

MultiGas™ TFS™ Gas Monitor

Multi-Component Online Gas Analyzer



MKS MultiGas™ TFS™ Gas Monitor is an online, multi-compound, trace gas monitoring system in a stand-alone 19-inch rack enclosure. It uses an innovative tunable filter spectroscopy technology enabling high selectivity and stability measurement. Low detection limit (sub-ppm levels for most gases) is achieved through the use of high throughput optics coupled with a long-path gas cell and a high sensitivity detector.

The all-optical MultiGas TFS Gas Monitor provides an alternative to the traditional analyzer technologies for trace hydrocarbon, moisture, CO, CO₂ and N₂O measurements, enabling low cost yet high performance analysis.

The analyzer is permanently calibrated, reducing the need for costly reference gas mixtures. The calibration stability is guaranteed through the use of "feature based" measurement and an advanced spectral processing algorithm that compensates for baseline variations.



Product Features

- A single analyzer measuring multiple compounds
- High analytical performance – low detection limits, high stability, linearity over wide ranges
- Complete, integration-ready system reduces complexity and ensures fast install time
- Permanent calibration reduces the need for costly calibration gas cylinders
- Low cost of ownership, easy to install and maintain
- Continuous measurement for rapid detection of changes in effluent composition
- Replaces multi-analyzer solutions, reducing costs and infrastructure requirements

Applications

- Impurity Monitoring
- Process Safety Monitoring
- Product Quality Analysis
- Process Monitoring/Control
- Semi Process Gas Blending

Industries

- Air Separation
- Bulk & Specialty Gas
- Semiconductor

Specifications and Ordering Information

Analyzer

Measurement Technique	IR absorption using Tunable Filter Spectrometry
Measurable Gases	All IR active gases
Gas Cell Path Length	10 meter, with proprietary high throughput folded path design
Update Rate	1 - 120 seconds (software configurable)
Calibration	Factory calibrated; no recalibration required
Zero Drift	<15 ppb per day (typical)
Optics Purge Flow	0.2 L/min of dry nitrogen or CO ₂ - free clean, dry air with dewpoint below -70°C
Pressure Transducer	MKS Baratron® capacitance manometer to compensate for sample pressure variations
Purge Connection	1/8" Swagelok®
Dimensions	19" W x 7" H x 25" D (48.3 cm W x 17.8 cm H x 64.5 cm D)
Installation	19" rack mount chassis
Power	120 VAC, 60 Hz, 3.3A / 230 VAC, 50 Hz, 1.7A
Weight	35 lbs. (16kg)

Sampling Parameters

Sample Temperature	10 - 50°C (nominal)
Sample Flow	0.5 L/min (nominal)
Sample Pressure	1 atm ±0.1 (nominal)

Gas Cell

Construction	Nickel coated Al
Fittings	4 Swagelok VCR®
Tubing	¼" stainless steel
Mirrors	Nickel plated aluminum substrate, with rugged gold coating
Windows	ZnSe
O-rings	Viton®

Communication Options

Communication Protocol	Modbus TCP/IP or Modbus RS-485 Four, 4 – 20 mA analog output
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Please contact your local MKS office for price and availability information.



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