Panametrics
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moisture.IQ

Panametrics Moisture Analyzer

Applications

This multichannel analyzer measures moisture in gases and non-aqueous liquids and oxygen (optional) in gases. Designed for permanent installations, it is used in conjunction with Panametrics Moisture Image Series and M Series moisture probes for industries and applications including:

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

Features

- Up to 6 channels of moisture measurement
- Each channel can include optional pressure, temperature, oxygen, and other analog inputs
- Calibrations traceable to national standards
- Rack, bench, and panel, weatherproof and explosion-proof configurations available
- Computer-enhanced response software for abrupt dry-down applications
- Real time touch screen display of six or twelve parameters simultaneously
- Displays trace measurements in the most common moisture measurement units
- Built-in data logging
- USB port for data handling and instrument program updates
- Digital capabilities including Ethernet, Modbus, and RS232/485
- Analog outputs include recorder outputs and measurement relays
- Fault condition alarm relay
- Built in Henry's Law constants database for liquid applications

Multifunction

The moisture.IQ is the multichannel, multifunction flagship model in the IQ Series of Panametrics aluminum oxide-based moisture analyzers. The moisture.IQ measures trace moisture, pressure and temperature in non-aqueous liquids and gases. It accepts inputs from electrochemical sensors for measuring oxygen concentrations in gases. The auxiliary inputs can accept analog inputs from any transmitter with 0/4 to 20 mA or -1 to +4 V output, including a variety of Panametrics process control instruments, this feature makes the moisture. IQ a true multifunction analyzer, providing cost savings through system integration.

Bench mount version

Multichannel

For additional cost savings, the moisture.IQ is available with two module bays. Each can accept a 1-channel or 3-channel module. With up to six sets of sensors coming to one set of electronics, customers can significantly reduce their cost per measurement point.

Touch screen display

Designed with an industrial touch screen display, the graphical user interface is intuitive enough to negate the need for a user's manual (although one is provided)! Six or twelve measurements can be displayed at one time. Multiple display pages can be set up for easy scrolling. Color coded status gives you measurement alarm information at a glance.

Weatherproof version

Moisture image series probe

The moisture.IQ can accept inputs from the Panametrics MIS probes and the M Series probes that were available for the Moisture Image Series 1 and Moisture Monitor Series 3 analyzers. The MIS probes (MISP and MISP2) provide integral moisture, temperature, and pressure inputs. The calibration data for these sensors is stored digitally. Upon connection to the analyzer, the calibration data is downloaded to the moisture.IQ.

Explosion-proof version

Electronics	
Intrinsic Safety	All non-auxiliary inputs are intrinsically safe through internal isolation and energy-limiting circuitry.
Inputs	Two module bays are available. Each module bay can accommodate a 1-channel or 3-channel module. Each channel can accept: • 1 Moisture input (MIS Probe or M Probe) • 1 Temperature input (MIS Probe or M Probe) • 1 Pressure input (MIS Probe) • 1 Oxygen input (electrochemical sensor) • 2 Auxiliary inputs
Analog Outputs	2 per available channel
Measurement Alarm Relays	2 per available channel
Fault Condition Alarm Relay	1 per meter
Dimensions (w x h x d) and Weight	Rack mount: 482 x 133 x 357 mm (19.0 x 5.2 x 14.1 in.); 11.2 kg [24.7 lb.] Bench mount: 440 x 133 x 357 mm (17.4 x 5.2 x 14.1 in.); 10.4 kg [22.9 lb.] Panel mount: 542 x 201 x 357 mm (21.4 x 8.0 x 14.1 in.); 11.3 kg [25.0 lb.] Weatherproof: 508 x 508 x 229.8 mm (20.0 x 20.0 x 9.05 in.); 24.9 kg (55 lb.) Explosion-Proof: 590.6 x 590.6 x 304.8 mm (23.25 x 23.25 x 12.0 in.); 113.6 kg (250 lb.)
Moisture Measurement	
Type	Panametrics Moisture Image Series and M Series thin-film aluminum oxide probes
Calibration Ranges (Dew/Frost Point)	• Standard: 50 to -112°F (+10 to −80°C) with data from +68 to -166°F (+20 to -110°C) • Ultralow: -58 to -148°F (−50 to −100°C) with data to -166°F (−110°C)
Accuracy (Dew/Frost Point)	• ±3.6°F (±2°C) above -148°F (-100°C) • ±5.4°F (±3°C) below -148°F (-100°C)
Repeatability (Dew/Frost Point)	• ±0.4°F (±0.2°C) above -148°F (-100°C) • ±0.9°F (±0.5°C) below -148°F (-100°C)
Operating Pressure	5 µ of Hg to 5000 psig (345 bar) limited by optional pressure sensor: see pressure sensor ranges
Temperature Measurement	
Type	Optional thermistor built into moisture probe
Calibration Ranges (Dew/Frost Point)	−22 to 158°F (−30 to 70°C)
Accuracy	±0.9°F (±0.5°C) at −22°F (−30°C)

Pressure Measurement	
Type	Optional transducer built into Moisture Image Series moisture probes or standard external pressure transmitter
Full-Scale Ranges Available	• 300 psig (21 bar) • 500 psig (35 bar) • 1000 psig (69 bar) • 3000 psig (207 bar) • 5000 psig (345 bar)
Accuracy	±1% of full scale
Pressure Rating	Three times the span of the available range to a maximum of 7500 psig (518 bar)
Oxygen Measurement	
Type	Electrochemical sensor
Available Sensor Ranges / Accuracy	**ppb O2 Range** • DFOX-1, 0 to 500 ppb/5 ppm/50 ppm, 1/4 VCR ± 3% of reading or 25 ppb **ppm O2 Range** • DFOX-9, 0 to 1/10/100 ppm, 1/4 VCR • DFOX-2, 0 to 1/10/100 ppm, 1/8 compression ± 3% of reading or 50 ppb • DFOX-3, 0 to 10/100/1000 ppm, 1/8 compression ± 3% of reading or 200 ppb • DFOX-4, 0 to 100/1000/10,000 ppm, 1/8 compression ± 3% of reading or 2 ppm • DFOX-5, 0 to 50/500/5,000 ppm, 1/8 compression ± 3% of reading or 1 ppm **% O2 Range** • DFOX-6, 0 to 5%, 1/8 compression ± 3% of reading or 10 ppm • DFOX-7, 0 to 10%, 1/8 compression ± 3% of reading or 20 ppm • DFOX-8, 0 to 25%, 1/8 compression ± 3% of reading or 50 ppm
Pressure Rating	0.2 to 1 psig (0.07 bar)

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