

GOW-MAC[®]
INSTRUMENT CO.

Series 2400 Total Hydrocarbon Analyzer

Operates on 100% H₂, 40/60% H₂/N₂ or
H₂/He Fuel Mixes

Methanizer to measure CO and CO₂

Consistent, Precise, Flexible, Compact

19" Rack Mount or Bench Top



The GOW-MAC Series 2400 microprocessor-controlled total hydrocarbon analyzer is designed to continuously measure concentrations of hydrocarbons and, utilizing an optional catalytic methanizer, CO and CO₂ in gas streams.

Principal of Operation

The flame ionization detector (FID) operates on the principle that the electrical conductivity of a gas is directly proportional to the concentration of charged particles within the gas. Ionized carbon atoms are produced when burned in a hydrogen flame. Positive ions, negative ions and electrons present between an electrode gap decrease the gap resistance and cause an electrical current to flow across the gap.¹ The resulting voltage decrease is detected and then reported as a concentration.

Applications

The instrument provides long term stability and accurate performance in a multitude of gas manufacturing facilities and laboratory applications, such as:

- Gas purity certification
- UHP inert gas contaminant analysis
- Carbon bed breakthrough detection
- HC monitoring in CO₂ feed streams in the food/beverage industry
- Process monitoring
- Monitoring ambient air and other gases
- Monitoring of HC emissions
- R&D laboratory applications

Features

- Flame Ionization Detector (FID)
- Methanizer to measure CO and CO₂
- High resolution graphical LCD touchscreen
- Flameout indicator / Auto shutoff for gases
- Auto ranging from 0.00 ppm to 10,000 ppm
- Auto zero and calibration
- Programmable relays for concentration alarms
- Electronic flow control of air, fuel, and sample gas
- Real-time data logging by USB and serial port
- Outputs: Analog (standard): 4-20 mA, VDC [0-5 V] or Digital (optional): RS-232

The Series 2400 analyzer incorporates a flow system that can be used for ambient air analysis where low levels of hydrocarbons are monitored on a continuous basis. Samples can be introduced by pressurized tanks or gas lines.

Flow Control

Electronic pressure controllers (EPCs) are used to deliver regulated streams of air, fuel and sample to the FID.

SB-2400

¹ McNair, H.M.; Bonelli, E.J. Basic Gas Chromatography; Varian; Berkeley, CA 1968.

Specifications

Detector:	Flame Ionization (FID)
Sensitivity:	0.05 ppm (CH ₄)
Fuel Gas Requirements:	Zero Grade H ₂ : 5-100 cc/min clean, zero grade H ₂ (THC ≤ 0.2 ppm) @ 20 psig Fuel Mix: 5-100 cc/min 40/60% fuel mix (THC ≤ 0.5 ppm) @ 20 psig*
Sample Gas Requirements:	Minimum of 2 psig with a minimum flow rate of 5-70 cc/min
Flame Air Requirements:	Minimum of 25 psig with a minimum flow rate of 10-350 cc/min zero air (THC ≤ 1.0 ppm)
Operating Temperature:	15 °C to 35 °C (59 °F to 95 °F) [best performance @ stable temperature]
User Interface	4" W x 2.4 H" graphical resistive touchscreen LCD display (4.7" diagonal)
Flow Control:	Electronic pressure control (EPC) of fuel, air, and sample
Operation:	Automatic zero at user-defined intervals
Ranges:	4 Ranges: (0-10, 0-100, 0-1,000, 0-10,000) or Autorange
Inputs:	Span (calibration)
Outputs:	Analog: 4-20 mA, VDC [0-5 V] (standard) Digital: USB and Serial (Data Logging)
Relays:	Programmable relays for two (2) high/low concentration alarms [2 1A alarm relays and 1 ready relay]
Safety:	Flame-out Circuit with automatic shut-off of fuel
Response Time:	<5 seconds to 90% of final reading
Drift:	< 1% full scale drift over 24 hours
Reproducibility:	± 1% full scale for successive samples
Mounting:	3U case, 19" rack mount or bench top
Connections:	1/8" tube fitting connectors
Power:	Series 2400, -CM: 100 W @ 115 V, 60 Hz, 1.0 amps Series 2402, -CM: 100 W @ 230 V, 50 Hz, 0.5 amps
Dimensions:	19.00" W x 5.25" H x 20.50" D (48.3 cm x 13.3 cm x 52.1 cm)
Weight (typical):	Net: 35lbs. (15.9 kg)

*Note: There is a decrease in sensitivity when using a fuel mix other than zero grade H₂. Fuel mix required for oxygen matrix.

Specifications and features will vary depending upon system configuration and are subject to change without notice. The above specifications are established during design, but are not to be construed as test criteria for every product.

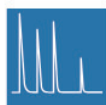
Ordering Information

115 V 230 V

Model Model

2400 2402 Total Hydrocarbon Gas Analyzer, standard

2400-CM 2402-CM Total Hydrocarbon Gas Analyzer with catalytic methanizer



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Analytical instruments since 1935



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SB-2400 0921

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Printed in the U.S.A.