



## Features & Options

- Automatic Air Pressure and Temperature Compensation
- Optimized for Periodically or Continuously Occupied Areas

The BAPI CO<sub>2</sub> Duct Sensor is an accurate and reliable way of incorporating demand controlled ventilation. It measures CO<sub>2</sub> in ranges of 0 to 2,000, 0 to 5,000 and 0 to 50,000 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 (ABC) 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 reliability.

Altitude and weather patterns can affect CO<sub>2</sub> 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 Duct unit samples duct air using an aspiration tube. The Rough Service unit features a ventilated BAPI-Box and is ideal for areas such as outdoor air plenums, equipment rooms, green houses and warehouses. For 0 to 2,000 PPM units, the CO<sub>2</sub> level is indicated as “Good, Fair or Poor” by three LED’s on the front of the unit. If it reaches the top of the PPM range, the red LED will begin to flash.



Duct Sensor



Rough Service Sensor

## Specifications

### Power:

12 to 24 VDC, 240 mA  
18 to 24 VAC, 12 VA Peak

### Field Selectable Voltage Output:

0 to 5 or 0 to 10 VDC

**Termination:** 3 Terminals, 16 to 22 AWG

### Operating Environment:

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

### CO<sub>2</sub> Sensing Elements:

ACD Unit CO<sub>2</sub>: Single Channel Non-Dispersive Infrared (NDIR)  
DCD Unit CO<sub>2</sub>: Dual Channel Non-Dispersive Infrared (NDIR)

**Encl. Rating:** Unventilated BAPI-Box: NEMA 4, IP66

**Encl. Material:** Polycarbonate, UL94 V-O

### CO<sub>2</sub> Detection PPM Range:

0 to 2,000, 0 to 5,000 and 0 to 50,000

**Start-Up Time:** <2 Minutes

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

### LED CO<sub>2</sub> Level Indicator

(0 to 2,000 PPM units only):

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

### CO<sub>2</sub> Accuracy, “24/7” Units:

400 to 1,000 ppm: ±75 ppm  
>1,000 ppm: ±10% of reading

### CO<sub>2</sub> Drift Stability, “24/7” Units:

<5% of full scale over life of product.

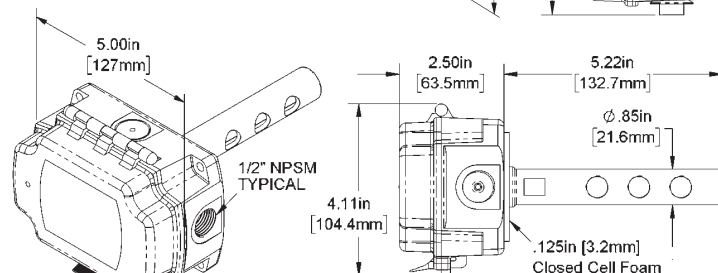
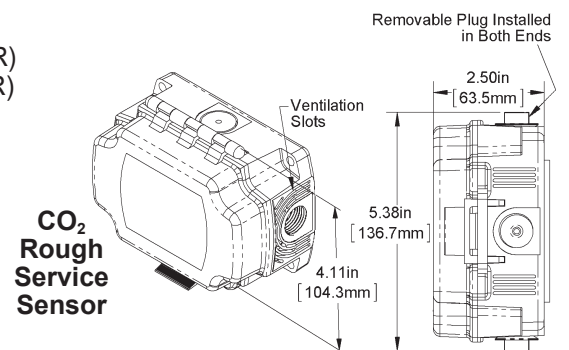
### CO<sub>2</sub> Accuracy, Single Channel (ABC) Units:

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

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

**Agency:** RoHS, CE, Title 24 Requirements

**Warranty Period:** 5 Years





### Ordering Information

#### **SINGLE CHANNEL (ABC) UNITS FOR PERIODICALLY UNOCCUPIED AREAS**

##### **BA/ACD05-D-BB**

Single Channel CO<sub>2</sub> Duct Sensor, 0 to 5V Output, 0 to 2,000 PPM Range

##### **BA/ACD05-V-BB**

Single Channel CO<sub>2</sub> Rough Service Sensor, 0 to 5V Output, 0 to 2,000 PPM Range

##### **BA/ACD10-D-BB**

Single Channel CO<sub>2</sub> Duct Sensor, 0 to 10V Output, 0 to 2,000 PPM Range

##### **BA/ACD10-V-BB**

Single Channel CO<sub>2</sub> Rough Service Sensor, 0 to 10V Output, 0 to 2,000 PPM Range

#### **DUAL CHANNEL "24/7" UNITS FOR CONTINUOUSLY OCCUPIED AREAS**

##### **BA/DCD05-D-BB**

Dual Channel "24/7" CO<sub>2</sub> Duct Sensor, 0 to 5V Output, 0 to 2,000 PPM Range

##### **BA/DCD05-V-BB**

Dual Channel "24/7" CO<sub>2</sub> Rough Service Sensor, 0 to 5V Output, 0 to 2,000 PPM Range

##### **BA/DCD10-D-BB**

Dual Channel "24/7" CO<sub>2</sub> Duct Sensor, 0 to 10V Output, 0 to 2,000 PPM Range

##### **BA/DCD10-V-BB**

Dual Channel "24/7" CO<sub>2</sub> Rough Service Sensor, 0 to 10V Output, 0 to 2,000 PPM Range

##### **BA/DCD05-5K-D-BB**

Dual Channel "24/7" CO<sub>2</sub> Duct Sensor, 0 to 5V Output, 0 to 5,000 PPM Range

##### **BA/DCD05-5K-V-BB**

Dual Channel "24/7" CO<sub>2</sub> Rough Service Sensor, 0 to 5V Output, 0 to 5,000 PPM Range

##### **BA/DCD10-5K-D-BB**

Dual Channel "24/7" CO<sub>2</sub> Duct Sensor, 0 to 10V Output, 0 to 5,000 PPM Range

##### **BA/DCD10-5K-V-BB**

Dual Channel "24/7" CO<sub>2</sub> Rough Service Sensor, 0 to 10V Output, 0 to 5,000 PPM Range

##### **BA/DCD10-50K-D-BB**

Dual Channel "24/7" CO<sub>2</sub> Duct Sensor, 0 to 10V Output, 0 to 50,000 PPM Range

##### **BA/DCD10-50K-V-BB**

Dual Channel "24/7" CO<sub>2</sub> Rough Service Sensor, 0 to 10V Output, 0 to 50,000 PPM Range



### Associated Products

#### **BAPI VC350A or VC350A-EZ VOLTAGE CONVERTERS**

The CO<sub>2</sub> unit requires 240mA of current to operate correctly. If this is more current than can be provided by the controller power output, then the unit can be powered by a BAPI VC350A or VC350A-EZ Voltage Converter. See the Accessories section for more info.



**VC350A-EZ  
Voltage Converter**

