Envent Model M90

Carbon Dioxide Monitor

The Model M90 is designed to monitor percent level CO_2 concentrations in natural gas applications. An infrared, dual-beam 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 analyzer with an integrated sample conditioning system.

Applications

- CO_2 is measured routinely in natural gas for product quality and process control purposes. Common ranges are from 0-5% for sales gas and up to 0-30% for inlet CO_2 concentration.
- Gas plant Inlet.
- Certain H_2S-removal chemical processes can be fine-tuned by CO_2 slipstreaming.
- Quantify CO_2 as a combustion by-product.

Features

- Dual-Beam NDIR Technology.
- Long-term stability.
- Low power consumption (2 watts).
- Dual alarm outputs.
- 4-20 mA output.
- RS-232 and RS-485 Modbus communications.
- Two Adjustable set point control relays.
- The M90 dual-beam infra-red carbon dioxide detection system continuously measures and corrects for the short and long-term concentration changes that caused measurement errors in first generation (single beam) carbon dioxide sensors.

Benefits

- Quick delivery.
- Full service & training.
- Available with differing sample systems and accessories as required in various applications.

Model M90

Model M90 with Optional Sample System on 16" x 24" Panel

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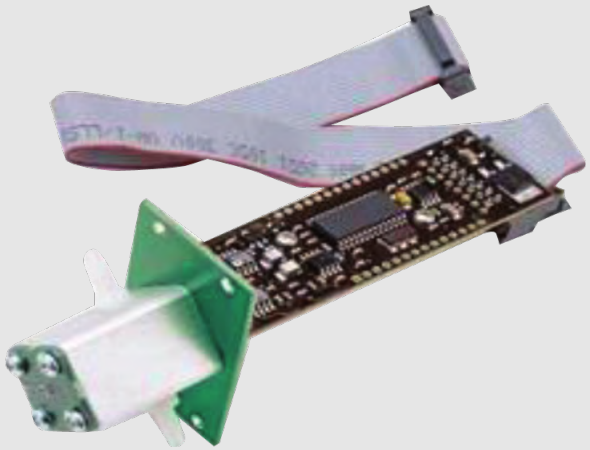
Envent
Engineering Ltd.



DUAL BEAM INFRA-RED SENSOR

M90 IN A HEATED, INSULATED FIBERGLASS ENCLOSURE

SPECIFICATIONS

Electrical Classification	Class I, Div1 Groups C & D.
Operating Principle	Dual-beam, non-dispersive infrared (NDIR).
Detector	Sapphire window with glass frit seal.
Sensing Cell Proof Pressure (Sample cell only)	2 PSI (13.8 KPa) gauge pressure.
Measurement Range	0–20% or 0-100% CO_2
Repeatability	± 0.1 % CO_2
Drift	Less than 2.5% of reading/year.
Accuracy	± 3% of reading or 0.1% CO_2 at cal temperature, ± 5% of reading or 0.1% CO_2 over full operating temperature range.
Warmup time	Less than 5 minutes.
Operating Temperature	10 to 50˚C (50 to 122ºF).
Operating Humidity	Sensing Cell: 0–100% RH (non-condensing). Electronics: 0 – 90% RH (non-condensing).
Storage Temperature	-20 to 60˚C (-4 to 140ºF).
Storage Humidity	0–90% RH (non condensing).
Analog Output	Isolated 4–20 mA.
Digital Interface	RS-485 & RS-232.
Operating Power	24 VDC at 2 Watts standard. 12 VDC, 120/240 VAC optional.
Source Life	10 years minimum.
Alarm Outputs	2 solid state drivers 2 Amp, 30 VDC maximum.
Standard Sample System	Inlet filter (1500psig/103bar max). SS single stage regulator (3000psig/207bar max). Flow meter (100psig/6.9bar max).

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