

# GA2000

## Technical Specification

### POWER SUPPLY

<b>Battery type</b>	Rechargeable Nickel Metal Hydride battery pack containing six 4AH cells (not user replaceable)
<b>Battery life</b>	Typical use 10 hours from fully charged
<b>Battery lifetime</b>	Up to 1000 charge/discharge cycles
<b>Battery charger</b>	Separate intelligent 2A battery charger powered from mains supply (100-240V 47-63Hz)
<b>Charge time</b>	Approximately 2 hours from complete discharge
<b>Alternative power</b>	Can be powered externally for fixed in place applications. Contact Geotechnical Instruments (UK) Ltd for further information
<b>Memory backup battery</b>	Lithium Manganese for data retention.

### GAS RANGES

Gases measured	CO2 and CH4	By dual wavelength infrared cell with reference channel			
	O2	By internal electrochemical cell			
	CO	By internal electrochemical cell			
	H2S 0-500ppm	By internal electrochemical cell			
Range	CH4	0 -70% to specification, 0-100% reading			
	CO2	0 -60% to specification, 0-100% reading			
	O2	0 -25%			
	CO	0 -500ppm			
	H2S	0 -500ppm internal			
Typical accuracy	Gas	0-5% vol	5-15% vol	15%-FS	FS
	CH4	±0.5% (vol)	±1.0% (vol)	±3.0% (vol)	70%
	CO2	±0.5% (vol)	±1.0% (vol)	±3.0% (vol)	60%
	O2	±1.0% (vol)	±1.0% (vol)	±1.0% (vol)	25%
	Gas	Range	0-FS		
	CO	0 -500ppm	±10.0% FS		
	H2S	0 -500ppm	±10.0% FS		
Response time, T90	CH4	≤20 seconds			
	CO2	≤20 seconds			
	O2	≤20 seconds			
	CO	≤60 seconds			
	H2S	≤60 seconds			
Oxygen cell lifetime	Approximately 3 years in air				
Other Electrochemical cells lifetime	Approximately 2 years in air				

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FACILITIES	
Temperature measurement	-10°C to +75 °C with optional probe
Temperature accuracy	± 1.0 °C with optional probe
Flow from borehole	0 -20 L/Hr Internal measurement (option)
Flow from borehole accuracy	± 0.3 L/hr
Visual and audible alarm	User selectable CO <sub>2</sub> , CH <sub>4</sub> and O <sub>2</sub> alarm levels*
Communications	Via USB lead to 7 pin Lemo connector*
Relative pressure	± 500 mbar from calibration pressure
Relative pressure accuracy	± 4mbar typically (should be zeroed before reading) to ± 15mbar max
Available Memory	1000 IDs* 2000 Readings 1000 Events*

PUMP	
Flow	350 to 400 ml/min typical flow rate in free air
Flow fail point	50 ml/min approximately – user settable*

ENVIRONMENTAL CONDITIONS	
Operating temperature range	0°C – 40 °C
Relative humidity	0 – 95% non condensing
Case seal	IP65
Barometric pressure	± 200mbar from calibration pressure
Barometric pressure accuracy	± 5mbar typically

PHYSICAL	
Weight	2 Kilograms
Size	L 63mm, W 190mm, D 252mm
Case material	ABS
Keys	Membrane panel
Display	Liquid crystal display, 40 x 16 characters Fibre optic woven back-light for low light conditions
Gas sample filters	User replaceable integral fibre filter at inlet port and an external PTFE water trap filter

CERTIFICATION RATING	
ATEX	 II 2G EEx ib d IIA T1 (Ta = 0°C to +40°C)

\*- Gas Analyser Manager software required

### Important Note

This specification is for GA2000 units Serial Numbers 10,000 and above.

The information in this document is correct at the time of generation, we do however, reserve the right to change the specification without prior notice as a result of continuing development.

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