM2200 Power Module

AQA2200-INTL Room Unit Back Plate (10-pack)

AQA2200-2X4 Room Unit Back Plate (Single)

563-102 GSKT Kit Room Sensor Insulating Gasket (10-pack)
(For hollow wall installations)

TEC to Room Sensor Cable
Yellow, 6-pin male with RJ-11 jacks on both ends
(Choose 1, a cable may already be installed):
588-100A 25-foot
588-100B 50-foot
588-100C 100-foot

Caution Notations

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

Expected Installation Time

20 minutes

Figure 1. CO_2 Room Unit.

Required Tools

- Phillips sizes 1 and 2 screwdrivers
- Small and medium, flat-blade screwdrivers
- 1/16-inch hex key or 544-643A Passkey (includes hex bit)
- Medium-duty electric drill
- 3/16-inch (4.8 mm) drill bit
- One-inch (25 mm) hole saw
- Small level
- Tape measure
- Marker or pencil

If using non-terminated or damaged cables, you also need:

- Room unit connector tool (RJ-11 crimping tool – 540-140 or third-party tool)
- Room unit connector kit (540-141)

Prerequisites

- Review these instructions before beginning.
- Installed: appropriate field wiring (standard six-conductor room unit cables, plenum or non-plenum as required) within the maximum wiring run length for the individual equipment controller. The maximum recommended length is 100 feet (30 m).
- Installed: AQM2200 Power Module.

  NOTE: The AQM2200 is a mandatory component of this installation. Without the Power Module, the Room Unit will not power up.

- All wiring must comply with National Electric Code (NEC) and local regulations.

Room Unit Mounting Information

Always mount the room unit vertically, on a flat wall.

Locate the room unit:

- according to design specifications and local regulations.
- where the air circulates around it freely (not in recessed areas or behind doors).
- allowing a minimum of 4 inches (10 cm) free space above and below for proper airflow, the hex bit or passkey tool, and the computer communication cable.
- away from drafts caused by doors, windows, outside walls, air registers, pipes, return air plenums, etc.
- away from heat sources such as strong lights, fireplaces, direct sunlight, etc.
- on an inside wall (preferably), about 5 feet (1.5 m) above the finished floor, or per code (ANSI, ADA, or local regulation).

Drywall Mounting (No Rough-in), Typical

1. Mark the center (cable) hole and the mounting hole locations, using the room unit base plate as a template. See Figure 3.
2. Drill two 3/16-inch (4.8 mm) mounting holes and mount the two plastic wall anchors flush to below the wall surface for stable mounting of the device.
3. Cut a 1-inch (25 mm) center hole with a hole saw.

   NOTE: It is recommended that you use the optional Insulating Gasket on the back of the Sensor Base for hollow wall installations.

   When applying the adhesive-backed gasket to the back of the Sensor Base, orient the gasket so that the cut-out arrow portion of the gasket is in the upper lefthand quadrant of the Sensor Base. The Sensor Base has an UP arrow molded into the surface in the same quadrant location.

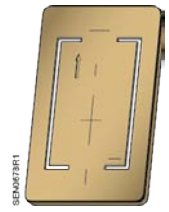
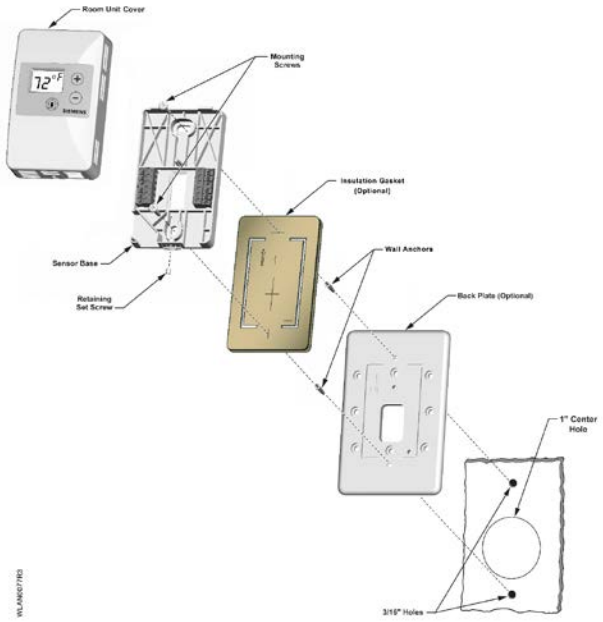


Figure 2. Insulating Gasket.

