

Envent Model M90 (PPM)

Carbon Monoxide Monitor

The Model M90 is designed to monitor low concentrations of CO₂ in gas applications. An infrared, dual-wavelength technology is incorporated into the design of the instrument. The M90 can be included as an additional measurement with other Envent analyzers, or can be offered as a stand-alone monitor with an integrated sample conditioning system.

Features

- Dual Wavelength IR Technology
- Long-term stability
- Low power consumption (5 Watts)
- Dual alarm outputs
- 4 – 20 mA output
- Two adjustable set point control relays
- The M90 PPM monitor continuously measures and corrects for the short and long-term concentration changes that cause measurement errors in first-generation (single-beam) CO₂ sensors

Applications

- CO₂ is measured routinely in natural gas for product quality and process control purposes. Common ranges are from 0 – 2000 PPM with a lower detectable limit of 200 PPM. Other ranges are available upon request.
- Gas Plants
- Certain H₂S removal chemical processes can be fine-tuned by CO₂ slipstreaming
- Quantify CO₂ as a combustion by-product
- Biogas
- Natural gas – Process and Stream

Benefits

- Quick delivery
- Class I, Division 1, Groups B, C & D
- Full service & training
- Source life: 10 years minimum



Envent M90 (PPM) with Sample System



Specifications

Enclosure

Class I, Division 1, Groups C & D

Measurement Ranges

CO2
 0 - 500 ppm
 0 - 1000 ppm
 0 - 2000 ppm
 0 - 3000 ppm
 0 - 5000 ppm
 0 - 1%

Accuracy

0 - 500ppm, 0 - 1000ppm: $\pm 3\%$ of range $\pm 10\%$ of range (range dependent)*

0 - 2000ppm, 0 - 3000ppm, 0 - 5000ppm, 0 - 1%: $\pm 2\%$ of range $\pm <0.015\%$ of range per mbarv

* Not including gas calibration tolerance

Zero Stability

0-500ppm, 0-1000ppm: $\pm 10\%$ of range (over 12 months)

0-2000ppm, 0-3000ppm, 0-5000ppm, 0-1%: $\pm 2\%$ of range (over 12 months)

Response Time

T90 = 10 seconds or programmable RC

Zero Drift Due to Ambient Temperature

$< \pm 3\%$ range per °C

Operating Pressure

800 to 1150 mbar (11.6 to 16.7 psig)

Warm-up Time

1 minute (initial), 30 minutes (full specification)

Humidity

Measurements are unaffected by 0 - 95% relative humidity, non-condensing

Power Requirements

24 V DC (7V - 30V) Standard

Analog Output

Linear 4 - 20 mA

Digital Interface

RS-485 & RS-232

Operating Power

24 VDC at 5 Watts Standard
 12 VDC, 120/240 VAC optional

Source Life

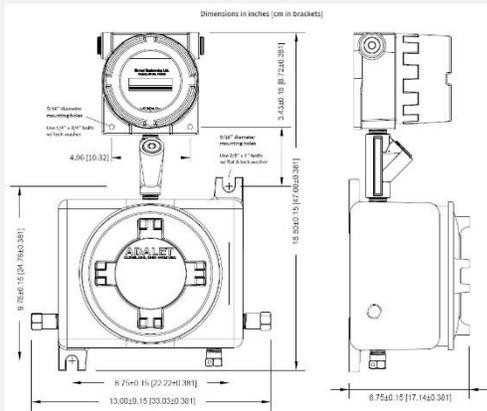
10 years minimum

Alarm Outputs

2 solid state drivers 2 Amp. 30 VDC maximum



M90 (PPM) Components Diagram



M90 (PPM) Mounting Dimensions



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