

TRACE MOISTURE ANALYZER

Full-featured TDLAS Moisture Analyzer for critical H₂O measurements in gas streams

TYPICAL
APPLICATIONS

UPSTREAM NATURAL GAS

BIOGAS

MIDSTREAM NATURAL GAS

CUSTODY TRANSFERS

OPTIMIZED DESIGN

▶ Low Volume, Multi-pass Laser Herriott Cell Optimized for Rapid Readings

▶ Patented ELIMINATOR CELL BLOCK Includes a Complete Sample System

UNMATCHED RELIABILITY

▶ Built-in Analyzer Guardian Technology Protects Against Liquids & Particulates

▶ Compact Size and Low Power for Easy Installation

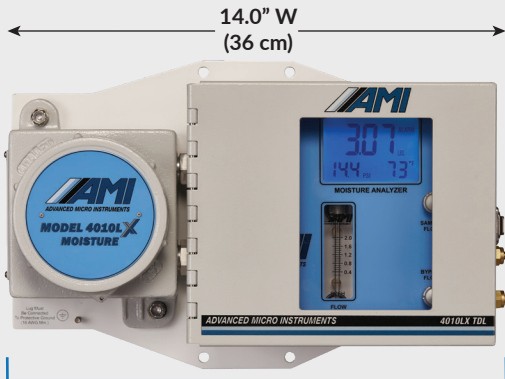
SUPERIOR VALUE

▶ Approved for Class I, Division 1, Groups B,C,D Installations

▶ Includes COMMAND CENTER Software for Advanced Configurations

MODEL 4010LX DESIGN

The **BARRACUDA MODEL 4010LX** TDL Moisture Analyzer has significantly raised the bar for measuring water vapor in a natural gas stream.



IP65-rated Enclosure
(certified against water entry
from the environment)



5.0" D
(13 cm)

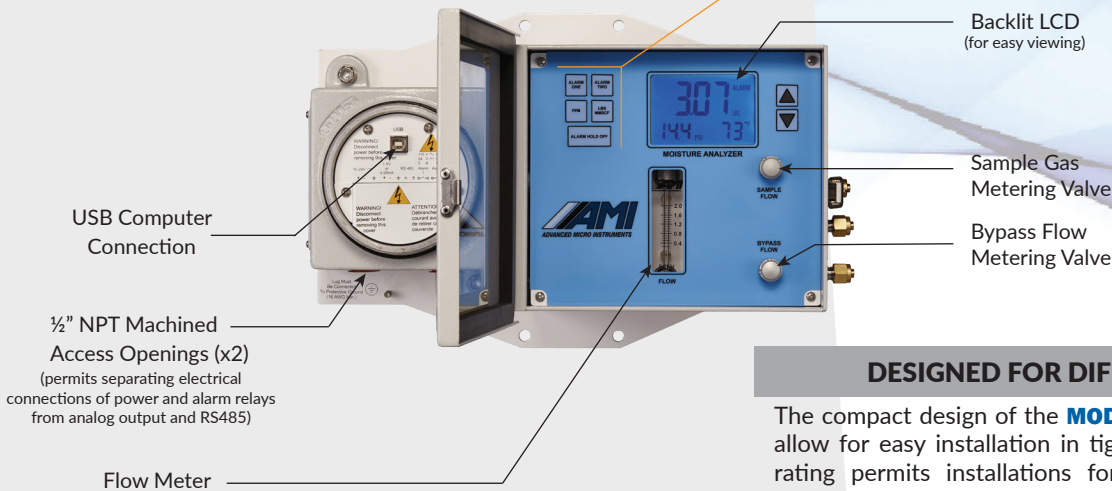
SUPERIOR VALUE

The **BARRACUDA MODEL 4010LX** is a fraction of the size and cost of other TDL analyzers and comes fully loaded with features and tools that make performing moisture measurements far easier.

ALARM ONE	ALARM TWO
PPM	LBS MMSCF
ALARM HOLD OFF	

EASY ACCESS CONTROL PANEL

- 2 INDEPENDENT ALARMS
- PPM DISPLAY OPTION
- LBS H₂O DISPLAY OPTION
- ALARM BYPASS



DESIGNED FOR DIFFICULT FIELD INSTALLATIONS

The compact design of the **MODEL 4010LX** and light weight of only 17 lbs allow for easy installation in tight areas by a single technician. An IP-65 rating permits installations for indoors or outside in harsh elements. Available in AC or DC power. Low DC power requirements allow for operation using a solar panel. Finally, the unit can be installed in our Extreme Weather Enclosure for additional protection.



(Remote Installation powered by a standard solar panel)

LOADED WITH ADVANCED FEATURES

The Analyzer can be connected to AMI's powerful **COMMAND CENTER** software, providing operators access to the unit's more advanced settings. This included software allows for customization of alarm configurations, download of time stamped data log information, setting analyzer security, review of error codes, and realignment of the laser absorption peaks using our **SMART ALIGNMENT** protocol.



