

M310e Series

CARBON DIOXIDE SENSORS

Wall Mount or Duct Sampling

24 vac/dc Power

0-10 vdc, 4-20 ma Output



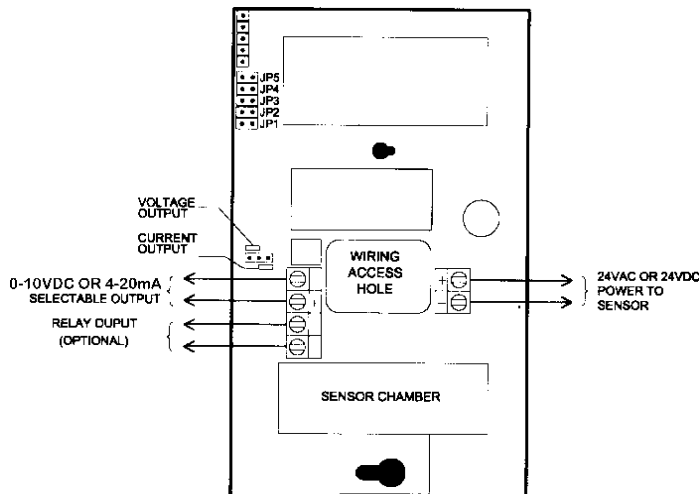
Monitor carbon dioxide concentrations and provide analog signal output to building automation systems for control of ventilation equipment and/or alarm functions.

- 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 CO₂ 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 CO₂ range.

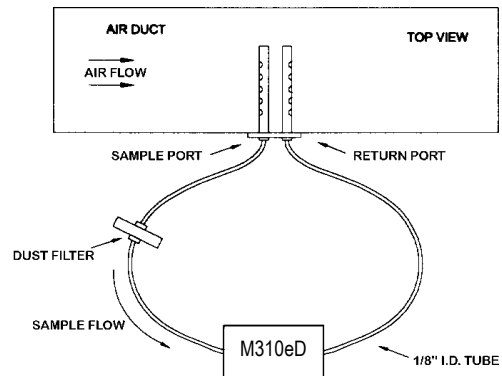
INPUT POWER: 18 to 28 vac or 18 to 30 vdc.
POWER CONSUMPTION: Less than 1 watt at rated voltage.
OPERATING PRINCIPLE: Non-dispersive infrared (NDIR).
MEASUREMENT RANGE: 0 to 2000 ppm CO₂, adjustable to any sub-range between 0 to 2000 ppm.
ACCURACY: Greater of +/-5% of reading or +/-75 ppm.
REPEATABILITY: +/-20 ppm.
RECOMMENDED CALIBRATION INTERVAL: Every 5 years.
RESPONSE TIME: Less than 1 minute.
ANALOG OUTPUT: 0-10 vdc or 4-20 ma (400S 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 CO₂ 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 ₂ Range	Input Power	Output Signal
Wall Mount	M310e	No	No	0 to 2000 ppm (0 to 5000 ppm option available ^a)	18 to 28 vac or 18 to 30 vdc	0 to 10 vdc or 4 to 20 ma, jumper selectable
	M310eR	Yes	No			
	M310eL	No	Yes			
	M310eRL	Yes	Yes			
Duct Sampling	M310eD	No	No	0 to 2000 ppm (0 to 5000 ppm option available ^a)	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			

^a For models with 0 to 5000 ppm CO₂ range, add "-5" suffix to selected model number.