

Rapidox 2100

Rapidox gas analysis range



In-process O₂ and temperature measurement in environments up to 650 °C

RAPIDOX 2100

Zirconia oxygen analyser with remote sensor

amperis

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Trace-level oxygen analysis with the sensor placed directly in the process, up to 25 m away.

Product overview



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

A sensor made for harsh processes

The analyser works with a rugged, long-life zirconia sensor on a remote cable, paired with a type K thermocouple, so oxygen and temperature are measured directly in the sample gas. Analysis is fast and accurate down to the low ppm range in environments up to 650 °C.

Zirconia technology suits inert atmospheres in aggressive industrial processes, including high-temperature locations and vacuum. Where it is unsuitable — high oxygen levels or samples with VOC, flammable gases, CO, H₂ or He — an electrochemical sensor is fitted instead, with ranges of 1 ppm to 1 % or up to 100 % O₂.

Main features

- Remote sensor manifold, up to 25 m with optional extension cables.
- Two fully programmable high/low alarm relays.
- Programmable analogue outputs and digital communications.
- Windows software with live graphing and Excel-compatible data logging.
- Operates on any worldwide mains voltage (90-260 V AC); password protection.
- Panel-mount, wall-mount IP65 or OEM configurations.



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Configuration, applications and accessories

Multiple measurements in one instrument

Besides the standard type K thermocouple, optional auxiliary pressure, vacuum and dewpoint sensors can be connected, and a printer can be attached via the serial port for permanent records. For integration into a product or process the analyser is available as an OEM solution; it complies with EMC Directive 2004/108/EC and carries UL/ETL certification UL-61010-1.

Applications

- Additive manufacturing and metal heat treatment.
- Combustion and chemical processes.
- Glove boxes and controlled atmospheres.
- Manufacturing and gas quality control.
- Research and development.

Accessories

- Calibration kit and calibration service.
- Multiplex sampling system and sample pump.
- Gas recovery bag, fittings and filters.
- Wall-mount cabinet, stainless probe, vacuum fittings and thermal printer.



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RAPIDOX 2100 – TECHNICAL SPECIFICATIONS

O₂ sensor range	10E-20 ppm to 30 % (zirconia) or 0-100 % (electrochemical)
Oxygen sensor cable	2 m high-temperature sheathed, shielded, quick-release; extensions up to 25 m
Sample gas flow	0.1-4 l/min (1 l/min recommended); static gas and vacuum also allowed
Thermocouple (included)	Type K, 0-1250 °C, ±1 °C
Optional pressure sensor	-1 to 0 bar vacuum; 0-5 and 0-10 bar gauge, on 2 m cable
Optional H₂O sensor	-100 °C to +20 °C dp, on 2 m cable with sample chamber
Supply voltage	90-260 V AC, 50/60 Hz; max. consumption 30 W
Display	20 × 4 character OLED
Warm-up time	60 s at 20 °C
Operating conditions	5 °C to 35 °C; 900-1100 mbar absolute
Voltage outputs	0-5 V, user-configurable (min. 5 kΩ)
Current outputs	4-20 mA loop, user-configurable (max. 500 Ω)
Digital outputs	RS232 (RS485 optional), data on demand; Modbus RTU/Ethernet
Alarms	High and low, fully programmable relay circuits
Sample connections	4 mm ID / 6 mm OD nipple to metal manifold; Rectus or Swagelok; front or rear
Calibration	Up to five user-selectable gas compositions (air as default)
Dimensions and weight	250 × 263 × 150 mm (panel mount 300 mm × 4U); 3.5 kg with sensor
Compliance	EMC Directive 2004/108/EC; UL/ETL certificate UL-61010-1



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