(connected to the **COMMAND CENTER** Software)

APPROVED GLOBALLY FOR HAZARDOUS AREAS

Class I, Div 1, Groups B,C,D



MODEL 4010LX ADVANCED TECHNOLOGIES

The **ELIMINATOR HERRIOTT CELL BLOCK with ANALYZER GUARDIAN** **PATENTED** integrates a low volume sample gas measurement laser cell, flow meter, metering valves and Analyzer Guardian liquid rejection technology into a compact-stacked block. Our innovative design keeps the total analyzer size small, eliminates the use of leak-prone fittings and tubing and makes the **MODEL 4010LX's** gas path short to provide fast and accurate moisture readings.

OPTIMIZING MEASUREMENT IN A COMPACT LASER CELL

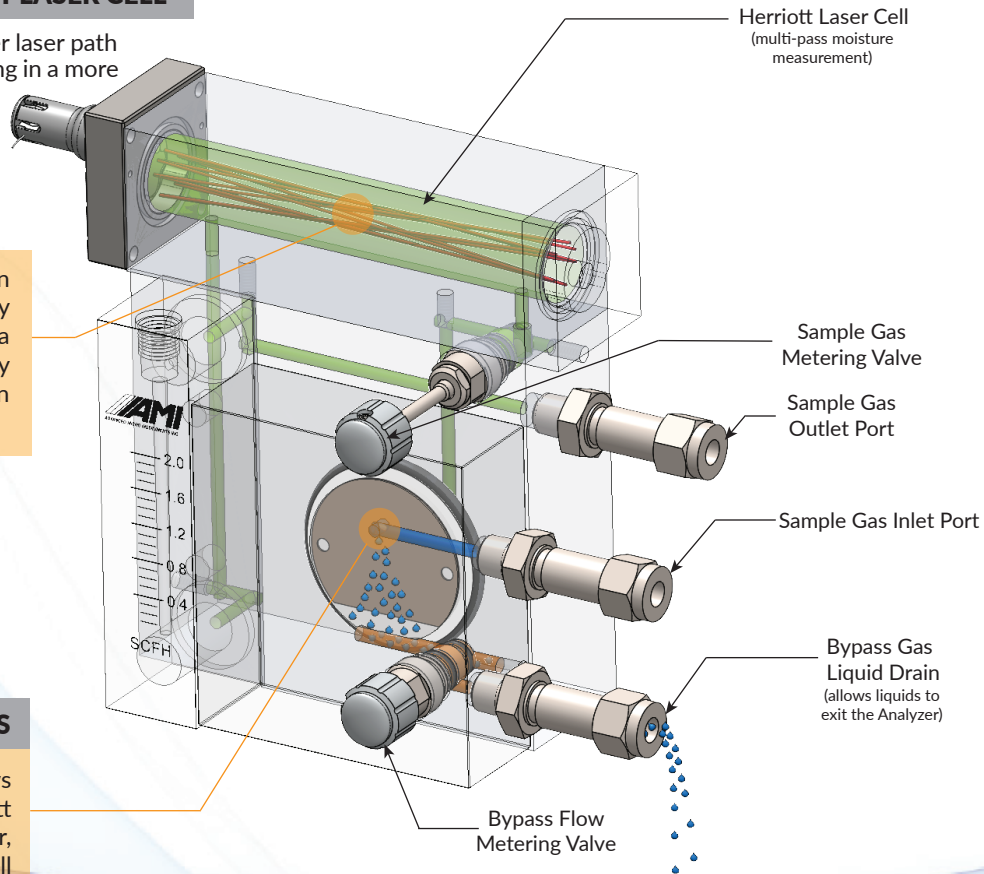
THE BEER-LAMBERT LAW shows that a longer laser path will yield greater sample gas absorbance, resulting in a more accurate & precise moisture measurement.

$$A = \log_{10} \frac{I_0}{I} = \epsilon l c$$

Absorbance

Absorption Path Length

AMI's uniquely small Herriot Laser Cell Design utilizes a multi-pass laser path, providing significantly more measurement capabilities compared to a single-pass cell design. This results in an incredibly accurate and precise moisture measurement in an extremely compact laser chamber.



