

INFRA-RED BASED MEASUREMENT TECHNOLOGY

GALVANIC APPLIED SCIENCES NOW OFFERS CO₂, CH₄ AND CO MEASUREMENT BASED ON INFRA-RED TECHNOLOGY.



Class 1 Div I IR

The sensor is based on true dual wavelength infra-red technology with no moving parts. The result is a low drift, high accuracy with a fast response time and low power consumption.

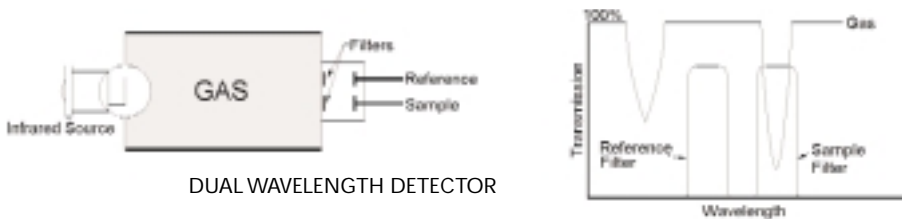


General Purpose

PRINCIPLE OF OPERATION

Many gases including CO₂, CO and CH₄ absorb energy in the infra-red spectrum. This absorption is selective, occurring at specific frequencies corresponding to the resonant frequencies of bond vibrations within the molecule. Measuring at a characteristic absorption wavelength enables the detection of the gas, and the strength of the absorption gives a measure of the gas concentration.

The infra-red source emits a broad band of radiation that is guided through the gas in the sample cell. The radiation then passes through either of the two filters. The two filters are selected so that one is coincident with the gas to be measured and the other is independent of any gas likely to be present in the cell. In the absence of gas, the energy reaching the two detectors is equal. As the sample gas concentration increases, the amount of infra-red radiation reaching the two detectors differs due to the absorption at one filter wavelength only.



Electronic signal ratioing using a dedicated on-board microprocessor gives the gas concentration, automatically compensated for source intensity changes or contamination of the optical components

APPLICATIONS

- CO₂ in natural gas
- CH₄ in land fill gas
- Food storage and packaging
- Environmental



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SPECIFICATIONS

Measuring Range:

CO ₂	CH ₄	CO
0-2000 ppm	0-10%	0-10%
0-3000 ppm	0-30%	
0-5000 ppm	0-100%	
0-1%		
0-3%		
0-10%		
0-100%		

Accuracy:

+/- 2% of range

Stability:

+/- 2% of range per year

Repeatability:

At zero +/- 0.3%
At span +/- 1.5%

Response Time:

T90=10 seconds

Operating Temperature:

0-45 C
(temperature compensated)

Output:

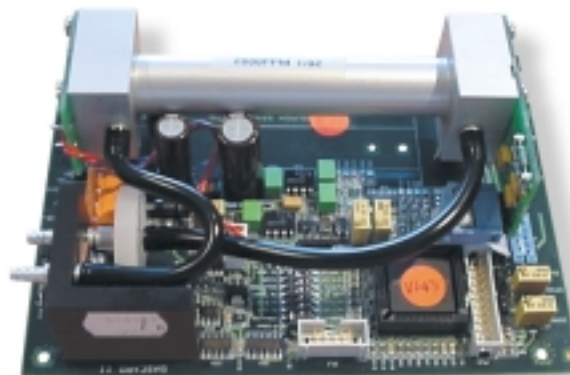
4-20 ma
Lcd digital display
3 relays

Power:

24 vdc 6 watts (standard)
120/240 vac (optional)

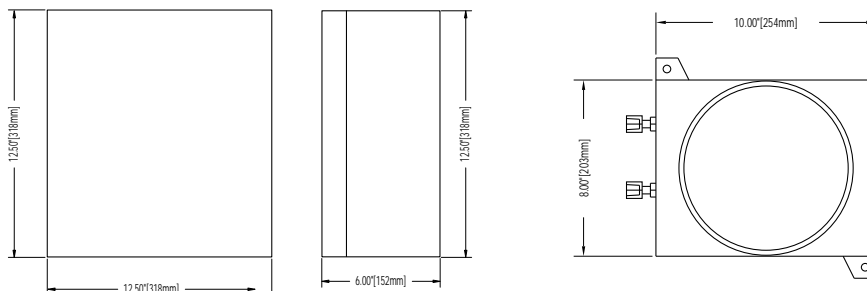
Electrical:

General area classification
(standard)
Class 1 Div I Grps C, D
(optional)



Dual Wavelength
IR Sensor

DIMENSIONS



ISO 9002: 1994
Registered QMS

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