

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.

Telaire Duct Mount

Telaire Ventostat® Duct/In-Duct Mount CO2 Ventilation Controllers

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



GE Sensing

Applications using a duct mounted sensor enable one sensor to control one air handling zone. Two sensor mounting configurations are available, "in-duct" and "remote" duct mount. For in-duct, the sensor (8001B, 8002B, or 8102B) is mounted inside the duct. Remote duct mount enables the user to mount the sensor (8007, 8008 or 8009) remotely with use of the pitot sampling tube. All in-duct sensors are compatible with accessory enclosures.

The Ventostat controller offers an 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 and calculates if there is sensor drift, 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 (except the 8009) series controllers 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 8001B/8002B

Ventostat 8001B CO2 Sensor/No Display

Ventostat 8002B CO2 Sensor/With Display

In-Duct Mount for use in commercial buildings for demand controlled ventilation. The sensor can also be used as a wall mount. Conformal coated electronics and a high temperature enclosure (UL94-5 V) allow installation in harsh environments. Model 8002B includes a display and a keypad for sensor programming without software.

Ventostat 8102B

Ventostat 8102B CO2 Sensor/With Display

Equipped with a dual beam sensor, the unit provides higher accuracy and stability over time. In-Duct Mount is for use in commercial buildings. The display and keypad allow for sensor programming without software. Conformal coated electronics and a high temperature enclosure (UL94-5 V) allow for installation in harsh environments.

Ventostat 8007/8008

Ventostat 8007 CO2 Sensor/No Display

Ventostat 8008 CO2 Sensor/No Display

Pitot tube configuration - the pitot tube is installed in the duct and the sensor is mounted remotely, which allows for easy access.

Ventostat 8009

Ventostat 8009 CO2 Sensor

This duct mount includes our patented technology but omits programming ability, which allows for an economically priced sensor. It includes pitot tube configuration and a calibration guarantee.

Duct Mount Specifications

Sensing Method

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

Sample Method

- 8001B/8002B/8102B - Diffusion
- 8007/8008/8009 - Flow Through

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

±0.11% per °F (±0.2% FS per °C)

Pressure Dependence

0.13% of reading per mm Hg

Response Time

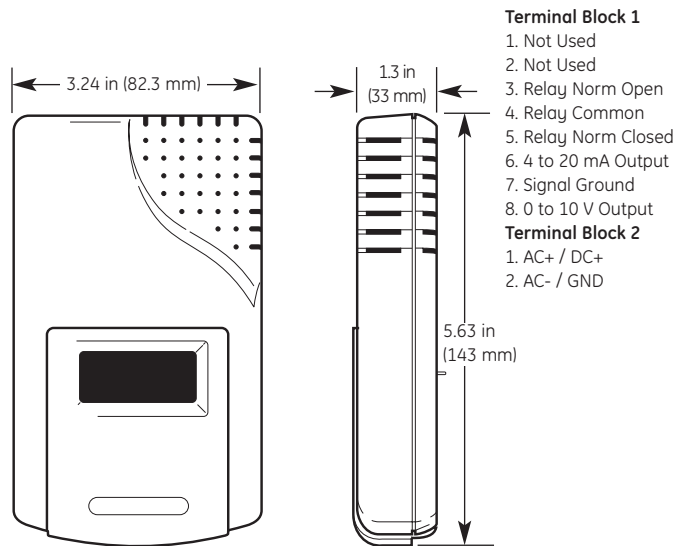
- 8001B/8002B/8102B < two minutes for 90% step change
- 8007/8008/8009 < three minutes for 90% step change typical

Warm-up Time

- < Two minutes (operational)
- 10 minutes (for maximum accuracy)

Operating Conditions

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

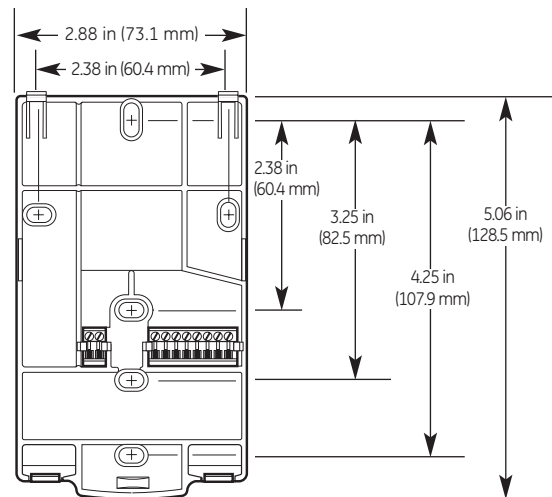


Terminal Block 1

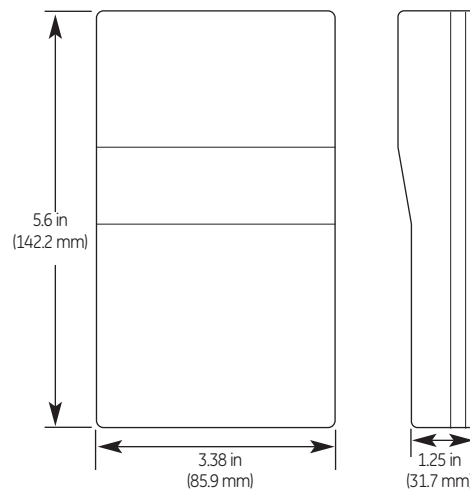
1. Not Used
2. Not Used
3. Relay Norm Open
4. Relay Common
5. Relay Norm Closed
6. 4 to 20 mA Output
7. Signal Ground
8. 0 to 10 V Output

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 (+))

Duct Mount Specifications

Storage Conditions
-4°F to 158°F (-20°C to 70°C)

- Calibration Interval**
- Not required
 - Lifetime calibration guarantee

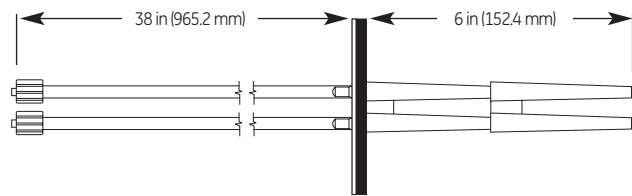
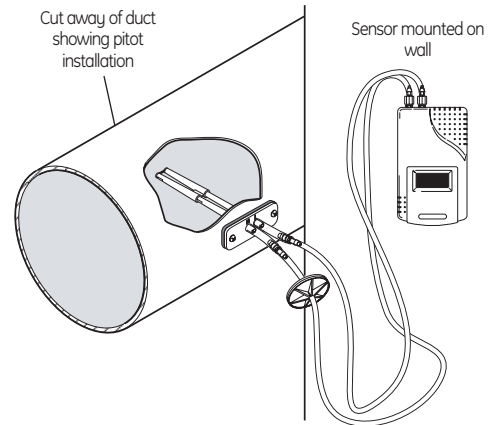
Output

- Analog**
- 0 to 10 V (100Ω output impedance) and
 - 4 to 20 mA (RL maximum 500Ω) available simultaneously (4 to 20 mA not available on the 8009)

- Relay**
- SPDT, gold bifurcated, 2 A maximum @ 24 V (Not available on the 8009)
- Relay threshold 1000 ppm, dead band 50 ppm (factory set) User configurable (Not available on the 8009)

- Digital**
- RS232 communicates with Telaire CO2 View and UIP software (Not available on the 8009.)

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



Ventostat 8007/8008 Pitot Mounting Configuration

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.
(Accessories are not available for the 8009)



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