

ADVANCED INFRARED MULTI-GAS ANALYZER

MGA 3000

FEATURES

- Single or multiple gas analyzers – Up to four gases at once
- Option to upgrade at later date protects initial investment
- Several different, field proven technologies utilized
- Fully supported from a single reliable source
- For use in hostile or friendly environments
- Robust, attractive, compact 3U rack mount enclosure
- Optional bench case available for non-rack mount
- Best price performance on the market
- Designed with user requirements in mind



The MGA 3000 Multi-Gas Analyser has been specifically designed to meet the needs of organizations requiring cost effective and reliable single *or* multiple gas analysis solutions. The four technologies employed are all tried and tested to ensure the user experiences maximum reliability and accuracy.

Up to four gases can be analyzed at any time. For those organizations requiring single gas analysis, but would like the option to upgrade at a later date, the MGA 3000 is an ideal solution to protect your initial investment.

Designed for use in hostile or friendly environments the MGA 3000 maintains high levels of gas selectivity wherever installed. All packed into a robust, attractive, compact 3U-rack mount enclosure to utilize minimal space. An optional bench case is available for non-rack mount installations.



CEA Instruments, Inc.

"EXPERTS IN TOXIC GAS DETECTION"

MGA 3000 SPECIFICATIONS

Technology Combinations Utilized in the MGA 3000

Criteria	Correlation Filter Technology	Single Beam Technology	Electrochemical Cell Technology	Paramagnetic Cell Technology
Gases Measured: (lowest detectable limits)	Acetylene C ₂ H ₂ to 0.5 ppm Carbon Monoxide CO to 0.1 ppm Hydrogen Chloride HCl to 5.0 ppm Methane CH ₄ to 0.5 ppm Nitric Oxide NO to 2.0 ppm Nitrous Oxide N ₂ O to 0.1 ppm	Methane CH ₄ to 0.01% Butane C ₄ H ₁₀ to 0.005% Carbon Dioxide CO ₂ to 0.001% Carbon Monoxide CO to 0.02% Nitrous Oxide N ₂ O to 10 ppm	Oxygen O ₂ to 0.1% Hydrogen Sulfide H ₂ S to 1 ppm Nitrogen Dioxide NO ₂ to 1 ppm	Oxygen O ₂ to 0.1%
Measurement Technique:	Non dispersive infrared absorption with solid state detector	Non dispersive infrared absorption with solid state detector	Electrochemical Cell	Paramagnetic Cell
Measurement Range:	Up to 100% for gases and saturation concentration for vapors	Up to 100% for gases and saturation concentration for vapors	0 to 25% O ₂ 0 to 50 ppm others	0 to 25%
Resolution:	Display: 0.1% fsd Output: ≥0.1% fsd	Display: 0.1% fsd Output: ≥0.5% fsd	Display: 0.1% Output: ≥0.025% fsd	Display: 0.01% O ₂ Output: ≥0.025% fsd
Detection Limit	0.1% fsd	1.0% fsd	-	-
Intrinsic Accuracy:	≤ 1.0% of reading	≤ 1% fsd	≤ 0.1%	≤ 0.1% O ₂
Noise:	≤0.1% fsd	≤0.5% fsd	≤0.1%	≤0.1% O ₂
Zero Stability:	≤1% fsd over a week	≤2% fsd over a week	-	-
Span Stability:	≤0.5% fsd over a week	≤0.5% fsd over a week	-	≤0.1% fsd over 6 months
Temperature Effect on Zero:	± 0.1% fsd per °C	± 0.25% fsd per °C	± 0.1% fsd per °C	± 0.1% fsd per °C
Temperature Effect on Span:	± 0.2% fsd per °C	± 0.25% fsd per °C	± 0.1% fsd per °C	± 0.1% fsd per °C
Cell Response:	Typically less than 30 secs	Typically less than 30 secs	Typically less than 30 secs	Typically less than 30 secs
Flow Rate:	Typically 0.2 to 1 liter/minute	Typically 0.2 to 1 liter/minute	Typically 0.2 to 1 liter/minute	10ml/min to 100ml/min
Flow Meter:	0.2 to 2 ml/minute			
Sample Pump:	1 liter/minute			
Electrical Connections:	Single 8 Pin DIN for all Analogue outputs. 9 way D type plug for RS232C link. XX Connector for all other Terminals.			
Gas Connections:	M6 Compression Fitting rear panel entries.			
Installation:	19" Rack Mounting. 3U High.			
Case Material:	Aluminum			
Operating Conditions:	0 to 40 °C Ambient Temperature. 0 to 95% Relative Humidity.			
Gas Conditions:	0 to 50 °C Non Condensing at Analyser entry.			
Power Requirements:	Nominal 110V / 220V / 230V User Selectable. Frequency Independent. 120VA maximum. 3 Pin IEC Connector supplied.			
Dimensions: (overall) H x W x D:	13.3 cm x 48.3 cm x 50.0 cm - 19" Rack			
Weight:	From 10 Kg to 23 Kg dependent upon configuration From 12 Kg to 25 Kg dependent upon configuration (Packed for Export)			

