7100 Multigas Analyser

The Rapidox 7100 Multigas Analyser is a high specification instrument designed for the analysis, control and monitoring of process gas in a wide range of industries.

Up to six gases are simultaneously measured using a range of high precision gas sensors; each sensor is specifically designed and calibrated to avoid any cross-interference effects with the background process gas. Measurable gases include oxygen (O_2), carbon monoxide (CO), carbon dioxide (CO_2), ozone (O_3), moisture (H_2O), hydrogen (H_2), hydrogen sulphide (H_2S), nitric oxide (NO), nitrogen dioxide (NO_2), nitrous oxide (N_2O), sulphur dioxide (SO_2), chlorine (Cl_2), methane (CH_4) and ethylene (C_2H_4). A fully automatic calibration option is available on certain models which allows the user to leave zero and calibration test gas bottles permanently attached to the unit, with a timed sequence then applying test gas and adjusting readings automatically.

When configured for applications where the gases contain energy (e.g. Biogas, Syngas) the calorific value of the gas sample is determined using thermodynamic calculations and simultaneously logged and displayed on-screen. Data is downloadable via USB memory stick, and 4GB of internal data storage allowance allows for approximately one year of continuous monitoring.

An optional pump enables two modes of operation. For samples that are taken from a gas source at atmospheric pressure or below, the pump is activated to draw a sample through the analyser. Alternatively, the pump can be deactivated when sampling from a source at a greater atmospheric pressure, allowing the gas to flow through the analyser. Gas flow is regulated manually via a rotary knob on the fascia and displayed electronically on the screen.

Available in both a 19" rack mountable case or a benchtop version.

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

Though highly configurable to suit individual customer requirements, the Rapidox 7100 range possesses a number of standard features to enhance functionality.

- Bespoke sensor combination
- 7" full-colour touchscreen
- 19" rack mountable enclosure
- Continuous data logging downloaded via USB

- Multi-language
- Two programmable alarms
- Worldwide mains voltage
- Password protection
- Automatic calibration option

Applications

	Biogas		Gas		Medical
	Chemicals		Glove Boxes		Metal Heat Treatment
	Combustion	O_2	Inert Gas Blanketing		Research & Development
	Emissions		Manufacturing		Syngas

Accessories

1	Calibration Kit
2	Multiplex Sampling System
3	Gas Recovery Bag
4	Thermal Printer
5	Calibration Service
6	Gas Filters

Specification

Supply Voltage	90-260 VAC, 50/60Hz
Analyser Dimensions	Rack Mount: 132mm(H) x 482mm(W) x 365mm(D) Benchtop: 180mm (H) x 570mm (W) x 345mm (D)
Weight	Rack Mount: 6.5kg Benchtop: 6.5kg
Warm-up Time	3-4 minutes at 20°C
Normal Operating Conditions	Temperature 0°C to 40°C Humidity 10 - 90% RH Pressure 900 to 1100 mbar absolute.
Display	7" (180mm) full-colour LCD with touchscreen operation; resolution 0.01ppm or 0.01%
Sample Connections	6mm OD or 1/4" Swagelok fittings. Rear positioning
Voltage Outputs	0-10V, user programmable
Current Outputs	4-20mA linear, user programmable
Digital Outputs	RS232 (RS485 option available) Data streamed on demand. Modbus RTU/Ethernet
Data Output	Excel compatible data via USB memory stick
Alarms	Relay circuits, user programmable
Sampling	Fixed or continuous sampling modes
Auto-Calibration	Calibration by the user using zero and span gases Optional Auto-Cal system can be installed on certain models

For detailed specs on individual sensor performance, please contact us.

Rapidox 7100 Sensor Matrix

Gas	O₂	O₂	O₂	CO₂	CH₄	CH₄	H₂O	CO	CO	CO (H₂ resist)	Cl₂	NO	NO₂	C₂H₄	N₂O	O₃	H₂S	He/H₂	NH₃	SO₂	SO₂	TC	SF₆
Sensor Type	Zr	EC-E	EC-L	IR	IR	TLD	CAP	IR	EC	EC	EC	EC	EC	IR	IR	EC	EC	TCD	EC	EC	IR	Type K	IR
Life Span (mth)	24	60	18	>60	>60	>60	>36	>60	24	24	12	12	12	>60	>60	12	24	>60	24	24	>60	>36	>60
Cal. (mth)	12	12	6	12	12	12	12	12	12	12	6	6	6	12	12	6	12	12	12	12	12	N/A	12
0 - 100%		■		■	■	■		■							■			■					■
0 - 80%																							
0 - 60%																							
0 - 50%																							
0 - 30%	■	■			■			■															
0 - 20%				■	■			■															
0 - 10%				■	■			■										■					
0 - 5%				■	■			■															
0 - 3%				■																			
0 - 2%																							
0 - 1%			■	■				■	■						■		■						
0 - 5,000ppm				■					■			■							■				
0 - 3,000ppm				■																			
0 - 2,500ppm				■								■			■								
0 - 2,000ppm				■				■	■	■					■		■				■		■
0 - 1,000ppm									■	■							■		■				
0 - 500ppm									■			■	■							■			
0 - 250ppm																	■						
0 - 200ppm													■										
0 - 100ppm																			■	■			
0 - 60ppm											■												
0 - 50ppm											■												■
0 - 20ppm													■			■							
0 - 10ppm																■							
-65ºC to +20ºC							■																
-100ºC to +20ºC							■																
0 - 1250ºC																						■	

Note: Not all sensor combinations are possible due to interference and cross-sensitivity effects. Please contact Cambridge Sensotec for advice.

Key: Zr = Zirconia Sensor   EC-E = Electrochemical % Sensor   EC-L = Electrochemical Sensor Low Range   TLD = Tunable Laser Diode   EC = Electrochemical Sensor
TCD = Thermoconductivity   Type K = Thermocouple   CAP = Capacitance Sensor   IR = Infra-Red Sensor