



dew.IQ

Moisture analyzer

Low cost, real-time moisture measurement

The dew.IQ is an economical, single channel, aluminum oxide hygrometer in the IQ Series line of analyzers. It is intended for industrial applications requiring accurate, real-time moisture measurement.



Intelligence simplified with IQ.probe and M series probes

Installing the dew.IQ is highly intuitive. As a field upgrade for its predecessors, the Panametrics MMS35, System 580, Model 600 and 700 or even earlier models, the M Series probe and cable mate to the dew.IQ in minutes, minimizing installation costs. For new installations, the IQ.probe stores its calibration digitally, eliminating the need for shielded cable.

Both the IQ.probe and the M Series moisture probes are rugged and accurate true absolute humidity sensors with calibration traceable to national standards. Exceptional dynamic range, speed of response and calibration stability have made the aluminum oxide sensor the standard for performance and value in industrial moisture measurement for more than 40 years.

Microprocessor-based electronics

The microprocessor-based dew.IQ accurately tracks fast-changing process conditions, and displays the moisture content as dew/frost point temperature in °F or °C or as ppmv with a constant pressure input on an LCD. The measurement is also available as an analog output. The dew.IQ features built-in isolation to ensure the integrity of signals to remote devices. The meter also features two Form C alarm relays for high and low moisture limits. The large display and six-button keypad combine to make selection of analog output zero and span, alarm set-points fast and easy, and entry of calibration data simple.

Features

- Rack, bench, panel, and wall mount configuration
- NEMA 4 weatherproof membrane front display/keypad
- M Series or IQ.probe moisture probe compatible
- Displays moisture content in dew/frost point and ppmv
- Built-in isolated current or voltage analog output
- Fail-safe fault alarm relay
- Two measurement alarm relays

Applications

This Panametrics single-channel analyzer measures moisture in process gases. Designed for installation in industrial settings, it is used in conjunction with IQ.probe and M series moisture probes for industries including:

- Industrial gas
- Furnace gas/heat treating
- Power generation
- Air dryer
- Pharmaceutical
- Aerospace

Technical Specifications



Electronics

Intrinsic safety	External safety barrier for moisture input (optional on M Series Probe)
European compliance	Complies with EMC directive 2004/108/EC and 2006/95/EC low voltage directive (installation category II, pollution degree II)
Input	Moisture signal from an M series probe or IQ.probe
Analog output	Single internal isolated recorder output, internally optically isolated, 10-bit (0.1%) resolution
Switch-selectable outputs	<ul style="list-style-type: none">• 0 to 2 V, 10k W minimum load resistance• 0 to 20 mA, 400 W maximum series resistance• 4 to 20 mA, 400 W maximum series resistance user-programmable within the range of the instrument and the corresponding sensor or transmitter
Alarm relays	<ul style="list-style-type: none">• One fail-safe fault relay• Two standard Form C relays SPDT, rated for 3 A at 250 VAC/30 VDC• Set to any level within the range of the instrument; programmable from the front panel
Alarm set point repeatability	$\pm 0.2^{\circ}\text{F}$ ($\pm 0.1^{\circ}\text{C}$) dew point
Datalogger	32 GB capacity with MicroSD card, 4 GB card included
Display	128 x 64 matrix LCD
Display functions	Dew point temperature in $^{\circ}\text{F}$ or $^{\circ}\text{C}$, ppmv with a constant pressure input, or sensor signals for diagnostics

Power requirements	Universal power 100–240 VAC @ 50–60 Hz, or 24 VDC nominal
Temperature	<ul style="list-style-type: none">• Operating: -20° to 60°C (-4° to 140°F)• Storage: -40° to 70°C (-40° to 158°F)
Warm-up time	Meets specified accuracy within three minutes
Configurations	<ul style="list-style-type: none">• Panel (front panel meets Type 4 and IP66)• 9.5 inch half-rack Bench top• Type 4 and IP66 Wall mount

Moisture measurement

Sensor type	Thin-film aluminum oxide
Moisture probe compatibility	Compatible with all Panametrics M Series aluminum oxide moisture probes and IQ.probe
Calibration	<ul style="list-style-type: none">• Standard: 10 to -80°C (50 to -112°F) with extrapolated data from 20 to -110°C (68 to -166°F)• Low-Range: -110° to -50°C (-166° to -58°F)• High range data: -80° to 60°C (-112° to 140°F)
Calibrated accuracy at 77°F (25°C)	<ul style="list-style-type: none">• $\pm 3.6^{\circ}\text{F}$ ($\pm 2^{\circ}\text{C}$) above -148°F (-100°C)• $\pm 5.4^{\circ}\text{F}$ ($\pm 3^{\circ}\text{C}$) below -148°F (-100°C)
Repeatability	<ul style="list-style-type: none">• $\pm 0.4^{\circ}\text{F}$ ($\pm 0.2^{\circ}\text{C}$) above -148°F (-100°C)• $\pm 0.9^{\circ}\text{F}$ ($\pm 0.5^{\circ}\text{C}$) below -148°F (-100°C)

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