C Series

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

WALL CO_2 + RH + T IN ONE UNIT!

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 62.1-2004 standard for air quality

Microprocessor design reduces long-term drift and calibration requirements

- Non-dispersive infrared technology (NDIR) repeatable to ±20 ppm ±1% 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 62.1-2004 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

Revolutionary direct duct mounting design

- Integrated tube...eliminate need to install a separate pick-up tube
- Snap on face plate...no screws required
- NEMA 4 housing

ORDERING INFORMATION

WALL MODELS:

	(US or EU)	(RH Option)	(Temp.)	(Sensor Type)	Options Available: (Temp Cal Cert)	(Option)	(Slide Pot Value)
CWL	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 3A221, Thermistor T = 100k, 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

DUCT MODELS:

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

CE *available*

Examples:

Options

C W L C H T C 2 2 A

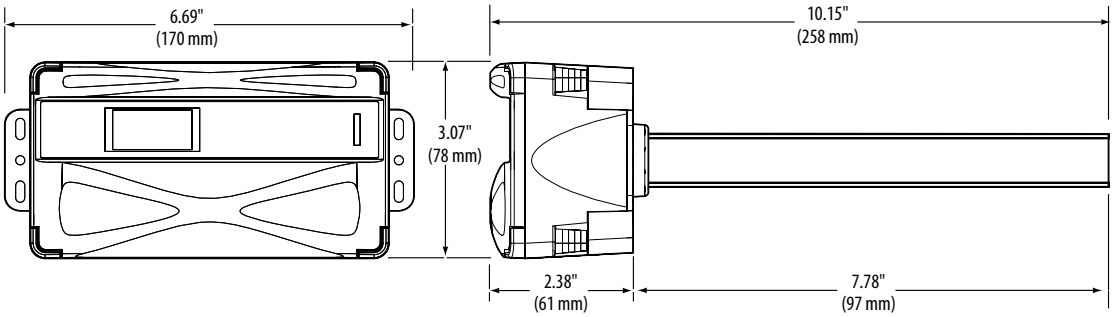
C D L C X X

ACCESSORIES

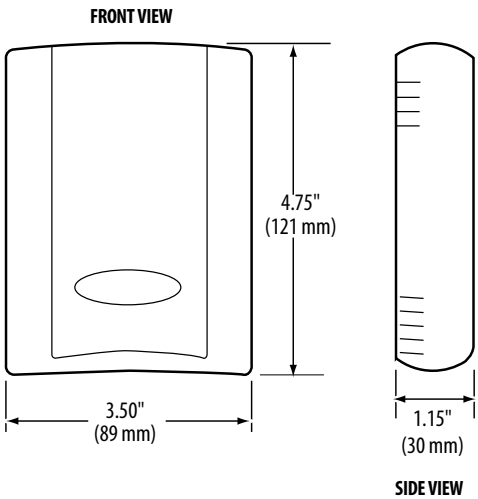
Calibration kits, disposable gasses, duct boxes, handheld meters. . .See page 234

DIMENSIONS

CD Duct Mount

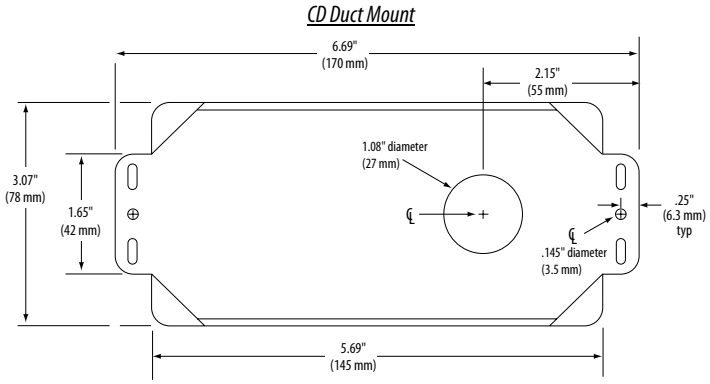


CW Wall Mount



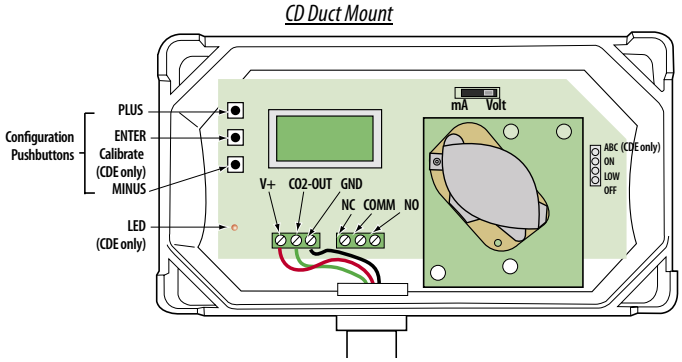
MOUNTING DIMENSIONS

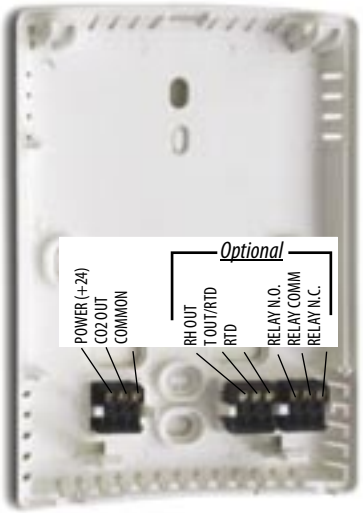
CD Duct Mount



WIRING DIAGRAMS

CD Duct 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° to 50°C(32° to 122°F)
Housing Material	High impact ABS 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 80% RH; Multi-point calibration NIST
Stability	±1% @ 20°C (68°F) annually, for two years
Operating Humidity Range	0 to 100% RH
Operating Temperature Range	10° to 35°C (50° to 95°F)
Temperature Coefficient	±0.1% RH/°C above or below 25°C (typical)
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.