



Advanced Micro Instruments, Inc.

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## MODEL 1000RS

AMI has provided yet another breakthrough for portable trace oxygen analysis. The patented cellblock technology and abundance of standard electronics features have resulted in a state-of-the-art package.

The **AMI Model 1000RS** utilizes our innovative patented cellblock technology that eliminates the need for the traditional, individual sample system components that are typically pieced together using tubing, compression fittings, valves and flow meters.

Our approach begins with a compact solid metallic block, which undergoes a complex machining process, followed with corrosion-resistant nickel plating. The block contains a series of internal drilled gas passages, replacing external tubing and compression fittings.

The process includes sophisticated machined ports that accommodate a fine metering valve, 4-way selector valve, an oxygen sensor and flow meter, keeping all components integral to the block.

The unique 4-way selector valve offers many distinct advantages:

- It opens or closes both the sample gas inlet and exhaust ports simultaneously with a simple 90° rotation.
- In the "OFF" position the sensor is completely sealed from the outside air (20.9% oxygen) during long distance travels between measurement sites, increasing sensor life and responsiveness.
- The "OFF" position also acts as a sample gas bypass, further protecting the sensor from exposure to high oxygen levels during the initial connection from the sample point to the analyzer.
- After making a simple gas connection and using the purge feature simply rotate the selector valve 90° which opens both the "Sample Gas In" and "Exhaust" ports simultaneously, and watch how fast the Model 1000RS responds.
- No more confusing quick disconnect logic.

When the application requires, we can provide one of our patent-pending H<sub>2</sub>S resistant oxygen sensors (up to 500ppm H<sub>2</sub>S exposure for its warranted life) to meet your needs. This breakthrough sensor technology eliminates the need for maintenance intensive H<sub>2</sub>S scrubbers.

The 1000RS has been designed for intrinsically safe use in flammable gases and is equipped with numerous standard electronics features listed:



- State-of-the-art microprocessor based electronics.
- High-resolution single range LCD immediately reads from 0.00ppm to 25.0% without range changing delays or the need for manual range adjustments.
- Data logger: logs data for 15 days at 1min intervals, 30 days at 2min intervals, etc.
- 0-1VDC analog output.
- 10 user selectable analog output ranges: 0-10ppm, 0-50ppm, 0- 100ppm, 0-500ppm, 0-1000ppm, 0-0.500%, 0-1%, 0-5%, 0- 10% and an air calibration range of 0-25%
- Complete security feature: front panel settings will not respond to tampering if the security feature has been initiated via laptop computer.
- Rechargeable NiCad batteries: operates for 350 hours continuously.
- Low Battery indicator.
- Built in trouble-shooting diagnostics.
- Cal Factor - determines remaining O<sub>2</sub> sensor life.

The front panel sensor access makes sensor installation or replacement quick and easy. It also allows for a rapid, accurate calibration using ambient air (20.9%) if desired without the need for span gas. For those who wish to use certified span gas, simply connect the span gas to the sample gas port, briefly purge using the 4-way selector valve, rotate the selector valve 90° to the "Open" position; the reading will rapidly stabilize and you use the intuitive front panel interface to instantly adjust the reading.

No other portable trace O<sub>2</sub> analyzer on the market compares in the areas of accuracy, reliability, response time, ease of use, desirable features, compact size and low cost.

# MODEL 1000RS

## FEATURES

- 10 user selectable output ranges to choose from
- High resolution 3 ½ digit LCD
- RFI protected
- 0-1VDC analog output
- Data logger
- RS-232 bi-directional communication for advanced features
- Power requirements: 115/230VAC to 12VDC battery charger
- Low minimum detection limit
- Excellent repeatability
- Extended operating temperature range
- Fast upscale/downscale response times
- Patented Cellblock Technology: Allows for all components such as: needle valve, flow meter, 4-way Sample/Bypass/On/Off 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 for intrinsic safety for Class 1, Div. 1, Groups B,C,D
- Unaffected by changes in flow rate from 0.1 to 2.0 SCFH
- Compact portable
- 2 year warranty for analyzer parts and labor
- 6 month sensor warranty, life expectancy 1-2 years

## OPTIONS

- Pelican carrying case with die cut foam inserts.
- Flexible non-diffusive tubing.
- Liquid rejection probe.
- Demister.
- Portable Class I, Div. 2 Sample Pump

## 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 analog output and the data logger so that both 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
- **Analog output signal:** 0-1VDC  
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:** 115/230VAC to 12VDC battery charger. Rechargeable NiCad batteries, 350 hours continuous
- **Minimum detection:** 50ppb of oxygen
- **Repeatability:** +/- 1% of range or +/- 0.2ppm of oxygen, whichever is greater
- **Operating temperature range:** 25 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 for intrinsic safety for Class 1, Div. 1, Groups B,C,D
- **Inlet gas pressure:** 0.5 to 150psig
- **Gas connections:** ¼” quick disconnect 316 S.S. compression fitting
- **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**
- **Portable dimensions:** 4.5”W x 9.5”H x 4.5”D
- **Weight:** 5 lbs.

