



Rapidox 1100-ZR3-PFC Oxygen Analyser

The Rapidox1100-ZR3-PFC is a specialist three-channel oxygen gas analyser designed specifically for closed loop control of nitrogen flow in large solder reflow ovens. The analyser is fitted with a fast response zirconia oxygen sensor for measurements in the range 1ppm to 30% and three separate sample lines controlled automatically by a multiplexer.



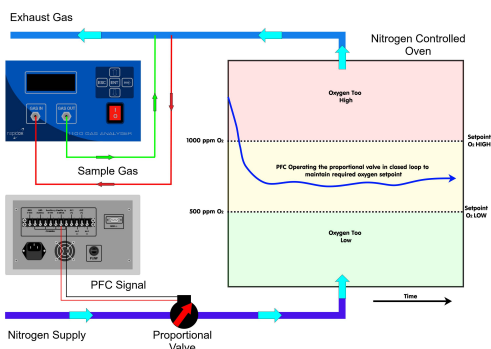
The inbuilt PFC (Proportional Flow Control) has been developed specifically to control the flow of inert nitrogen gas into the solder reflow oven very precisely. The analyser uses PID control theory to allow the readings from the Rapidox to make continuous adjustments to the valve to regulate the oxygen levels in the oven very precisely. The PID parameters are fully programmable to allow all types of oven sizes to be configured and controlled.

To prevent excessive wear on the valve, the unit controls the oxygen level within a user-settable minimum and maximum oxygen level (usually in the ppm range). The analyser provides a 4-20mA control signal to open and close the nitrogen feed to automatically maintain the desired oxygen level within this window.

As this is a multi-channel instrument it is possible to program the multiplex so channels 1 & 3 are spot measurement locations and channel 2 is the centre of the oven location which controls the PFC. This channel can be prioritised in a measurement sequence to allow accurate PID control of the nitrogen flow in the oven even, when making measurements in three separate locations for several minutes per channel

The Rapidox 1100-ZR3-PFC is the ultimate gas analyser designed to minimise the consumption of nitrogen gas which not only reduces the costs of gas consumed but also lowers energy costs associated with heating excess cold gas in the oven. Many of the major solder reflow oven manufacturers have integrated Rapidox into their oven systems and the product has a proven track record of more than ten years in this industry.

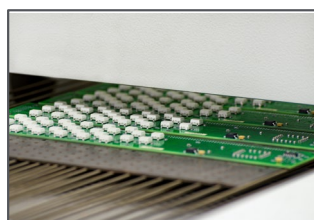
Please contact Cambridge Sensotec for further information or to discuss your requirements.



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

- Long life low maintenance zirconia sensor
- Specifically designed for Solder Reflow Applications
- Fully automatic control of nitrogen flowing into the oven
- Tuneable PID control theory for maintaining oxygen ppm levels
- Fully programmable PFC system of maximum control
- Reduces nitrogen gas consumption saving money
- Multiple, sequential analysis over three sample lines
- Reduces thermal loss and saves money on energy consumption
- Pump or ejector option
- Two programmable alarms
- Operates on worldwide mains voltage
- Password protection

Applications



Chemicals



Gas & Solder Reflow Ovens



Food



Medical



Glove Boxes



Manufacturing



Emissions



Inert Gas Blanketing



Research & Development

Accessories



1



2



3



4



5



6

1 Calibration Kit

2 Multiplex Sampling System

3 Gas Recovery Bag

4 Thermal Printer

5 Calibration Service

6 Gas Filters

Specification

O2 Sensor Range	1ppm-30%
O2 Sensor Accuracy & Response	±1% of the actual oxygen concentration, Approximately 4 sec for a 90% response
O2 Sensor Life Expectancy	> 17,500 hours
Ambient Operating Pressure	900-1100mbar absolute
Ambient Operating Temperature	5°C to 35°C
Max. Sample Gas Pressure	±1000mbar absolute
Max. Sample Gas Temperature	60°C
Warm-up Time	3-5 minutes as standard
Supply Voltage	90-260VAC, 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	Requires 2 or 3 user selectable gas compositions
Sample Connections	4mm ID / 6mm OD nipple typeRectus or SwagelockFront or rear positioning
Display	20 x 4 character OLED
Analyser Dimensions	Bench: 150mm(H) x 247mm(W) x 250mm(D)Panel: 300 x 4U (177mm(H) x 300mm(W))
Weight	4kg
Pump Option	Long Life Diaphragm pump. Variable speed 0-1.2 litres per min
Ejector Option	Vacuum ejector fitted, running off 2 bar inlet pressure
Alarms	Programmable PID closed loop control providing 4-20mA signal out