



Standard Specifications

Part Number	SNR491
Standard Range	0–100 Parts Per Million (PPM)
Accuracy	± 2 PPM
Response Time T ₉₀	< 140 seconds
Repeatability	± 1% full scale
Drift	< 5% of full scale over six months
Assembly Rating	General Purpose
Assembly Material	Aluminum
Operating Life	2 years in air
Temperature Limits	-10°C (14°F) to 40°C (104°F)
Operating pressure	Ambient ±10%
Humidity range	10% to 95% RH non-condensing
One-way line length	5,000 feet 14 AWG
Interconnection wiring	3 wires
Input Voltage	24VDC
Output	mADC into SmartMaxII monitor

Cross Sensitivities at 20°C:

Gas	Conc.	Reading (ppm)
Hydrogen Sulfide	10 ppm	0
Nitrogen	100%	0
Carbon Dioxide	5000 ppm	0
Carbon Monoxide	1000 ppm	0
Sulfur Dioxide	2 ppm	0
Hydrochloric Acid	5 ppm	0
Chlorine	1 ppm	0
Hydrogen	1%	0
Alcohols	1000 ppm	0
Hydrocarbons	%-range	0

Sensor Design

The Ammonia Sensor employs electrochemical technology. It uses amperometric 3-electrode electrochemical cell. 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 Ammonia present in air. The output signal is a linear mA output and readings are displayed as Parts Per Million(PPM).

Construction

The sensor assembly consists of the micro fuel cell 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 temperature.

Performance

The Ammonia Sensor exhibits high accuracy, excellent repeatability, and long-term stability for zero and span readings. It is also very selective and can also be used for continuous monitoring of NH₃-levels.

Factory Tested as a Complete System

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