

2100 Oxygen Analyser

The Rapidox 2100 is a high-performance oxygen (O₂) analyser fitted with a rugged long-life zirconia sensor on a remote cable, together with a type K thermocouple sensor; allowing direct in-process measurement of oxygen and temperature in the sample gas. The sensors provide fast and accurate analysis over the low ppm oxygen range in harsh environments up to 650°C.



Zirconia oxygen sensors are particularly suitable for monitoring inert atmospheres in aggressive industrial applications within manufacturing processes; this includes high temperature locations and vacuum atmospheres.

In rare instances where a zirconia sensors are unsuitable, an electrochemical sensor will be used instead. Electrochemical oxygen sensors are ideal for monitoring high oxygen applications, or where VOC's, flammable gases, CO, H₂ or He are present in the gas sample. Users have a choice between a sensor for low ppm measurements of 1ppm to 1%, or for high percent measurements in the 0-100% oxygen range.

Depending on the specification of the analyser, the sensor is normally housed in a remote metal manifold that allows gas to flow through and over the sensor surface, or provide a vacuum tight coupling to the sample point in a vacuum application. The exact design of the manifold housing depends on the application and can be situated up to 25 meters from the analyser using optional sensor extension cables. As well as a type K thermocouple sensor which is fitted as standard, a range of optional auxiliary pressure, vacuum and dewpoint sensors are available allowing multiple measurements in one instrument.

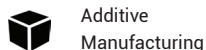
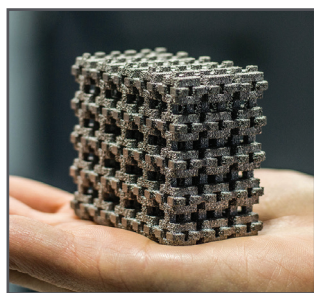


Configuration of the analyser allows for the instrument to be panel mounted or supplied within a wall mountable, IP65 weatherproof housing. The oxygen sensor can then be positioned remotely, up to 25 metres away in either a separate cabinet or as a standalone sensor. A printer can be attached to the instrument using the serial port for permanent record keeping of results. All Rapidox analysers come with full Windows software that allows for remote configuration and monitoring of readings, as well as a full data-logging package that includes live-time graphing of each sensor channel.

For customers requiring seamless integration into their product or process, the Rapidox 2100 can be supplied as an OEM solution. Please contact Cambridge Sensotec for further information.

- Choice of O₂ sensor technology
- Fully configurable software
- Fast and accurate response
- Simple calibration procedure
- Fully programmable outputs
- Data logging
- Type K Thermocouple
- Two programmable alarms
- Operates on worldwide mains voltage
- Password protection

Applications



Additive Manufacturing



Gas



Metal Heat Treatment



Chemicals



Glove Boxes



Research & Development



Combustion



Manufacturing

Accessories



1



2



3

1 Calibration Kit

2 Multiplex Sampling System

3 Gas Recovery Bag



4



5



6

4 Wall Mount Cabinet

5 Calibration Service

6 Fittings and Filters

Sensor Specification

| | |
|----------------------------------|---|
| O ₂ Sensor Range | 10E ⁻²⁰ ppm to 30% (zirconia) or 0-100% (electrochemical) |
| Oxygen Sensor Cable | 2m high temperature sheathed cable as standard. Fully shielded with a quick release plug. Extension cables available up to 25m total length |
| Sample Gas Flow Rate | 0.1 to 4 Litres per min (1 Litre per min recommended) Static gas and vacuum conditions also allowed |
| Thermocouple (Included) | Type K, range 0-1250°C, ±1°C |
| Optional Pressure Sensor | -1 to 0 bar vacuum, 0-5 and 0-10 bar gauge pressure as standard. Supplied on 2m cable with sample chamber. High precision versions available. |
| Optional H ₂ O Sensor | -100°C to +20°Cdp. Supplied on 2m cable with sample chamber |

Analyser Specification

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| Supply Voltage | 90-260VAC, 50/60Hz |
| Power Consumption | 30W (max) |
| Analyser Dimensions | 250mm X 263mm X 150mm (without optional handle kit fitted) Panel Mount 300mm wide X 4U high |
| Weight | 3.5kg (Including sensor) |
| Display | 20 x 4 character OLED |
| Warm-up Time | 60 seconds at 20°C |
| Operating Temperature & Operating Pressure | 5°C to 35°C, 900-1100 mbar absolute |
| Voltage Outputs | 0-5V (user-configurable) into minimum 5kΩ |
| Current Outputs | 4-20mA current loop (user-configurable) into maximum 500Ω |
| Digital Outputs | RS232 (RS485 option available): data streamed on demand/Modbus RTU / Ethernet |
| Alarms High and Low | Relay circuits. Fully user programmable |
| Sample Connections | 4mm ID / 6mm OD nipple type connected to metal manifold. Rectus or Swagelok options. Front or rear positioning |
| Calibration | Up to five user-selectable gas compositions (air is default) |
| Fuse | T2A H250V 5 x 20mm glass |