

## BTU/WOBBE INDEX ANALYZER

### Next Generation Optical Sensing Platform

LaserSense-CV is a Quantum Cascade Laser-based gas analysis system designed to measure BTU, Calorific Value, and the Wobbe Index of natural gas.

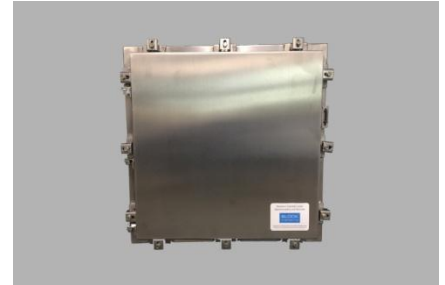
The system provides accurate speciation of C1-C6 hydrocarbons (including isomers) in seconds. Unlike traditional GC systems, the LaserSense-CV requires no consumables or costly maintenance.

Built around Block's Quantum Cascade Laser technology, the LaserSense-CV allows for wide tunability across the mid-infrared spectrum. This enables the system to provide full natural gas analysis – and consequently precise, continuous measurement of CV and Wobbe.

The LaserSense-CV is available in purged NEMA, explosion-proof, and pelican case housing. Data is output using a simple HTML5 interface, or Modbus over TCP/IP.

### Key Features

- ▶ Permanent calibration with no carrier or calibration gas needed
- ▶ Solid-state design with no moving parts
- ▶ 3 second update time: real-time analysis
- ▶ C1-C6 speciation: C1, C2, C3, nC4, iC4, nC5, iC5, neoC5, and C6
- ▶ Precise Calorific Value and Wobbe Index calculation
- ▶ No consumables
- ▶ Small footprint
- ▶ Purged NEMA, explosion-proof, and pelican case housing available



LaserSense-CV Analyzer in Purged NEMA Housing



LaserSense-CV Analyzer in Explosion-Proof Housing



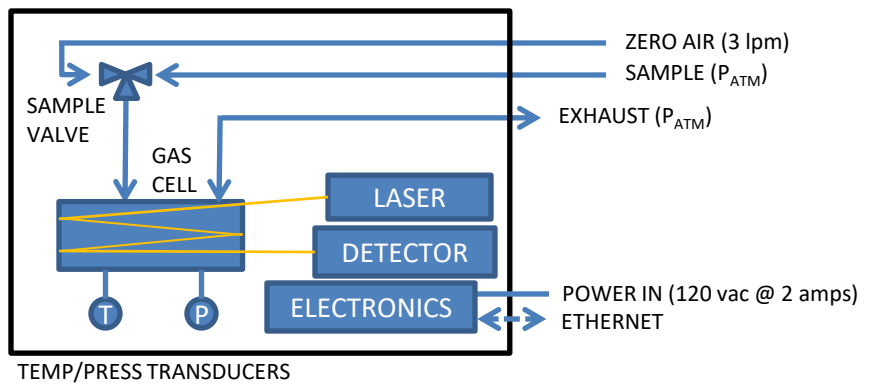
LaserSense-CV Analyzer in Pelican Case



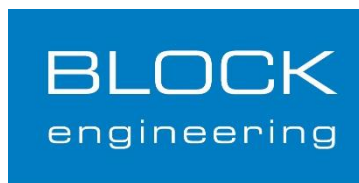
## LaserSense-CV Specifications

PERFORMANCE	
Range	C1 - 70 to 100% C2 - 0 to 20% C3 - 0 to 10% nC4 & iC4 - 0 to 2% nC5 , iC5, & neoC5 - 0 to 2% C6 - 0 to 2%
LOD of Individual Gases	1000 ppm
Response time	T90 < 9 seconds at 3 lpm
Flowrate	0.5 to 3 lpm
BTU Accuracy	< 1% of FS
Speciation Accuracy	5% of reading or 0.2% absolute
Speciation Repeatability	< 2% of reading or 0.2% absolute
ENVIRONMENTAL	
Analyzer operational temperature range	10°C to 35°C
Field unit packaged operational temperature range	-40°C to 50°C
Housing	General purpose, purged NEMA, explosion proof, or pelican case
USER INTERFACE / CONNECTIVITY	
Modbus or SOAP over TCP/IP HTML 5 User Interface	
POWER REQUIREMENTS	
100 to 240 VAC, 50/60 Hz, 200 Watts DC power option available	

### LaserSense-CV Flow Diagram



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