

## Rapidox 1100LP & 1100LR PPM Electrochemical Oxygen Gas Analyser



### Description

The Rapidox 1100LP is a special panel mountable version of the highly successful 1100L bench unit.

Supplied with a 3mm thick anodised aluminium bezel that is 300mm wide and 4U high, the unit can be conveniently flush-mounted with all gas connections and cables at the rear. Similarly the Rapidox 1100LR connections are also housed at the rear of the analyser, however this version remains bench mountable. The analyser can be returned to a standard 1100L unit very quickly if ever required. Bezels up to 19" rack-mount size can be supplied upon request.

The Rapidox 1100L oxygen analyser allows accurate oxygen analysis over the range 0.1ppm to 1% O<sub>2</sub> using a special German engineered ppm electrochemical oxygen cell. This special low range analyser is designed for applications where a traditional zirconia sensor is not suitable. This includes applications where the measurement gas contains VOCs, solvents, fuels, helium or hydrogen.

The analyser provides continuous on-line oxygen analysis, with a typical response time less than three minutes for a response from 1% down to 1000ppm.

Below 10ppm response times are considerably longer due to the way electrochemical sensors work. The analyser is fitted with a special cell holder which allows the reading to stabilise as quickly as possible, and is fully temperature and pressure compensated for enhanced accuracy.

The cell is very sensitive to exposure of high concentrations of oxygen, including air and to prevent damage the unit is fitted with solenoid valves to keep the cell in the measurement gas at all times; even when switched off.

The analyser contains a powerful diaphragm pump that draws a gas sample at a flow rate set by the user between zero and 1.2 litres per minute. An on-board pressure sensor compensates for any pressure fluctuations in the sample gas. Alternatively the pump can be independently switched off and operated under flowing gas conditions.

The analyser includes two fully programmable alarm circuits (voltage free contacts), programmable analogue outputs (0-10V and 4-20mA), easy calibration (using 2 user selectable gases), RS232 / RS485 communications and a full set of communications / data-logging software.

### Features

- Supplied ready for panel mounting with 300mm x 4U aluminium bezel.
- Continuous gas sampling via powerful internally located pump.
- Accurate oxygen analysis in hydrogen, helium and gases containing solvents.
- Measurement range available 0.1ppm to 10,000ppm (1%) oxygen.
- Accuracy better than  $\pm 1\%$  of full scale.
- Easy to calibrate by the user using ANY TWO gases.
- 0-10V and 4-20mA current loop outputs (both user programmable).
- RS232 / RS485 data-output.
- Windows data logging software with MS-Excel compatible graphing.
- Programmable alarms (voltage-free contacts) with outputs and visual warning.
- Works on any worldwide mains voltage 90-260 Vac.
- Printer and transport Peli-case options.

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## Rapidox 1100LP & 1100LR

### PPM Electrochemical Oxygen Gas Analyser

### Applications

- Measuring ppm levels of oxygen in helium and hydrogen containing gases
- Measuring oxygen in gases containing VOCs, solvents and fuels
- Applications where it is not possible to use a hot zirconia sensor
- Industrial processes using low oxygen environments. E.g. wave soldering under nitrogen, vacuum welding
- Control of critical oxygen atmospheres where low partial pressures are required
- Testing the purity of inert gases such as argon and nitrogen
- Multi-layer capacitor furnaces
- Forming gas analysis

### Panel Mount Spec

- Measuring 300 X 4U (300 X 177mm)
- The panel mount plate is made from 3mm thick anodised aluminium
- Please note different sizes can be supplied to order

Technical Data: Analyser	
Voltage	90-260Vac, 50/60Hz
Analyser dimensions	250mm X 263mm X 150mm
Weight	4 kg
Display	16 x 2 character (9mm) back lit LCD
Warm up time	5 minutes at 20°C
Operating temperature	5°C to 35°C
Voltage outputs	0-10V linear, user-programmable
Current outputs	4-20mA linear, user-programmable
Digital outputs	RS232 (RS485 option available): data streamed on demand
Calibration	Requires two 2 user selectable gas mixtures
Sample pump	24Vdc diaphragm pump

Technical Data: Sensor & Pump	
Flow Rate	0 - 1.2 litres per minute (user selectable)
Noise level	44db (max) at 1 meter
Maximum inlet temperature	50°C
Life expectancy O <sub>2</sub>	Approximately 2 years
O <sub>2</sub> sensor range	0.1ppm to 10,000ppm O <sub>2</sub>
Response time O <sub>2</sub> (gas flow rate 1ltr.min <sup>-1</sup> )	< 180 s from 10,000 to 1000ppm < 10 min from 1000 to 10ppm < 5 h from 10ppm to < 1ppm
Accuracy O <sub>2</sub>	±1% of full scale
O <sub>2</sub> sensor stability	±2% of full scale per month
Sample connections	6mm ID / 4mm OD nipple type

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