(Specifications subject to change without notice.)



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MGA 3000 PRICE GUIDE

GAS NAME	Symbol	MINIMUM RANGES AVAILABLE		
		GC Gas Correlation Technology	EPL Extended Path Length Technology	SB Single Beam Technology
Carbon Dioxide	CO ₂	50ppm	10ppm	0.1%
Carbon Monoxide	CO	100ppm	30ppm	2.0%
Sulphur Dioxide	SO ₂	200ppm	-	1.0%
Sulphur Hexafluoride	SF ₆	-	-	0.2%
Nitric Oxide	NO	200ppm	-	-
Nitrous Oxide	N ₂ O	300ppm	30ppm	0.1%
Ammonia	NH ₃	-	-	2.0%
Methane	CH ₄	300ppm	50ppm	2.0%
Ethane	C ₂ H ₆	500ppm	-	1.0%
Propane	C ₃ H ₈	500ppm	-	1.0%
Butane	C ₄ H ₁₀	500ppm	-	0.5%
Pentane	C ₅ H ₁₂	500ppm	-	0.5%
Hexane	C ₆ H ₁₄	500ppm	-	0.5%
Heptane	C ₇ H ₁₆	500ppm	-	2.0%
Benzene	C ₆ H ₆	5000ppm	-	1.0%
Toluene	C ₆ H ₅ CH ₃	-	-	1.0%
Acetone	C ₂ H ₅ O	500ppm	-	2.0%
Hydrogen Chloride	HCL	500ppm	-	-

Prices below should be considered as 'typical' and only be used for budgeting purposes.

System requirements vary depending on application, gases, parameters, and conditions.

First you would choose one of several MGA3000 platforms types available.

MGA100	Complete 19" chassis including electronics, piping and power supply	\$ 6,495.00
MGA150	Same as MGA100 but in a complete wall mount IP54 enclosure	\$ 6,895.00
MGA102	Same as MGA100 but in bench case (3U)	\$ 7,895.00

Second you would choose one to four of several gas channels available

MGA300	SB Single gas, Single Beam IR optical channel	\$ 1,895.00
MGA200	GC Single gas, Gas Correlation IR optical channel (Except HCl & SO ₂)	\$ 6,495.00
MGA-EPL	EPL Extended Path Length added to a MGA200 GC optical channel	\$ 2,495.00
MGA210	GC Single gas, Gas Correlation IR optical channel for HCl and SO ₂	\$ 9,995.00
MGA-PM	Oxygen Paramagnetic Cell, 0-10% (lowest range)	\$ 8,895.00
MGA-EC	Oxygen Electrochemical Cell, 0-25%	\$ 895.00
MGA-ECP	Oxygen Electrochemical PPM Cell, 0-100 ppm	\$ 5,695.00
MGA-ZR	Oxygen Zirconia Cell, 0-100 ppm up to 0-20%	\$ 7,895.00
MGA-TE	Toxic Electrochemical Cell (Inquire - several available gases & ranges)	\$ 1,695.00
MGA-H2O	Ceramic Moisture Sensor, 0-50 ppm	\$ 7,895.00
MGA-TC	Thermal Conductivity Cell for Binary Mixtures including Hydrogen	\$ 6,095.00
MGA-PD	PID VOC Sensor (0-2000 ppm)	\$ 3,695.00

Third you would choose any options such as sample pump or software

674-706	Standard MGA Sample Pump	\$ 495.00
672-302	High Performance Pump for multipoint systems type D5	\$ 695.00
MGA-DLS	Data Logging & Remote Control MGA3000 Windows PC Software	\$ 1,995.00

Offers direct control of units with all functions available including range and Sample line switching, zero/span, & logging to CSV files for data handling