

CDE & CWE SERIES

Field-selectable 4 to 20 mA / 0 to 10 Vdc Output



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 to 2000 ppm makes them compliant with ASHRAE and other standards for ventilation control.

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

SPECIFICATIONS

Input Power	Class 2; 20 to 30 Vdc/24 AC 50/60 Hz; 100 mA max.
Analog Output	4 to 20 mA (clipped & capped)/0 to 10 Vdc (selectable)
Operating Temp. Range	0 to 50 °C (32 to 122 °F)
Operating Humidity Range	0 to 95% RH non-condensing
Housing Material	High impact ABS plastic
Terminal Block Torque:	
CDE	0.5 to 0.6 N-m (4.4 to 5.3 in-lbf) max.
CWE	0.2 N-m (2.0 in-lbf) max.
Terminal Block Wire Size:	
CDE	24 to 12 AWG (0.25 to 2.5mm ²)
CWE	28 to 20 AWG (0.08 to 0.5mm ²)
Sensor Type	Non-dispersive infrared, diffusion sampling
Output Range	0 to 2000 ppm
Accuracy	±30 ppm ±2% of measured value*

Microprocessor based

Microprocessor-based design increases accuracy and reduces installation time

NDIR

Non-dispersive infrared technology (NDIR) repeatable to ±20 ppm ±1% of measured value... high accuracy measurements

Sensitivity

Low ambient sensitivity

4 to 20 mA/ 0 to 10 Vdc

4 to 20 mA/0 to 10 Vdc output for flexible control system interface

Self-calibrating

Innovative self-calibration algorithm...easy to maintain. 5-year calibration interval (recommended)

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.

Repeatability	±20 ppm ±1% of measured value
Response Time	<60 seconds for 90% step change

WARRANTY

Limited Warranty	3 years
------------------	---------

AGENCY APPROVALS



RTD/Thermistors in wall housings are not compensated for internal heating of product. EMC Conformance: Low voltage directive 2014/35/EU and EMC directive 2014/30/EU. 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 specification requirements). * Measured at NTP

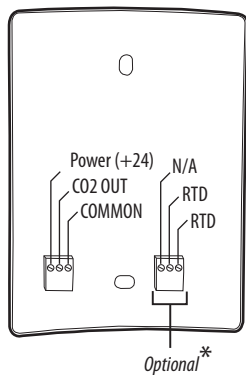
**The CE mark indicates RoHS2 compliance. Please refer to the CE Declaration of Conformity for additional details.

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.



CWE WALL MOUNT

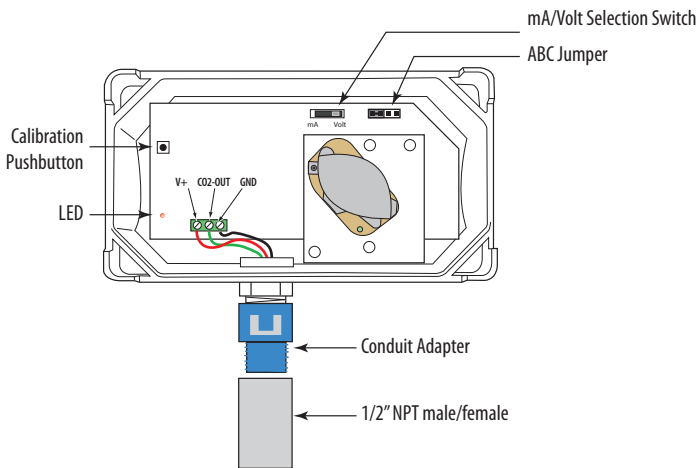
Wiring Diagram



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

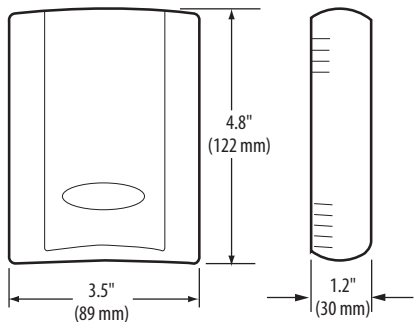
CDE DUCT MOUNT

Wiring Diagram



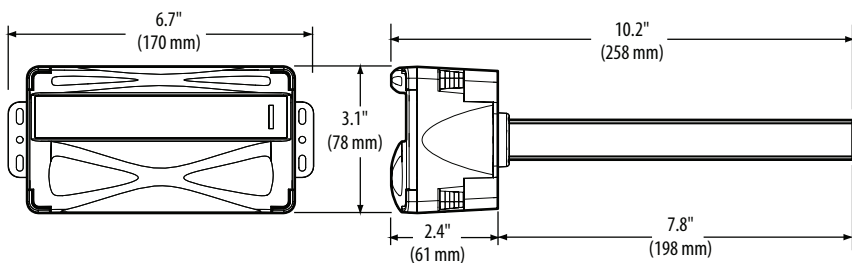
CWE WALL MOUNT

Dimensional Drawing



CDE DUCT MOUNT

Dimensional Drawing



ORDERING INFORMATION

Duct Mount	Wall Mount, Temp. Option		Wall Mount, No Temp. Option
CDE (No Options)	Sensor Type	Housing	Housing
	CWE 	 Blank = Cloud white B = Black	CWE  Blank = Cloud white B = Black
	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 with 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	Example: CWE  	Example: CWE 