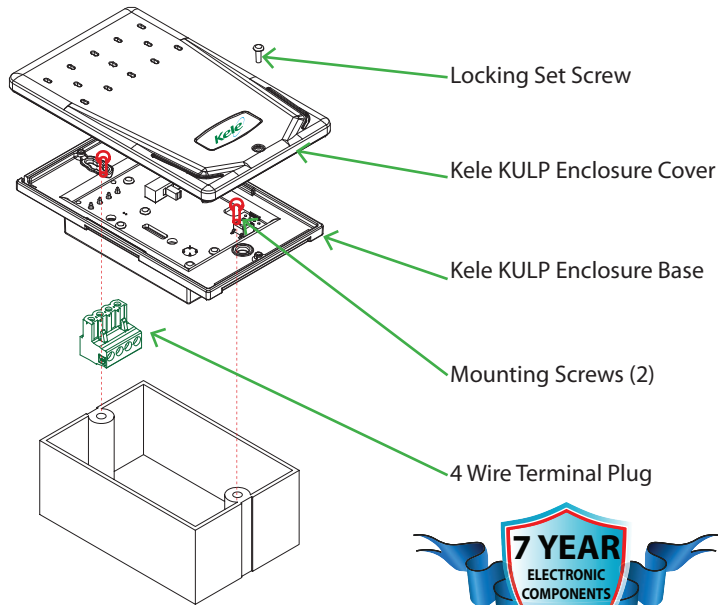


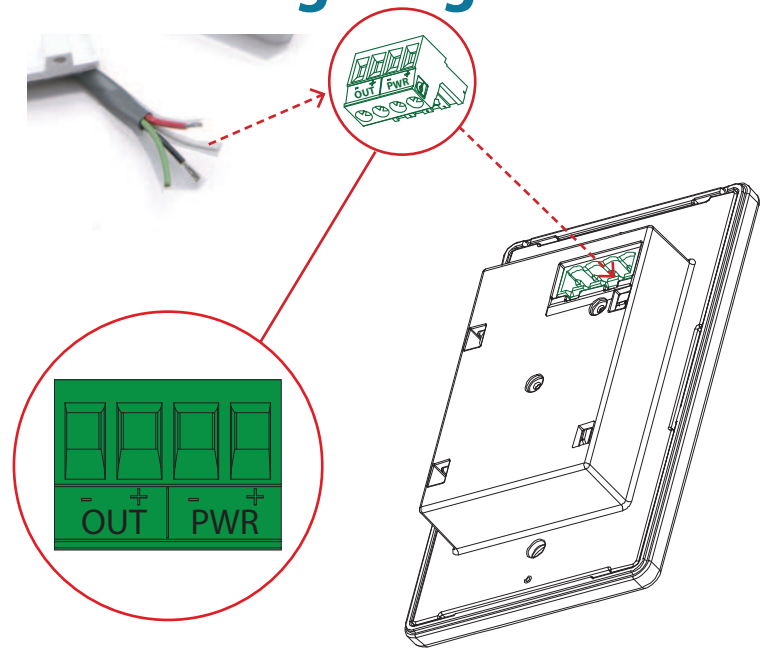


KULP Wiring and Calibration Instructions

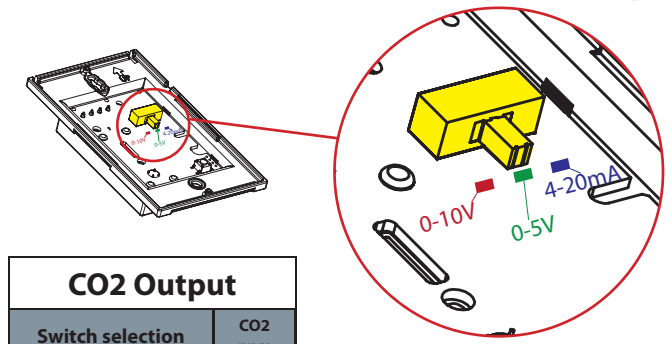


Junction box is for illustration purposes: not included with sensor

Wiring Diagram



Output setting Diagram

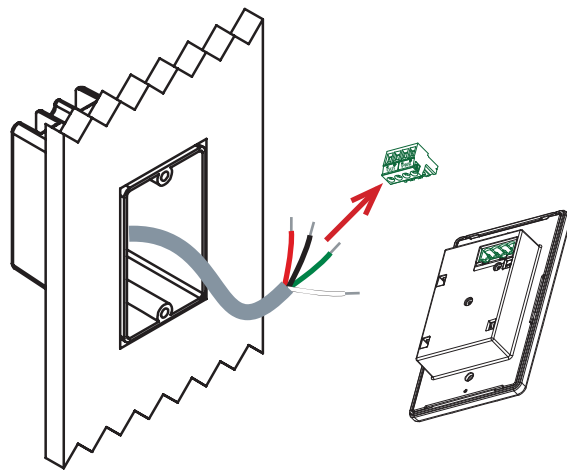


CO2 Output		
Switch selection	CO2 ppm	
Current Output (4-20 mA)	4 mA	0
	12 mA	1,000
	20 mA	2,000
Voltage Output 0-10V	0 Volts	0
	5 Volts	1,000
	10 Volts	2,000
Voltage Output 0-5V	0 Volts	0
	2.5 Volts	1,000
	5 Volts	2,000

