

# Model 8800 NMHC NonMethane Hydrocarbon Analyzer

Baseline - MOCON, Inc.™

## ANALYZER

The Model 8800 NMHC is a specialized member of the extraordinary Series 8800 family of gas analyzers. The Series 8800 is the candidate of choice whenever accurate, reliable hydrocarbon and VOC analysis is required. Series 8800 analyzers provide nearly limitless flexibility and offer continuous, fully automated gas analysis over a broad range of concentrations.

With an admirable dynamic range from less than 0.1 ppm to 1,000 ppm, the Model 8800 NMHC is designed to measure the total, methane, and non-methane hydrocarbon content of gas samples. The analyzer has a generous complement of analog, digital, and logic output capabilities with room to expand.

This instrument is well ahead of the competition in performance, automation, and configurability.

The analyzer is based on an electronically flow controlled flame ionization detector (FID) and an oxidation catalyst that is switched in and out of a portion of the sample stream. Total hydrocarbons are measured first, and then the oxidizer switches in. The catalyst oxidizes all hydrocarbons except methane, for a methane measurement. The methane value is then automatically subtracted from the total hydrocarbon concentration to determine the non-methane hydrocarbon reading.

The Model 8800 NMHC can be configured with internal components for a single or multipoint analysis of ambient, non-condensing gas samples.

The automatic calibration feature enhances the long-term analytical stability of the instrument.

**Baseline, the reference point  
from which all things are measured.**



## Applications

The Model 8800 NMHC is designed for environmental applications where the primary pollutants or gases of interest are non-methane hydrocarbons.

Applications targeted by this analyzer include:

- Ambient air monitoring networks
- Fenceline (perimeter) monitoring around industrial sites
- Industrial hygiene & safety monitoring
- Contaminants in purified air supplies

## Features

- Hydrocarbon detection from sub-ppm to 1,000 ppm levels
- Automatic calibration
- Electronic flow control of fuel, air, and sample provides easier, more precise flow regulation
- Virtual analog ranges programmable from 1.0 - 1000 ppm full scale
- Programmable relays for alarms, events and diagnostics
- Operating modes include catalyst inline, offline, and automated-switchover
- Automatic FID ignition, with automatic shut-off of fuel and combustion air
- Remote operation via RS-485, RS-232
- Internal multipoint sampling option
- Discrete, multilevel concentration & fault alarms

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#### INSTRUMENT CONSOLE

The Series 8800 front panel features a bright vacuum fluorescent display and keypad. All operating parameters are set via the keypad, eliminating the need for additional meters during setup or maintenance procedures.

The display identifies all sample locations and specifies the unit of concentration & reference equivalent.

Flashing alarm codes report the active alarm location, while flashing fault codes report flame, flow or temperature anomalies.

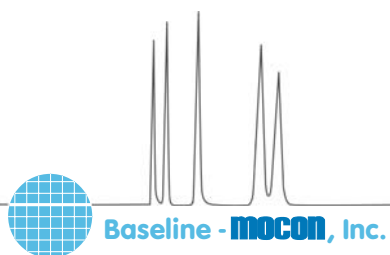
Represented by:

#### Specifications

SAMPLING	Internal single or multipoint modules, with or without sample pump(s), for prefiltered ( $\leq 0.1$ microns), non-condensing samples
CALIBRATION	Programmable automatic, or manual (with internal selection valves)
DETECTOR	Flame ionization detector (FID)
CATALYST	Catalytic oxidizer
MDQ	Minimum detectable quantity: 0.03 ppm methane, 0.01 ppm propane
RANGE	
<i>Analog</i>	Virtual range with software selectable endpoints provides full-scale ranges from 1.0 – 1000 ppm
<i>Digital</i>	Display auto-ranges from 0.01 ppm to 1000 ppm (as methane)
LINEARITY	$\pm 1\%$ Full-scale response
DRIFT	Zero: $< 0.1$ ppm over 24 hours. Span: $< \pm 1\%$ over 24 hours, at 10 ppm full-scale.
RESPONSE TIME	Fixed mode: $< 30$ seconds to 90% of final reading. Switching: $< 3$ minutes.
OUTPUT	
<i>Analog</i>	1 (standard) to 15 analog 0-20 mA or 4-20 mA loop power supplied, isolated outputs or optional 0-1V, 0-5V or 0-10V isolated outputs. Selectable for concentration, temperature or flow (fuel, air or sample).
<i>Digital</i>	Standard: RS-485 output (RS-232 option)
RELAYS	5 (standard) to 15 programmable (Latched/Not, NO/NC) contact closures (1A@30V max). Selectable for: alarm thresholds or events (calibration, fault, or sample location).
ALARMS	Multilevel concentration, average concentration, and fault
<i>Audible</i>	Horn: Sounducer, generating 85 dB @10 cm. Selectively en-/disabled for keypad input, fault, and alarms.
PHYSICAL	Dimensions: 19.00" W x 8.75" H x 16.00" D (48.26 cm W x 22.23 cm H x 40.64 D). Nominal weight: 30 lb (13.64 kg).
CONFIGURATION	Bench-top or rack-mount (19" panel)
DISPLAY	Digital vacuum fluorescent, 20 characters x 2 lines
POWER	90-120 VAC or optional 210-230 VAC, 50/60Hz
OPERATING CONDITIONS	Temperature: 32-104 °F (0-40 °C). Humidity: 0-95%, non-condensing.
GAS SPECIFICATIONS	
<i>Support</i>	Hydrocarbon content: $< 1$ ppm required. Air $\approx 200$ cc/min, hydrogen $\approx 40$ cc/min. (Options: H <sub>2</sub> /N <sub>2</sub> or H <sub>2</sub> /He @ 100 cc/min.)
<i>Span</i>	Methane/propane, in air
<i>Connections</i>	1/4" O.D. Tube fitting connectors (1/8", 4 mm, and other options)

#### Options & Accessories

SAMPLERS	Internal multipoint modules, with or without sample pump(s), available in 4-point or 8-point configurations
ENCLOSURES	General purpose, X-purged or Z-purged
EXPANSION BOARDS	
<i>Analog</i>	Provides 4 or 10 additional programmable 4-20 mA outputs, with sample read & hold
<i>Relay</i>	Provides up to 10 additional programmable relays



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