

Explosion Proof Online Oxygen Analyzer



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

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

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

Sensor:	
Temperature:	
Temperature Compensation:	
Warranty:	
Weight:	

*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).

Oxygen Sensor Technology:

The oxygensensor 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.

Standard Power Requirements:

Input Power: 100 - 240 V AC
 Current Draw: 500 mA
 ** Optional power input choices available

Order Information:

RecordPartNumberwithselected options in Blank Indicated Area of Form

Model Number:
 OMD-690 Oxygen Analyzer

Selected Range & Sensor:
 1T Trace Analysis Standard (TO2-133): Trace 0-1ppm, 0 - 10ppm, 0 - 100ppm, 0 - 1000 PPM & 0 - 25% 0-
 2T Analysis Standard (TO2-233): Trace 1ppm, 0 - 10ppm, 0 - 100ppm, 0 - 1000 PPM & 0 - 25% 0-
 3T Analysis Standard (TO2-133): Trace 10ppm, 0 - 100ppm, 0 - 1000ppm, 0 - 10000 PPM 0 - 25% 0-
 4T Analysis Standard (TO2-233): Trace 10ppm, 0 - 100ppm, 0 - 1000ppm, 0 - 10000 PPM 0 - 25% 0-
 5T Analysis < 500 PPM H2S (TO2-238): 10ppm, 0 - 100ppm, 0 - 1000ppm, 0 - 10000 PPM 0 - 25% 0-
 5P Percent Analysis Standard (PO2-160): 1%, 0 - 5%, 0 - 10%, 0 - 25%, 0 - 100% 0-1%, 0 - 5%, 0 -
 6P Percent Analysis Standard (PO2-24): 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
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OMD-690 - - - - Use This Part Number When Ordering