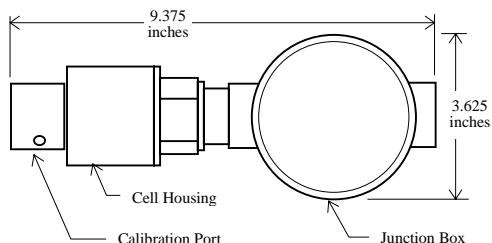




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## Hydrogen Sensor for SmartMaxII



### Standard Specifications

Part Number	SNR476
Standard Range	0-1000 Parts Per Million (PPM)
Optional Range	0-2000 PPM
Accuracy	± 5 PPM
Response Time	40 seconds to 50% of scale
Repeatability	± 1% full scale
Drift	± 2% full scale per month
Assembly Rating	Class 1, Division 1
Assembly Material	Aluminum
Operating Life	2 years
Storage life in container	6 months
Temperature Limits	-20°C (-4°F) to 50°C (122°F)
Operating pressure	Ambient ±10%
Pressure effect	Negligible
Humidity range	15% to 90% RH
One-way line length	5,000 feet 14 AWG
Interconnection wiring	3 wires
Input voltage	24VDC
Output	mA DC into SmartMaxII monitor

Cross Sensitivity to:	SNR476 Response
35 PPM Nitric Oxide	10
100 PPM Carbon Monoxide	<3
5 PPM Sulfur Dioxide	0
15 PPM Hydrogen Sulfide	<3
5 PPM Nitrogen Dioxide	0

### Sensor Design

The Hydrogen 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 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 test 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 by direct sampling of the atmosphere through the sensor flame arrester.

### Performance

The Hydrogen 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.