CO_2 Room Sensor, BAPI-Stat "Quantum Prime"

Air Quality Sensors

Rev. 01/19/21

Features & Options

- Automatic Barometric Pressure Compensation for Accurate Readings Regardless of Weather or Altitude
- Optional Temperature, Setpoint, Override and Humidity
- Models for Periodically or Continuously Occupied Areas

The BAPI CO_2 Sensor is an accurate and reliable way of incorporating demand controlled ventilation into a building's HVAC strategy. It measures the CO_2 in a range of 0 to 2,000 ppm with a field selectable output of 0 to 5 or 0 to 10 VDC.

The Single Channel unit has been optimized for periodically unoccupied areas and features automatic background calibration over a long time period to reduce drift. The Dual Channel "24/7" unit has been optimized for continuously occupied areas and features a 3-point calibration process for enhanced accuracy and stability.

Barometric pressure changes can affect CO_2 sensors, even putting them outside of their specified accuracy. The BAPI unit has a built-in Barometric pressure sensor that continuously compensates the output for accurate readings despite the weather or altitude.

The unit can be ordered as CO_2 alone, or with temp and humidity sensing, temp setpoint and override. The CO_2 level is indicated as "Good, Fair or Poor" by three LEDs on the front of the unit. A 60mm mounting base is also available to fit European style junction boxes.

BAPI-Stat "Quantum Prime" CO_2 Sensors
(bottom unit shown with optional 60mm mounting base)

Specifications

Power for 0 to 5 VDC Outputs:
0 to 5V Outputs: 9 to 35 VDC @ 240 mA (9 to 24 VDC recomm.)
0 to 10V Outputs: 15 to 35 VDC @ 240 mA (15 to 24 VDC recomm.)

CO_2 Sensor: Single or Dual Channel Non-Dispersive Infrared (NDIR)

Humidity Sensor: Capacitive Polymer ±2% RH Accuracy

Temperature Sensor: Thermistor or RTD

Operating Environment:
32 to 122°F (0 to 50°C) • 0 to 95%RH non-condensing

Material: ABS Plastic, Material Rated UL94V-O

CO_2 Detection Range: 0 to 2,000 ppm

Start-Up Time: <2 Minutes

Response Time: <2 Minutes for 90% step change typical (after start-up)

CO_2 Accuracy (Single Channel Units):
400 to 1,250 ppm: ±30ppm or 3% of reading, whichever is greater
1,250 to 2,000 ppm: ±5% of reading + 30ppm

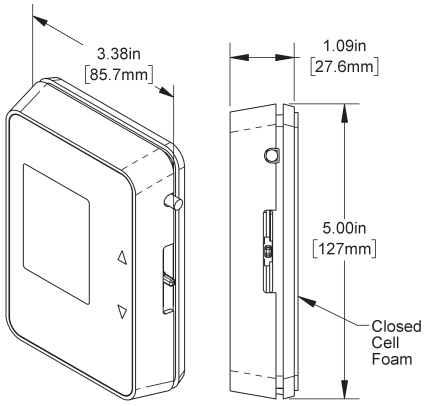
CO_2 Accuracy (Dual Channel "24/7" Units):
400 to 1,000 ppm: ±75 ppm
>1,000 ppm: ±10% of reading

CO_2 Drift Stability (Dual Channel "24/7" Units):
<5% of full scale over life of product.

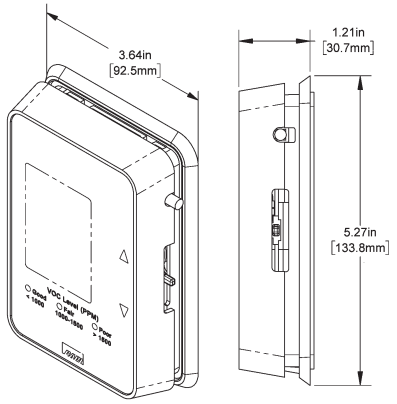
Mounting: Standard 2"x4" junction box, European junction box or drywall mount (screws provided)

LED CO_2 Level Indicator:
Good, Green < 1,000 PPM
Fair, Yellow = 1,000 to 1,500 PPM
Poor, Red > 1,500 PPM

Certifications: RoHS, Title 24 Requirements



Unit Dimensions
(bottom unit shown w/ 60mm mounting base for European wall boxes)



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Use the Option Selection Guide below to create your custom part number. Replace the number and parenthesis with the designator for each selection. Skip the designator and dashes for optional selections that are not required in your configuration.

