



Features & Options

- Automatic Altitude and Temperature Compensation
- Optional Temperature, Temperature Setpoint, Override and Humidity
- Optimized for Periodically Unoccupied Areas

The BAPI CO₂ Sensor is an accurate and reliable way of incorporating demand controlled ventilation into a building's HVAC strategy. It measures the CO₂ in a range of 0 to 2,000 ppm with a field selectable output of 0 to 5 or 0 to 10 VDC.

The non-dispersive infrared (NDIR) technology has been optimized for periodically unoccupied areas and features automatic background calibration over a long time period to reduce drift. The sensor is also altitude compensated for long-term accuracy. Air pressure changes from altitude or weather patterns can affect the output of CO₂ sensors, even putting them outside of their specified accuracy. The BAPI unit has a built-in barometric sensor that continuously compensates the output for accurate readings despite the weather or altitude of the installation.

The unit can be ordered as CO₂ alone, or with optional temp sensing, temp setpoint, override and humidity sensing. The large format display is easy to read and alternates between the measured values (CO₂, Temperature or Humidity). The display is also field adjustable between °F or °C and all the displayed values may be turned on or off by an HVAC technician.

Optional indication of the CO₂ level as "Good, Fair or Poor" is available as a three-color LED on the unit or as an arrow on the display.



The CO₂ Sensor is part of BAPI's "True Blue IEQ Family". When used as a combination Temp. and Humidity Sensor, it addresses the Indoor Air Quality and Thermal Comfort portions of ASHRAE's Indoor Environment Quality (IEQ) section of Standard 189.1.



CO₂ Sensors with Temp. Setpoint and Override.

The top unit has the CO₂ Level of "Good, Fair or Poor" shown by an arrow on the display. The bottom unit has the CO₂ level shown by a 3-color LED.

Specifications

Power for 0 to 5 VDC Outputs:

9 to 35 VDC @ 50mA avg, 200 mA max (9 to 24 VDC recomm.)

Power for 0 to 10 VDC Outputs:

15 to 35 VDC @ 50mA avg, 200 mA max (15 to 24 VDC recomm.)

Sensing Elements:

CO₂: Single Beam Non-Dispersive Infrared (NDIR)

Humidity: Capacitive Polymer ±2% RH Accuracy

Temperature Sensor:

Thermistor, RTD or Semiconductor

Operating Environment:

32 to 122°F (0 to 50°C)

0 to 95%RH non-condensing

Material ABS Plastic, Material Rated UL94V-0

CO₂ Detection Range: 0 to 2000 ppm

Start-Up Time: 10 Minutes

Response Time: Less Than 2 Minutes (after Start-Up Time)

Mounting: 2"x4" J-Box or drywall – screws provided

CO₂ Accuracy: (Automatic Background Calibration)

400 to 1,250 ppm: ±30ppm or 3% of reading, whichever is greater

1,250 to 2,000 ppm: ±5% of reading + 30ppm

LCD Display:

Main Display: 0.76" 4-digit Numeric (Numeric Values)

Minor Display: 0.34" 3-digit Alpha-Numeric (PPM, %RH, °F, °C)

Occupied/Unoccupied BAPI Man Icon: (Blk=Occupied)

Measurement Offsets: (Field Adjustable)

±5° (F or C) in 0.1° increments

±5% RH in 0.1% RH increments

Override Output:

Contact SPST, 24V AC/DC, 0.5A max

Sensor Shorts Out direct temperature sensor

Setpoint Contact in parallel, resistive setpoint only

LED CO₂ Level Indicator:

