

# M310e Series

## CARBON DIOXIDE SENSORS

### Wall Mount or Duct Sampling

#### 24 vac/dc Power

#### 0-10 vdc, 4-20 ma Output



Monitor carbon dioxide concentrations and provide analog signal output to building automation systems for control of ventilation equipment and/or alarm functions.

- 24 vac/dc power with isolation from analog output.
- 0-10 vdc or 4-20 ma analog output, jumper selectable.
- 0 to 2000 ppm factory set CO<sub>2</sub> range, field adjustable to any range between 0 and 2000 ppm.
- Wall mount and duct sampling models available.
- Optional high limit alarm relay with adjustable setpoint.
- Optional LCD digital display.
- Optional 0 to 5000 ppm CO<sub>2</sub> range.

INPUT POWER: 18 to 28 vac or 18 to 30 vdc.

POWER CONSUMPTION: Less than 1 watt at rated voltage.

OPERATING PRINCIPLE: Non-dispersive infrared (NDIR).

MEASUREMENT RANGE: 0 to 2000 ppm CO<sub>2</sub>, adjustable to any sub-range between 0 to 2000 ppm.

ACCURACY: Greater of +/-5% of reading or +/-75 ppm.

REPEATABILITY: +/-20 ppm.

RECOMMENDED CALIBRATION INTERVAL: Every 5 years.

RESPONSE TIME: Less than 1 minute.

ANALOG OUTPUT: 0-10 vdc or 4-20 ma (400Ω max), jumper selectable; high end of 0-10 vdc output adjustable 10 to 1 vdc.

WARM UP TIME: Less than 1 minute.

CALIBRATION ADJUSTMENTS: Span only (zero automatically adjusted electronically).

CALIBRATION VERIFICATION TIME: 10 minutes, typical.

LCD DISPLAY (Optional): 4-digit, 4" (10.16 cm) high.

HIGH LIMIT ALARM RELAY (Optional):

Factory set for N.O. (field selectable to N.C.);

4 amps @ 24 vac contact rating;

Setpoint adjustable from 0 ppm CO<sub>2</sub> to full scale.

OPERATING TEMPERATURE: 32° to 122°F (30° to 50°C).

OPERATING HUMIDITY: 5% to 95% RH, noncondensing.

STORAGE TEMPERATURE: -22° to 140°F (-30° to 60°C).

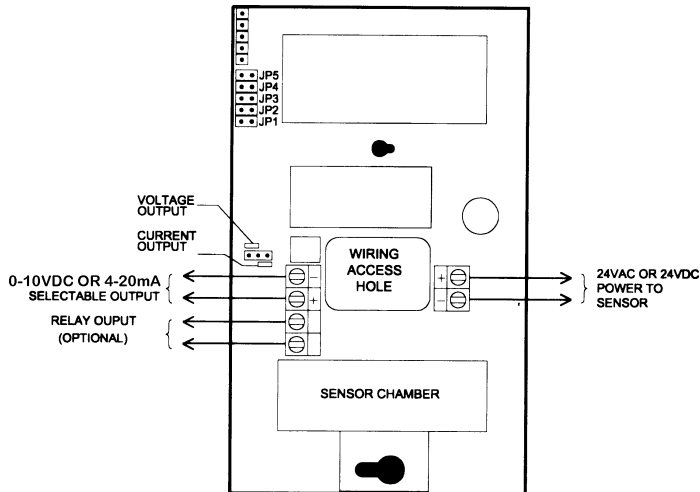
OPERATING LIFE EXPECTANCY: 10 years typical.

ENCLOSURE MATERIAL: ABS plastic, UL94-VO flammability rated; white satin finish.

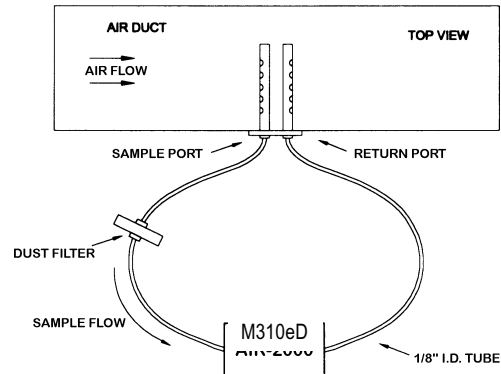
DIMENSIONS: 5.25" x 3.25" x 1.4" (13.3 x 8.3 x 3.6 cm).

ACCESSORIES: Calkit-2 calibration kit (2000 ppm).  
Calkit-5 calibration kit (5000 ppm).

### TYPICAL WIRING



### DUCT SAMPLING



Duct sensors include mounting kit with sampling tubes, tubing, filter, and adapters.

Sensor Type	Model	Relay Output	LCD Display	CO <sub>2</sub> Range	Input Power	Output Signal
Wall Mount	M310e	No	No	0 to 2000 ppm (0 to 5000 ppm option available <sup>a</sup> )	18 to 28 vac or 18 to 30 vdc	0 to 10 vdc or 4 to 20 ma, jumper selectable
	M310eR	Yes	No			
	ME10eL	No	Yes			
	M310eRL	Yes	Yes			
Duct Sampling	M310eD	No	No	0 to 2000 ppm (0 to 5000 ppm option available <sup>a</sup> )	18 to 28 vac or 18 to 30 vdc	0 to 10 vdc or 4 to 20 ma, jumper selectable
	M310eRD	Yes	No			
	M310eLD	No	Yes			
	M310eRLD	Yes	Yes			

<sup>a</sup> For models with 0 to 5000 ppm CO<sub>2</sub> range, add "-5" suffix to selected model number.