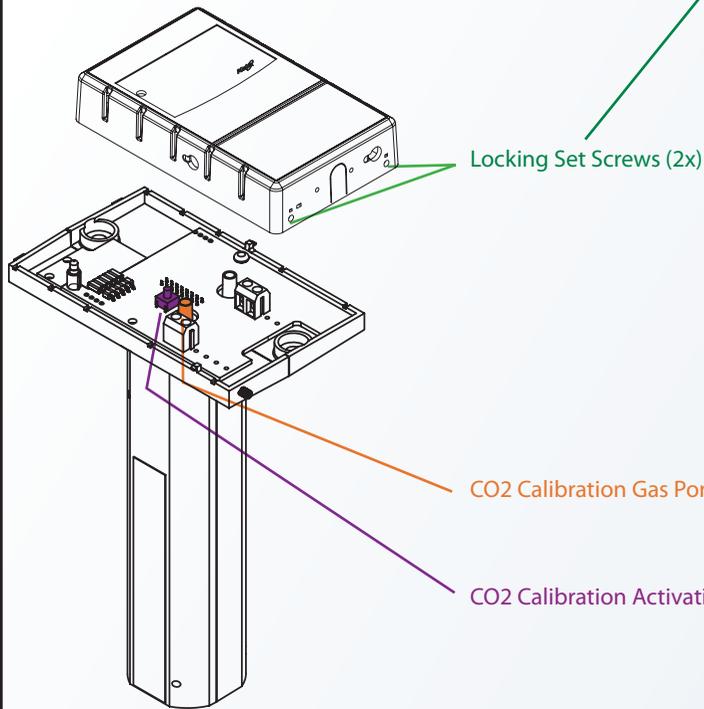




# KCD Series Duct Mount Wiring and Calibration Instructions



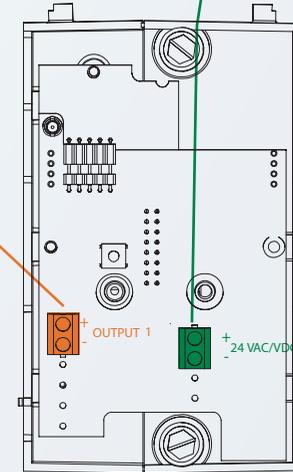
Power input  
18-30 VDC  
18-28 VAC  
(polarity matters for VDC only)

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.

Output	Sensors
Output 1	CO2

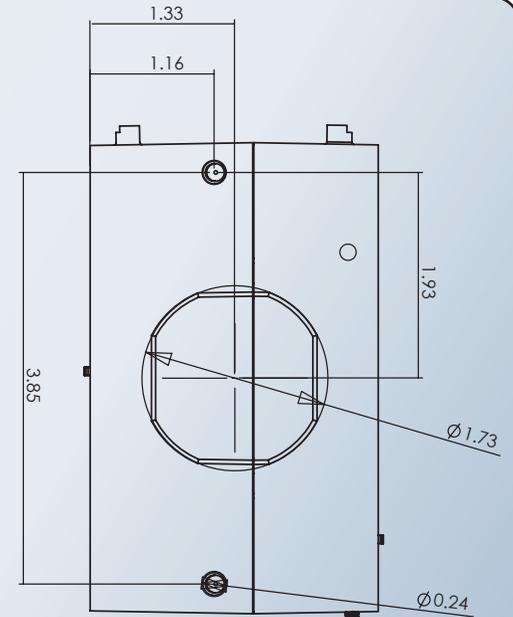


## Analog Output Scaling

Sensors	CO2 ppm
Current Output	
4 mA	0
12 mA	1000
20 mA	2000
Voltage Output	
0 Volts	0
5 Volts	1000
10 Volts	2000

## Warning And Alarm Indication

Sensors	Warning level LED is YELLOW	Alarm level LED is RED
CO2	1000 ppm	2000 ppm



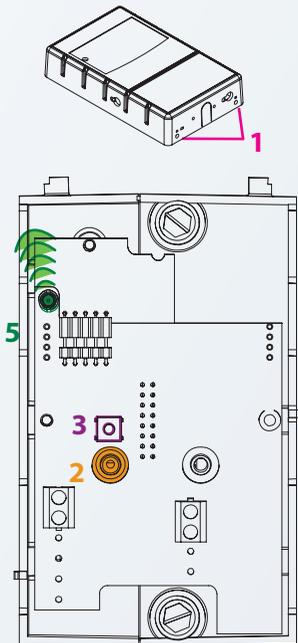
**Duct Mounting Drill pattern**  
(Dimensions in inches)

## Calibration Kit



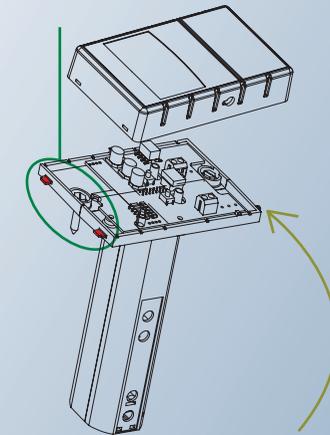
Your sensor comes factory-calibrated and does not need to be calibrated upon initial installation. Calibration kits are available.

## CO2 Calibration Procedure



1. Back out set screws along bottom edge of enclosure cover and remove cover.
2. Remove dust cover from left-most post. Connect 2000 PPM CO2 calibration gas. Turn on gas and allow to flow one minute before proceeding to step 3.
3. Press 'CO2 CAL' switch for 5 seconds. LED will blink yellow.
4. After 5 minutes the LED will blink green, indicating that the calibration process is completed.
5. Press and hold the 'CO2 CAL' switch (3 at left) to accept calibration. The LED will turn solid green after only a few seconds.
6. At this point it is safe to turn off gas and remove the gas tubing from the calibration port.
7. When calibration is complete, replace dust cover on gas calibration port.

Align top and bottom latch and snap lid closed



Once lid closed, insert set-screws to lock enclosure.  
Requires 1/16" Allen Wrench

## Introduction

The KCD Series is a non-dispersive infrared analyzer for measuring environmental CO<sub>2</sub> 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 KCD comes configured for:

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

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

CARBON DIOXIDE SENSOR (CO <sub>2</sub> )	
Parameter	Value
Operating Principle	Non-dispersive infrared (NDIR)
Gas Sampling Method	Diffusion
Measurement Range	0-2000 ppm
Repeatability	± 20 ppm CO <sub>2</sub>
Measurement Accuracy	± 30 ppm ± 2% of reading
Recommended Calibration Interval	5 years
Warm Up Time	Less than 1 minute
Power Requirements	18 - 30 VDC or 18 - 28 Vrms AC
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 <sub>LOOP</sub> < 600 Ω
Calibration	ONE Point : Single-button calibration (Patented)
Dimensions	4.5 x 2.8 x 0.9 inches

## Indicators

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

- **Green** -> CO<sub>2</sub> sensor at normal levels
  - **Yellow** -> CO<sub>2</sub> sensor at Warning levels
  - **Red** -> CO<sub>2</sub> sensor at Alarm level
  - **Blinking Red** -> Sensor error
- CO<sub>2</sub> concentration in parts per million (ppm)



**Kele**

**KCD Series**