



## Features & Options

- Altitude and Temperature Compensation
- Optional Temperature, Temperature Setpoint, Override and Humidity
- Optimized for Areas that Are Continuously Occupied

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

The non-dispersive infrared (NDIR) technology of the "24/7" unit has been optimized for continuously occupied areas. It features a dual-channel optical system and three-point calibration process for enhanced stability, accuracy and reliability. The sensor is also altitude compensated for long-term accuracy. Air pressure changes from altitude or weather patterns can affect the output of CO<sub>2</sub> 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 the altitude of the installation.

The unit can be ordered as CO<sub>2</sub> 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 (CO<sub>2</sub>, 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 CO<sub>2</sub> level as "Good, Fair or Poor" is available as a 3-color LED on the unit or an arrow on the display.

*The CO<sub>2</sub> 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.*



**CO<sub>2</sub> Sensors with Temp. Setpoint and Override.**

**The top unit has the CO<sub>2</sub> Level of "Good, Fair or Poor" shown by an arrow on the display. The bottom unit has the CO<sub>2</sub> 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:

CO<sub>2</sub>: Dual Channel 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

**CO<sub>2</sub> 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

### Override Output:

Contact .... SPST, 24V AC/DC, 0.5A max  
Sensor ..... Shorts out direct temperature sensor  
Setpoint ... Contact in parallel, resistive setpoint only

### 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

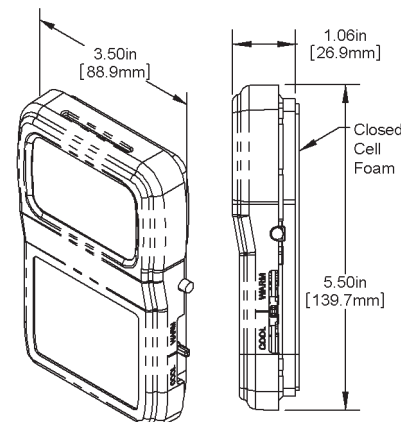
**CO<sub>2</sub> Accuracy:** ±75ppm

### LED Air Quality Indicator:

Good, Green < 1,000 PPM  
Fair, Yellow = 1,000 to 1,500 PPM  
Poor, Red > 1,500 PPM

**Certifications:** RoHS

**Warranty Period:** 2 Years from manufacture date





# "24/7" CO<sub>2</sub> Room Sensor, BAPI-Stat 3

# D11

Rev. 11/27/13

Air Quality Sensors

Ordering Information		BAPI-Stat 3 Style Room Unit - "24/7" CO <sub>2</sub> , Temperature and Humidity								
BA/										
<b>Temperature Display Mode</b>										
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									
<b>CO<sub>2</sub> Output</b>										
-DCD05	CO <sub>2</sub> as 0 to 2,000 PPM, 0 to 5 VDC output, Dual Channel Calibration for buildings that are continuously occupied									
-DCD10	CO <sub>2</sub> as 0 to 2,000 PPM, 0 to 10 VDC output, Dual Channel Calibration for buildings that are continuously occupied									
<b>Humidity Transmitter (Omit if not required)</b>										
-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									
<b>Setpoint Display Options (Skip if not required)</b>										
	<u>Desired Range</u>	<u>Designator</u>	<u>Desired Range</u> <u>Designator</u>							
	-2 to +2	P	60 to 80 °F or 15 to 27 °C    E							
	-3 to +3	A	65 to 80 °F or 18 to 27 °C    F							
	-5 to +5	B	70 to 74 °F or 21 to 23 °C    L							
	50 to 90 °F or 10 to 32 °C	C	45 to 96 °F or 7 to 36 °C    G							
	55 to 85 °F or 13 to 30 °C	D								
	#									
<b>Setpoint Output Value Range (Skip if not required)</b>										
	<u>Desired Range</u>	<u>Designator</u>	<u>Desired Range</u> <u>Designator</u>							
	674 to 274 Ω	23	15 to 5 kΩ    61							
	800 to 1200 Ω	25	0 to 20 kΩ    80							
	1800 to 2200 Ω	27	4.75 to 24.75 kΩ    81							
	0 to 1 kΩ	40	7.87 to 27.87 kΩ    83							
	500 to 1500 Ω	41	10 to 30 kΩ    84							
	2 to 3 kΩ	42	0 to 100 kΩ    90							
	0 to 10 kΩ	60	0 to 5 V*    00*							
	##									
Additional Setpoint Ranges are Available. See App. Notes Pg.2 for complete list.										
<b>SETPOINT LEGEND (insert Designator #)</b>										
	<u>Legend Range</u>	<u>Designator</u>	<u>Legend Range</u> <u>Designator</u>							
	No Legend	L0	COOL/WARM    L6							
Additional Legends are Available. Call BAPI for more information.										
<b>Sensor Type (If resistive sensor required)</b>										
-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, 5Ω/°C temp coeff.									
-1	1K Platinum RTD, 1,000Ω @ 0°C, 3.85Ω/°C temp coeff.									
-2	2K Silicon RTD, 2,000Ω @ 20°C, 8Ω/°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									
			\$25.00    \$ _____							
<b>Override Configuration (Must select one)</b>										
-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)									
			\$ .00    \$ _____							
<b>Optional Communication Jack (Mounted in unit's base)</b>										
-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									
-C22LT	RJ22 (4 pin) Style Jack with Leads and Terminal Block									
<b>Optional Test and Balance Switch</b>										
-TB	Three Position Switch									
<b>Differential Ground – Setpoint &amp; Temp Sensor (Skip if not required)</b>										
-DF	Differential Ground (Default is Common Ground, Only add -DF if required)									
<b>CO<sub>2</sub> Level Indication (Must select one)</b>										
-LED	Green/Orange/Red LED on Logo Plate to Indicate CO <sub>2</sub> PPM Level. Includes Legend for Good, Fair and Poor.									
-ARW	Black Arrow on Display to Indicate CO <sub>2</sub> PPM Level. Includes Legend Below Display for Good, Fair and Poor									
-BNK	No LED or Arrow Indicators, No Legend									
EXAMPLE										
BA/	BS3F	-DCD05	-H205	-A	80L6	-0	-J	-C11L	-TB	-LED
Example Part Number: BA/BS3F-DCD05-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

