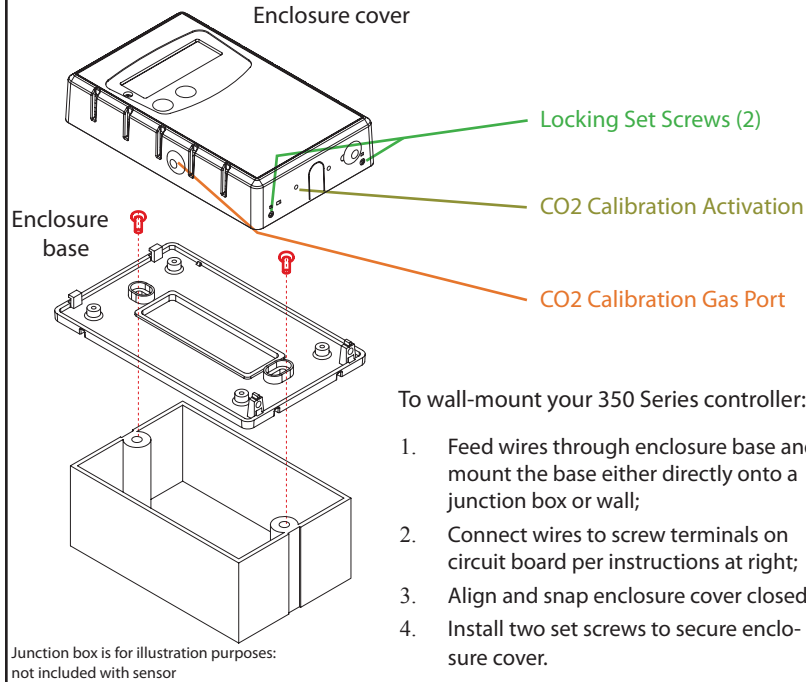




Model 350 Series Wall Mount Wiring and Calibration Instructions



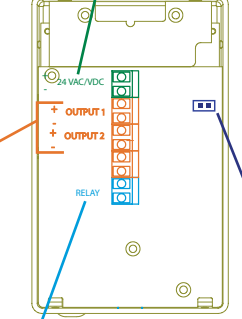
Outputs available in either Voltage (0-10V) or Current (4-20mA)

Not all outputs are used on every unit. See table below for output assignments.

All '-' terminals are electrically connected, but isolated from power supply.

AirSense 350	
Output	Sensors
Output 1	CO2
AirSense 351	
Output	Sensors
Output 1	CO
AirSense 352	
Output	Sensors
Output 1	VOC
AirSense 353	
Output	Sensors
Output 1	CO2
Output 2	CO
AirSense 354	
Output	Sensors
Output 1	CO2
Output 2	VOC
AirSense 355	
Output	Sensors
Output 1	CO
Output 2	VOC

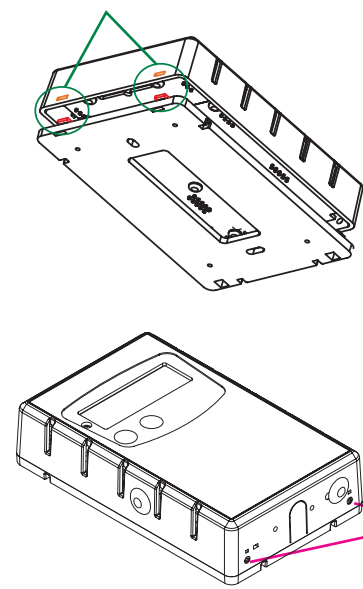
Power input
18-30 VDC
18-28 VAC
(polarity matters for VDC only)



Relay is optional and may not be present (dry contact rated 24 VAC, 2A max)

Relay Sense Jumper	Relay contact state	
	No alarm	In alarm
OPEN (shorting block on only one pin)	OPEN	CLOSED
CLOSED (shorting block on both pins)	CLOSED	OPEN

Align top and bottom latch and snap closed



Warning And Alarm Indication		
Sensors	Warning level LED is YELLOW relay actuates (if equipped)	Alarm level LED is RED beeper sounds (if equipped)
CO2	1000 ppm	2000 ppm
CO	25 ppm	50 ppm
VOC	625 mV	875 mV

Analog Output Scaling			
Sensors	CO2 ppm	RH %	
Current Output	4 mA	0	0
	12 mA	1000	50
	20 mA	2000	100
Voltage Output	0 Volts	0	0
	5 Volts	1000	50
	10 Volts	2000	100

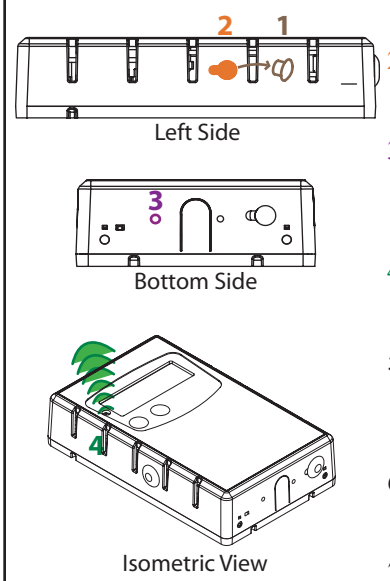
Once lid closed, insert set-screws to secure enclosure cover.
Requires 1/16" Allen wrench.

