

Standard Duct and Wall CO₂ Sensors

Field-Selectable 4-20mA/0-10VDC Output



DESCRIPTION

The CDE and CWE are non-dispersive infrared (NDIR) sensors designed for measuring environmental CO₂ concentration in ventilation systems and indoor living spaces. Their measurement range of 0-2000 ppm makes them compliant with ASHRAE and other standards for ventilation control.

The CWE/CDE Series provides a user-selectable 4-20mA or 0-10VDC output for versatility. Microprocessor-based digital electronics and a unique self-calibration algorithm improves long-term stability and accuracy.

APPLICATIONS

- Controlling ventilation in response to occupancy
- Facilitating compliance with ASHRAE 62.1 standard for air quality
- Office buildings, conference rooms, schools, retail stores, etc.

FEATURES

- Microprocessor-based design increases accuracy and reduces installation time
- Non-dispersive infrared technology repeatable to ± 20 ppm $\pm 1\%$ of measured value...high accuracy measurements
- Innovative self-calibration algorithm...easy to maintain
- 5-year calibration interval (recommended)
- Low ambient sensitivity
- Output 4-20mA/0-10V for flexible control system interface
- 3-year factory warranty from date of purchase



SPECIFICATIONS



Input Power	20 to 30VDC/24AC; 100mA Maximum
Analog Output	4-20mA (clipped and capped)/0-10VDC (selectable)
Operating Temperature Range	0° to 50°C (32° to 122°F)
Operating Humidity Range	0 to 95% RH noncondensing
Housing Material	High impact ABS plastic
Sensor Type	Non-dispersive infrared, diffusion sampling
Output Range	0-2000 ppm
Accuracy	± 30 ppm $\pm 2\%$ of measured value*
Repeatability	± 20 ppm $\pm 1\%$ of measured value
Response Time	<60 seconds for 90% step change

RTD/Thermistors in wall housings are not compensated for internal heating of product.

EMC Conformance: Low voltage directive 2006/95/EC and EMC directive 2004/108/EC.

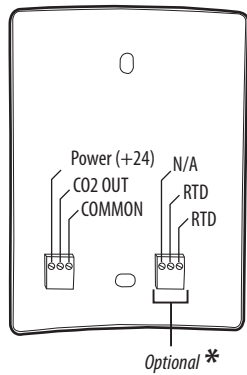
EMC Special Note: Connect this product to a DC distribution network or an AC/DC power adaptor with proper surge protection (EN 61000-6-1:2007 specification requirements).

* Measured at NTP

Note: Rough handling and transportation may cause a temporary reduction of CO₂ sensor accuracy. With time, the ABC function will tune the readings back to the correct accuracy range. The default tuning speed is limited to 30 ppm per week.

APPLICATION/WIRING DIAGRAMS

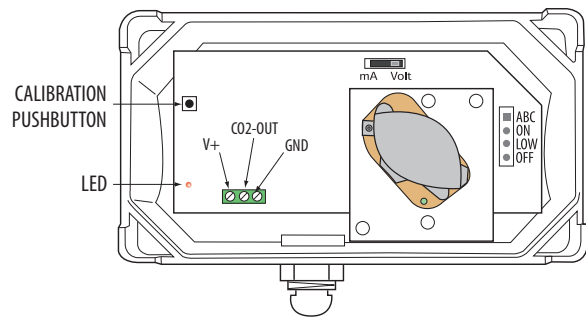
CWE Wall Mount



Optional *

* Note: Connector blocks and headers for optional features are not included with non-option models.

CDE Duct Mount

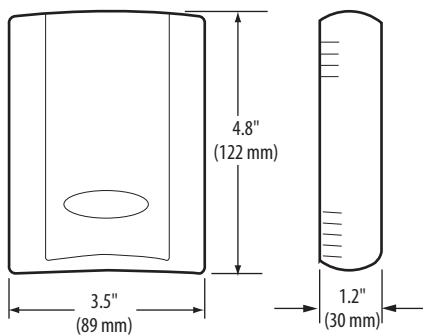


CONDUIT ADAPTER (included)

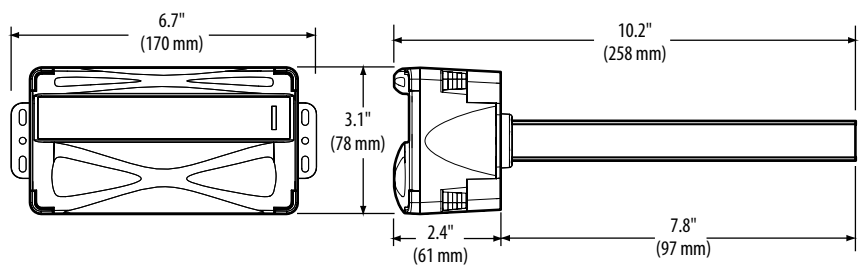
1/2" NPT MALE/FEMALE (included)

DIMENSIONAL DRAWINGS

CWE Wall Mount



CDE Duct Mount



ORDERING INFORMATION all models

Duct Mount

CDE (No Options)

Wall Mount, Temp. Option

- | | |
|----------------------------------------------|----------------------------|
| Sensor Type | Housing |
| CWE | |
| SB = 100R Platinum, RTD | Blank = Cloud white |
| SC = 1k Platinum, RTD | B = Black |
| SD = 10k T2, RTD, Thermistor | |
| SE = 2.2k, Thermistor | |
| SF = 3k, Thermistor | |
| SG = 10k CPC, Thermistor | |
| SH = 10k T3, Thermistor | |
| SJ = 10k Dale, Thermistor | |
| SK = 10k w/11k shunt, Thermistor | |
| SM = 20k NTC, Thermistor | |
| SN = 1800 ohm, Thermistor | |
| SR = 10k US, Thermistor | |
| SS = 10k 3A221, Thermistor | |
| ST = 100k, Thermistor | |
| SU = 20k "D" Thermistor | |
| SW = 10k T2 high accuracy, Thermistor | |
| SY = 10k T3 high accuracy, Thermistor | |
| SZ = 10k E1, Thermistor | |

Wall Mount, No Temp. Option

- | |
|----------------------------|
| Housing |
| CWE |
| Blank = Cloud white |
| B = Black |

Example:

CWE B

ACCESSORIES

- Calibration kits and gases (AA01, AA26, AA27, AA28, AA29)
- Handheld air quality testers (1010, 1008, 770)
- Replacement covers for wall units (AA51, AA51B)
- Replacement cloud white wall housing (AA55)

Example:
CWE SH B



1010



AA01



AA55

AA51/AA51B