

Explosion Proof Online Oxygen Analyzer



- 0 - 1 PPM Low Range; 0 - 25% High Range
- Resolution of 0.001 Parts-Per-Million Oxygen
- Sample/Span Valve and Flow Meter
- Bi-Directional Communication Link
- Intuitive Touch Glass Menu Interface
- Fully Explosion-Proof Enclosure
- Electrochemical Sensor Technology
- Configurable Alarm Relay Contacts

The OMD-690 is designed to measure trace oxygen in a Class 1, Division 1 groups B, C, D hazardous area. The unit combines an advanced set of electronic features with our industry leading precision electrochemical oxygen sensor technology in a fully explosion-proof ATEX certified enclosure. The result is a highly reliable and cost effective design with an easy-to-use user interface.

When configured for trace analysis the analyzer comes with a 0 - 1 PPM full scale low range with a resolution of 0.001 ppm. The analyzer can also be configured for 0 - 1 ppm, 0 - 10ppm, 0 - 100ppm, 0 - 1000ppm and 0 - 25% in auto-range or manual-range mode. Percent ranges are also available and include 0 - 1%, 0 - 10%, 0 - 25%, and 0 - 100%.

The analyzer offers the user 2 different bi-directional digital communication options. These come in the form of MODBUS RS485 ASCII (standard) or MODBUS RS485 RTU (optional). Three analog outputs are also provided in the form of 4 - 20 mA, 0 - 1 VDC, and 0 - 10 VDC.

Alarm functionality comes in the way of 2 fully adjustable form C non-latching relay contacts. These can be configured as NO or NC and can be set as HIGH or LOW with optional delay mode. A power failure alarm is also standard and comes as a form C non-latching relay contact.

The oxygen sensors used in the OMD-690 are based on the galvanic electrochemical fuel cell principal. All oxygen sensors are manufactured in house by Southland Sensing Ltd. under a strict quality program.

The sensors are self-contained and minimal maintenance is required - no need to clean electrodes or add electrolyte.

Applications:

- Chemical & Petrochemical Processes
- Natural Gas Processing
- Hydrocarbon and Hydrogen Processing
- Offshore Oil & Natural Gas Platforms

Specifications

Accuracy:	< +/- 1% of Full Scale Range*
Alarms:	(2) Adjustable Relay Contacts (1) Power Fail Relay Contact
Analysis Range:	Various (See Ordering Guide)
Calibration:	Periodically
Communication:	Bi-Directional MODBUS RS485 ASCII
Dimensions:	19.5" x 13.5" x 9.0"
Display:	Large with Backlight
Area Classification:	Class 1, Div 1, Groups B, C, D
Sensor Enclosure Certification:	EEXd d IIB+H2 T6
Flow Sensitivity:	0.5 - 5 SCFH
Gas Connections:	Various (See Ordering Guide)
Output (Analog):	0 - 1V DC, 0 - 10V DC Isolated 4 - 20mA
Power:	100 - 240 VAC
Pressure:	Inlet, 0 - 50 PSIG
Range ID:	4 - 20 mA analog output 0 - 1 V DC analog output
Repeatability:	< +/- 1% of reading
Response Time:	T90 in 10 Seconds
Sample System:	Flow Meter, 3-way Sample / Span Valve
Sensor:	Various (See Ordering Guide)
Temperature:	0 - 50 deg C
Temperature Compensation:	Digital
Warranty:	12 months Analyzer & Sensor
Weight:	47 lbs

*Accuracy at constant conditions



Oxygen Analyzer:

The model OMD-690 oxygen analyzer combines a rugged design with SSO2's precision oxygen sensors. The result is a highly reliable and cost effective design with easy-to-use user interface designed specifically for the petrochemical and chemical industries.

The oxygen analyzer is designed to meet standards for Class 1, Div 1, Groups B, C, D installation.