Calibration-Kit



Your sensor comes factory-calibrated and does not need to be calibrated upon initial installation. Calibration kits are available.

CO2 and CO Calibration Procedure

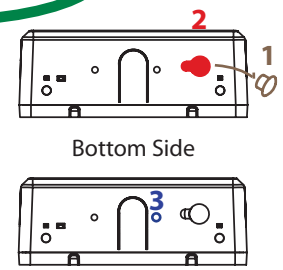


1. Temporarily remove dust cover from left side of enclosure cover.
2. Place 2000 PPM CO2 calibration gas tube in side port and slide onto the fitting inside. Turn on gas.
3. Allow calibration gas to flow for one minute, then use a 1/16" allen wrench (or equivalent) to depress switch (inside hole 3 at left) for 5 seconds. LED will blink **yellow**.
4. After 5 minutes the LED will **blink green**. The calibration process is completed.
5. Press and hold switch (labeled 3 at left) to accept calibration. The LED will turn **solid green** after only a few seconds, indicating that calibration is complete.
6. At this point it is safe to turn off gas and remove gas tubing from calibration port.
7. When calibration is complete, replace dust cover on gas calibration port.

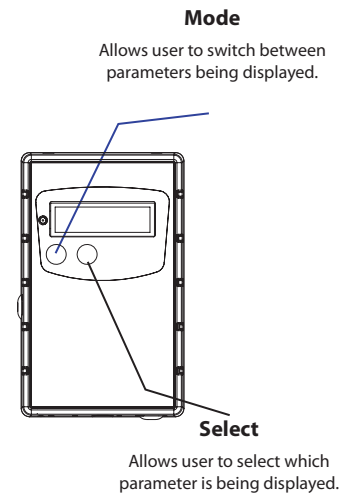
For **CO calibration** (depicted below):

1. Remove dust cover from bottom side.
2. Place 25 ppm CO, **balance air**, calibration gas tube in port hole (2 below). Turn on gas.
3. Allow calibration gas to flow for one minute, then use paper clip (or other narrow instrument) to depress button (3 below) for 5 seconds. LED will blink **yellow**.

continue with steps 4-7



LCD (if equipped)



Models reporting only CO2 (with out RH option) will not be equipped with 'Mode' and 'Select' buttons.

Introduction

The 350CO2 Series is a non-dispersive infrared analyzer for measuring environmental CO2 concentration in ventilation systems and indoor living spaces. Its measurement range of 0 - 2000 ppm (parts per million; 1000 ppm = 0.1%) covers the range required to monitor compliance with ASHRAE or other ventilation efficiency standards. The 350CO2 comes configured for:

- Wall or duct-mounting;
- Voltage or 4-20mA outputs

Options include:

- CO and VOC sensors
- No or NC relay;
- Liquid-Crystal Display (LCD);
- Alarm;
- RH sensor

A simple one-point calibration procedure and a built-in calibration port that requires no special fittings or adapters make the 350CO2 simple to operate and maintain.

Displays and Indicators

The 350CO2 Series includes a single tri-color LED on the front panel which illuminates whenever the unit is operating. This LED indicates:

- **Green** -> all sensor/s at normal levels
- **Yellow** -> one or more sensors at Warning levels
- **Red** -> one or more sensors at Alarm level
- **Blinking Red** -> one or more sensors have failed

The display option adds a 4 digit liquid crystal display (LCD) to the front panel. The display shows the measured:

- CO2 concentration in parts per million (ppm)
- Relative Humidity in %

CARBON DIOXIDE SENSOR (CO2)	
Parameter	Value
Operating Principle	Non-dispersive infrared (NDIR)
Gas Sampling Method	Diffusion
Measurement Range	0-2000 ppm (Other ranges available by request)
Repeatability	± 20 ppm CO2
Measurement Accuracy	± 30 ppm ± 2% of reading
Recommended Calibration Interval	5 years
Warm Up Time	Less than 1 minute
Calibration	ONE Point : Single-button calibration (Patented)

CARBON MONOXIDE SENSOR (CO)		
Parameter	Value	Comments
Sensor type	Electrochemical	
Measurement range	0 – 200 ppm CO	
Accuracy	± 2.5% of full scale	0 – 50 °C
Recommended Calibration Interval	2 years	
Sensor Life	5 years typical	Actual life depends on ambient humidity & temperature.

VOLATILE ORGANIC COMPOUND SENSOR (VOC)	
Parameter	Value
VOCs detected	Alcohols, aldehydes, ketones, organic acids, amines, aliphatic and aromatic hydrocarbons
Typical response time	<1 minute to 90% full scale
Warmup time	2 Hours



Overall Specification	
Parameter	Value
Power Requirements	18 - 30 VDC or 18 - 28 Vrms AC
Power Consumption	2.5 VA (with out VOC sensor)
	4 VA (with VOC sensor)
Operating Temperature Range	0 - 50 °C
Operating Humidity Range	0 - 99% RH, non-condensing
Voltage Output (linear)	0 - 10 VDC full-scale standard
Optional Current Output (linear)	4-20 mA R _{LOOP} < 600 Ω
Storage Temperature	-10 to 60 °C
Dimensions	4.5 x 2.8 x 0.9 inches

irSense™
Professional Series



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MADE IN USA

Model 350
Infrared Carbon Dioxide Sensor



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