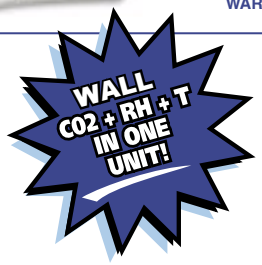
C Series CO_2 Sensors with Field-Selectable 4-20mA/0-5V/0-10V Outputs



The **C Series** carbon dioxide sensor is designed for use in HVAC control applications. Inside buildings, people are the major source of CO_2. By controlling fresh air based on CO_2 levels, energy can be saved and tenant comfort improved.

The C Series ensures that adequate ventilation is provided, while maximizing energy savings by ventilating at the optimum level.

The C Series is available with relative humidity and temperature sensors for lowest installed cost.

APPLICATIONS

- Control HVAC in response to occupancy–save energy by providing ventilation only as required
- Improve tenant comfort
- Facilitate compliance with ASHRAE 62-1989 standard for air quality

Microprocessor design reduces long-term drift and calibration requirements

- Non-dispersive infrared technology (NDIR) repeatable to ±20 ppm 0-2000 ppm range
- Innovative self-calibration algorithm
- 5-year calibration interval (recommended)
- Low ambient sensitivity

Versions for wall and duct applications

- Field-selectable 4-20mA/0-5V/0-10V output
- LCD display standard
- Duct mount version available
- Alarm relay output to trigger HVAC equipment at predetermined levels

Demand control ventilation provides reduction in energy costs

- Improve comfort and facilitate compliance with ASHRAE 62-1989 standard for air quality
- Alarm relay with setpoint for direct ventilation control
- Output 4-20mA/0-5V/0-10V for flexible control system interface
- Non-dispersive infrared technology (NDIR) for high accuracy and long term stability

ORDERING INFORMATION

WALL MODELS:

CWL □ □ □ □ *Options Available* □ □ □

(US or EU)	(RH Option)	(Temp.)	(Sensor Type)	(Temp Cal Cert)	(Option)	(Slide Pot Value)
S = Standard **C** = CE	**H** = RH 2% **X** = No	**T** = Temp **X** = No *(stop here)*	**A** = Transmitter **B** = 100R Platinum, RTD **C** = 1K Platinum, RTD **D** = 10k T2, RTD, Thermistor **E** = 2.2k, Thermistor **F** = 3k, Thermistor **G** = 10k CPC, Thermistor **H** = 10k T3, Thermistor **J** = 10k Dale, Thermistor **K** = 10k w/11k shunt, Thermistor **M** = 20k NTC, Thermistor **N** = 1800 ohm, Thermistor **R** = 10k US, Thermistor **S** = 10k 3A1B, Thermistor	**X** = No **1** = 1pt Temp Cal **2** = 2pt Temp Cal	**1** = Push Button Override **2** = Set Point Slider **3** = Push Button Override+Set Point Slider	**A** = 1K **F** = 10K **G** = 20K **K** = 50K **M** =100K

Examples: *Options*

C	W	L	C	H	T	C	2	2	A
C	D	L	C	X	X				

DUCT MODELS:

