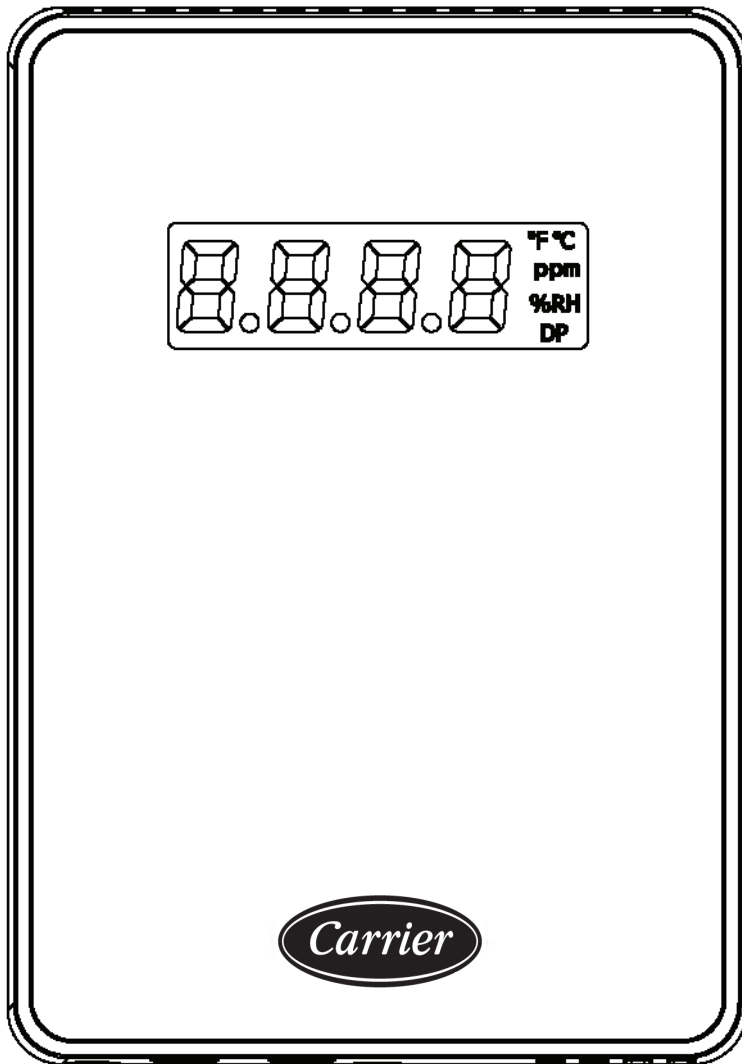




Product Specification

Indoor Air Quality CO₂ Sensor and Duct-Mounted Aspirator Box

Part No. 33ZCSPTCO2-01,
33ZCSPTCO2LCD-01,
33ZCASPCO2



NOTE: Part No. 33ZCSPTCO2LCD-01 shown in illustration.

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

Features/Benefits (cont)



In addition, the aspirator box offers the following advantages:

- duct mounted for monitoring CO₂ 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™ patented ABC Logic™ (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

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 CO₂ Output

0 to 5 VDC or 0 to 10 VDC

(100 ohms output impedance)

4 to 20 mA (RLmax [maximum load resistance] = 500 ohms). Both outputs are available simultaneously

