

Rapidox 1100Z

Zirconia oxygen analyser, 1 ppm to 30 %



RAPIDOX 1100Z

Continuous O₂ measurement for processes and atmospheres

amperis

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Cost-effective oxygen analysis for inert atmospheres and industrial processes.

Product overview



Front panel with OLED display, keypad and gas in/out connections



Rear panel: analogue outputs, alarm relays, serial port and pump

A cost-effective zirconia oxygen analyser

The Rapidox 1100Z measures oxygen with a zirconia sensor over the range 1 ppm to 30 % O₂, with ± 1 % accuracy of the actual concentration and a 90 % response in approximately 4 s. Zirconia cells provide fast, accurate analysis at low ppm levels and suit inert atmospheres and aggressive industrial applications; sensor life expectancy exceeds 17,500 h.

The instrument can be used on the bench or panel-mounted, with gas fittings positioned at the front or rear. Sampling is driven by a variable-speed diaphragm pump (0-1.2 L/min) or by an optional vacuum ejector running off the inlet pressure. Warm-up takes 1-2 minutes, and calibration admits up to five user-selectable gas compositions.

Two fully programmable alarm relays, 0-10 V and 4-20 mA outputs and RS232 communications (RS485 optional; Modbus RTU/Ethernet) integrate the analyser into the process. The instrument complies with EMC Directive 2004/108/EC and carries UL/ETL certification UL-61010-1.

Features and advantages

- Low-maintenance zirconia sensor with background calibration in nitrogen or argon.
- Internal pressure correction for fast, accurate results.
- Simple calibration procedure and long sensor life.
- Fully programmable digital and analogue outputs.
- Software with full instrument control, live graphing and Excel-compatible logging.
- Worldwide mains voltage (90-260 V AC).
- Front or rear gas fittings and bezel mounts.
- Pump or vacuum-ejector option; password protection.

Variants for multiplexed sampling and closed-loop atmosphere control.

Variants, applications and accessories

Variants

The ZR3 three-channel multiplex version samples three gas streams from separate points, analysed in sequence or at intervals set from the keypad or software.

The PFC closed-loop version supplies a 4-20 mA PID signal to a proportional flow-control valve, and the RSO version drives a solenoid through a remote 24 V output. Both regulate the gas feed from the oxygen reading, which is of particular use in inert-gas blanketing.

Applications

- Inert-gas blanketing and glove boxes.
- Metal heat treatment, PCB production and manufacturing.
- Combustion, emissions and chemical processes.
- Food, medical and research applications.

Accessories

- Calibration kit and calibration service.
- Thermal printer.
- Multiplex sampling system.
- Gas recovery bag.
- Gas filters.



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TECHNICAL SPECIFICATION

O₂ sensor range	1 ppm to 30 % (zirconia)
Accuracy and response	±1 % of the actual concentration; approx. 4 s for a 90 % response
Sensor life expectancy	> 17,500 h
Ambient operating pressure	900-1,100 mbar (absolute)
Ambient operating temperature	5 °C to 35 °C
Max. sample gas pressure	±1,000 mbar
Max. sample gas temperature	60 °C
Warm-up time	1-2 min
Supply voltage	90-260 V AC, 50/60 Hz
Voltage outputs	0-10 V, user-programmable
Current outputs	4-20 mA linear, user-programmable
Digital outputs	RS232 (RS485 optional), Modbus RTU/Ethernet, data on demand
Calibration	Up to 5 user-selectable gas compositions
Sample connections	4 mm ID / 6 mm OD nipple type, Rectus or Swagelok, front or rear
Display	20 × 4 character OLED
Analyser dimensions	Bench: 150 mm (H) × 253 mm (W) × 272 mm (D); panel: 177 mm (H) × 300 mm (W)
Weight	3.5 kg (4 kg with bezel)
Pump / ejector	Diaphragm pump, variable 0-1.2 L/min; or vacuum ejector from inlet pressure
Alarms	2 user-programmable relay circuits



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