



## 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, 0 to 10,000 and 0 to 50,000 ppm with a field selectable output of 0 to 5 or 0 to 10 VDC.

The Single Beam (ACD) unit has been optimized for periodically unoccupied areas and features automatic background calibration over a long time period to reduce drift. The Dual Channel (DCD) "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, 200 mA Peak  
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

### Enclosure Rating:

Unventilated BAPI-Box: NEMA 4, IP66

**Encl. Material:** Polycarbonate, UL94 V-0

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

0 to 2,000, 0 to 5,000, 0 to 10,000 and 0 to 50,000

**Start-Up Time:** 10 Minutes

### Response Time:

Less Than 5 Minutes (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> Sensing Elements:

ACD: Single Beam Non-Dispersive Infrared  
DCD: Dual Channel Non-Dispersive Infrared

### CO<sub>2</sub> Drift Stability (DCD "24/7" Units):

<5% of full scale over life of product.

### CO<sub>2</sub> Accuracy (DCD Units):

75ppm or 10% of reading (whichever is greater)

### CO<sub>2</sub> Accuracy (ACD Units):

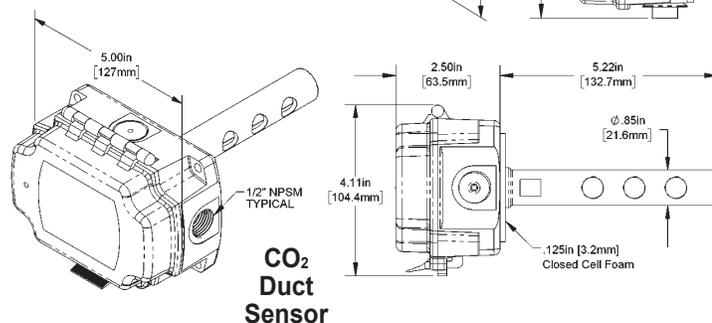
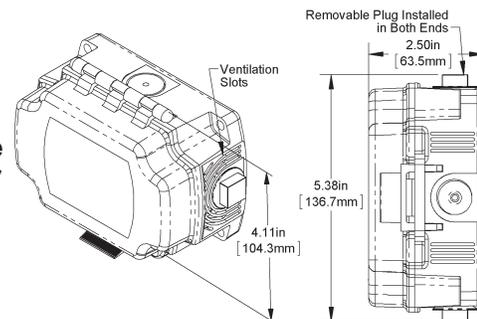
400 to 1,250 ppm: ±30ppm or 3% of reading, whichever is greater

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

**Certifications:** RoHS

**Warranty Period:** 5 Years

CO<sub>2</sub> Rough Service Sensor





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.

## Duct and Rough Service CO<sub>2</sub> Room Unit Option Selection Guide

BA( **#1** )( **#2** ) - ( **#3** ) - ( **#4** )

**#1: CO<sub>2</sub> Sensor Type** (required)

ACD..... Single Beam for Periodically Unoccupied Areas

DCD..... Dual Channel "24/7" for Continuously Occupied Areas

**#2: CO<sub>2</sub> Output Voltage** (required)

05 ..... 0 to 5 VDC Output

10 ..... 0 to 10 VDC Output

**#3: CO<sub>2</sub> Measurement Range** (optional, 0 to 2,000 PPM is Standard)

(5K, 10K and 50K Ranges are only available for Dual Channel Units)

5K..... 0 to 5,000 PPM CO<sub>2</sub>

10K..... 0 to 10,000 PPM CO<sub>2</sub>

50K..... 0 to 50,000 PPM CO<sub>2</sub>

**#4: Duct or Rough Service Sensor** (required)

D-BB..... Duct Sensor, BAPI-Box IP66 Enclosure with Aspiration Tube

V-BB..... Rough Service, Ventilated BAPI-Box

*Additional temperature sensors 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](http://www.bapihvac.com)*

**Example Number:** BA/( **ACD** )( **05** ) - ( ) - ( **D-BB** )

**Actual Number (with parenthesis removed):** BA/ACD05-D-BB

**Description:** Single Beam CO<sub>2</sub> Sensor, 0 to 5V CO<sub>2</sub> Output, 0 to 2,000 PPM CO<sub>2</sub> Range, BAPI-Box Enclosure with Aspiration Tube.

**Your Number:** BA/