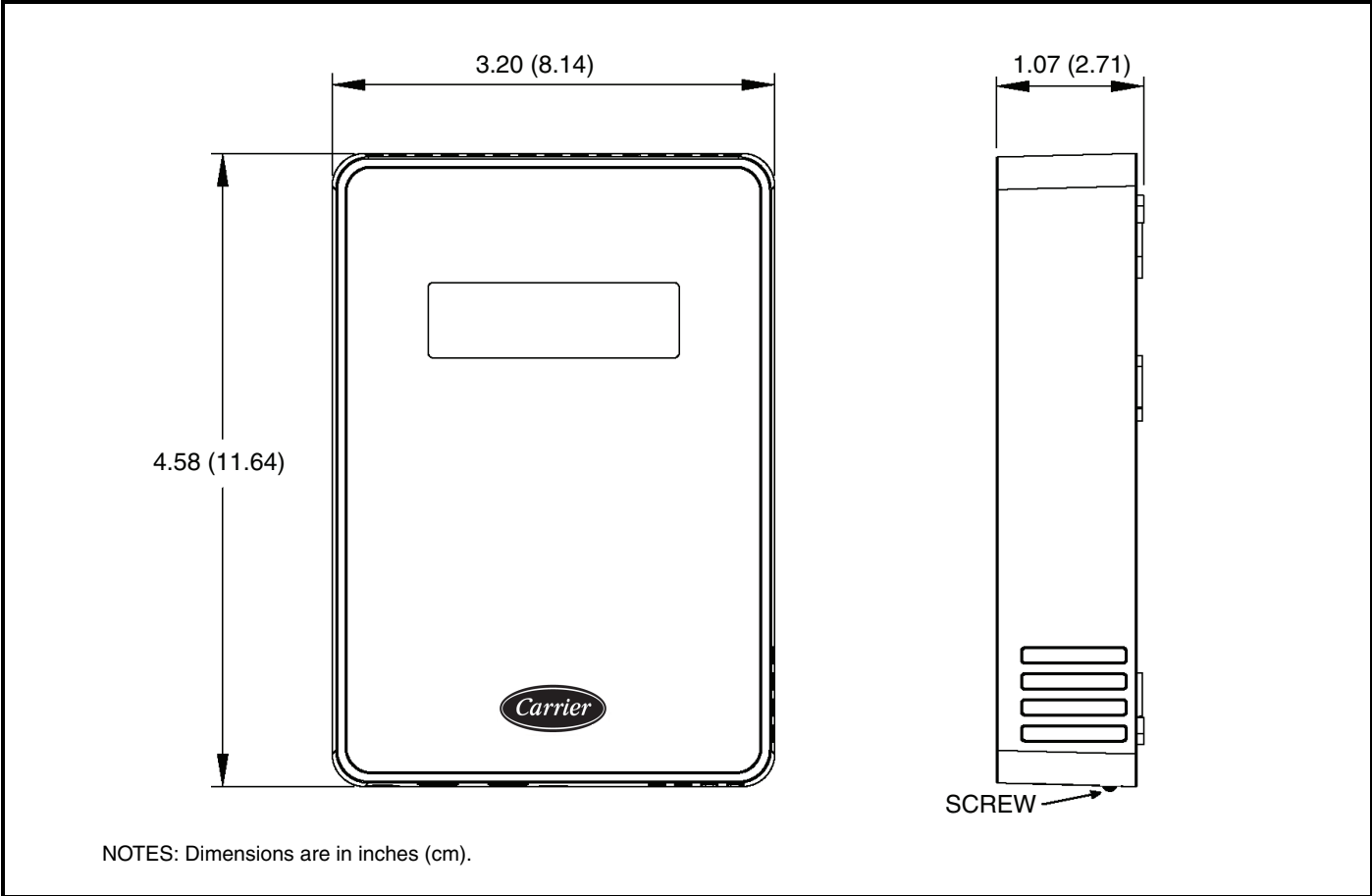
Wiring:

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

* Tolerance on span gas of ±2%.

† ABC Logic not deactivated.

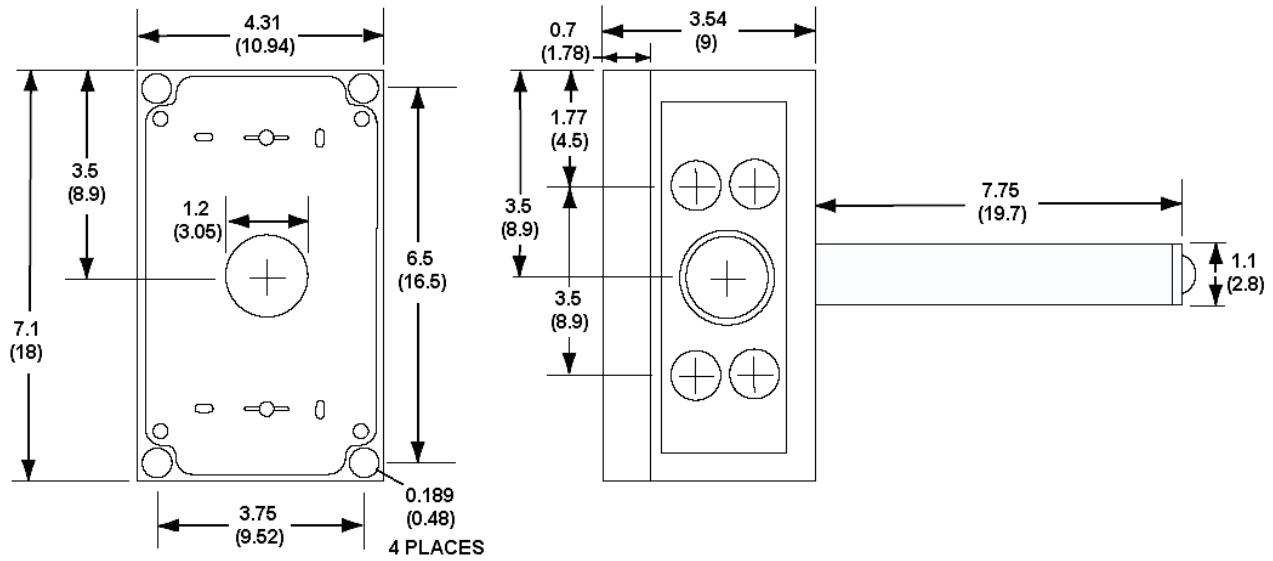
Dimensions



Dimensions (cont)



DUCT-MOUNTED ASPIRATOR BOX PART NO. 33ZCASPC02



NOTE: Dimensions are in inches (cm).

