

## MODEL 2001RSP



The AMI model 2001RS is the ideal solution for measuring trace oxygen in a wide range of applications in a general purpose environment. In a compact size, and at low cost, it provides a comprehensive electronic package and sample system using AMI's patented cell block technology. In addition the 2001RS uses internal surface mount solenoid valves for sample/span gas selection and to seal off the sensor in the event of loss of power. Unlike competitive analyzers, AMI sensor replacement requires minimal downtime due to the front panel sensor access and the patented AMI cell block. Typical time from a one minute air exposure to 10ppm is under 15 minutes.

- Display reads oxygen from 0.05ppm up to 25.0% with no range changes
- Analog output and alarms can be configured to operate over any of ten ranges from 0-10ppm to 0-25% for best resolution
- Analog output 4-20mA, isolated.
- Complete sample system built into AMI's patented cell block.
- Very rapid response time from air to low ppm levels.
- Easily replaceable sensor, no tools required.
- T-2 sensor resistant up to 10ppm H<sub>2</sub>S.
- Simple, versatile installation.
- Operates off 117VAC with very low power consumption
- Analog output can be easily calibrated to an external device.
- 2 independent, fully adjustable alarm settings with relay contacts.
- Complete alarm logic programming: latching or non-latching, open or close on alarm, high alarm or low alarm, alarm-on delays and alarm hold-off.
- Integral data logger: Logs data for 15 days @ 1min intervals and 30 days @ 2min. intervals, etc.
- USB connectivity to a PC: Allows complete access to the internal functions and settings.
- ModBus Industry standard protocol over RS485.
- Oxygen Sensor life indication.
- Calibration history.

Trace oxygen analyzers are essentially leak detectors. AMI's patented cell block allows the analyzer to be built with almost no possibility of internal leaking, with minimal volume and with front-panel sensor access. All sample handling components – the flow meter, needle valve and the surface mount span/sample selection and seal-off solenoid valves – are integrated into two solid metal blocks. The result is a highly reliable sample system with all necessary components provided, and a very fast “come-down” time. When a sensor is replaced, or calibrated on air with a 1 minute exposure (at 70°F), it takes about 15 minutes for it to come down to below 10ppm. Competitive analyzers typically take hours. As a result, although a span gas port is provided, it is practical to accurately calibrate this analyzer on air and have it back on line within a very short time.

The AMI T-2 trace oxygen sensor is inherently faster than competitive sensors due to its metallic body and large active electrode area. It is also naturally resistive to hydrogen sulfide up to 10ppm H<sub>2</sub>S over its warranted life, and may be used in samples containing high levels of CO<sub>2</sub> with no ill effects. The sensor is immediately accessible on the front panel of the analyzer, and can be replaced in seconds. It is not necessary to expose the sensor to air unshorted while installing it as is the case with most analyzers (which significantly increases their come-down time).

The analyzer is built around the same electronic architecture used in most of AMI's advanced analyzers. A pair of microprocessors, working together, provide a vast amount of functionality, with the industry's most intuitive front panel controls married to the most complete PC user interface. Alarm set points, the output range selection (range over which the 4-20mA output and the alarm operate), and calibration are controlled by press buttons. These features can be disabled via the user interface program if desired for greater security.

The analyzer supports ModBus RTU over RS-485 for complete integration into a SCADA system.

Complete control over the analyzer's operation, and access to its many diagnostic features, are available via the AMI software running on a PC, connected via a standard USB cable.

Diagnostic features include up to fifteen days of datalogging, calibration history for the previous five calibrations; brown out and power up history, including memory errors if any; ambient temperature, calibration history, complete sensor diagnostics including oxygen and temperature exposure history.

# FEATURES

- 10 user selectable output ranges
- 3 ½ digit LCD
- 2 fully adjustable oxygen concentration alarms
- Alarm hold off/Bypass
- RFI protected
- 4-20mA. isolated analog output
- Analog output calibration synchronizes the analog output with an external monitoring system
- Data logger
- Fully programmable alarm delays
- USB port for configuration and access to advanced features
- Calibration history and sensor usage logging
- Power brownout and power failure logging
- Modbus using Bidirectional RS485 for industry-standard communications
- Low minimum detection limit 0.05ppm
- Excellent repeatability
- Extended operating temperature range
- Fast upscale/downscale response times
- Patented Cellblock Technology: Allows for all components such as flow control valve, flow meter, Sample, span and seal-off solenoid valves and compression fittings to be an integral part of the cellblocks, eliminating long lengths of tubing and fittings.
- Benefits of this design include compact size, faster response times and front panel sensor access without the need for tools.
- 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
- Requires optional AMI User Interface software

# SPECIFICATIONS

- 2001R Series Standard ranges:
- 0 – 10 ppm, 0 – 50ppm, 0 –100 ppm, 0 – 500 ppm, 0 – 1000ppm, 0 – 5000 ppm, 0 – 1%, 0 – 5%, 0 – 10%, 0 –25%
- Sensitivity: 0.5% of full scale
- Repeatability: +/- 1% of full scale at constant temperature
- Operating temperature: 41°F to 113°F.
- Humidity: < 85%, non-condensing
- Operational conditions: Pollution degree 2, Installation category I I.
- Drift: +/- 1% of full scale in 4 weeks at constant temperature
- Expected cell life: 9 months to 2 years.
- Response times (dependent on sensor):
- 90% of full scale in less than:
- 0 – 10 ppm 25 sec
- 0 – 100 ppm 10 sec
- 0 – 1000 ppm 10 sec
- Outputs: 4-20mA isolated.
- Alarm contacts: 230/117VAC @ 5A, or 28VDC @ 5A, resistive
- Datalogger: 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%. Overrange capability up to ten times the range selected.
- Power requirements: 90-240VAC <10W.
- Absolute Maximum Power voltage 264VAC 60Hz.
- ¼" Stainless Steel compression fittings for sample, span gas and exhaust.
- Overall dimensions: 9" w x 5" h x 7" d
- Mounting hole dimensions: 7.92" w x 4.81" h
- Weight 10 lbs