



*The Trusted Name in Moisture Analysis*

## The M-i™ On-line Mini Moisture Monitor

The world's smallest, lowest-cost absolute moisture monitor, the M-i offers proven stability, precision, and repeatability. Based on our legendary electrolytic technology, its sensor comes from MEECO, Inc., which has manufactured the most reliable  $P_2O_5$  cells since 1953. The M-i combines a heritage of fine technology with the latest in sustainable packaging. The M-i is calibration-free, requires no consumables, and its sensor is completely recyclable. All told, the M-i equals the best value in one little analyzer.

Designed for on-line applications, the M-i measures from 0.5 ppm to 1000 ppm (parts-per-million) – over three orders of magnitude. Utilizing MEECO's accurate, linear electrolytic technology, the M-i guarantees peace of mind with no-drift analysis. At last, a mini-monitor with the confidence only an absolute technology provides.

The M-i's bold, easy-to-read display and dual alarm settings make it simple to confirm your gas quality. Plus, the M-i's light weight and compact size make it easy to mount just about anywhere. A breakthrough in mini-sensors, the M-i packs high-powered clean technology into a small, innovative and affordable package.

Gas pros know MEECO is the safe choice for moisture detection.



## M-i Applications

The M-i provides on-line moisture monitoring for a broad cross-section of industries such as:



### Industrial Manufacturers

- Process gas monitoring
- CDA monitoring for pneumatic applications
- Purge and blanket gas quality control
- Measurement on industrial gas pipeline taps



### Industrial Gas Producers

- Process control for cryogenic air separation
- Pipeline product monitoring
- Liquid truck-fill quality control
- House gas monitoring
- Purifier lifetime indication
- Process control for packaged gas preparation



## Analytical and Chemical Laboratories

- House gas quality control
- Purge gas monitoring for sample preparation
- Instrument support gas quality check
- Measurement of sweep gases for air sensitive reactions
- Monitoring glove box atmospheres



## Food and Beverage Industries

- CO<sub>2</sub> and N<sub>2</sub> truck and pipeline monitoring
- Monitoring during freezing processes
- CO<sub>2</sub> and N<sub>2</sub> monitoring at point-of-use
- Dry gas quality control for processing & packaging

### Service Program

MEECO offers a comprehensive service program in support of the M-i and other instruments.

We also offer Certification of our instruments in support of your ISO or other quality programs.

### Principle Of Operation

Based on Faraday's Law of Electrolysis, the M-i sensor absorbs and electrolyzes moisture at fractional parts-per-million (ppm). **How:** One hundred percent of the sample moisture is absorbed by a phosphorus pentoxide (P<sub>2</sub>O<sub>5</sub>) film that covers two spirally-wound electrodes embedded in a hollow glass tube. When the sample gas enters the cell at a known flow rate, the film absorbs all the moisture molecules present. By applying an electrical potential (voltage) to the electrodes, each absorbed water molecule is electrolyzed, generating a finite current. This current is precise and proportional to the amount of absorbed water. It is, therefore, an exact, direct measurement of the water vapor present in the sample gas.

### Specifications:

|                               |  |
|-------------------------------|--|
| <b>Display:</b>               | Five digit LCD indicator (H <sub>2</sub> O in ppm)   |
| <b>Range:</b>                 | 0.5 - 1000 ppmV  |
| <b>Lower Detection Limit:</b> | 0.5 ppmV   |
| <b>Accuracy:</b>              | ±5% of reading or 0.4 ppm, whichever is greater  |
| <b>Unit of Measure:</b>       | ppmV   |
| <b>Power:</b>                 | 24V DC input   |
| <b>Output Signal:</b>         | Analog 4-20mA  |
| <b>Alarms:</b>                | Equipped with two LED alarms   |
| <b>Fixed Inlet Pressure</b>   | 3 – 100 psig   |
| <b>Ambient Temperature:</b>   | 0°C to +60°C   |
| <b>Flow Rate:</b>             | 100 sccm; based upon pressure specified  |
| <b>Gas Connections:</b>       | 1/8" Compression   |
| <b>Weight:</b>                | 1.1 lbs (0.5 kg)   |
| <b>Dimensions*:</b>           | 5.10" H x 2.56" W x 2.31" D<br>(131.3 mm H x 65.0 mm W x 58.7 mm D)<br>* Excludes gas connections    |
| <b>Options:</b>               | RS-232; RS-485; RS-422,<br>Relay outputs (two; one for each alarm),<br>Regulator, Flow Control Valve |
| <b>Gas Compatibility:</b>     | Consult Factory  |



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Founded in 1948, MEECO specializes in moisture analyzers used in countless facilities around the world. We offer the world's most diverse and reliable range of instruments based on the absolute principle of electrolytic technology. MEECO tackles the tough problems, and we're proud to say that our name is synonymous with moisture analysis.

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Call our toll free FIXLINE 1-800-641-6478 for quick answers.