The indoor air quality CO₂ sensor is designed to monitor carbon dioxide (CO₂) levels in the air and interface with the ventilation damper in an HVAC (Heating, Ventilation, and Air Conditioning) system. In addition, the sensor can be used solely for the purpose of monitoring and alarming.

The CO₂ sensor uses infrared technology to measure the levels of CO₂ in the air. These levels can be used as input to a Carrier controller to control the ventilation damper position and ensure an adequate level of outside air in the building.

The aspirator box (part no. 33ZCASPCO2), houses the indoor air quality CO₂ sensor for duct mount applications. The custom internal mounting bracket secures the base of the sensor inside the aspirator box. Power is applied by running the conduit through a knockout and wiring to the terminal blocks located on the sensor mounting bracket.

Features/Benefits

The indoor air quality CO₂ sensor offers the following advantages:

- sleek, low profile
- LCD display
- mounting plate with terminal block for easy installation and wiring
- compatible with US and European junction boxes
- CO₂ measurement range of 0 to 9999 ppm (default range of 0 to 2000 ppm)
- versatile sensor options including optional temperature sensor, ABC Logic ™ self-calibration, 4 to 20 mA or 0 to 5/10 V output
- solid, locking enclosure

NOTE: Part No. 33ZCSPTCO2LCD-01 shown in illustration.
In addition, the aspirator box offers the following advantages:
- duct mounted for monitoring CO\textsubscript{2} levels in return airflow
- quick, easy installation
- lightweight and durable
- external mounting provides ease of sensor operation and maintenance
- LCD allows for sensor verification at a glance

## Specifications

### Method:
Single Beam Absorption Infrared\textsuperscript{TM} patented ABC Logic \textsuperscript{TM} (Automatic Background Calibration) self-calibration software
Thermistor temperature measurement
Sample Method
- Diffusion

### Performance:
**Measurement Range**
- Analog Output: 0 to 2000 ppm
- Digital Display
  - 0 to 9,999 ppm
  - Sensitivity: ± 10 ppm
  - Resolution: ± 1 ppm

### Accuracy:
**Typical Conditions**
- 32 to 122 F (0° to 50 C)
- 400 to 1250 ppm: ± 30 ppm or 3%, whichever is greater* †
- 1250 to 2,000 ppm: ± 5% of reading + 30ppm* †
- 2000 to 10,000 ppm: ± 7% of reading, whichever is greater

* Tolerance on span gas of ±2%.
† ABC Logic not deactivated.

### Pressure Dependence
- Add 0.13% of reading per mm Hg

### Annual Drift
- ± 10 ppm (negligible) with ABC Logic

### Response Time
- 0...90% FS (Full Scale) < 5 minutes

### Warm-Up Time
- at 25 C < 1 minute

### Operating Conditions
- 32 to 122 F (0° to 50 C)
- 0...95% RH (relative humidity), non-condensing

### Storage Conditions
- –40 to 158 F (–40 to 70 C)

### Agency certification:
CE and RoHS

### Calibration Interval
No calibration needed for the life of the product with ABC Logic operating

### Temperature sensor:
Thermistor - NTC 10K ohms, Type II

### Input/Output:
**Power (dedicated power supply required)**
- 18 to 36 VAC RMS (root mean square), 50/60 Hz
- 18 to 42 VDC polarity protected/dependent. 30 mA average, 90 mA peak at 24 VDC

**Analog CO\textsubscript{2} Output**
- 0 to 5 VDC or 0 to 10 VDC
  - 100 ohms output impedance
- 4 to 20 mA (RL\textsubscript{max} [maximum load resistance] = 500 ohms). Both outputs are available simultaneously

### Wiring:
- 18 to 20 AWG (American Wire Gage) stranded copper wire only. Two wires each for power, analog output, and thermistor
Dimensions

NOTES: Dimensions are in inches (cm).
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