Features & Options

- VOC Alone or Temperature and Humidity Combination
- Achieves True Indoor Air Quality, Not Just CO_2 Dilution
- Output is Correlated to a CO_2 Value Allowing You to Ventilate Using ASHRAE's CO_2-Based VRP Algorithm

Humans respirate Volatile Organic Compounds (VOCs) as well as CO_2. The BAPI sensor is able to measure these VOCs and indicate when a space is occupied just as well as a CO_2 sensor.

The advantage of the VOC sensor is that it measures air contaminants from other sources besides respiration, such as building materials, cleaners, perfumes and furniture and carpet off-gassing. Using this sensor for Demand Controlled Ventilation then is a way of achieving true indoor air quality, rather than just CO_2 dilution.

A further benefit is that it requires no additional work on your part. That's because the sensor converts the VOC reading to a CO_2 equivalent level. This lets you use ASHRAE's CO_2-based VRP schedule to ventilate. (More information on the CO_2 equivalent output is available on our website or in the Application Notes at the end of this section of the catalog.)

The unit is available as a VOC sensor alone or as a combination temperature and humidity sensor. The optional display alternates between the measured values and is field adjustable between °F or °C. Optional indication of the VOC level as "Good, Fair or Poor" is available as a three-color LED or arrow on the display.

VOC Sensors with Temp. Setpoint and Override.

Specifications

Power: (No AC Power)
0 to 5 VDC Output Units:
9 to 35 VDC @ 50 mA Max (9 to 15 VDC recommended)
0 to 10 VDC Output Units:
15 to 35 VDC @ 50mA Max (15 VDC recommended)

Sensing Elements:
Humidity: Capacitive Polymer, ±2% RH Accuracy
VOCs: Micro-machined Metal Oxide

Temp Sensor: Thermistor or RTD

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

VOC Detection Range: 0 to 2,000 CO_2 PPM equivalent

Response Time: Less Than 60 Sec. (after Start-Up Time)

Start-Up Time: 15 minutes

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

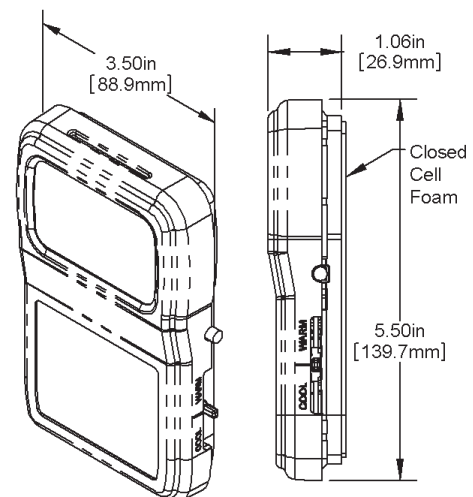**LED VOC/CO_2 Equivalent Level Indicator:**
Good, Green < 1,000 PPM
Fair, Yellow = 1,000 to 1,500 PPM
Poor, Red > 1,500 PPM

Material:
ABS Plastic, Material Rated UL94V-0

Agency: RoHS

Warranty Period: 5 years

3.50in [88.9mm]

1.06in [26.9mm]

Closed Cell Foam

5.50in [139.7mm]

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.

VOC BAPI-Stat 3 Room Sensor Option Selection Guide:

BA/BS3 (**#1**) - (**#2**) - (**#3**) - (**#4**)(**#5**) - (**#6**) - (**#7**) - (**#8**) - (**#9**) - (**#10**)

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

#2: VOC Output (required)
VOC05..VOC 0 to 5V Output
VOC10..VOC 0 to 10V Output

#3: Humidity Output (Optional)
H205 .....±2% Accuracy, Output of 0 to 5V
H210 .....±2% Accuracy, Output of 0 to 10V
H212 .....±2% Accuracy, Output of 2 to 10V

#4: Temp Setpoint Display Range (optional)
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

#5: Temp Setpoint Output Range (optional)
00..........0 to 5 V
10..........0 to 10 V
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

#6: Temp Setpoint Legend (optional)
L6..........Cool/Warm
L0..........No Legend

#7: Temperature Sensor (optional)
1375......1K Platinum RTD (375 curve)
1............1K Platinum RTD (385 curve)

18..........1.8K Thermistor
3............3K Thermistor
102........10K-2 Thermistor
103........10K-3 Thermistor
10311.... 10K-3[11K] Thermistor
20..........20K Thermistor

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

#9: Communication Jack (optional)
C35.......3.5 mm Phono Style Jack

#10: Configuration
(optional - Common Ground is default)
DF.........Differential Ground

#11: VOC Level Indication (required)
LED.......3 Color LED on Logo Plate
ARW .....Black Arrow on Display
BNK ......No LED or Arrow

Additional options are available for these units but not shown in this Selection Guide. Contact your BAPI representative for the complete list of options. Submittal sheets without List Prices can be downloaded from our website at www.bapihvac.com

Example Number:
BA/BS3 **(F) - (VOC05) - (   ) - (F)(80)(L6) - (102) - (N) - (   ) - (DF) - (ARW)**

Actual Number (with parenthesis removed): BA/BS3F-VOC05-F80L6-102-N-DF-ARW

Description: BAPI-Stat 3, °F Display, 0 to 5V VOC Output, 65 to 80 Temp Setpoint Display Range, 0 to 20K Temp Setpoint Output Range, Cool/Warm Legend, 10K-2 Thermistor Temperature Sensor, No Override, No Comm. Jack, Differential Ground Configuration, Black Arrow on Display VOC Level Indication

Your Number: BA/