GA2000 PLUS
PORTABLE GAS ANALYSER



Landfill
Gas Extraction
Site Investigation
Landfill Fires

H_2 Compensated CO Landfill Gas Analyser

The GA2000 Plus utilises new technology to give more reliable readings for Carbon Monoxide (CO), helping determine the presence of fires on Landfill. It incorporates the existing technology and features of the industry standard GA2000.

Benefits

- Easy to read
- Simple download
- Aids compliance
- Simultaneous display of all gases
- Field proven
- Standardises monitoring routines
- Easy transfer of data

Features

- ATEX Certified , Zone 1
- MCERTS approved
- 5 gases - CH_4 , CO_2 , O_2,H_2S, & CO
- H_2 compensated CO
- Peak CH_4/CO_2 & min O_2
- Storage of site and ID questions
- Memory of 1800 readings and 1000 IDs
- Optional Internal low Flow
- Optional Event Log with Technician log
- Optional GPS

Applications

- Landfill Sites
- Biogas
- Site Investigation
- Gas Extraction

GA2000 Plus

POWER SUPPLY

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

GAS RANGES

Gases measured	CO_2 and CH_4	By dual wavelength infrared cell with reference channel
	O_2	By internal electrochemical cell
	CO (hydrogen compensated)	By internal electrochemical cell
	H_2S 0-500 ppm	By internal electrochemical cell
	H_2S 0-5000 ppm	By external gas pod (option)
	NH_3 0-1000 ppm	Application specific - please contact Sales for details
	H_2 0-1000 ppm	By internal electrochemical cell (non-standard option)
	A full range of gas pods can be used as well as the two internal cell options	
Range	CH_4	0-70% to specification, 0-100% reading
	CO_2	0-60% to specification, 0-100% reading
	O_2	0-25%
	CO	0-2000 ppm
	H_2S	0-500 ppm internal or 0-5000 ppm external pod

Typical accuracy - (with certified field calibration)	**Gas**	**0-5%**	**5-15%**	**15%-FS**	**FS**
	CH_4	± 0.5% (vol)	± 1.0% (vol)	± 3.0% (vol)	70%
	CO_2	± 0.5% (vol)	± 1.0% (vol)	± 3.0% (vol)	60%
	O_2	± 1.0% (vol)	± 1.0% (vol)	± 1.0% (vol)	25%

	Gas	**Range**	**0-FS**
	CO	0-2000 ppm	± 10.0% of reading or 15 ppm, whichever is greater
	H_2S	0-500 ppm	± 10.0% FS

Recommended field calibration mix: 60% CH_4, 40% CO_2, or 5% CH_4, 5% CO_2, 6% O_2 (dependant on application)

Response time, T^{90}	CH_4	≤ 20 seconds
	CO_2	≤ 20 seconds
	O_2	≤ 20 seconds
	CO	≤ 60 seconds
	H_2S	≤ 60 seconds
CO measurement	Compensated for interference from hydrogen up to 1% hydrogen. Cross sensitivity approximately 1%.	
Oxygen cell lifetime	Approximately 3 years in air	
Other Electrochemical cells lifetime	Approximately 2 years in air	

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GA2000 Plus, cont'd.

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
Flow from borehole accuracy	± 0.3 L/hr
Visual and audible alarm	User selectable CO_2, CH_4, and O_2 alarm levels*
Communications	Via USB lead to 7 pin Lemo connector*
Relative pressure	± 500 mbar from calibration pressure
Relative pressure accuracy	± 4 mbar typically (should be zeroed before reading) to ± 15 mbar max
Available memory	1000 IDs* 1800 Readings 1000 Events*
PUMP	
Flow	550 ml/min typically
Flow fail point	-200 mbar Vacuum *
Maximum vacuum restart	-375 mbar approximately with flow rate of approx 80ml/min
ENVIRONMENTAL CONDITIONS	
Operating temperature range	0°C-40°C
Relative humidity	0-95% non condensing
Case seal	IP65
Barometric pressure	± 200 mbar from calibration pressure
Barometric pressure accuracy	± 5 mbar typically
PHYSICAL	
Weight	2 kilograms
Size	L 252 mm, w 190 mm, D 63 mm
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	Ex II 2G Ex ib d IIA T1 Gb (Ta = 0°C to +40°C)
MCerts	Sira MC 080126/00 Compatible to instrument serial number 10,000 and above
ISO17025	Optional calibration to UKAS certificate number 4533

* Gas Analyser Manager software required

Important Note This specification is for GA2000 Plus units Serial Numbers 10,000 and above marked with modification D. 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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