Hydrogen Sulfide Sensor for SmartMaxII

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.