



Advanced Micro Instruments, Inc.

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## MODEL 111 SERIES

AMI Model 111 series of portable percent oxygen analyzers provide unmatched performance in a compact, durable, comprehensive package.

It is supplied standard with state-of-the-art microprocessor based electronics and employs a revolutionary long life zirconium oxide sensor that provides unprecedented stability and accuracy throughout its measurement range. The model 111 is so stable it requires only a bi-annual calibration and the sensor lasts up to 10 years when used continuously for measurements in the range of 0-21% oxygen and longer if used intermittently. This eliminates the need to purchase, stock, frequently calibrate or replace the standard galvanic type oxygen sensors, greatly reducing overall costs.

The 111 series is available with one of the following single measurement ranges: 0-25%, 0-50% and 0-95% as well as the standard features listed below:

- **Data logger.** Logs data for 15 days @ 1 min intervals.
- **High-resolution single range LCD** rapidly reads from 0.0% to 25% (or other standard range) without LCD range changing delays or the need for manual range switch adjustments.
- **10-year life sensor:** requires no support or calibration gases (other than ambient air) for its bi-annual calibration (25% range only).
- **Battery charger:** 100/220VAC, 10Watts
- **User Interface C/D and Cable:** used for retrieving logged data and automatically graphs and time stamps downloaded data.

The 111 series offers the following range of options while maintaining the compact dimensions of 10.5"H x 4.5"W x 5.5"D.



1. **Model 111:** Standard version - Comprehensive electronics package with cellblock for positive pressure gas streams. Includes flow control valve and flow meter.
2. **Model 111P:** Comprehensive electronics package, with complete sample system for applications ranging from 10<sup>-2</sup>Hg vacuum to ambient pressures. Sample system includes a high quality, long life sample pump, flow control valve and flow meter.
3. **Model 111B:** Comprehensive electronics package, with complete sample system for applications ranging from 10<sup>-2</sup>Hg vacuum to ambient pressures. Sample system includes flame arrestors, high quality sample pump, flow control valve and flow meter. The Model 111B is designed for Class 1, Div. 2, Groups C,D area classifications using non-flammable gases.

It responds rapidly to changes in oxygen levels with <12sec. 90% full scale response over a temperature range of 0°F to +130°F.

## MODEL 111 SERIES

### FEATURES

- Single measurement range
- High resolution 3 ½ digit LCD
- RFI protected
- Data logger
- RS-232 bi-directional communication for advanced features
- Power requirements: 115/230VAC to 12VDC battery charger
- Low minimum detection limit
- Excellent repeatability and stability
- Extended operating temperature range
- Fast upscale/downscale response times
- Long life sensor, 10 year life expectancy
- Advanced Cellblock Technology: Allows for all components such as: needle valve, flow meter, and compression fittings to be an integral part of the cellblock, eliminating long lengths of tubing and fittings. Other benefits of this design include: compact size and faster response times.
- Unaffected by changes in flow rate from 0.1 to 2.0 SCFH
- Compact portable
- 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%
- **Digital display:** High resolution 3 ½ digit LCD. Reads full scale from 0.01 to 25.0%
- **Data logger:** Logs data for 15 days @ 1 minute intervals, 30 days @ 2 minute intervals, etc. Represents the output range selected: 0-1%, 0-5%, 0-10% and 25%
- **Power requirements:** 115/230VAC to 12VDC battery charger. Rechargeable NiCad batteries, 8 hours continuous for Model 111. Rechargeable NiCad batteries, 4 hours continuous for Model 111B and Model 111P pump versions
- **Minimum detection:** .05% 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 50psig  
**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**
- **Portable dimensions:** 4.5"W x 10.5"H x 5.5"D
- **Weight:** 5 to 6 lbs. depending on Model

