AirSense Professional Series

ULP Wiring and Calibration Instructions

Exploded View Labels

- Locking Set Screw
- AirSense ULP Enclosure Cover
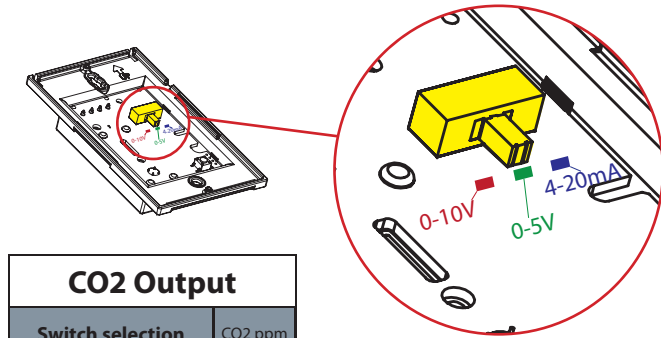- AirSense ULP Enclosure Base
- Mounting Screws (2)
- 4 Wire Terminal Plug
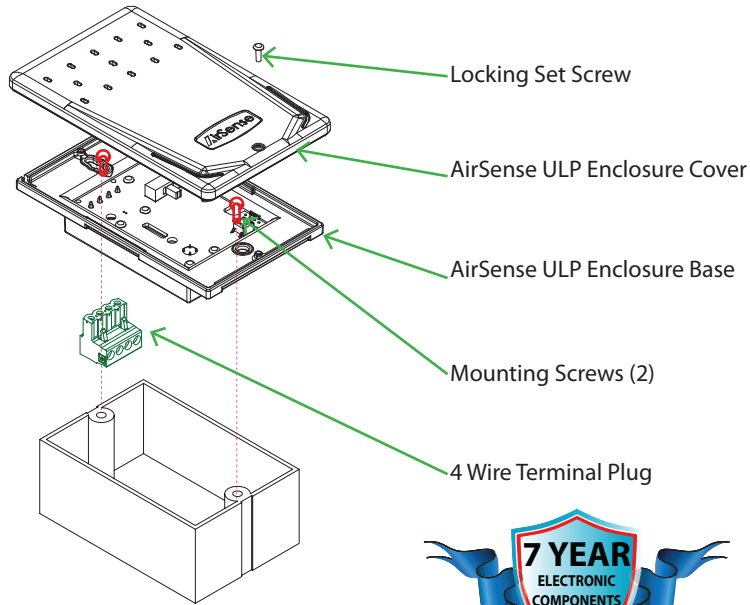
Junction box is for illustration purposes: not included with sensor

7 YEAR ELECTRONIC COMPONENTS WARRANTY

3 YEAR - NDIR SENSOR

Wiring Diagram

OUT   PWR
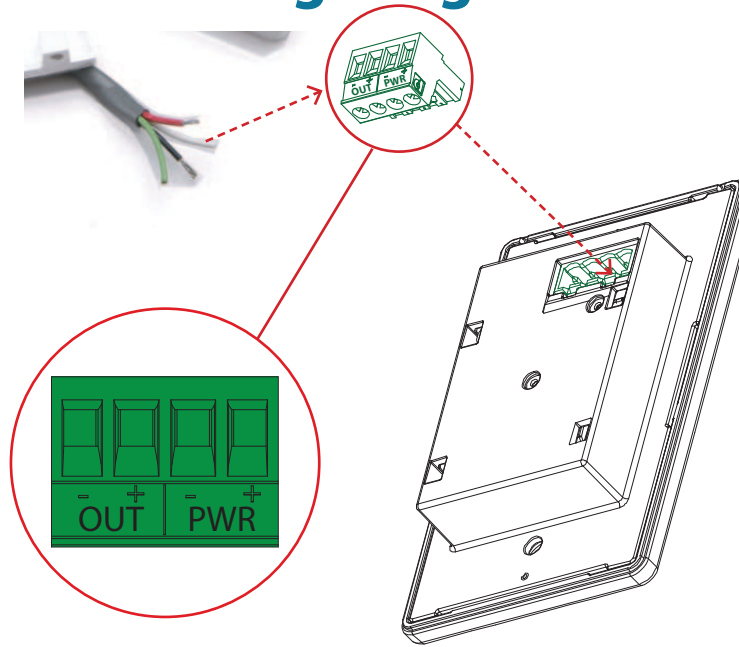
Output setting Diagram

0-10V   0-5V   4-20mA

CO2 Output

| Switch selection		CO2 ppm
Current Output (4-20 mA)	4 mA	0
	12 mA	1,000
	20 mA	2,000
Voltage Output 0-10V	0 Volts	0
	5 Volts	1,000
	10 Volts	2,000
Voltage Output 0-5V	0 Volts	0
	2.5 Volts	1,000
	5 Volts	2,000

