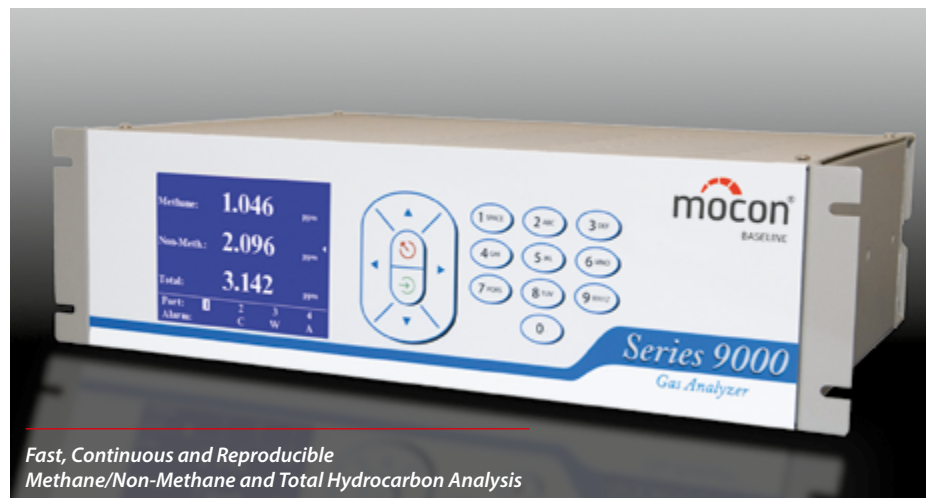


# SERIES 9000 MNME

## METHANE / TOTAL HYDROCARBON ANALYZER



*Fast, Continuous and Reproducible Methane/Non-Methane and Total Hydrocarbon Analysis*

### Continuous monitoring of methane, non-methane and total hydrocarbons based on a methane / total hydrocarbon calibration

The Series 9000 MNME is designed for rapid measurement of the total hydrocarbons, methane, and non-methane hydrocarbon content in gas samples.

The Series 9000 MNME uses a flame ionization detector (FID) in conjunction with an oxidation catalyst switched in and out of a portion of the sample stream. The catalyst oxidizes all hydrocarbons except methane to produce a methane measurement. This catalytic reaction relies on the presence of oxygen ( $O_2$ ) in the sample. The methane value is then subtracted from the total hydrocarbon concentration to determine the non-methane hydrocarbon reading. Output options include analog, digital and logic capabilities.

The Series 9000 MNME provides fast data handling and highly reproducible results. Errors commonly associated with catalyst characteristics have been eliminated providing an extremely stable and accurate signal. Because the non-methane signal is the difference in the two measured quantities, it is more stable, thus greatly reducing its systemic zero drift. The non-methane signal response factor is adjusted and thus closely correlates to the carbon number. This analytic method eliminates integration errors that can be present in gas chromatographic (GC) methods.

The Series 9000 MNME can be configured with internal components for single or multi-point analysis of non-condensing gas samples. The automatic calibration feature enhances the long-term analytical stability of the instrument.

The Series 9000 Methane/Total Hydrocarbon Analyzer provides access to operating parameters and concentration data through an RS-232 or Ethernet port. A simple ASCII, tab delimited protocol has been implemented. The ASCII data can be acquired by an external PC running a basic communications program such as Windows® Hyper



### Applications

- VOC Continuous Emissions Monitoring System (CEMS)
- Ambient Air Quality Monitoring Networks (AQM)
- Clean Rooms (AMC)
- Air & Oxygen Purity in Air Separation Plants

Please contact us to discuss other applications.

### Features & Benefits

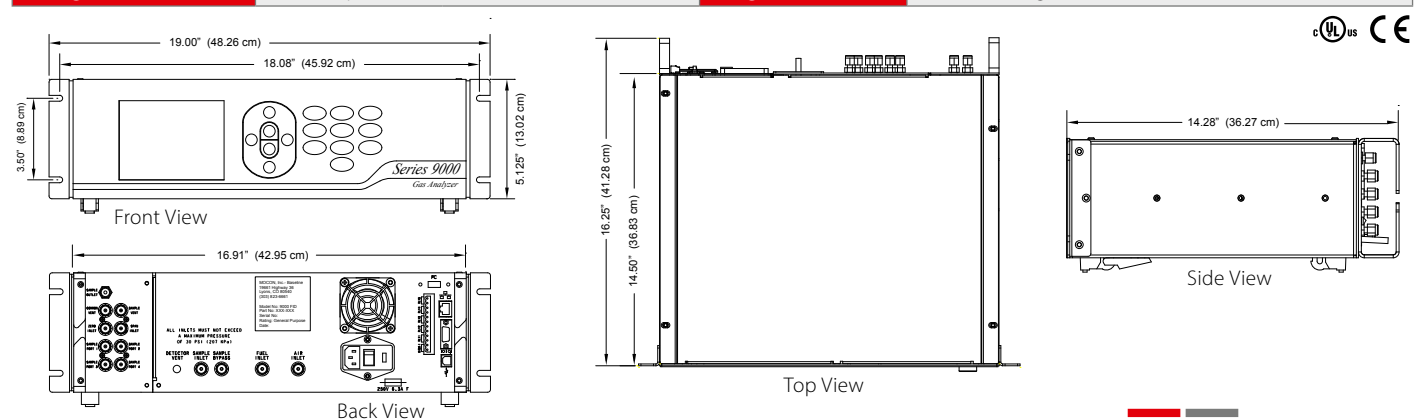
- Continuous hydrocarbon detection from sub-ppm to 5,000 ppm ( $CH_4$ )
- Automatic adjustment for catalyst efficiency variance
- All concentrations reported as methane equivalent
- Flame ionization detector (FID) with automatic ignition
- Graphical LED display with easy to use menu system
- Fast (< 30 sec) reproducible response
- Internal multi-point sampling option
- Automatic calibration at user-defined intervals
- Can be calibrated on a  $CH_4$  only standard
- FlowGuard electronic control of fuel, air and sample
- Electronic back-pressure regulator with sample bypass system
- Discrete, multilevel concentration & fault alarms
- Programmable analog output ranges
- Programmable relays for diagnostics, concentration, alarms, events
- Remote operation via RS-232 and Ethernet

