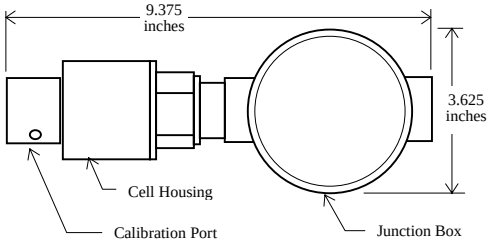
Control Instruments Corporation
25 Law Drive, Fairfield, NJ 07004-3295 USA
Telephone 973-575-9114 Fax 973-575-0013
Email: sales@controlinstruments.com
Internet: www.controlinstruments.com

Product Specifications

Hydrogen Sulfide Sensor for SmartMaxII



Standard Specifications

Part Number	SNR471
Standard Range	0-50 Parts Per Million (PPM)
Accuracy	± 2 PPM
Optional Range	0-25 PPM ±1 PPM
Response Time	35 seconds to 50% of scale
Drift	Less than 2 PPM/month
Assembly Rating	Class 1, Division 1
Assembly Material	Aluminum
Operating Life	2 years
Storage life in container	6 months
Temperature Limits	
Operating	-40°C (-40°F) to 40°C (104°F)
Intermittent	-40°C (-40°F) to 55°C (131°F) Prolonged operation in this range will reduce cell performance and life.
Operating pressure	Ambient ±10%
Pressure effect	Less than 0.1 PPM/inch H_2O
Humidity range	15% to 90% RH
One-way line length	5,000 feet 14 AWG
Interconnection wiring	3 wires
Input voltage	24VDC
Output	mADC into SmartMaxII monitor

Cross Sensitivity to:	**SNR471 Response**
100 PPM Nitrogen Oxide	0
100 PPM Carbon Monoxide	< 10
100 PPM Sulfur Dioxide	< 20
100 PPM Hydrogen	< 5
100 PPM Nitrogen Dioxide	-20

Sensor Design

The Hydrogen Sulfide Sensor employs electrochemical technology. The sample diffuses into a micro fuel cell, where it chemically reacts to produce an electrical current. The micro fuel cell is designed so that the current produced is proportional to the concentration of hydrogen sulfide present. The signal is then amplified into a mA output The output signal is linear and readings are displayed in parts per million concentrations.

Construction

The sensor assembly consists of the micro fuel cell which plugs into the electronics. The cell and electronics are housed in an aluminum sensor body which connects to a junction box for field wiring. A collar protects the sensor from environmental conditions and also provides a means of introducing calibration gas.

The micro fuel cell employs a capillary diffusion barrier which eliminates the possibility of puncturing the membrane and destroying the cell. The cell is a rugged and stable design that is less sensitive to temperature and pressure variations than other electrochemical cells.

An on-board heater protects the cell and extends its useful operating range in sub-freezing temperatures.

Sensor requires only 100 PPM oxygen for its operation.

Sampling System

The sensor relies on diffusion for sampling. In the diffusion mode the sensor detects Hydrogen Sulfide by direct sampling of the atmosphere through the sensor flame arrestor.

Performance

The Hydrogen Sulfide Sensor exhibits high accuracy, excellent repeatability, and long-term stability for zero and span readings.

Factory Tested as a Complete System

The sensor is completely factory assembled, calibrated and tested with its control monitor prior to shipment.