CDL □ □ □

(US or EU)	(RH Option)	(Temp.)
S = Standard **C** = CE	**X** = No	**X** = No

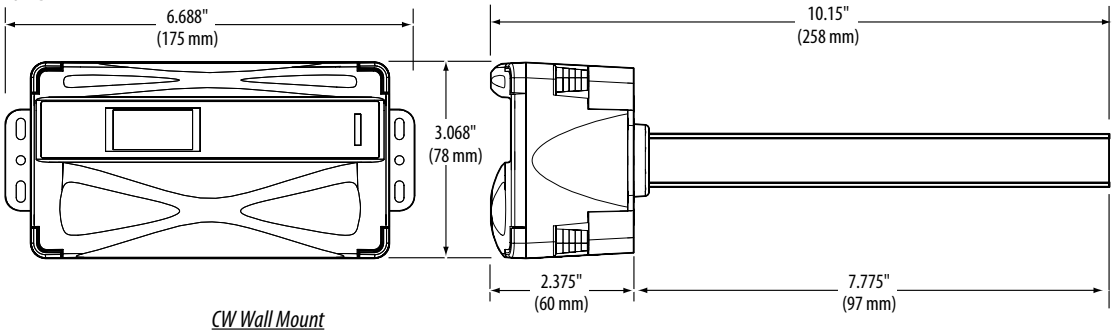
CE *available*

ACCESSORIES

Calibration kits, disposable gasses, duct boxes, handheld meters…
See page 205

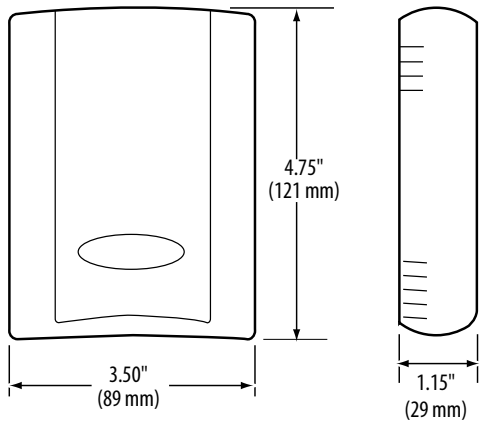
DIMENSIONS

CD Duct Mount



CW Wall Mount

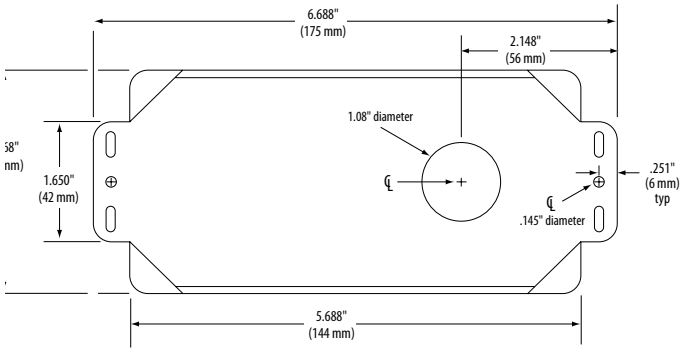
FRONT VIEW



SIDE VIEW

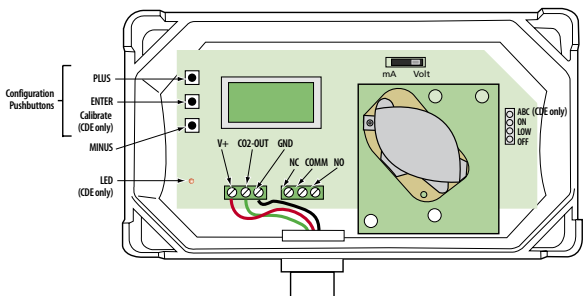
MOUNTING DIMENSIONS

CD Duct Mount

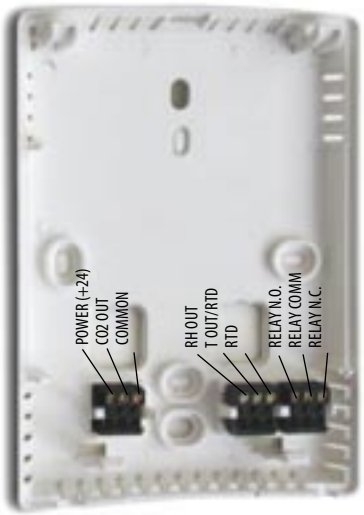


WIRING DIAGRAMS

CD Duct Mount



CW Wall Mount



SPECIFICATIONS

Input Voltage	20 to 30VDC, 24AC
Analog Output	4-20mA, (clipped and capped)/0-5VDC/0-10VDC (selectable)
Sensor Current Draw	100mA Maximum
Operating Temperature Range	0°C to 50°C(32°F to 122°F)
Material	ABS high impact plastic
CO_2 Transmitter	
Sensor Type	Non-dispersive infrared (NDIR), diffusion sampling
Measurement Range	0-2000 ppm or 0-5000 ppm, user adjustable
Accuracy	±30 ppm ±5% of measured value
Repeatability	±20 ppm ±1% of measured value
Response Time	<60 seconds for 90% step change
RH Transmitter	
HS Sensor	Digitally profiled thin-film capacitive (32-bit mathematics) U.S. Patent 5,844,138
Accuracy	±2% from 10 to 90% RH; Four-point calibration per NIST standards
Stability	±1% @ 20°C (68°F) annually, for two years
Operating Humidity Range	0 to 100% RH
Temperature Coefficient	±0.1% RH/°C over 0 to 60°C (32° to 140°F)
Temperature (Transmitter)	
Sensor Type	Solid state, integrated circuit
Accuracy	±0.5°C (±1°F) typical
Resolution	0.1°C (0.2°F)
Range	10° to 35°C (50° to 95°F)
Relay Contacts	
1 Form C	1A@30VDC, resistive; 30W max.