

## MODEL 111



The AMI 111 series provide the ideal solution to percentage oxygen measurement in non-flammable gases. Most portable percent oxygen analyzers use replaceable electrochemical sensors, which suffer from drift, temperature and barometric pressure sensitivity, and require frequent replacement.

- Percent oxygen in non-flammable samples
- General purpose portable analyzer
- Extremely stable, long-life sensor
- Virtually unaffected by temperature changes
- Virtually unaffected by barometric pressure changes
- Virtually unaffected by humidity changes
- Virtually unaffected by flow rate changes
- Calibration interval 6 months
- Datalog – up to 15 days of oxygen readings
- Very small size

This series of analyzers uses a non-depleting zirconium oxide sensor to measure. The sensor requires no support gases, and generates an almost perfectly stable reading with minimal drift for months or years. It is not significantly affected by temperature changes, or by barometric pressure changes. It will last for many years without being replaced. When you need an accurate oxygen measurement in an inert background, this series is unique. There are three versions of the model 111. The basic model expects a positive pressure of at least a few inches of water column, up to a maximum of 100psig. The 111P version contains a pump that draws the sample from a low pressure source, such as a glove box at atmospheric pressure or a line at a partial vacuum. It can draw from vacuums of up to 10"Hg.

The 111B is intended for aerospace applications, particularly verifying the operation of aircraft inerting systems. It also uses a pump, but brings the sample to the sensor via flame arrestors so that if the sample is flammable (for example containing jet fuel vapors) any ignition would not travel back to the source, or onward to the exhaust.

All the 111 series are packaged in a welded steel case. These are industrial strength analyzers that are expected to work in harsh environments with minimal care and attention.

They support the standard AMI datalogger functionality, which is to say that they store up to 15 days of readings that are accessible through the USB port to the AMI software running on a PC. The internal batteries will last about 8 hours (1 hour for the 111P with the pump running) although the unit can be operated indefinitely if it is charged while it is running.

The AMI User interface is provided with each analyzer.

# FEATURES

- Single measurement range; four datalog ranges selectable.
- High resolution 3 ½ digit LCD
- RFI protected
- Data logger
- USB virtual comport communication for advanced features
- Power requirements: 115/230VAC to 12VDC battery charger
- Low minimum detection limit 0.01% oxygen (25% version)
- Excellent repeatability and stability
- Extended operating temperature range to 130°F
- Fast upscale/downscale response times
- Long life sensor, 10 year life expectancy
- Unaffected by changes in flow rate from 0.1 to 2.0 SCFH
- Compact portable
- Meets UL Requirements (EN 61326-1 2006 and EN 61010-1). CE Marked for European Use.
- 2 year warranty for analyzer parts and labor
- 2 year sensor warranty

# SPECIFICATIONS

- Single measurement range: 0-25%, Optional ranges: 0-50% or 0-95%
- Selectable datalog range: 0-1%, 0-5%, 0-10%, 0-25% (0-50% and 0-100%\* optional)
- Digital display: 3 ½ digit LCD. Reads full scale from 0.01 to 25.0% (or 50.0% or 95.0%)
- Data logger: Logs data for 15 days @ 1 minute intervals, 30 days @ 2 minute intervals, etc Represents the datalog range selected.
- Power requirements: 115/230VAC to 12VDC battery charger. Rechargeable NiCad batteries, 8 hours continuous for Model 111. Rechargeable NiCad batteries, 1 hour continuous for Model 111B and Model 111P pump versions
- Minimum detection: .01% of oxygen
- Repeatability: +/- 0.1% of range or +/- 0.1% of oxygen, whichever is greater
- Operating temperature range: 0 to 130° F
- Diurnal temperature specification: < +/- 2 % of scale over temperature range
- 90% full scale response times for specified range: 0-25% <12 seconds; 0-95% < 12 seconds
- Long life zirconium oxide sensor: 10 year life expectancy
- Area Classification:
- Model 111 and 111P: Designed to meet General Purpose requirements
- Model 111B: Designed to meet Class 1, Div. 2, Groups C,D requirements
- Inlet gas pressure:
- Model 111: 0.5 to 100psig
- Model 111P and 111B: -14in Hg to +10psig
- Gas connections: ¼" 316 S.S. compression fittings
- Wetted parts: 316 S.S. fittings, anodized aluminum cellblock, acrylic flow meter and Viton O-rings
- Unaffected by changes in flow rate from 0.1 to 2.0 SCFH
- Dimensions: 4.5"W x 10.5"H x 5.5"D
- Weight: 5 to 6 lbs. depending on Model

\*The datalog range is 0-100% but the analyzer can only measure up to 95% due to limitations of the sensor.

# OPTIONS

- Model 111 – percent oxygen in positive pressure samples
- Model 111P – percent oxygen in atmospheric pressure or vacuum samples
- Model 111B – percent oxygen in atmospheric pressure or vacuum non-flammable samples in Class 1 Division 2 Group CD areas.
- Special ranges: 0-50%, 0-95%
- Heavy duty Pelican carrying case with die-cut foam insert
- Flexible, micro-bore, sampling tubing
- Cigarette lighter battery charger