Continuous multigas analysis for process industry

Rapidox 7100

Rapidox gas analysis range

RAPIDOX 7100

Multigas analyser, 19-inch rack or benchtop

amperis

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Up to seven gases measured simultaneously, in rack-mount or benchtop format.

Product overview

Benchtop version of the analyser

Multigas measurement without cross-interference

Up to seven high-precision sensors work simultaneously, each calibrated to avoid cross-interference with the background process gas; flashback arrestors are fitted in the measuring circuit where required.

Configurable gases include O_2, CO, CO_2, O_3, moisture (H_2O), H_2, H_2S, NO, NO_2, N_2O, SO_2, Cl_2, CH_4, C_2H_4 and SF_6, among others.

Calorific value and continuous logging

For energy-containing gases such as biogas or syngas, the calorific value is calculated thermodynamically and shown with the readings. All data is logged continuously: 4 GB of internal storage cover about one year of monitoring, with Excel-compatible download via USB stick.

Main features

- Modular design with a sensor combination built to order.
- 19-inch rack-mount enclosure or benchtop version.
- 7-inch full-colour touchscreen with soft menu keys.
- Programmable alarm relays and analogue outputs (0-10 V and 4-20 mA).
- RS232/RS485 communications with Modbus RTU/Ethernet.
- Operates on any worldwide mains voltage (90-260 V AC); multi-language interface and password protection.

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Operation, applications and accessories

Two sampling modes

An optional pump (0-1 l/min, user-selectable) draws the sample when the source is at atmospheric pressure or below. From pressurised sources the pump is switched off and the gas flows through the analyser; flow is set by a rotary knob and displayed on screen.

Applications

- Biogas, syngas and hydrogen production analysis.
- Glove boxes and inert-gas blanketing.
- Metal heat treatment.
- Medical and food-industry gas analysis.
- Chemical plants and manufacturing.
- Combustion processes and research.

Accessories

- Calibration kit and calibration service.
- Multiplex sampling system.
- Gas recovery bag and gas filters.
- Thermal printer and RS232-USB converter.

Servicing

Periodic zero and span calibration keeps measurements reliable and repeatable; a full service through automated calibration stations is available.

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RAPIDOX 7100 — TECHNICAL SPECIFICATIONS

Ambient operating temperature	−10 °C to 40 °C
Warm-up time	3-4 min at 20 °C
Measurement time	Approx. 2-4 min, depending on sensor configuration
Supply voltage	90-260 V AC, 50/60 Hz
Sample connections	Rectus 4 mm ID / 6 mm OD or Swagelok fittings, rear-mounted
Maximum inlet conditions	50 °C; 10 bar gauge
Sample pump	0-1 l/min, user-selectable
Voltage outputs	0-10 V linear, user-programmable
Current outputs	4-20 mA linear, user-programmable
Digital outputs	RS232 (RS485 optional), data on demand; Modbus RTU/Ethernet
Alarms	User-programmable relay circuits
Data output	Excel-compatible data via USB memory stick
Data storage	4 GB internal, approx. one year of continuous monitoring
Sampling	Fixed or continuous modes
Calibration	Zero and span with two user-selectable gases
Display	7-inch (180 mm) colour LCD touchscreen; resolution 0.01 ppm / 0.01 %
Dimensions	Rack: 132 × 482 × 365 mm — Benchtop: 180 × 570 × 345 mm (H×W×D)
Weight	6.5 kg

Sensor matrix: O_2 (zirconia and electrochemical), CO_2, CH_4, H_2O, CO, Cl_2, NO, NO_2, N_2O, C_2H_4, O_3, H_2S, He/H_2, NH_3, SO_2, SF_6 and type-K thermocouple; ranges from 0-10 ppm up to 0-100 %.
Not every sensor combination is possible owing to interference and cross-sensitivity effects.

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