

Rev. 05/01/18

Features & Options

- Automatic Barometric Pressure and Temperature Compensation
- Optimized for Periodically Unoccupied Areas

The CO₂ Duct and Rough Service Sensors are an accurate and reliable way of incorporating demand controlled ventilation. They measure 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 BAPI units also have continuous automatic air pressure compensation. 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 units have a built-in barometric sensor that continuously compensates the output for accurate readings despite the weather or the altitude of the installation. Because of this feature, the BAPI CO₂ sensors received a 2012 AHR Expo Innovation Award.

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, attics, green houses and warehouses. Optional indication of the CO₂ level as "Good, Fair or Poor" is available as a three-color LED on the front of the unit.



CO₂ Duct Sensor in the BAPI-Box with and without 3-color LED



CO₂ Rough Service Sensor in the ventilated BAPI-Box with and without 3-color LED

Specifications

Power:

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

Sensing Elements:

CO₂ – Single Beam Non-Dispersive Infrared (NDIR)

Selectable Output: 0 to 2,000 PPM CO₂
0 to 5 VDC or 0 to 10 VDC

Termination: 3 Terminals, 16 to 22 AWG

Wiring: 2 Pair

Operating Environment:

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

Enclosure Rating:

Unventilated BAPI-Box: NEMA 4, IP66

Enclosure Material:

Polycarbonate, UL94 V-O

CO₂ Detection Range: 0 to 2,000 PPM

Start-Up Time: <2 Minutes

Response Time:

<2 Minutes for 90% step change
typical (after start-up)

Optional LED CO₂ Level Indicator:

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

CO₂ Accuracy: (Automatic Background Calibr.)

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



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Ordering Information/Part Numbers

DUCT CO₂ UNITS with Aspiration Tube

ALC/ACD05-D-BB-LED Duct CO₂ Unit, Single Channel, 0 to 5 VDC Output, 3-Color LED

ALC/ACD05-D-BB-BNK Duct CO₂ Unit, Single Channel, 0 to 5 VDC Output

ALC/ACD10-D-BB-LED Duct CO₂ Unit, Single Channel, 0 to 10 VDC Output, 3-Color LED

ALC/ACD10-D-BB-BNK Duct CO₂ Unit, Single Channel, 0 to 10 VDC Output

ROUGH SERVICE CO₂ UNITS with Ventilated BAPI-Box

ALC/ACD05-V-BB-LED Rough Service Unit, Single Channel, 0 to 5 VDC Output, 3-Color LED

ALC/ACD05-V-BB-BNK Rough Service Unit, Single Channel, 0 to 5 VDC Output

ALC/ACD10-V-BB-LED Rough Service Unit, Single Channel, 0 to 10 VDC Output, 3-Color LED

ALC/ACD10-V-BB-BNK Rough Service Unit, Single Channel, 0 to 10 VDC Output

Dimensions

