

# GE Sensing

## Features

- Patented Absorption Infrared/Gas sensing engine provides high accuracy in a compact low cost package.
- Patented ABC Logic™ self-calibration system eliminates the need for manual calibration in most applications.
- Mounting bracket with terminal block provides quick, easy wiring.
- Gas permeable, water resistant diffusion filter prevents particulate and water contamination of the sensor.
- Locking screw secures cover and sensor to the mounting bracket for tamper resistance.
- Dual simultaneous analog output (V & mA).
- On-board relay with adjustable setpoint and dead-band.
- Choice of nine pre-programmed “standard settings” on easy-to-use interface.
- PC interface and adjustable settings allow for simple configuration.
- Optional enclosures available.
- Thirteen minute one-step calibration process.
- Lifetime calibration guarantee.
- Sensors are shipped factory calibrated.

# Telaire Wall Mount Ventostat® Wall Mount CO2 Ventilation Controllers

Telaire Wall Mount is a Telaire product. Telaire has joined other GE high-technology sensing businesses under a new name—GE Industrial, Sensing.



# GE Sensing

Wall mount sensors are used to control a specific area such as a conference room, classroom, meeting hall, etc. Even though the sensors are designed for wall mount configurations, some sensors can also be configured for "in-duct" mount. For in-duct, the sensor (8001B, 8002B, and 8102B) is mounted inside the duct to control an entire air-handling zone. All wall mount sensors (except the 8003) are compatible with accessory enclosures.

The Ventostat controller offers a SPDT relay (normally open or closed) and can be custom programmed to a specific measurement and output range using the UIP software interface or on-board keypad (display units).

## **ABC Logic Self Calibration Program**

CO2 controllers use the patented ABC (Automatic Background Calibration) Logic self-Calibration system that virtually eliminates the need for manual calibration in applications where the indoor CO2 level drops to outside levels during unoccupied periods (e.g. during evening hours). ABC Logic is a special software routine in the sensor that remembers the background readings for 14 consecutive evenings, calculates if there is sensor drift, and then corrects for it. ABC Logic will not work properly in applications where the space is unoccupied for less than four hours a day or where there are industrial sources of CO2 in the building such as breweries or wineries.

## **Fast One Step Calibration**

The CO2 Sensors (except the 8009) feature a fast one step calibration process should it ever be required. A zero calibration can be performed in less than fifteen minutes by flowing gas to the calibration port and activating the calibration routine. If drift occurs in the sensor it usually affects the zero setting of the sensor only. If a two-point calibration is desired, it can be performed using the UIP Program.

## **Lifetime Calibration Guarantee**

Telaire is serious about minimizing maintenance, so each sensor comes with a lifetime calibration guarantee. If a Telaire 8000 sensor drifts out of calibration range, it can be sent back to Telaire for a free factory calibration. Further information on the guarantee is available on our web site.

## **User Interface Program (UIP)**

All Ventostat 8000 series controllers (except the 8009) can be connected to a PC using the UIP 2072 Windows® program. Simply connect to the sensor using the onboard RJ45 jack and you can adjust the output scaling, elevation adjustment, relay setpoint, relay dead-band, select linear or proportional exponential output, perform single-point or two-point calibration, and check ppm levels. Display units can also be adjusted using the keypad.

## Ventostat 8001/8002

### **Ventostat 8001 CO2 Sensor No Display Ventostat 8002 CO2 Sensor with Display**

For use in commercial buildings for demand-controlled ventilation.

## Ventostat 8001B/8002B

### **Ventostat 8001B CO2 Sensor No Display Ventostat 8002B CO2 Sensor with Display**

Wall or optional in-duct mount, for use in commercial buildings, for demand-controlled ventilation. Conformal coated electronics and high temperature enclosure (UL94-5V) allow for installation in harsh environments. Model 8002B includes a display and a keypad for sensor programming without software.

## Ventostat 8003

### **Ventostat 8003 CO2 Sensor No display**

This wall mount includes our patented technology, but omits programming ability, which allows for an economically-priced sensor. This also includes a calibration guarantee.

## Ventostat 8102

### **Ventostat 8102 CO2 Sensor with Display**

Ideal for use in applications where CO2 monitoring and control are required for a 24/7 period. Equipped with a dual beam sensor, it provides higher accuracy and stability over time. The display and keypad allow for sensor programming without software.

## Ventostat 8102B

### **Ventostat 8102B CO2 Sensor with display**

Equipped with a dual beam sensor, it provides higher accuracy and stability over time. It is wall mount or optional in-duct configured. The display and keypad allow for sensor programming without software. Conformal coated electronics and high temperature enclosure (UL94-5V) allow for installation in harsh environments.