Selectable Output Setting

Use switch to select between 3 different outputs

- 4-20 mA output - $R_{LOOP} < 600\ \Omega$
- 0-10 V output ⎤ Minimum input
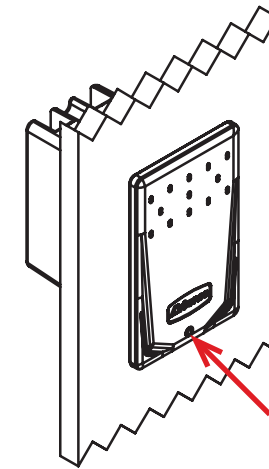- 0-5 V output ⎦ resistance 10K Ω

Installation Steps
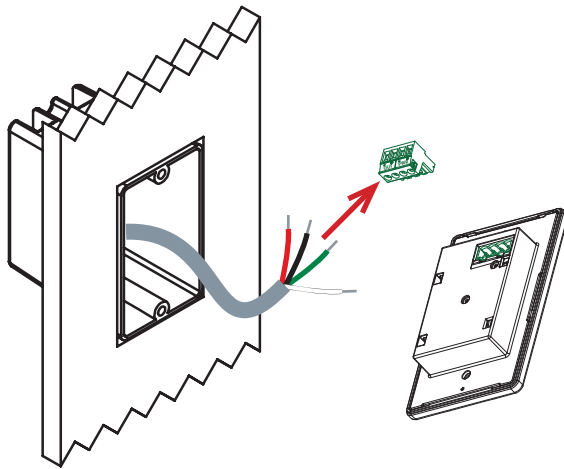
1
- Mount in standard single gang junction box
- Connect wires to terminal plug
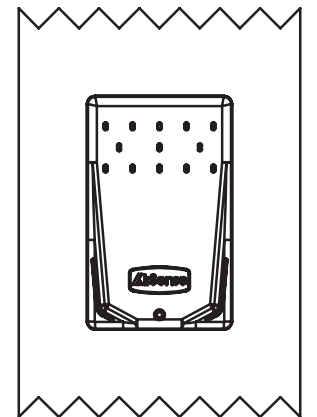- Insert terminal plug into mating header
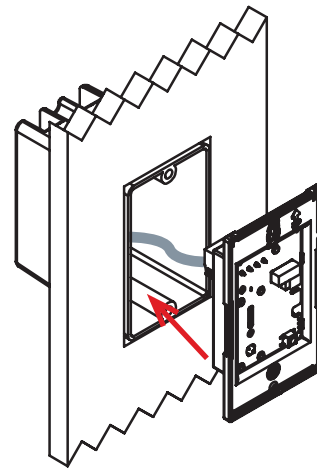
2
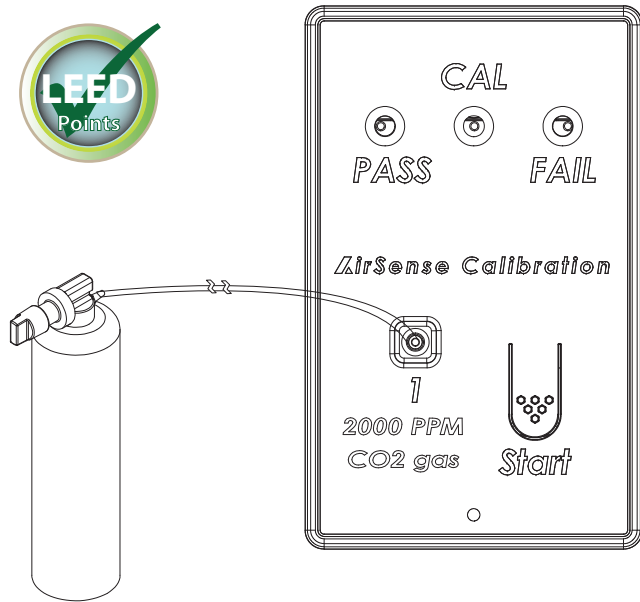- Insert AirSense ULP CO2 sensor into junction box
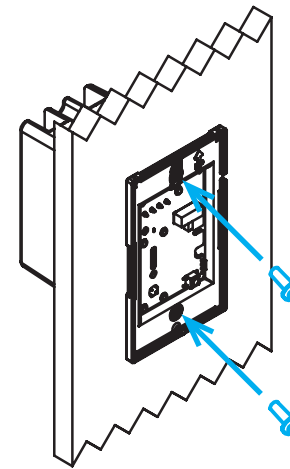
3
- Insert 2 mounting screws

