



Advanced Micro Instruments, Inc.

www.amio2.com Phone: 714.848.5533

MODEL 2010BR

The development of the **AMI Model 2010BR** trace oxygen analyzer began with a collection of inputs from hundreds of industry leading engineers and field technicians in the natural gas and petrochemical industries.

These inputs coupled with our advanced engineering techniques have resulted in a totally complete, compact, state-of-the-art oxygen analyzer for harsh, hazardous applications.

We have outfitted this unit with a comprehensive state-of-the-art electronics and complete sample handling package using our patented cell block technology. The front panel user interface is very intuitive for ease of operation and for the advanced users we provide an RS-232 connection to access the more advanced settings.

If necessary, this analyzer can be mounted directly outside in all types of weather. An optional high-tech, low power proportional temperature controlled heater allows for an expanded temperature range of -20° to 115° F without an additional enclosure or wiring. This applies in either Class I, Div. 1 or Div. 2 Groups B,C,D, area classifications, allowing for a simple straightforward installation.

AMI's advanced microprocessor based electronics platform solves all known application requirements without adding additional costly components.

Standard features include:

- **Cutting Edge Microprocessor Based Electronics**
- **High-resolution single range 3 ½ Digit LCD**
- **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%
The user selection of an output range simultaneously controls both alarm functions, the analog output and the data logger so that all 4 functions operate on the same measurement range.
- **2 independent, fully adjustable alarm settings with relay contact closures**
- **User selectable alarm logic:** latching or non-latching, "Open on Alarm" or "Close on Alarm"
- **Programmable alarm delays:** Settings range from 0-300min. This feature prevents alarm conditions due to quick H₂S spikes or short-term operator error.
- **Alarm bypass button:** Prevents false alarms while performing monthly calibrations.
User settable from 0-120 minutes
- **Data logger:** Logs data for 15 days @ 1min intervals and 30 days @ 2min. intervals, etc.
- **Cal Factor:** indicates remaining O₂ sensor life



- **User selectable security settings**
- **Isolated 1-5VDC and 4-20mA. analog outputs**
- **Simple intuitive front panel user interface**
- **Available in either AC or DC power.**
- **Available with or without explosion proof heater**

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, 3-way selector valve (for sample/span/shut off control), flow meter and 3 gas connection 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, the need for additional space and additional employee labor.

Lastly, our front panel sensor access makes the O₂ sensor installation or replacement quick and easy without tools or the need to remove any sensitive components. It also allows for a rapid, accurate calibration on ambient air (20.9%) without the use of tools. A span gas port comes standard for those who prefer a certified span gas calibration.

The accurate air calibration takes less than 1 minute from start to finish!

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

When the application requires, we can provide one of our patent pending H₂S resistant oxygen sensors (up to 500ppm H₂S exposure for its warranted life) to meet your needs. This breakthrough sensor technology eliminates the need for maintenance intensive H₂S scrubbers.

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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
- 1-5VDC and 4-20mA. isolated analog output signals
- Data logger
- RS-232 bi-directional communication for advanced features
- Advanced analog output calibration feature
- Power requirements: Choice of 10-28VDC or 115VAC power
- Low minimum detection limit
- 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

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:** 1-5VDC or 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:** 10-28VDC/ 115VAC; <70mA. @ 12VDC non heated; <24W @12VDC with heated option
- **Minimum detection:** 50ppb of oxygen
- **Repeatability:** +/- 1% of range or +/- 0.2ppm of oxygen, whichever is greater
- **Operating temperature range:**
25 to 115° F non-heated; -20 to 115° F heated option
- 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:** 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.

