



Rapidox 1100-OPT-L Oxygen Analyser

The Rapidox 1100-OPT-L oxygen analyser combines two separate oxygen sensors for low ppm and high percent readings in a single analyser giving a range of 0.1ppm to 100% O₂



For high oxygen readings the analyser uses the latest state-of-the-art optical oxygen gas sensor (OPT) that has unparalleled performance in speed, accuracy, drift and sensor life for measurements in the 200ppm to 100% oxygen range. For measurements below 200ppm the OPT sensor isn't suitable, therefore a special low range ppm electrochemical gas sensor (L-cell) is used. This is specifically designed to measure from 0.1ppm to 200ppm oxygen in gases where other sensors such as zirconia are unsuitable.

As the L-cell sensor is easily damaged by exposure to air, the OPT sensor controls the gas path through the analyser using electric solenoids, which prevent the L-cell from ever being exposed to high levels of oxygen. This design allows the user to access the full range of oxygen with a single instrument, without the worry of damaging the sensors.

L-cell ppm sensors are ideal for ppm applications where VOCs, flammable gases, CO, H₂ or He are present in the gas sample. The Rapidox 1100-OPT-L is ideal for manufacturing processes using more challenging gases where zirconia sensors are not suitable. Configuration of the analyser allows for the instrument to be panel mounted with the gas fittings at either the front or rear.

OPT % sensors are very robust and show virtually no interferences with other gases, with a very low drift. The sensor is fully solid-state and does not deplete over time, unlike galvanic oxygen sensors with their limited shelf life. Optics and electronics are hermetically sealed from the measured gas. For typical indoor environmental conditions, a 10 year operating life is expected.



Though highly configurable to suit individual customer requirements, the Rapidox 1100 range possesses a number of standard features to enhance functionality.

- High-accuracy O₂ measurement
- Full range of O₂ measurement ppm to percent
- Automatic sensor selection with solenoid control
- Suitable for H₂, He, VOCs, flammable gases
- Long life OPT sensor virtually drift free
- Electrochemical ppm sensor over exposure protection
- Temperature & Pressure compensation
- Pump or ejector option
- Two programmable alarms
- Operates on Worldwide mains voltage
- Password protection

Applications



Chemicals



Inert Gas Monitoring



Metal Heat Treatment



Exhaust Gas Measurement



Glove Boxes



Research & Development



Solder Reflow



Oxygen Concentrators



Incubators



Combustion



Additive Manufacturing

Accessories



1



2



3



4



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- 1 Calibration Kit
- 2 Multiplex Sampling System
- 3 Gas Recovery Bag
- 4 Thermal Printer
- 5 Calibration Service
- 6 Gas Filters

Specification

O ₂ Sensor Range	L-cell sensor 0 - 200ppm O ₂ / OPT sensor 200ppm - 100% O ₂
O ₂ Sensor Accuracy / Response	±1% of full scale/OPT sensor <2 secs for a 90% response / L-Cell sensor < 10 min from 1,000 to 10ppm
O ₂ Sensor Life Expectancy	Up to 10 years
Ambient Operating Pressure	800-1200mbar absolute
Ambient Operating Temperature	0°C to 60°C
Max. Sample Gas Pressure	500-1500mbar absolute
Max. Sample Gas Temperature	50°C
Warm-up Time	3-5 minutes as standard
Supply Voltage	90-260 VAC, 50/60Hz
Voltage Outputs	0-10V, user programmable
Current Outputs	4-20mA user programmable
Digital Outputs	RS232 (RS485 option available) Data streamed on demand. Modbus RTU/Ethernet
Calibration	Factory calibrated - near zero drift
Sample Connections	4mm ID/6mm OD nipple type. Rectus or Swagelok. Front or rear positioning
Display	20 x 4 character OLED
Analyser Dimensions	Bench: 150mm(H) x 247mm(W) x 250mm(D) Panel: 4U 177mm(H) x 300mm(W)
Weight	3.5kg (4kg with bezel)
Pump Option	Main type diaphragm pump. Variable speed 0-1.2 litres per minute
Ejector Option	Vacuum ejector fitted, running off 2 bar inlet pressure
Alarms	Relay circuits. Fully user programmable