SIEMENS

Series 2200 Carbon Dioxide Room Units for Programmable BACnet TEC

Figure 1. QPA2284.FWSC Combination CO_2, Temperature and Relative Humidity Room Unit.

The Series 2200 CO_2 Room Units from Siemens Industry, Inc. offer a wide range of features and functionality that work in concert with the APOGEE® Automation System to deliver exceptional occupant comfort in even the most demanding application environments. The product family includes plain, sensing-only variants, and fully interactive types with a graphical OLED (Organic Light Emitting Diode) displays. All room units incorporate precision CO_2 and temperature sensing elements to accurately and reliably measure room temperature and carbon dioxide. Their compact, low profile design results in an attractive, inconspicuous installation. Strategically placed ventilation slots in the housing optimize airflow through the cover for fast measurement response and superior control.

These room units provide accurate, reliable sensing of room carbon dioxide and temperature. Some models also sense humidity. They can be used with all Programmable BACnet Terminal Equipment Controllers (PTECs).

NOTE: Standard P1 TECs do not have the ability to handle CO_2 or relative humidity data. Room units connected to a P1 TEC will only display CO_2 and humidity values locally in the controlled space.

NOTE: If there isn't an RM CO2 point in the BACnet TEC, the sensor will display the CO_2, but it will not be available at the BACnet TEC.

For those sensors that support relative humidity, if there isn't an RM RH point, the sensor will display RM and RH, but it will not be available at the BACnet TEC.

Applications

The Series 2200 CO_2 Room Units incorporate digital CO_2 and temperature integrated circuits and a plug-in HMI (Human-Machine Interface) port located on the bottom of the cover. The HMI port provides a convenient means of communicating with the controller to command or troubleshoot the system. These room units connect to the controller via a six-wire cable terminated with a plug-in RJ-11 connector. The cable transmits the temperature, the communication with the HMI, and the optional temperature setpoint and override signals.

Available Features (QPA2284.F models only)

- OLED Display: A 96 × 64 pixel graphical OLED display allows simultaneous digital display of room CO_2 or temperature, and day/night operation status. The unit alternately displays measured CO_2, Temperature, and relative humidity value (if present).
    - Standard Display Features:
        - Display of operating mode: Graphic symbols are displayed to indicate the controller's operating mode. A symbol of a person in the house indicates occupied mode operation and a symbol of a person outside the house indicates unoccupied mode.
        - Easy-to-read room CO_2 value
        - Easy-to-read room temperature value to 1 decimal place
        - Easy-to-read room humidity value
        - Digital display
    - Configurable Display Features:
        - Degrees Fahrenheit or Celsius
        - Graphical or alphanumeric setpoint display
        - Room temperature display on or off
        - Room CO_2 display on or off
        - Room humidity display on or off
- Digital setpoint adjustment: The room unit's keypad allows error-free digital temperature setpoint adjustments in one-degree increments. Setpoint values momentarily display as changes are made.
- Override button: The override button allows an occupant to change to an occupied control schedule during the unoccupied cycle for a predetermined time period as defined by the controller. Occupancy graphic is shown on the display during occupied time periods.
- Maintenance-free: These room units draw their power from the CO_2 Power Module.
- Compatibility: These room units are compatible with all PTECs. The room units are wired with six-conductor phone cables and standard RJ-11 connectors.
- HMI port: RJ-11 connection allows laptop connection for commissioning and servicing the controller.

Specifications

Temperature Specifications	
Temperature Range	
Setpoint	55°F to 95°F (13°C to 35°C)
Operating	55°F to 95°F (13°C to 35°C)
Output Signal	Digitally communicating
Sensing Element Type	Digital Temperature Sensor IC
Sensing Accuracy	
QPA2282.xWxC	
32°F to 122°F (0°C to 50°C)	±0.9°F (±0.5°C)
QPA2284.xWxC	
32°F to 122°F (0°C to 50°C)	±0.5°F (±0.3°C)
Humidity Specifications (QPA2284 models only)	
Humidity Range	0 to 100% rh
Output Signal	Digitally communicating
Sensing Element Type	Digital Sensor IC
Humidity Accuracy (QPA2284 types only)	
10% - 90% rh	± 2% rh
< 10% rh; > 90% rh	± 4% rh
CO_2 Specifications	
Carbon Dioxide Range (PPM)	0 to 2000 parts per million
Output Signal	Digitally communicating
Sensing Element Type	NDIR Module
CO_2 Accuracy	+/- 50 PPM + 2% of reading
Field Calibration	None required
CO2 Drift	+/- 5% of range over 5 years
Calibration Features	
Temperature	Adjustable to ± 5°F
Humidity	Adjustable to ± 5% rh
CO_2	Adjustable to ± 50 ppm
Installation	
BACnet PTEC	100 ft. Maximum cable length. 6C #24 AWG, Belden DFLEX3 or equal, NEC Class 2
Installation Adjustments	None required
Cover	
Dimensions	4.5" × 2.75" × 1.18" (115 mm × 70 mm × 30 mm)
Color	White
Power Supply	Supplied by CO_2 Power Module AQM2200
Power Module Power Specifications	Input: 24 Vac +/- 20% 50-60Hz.
Max input at rated load:	24 Vac @ 10 VA, 5W, 320 mA
Typical input with stat connected:	24 Vac @ 2.5 VA, 1.5W, 85 mA
Output:	24 Vdc @140 mA Max

Siemens Industry, Inc,

Product Ordering Information

Part Number	Comm Type	Logo	Display	Temperature Setpoint/ Override	CO_2	Temp	RH (2%)
QPA2282.EWSC	Digital	Siemens			●	●	
QPA2284.EWSC		Siemens			●	●	●
QPA2284.FWSC			●	●	●	●	●
QPA2282.EWNC		None			●	●	
QPA2284.EWNC		None			●	●	●
QPA2284.FWNC			●	●	●	●	●

Accessories Ordering Information

Description	Product Part Number
25-foot (7.6 m) cable with connections	588-100A
50-foot (15.2 m) cable with connections	588-100B
100-foot (30.5 m) cable with connections	588-100C
Replacement rh 2%+ Temperature Element	AQF3060
Passkey Tool (Used to set room unit parameters)	544-643A
Power Module	AQM2200
Replacement Housing Base	563-120
Room Unit Back Plate (10-pack)	AQA2200-INTL
Room Unit Back Plate (Single)	AQA2200-2X4

NOTE: One AQM2200 Power Module must be purchased for each Series 2200 CO_2 Room Unit installed. Without the Power Module, the Room Unit will not power up.

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