

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.

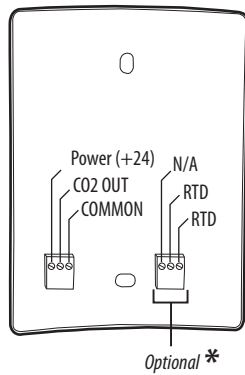
EMC Special Note: Connect this product to a DC distribution network or an AC/DC power adaptor with proper surge protection (EN 61000-6-1:2007 specification requirements).

*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.

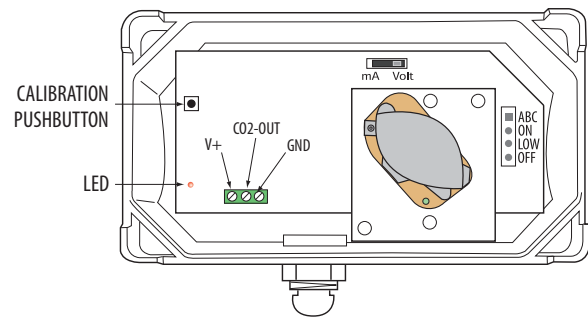
APPLICATION/WIRING DIAGRAMS

CWE Wall Mount



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

CDE Duct Mount

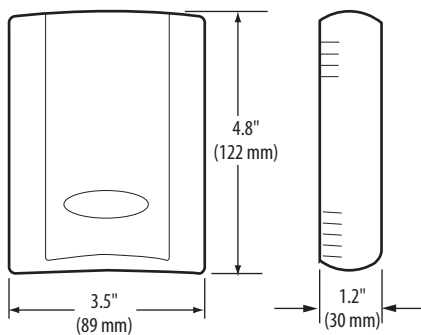


CONDUIT ADAPTER
(included)

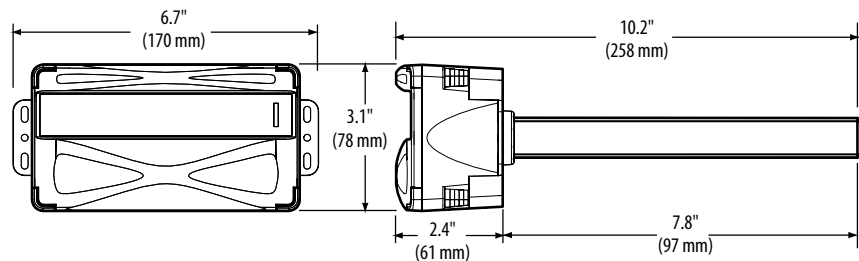
1/2" NPT MALE/FEMALE
(included)

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

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



1010



AA01



AA55

AA51/AA51B