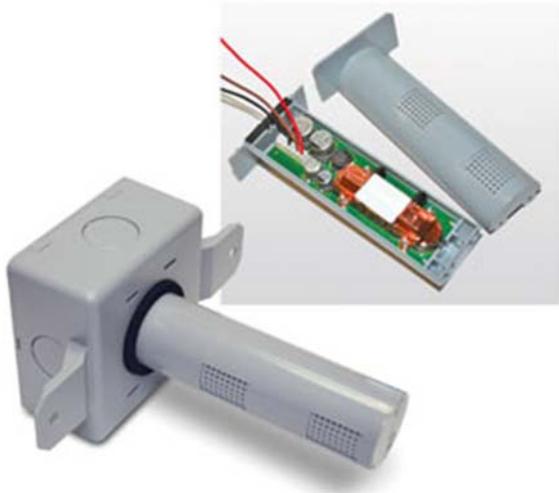


Analog Output Duct Mounted CO₂ Sensor



- NDIR CO₂ sensing technology
- 0 to 2,000 ppm range
- ABC logic ensures long-term calibration stability
- 0-10 VDC output
- Insertion probe design
- 4 inch (8041) and 8 inch (8042) probe lengths available
- Install in ducts or in plenums
- Compatible with all GreenTrol application specific controllers that accept an analog input from a CO₂ sensor
- Connects directly to the power input terminals of compatible GreenTrol application controllers

- √ Use with GreenTrol outdoor airflow controllers to provide advanced CO₂-DCV or ASHRAE 62.1 compliant population-based DCV
- √ Demonstrate compliance with ASHRAE Standards 62.1, 90.1 and 189.1
- √ Satisfy LEED requirements
- √ Maintain acceptable indoor air quality
- √ Save energy

The TA-A8041-D and TA-8042-D CO₂ sensors are designed to be mounted through the side of a duct or plenum.

The sensor is typically mounted in the return air duct or plenum near or at the air handler prior to the introduction of outdoor air.

When combined with a GreenTrol outdoor air controller, this CO₂ sensor can be used to improve traditional CO₂ demand control ventilation by using a unique control algorithm that resets the outdoor air setpoint between user defined upper and lower airflow limits (not damper positions) to maintain the space

CO₂ level. This control method eliminates the under- and over-ventilation that is prevalent with traditional CO₂-DCV.

An even more advanced control method uses the measured airflow rate and CO₂ level to estimate the population and calculates the required outdoor airflow, thus meeting the actual requirements of ASHRAE Standard 62.1.

ABC logic ensures years of calibration free operation in applications where the population goes to near zero during unoccupied periods.

TA-A8041-D and TA-A8042-D Technical Specifications

Functionality

CO₂ Measurement: Provides the CO₂ level to the analog input of a GreenTrol application controller that accepts an analog CO₂ sensor input

CO₂ Sensor

Technology: Telaire Non Dispersive Infrared (NDIR)
Range: 0 to 2,000 ppm
Required Duct Air Velocity: 0 to 1,500 FPM [7.62 m/s]
Accuracy: ±30 ppm plus 3% of reading, @72° F [22°C]
Temperature Dependence: 0.36% FS/°F [0.2% FS/°C]
Pressure Dependence: 0.33% of reading per 0.1 in. [2.54 mm] Hg
Stability: <2% of FS over life of sensor (10 year typical)
Response Time: <3 minutes for 90% step change typical
Warmup Time: 2 minutes operational, 10 minutes to achieve maximum accuracy

Analog Output

AO1
Assignment: Linear CO₂ output signal
Range: 0-10VDC

Environmental Limits, Power Requirements & Dimensions

Environmental Limits

Temperature: 32 to 122 °F [0 to 50 °C]

Humidity: 5 to 95%

Power Requirement: 24 VAC (22.8 to 26.4 under load) @1.65V-A

Flammability Classification: UL-94V-5

Dimensions

Probe Length

TA-A8041-D: 4.09 in. [103.8 mm]

TA-A8042-D: 8.07 in. [205.1 mm]

Junction Box: 3.05H x 3.05W x 1.58D in. [74.6 x 74.6 x 4.02 mm]