BAPI-Stat "Quantum Prime" CO2 Sensor Option Selection Guide:

Unit w/ Standard Mounting Base
BA/AQP(**#1**) - (**#2**) - (**#3**) - (**#4**) - (**#5**) - (**#6**)(**#7**) - (**#8**) - (**#9**)

Unit w/ Standard Mounting Base
BA/AQP60(**#1**) - (**#2**) - (**#3**) - (**#4**) - (**#5**) - (**#6**)(**#7**) - (**#8**) - (**#9**)

#1: Display Style (required)
F .....Unit with Display and °F indication
C.....Unit with Display and °C indication
X .....Unit without Display

#2: CO2 Output (required)
A .....Single Channel, 0 to 5V Output
B .....Single Channel, 0 to 10V Output
C.....Dual Channel, 0 to 5V Output
D.....Dual Channel, 0 to 10V Output

#3: Temperature Sensor (required)
A .....1K Platinum RTD (385 curve)
B .....10K-2 Thermistor
C.....10K-3 Thermistor
D.....10K-3[11K] Thermistor
E .....20K Thermistor
F .....1.8K Thermistor
G.....1K Ω Nickel RTD
H.....3K Thermisto
X .....No Temperature Sensor

#4: Humidity Output (required)
A .....±2% Accuracy, Output of 0 to 5V
B .....±2% Accuracy, Output of 0 to 10V
X .....No Humidity Output

#5: Setpoint Adjustment (required)
1.....Slider Setpoint Adjustment
X .....No Setpoint Adjustment

Additional options are available for these units but not shown in this Selection Guide. Contact your BAPI representative for the complete list of options.

#6: Setpoint Display Range (required)
A .....-3 to +3
B .....-5 to +5
C.....50 to 90 °F or 10 to 32 °C
D .....55 to 85 °F or 13 to 30 °C
E .....60 to 80 °F or 15 to 27 °C
F .....65 to 80 °F or 18 to 27 °C
X .....No Setpoint Adjustment

#7: Setpoint Output Range (required)
00.....0 to 5 V
10.....0 to 10 V
40.....0 to 1 K
60.....0 to 10 KΩ
80.....0 to 20 KΩ
81.....4.75 K to 24.75 KΩ
82.....6.19 K to 26.19 KΩ
84.....10 K to 30 KΩ
X .....No Setpoint Adjustment

#8: Occupant Override (required)
J.....Override as a Separate Output
N.....Override in Parallel (//) with Sensor
P .....Override in Parallel (//) with Setpoint
X .....No Override

#9: Optional Selections* (optional)
A .....Differential Ground
B .....Comm Jack C35
F .....Test and Balance Switch

*When more than one is selected, put in alphabetical order. Additional options and descriptions can be found on pg. I4

Example Number: BA/AQP **(F) - (A) - (B) - (A)- (1) - (F)(80) - (N)**

Actual Number (with brackets removed): BA/AQPF-A-B-A-1-F80-N

Description: BAPI-Stat "Quantum Prime" CO2 Sensor, °F Display, 0 to 5V Single Channel CO2 Output, 10K-2 Thermistor Temperature Sensor, 0 to 5V Humidity Output, Sider Setpoint Adjustment, 65 to 80 Temp Setpoint Display Range, 0 to 20K Temp Setpoint Output Range, Override in Parallel with the temp sensor, No Additional Options

Your Number: BA/

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