

UBER M-I™

Versatile, Low-cost, Guaranteed Drift-free Mini-sensor for Multiple Applications

Industrial Gas

Electronic Gas

Natural Gas

Medical & Aviation

Aerospace & Military

Glove Box

Specialty Gases

Reliable, Versatile, Easy-to-use, and Easy on Your Wallet: With the advent of the **Uber M-I**, we offer the world's smallest and lowest cost absolute moisture analyzer in a single comprehensive package. After close to a decade of service, our original M-i mini-sensor achieved global acceptance, with its proven stability, precision, and repeatability. Drawing upon MEECO's legendary Electrolytic cell technology, the updated **Uber M-I** offers drift-free, calibration-free performance and a wide dynamic range -- from 0.5 to 1000ppmV -- over three orders of magnitude! Its freedom from consumables, recyclable sensor, and sustainable design makes it truly a product for our times.

Now, building upon *all* of the original features, the **Uber M-I** is as easy to specify and to operate as it is easy on your wallet. Consider these valuable new features:

- Analog 4-20 mA and RS-232 outputs
- Two field-adjustable LED alarms, with dedicated Relay Outputs
- Accessible terminal block, with ready connections (fully assembled cable available)
- Inlet Pressure: 3 to 100 psig (lower available)
- Enclosure redesign for easy internal access

Service with a Big Smile: The **Uber M-I** comes with a full two-year Certificate of Calibration. The cell can easily be replaced in the field, with no more need to disconnect the unit from the sample stream! Also, spare cells now have a two-year storage life if maintained inside their designated bags.

We Get Around: The **Uber M-I** is suitable for a wide array of applications, including:

- ☑ **Glove boxes:** Based on its small size and lack of internal flow restrictions, the **Uber M-I** is ideal for Glove Box applications, so long as the sample flow can be controlled to 100 cc per minute.
NOTE: You may need a vacuum pump to pull the gas through the analyzer.
- ☑ **Semiconductor pre-purifier:** Avoid unnecessary degradation of your costly purifiers with a reliable, on-line **Uber M-I**. Have confidence that your delivery gas meets spec when the world's most ubiquitous contaminant is monitored and deemed in control.
- ☑ **Cylinder-fill:** With an **Uber M-I** at the front of your filling process, you can easily monitor the moisture level of the incoming gas to guarantee it is below the critical threshold.
- ☑ **Medical Gases:** Ensure your medical gases are European Pharmacopeia compliant. The **Uber M-I** electrolytic technology is the longstanding moisture measurement technique designated by the *Pharmacopoeia Europa*.
- ☑ **Welding:** Since shielding gases are most often inert (e.g., Argon and Helium), the **Uber M-I** is perfect for this application. Because the **Uber M-I** uses the absolute Electrolytic Principle, inert welding gas mixtures at any percentages can be accurately measured by simply adjusting the sample outlet gas flow to 100 cc per minute.
- ☑ **Fire suppression Systems:** For Oxygen reduction inert gas systems, using Nitrogen, Argon, CO₂, or their mixtures, the **Uber M-I** can reliably measure the low levels required.

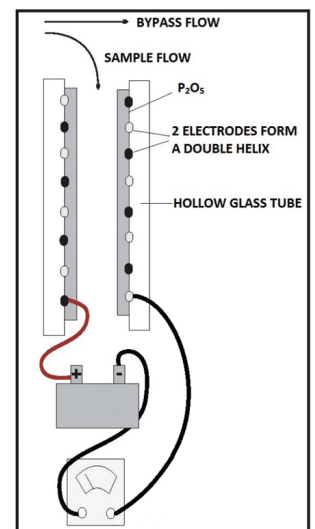
Uber M-I Specifications:

PERFORMANCE	
Operating range:	0.5 - 1000 ppmV
Lower Detection Limit (LDL):	0.5 ppmV
Accuracy:	5% of reading or 0.4 ppmV, whichever is greater*
Operating Temperature:	-20°C to +60°C (-4°F to 140°F)
Display:	Five-digit LCD indicator (H ₂ O in ppmV)
Unit of Measure:	ppmV
GAS HANDLING SYSTEM and CONDITIONS**	
Gas Connections:	1/8" Compression
Inlet Pressure:	3 – 100 psig (lower available)
Flow Rate:	1 100 sccm total (100 sccm for sample)
DIMENSIONS	
	4.94" H x 2.75" W x 2.28" D (12.55 x 6.99 x 5.79 cm)
WEIGHT	
	1.1 lbs (0.5 kg)
ELECTRICAL	
Alarm Indicators:	Equipped with two LED alarms adjustable via RS-232
Power: requirement:	24V DC input
Output Signal:	Analog 4-20mA; RS-232

* In Pure O₂: +/- 10% of reading or 3 ppmV, whichever is greater

**Gas Compatibility: Please consult Factory

Principle of Operation: Based on Faraday's Law of Electrolysis, the **Uber M-I** sensor absorbs and electrolyzes moisture at fractional parts-per-million or parts-per-billion (ppmV or ppb). 100% of the sample moisture is absorbed by a phosphorus pentoxide (P₂O₅) 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 a direct measurement of the water vapor present in the sample gas.



Under continuous family operation since 1948, MEECO specializes in electrolytic moisture analyzers used around the world. In addition to servicing the most advanced semiconductor fabs, we tackle the tough applications, such as silane, natural gas pipelines, and corrosive gases. *Bring on your greatest challenges.*

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