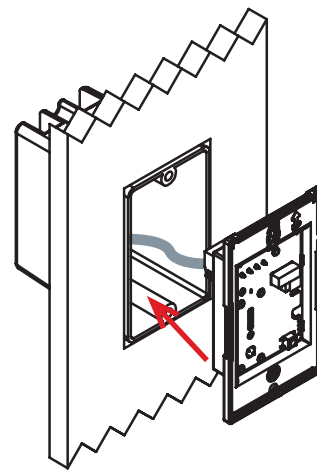
Selectable Output Setting

Use switch to select between 3 different outputs

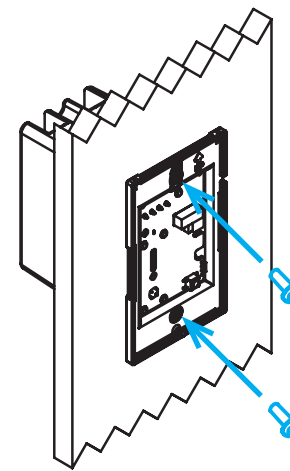
- 4-20 mA output - $R_{LOOP} < 600 \Omega$
- 0-10 V output } Minimum input resistance 10K Ω
- 0-5 V output }



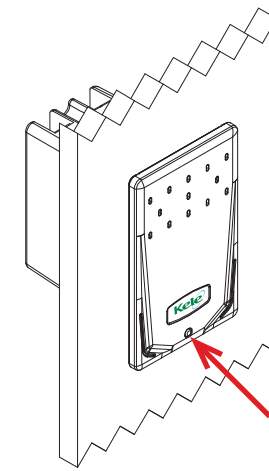
- 1**
- Mount in standard single gang junction box
 - Connect wires to terminal plug
 - Than insert terminal plug into mating header



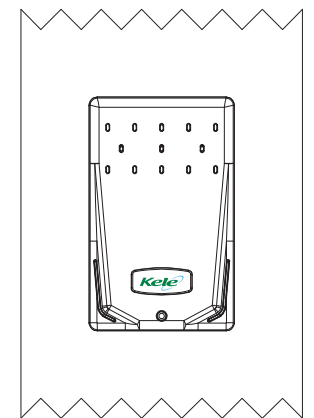
- 2**
- Insert Kele KULP CO2 sensor into junction box



- 3**
- Insert 2 mounting screws

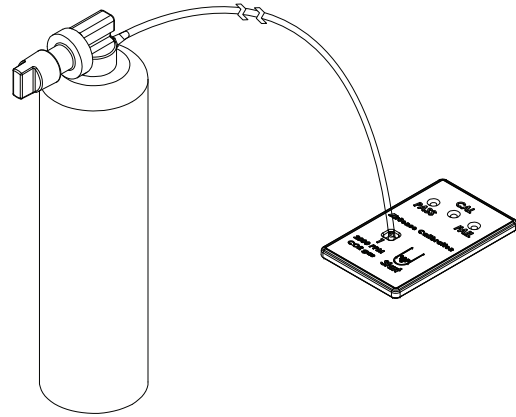


- 4**
- Snap on cover
 - Install locking screw



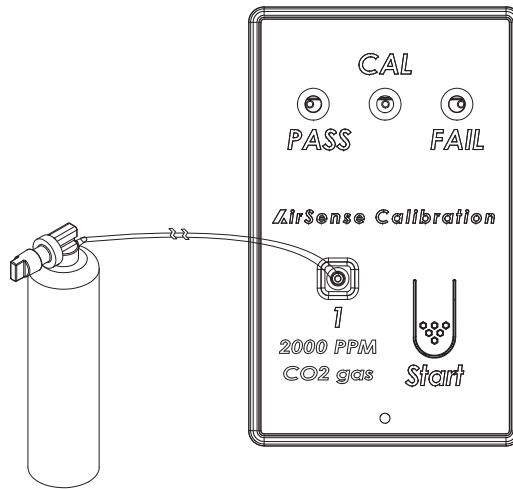
- 5**
- Installation complete

Calibration-Kit



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

CO2 Calibration Procedure



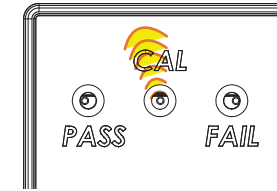
Setting Up

- Unscrew locking screw with Phillips screw driver
- Remove Kele KULP cover plate
- Insert Kele Calibration cover plate

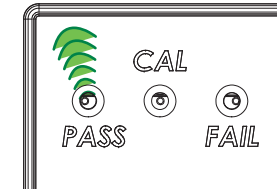
Calibration

1. Insert 1/8 inc OD CO2 calibration gas tube in to nipple mark "1"
2. Turn on 2000 PPM CO2 gas
3. Press button marked "Start"
4. Calibration sequence activated "CAL" LED will blink yellow
5. Green LED will blink if the unit "PASS" calibration
If pass skip to step 7
6. Red LED will blink if the unit "FAIL" calibration
If fail repeat step 2 – step 5
7. Turn off CAL gas.
8. Remove calibration cover.
9. Reinstall Kele KULP cover plate
10. Reinstall locking screw

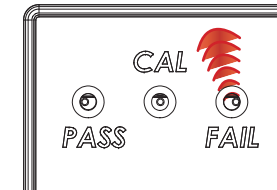
CO2 Calibration Indicator LEDs



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

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
Optional Current Output (linear)	4-20 mA $R_{LOOP} < 600 \Omega$	
Storage Temperature	-10 to 60 °C	
Dimensions	4.57 H x 2.80 W x .27 D inches	

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, with Kele Calibration Kit (Patented)



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