The oxygen analyzer is isolated both on the power input and analog output. This eliminates most electronic gremlins seen with existing competitive equipment in the field.

Standard ranges include: 0 - 1ppm, 0 - 10ppm, 0 - 100ppm, 0 - 1000ppm, 0 - 25%.

Optional PPM Analysis Ranges: 0 - 10ppm, 0 - 100ppm, 0 - 1000ppm, 0 - 10000ppm, 0 - 25%.

Optional Percent Analysis Ranges: 0 - 1%, 0 - 5%, 0 - 10%, 0 - 25%, 0 - 100%.

Custom Range: The unit comes with the ability to customize a 6th range (i.e. 0 - 94.0 ppm).

Standard Power Requirements:

Input Power: 100 - 240 V AC
Current Draw: 500 mA

** Optional power input choices available

Oxygen Sensor Technology:

The oxygen sensor used in the OMD-690 is based on the galvanic electrochemical fuel cell principal. All oxygen sensors are manufactured in house by Southland Sensing Ltd. under a strict quality program.

The standard cells are unaffected by other background gases such as H₂, He or Hydrocarbons. The acidic cells work well when acid gases such as CO₂ or natural gas are present. H₂S resistant sensors are available for sour gas streams with <500 PPM H₂S.

The sensors are self-contained and minimal maintenance is required - no need to clean electrodes or add electrolyte.

The SSO2 precision oxygen sensors offer excellent performance, accuracy and stability while maximizing the expected life.

Oxygen Sensors:

TO2-133 PPM Oxygen Sensor: Trace Analysis, Standard
TO2-233 PPM Oxygen Sensor: Trace Analysis, Acidic
TO2-238 PPM Oxygen Sensor: Trace Analysis, < 500PPM H₂S
PO2-160 Percent Oxygen Sensor: Percent Analysis, Standard
PO2-24 Percent Oxygen Sensor: Percent Analysis, Acidic

Oxygen sensors should be periodically calibrated. Factory recommendation is every 2 - 3 months or as the application dictates. Sensors offer excellent linearity with an air calibration, or calibrate to a certified span gas to maximize accuracy.

Order Information:

Record Part Number with selected options in Blank Indicated Area of Form

Model Number:
OMD-690 Oxygen Analyzer

Selected Range & Sensor:

1T	Trace Analysis Standard (TO2-133):	0 - 1ppm, 0 - 10ppm, 0 - 100ppm, 0 - 1000 PPM & 0 - 25%
2T	Trace Analysis Standard (TO2-233):	0 - 1ppm, 0 - 10ppm, 0 - 100ppm, 0 - 1000 PPM & 0 - 25%
3T	Trace Analysis Standard (TO2-133):	0 - 10ppm, 0 - 100ppm, 0 - 1000ppm, 0 - 10000 PPM 0 - 25%
4T	Trace Analysis Standard (TO2-233):	0 - 10ppm, 0 - 100ppm, 0 - 1000ppm, 0 - 10000 PPM 0 - 25%
5T	Trace Analysis < 500 PPM H ₂ S (TO2-238):	0 - 10ppm, 0 - 100ppm, 0 - 1000ppm, 0 - 10000 PPM 0 - 25%
5P	Percent Analysis Standard (PO2-160):	0 - 1%, 0 - 5%, 0 - 10%, 0 - 25%, 0 - 100%
6P	Percent Analysis Standard (PO2-24):	0 - 1%, 0 - 5%, 0 - 10%, 0 - 25%, 0 - 100%

Electronics Package:

7 100 - 240V AC Power w/ Bi Directional MODBUS RS485 ASCII
M 100 - 240V AC Power w/ Bi-Directional MODBUS RS485 RTU

Gas Connections:

4 1/4" Compression Tube Fittings
6 6mm Compression Tube Fittings
8 1/8" Compression Tube Fittings

OMD-690 - _____ - _____ - _____ Use This Part Number When Ordering