

MUD-LOGGING HYDROCARBON ANALYZER

Next Generation Mud-Logging

LaserSense-ML is a compact Quantum Cascade Laser-based gas analysis system based on infrared absorption spectroscopy.

The system measures hydrocarbon gases (C1-C5) from ppm level to percent level, allowing for both sensitive detection and a large dynamic measurement range which is ideal for mud-logging and other oil and gas related applications.

Unlike a traditional GC coupled with a secondary detection technology, the LaserSense-ML utilizes mid-IR spectroscopy which is a true, real-time measurement providing an accurate determination of C1 through C5 gases in a response time as short as 10 seconds. The system weighs 16 pounds, and NEMA 4x and explosion proof housings are available.

The LaserSense-ML requires no consumables, minimal rigsite installation labor, and little maintenance, allowing for significant cost savings over traditional GC or GC/MS technology. Speed of response also exceeds traditional gas sensing methods.

Key Features

- ▣ Accurate detection of C1 through C5 including C4 and C5 Isomers
- ▣ Requires no carrier gases
- ▣ A truly continuous measurement (not a batch measurement)
- ▣ Fast response time of 10 seconds
- ▣ No consumables
- ▣ Small footprint
- ▣ Environmental/explosion proof packaging available



LaserSense-ML Analyzer Unit in Small Form Factor (9.5" x 14 x 6")



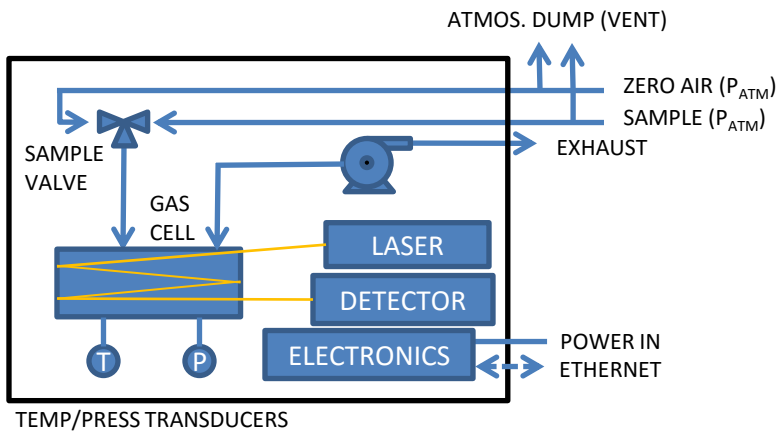
Available in NEMA 4x and Explosion-Proof Housings



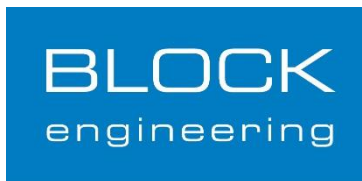
LaserSense-ML Specifications

PERFORMANCE	
Range	C1 - 0 to 100% C2 - 0 to 65% C3 - 0 to 20% nC4 & iC4 - 0 to 10% nC5 & iC5 - 0 to 5%
LOD	2000 ppm short path cell / 400 ppm mid path cell [Consult factory for lower LOD requirements]
Accuracy	5% of reading or 0.2% absolute
Repeatability	< 3% of reading or 0.2% absolute
Response time	10 seconds
Flowrate	3 lpm
ENVIRONMENTAL	
Analyzer operational temperature range	10°C to 35°C
Field unit packaged operational temperature range	-40°C to 50°C
Housing	NEMA 4x and explosion proof housings available
MAINTAINANCE INTERVAL	
Pump rebuild or replacement	1 year
Particulate filter replacement	1 year
COMPRESSED AIR CONSUMPTION	
Required for zero checks	5 psig @ 3 lpm (dew-point <10°C)
USER INTERFACE / CONNECTIVITY	
	Modbus or SOAP over TCP/IP HTML 5 User Interface
FORM FACTOR	
Dimensions	9.5" Wide x 14" Long x 6" High (sensor unit without environmental packaging)
Weight	16 lbs
POWER REQUIREMENTS	
	100 to 240 VAC, 50/60 Hz, 200 Watts DC power option available

LaserSense-ML Flow Diagram



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