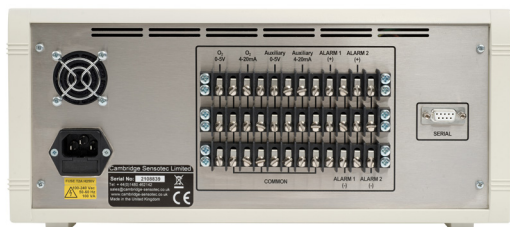


Rapidox 3100 OEM-3-SIL1

Designed to meet the requirements of functional safety SIL1 as defined in IEC standard 61508/61511 (high demand applications), the Rapidox 3100 OEM-3 is a three-channel version of our high-performance zirconia oxygen (O₂) analyser.



Supplied in a metal controller box, the Rapidox 3100 OEM-3 comprises three individual zirconia sensors on bespoke length cables with several options for gas fittings. All three sensor channels are controlled by a single RS485 digital communications link to a PC or PLC using a high speed USB EasySync device which is included as standard. A special three channel version of our Rapidox software is provided giving full LCD emulation and data-logging of all three channels simultaneously. In addition, a full set of analogue outputs and alarms are provided for each separate channel for more traditional communications needs. We offer a bespoke scope of supply service for customers, which gives a flexible, seamless and cost effective integration into machinery, products or processes. Please ask us about this service.



The analyser is ideal for providing fast and accurate in-situ gas analysis over the full oxygen range 10⁻²⁰ppm to 30% O₂ from three separate remote locations without the need to buy three individual gas analysers. This is especially convenient for installation in different locations on a large belt kiln or for taking measurements from three separate ovens in the same general location. Zirconia oxygen sensors are extremely rugged and particularly suitable for monitoring hot gas inert atmospheres and aggressive industrial applications directly within manufacturing processes, such as multi-layer ceramic capacitor (MLCC) ovens using forming gas, additive manufacturing (3D printers), soldering ovens and furnaces. High temperature (650°C) and vacuum applications are also suited to this model. It is possible to run two complete systems from a single high-spec PC, providing users with up to six channels on very large ovens.



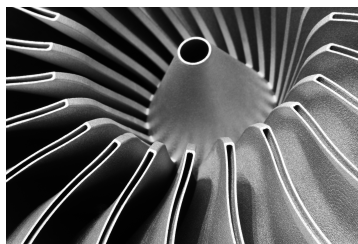
The oxygen sensor cable can be made to any length up to 25m and there are a choice of sensor mounting options including aluminium and stainless manifolds as well as vacuum fittings (ISO-KF and CF). The analyser has fully programmable analogue (voltage and current) outputs and alarm relays as well as RS485 digital signalling as standard. In addition to the standard Rapidox digital communications protocol and software, Modbus-RTU is included as standard. The analyser is designed specifically for seamless integration to PLC systems as part of a Safety Instrument System (SIS).

The Rapidox 3100 OEM-3 comprises three individual zirconia sensors on bespoke length cables with several options for fittings.

- Three independent zirconia sensors with bespoke cable lengths
- Industrial painted Aluminium enclosure
- Fast and accurate measurement of oxygen
- Pre-calibrated sensors for uninterrupted service
- Fully programmable analogue outputs per channel

- Two programmable alarms per channel
- Password protected menu system
- Lower power consumption
- Extended sensor range down to 10E⁻²⁶ppm for forming gas
- Multi-channel data logging software
- On-screen LCD emulator
- Meets the IEC requirements of SIL1 high demand use

Applications



Additive Manufacturing



Gas



Research and Development



Chemicals



Inert Gas Blanketing



Combustion



Metal Heat Treatment



Forming Gas



MLCC Manufacturing

Accessories



1



2



3



4



5



6

1 Sample Pump

2 Gas Filter

3 Water Trap

4 Extension Cable

5 Display & Keypad

6 Vacuum Fitting

Specification

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
Operating Pressure	800 to 1200mbar absolute
Max Gas Pressure	Up to 10 bar gauge (200bar burst pressure)
Max Gas Temperature	650°C
Operating Temperature	5-35°C, 0-95% RH non condensing
Warm-up Time	1-2 minutes at 20°C
Supply Voltage	90-260VAC, 50/60Hz
Power	65W
Voltage Outputs	0-5V (0-10V on request) - each channel
Current Outputs	4-20mA - each channel
Digital Outputs	RS485 via Easysync USB adapter
Calibration	Any two or three gases - Pre calibrated Sensors Available
Sample Connections	Nipple or swagelok
Circuit Board Dimensions	W350mm X D263mm X H150mm
Weight	3.5kg
Alarms	2 alarm relay circuits, fully user-configurable - each channel
Functional Safety	Meets the requirements of SIL1 under IEC 61508/61511