# Wall Mount Specifications

## Sensing Method

- Non-dispersive infrared (NDIR) absorption
- Gold-plated optics
- Patented ABC Logic self calibration algorithm

## Sample Method

Diffusion

## Measurement Range

- 0 to 2000 ppm factory default
- Adjustable to 10,000 ppm

## Accuracy

±40 ppm 3% of reading @ 72°F (22°C) when compared against a certified factory reference\*

## Non-Linearity

< 1% of FS

## Stability

< 2% of FS over life of sensor (15 year typical)\*

## Temperature Dependence

±0.2% FS per °C (±0.11% per °F)

## Pressure Dependence

0.13% of reading per mm Hg

## Response Time

< 2 minutes for 90% step change

## Warm-up Time

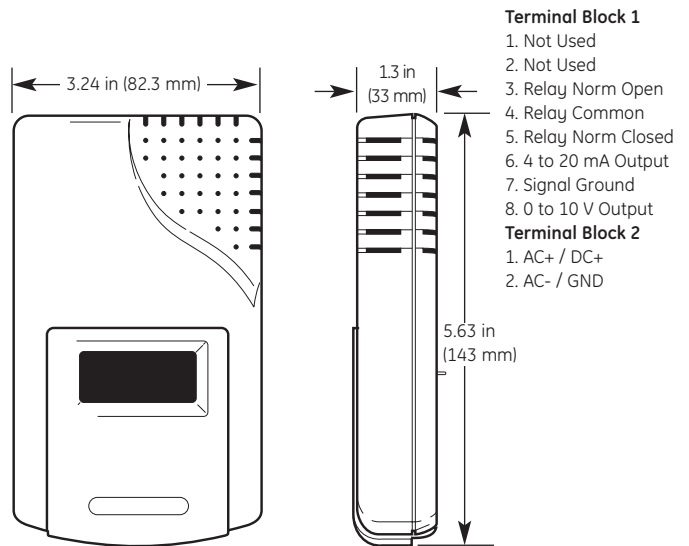
- < 2 minutes (operational)
- 10 minutes (maximum accuracy)

## Operating Conditions

- 32°F to 122°F (0°C to 50°C)
- 0 to 95% RH, non-condensing

## Storage Conditions

-4°F to 158°F (-20°C to 70°C)

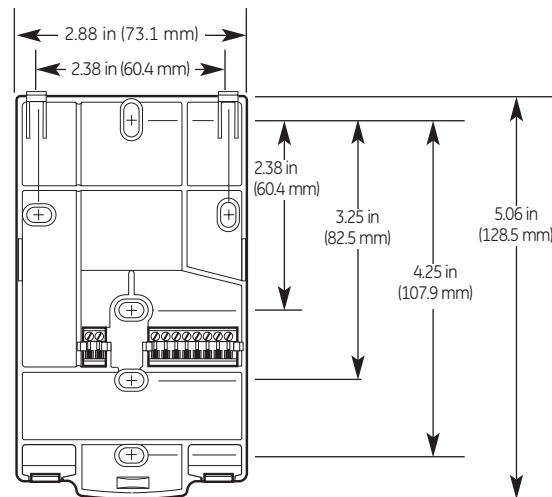


### Terminal Block 1

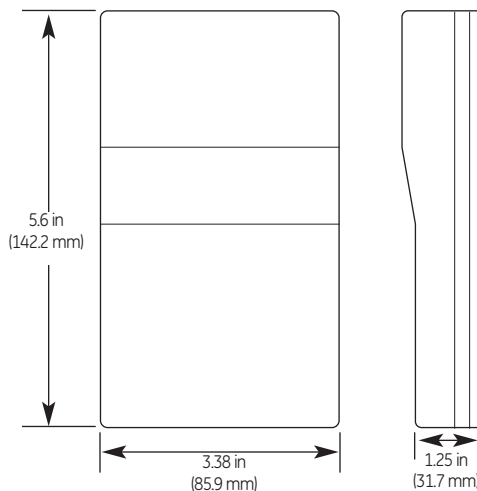
1. Not Used
2. Not Used
3. Relay Norm Open
4. Relay Common
5. Relay Norm Closed
6. 4 to 20 mA Output
7. Signal Ground
8. 0 to 10 V Output

### Terminal Block 2

1. AC+ / DC+
2. AC- / GND



Ventostat 8100/8000 dimensions



Ventostat 8009 dimensions

### Connections

Removable Screw Terminal (18-22 AWG wire)

1. Vout (Analog 0 to 10 V output)
2. Gnd (Ground)
3. Vin (24 VAC (+))

# Wall Mount Specifications

## Calibration Interval

- Not required
- Lifetime calibration guarantee
- Sensors are factory calibrated

## Output

### Analog

- 0 to 10 V (100  $\Omega$  output impedance) and
- 4 to 20mA (RL maximum 500  $\Omega$ ) available simultaneously (4 to 20mA not available on the 8003)

### Relay

SPDT, gold bifurcated, 2 A maximum @ 24 V (Not available on the 8003).

Relay threshold 1000 ppm, dead band 50 ppm (factory set) user-configurable (Not available on the 8003)

### Digital

RS232 communicates with Telaire CO2 View and UIP software (Not available on the 8003)

*\*The sensor employs ABC (Automatic Background Calibration) Logic a patented self-calibration technique used in applications where concentrations will drop to outside ambient conditions (approximately 400 ppm) at least 3 times in a 14 day period, typically during unoccupied intervals. Specified accuracy is achieved after 14 days of continuous operation.*

## Accessories

### 8001B, 8002B, 8102B

- 1505 Water Resistant Enclosure for Harsh Environments
- 1551 Outside Air Enclosure for Temperatures to -20°F (-29°C)
- 1508 Aspiration Box for Duct Mounting

### 8001B, 8002B, 8102B, 8007, 8008

- 2072 UIP for Customizing Settings and Calibration
- 2075 Calibration Kit for Performing Zero and Span Calibration.
- Replacement Bottles for Replacing 2075 Gas Bottles

Factory calibration available – Call for details.

*Note: Accessories are not available for the 8009.*



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