

# Economy Duct and Wall CO<sub>2</sub> Sensors

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



CWE

CDE

### DESCRIPTION

The CDE and CWE are non-dispersive infrared (NDIR) sensors designed for measuring environmental CO<sub>2</sub> 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  $\pm 20$  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	$\pm 30$ ppm $\pm 2\%$ of measured value*
Repeatability	$\pm 20$ 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.

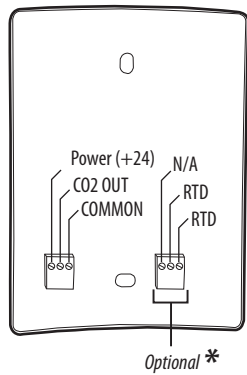
EMC Special Note: Connect this product to a DC distribution network or an AC/DC power adaptor with proper SURGE PROTECTION (EN 61000-6-1:2007 specification requirements).

\* Measured at NTP

Note: Rough handling and transportation may cause a temporary reduction of CO<sub>2</sub> 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

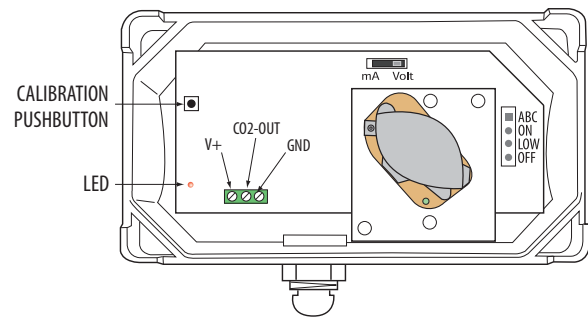
**CWE Wall Mount**



Optional \*

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

**CDE Duct Mount**

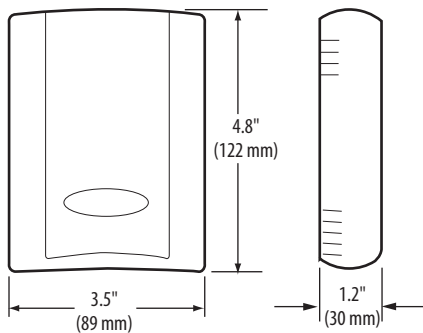


CONDUIT ADAPTER (included)

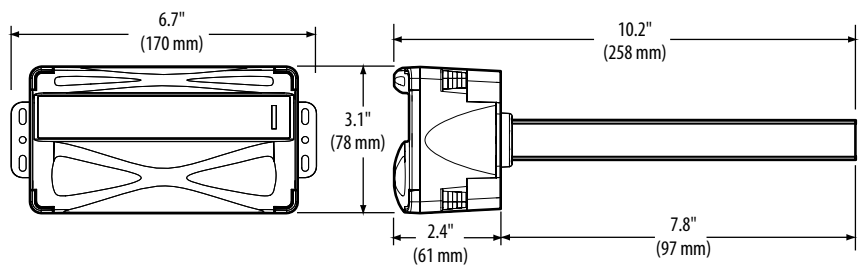
1/2" NPT MALE/FEMALE (included)

## DIMENSIONAL DRAWINGS

**CWE Wall Mount**



**CDE Duct Mount**



## ORDERING INFORMATION



**Duct Mount**

CDE (No Options)

**Wall Mount**

Sensor Type

CWE

- SB = 100R Platinum, RTD
- SC = 1k Platinum, RTD
- 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

## ACCESSORIES

Calibration kits and gases (AA01, AA26, AA27, AA28, AA29)  
Handheld air quality testers (1010, 1008, 770)



Example:

CWE SH