# SERIES 9000 MNME METHANE/TOTAL HYDROCARBON ANALYZER

Terminal or the analyzer can output binary or ASCII formats directly to a data acquisition system or PLC. Every Series 9000 analyzer includes AMETEK MOCON - Baseline's free PC utility *9000 Keeper* used for storing and uploading multiple methods, as well as sending configuration settings, directly to the analyzer.

## Specifications

<b>Detector</b>	Flame Ionization (FID)		
<b>Oxidizer</b>	Oxidizes non-methane hydrocarbons		
<b>Ranges</b>	User definable based upon calibration within:		
	<ul style="list-style-type: none"> <li>• 0.02 ppm to 50 ppm (Air balance) (typically &lt; 20 ppb as CH<sub>4</sub> w/signal to noise ratio of 3:1)</li> <li>• 0.06 ppm to 50 ppm (O<sub>2</sub> balance)</li> <li>• 0.06 ppm to 500 ppm (Air/O<sub>2</sub> balance)</li> <li>• 0.15 ppm to 5,000 ppm (Air/O<sub>2</sub> balance)</li> </ul>	Analyzer range is configured at the factory.	Accuracy ± 1%, full-scale Accuracy ± 1%, full-scale Accuracy ± 1%, full-scale Accuracy ± 1%, full-scale
<b>Repeatability</b>	± 1% full-scale response		
<b>Drift, Zero</b>	± 0.01% of full-scale over 24 hours		
<b>Drift, Span</b>	± 1% of full-scale over 24 hours		
<b>Response Time</b>	T90 < 30 seconds		
<b>Sampling</b>	Internal single or multipoint modules for pre-filtered (1 micron) non-condensing samples, with or without sample pump		
<b>Alarms</b>	Multilevel concentration and fault alarms that result in an audible and visually displayed alarm. Alarms may also be mapped to relays to control external equipment		
<b>Calibration</b>	Programmable automatic or manual calibration		
<b>Support Gases</b>	Hydrogen (H <sub>2</sub> ) — 35 cc/min (H <sub>2</sub> /He blend — 100 cc/min). Hydrocarbon content must be < 1 ppm. Air — 175 cc/min (typical) Fuel blend options available, consult MOCON - Baseline		
<b>Display</b>	Graphical LCD display, 3.4" x 4.5" (8.64 x 11.43 cm)		
<b>Outputs</b>	<b>Digital</b> Standard: RS-232 LAN	<b>Analog</b> Standard: 1 programmable 0–20 mA or 4–20 mA isolated output Optional: 3 programmable analog outputs	<b>Relay</b> Standard: 5 programmable Form A relays rated to 3 A @ 230 V AC Optional: 9 programmable relays
<b>Operating Temperature</b>	32 to 104 °F (0 to 40 °C)	<b>Connections</b>	1/4" (6.35 mm) tube fitting connectors
<b>Operating Humidity</b>	0 to 95% (non-condensing)	<b>Power</b>	100–230 V AC, 50/60 Hz, 2 A
<b>Configuration</b>	Bench-top or 19" (48.3 cm) rack-mount, 3U	<b>Weight</b>	< 20 lb (9.07 kg)



AMETEK MOCON - Baseline  
 19661 Highway 36  
 PO Box 649  
 Lyons, CO 80540 USA  
 T: +1 303.823.6661  
[www.baseline-mocon.com](http://www.baseline-mocon.com)

© 2017, by AMETEK MOCON - Baseline. All rights reserved. The AMETEK and MOCON Baseline logos and design are registered trademarks of AMETEK MOCON in the United States of America and other countries. Information, descriptions, photographs, technical drawings, and specifications in this publication are provided in good faith and are subject to change without notice. While every effort has been made to make the information presented herein as complete and accurate as possible, it may contain errors, omissions or information that was accurate as of its publication. The information contained herein is provided without warranties of any kind, either express or implied, and AMETEK MOCON - Baseline disclaims any and all liability for any errors, inaccuracies or incompleteness affecting the products and/or the specifications contained herein.