



Rapidox 2100-OEM-RSB

O₂ Gas Analyser

The Rapidox 2100-OEM-RSB (Reduced Size Board) is a special miniaturised 24V circuit board version of our existing high-performance zirconia oxygen (O₂) analyser.



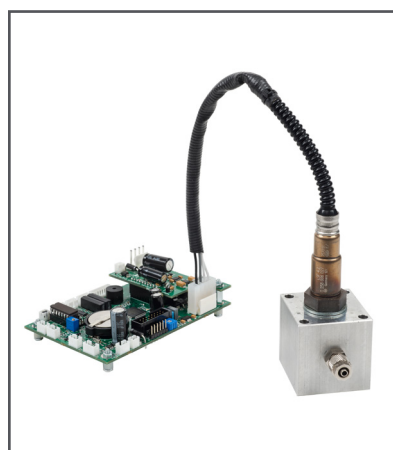
The more compact design (4.5" x 3.0") allows integration into the tightest of spaces yet comes with the exact same performance specs and features of our existing OEM analyser. The board is fitted with a robust cabled zirconia sensor, which is ideal for providing fast and accurate remote in-situ gas analysis over the full oxygen range 10⁻²⁰ppm to 30% O₂.

Zirconia oxygen sensors are extremely rugged and particularly suitable for monitoring inert atmospheres and aggressive industrial applications directly within manufacturing processes such as metal 3D printers, soldering ovens and furnaces. High temperature (650°C) and vacuum applications are particularly suited to this model. The OEM has auxiliary sensor and temperature (type K) inputs for connecting additional sensors such as pressure, vacuum and dewpoint and can also monitor local ambient temperature and humidity conditions for improved stability.

The OEM analyser can be supplied in a custom DIN rail enclosure, with or without local display and keypad. The sensor cable can be made to any length up to 25m and there are a choice of mounting options including aluminium and stainless manifolds as well as vacuum fittings (ISO-KF and CF). It has fully programmable analogue (voltage and current) outputs and alarm relays as well as RS232 / RS485 digital signalling as standard. In addition to the Rapidox digital communications protocol and software, Modbus-RTU is included as standard. The analyser is designed specifically for seamless integration to PLC systems.

New Features for this model include:

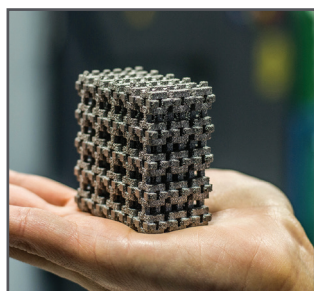
- A high-speed planar zirconia sensor (60% less power, faster warm up and response time)
- Special pre-calibrated sensors for a quick and easy swap. No cal gas is required, unit can remain in situ
- 24V power requirement (20W)
- Bespoke DIN rail mountable box with ultra bright OLED screen
- Extended sensor range down to 10⁻²⁶ppm for applications such as hydrogen dewpoint measuring



The Rapidox 2100-OEM-RSB has a compact design (4.5" x 3.0") which allows integration into the tightest of spaces with high performance specifications.

- Zirconia sensor with bespoke cable
- Miniature 4.5" x 3" circuit board
- Fast and accurate response
- Pre-calibrated sensors
- Fully programmable outputs
- Data logging software
- Two programmable alarms
- Auxiliary sensors inc. Type K
- 24Vdc power
- Password protection

Applications



Additive Manufacturing



Glove Boxes



Research and Development



Chemicals



Inert Gas Blanketing



Combustion Ovens



Solder Reflow Ovens

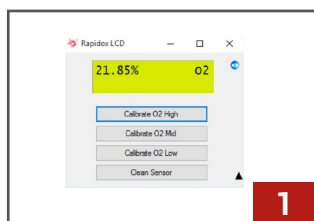


Forming Gas



Metal Heat Treatment

Accessories



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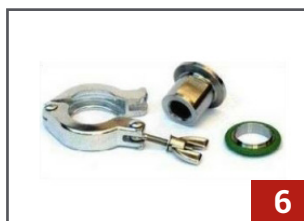
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- 1 Rapidox Software
- 2 Gas Filter & Water Trap
- 3 DIN Housing Enclosure
- 4 High Speed RS485
- 5 Display & Keypad
- 6 Vacuum Fitting

Specification

O ₂ Sensor Range	10 ⁻²⁰ ppm to 30% Zirconia version 10 ⁻²⁶ extended range available on request
O ₂ Sensor Accuracy & Response	±1% of the actual measured oxygen content OR 0.5ppm (whichever is the greater) 4 seconds for a T90 step change @1L per min flow
O ₂ Sensor Life Expectancy	>17,000 hours continuous use
Ambient Operating Pressure	800 to 1200mbar absolute
Ambient Operating Temperature	5-35°C 0-95% RH non condensing
Max. Sample Gas Pressure	Up to 10 bar gauge (200bar burst pressure)
Max. Sample Gas Temperature	650°C
Warm-up Time	1-2 minutes at 20°C
Voltage	24V VDC +/-10%
Power	20W
Voltage Outputs	0-5V (0-10V on request)
Current Outputs	4-20mA (0-20mA on request)
Digital Outputs	RS232 & RS485 Modbus RTU
Calibration	Any two or three gases - Pre calibrated sensors available
Sensor Connections	M18 1.5 pitch thread with viton seal
Sensor Cable	2m high temp as standard. Any length up to 25m available on request
Circuit Board Dimensions	4.5" x 3" (114mm x 76mm)
Weight	<0.5kg in enclosure, OEM board 120g
Alarms	2 alarm relay circuits, fully user-configurable