

Easidew Transmitter

A low cost, 2-wire, rugged dewpoint transmitter for continuous measurement of the moisture content of compressed air or process gas.

- -148°F to +68°F (-100°C to +20°C) dewpoint range
- 0-3000 PPMv moisture content
- 2-wire loop powered configuration
- 12 to 28 VDC operation
- Linear 4-20 mA signal
- Optional digital output
- NEMA 4 housing
- Fast and reliable
- NIST traceable



Simple And Economical

The economical, NIST traceable Easidew Transmitter makes monitoring dewpoint as easy as measuring temperature or pressure, and can be instantly incorporated into your air or gas measurement and control system. The Easidew Transmitter is also economical to purchase, install and maintain. Volume manufacturing allows us to keep the price low. Both installation and operating costs are minimal because of the transmitter's ruggedness, reliability and simplicity. Only periodic re-certification is required to maintain calibration accuracy. We even 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 Transmitter features the broadest calibrated dewpoint range (-148°F to +68°F) and pressure range (vacuum to 6500 PSIG) in the industry. Flow rate is not critical to measurement accuracy, though speed of response will be improved by operating at 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 quickly.

Ceramic Technology

The key to the Easidew 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 Transmitter is simply disconnected, removed from its sample block and replaced by a new, fully calibrated unit. The 2-wire loop powered Easidew Transmitter maintains complete backward compatibility with 3-wire installations.

Air and Gas Quality Measurement

The Easidew Transmitter's calibration is traceable to NIST at thirteen points over the range from -148°F to +68°F dewpoint to an accuracy of $\pm 3.6^\circ\text{F}$ dew point. The inherent stability of our advanced ceramic moisture sensor means that the Easidew Transmitter will provide years of reliable operation with only the need for periodic calibration to maintain traceability – vital for conformance with your own quality standards. The Easidew Transmitter is also fast to respond, ensuring that your process is always monitored in real time.

What is Dewpoint?

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

Dewpoint is a fundamental unit and directly equivalent to water vapor pressure and/or parts per million. It is a very convenient measure of actual water content of a gas because, unlike relative humidity, it is not a function of temperature.

Calibration

The Kahn Easidew Transmitter is factory calibrated to insure consistent, accurate readings. The calibration of all Kahn ceramic, aluminum oxide and chilled mirror 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. All sensors are fully interchangeable without the need for display recalibration. In addition all calibrations are guaranteed for one year.

Installation

The sensor can be installed directly in the main gas line or in a sample stream.

Easidew M12 option

- Modbus RTU over RS485
- 16 foot cable provided
- 6.1" overall length
- 4-20 mA output

SPECIFICATIONS

Sensor Type:

Kahn Advanced Ceramic Moisture Sensor

Measurement Range:

-148°F to +68°F (-100°C to +20°C) dewpoint
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 linear, current source configurable over the entire measurement range
Optional Modbus RTU (see Easidew M12 above)

Operating Temperature:

-40°F to +140°F (-40°C to +60°C)

Operating Pressure:

Vacuum to 6500 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 10 m/sec (0 to 30 ft/sec) velocity when inserted directly

Connection:

2-wire loop powered DIN-style with screw terminal contacts
Backward compatibility with 3-wire installations

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:

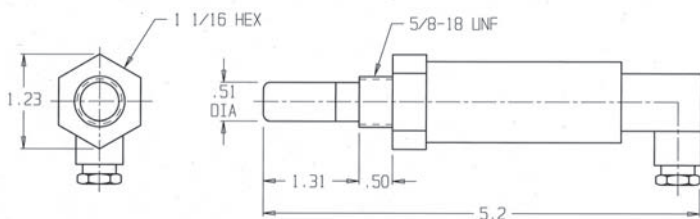
IP66/NEMA 4
10μ HDPE Guard (standard)
80μ Sintered Guard (optional)

Weight:

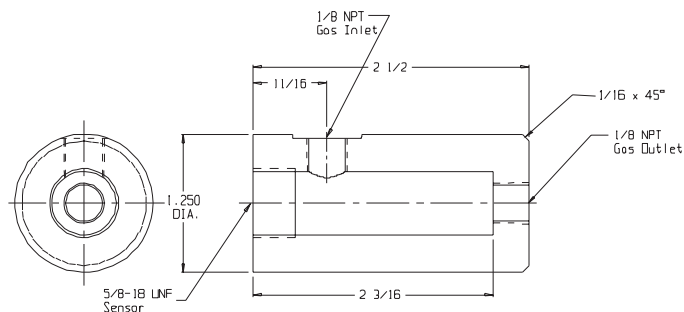
0.33 pounds (0.15 kg)

Self Diagnosis:

Condition	Output
Sensor fault	3 mA
Under-range dewpoint	3 mA
Over-range dewpoint	21 mA



Easidew Transmitter



Stainless Steel Sample Block

NOTE:
The information included herein was correct at the time of publication and supersedes all previously published data. However, it is our policy to continually improve our products to ensure ever better performance. Consequently, current Kahn products may incorporate modifications not shown or described on these pages.

Number 1804 Printed in USA

KAHN

KAHN INSTRUMENTS, INC.

885 Wells Road, Wethersfield, CT 06109
(860) 529-8643 Fax (860) 529-1895 www.kahn.com hygros@kahn.com