4
- Snap on cover
- Install locking screw
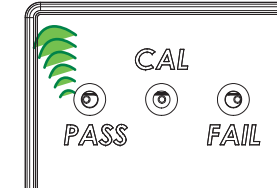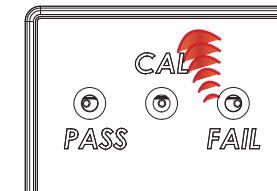
5
- Installation complete

ULP Calibration Process

1. Remove the AirSense cover plate and install the Calibration cover plate.
2. Attach the ¼" CO2 calibration gas tube onto fitting marked 1.
3. Open the valve on the 2000 ppm CO2 bottle.
4. Press and hold the (START) button for 3 seconds to activate the calibration sequence until the yellow LED begins to blink.
5. The yellow (CAL) LED will flash for 2 minutes to allow the reading to settle. During that time:
   - Do not remove electrical power during calibration. If power is lost no changes will be saved and the sensor will revert to using the previous calibration values.
   - Do not interrupt flow of the 2000 ppm CO2 gas.
   - The procedure can be aborted by pressing the button.
6. At the end of the settling period, one of the following will occur:
   - The green (PASS) LED will flash continuously to indicate calibration was successful. In this case, press the (START) button within 3 minutes to permanently save the calibration to memory.
   - The red (FAIL) LED will flash continuously to indicate the calibration failed due to an unstable measurement. In this case, press the (START) button to confirm no calibration was performed.
7. The sensor will return to normal operation.
8. Close the valve on the 2000 ppm CO2 bottle, and remove the tubing.
9. Remove the Calibration cover plate and reinstall the AirSense cover plate.
10. Reinstall the cover plate locking screw.
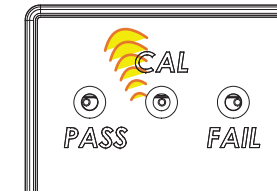
Calibration sequence activated "CAL" LED will blink yellow

Green LED will blink if the unit "PASS" calibration

Red LED will blink if the unit "FAIL" calibration

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

Model #	OUTPUT
	Top of Scale
AirSense ULP-2K	0-2,000 ppm
AirSense ULP-5K	0-5,000 ppm
AirSense ULP-10K	0-10,000 ppm

Overall Specification	
Parameter	Value
Power Requirements	18 - 30 VDC or 18 - 28 Vrms AC
Power Consumption	2.5 VA
Operating Temperature Range	0 - 50 °C
Operating Humidity Range	0 - 99% RH, non-condensing
Output (for details see switch output diagram page 1)	Current Output: 4-20 mA Voltage Output: 0-10V Voltage Output: 0-5V
Storage Temperature	-10 to 60 °C
Dimensions	4.57 H x 2.80 W x .27 D inches
Material	UV and UL 94V-0 Fire Resistant ABS Plastic

CARBON DIOXIDE SENSOR (CO2)	
Parameter	Value
Operating Principle	Dual Beam Non-dispersive infrared (NDIR)
Gas Sampling Method	Diffusion
Measurement Range	0-2000 ppm, 5,000 ppm, or 10,000 ppm
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, with AirSense Calibration Kit (Patented)
Warranty	7 years electronic components/ 3 years NDIR Sensor

7 YEAR ELECTRONIC COMPONENTS WARRANTY
3 YEAR - NDIR SENSOR

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