KAHN Hygrometers

Easidew PRO I.S.

Dewpoint Transmitter

Ruggedized, intrinsically safe, 2-wire, dewpoint transmitter for continuous measurement of the moisture content in hazardous area applications, typically found in natural gas, petrochemical and process industries.

- FM & CSA certified for use in hazardous areas
- -148°F to +68°F (-100°C to +20°C) dewpoint range
- Heavy duty, process-type stainless steel housing
- 0-3000 PPMv moisture content range
- 12 to 28 VDC operation
- NEMA 4 ingress rating
- Linear 4-20 mA signal
- 2-wire operation
- Fast and reliable
- NIST traceable

Simple Operation and Economical

The economical, NIST-traceable Easidew PRO I.S. Transmitter makes intrinsically safe dewpoint monitoring as easy as measuring temperature or pressure, and can be instantly incorporated into your hazardous area air or gas measurement and control system. The Easidew PRO I.S. Transmitter is also economical to purchase, install and maintain. Both installation and operating costs are minimal because of the transmitter's ruggedness and simplicity. Only periodic re-certification is required to maintain calibration accuracy. We offer an exchange program so that your process is never out of operation.

Broadest Range

Powered by any DC power source from 12 to 28 volts, the Easidew PRO I.S. Transmitter features the broadest calibrated dewpoint range (-148°F to +68ºF) and pressure range (vacuum to 5000 PSIG) in the industry. Flow rate is not critical to measurement accuracy, though speed of response will be improved by operating at a higher sample flow. In the unlikely event that something goes wrong, the embedded microprocessor provides intelligent information on the failure mode. Sensor fault, under-range and over-range conditions are all signaled by predetermined output levels, so you can easily establish the source of the problem, correct it and get back to operation as quickly as possible.

Ceramic Technology

The key to the Easidew PRO I.S. Transmitter's performance is its sensor technology. Kahn's advanced ceramic moisture sensor is coupled with advanced digital measurement circuitry to produce a fully calibrated and interchangeable dewpoint transmitter. All calibration data is stored within the transmitter memory so that calibration exchange or service can be accomplished in seconds, even by untrained personnel. The Easidew PRO I.S. Transmitter is simply disconnected, removed from its sample block and replaced by a new, fully calibrated unit. The Easidew PRO I.S. Transmitter can be connected in a 2-wire loop powered configuration.

The Easidew PRO I.S. Transmitter's calibration is traceable to NIST at thirteen points over the range from -148°F to +68ºF dewpoint to an accuracy of ±3.6ºF dewpoint. The inherent stability of our advanced ceramic moisture sensor means that the Easidew PRO I.S.Transmitter will provide years of reliable operation.

Certified Intrinsically Safe

The Easidew PRO I.S. Transmitter is FM and CSA certified for use in Class I, Division 1, Groups A, B, C, & D T4 hazardous locations when used with an approved galvanic isolation barrier for signal and power supply connections (2-wire). Easidew PRO I.S. can therefore be safely used in virtually all industrial gas measurement applications.

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What is Dewpoint?

Dewpoint is the temperature at which the water vapor pressure of a gas equals the saturated vapor pressure. It is therefore the temperature at which condensation "just begins" to occur if a gas is cooled.

Dewpoint is a fundamental unit directly equivalent to water vapor pressure or parts per million. It is a very convenient measure of actual water content (absolute humidity).

Calibration

The Kahn Easidew PRO I.S. Transmitter is factory calibrated to insure consistent, accurate readings. The calibration of all Kahn hygrometers is traceable to the National Institute of Standards and Technology through master Kahn optical hygrometers, which have been directly calibrated at the NIST and are periodically recalibrated. A certificate of traceability is available with any of these instruments.

Applications

- Industrial gas manufacturing
- CNG filling stations
- Natural gas production
- Natural gas distribution
- Natural gas dryers
- Hydrogen coolant in electric power generators
- Furnaces and heat treating
- Biofuel extraction/processing
- Instrument air in hazardous areas
- Other hazardous area applications

SPECIFICATIONS

Sensor Type:
Kahn Advanced Ceramic Moisture Sensor

Measurement Range:
-148°F to +68°F (-100°C to +20°C)
0 to 3000 PPMv moisture content

Accuracy:
±3.6°F (±2°C) dewpoint

Power Supply:
12-28 VDC reverse polarity protected

Output:
4-20 mA (2-wire) linear, current source, configurable over entire measurement range

FM and CSA Certifications:
Class I, Division 1, Groups A, B, C & D
T4 hazardous areas

Operating Temperature:
-40°F to +140°F (-40°C to +60°C)

Operating Pressure:
Vacuum to 5000 PSIG

Temperature Compensated:
From -40°F to +140°F (-40°C to +60°C)

Flow Rate:
2 to 10 SCFH (1 to 5 l/min) mounted in sampling block;
0 to 30 ft/sec (0 to 10 m/sec) velocity when inserted directly

Electrical Connection:
Two-wire, loop powered
Screw cable terminals
½" NPT conduit entry fitting

Traceable Certification:
-100°F to +68°F dewpoint traceable to NIST. For dewpoints < -100°F, direct reference to a fundamental optical dewpoint hygrometer

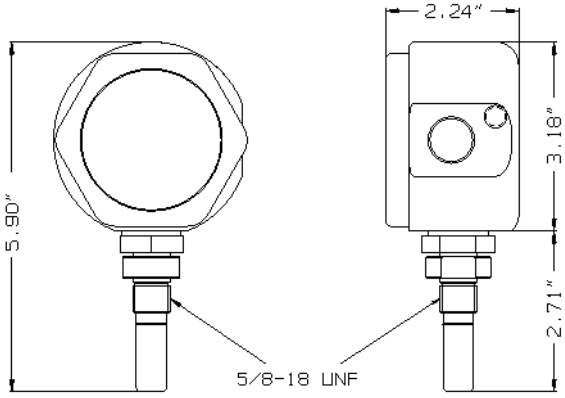
Environmental Protection:
NEMA 4 (IP66); 316SS housing
80µ Sintered metal sensor guard
10µ HDPE sensor guard (optional)

Weight:
2.90 pounds (1.32 kilograms)

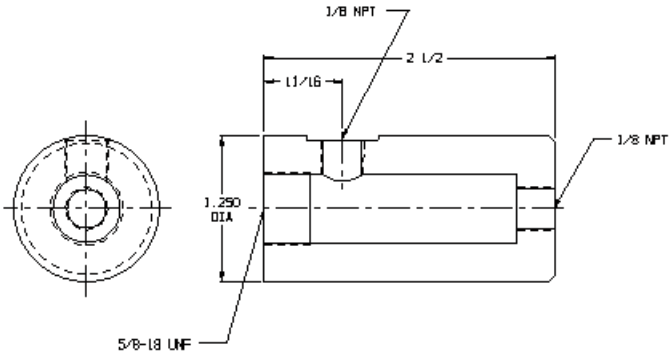
Installation:
5/8"-18 UNF mounting thread
Sample block (optional)
Wall mounting bracket (optional)

Self Diagnosis:

Condition	Output
Sensor fault	3 mA
Under-range dewpoint	3 mA
Over-range dewpoint	23 mA



Easidew PRO I.S. Dewpoint Transmitter



Stainless Steel Sample Block

Number 0110-EPR-IS Printed in USA

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