



Zirconia

Oxygen Converter

Sensing Probe



BI 2100

In-situ Zirconia Oxygen Analyzer



100%
by BHOOMI



One Point
Calibration



Low Drift



Thermal Shock
Proof



Zero
Maintenance



Long Life



Field
Repairable

Agasthya 2013 Series

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Agasthya 2013 Series

Measurement Performance



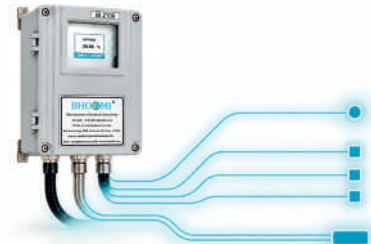
- Programmable measurement range: 0–100% O₂
- Accuracy: $\pm 0.5\%$ of full scale
- Resolution: 0.01%
- Repeatability: $\pm 0.5\%$ of full scale
- Response time: T₉₀ < 3 seconds

Sensor Technology



- Zirconia-based oxygen-sensing technology
- Designed for direct in-situ measurement
- Rugged sensor life exceeding five years
- No moving parts or sampling apparatus
- Online calibration during operation
- Replaceable filter, sensing cell, and electronic card

Communication & Outputs



- One 4–20 mA analog output
- Three relay outputs
- RS485 digital communication
- MODBUS communication protocol
- Separate oxygen electronic control unit
- Suitable for continuous combustion monitoring

Power, Calibration & Diagnostics



- Standard 24 VDC power supply
- Optional 230 VAC power supply
- Keypad-operated LCD
- Automatic and manual calibration modes
- Clean, dry instrument-quality reference air at 2 LPM
- Wall mounting standard; rack mounting available on request
- Four-core, 25-metre sensor-to-electronics cable
- Field-repairable construction for convenient servicing

Rugged Industrial Design



- Process-gas temperature options: 0–150°C, 0–700°C, 0–900°C, and 0–1600°C
- Probe materials: stainless steel, Inconel, or alumina
- Probe lengths: 250, 500, 1000, 1500, and 2000 mm
- Unbreakable ceramic diffusion element; sintered-steel filter available on request
- ANSI Class 150, 3-inch raised-face flange; other flanges available on request
- IP65 electronic-unit enclosure; explosion-proof configuration available on request

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KEY FEATURES

- Wide programmable oxygen range from 0–100% O₂
- Fast response time of less than 3 seconds
- Supports process temperatures up to 1600°C
- Multiple probe materials for different applications
- Probe lengths available from 250 to 2000 mm
- Automatic and manual online calibration
- 4–20 mA analog output with three relay outputs
- RS485 MODBUS digital communication

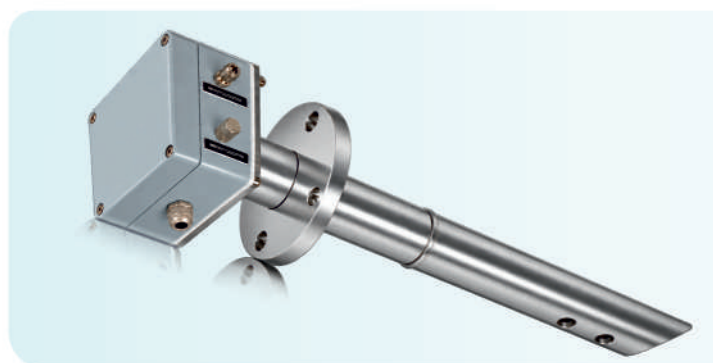
APPLICATIONS

- Power Plants (Boilers & Turbines)
- Cement Rotary Kilns
- Steel & Metallurgical Furnaces
- Petrochemical & Refinery Heaters
- Chemical Reactors
- Glass & Ceramic Furnaces
- Pulp & Paper Boilers
- Waste Incinerators

TECHNICAL SPECIFICATIONS

Sensing Probe

Oxygen Converter



Technology	Zirconia
Range	0-10% O ₂ , Programmable
Accuracy	±0.5% of FS
Resolution	0.01%
Repeatability	±0.5% of FS
Response Time	T ₉₀ < 3 sec
Process Gas Temperature	0-15°C, 0-700°C, 0-900°C, 0-1600°C
Probe MOC	Stainless Steel, Inconel, Alumina
Diffusion Element	Unbreakable Ceramic, Sintered Steel filter optional on request
O ₂ Probe Length	250 mm, 500 mm, 1000 mm, 1500 mm, 2000 mm
Flange	ANSI CL 150 3RF (Other Flanges on request)
Reference Air	Clean & Dry Instrument quality air (2 LPM)
Area Classification	Safe Area (Explosion proof on request)