PROTECTION AGAINST WATER SLUGS

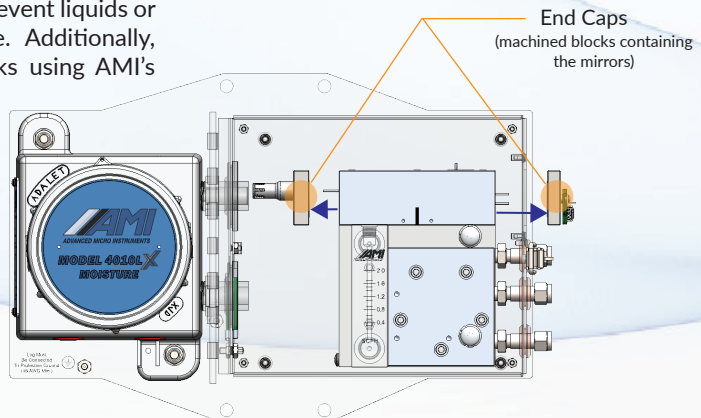
ANALYZER GUARDIAN Technology allows for sample gas to pass through the Herriott Cell while rejecting particulates, water, compressor oils and glycols. This design will completely seal off and protect the **4010LX** if a large liquid slug reaches the analyzer.

FASTEST RESPONSE TIMES

The entire gas path is contained within our patented **ELIMINATOR CELL BLOCK**. The gas travels a short 4 inches from the Sample Gas Inlet before entering the laser measurement cell, resulting in a fast, accurate and stable reading.

FIELD SERVICABLE DESIGN

The **4010LX** design allows for the user to clean the reflective mirrors of the Herriott Cell in the field in the unlikely event liquids or particulates break through our protective membrane. Additionally, users can easily re-align the laser absorption peaks using AMI's **COMMAND CENTER** software.



BARRACUDA MODEL 4010L



PHYSICAL & ELECTRICAL SPECIFICATIONS

WEIGHT	MOUNTING	GAS CONNECTIONS	WETTED PARTS
17.0 lbs (7.7 kg)	Wall Mount or 2.0" Pipe	¼" 316 S.S. compression fittings	316 S.S. fittings, electro-less nickelplated cell blocks, Teflon®-based liquid rejection membrane, acrylic flow meter & O-rings (Viton and Buna-N)
POWER			
DC		AC	
10 – 24 VDC 1.0 A @12V max* 0.14 A @12V continuous		100 – 240 VAC, 50/60Hz 500 mA max	

* max power only during start-up




Pictured: **MODEL 4010LX** in Extreme Weather Enclosure protects against harsh elements and freezing temperatures

Each unit undergoes a rigorous quality inspection, ships quickly to the customer and is backed by AMI's industry-leading Service & Support.

OPERATIONAL SPECIFICATIONS

MEASUREMENT RANGE (UNITS SELECTABLE)	AMBIENT OPERATIONAL TEMPERATURE	FLOW RATE (RECOMMENDED)	INLET GAS PRESSURE
0.25 – 20.0 lbs or 0 – 420 ppm	20°F to 149°F (–6.7°C to 65°C)	1.0 to 2.0 SCFH (0.5 – 1.0 Lpm)	1.0 – 20.0 psig (0.07 – 1.4 bar)

ANALYZER PERFORMANCE SPECIFICATIONS

90% RESPONSE TIMES	MINIMUM DETECTION LIMIT	REPEATABILITY	ACCURACY	GLOBAL REGULATORY APPROVALS
<2 sec	0.25 lbs (5.25 ppm)	±0.25 lbs (±5.25 ppm)	±0.25 lbs (±5.25 ppm)	Class I, Division 1, Groups B,C,D, T4 Class I Zone 0/1, AEx ia op is/db IIB+H2 T4 Ga/Gb IECEX/PESO: Ex ia op is/db IIB+H2 T4 Ga/Gb ATEX/UKCA:  II 1/2 G Ex ia op is/db IIB+H2 T4 Ga/Gb Ingressed Protection: IP65

ANALYZER KEY FEATURES

ELIMINATOR CELL BLOCK™	With a Complete Integrated Sample System (including flow meter, sample metering valve, bypass metering valve, liquid rejection membrane, and Laser Measurement Cell)
ALARMS	2 fully adjustable concentration alarms with configurable Alarm logic and Relay Contacts, featuring: <ul style="list-style-type: none"> ▶ Alarm Bypass ▶ Alarm Delays ▶ Alarm Above or Below Setpoint ▶ Latching/Non-latching ▶ Failsafe/Non-failsafe ▶ Open or Close on Alarm
ANALOG OUTPUTS	1 – 5 VDC and 4 – 20mA isolated output signals and Modbus bi-directional RS485 communication
COMMAND CENTER	Software that works across AMI's Analyzers and gives users access to advanced functions: <ul style="list-style-type: none"> ▶ Error Status Display ▶ SMART REALIGNMENT of signature H₂O and methane peaks ▶ Alarm Configurations ▶ Data Logger with time-stamped records of moisture readings, temperature, brown-outs and pressure as well as security settings
ACCESSORIES	▶ Extreme Weather Enclosure ▶ Mirror Cleaning Kit
WARRANTY	▶ 2 Years for Parts & Labor for any defects in materials or workmanship