4. Pull about three inches (75 mm) of the cable through the hole in the base plate.



NOTE: See Figure 2 for details on optional Gasket application.

Figure 3. Drywall Mounting (No Rough-in), Typical.

5. Mount the room unit base plate on the wall, noting the "UP" arrow:

   NOTE: If required, position the Back Plate behind the Room Unit Base, aligning the top and bottom mounting holes, prior to mounting to the wall:

   a. Install the two mounting screws provided, but do not tighten.
   b. Level the room unit base plate for appearance.

c. Tighten the two mounting screws to the room unit base plate.

6. Do the following:

- Inspect the RJ-11 connector for damage.
- If the RJ-11 was damaged: Cut the cable, leaving about three inches (75 mm) on the room unit side of the drywall, and attach an RJ-11 connector with an RJ-11 crimping tool. On the RJ-11 connectors, ensure that pin Number 1 connects to the same wire at each end of the cable. See Figure 4.

CAUTION:

For retrofits: Before cutting the cable, make sure it is disconnected from the Room Unit port on the controller cable end.

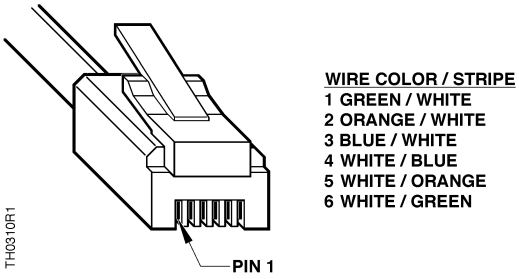


Figure 4. Terminating the RJ-11 Connector.

7. Plug the terminated cable into the RJ-11 connector on the back of the room unit's printed circuit board (PCB).
8. Feed the extra cable back through the hole.
9. Snap the room unit cover to the room unit base plate by first hooking the room unit front to the top latches, and then rotating the cover downward until it latches.
10. 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.
11. Connect the RJ-11 cable from the room unit to the RJ-11 connection on the CO_2 Power Module (AQM2200). Make sure the cable is connected to the correct RJ-11 port.
12. Terminate the CO_2 Power Module power wires to the TEC power connector or the 24 Vac transformer or other 24 Vac transformer (See *AQM2200 Power Module Installation Instructions* 129-111 for detailed information). The CO_2 Power Module may be powered off the same power source as the TEC.
13. Connect the RJ-11 Cable from the CO_2 Power Module to the RJ-11 Temperature Room Unit port on the TEC.

The installation is now complete.

Electrical Box and Rough-in Mounting, Typical

1. If a locator is attached to the rough-in device, remove the locator by removing the two screws and lightly rocking the locator to pull it free.
2. Untie the twist tie and pull about three inches (75 mm) of the room unit cable through the hole in the base plate.
3. Mount the room unit base plate on the wall, noting the "UP" arrow:

   NOTE: If required, position the Back Plate behind the Room Unit Base, aligning the top and bottom mounting holes, prior to mounting to the wall.

   a. Install the two room unit mounting screws provided, but do not tighten.
   b. Level the room unit base plate for appearance only.
   c. Tighten the two mounting screws to the room unit base plate.

   CAUTION:
   Over-tightening may cause the room unit base plate to crack or bend.

4. Continue with *Drywall Mounting (No Rough-in), Typical*, Steps 7 through 13.

The installation is now complete.

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