



Advanced Micro Instruments, Inc.

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## MODEL 2001R SERIES

AMI Model 2001R series offers a complete line of trace oxygen analyzers utilizing a new modular approach. With our recent engineering breakthroughs, we can now provide simple and user-friendly solutions for a variety of applications. This includes a single gas stream measurement or sequenced multiple gas stream measurements for either positive pressure or ambient pressure requirements.

We have outfitted the 2001R series with a comprehensive state-of-the-art electronics and complete sample handling package using our patent pending cell block technology.

Our advanced modular approach allows the 2001R series to tackle any combination of requirements while maintaining the same compact panel mount dimensions of 9.0"W x 5.0"H x 6.5"D.

The standard electronics features include:

- **2-Fully adjustable oxygen concentration alarm set points.** Form C contacts rated @ 5 amps.
- **Programmable alarm delays:** delay settings range from 0-300min. This feature prevents nuisance alarms due to quick oxygen spikes or short-term operator error.
- **User configurable alarm setting:** alarm logic choices include latching, non-latching, fail-safe, and non-failsafe.
- **10-User selectable output ranges:** 0-10ppm, 0-50ppm, 0-100ppm, 0-500ppm, 0-1000ppm, 0-.500%, 0-1%, 0-5%, 0-10% and an air calibration range of 0-25%
- **Programmable hold off/alarm bypass button:** prevents false alarms while performing monthly calibrations. Allows the technician to bypass both alarms for a user selectable time of 0-120 min.
- **High-resolution single range LCD:** rapidly reads from 0.00ppm to 25.0% without LCD range changing delays or the need for manual range switch adjustments.
- **Data logger:** logs data for 15 days @ 1min intervals, 30 days @ 2 min intervals, etc.
- **Sensor calibration factor:** indicates remaining sensor life.
- **Three-user selectable security levels:** allows complete front panel access, span only access, or no front panel access.



- **Isolated 4-20mA. output.**
- **Simple, intuitive user interface.**

The 2001R series offers the following range of options while maintaining the compact dimensions previously described:

1. **Model 2001RS:** Comprehensive electronics package with complete sample system for a single positive pressure gas stream, including: flow control valve, flow meter, internal solenoid valves for shut off and sample/span gas selection.
2. **Model 2001RSP:** Comprehensive electronics package with complete sample system for a single ambient pressure to low-pressure application. Sample system includes: long life sample pump, flow control valve, flow meter, internal span gas and shut off solenoid valves.
3. **Model 2001RSM:** Comprehensive electronics package with complete sample system for up to 5 separate positive pressure gas streams, including: flow control valve, flow meter and internal solenoid valves for programmable 5-channel sequencer.
4. **Model 2001RSPM:** Comprehensive electronics package with complete sample system for up to 5 separate ambient pressure to low-pressure gas streams. Sample system includes: long life sample pump, flow control valve, flow meter and internal solenoid valves for programmable 5-channel sequencer.

## MODEL 2001R SERIES

AMI's patented cellblock begins with a single compact metallic block that undergoes a complex machining process, followed with corrosion-resistant nickel plating. The block contains a series of drilled intersecting gas passages and mounted directly on it are: a custom designed flow control valve, flow meter, internal span gas and isolation gas solenoid and compression fittings. All become an integral part of the cellblock.

This eliminates the techniques used by competitors of piecing several lengths of tubing between numerous compression fittings, valving and a flow meter. In using this approach, they add many potential leak paths, increase response times and the need for additional space. Lastly, our front panel sensor access makes O<sub>2</sub> sensor installation or replacement quick and easy without tools or the need to remove any sensitive components. This process takes less than one minute!!