Display	Keypad LCD Display
Power	24 VDC, 230 VAC optional on request
Output	4-20 mA Analog Output & 3 Nos. Relay Output
Digital Communication	RS 485, Modbus
Ambient Temperature	0 - 65°C
Mounting	Wall Rack optional on request
Enclosure Rating	IP65
Calibration	Auto & Manual
Cable between Sensor & Electronic	4 core, 25 meter

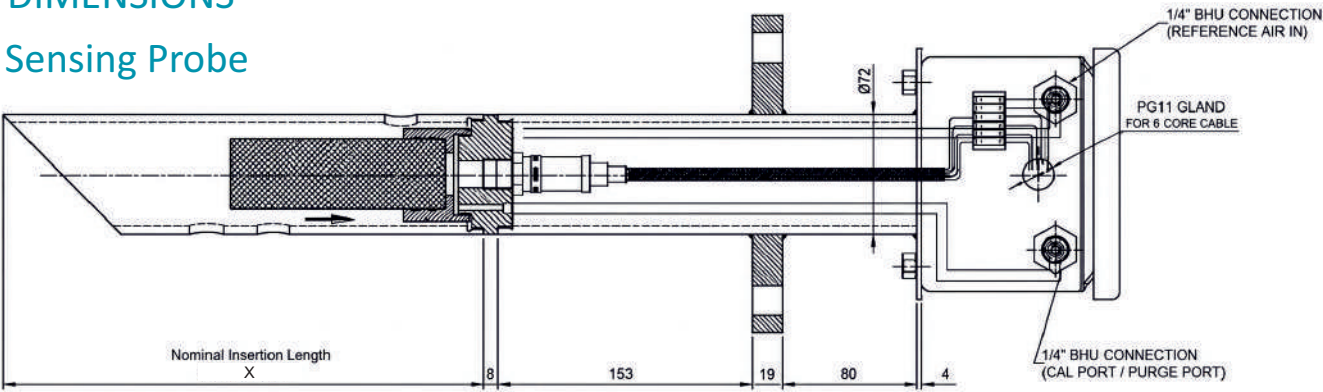
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DIMENSIONS

Sensing Probe



X = 250, 500, 1000, 1500, 2000
 * All dimensions are in mm

SAMPLE ORDER CODE FORMAT

Sensing Probe

BI 2100

S

700

SS

500

Code	Description
BI 2100	Model No.
S	Standard Temperature Series
700	0-700 ° C
SS	Stainless Steel
500	500 mm

Model	BI 2100 Series	Probe Type	Temperature Range	Probe MOC	Probe Length
Product Name	In-situ Zirconia Oxygen Analyzer	/XX	/XXXX	/XX	/XXXX
Order Code	BI 2100-S-700-SS-500				
Probe Type					
S	Standard Temperature Series	S			
HL	High Temperature Series	HL			
HH	Very High Temperature Series	HH			
Sample Gas Temperature					
700	0–700°C		700		
900	0–900°C		900		
1600	0–1600°C		1600		
Probe MOC					
SS	Stainless Steel			SS	
Inc	Inconel			INC	
Al	Alumina			Al	
Probe Length					
250	250 mm				250
500	500 mm				500
1000	1000 mm				1000
1500	1500 mm				1500
2000	2000 mm				2000

BI 2100

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Our NPL & TUV Certified Products

Continuous Emission
Monitoring System
BI 7000



Online Stack Flow
Meter
BI 7300



Online Stack
Dust Monitor - Opacity
BI 7010



Tribo Electric Dust
Monitor
BI 7020



Our Other Gases & Liquid Analyzers

Insitu Zirconia
Oxygen Analyzer
BI 2100, BI 2000



Portable Flue
Gas Analyzers
BI Flexi Pro, BI 1XX, BI 2XX



Process Gas Analyzers
BI 3XX, 4XX, 6XX
BI 4XXX, BI 8000, BI 7400



Renewable Energy Gas
Analyzer **BI 7100, BI 7110,**
BI 7120, BI 7130



Ambient Air Quality
Monitoring System
BI 9000



Multiparameter Water Quality
Monitoring System
BI 1000



Water Sensors
BI XXXX



Single & Dual
Channel Controllers
BI 13XX



Panel Mount

Wall Mount