



WARNING--REFER SERVICING TO QUALIFIED PERSONNEL ONLY!

- Read instructions thoroughly prior to install
- This product is not intended for life or safety applications

Applications shown are suggested means of installing sensors, but it is the responsibility of the installer to ensure that the installation is in compliance with all national and local codes and OSHA requirements. Installation should be attempted only by individuals familiar with proper installation techniques and with codes, standards, and proper safety procedures for control installations.

Installation Instructions

CWE SERIES

Environmental CO₂ Sensors

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INTRODUCTION

The CWE Series is a non-dispersive infrared analyzer designed for measuring environmental CO₂ concentration in ventilation systems and indoor living spaces. Its measurement range of 0-2000 ppm makes it compliant with ASHRAE and other standards for ventilation control.

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



SPECIFICATIONS

General

Input Voltage.....	20 to 30VDC, 24AC
Analog Output.....	0-10VDC or 4-20mA; (selectable)
Operating Temperature Range.....	50°F to 95°F
Sensor Current Draw.....	100mA maximum
Material.....	ABS high impact plastic, UL 94 V0

CO₂ - Carbon Dioxide Sensor

Sensor Type.....	Non-dispersive infrared (NDIR) diffusion sampling
Measurement Range.....	0-2000ppm
Accuracy.....	±75ppm ±2.5% of actual reading
Repeatability.....	±20ppm
Response Time.....	<60 seconds for 90% step change
Warranty.....	1 yr Factory warranty from date of purchase

SPECIFICATIONS

Sensor Location and Backplate Mounting

Select a mounting location with good air circulation away from ventilation inlets, doors, windows, or other fresh air entry points. For room installation, the sensor should be mounted at least 4-1/2 feet above the floor.

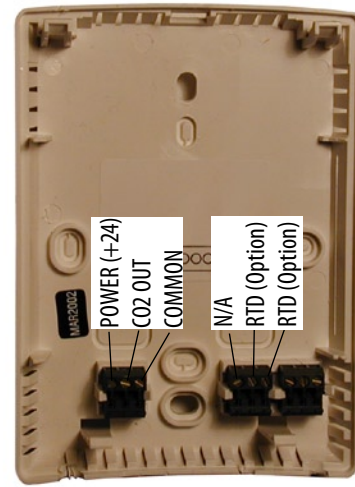
The CWE Series backplate may be flush mounted on a wall, or mounted on a standard US or European single gang junction box. Punch out openings in the backplate for wiring as required, and use the backplate as a template for locating holes for screws and wiring. Mount the backplate using screws provided. Wall anchors are recommended for drywall installations.



Note: Sensor must be mounted to vertical surface to ensure proper ventilation.

Backplate Wiring

Install wiring into terminal blocks as indicated, and push slack wire back into wall or junction box.

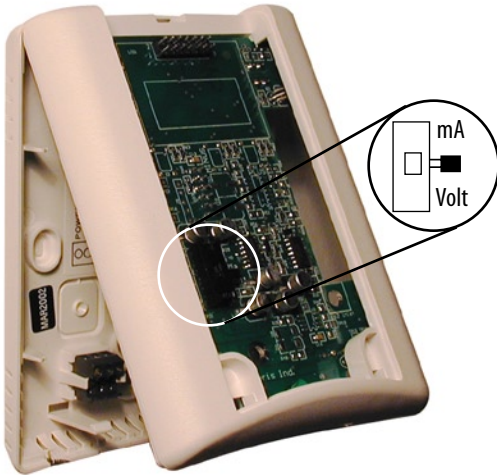


WARNING: Applying power to output terminal may cause permanent damage!

Sensor Installation

Carefully align top of sensor assembly to mounting plate and close as shown. Press firmly to ensure terminal pins and housing latches are fully engaged. Select switch position for mA or voltage output.

Select output using switch as shown.



Note: 4-20mA or 0-10V Field Selectable.

Cover Installation

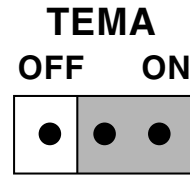
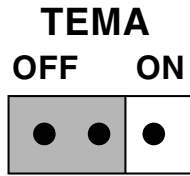
Install as shown. Cover plate may be removed using a slot screwdriver as needed to access pushbuttons for setup and calibration.



TEMA

TEMA (Time Extended Measurement Algorithm) is a patented self-calibration feature, which automatically adjusts the CO₂ sensor to compensate for drift. When TEMA is enabled, the lowest reading within every 24-hour period is recorded and analyzed over a running 35-day period. If a statistically significant amount of drift is detected, an automatic correction factor is applied. This enables the sensor to operate within specifications for the 5-year calibration interval.

TEMA is only recommended for applications with periods of no occupancy. TEMA should be set to ON when the CO₂ sensor is installed in offices or schools which are vacant at night. TEMA should be set to OFF for applications in which the building is occupied continuously.



OUTPUT SCALING

CO₂ - Carbon Dioxide Sensor

Output scaling: 0-2000ppm default.

Outside = 300-500ppm (6.4mA to 8mA)

Over Ventilated = Under 600

Ideal Ventilation = 600-900ppm (8.8mA to 11.2mA)

Under Ventilated = Over 900

CALIBRATION PROCESS

1. Hook up hose to plastic port
2. Start flowing (Nitrogen) 0 ppm Gas (0 ppm only)
3. Push and hold down calibration button until the Red LED illuminates
4. Continue flowing gas through the sensor until the Red LED is off