

# KAHN

# Hygrometers

## Easidew PRO XP

### Explosion Proof Moisture Transmitter

Low cost, explosion proof and flame proof, 2-wire, transmitter for continuous measurement of dewpoint or moisture content in gases or liquids in hazardous area applications.

- CSA, ATEX, IECEx, certified for use in hazardous areas
- -166°F to +68°F (-110°C to +20°C) dewpoint range
- Rugged NEMA 4 weatherproof housing
- 0-3000 PPMv moisture content in gas
- 0-1000 PPMw moisture content in liquid
- 14 to 28 VDC operation
- Linear 4-20 mA signal
- Dual conduit entry
- 2-wire operation
- Fast and reliable
- NIST traceable

### Simple and Economical Operation

The economical, NIST-traceable Easidew PRO XP Moisture Transmitter makes hazardous area dewpoint or moisture content measurements as easy as measuring temperature or pressure, and can be instantly incorporated into your hazardous area air, gas or liquid measurement and control system. The Easidew PRO XP is also economical to purchase, install and maintain. Both installation and operating costs are minimal because of the transmitter's ruggedness, simplicity and industry standard process and electrical connections. 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 Dewpoint Range

Powered by any DC power source from 14 to 28 volts, the Easidew PRO XP features the broadest calibrated dewpoint range (-166°F to +68°F) and operating 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 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.



Easidew PRO XP

### Ceramic Technology

The key to the Easidew PRO XP'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 XP is simply disconnected, removed from its sample block and replaced by a new, fully calibrated unit. The Easidew PRO XP can be connected in a 2-wire loop powered configuration.

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

### Certified Explosion Proof and Flame Proof

The Easidew PRO XP is cCSA<sub>US</sub> (US and Canada) certified for use in Class I, Division 1, Groups A, B, C, & D hazardous locations without the use of an intrinsic safety barrier. The Easidew PRO XP can therefore be safely used in virtually all industrial gas measurement applications.

For moisture measurements in non-polar liquids, saturation constants for eight common liquids can be programmed into the Easidew PRO XP via the application software. Additionally, the user can program saturation constants manually.

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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 XP 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

### Certifications:

CSA, ATEX, IECEx  
Class I, Division 1, Groups A, B, C & D  
CRN in all Canadian provinces  
CE rated

### Dewpoint Ranges Available:

-166°F to +68°F (-110°C to +20°C) or  
-148°F to +68°F (-100°C to +20°C)  
0 to 3000 PPMv moisture in gas  
0 to 1000 PPMw moisture in liquids

### Dewpoint Accuracy:

±1.8°F (±1°C) from -76°F to +68°F  
±3.6°F (±2°C) from -166°F to -76°F

### Power Supply:

14-28 VDC reverse polarity protected

### Output:

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

### Operating Temperature:

-4°F to +158°F (-20°C to +70°C)  
Fully compensated

### Operating Pressure:

Vacuum to 6500 PSIG

### 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  
Dual ¾" NPT conduit hubs

### Traceable Certification:

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

### Weight:

3.5 pounds (1.6 kg) aluminum  
5.3 pounds (2.4 kg) stainless steel

### Environmental Protection:

NEMA 4 (IP66), aluminum powder  
epoxy coated housing  
80µ Stainless steel sensor guard  
10µ HDPE sensor guard (optional)

### Installation

¾" - 16 UNF mounting thread, 316SS  
Wall or panel mounting  
Sample block (optional)  
Pipe mounting bracket (optional)

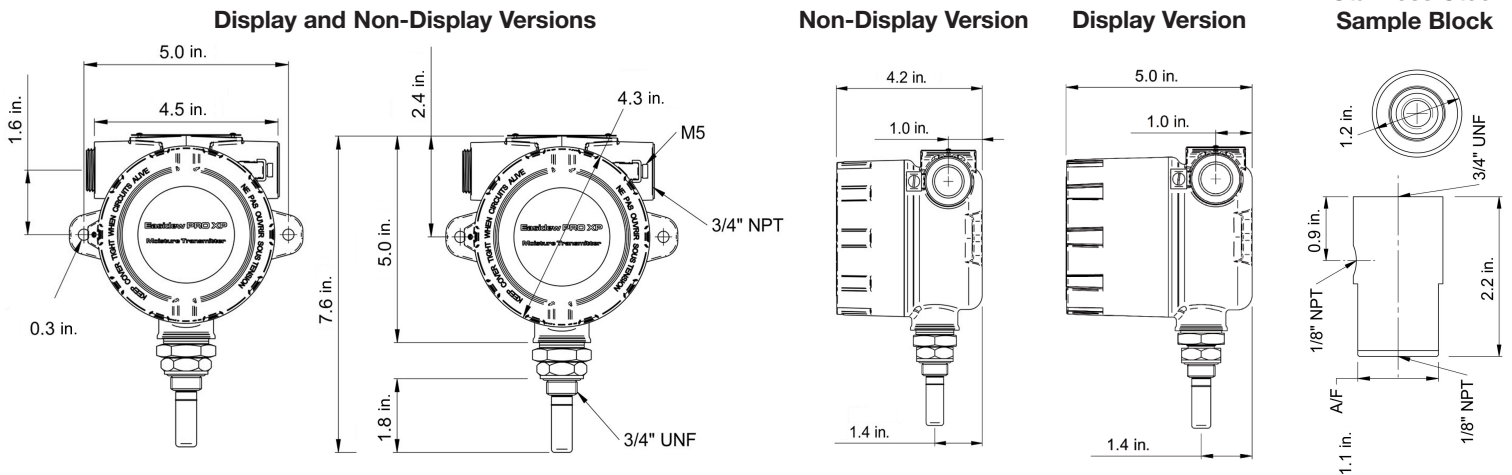
### Self Diagnosis:

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

On-site re-ranging and diagnostic  
communication kit (optional)

### Other Options:

Integrated Digital Display



NOTE: The information included herein was correct at the time of publication and supercedes all previous data. It is our policy to continually improve our products to insure even better performance. Consequently current Kahn products may incorporate modifications not shown on these pages.

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