

Portable Trace Oxygen Gas Analyzer

Zirconia Technology

Agasthya 2026 Series BI 341



5+ Years Sensor Life
No frequent sensor replacement



Ultra-Fast Response (<5 Sec)
Instant ppm oxygen measurement



No Nitrogen Purging Required
Simplified and hassle-free operation



No Effect from Air Exposure
Zero sensor saturation or damage



Negligible Drift
Stable readings with yearly calibration



Infinite Shelf Life
No storage or expiry limitations



Low Maintenance
No consumable electrochemical cells



Lower Operating Cost
Reduced downtime & maintenance expenses

OVERVIEW

The BI 341 Portable Trace Oxygen Gas Analyzer is a high-performance portable analyzer designed for accurate measurement of low-level oxygen concentrations in the 0–100 ppm, 0-1000 ppm, 0-10000 ppm ranges. Powered by advanced Zirconia Sensor Technology, the BI 341 delivers ultra-fast response, superior stability, and long sensor life, making it an ideal solution for critical industrial applications requiring reliable trace oxygen monitoring.

Unlike conventional electrochemical analyzers, the BI 341 offers maintenance-friendly operation with no nitrogen purging, no sensor saturation due to air exposure, negligible drift, and minimal calibration requirements. Its rugged portable design, large touchscreen display, extended battery backup, and high data storage capacity make it highly suitable for field and process applications.

The analyzer is engineered for industries demanding dependable performance, faster analysis, and lower operating costs while ensuring accurate and stable oxygen measurement even in challenging environments.

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Trace O₂ in Inert &

Process Gases

KEY FEATURES

- Advanced Zirconia Sensor Technology
- Accurate Trace Oxygen Measurement
- Measuring Range: 0–100 ppm, 0-1000 ppm, 0-10000 ppm
- Fast Response Time: T90 < 30 sec
- Large 5.6" Touchscreen Display
- Rechargeable Lithium-ion Battery
- Up to 10 Hours Battery Backup
- Internal Memory for 2000 Readings
- USB Data Export
- PTFE + Moisture Filter Protection
- Rugged Portable Design
- Low Maintenance Operation

TECHNICAL SPECIFICATIONS - DEVICE

Parameter	Specifications
Response Time (T-90)	≤30 seconds
Stack Operating Temperature	0°C to 600°C
Device Operating Temperature	0°C to 50°C
Power Supply	Rechargeable Battery with 24V DC Adaptor
Charging / Battery Backup	5 hours full charge with approximately 10 hours battery backup
Battery	Lithium-ion Rechargeable Batteries
Battery Nominal Voltage	14.4 V
Battery Minimum Capacity	19.2 Ah
Memory	Instrument memory of at least 2000 readings
Display	Large, high-contrast, backlit graphical display, 5.6 inch-touchscreen panel
Filters	Standard Teflon Coated / PTFE Filter
	Moisture Filter
Dimensions	132.6 × 251 × 264 mm (H × W × D)
Mounting	Table Top

