

CO₂ SENSOR

TGS 4160

- * High selectivity to CO₂
- * Compact size
- * Low dependency on humidity
- * Long life

Applications:

- * Air quality control
- * Fermentation process control
- * High selectivity to CO₂
- * Compact size



A hybrid sensor unit composed of a carbon dioxide sensitive element and a thermistor. The CO₂ sensitive element consists of a solid electrolyte formed between two electrodes, together with a printed heater (Pt) substrate. By monitoring the change in electromotive force (EMF) generated between the two electrodes, it is possible to measure CO₂ gas concentration. Adsorbent (zeolite) is filled between the internal cover and the outer cover for the purpose of reducing the influence of interference gases.

SPECIFICATION

Measuring range : 300...5000 ppm
Sensing element type : Solid state electrolyte
Target gas : Carbon dioxide
Heater resistance : 11.5 Ω at room temperature
Heater voltage : 5 ± 0.2 Vdc
Heater current : 250 mA approx.
Output voltage : 220mV at 350 ppm CO₂
Measurement error : ± 20 % at 1000 ppm CO₂
Output impedance : 700 KΩ
Response time (T₉₀) : 2 min. approx.
Operating temperature -10...50 °C (5...95%RH)
Dimension(mm) : φ 17.7 , 24.3 height
Weight (gm) : 30

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$\Delta\text{EMF} = \text{EMF1} - \text{EMF2}$

where

EMF1=EMF in 350 ppm CO₂

EMF2=EMF in listed gas concentration

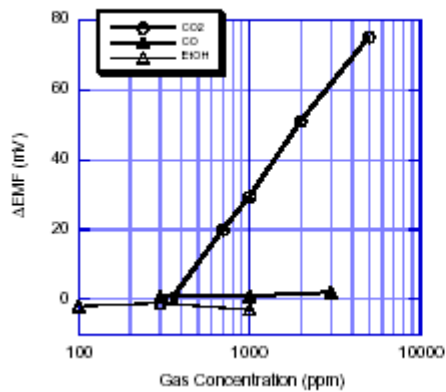
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where

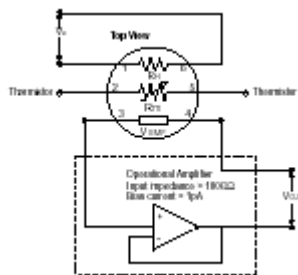
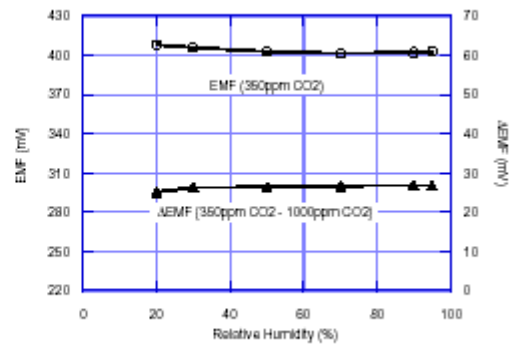
EMF1=EMF in 350 ppm CO₂

EMF2=EMF in 1000ppm CO₂

Sensitivity Characteristics:



Humidity Dependency:



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