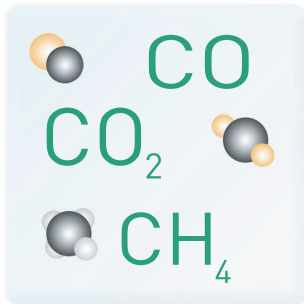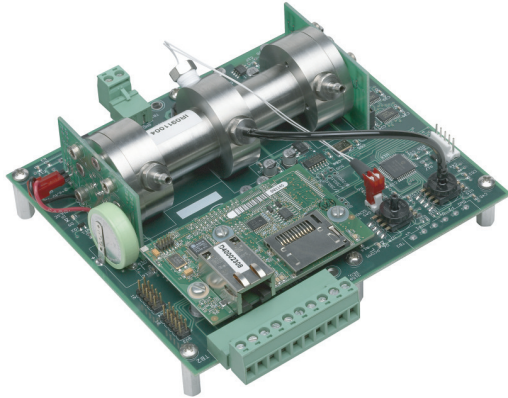# IR Gas Sensors

NDIR Sensor

Designed for the accurate measurement of gas ranges using the latest technology.

Gas Measurement Sensor

The sensor is designed for specific ranges to ensure accurate readings and long term stability. The system is designed to use a highly selective method with a unique design to ensure no interference.

The design includes components and materials to resist corrosion and promote cell life. A single IR cell can support single or multiple gases.

CO
CO_2
CH_4

Features
- Measures CO, CO_2, and CH_4
- Reference channel for excellent stability
- Two RS-232 ports with Modbus RTU protocol
- Two RS-485 ports with Modbus RTU protocol
- Wide power supply input range (9 to 30VDC)
- Eight relay driver outputs
- Ethernet

CO measurement (0 – 30%):
Range: 0 to 30%
Accuracy: +/- 0.1% of full scale
Repeatability: +/- 0.1% of full scale
Resolution: +/- 0.01%

CO_2 measurement (0 – 25%):
Range: 0 to 5%
Accuracy: +/- 0.1% of full scale
Repeatability: +/- 0.1% of full scale
Resolution: +/- 0.001%

Range: 5 to 25%
Accuracy: +/- 1% of full scale
Repeatability: +/- 1% of full scale
Resolution: +/- 0.01%

CH_4 measurement (0 – 20%):
Range: 0 to 20%
Accuracy: +/- 0.1% of full scale
Repeatability: +/- 0.1% of full scale
Resolution: +/- 0.01%

Temperature and Humidity
Electronics operating: 0 to 50 °C, RH 0 to 90% non-condensing
Sample gas: 0 to 70 °C, RH 0 to 90% non-condensing
Storage: -20 to 70 °C, RH 0 to 90% non-condensing

Sample flow rate:
1.5 - 2 cfh

Weight:
625g

Auxiliary sensors:
Ambient temperature
Sample gas temperature
Absolute pressure

Power requirement:
9 to 30 volts DC @ 10 watts

RS-485 Serial Communications:
Protocol: Modbus RTU master or slave

RS-232 Serial Communications:
Protocol: Modbus RTU master or slave

Dimensions:
5.75"W x 5.025"H x 2.23"D
14.6cm W x 12.76cm H x 5.66cm D

The sensor is designed with a reference cell that measures the intensity of the IR beam unabsorbed at the detector. This provides a real-time, zero absorption value to reference the other calculations.

The NDIR sensor is designed to be easily integrated into specific applications with open architecture and flexible outputs and communication methods.

*Additional Gas Ranges Available Upon Request

SuperSystems
incorporated

SSi
Atmosphere
Vacuum
Gas Nitriding
Sensors

INNOVATIVE SOLUTIONS WORLDWIDE