ADVANCED MICRO INSTRUMENTS, INC

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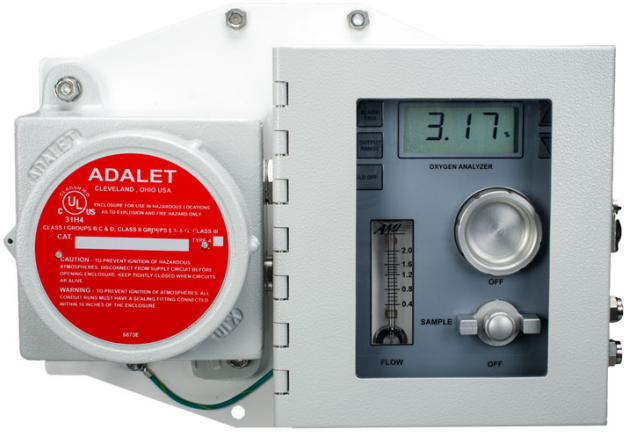
MODEL 210BR



Since 2004 the model 210BR percent oxygen analyzer and the 2010BR trace oxygen analyzer have been the unquestioned market leaders, the industry-standard hazardous area oxygen analyzers. Over the years it has been continuously refined to the point that it now provides every feature you can possibly need – and many that you may not have thought of - in a compact, easily installed low-cost package. Many thousands of these analyzers are operating to specification in the harshest environments all over the country.

- Display reads percent oxygen from 0.00% up to 25% with no range changes
- Analog output and alarms can be configured to operate over any of 4 ranges from 0-1% to 0-25% for best resolution
- Field selectable analog output - 1-5V or 4-20mA, isolated.
- CSA approved to meet Class 1 Div. 1 Group BCD with a flammable sample requirements
- Complete sample system built in to the patented cell block.
- Easily replaceable sensor, no tools required.
- P-3 sensor resistant to 10ppm H2S standard, P-5 resistant up to 500ppm H2S optional..
- Simple, versatile installation.
- Operates either off 117VAC or 10-28VDC with very low power consumption
- Available integral explosion-proof heater for cold environments
- Analog output can be calibrated to a SCADA system or flow computer.
- 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.
- ModBus: Industry standard protocol over RS485.
- Oxygen Sensor life indication.

The 210BR is built with exactly the same cell block as the best-selling 2010BR trace oxygen analyzer. All sample handling components – the flow meter, needle valve and a four-way sample/span selection valve – are integrated into a solid metal block. Connections between them are drilled passages. The result is a highly reliable sample system with all necessary components provided, and very fast response.

AMI makes several versions of its patented metal-bodied sensor for percent ranges. The P-2 sensor uses a basic electrolyte for inert background gases, while the P-3 sensor uses an acidic electrolyte for background gases that contain CO2. The P-3 resists H2S up to 10ppm H2S content, while the P-5 can resist up to 500ppm of H2S.

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 as is the case with most analyzers, thus further reducing the time from installation to operation. As a result, although a span gas port is provided, it is practical to accurately and quickly calibrate this analyzer on air.

For low temperature operation an integral explosion-proof heater can be supplied. This unit directly heats the cell block and thus is extremely efficient, allowing operation off a solar panel system down to -20°F. For extreme environments down to -40°F, an outer insulated enclosure can be supplied, but no additional power is required.

The analyzer is approved by CSA for operation in a Class 1 division 1 Group BCD hazardous area with a flammable gas as the sample. No additional safety barriers are needed. The analyzer can be calibrated and sensor replaced without declassifying the area because the analytical electronics are intrinsically safe, protected by internal safety barriers.

The electronic and software package is exceptionally complete, and all features are provided as standard with no additional cost (except for the heater). It is capable of operating off a battery and solar panel, and it logs power brown outs and failures should they occur. It tracks the temperature of the analyzer and the sensor. It tracks the life of the sensor and indicates how much life is left. It logs the calibration history. It logs the readings over its operational (output) range.

The analyzer can be wall-mounted with 4 externally accessible screws, or bolted to a 2” pipe using standard U bolts.

FEATURES

- 4 user selectable output ranges
- Optional low range to 0-1000ppm available
- 3 ½ digit LCD
- 2 fully adjustable oxygen concentration alarms
- Alarm delays
- Alarm hold off/Bypass
- RFI protected
- 1-5VDC or 4-20mA. isolated analog output signals
- Advanced analog output calibration to synch the analog output with any external monitoring system
- Data logger
- USB port for configuration and access to advanced features
- Modbus using Bidirectional RS485 for industry-standard communications
- Calibration history – stores the last five calibrations with time, date, span factor and calibration gas.
- Brown-out history – stores the last five brown-outs and recoveries.
- Power up history – stores the last ten times the unit was powered up.
- Advanced analog output calibration.
- Power requirements: Choice of 10-28VDC or 115VAC power
- Low minimum detection limit 0.01%
- 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, 3-way calibration valve, Sample/Span/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: Approved by CSA International to UL and CSA standards as meeting requirements for Class 1, Div. 1, Groups B,C,D with a flammable gas sample
- Unaffected by changes in flow rate from 0.1 to 2.0 SCFH
- Wall mount or 2.0” pipe
- Compact size
- 2 year warranty for analyzer, parts and labor
- 6 month sensor warranty, life expectancy 1-2 years
- Requires AMI User Interface Software

SPECIFICATIONS

- 4 user selectable output ranges: 0-1%, 0-5%, 0-10% and 25%
- The 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
- Optional 0-1000, 0-5000ppm low range
- Digital display: 3 ½ digit LCD. Reads full scale from 0.00% 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: 1-5VDC or 4-20mA Represents the output range selected: 0-1%, 0-5% 0-10% and 25%, or the optional low ranges
- 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% or the optional low ranges.
- Power requirements: 10-28VDC/ 115VAC; <70mA. @12VDC non-heated; <24W @12VDC with heated option. Alternative 117VAC available.
- Minimum detection: 100ppm of oxygen (10ppm for optional low ranges)
- Repeatability: +/- 1% of range or +/- 0.1% of oxygen, whichever is greater
- Operating temperature range: 25 to 115˚ F non-heated; -20 to 115˚ F heated option, -40˚ F to 115˚F with optional extreme weather enclosure.
- Diurnal temperature specification: < +/- 3 % of scale over temperature range
- 90% upscale response times: <10 seconds dependent on sensor
- Area Classification: Approved by CSA International to UL and CSA standards as meeting requirements for Class 1, Div. 1, Groups B,C,D with a flammable gas sample
- Inlet gas pressure: 0.5 to 150psig
- 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: Wall mount or 2.0” pipe
- Dimensions: 13.0”W x 9.5”H x 5.0”D
- Weight: 16 lbs.