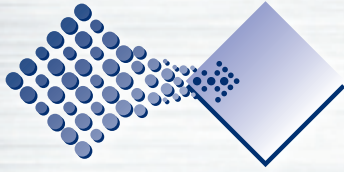


Oxygen in Natural Gas

M-87 Series Oxygen Transmitter



Custom Sensors & Technology has produced the world's most versatile loop powered oxygen transmitters for monitoring and controlling the amount of O₂ in lab or process environments. In addition, the unit can be supplied with a sample system that fits easily into either a well head, a common collection site (Pod) or into a transmission line.

Organization

Custom Sensors & Technology continues to provide the process industry with exceptional tools to measure various gas or liquid parameters. We provide the CPI industry with a reliable O₂ transmitter that will communicate with existing company installed controllers, PLC's, or DCS systems and are supported by our many years of building sample handling systems.

Oxygen Applications

Detection of O₂ in process streams is an important measurement. High/low levels of O₂ in process streams or confined areas can lead to explosive conditions and/or economic or safety consequences if not monitored and controlled. Some of our approved applications are;

- Environmental Safety
- Well Head
- Gas transmission lines
- Inert Blanketing
- Natural gas pipelines
- Gas collection sites

Oxygen Transmitter



Model M87 Transmitter

Sample Handling Systems

Custom Sample Systems, Inc., can provide a variety of sample handling systems to manage virtually any process stream including:

- Removal of particulates & condensibles
- Sample speed loops
- Packaging for hazardous environments
- Automatic or manual calibration manifolds
- Factory acceptance testing and validation

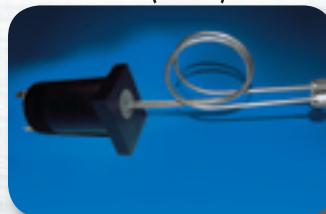


Oxygen Sensors

The CST Oxygen sensor is a self-powered, diffusion limited, metal air battery-type fuel cell. The sensor consisting of an anode, electrolyte, and an air cathode. The sensor typically last up to 12-16 months before replacement is necessary, and the mechanical design of the sensor housing makes sensor replacement easy.

CST offers replaceable sensors which cover the entire range of oxygen from ppm to %.

Sensor Type	Recommended FS Range
Low	0-100ppm
Standard	0.1-30%
High	25-100%
Acid Gas (CO ₂)	0.1-25%



Custom Sensors & Technology is a manufacturer of process photometric and electrochemical based process transmitters

M87 Product Specifications

Transmitter

Measured parameter	Oxygen
Oxygen Range	Application dependent, as low as 0-100ppm up to 0-100% (surpressed ranges are also available)
Expected sensor life	~ One year
Resolution	0.1ppm
Temperature Range	-40°C to +50°C
Pressure Range	Atmospheric +/- 10%
Response time	< 18 sec to full scale, instaneous to step change
Relative Humidity	15-90%, non-condensing
Maximum Zero shift	0.5ppm (over +20° to +40°C)
Long term output drift	<2% signal loss/month
Repeatability	1% of range
Output linearity	Linear, for given range

User Display & control

Type of display	3-1/2 digits
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Electrical

Power requirement	24V DC (9-32VDC) or 110/220 VAC, 50/60Hz with power supply
Power consumption	0.48 Watts
Analog outputs	4-20mA (loop powered); min/max: 0/30 mA
Analog loop resistance	500 Ohms, maximum @ 24V
Alarms	None
Certification	CE

Mechanical

Analyzer weight	0.5 lbs
Enclosure construction	Aluminum housing with viewing window

Custom Sensors & Technology is a full service provider. We also supply photometric transmitters, fiber optic probes & flow cells, O₂ transmitters, sample handling systems, and services including: application engineering, commissioning & start-ups, product validation, factory acceptance testing, process stream GAP Analysis, and in-house repair.