

eSense Low-Temperature CO2 Transmitter



The eSense Low-Temperature CO2 Transmitter is designed to measure ambient CO2 levels outdoors to allow for increased credit from LEED certification.

IEQc1, a credit in United States Green Building Council's LEED for New Construction, calls for CO2 monitors that signal when fresh air is needed. These monitors must be programmed according to minimum setpoints defined by ASHRAE 62.1-2007.

The transmitter uses an IP65-rated housing with a built-in heater. This insures that only warm, moisture-free air is allowed inside the enclosure. The CO2 levels are then read by the NDIR carbon dioxide sensor, and transmitted via industry standard 0-10V or 4-20mA signals to an HVAC system.

The eSense is normally maintenance free thanks to the built-in self-correcting ABC algorithm (Automatic Baseline Correction). This algorithm constantly keeps track of the sensor's lowest reading over several days and corrects for long-term drift.

Features

- Analog Output 0-10v or 4-20mA (0-2,000ppm)
- -22 to +115 °F
- Automatic Self-Diagnostics
- Maintenance-free in Normal Applications

Specifications

- 0-2,000 ppm CO2
- Repeatability ± 20 ppm ± 1 % of reading
- Accuracy ± 30 ppm ± 3 % of reading
- Annual Zero Drift $< \pm 10$ ppm
- Response Time (T1/e) < 30 sec. @ 30 cc/min. flow rate, < 3 min. diffusion time
- Meets ISO 12039 Standard for NDIR detection of CO2
- Protection Class IP65
- Sensor Life Expectancy: 15 years

Electrical Requirements

- 24 VAC/VDC
- < 1 Watt average (heater off)

Warranty

- 1 Year

Applications

- Outdoor Air Quality
- Long-term Air Quality Monitoring

Special Applications

- Refrigerators
- Beer Coolers
- Dry Ice Storage
- High-Altitude Air Analysis