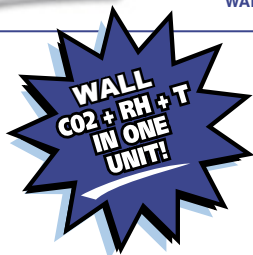


C Series CO₂ Sensors with Field-Selectable 4-20mA/0-5V/0-10V Outputs

6



The C Series carbon dioxide sensor is designed for use in HVAC control applications. Inside buildings, people are the major source of CO₂. By controlling fresh air based on CO₂ 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 up to 30% on 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 up to 30% 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:

(US or EU)
CWL
S = Standard
C = CE

(RH Option)

H = RH 2%
X = No

(Temp.)

T = Temp
X = No
(stop here)

(Sensor Type)

A = Transmitter
B = 100R Platinum, RTD
C = 1K Platinum, RTD
D = 10k T2, RTD, Thermistor
E = 2.2k, Thermistor
F = 3k, 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

Options Available

(Temp Cal Cert)	(Option)	(Slide Pot Value)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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: (Connection tubing included)

(US or EU)
CDL
S = Standard
C = CE

(RH Option)

X = No

(Temp.)

X = No

Options

Examples:

C W L C H T C 2 2 A

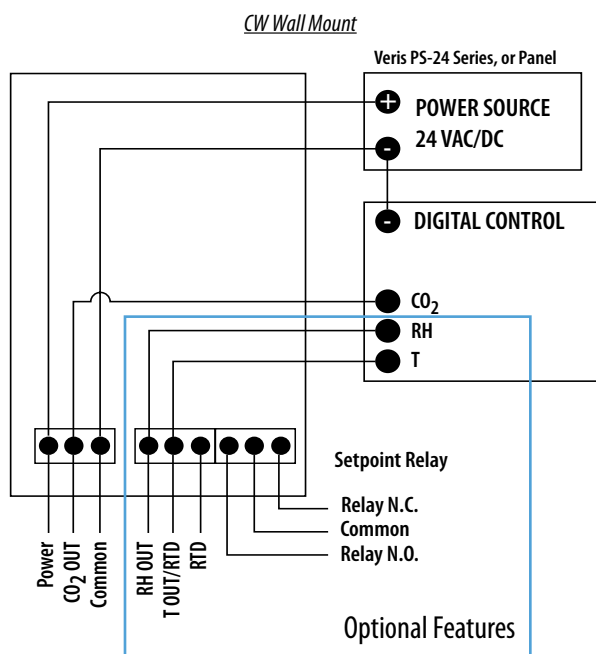
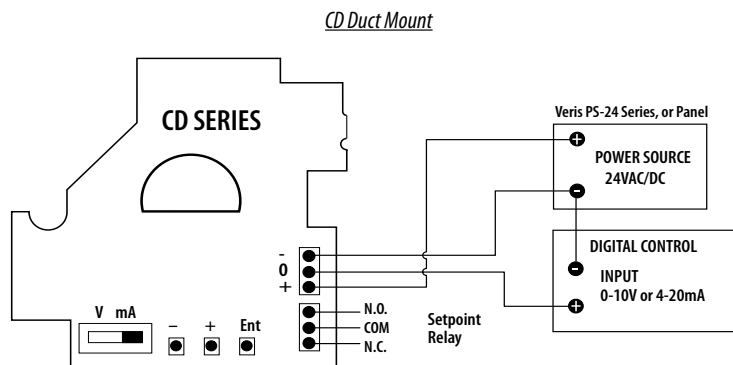
C D L C X X



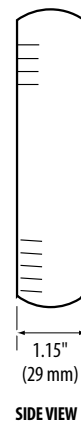
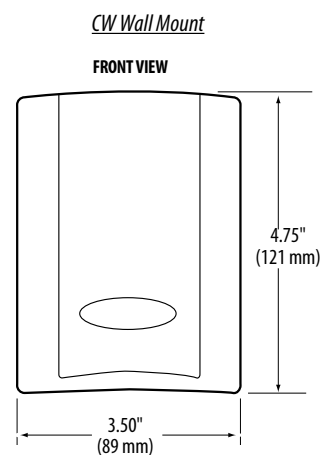
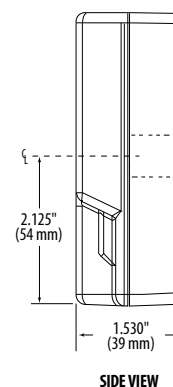
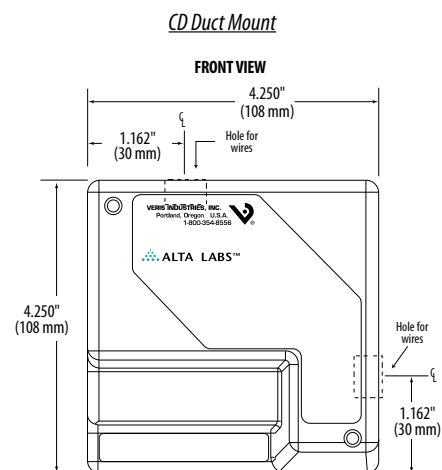
ACCESSORIES

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

WIRING DIAGRAMS



MOUNTING DIMENSIONS



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	10°C to 35°C/50°F to 95°F
Material	ABS high impact plastic
CO₂ Transmitter	
Sensor Type	Non-dispersive infrared (NDIR), diffusion sampling
Measurement Range	0-2000 ppm or 0-5000 ppm, user adjustable
Accuracy	±75 ppm ±2% of reading
Repeatability	±20 ppm
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.