Process Insights™
Premium Insights Into Process

RELIABLE DEW POINT METERS

PRODUCT BROCHURE

HDT-LQ™

On-Line Moisture in Liquid Hydrocarbon Measurement

Fast

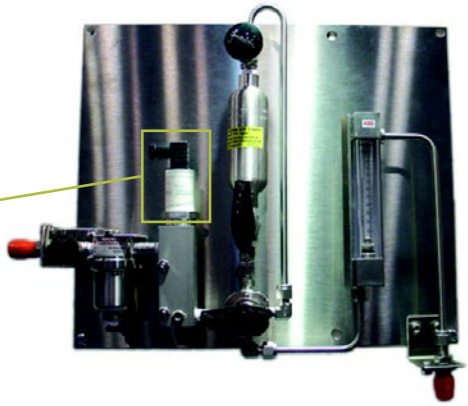
Accurate

Low Maintenance

- Liquid Hydrocarbon Streams in the Most Challenging Conditions (Hexane, Hexene, Benzene, Mixtures, Complex Matrices)
- Oils and Lubricants
- Solvents
- Refrigerants

Based on years of dedicated research and development and proprietary scientific breakthroughs, our HDT-LQ™ Series Transmitter combines our Dew Point Transmitter HDT™ Series with a Specialized HTF™ aluminum oxide sensor for work in liquid Hydrocarbons. Our HDT-LQ Series Digital Moisture in Liquid HC Transmitters are designed as compact, simple, and reliable instruments, which will continually monitor dissolved water in hydrocarbon liquids.

The Complete Moisture Package



Xentaur Dewpoint Transmitter (HDT) with XTR-LQ HTF™ Sensor Measures Water Concentrations from <1ppmw to Saturation

Optional ESS-LQ Slip Stream Sample System Continuous Measurement with "Grab" Sample option

Theory Of Measurement

Al203 oxide sensors measure changes in partial water vapor pressure (PWVP). They follow these basic principles of physical chemistry.

Henry's Law PPMW(µg /g)=PWVP * K

K is Henry's constant. This constant is affected by sample matrix and temperature.

The HDT-LQ measures the dissolved water in the HC Stream (water still in gaseous phase within the liquid HC). The dissolved water is a set ratio of the total water for specific liquids. Using a Karl Fisher (KF) Titrator for total water measurement, the end user will be able to quickly build trends/graphs between the live HDT-LQ process measurement and Lab KF measurements.

The HDT-LQ will give the end user quicker, continuous response time results as compared to the slower KF measurements, allowing the end user to make critical decisions quickly, increasing efficiency and decreasing waste.

SPECIFICATIONS

The HDT is a loop powered HART enabled dew point transmitter	
Enclosure	Stainless Steel, IP65 NEMA 4X
Dimensions & Weight	1.25" Dia. x 5.68" long including sensor & connector; 0.5 lbs
Pressure operating range	Standard: 500 PSI (34 bar). Optional: 5,000 PSI (340 bar)
Operating Temperature	14°F to 158°F (-10°C to +70°C)
Mechanical connection	3/4-16UNF-2A thread and M14 x 1.25 CLASS g6 thread
Electrical connections	Industrial Standard 9.4 mm, 4 pin connector. IP65 NEMA 4X
Cable	Two conductor cable. Min. #24AWG; for total cable length >5000ft.min. #20AWG (Cable must be shielded to meet CE requirements.)
Power Requirements	5 to 28 VDC, the instrument draws 4-20mA depending on measured dew point
Input resolution	0.1°C dew point
Indicators	None
Engineering units	°C(dp), PPMW(µg/g)
Controls	HART interface, user's selections are stored in EEPROM
Outputs	Analog and digital outputs are available. A. 4-20mA drawn by the instrumentfrom the power supply. The 4-20mA is linear to °C(dp), the range is programmable. Output resolution is 0.1°C(dp) or ~ 0.25uA whichever is greater. B. The instrument can supply digital output by modulating the 4-20mA loop line. The interface is defined by HART. In the digital mode the HDT can be remotely operated and the dewpoint can be read. In the digital mode multiple units can operate on the same loop cable as a multi-channel instrument. In this configuration each HDT draws only 4mA independent of the measured dewpoint.
Alarms	The 4-20mA signal may be used by an external device to operate relays
Isolation	Sensor and case are referenced to the current loop negative side
Warranty	One year for full workmanship and defective parts
HDT/HTF SENSOR ELEMENT XTR-LQ	
Type	Hyper-Thin-Film (HTF™) high capacitance Al2O3
Dew point range XTR-LQ	-80°C to 25°C
Partial Water Vapor Pressure Range	0.0005mb to 31.65 mb
Capacitance	5nF to 225nF
Accuracy	±3°C(±5.5°F) Dew point
Repeatability	±0.9°F(±0.5°C)
Temperature Range	+14°F to +158°F (-10°C to +70°C)
Storage temperature	-40°F to +176°F (-40°C to +80°C)
Calibration method	Multipoint calibration table with temperature compensation over the full range

Approvals/Classifications

II 1 G Ex ia IIC/IIB T6/T4 Ga For T6 : -20°C ≤ Ta ≤ +40°C For T4 : -20°C ≤ Ta ≤ +85°C	II 1 D Ex ia IIIC T 115°C -20°C ≤ Ta ≤ +85°C

Intrinsically Safe (Entity) for use in Class I, II and III, Division 1, Groups A, B, C, D, E, F and G; Temperature Class T4 Ta = 85°C; Temperature Class T6 Ta = 40°C in accordance with Control Drawing No. DPT.00.D.7042;

Intrinsically Safe (Entity) for use in Class I, Zone 0, AEx ia IIC T4 Ta = 85°C; T6 Ta = 40°C; in accordance with Control Drawing No. DPT.00.D.7042;

Nonincendive for use in Class I, Division 2, Groups A, B, C, and D; Temperature Class T4 Ta = 85°C; Temperature Class T6 Ta = 40°C;

Suitable for use in Class II and III, Division 2, Groups E, F and G; Temperature Class T4 Ta = 85°C; Temperature Class T6 Ta = 40°C;

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GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights delivers premium analytical sensors, analyzers, instrumentation, software and solutions that are mission-critical to keep your operations, personnel, and the environment safe. Our commitment to customer satisfaction is evident through our diverse range of products, programs, and services, designed to accommodate various budgets and application needs.

CENTERS OF EXCELLENCE | PROVIDING PROVEN SOLUTIONS

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