PRECISIVE® GAS ANALYZER APPLICATION

Methane Number Measurement in Natural Gas

Customers

- Engine Manufacturers
- Ship Owners
- Power Plant Owners & Operators
- Integrators

Platform

- Model 5 Gas Analyzer
  — Class 1 Division 2/Zone 2, ATEX Zone 2, IECEx
- Model 1 Gas Analyzer
  — OEM Sensor for installation into Division 1/Zone 1 enclosures

Advantages

- Continuous monitoring
- Wide analytical range
- Fast response - typical measurement (response) time 5 sec
- Multiple methane number outputs – adaptable to various engines and control schemes
- Zero emissions methodology available, which does not require zero gases
- Simple set up and operation

Solution

The MKS Precisive® Gas Analyzer is the solution of choice for internal combustion engine natural gas fuel monitoring and control applications. With unmatched speed, accuracy, and precision, fuel gas quality entering the engine can be monitored, allowing for efficient and safe engine control that can result in significant cost savings. The analyzer is pre-programmed to output multiple industry standard methane numbers allowing end users and integrators to simply choose the one that best fits their application. If required, the analyzer can be operated in an MKS patented zero emissions mode eliminating greenhouse gas emissions to atmosphere. Wide analytical ranges allow for operation with just about any global natural gas and LNG stream.

Configurations*

RECIPE	152M	283M
Application	LNG	Natural Gas
Measured Concentrations and Ranges	CH_4: 50 – 100% C_2H_6: 0 – 20% C_3H_8: 0 – 10% iC_4H_{10}: 0 – 5% $nC_4+nC_5+nC_6$ (as nC_4): 0 – 5% iC_5+neoC_5 (as iC_5): 0 – 2% — Balance (by difference)	CH_4: 50 – 100% C_2H_6: 0 – 20% C_3H_8: 0 – 10% iC_4H_{10}: 0 – 5% $nC_4+nC_5+nC_6$ (as nC_4): 0 – 5% iC_5+neoC_5 (as iC_5): 0 – 2% CO_2: 0 – 20% Balance (by difference)
Calculated Parameters (per ISO 6976 @ 25°C/0°C)	Higher CV (HHV) Lower CV (LHV) Wobbe Index Specific Gravity	Higher CV (HHV) Lower CV (LHV) Wobbe Index Specific Gravity
Predicted MN** and Ranges	MN-W, MN-C, MN-D: 60-100	MN-W, MN-C, MN-D: 60-100
MN Repeatability (5 sec, 1-sigma)	<0.4	<0.4
MN Estimated Accuracy	±2 when 60<MN<95 ±5 when 95<MN<100	±2 when 60<MN<95 ±5 when 95<MN<100

* Other configurations possible. Contact MKS for details.
** MN-W based upon Wartsila methane number, MN-D based upon DNV methane number, MN-C based upon Cummins methane number

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