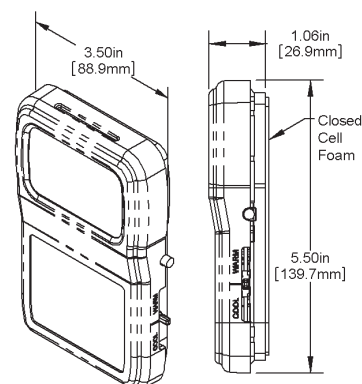
Good, Green < 1,000 PPM

Fair, Orange = 1,000 to 1,500 PPM

Poor, Red > 1,500 PPM

Certifications: RoHS

Warranty Period: 2 Years from manufacture date





CO₂ Room Sensor, BAPI-Stat 3 Enclosure

D9

Rev. 10/16/12

Air Quality Sensors

Ordering Information BAPI-Stat 3 Style Room Unit - CO ₂ , Temperature and Humidity																																																
BA/																																																
Temperature Display Mode																																																
BS3F Temperatures Displayed in °F (Temperature is displayed by default but can be turned off by the user. See instruction sheet.)																																																
BS3C Temperatures Displayed in °C (Temperature is displayed by default but can be turned off by the user. See instruction sheet.)																																																
BS3X No LCD Display																																																
CO₂ Output																																																
-ACD05 CO ₂ as 0 to 2,000 PPM, 0 to 5 VDC output, Automatic Background Calibration for buildings that are periodically unoccupied																																																
-ACD10 CO ₂ as 0 to 2,000 PPM, 0 to 10 VDC output, Automatic Background Calibration for buildings that are periodically unoccupied																																																
Humidity Transmitter (Omit if not required)																																																
-H205 ±2% Humidity Transmitter, 0 to 5 VDC output																																																
-H210 ±2% Humidity Transmitter, 0 to 10 VDC output																																																
-H212 ±2% Humidity Transmitter, 2 to 10 VDC output																																																
Setpoint Display Options (Skip if not required)																																																
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Sensor Type (If resistive sensor required)																																																
-0 100 Platinum RTD, 100Ω @ 0°C, 0.385Ω/°C temp coeff.																																																
-1375 1K Platinum RTD, 1,000Ω @ 0°C, 3.75Ω/°C temp coeff.																																																
-1NI 1K Nickel RTD, 1,000Ω @ 21°C, 50Ω/°C temp coeff.																																																
-1 1K Platinum RTD, 1,000Ω @ 0°C, 3.85Ω/°C temp coeff.																																																
-2 2K Silicon RTD, 2,000Ω @ 20°C, 80Ω/°C temp coeff.																																																
-18 1.8K Thermistor, 1,800Ω @ 25°C																																																
-3 3K Thermistor, 3,000Ω @ 25°C																																																
-33 3.3K Thermistor, 3,300Ω @ 25°C																																																
-102 10K-2 Thermistor, 10,000Ω @ 25°C																																																
-103 10K-3 Thermistor, 10,000Ω @ 25°C																																																
-10311 10K-3[11K] Thermistor, 5,238Ω @ 25°C, 11KΩ shunt resistor																																																
-20 20K Thermistor, 20,000Ω @ 25°C																																																
-50 50K Thermistor, 50,000Ω @ 25°C																																																
-100 100K Thermistor, 100,000Ω @ 25°C																																																
-592 AD592 Semiconductor, 273 μA @ 0°C																																																
Override Configuration (Must select one)																																																
-J Override as a Separate Output.* (Dry contact only, not intended to switch a load.)																																																
-N Override in Parallel (//) with Sensor																																																
-P Override in Parallel (//) with Setpoint: NOT available on voltage setpoint models																																																
-Z No Override. (Needed if no override is required)																																																
Optional Communication Jack (Mounted in unit's base)																																																
-C11L RJ11 (4 pin) Style Jack with Leads																																																
-C11LT RJ11 (4 pin) Style Jack with Leads and Terminal Block																																																
-C35L 3.5 mm Phono Jack w/ Leads Attached																																																
-C35LT 3.5 mm Phono Style Jack with Leads and Terminal Block																																																
-C22L RJ22 (4 pin) Style Jack with Leads Attached																																																
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Optional Test and Balance Switch																																																
-TB Three Position Switch																																																
Differential Ground – Setpoint & Temp Sensor (Skip if not required)																																																
-DF Differential Ground (Default is Common Ground, Only add -DF if required)																																																
CO₂ Level Indication (Must select one)																																																
-LED Green/Orange/Red LED on Logo Plate to Indicate CO ₂ PPM Level. Includes Legend for Good, Fair and Poor.																																																
-ARW Black Arrow on Display to Indicate CO ₂ PPM Level. Includes Legend Below Display for Good, Fair and Poor																																																
-BNK No LED or Arrow Indicators, No Legend																																																

EXAMPLE

BA/	BS3F	-ACD05	-H205	-A	80L6	-0	-J	-C11L	-TB	-LED
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Example Part Number: BA/BS3F-ACD05-H205-A80L6-0-J-C11L-TB-LED

Your Part Number:

Call BAPI if you have questions about the above ordering/pricing grid or the configuration of the product you are ordering.
*Not available with Differential Ground (-DF) option