### FEATURES

- 10 user selectable output ranges to choose from
- High resolution 3 ½ digit LCD
- 2 fully adjustable oxygen concentration alarms
- Alarm delays
- Alarm hold off/Bypass
- RFI protected
- 4-20mA. Isolated analog output signal
- Data logger
- RS-232 bi-directional communication for advanced features
- Advanced analog output calibration feature
- Power requirements: 115/230VAC power
- Low minimum detection limit
- Excellent repeatability
- Fast upscale/downscale response times
- Single gas or multiple gas streams for positive pressure
- Single gas or multiple gas streams for atmospheric pressure
- Patented Cellblock Technology: Allows for all components such as: needle valve, flow meter, miniature electronic controlled gas and span solenoid valving 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, faster response times and front panel sensor access without the need for tools.
- Area Classification: Designed to meet General Purpose requirements
- Unaffected by changes in flow rate from 0.1 to 2.0 SCFH
- Panel mount
- Compact size
- 2 year warranty for analyzer, parts and labor
- 6 month sensor warranty, life expectancy 1-2 years

Our advanced design approach has separated us from the competition with the highest performance, yet lowest cost oxygen analyzer in the industry.

### SPECIFICATIONS

- **10 user selectable output ranges to choose from:** 0-10ppm, 0-50ppm, 0-100ppm, 0-500ppm, 0-1000ppm, 0-.500%, 0-1%, 0-5%, 0-10% and 25%. The user selection of an output range simultaneously controls the two alarms, the analog output and the data logger so that all 4 functions operate on the same range
- **Digital display:** High resolution 3 ½ digit LCD. Reads full scale from 0.00ppm to 25.0% independently of output range selection
- **Alarms:** 2 fully adjustable oxygen concentration alarms  
Dry contacts 5A. @24VDC/115VAC
- **Alarm delays:** Programmable from 0-300 minutes
- **Alarm hold off:** Programmable from 0-120 minutes
- **Isolated analog output signal:** 4-20mA  
Represents the output range selected: 0-10ppm, 0-50ppm, 0-100ppm, 0-500ppm, 0-1000ppm, 0-.500%, 0-1%, 0-5%, 0-10% and 25%
- **Data logger:** Logs data for 15 days @ 1 minute intervals, 30 days @ 2 minute intervals, etc. Represents the output range selected: 0-10ppm, 0-50ppm, 0-100ppm, 0-500ppm, 0-1000ppm, 0-.500%, 0-1%, 0-5%, 0-10% and 25%
- **Power requirements:** 115VAC/230, 3-10watts depending on 2001R model selected
- **Minimum detection:** 50ppb of oxygen
- **Repeatability:** +/- 1% of range or +/- 0.2ppm of oxygen, whichever is greater
- **Operating temperature range:** 32 to 115° F
- **Diurnal temperature specification:**  
< +/- 3 % of scale over temperature range
- **90% upscale response times:** 10ppm – 25% <10 seconds; 0-10ppm < 25 seconds. Typical downscale response: 1 minute exposure to air down to 10ppm: < 15 minutes
- **Area Classification:** Designed to meet General Purpose requirements
- **Inlet gas pressure for Model 2001RS and Model 2001RSM:** 0.5 to 30psig. **Model 2001RS** is for use in a single gas stream only. **Model 2001RSM** is for use in 1-5 multi gas streams with built-in programmable sequencer
- **Inlet gas pressure for Model 2001RSP and Model 2001RSPM:** atmospheric pressure. **Model 2001RSP** is for use in a single gas stream drawing from atmospheric pressure. **Model 2001RSPM** is for use 1-5 multi gas streams with built-in programmable sequencer drawing from atmospheric pressures
- **Expected pump life for Models 2001RSP and 2001RSPM:** 2+ years
- Gas connections: ¼" 316 S.S. compression fittings
- **Wetted parts:** 316 S.S. fittings, electroless nickel plated cellblock, gold plated contacts, acrylic flow meter and Viton O-rings
- **Unaffected by changes in flow rate from 0.1 to 2.0 SCFH**
- **Mounting:** panel mount
- **Dimensions:** 9.0"W x 5.0"H x 6.5"D
- **Weight:** 8-10 lbs. depending on 2001R model selected



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