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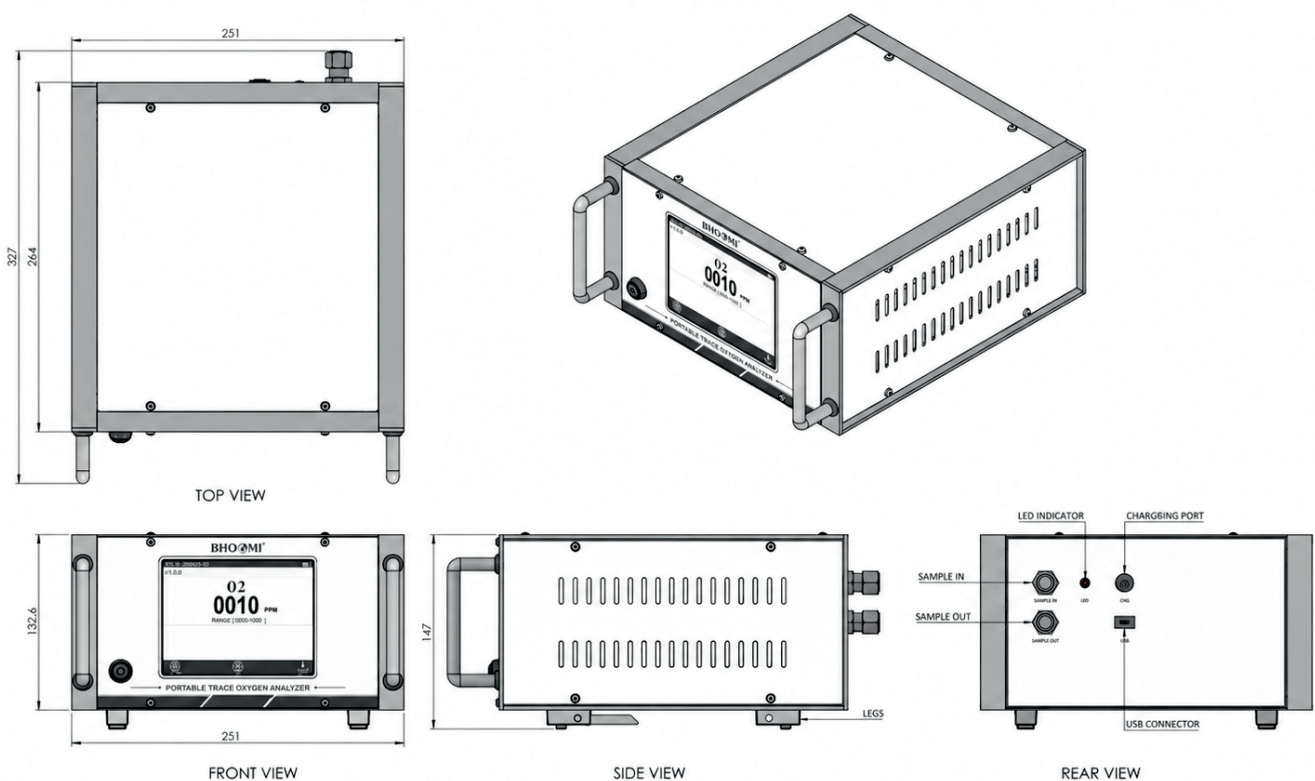
TECHNICAL SPECIFICATIONS - SENSOR

Parameter	Specifications
Technology	Zirconia
Range	0–100 ppm
	0-1000 ppm
	0-10000 ppm
Accuracy	±1% of FS
Resolution	1 ppm
Repeatability	±1% of FS
Response Time	T90 < 30 sec
Process Gas Temperature	0–700°C
Drift	<2% of full scale per month
Area Classification	General Purpose

APPLICATIONS

- Gas Purity Checking
- Inert Gas Monitoring
- Glove Box Testing
- Welding Gas Analysis
- Furnace Atmosphere Control
- Food Packaging Gas Check
- Semiconductor Gas Monitoring
- Laboratory Gas Testing
- Pipeline / Cylinder Gas Testing

DIMENSION DRAWING



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WHY CHOOSE ZIRCONIA TECHNOLOGY OVER ELECTROCHEMICAL SENSORS?

Parameter	Conventional EC (Electrochemical) Analyzer	BI 341 with Zirconia Technology	Customer Benefit
Sensor Life	Typically 6–2 months	5 years and above	Lower replacement cost and reduced downtime
Nitrogen Purging	Required to protect sensor	Not required	Simplified operation and lower maintenance
Response Time (T90)	Takes hours to stabilize after air exposure	< 5 seconds	Faster analysis and quicker decision-making
Air Exposure Effect	Sensor saturation/failure possible	No effect from air exposure	Reliable operation in field conditions
Shelf Life	Approximately 6 months	Virtually infinite	No storage limitations or expiry concerns
Sensor Drift	High drift over time	Negligible drift	Stable and accurate measurements
Calibration Frequency	Frequent calibration required	Once a year is sufficient	Reduced maintenance effort
Isolation Valves	Required to prevent sensor damage	Not required	Simpler installation and operation
Maintenance Requirement	High due to consumable sensor	Very low	Reduced operating cost
Sensor Type	Consumable electrochemical cell	Non-consumable Zirconia sensor	Longer operational reliability
Field Reliability	Sensitive to handling and exposure	Rugged and stable	Better suitability for industrial applications
Overall Operating Cost	Higher due to recurring sensor replacement	Lower lifecycle cost	Better long-term ROI

Bhoomi Process Management Pvt. Ltd. (sister concern of Bhoomi Analyzers)

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