Model GT820 Oxygen Deficiency/Enrichment Sensor with 4-20 mA output

- ***Maintenance free electrochemical cell sensing element***
- ***Stainless steel construction***
- ***Explosion proof sensor housing***
- ***24 volt DC nominal operating voltage***
- ***Loop powered transmitter requires only two wires between sensor and 4-20 mA input device***
- ***Suitable for connection to any 4-20 mA input device, including SST NOVA-5000 modules, PLC's, SCADA or distributed control systems.***

The SST Model GT820 Oxygen Deficiency/Enrichment Sensor is used to determine the concentration of oxygen present in a protected area and transmit this information to a central control point. The SST sensor uses an electrochemical fuel cell with a patented diffusion barrier as the sensing element. Located inside a stainless steel flameproof housing, the sensing element is exposed to the detected gas through a sintered stainless steel flame arrestor.

The oxygen fuel cell is designed to be maintenance free and stable over long periods of time. It uses a capillary diffusion barrier technology which results in a direct response to volume concentration. A high reserve of electrochemical activity insures a long life and excellent temperature stability. The performance is relatively unaffected by humidity, provided that conditions are non-condensing.

Each SST Model GT820 Oxygen Deficiency/Enrichment Sensor includes a high reliability loop powered electronic transmitter. This transmitter converts the signal from the fuel cell element to a standard 4-20 mA signal. This signal may be connected to a suitable SST NOVA-5000 Oxygen Detection Module, or to any other device with a standard 4-20 mA input. Connections between the transmitter and control device are normally made with 2 conductor cable.

The Model GT820 is suitable for the most demanding applications. A large body mass insures excellent vibrational characteristics when used for offshore use. Corrosion resistant materials permit uses in most environments.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

Oxygen Deficiency/Enrichment sensing capability shall be provided by Oxygen sensors contained in stainless steel explosion proof housings. The sensor shall include a transmitter card which converts the measured oxygen concentration in percent by volume (Vol %) to the industry standard 4-20 mA signal. The sensor shall be suitable for offshore use, and the manufacturer's data shall so state. Two conductors shall be required between the sensor transmitter and the associated control device. Safety Systems Technology Model GT820 Oxygen Deficiency/Enrichment Sensors, or approved equivalent, shall be supplied.

TECHNICAL SPECIFICATIONS

Power Supply:	24 volts DC nominal Loop powered transmitter will operate within specifications at any supply voltage between 10 and 35 volts DC.
Loop Resistance:	700 ohms maximum at 24 VDC operating voltage Loop resistance for other supply voltages must maintain at least 10 volts DC operating voltage at the transmitter.
Sensor output:	0.27 ± 0.05 milliamps in pure air (20.9% oxygen) Output converted to 17.37 mA by transmitter card. 4mA corresponds to 0% oxygen; 20 mA corresponds to 25% oxygen
Response time:	Less than 15 seconds Maximum time required for measured concentration to reach 95% of the final concentration.
Operating Temperature:	-4 to +131° F, -20 to +55° C Sensor may be operated intermittently up to +150° F
Output Drift:	Less than 1% signal loss per month Drift is typically less than 10% over operating life of cell
Relative Humidity:	0% to 99% continuous
Operating Life:	2 years Storage time in non-operating condition should not exceed 6 months. Easy plug-in replacement of fuel cell may be required after 2 years.
Size:	4 inches wide, 9.5 inches high, 3.25 inches deep Finished dimensions when installed with 850-2 junction box
Weight:	5.75 pounds Includes sensor and junction box.
Mounting provision:	¾ inch male NPT thread Mates with SST 850-2 junction box.

ORDERING INFORMATION

Part No.	Description
820-1	Model GT820 Oxygen Deficiency/Enrichment Sensor
850-2	Junction Box with ¾ inch NPT conduit outlet, copper free aluminum with epoxy finish.

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