Process & Environmental Analysis Solutions

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Precisive® 5-154

OLEFINS ANALYZER

The Precisive® 5-154 analyzer is a real-time gas composition analyzer based on MKS' unique Tunable Filter Spectroscopy (TFS™) platform. Calibrated for multi-component C1 – C5 of alkane and alkene gas streams, this package is an alternative replacement of gas chromatographs, and it offers analysis in seconds and no carrier gas requirement.

Features & Benefits

- Analysis in seconds
  - — Continuous measurement instead of batch handling
  - — Real-time feedback
- Simple to install and maintain
  - — Low operational costs
  - — No carrier gas or instrument fuel gas required
- Linear across measurement range
  - — Linear response across the full measurement scale
- Precision and accuracy
  - — Accurate and reproducible results in under 5 seconds for combustion control to a PLC
- Flow-through sensor design
  - — No sensitivity to pressure and flow variations
  - — Minimized potential sampling issues
- Small footprint, outdoor rated
  - — Extractive process mounted – replace GC installation
  - — Process control to DCS via real-time Modbus output
  - — NEMA 4X, CSA Class1Div2, ATEX Zone2, IP66 rated

Applications

- Furnace cracking process monitoring
- De-Methanization, De-Ethanization, and De-Butanization process monitoring
- Ethylene Fractionation, Propylene Fractionation, and Acetylene Conversion process monitoring
- Storage of Ethane and Ethylene

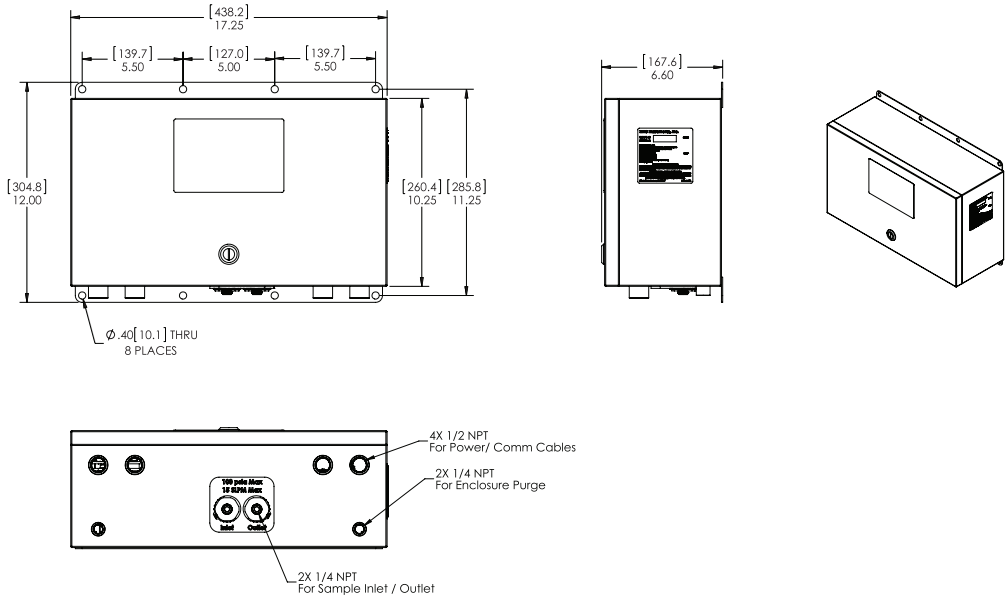
Specifications

Measurement Ranges*			
Ethylene	0 – 100%	Ethane	0 – 25%
Propylene	0 – 100%	Propane	0 – 25%
Acetylene	0 – 30%	iso-Butane	0 – 50%
i-Butene	0 – 20%	n-Butane	0 – 50%
1-Butene	0 – 20%	i-Pentane	0 – 10%
Cis-2-Butene	0 – 20%	Balance Channel Reported	H_2, N_2, O_2, CO_2
t-Butene	0 – 20%	Calorific Value (CV)	Per ISO 6976:2016
Methane	0 – 100%	Wobbe Index (WI)	Per ISO 6976:2016

** Contact MKS for higher or custom ranges*

Precision/Repeatability	Better than 0.1% (typically 0.05%)
Update Rate	5 seconds (default), software selectable from 1 – 120 seconds
Zero Drift	Not to exceed 0.2% per month on each hydrocarbon channel
Sample Pressure*	0.1 – 2 psig ** Contact MKS for higher or custom ranges*
Flow Rate*	0.1 – 1 L/min ** Contact MKS for higher or custom ranges*
Sample Cell	0.35m pathlength, 100mL volume
Weight	12kg (25.8lbs)
Power Requirement	24 VDC or 100 - 240 VAC
Operating Temperature	-20°C to 48°C (ATEX)
Data Output/Communication	Modbus over Ethernet or RS485
Enclosure Dimensions	17.25" (438.2 mm) width, 6.60" (167.6 mm) depth, 11.25" (285.8 mm) height
Certifications	CSA Class 1Div2, Groups A/B/C/D, T4. ATEX Zone 2, Ex nAnCIICT4Gc IECEx

II 3G
Ex nA nC IIC T4 Gc
Ta = -20ºC to +48ºC



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Precisive 5-154 - 11/18

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