

PRODUCT DATA SHEET

3050-AM Moisture Analyzer

Fast, reliable ppmv moisture measurement

Ideal for process moisture measurement applications, the 3050-AM sets the standard for fast, accurate, parts per million by volume (ppmv) moisture analysis.

Multi-gas compatibility

The 3050-AM combines excellent multi-gas compatibility with an easy-to-use operator interface. It is completely compatible with virtually all non-corrosive gases including inerts – helium (He), argon (Ar), neon (Ne), xenon (Xe), krypton (Kr) – hydrogen (H₂), oxygen (O₂), nitrogen (NO), air, and many specialty gases such as sulfur hexafluoride. A single, simple menu selection is all that is needed to re-configure the analyzer for a new gas type.

Exceptional accuracy

The 3050-AM accurately measures from 0.1 ppmv to 100 ppmv. While this is the recommended usable range, the analyzer will provide measurements up to 1000 ppmv so that you can capture the nature of a process upset. Quartz-crystal technology and an on-line verification system combine to constantly provide assurance that the analyzer is continuing to provide you with this superior level of performance.

On-line zero-gas verification confirms analytical stability

The on-line verification system in the 3050-AM uses an internal zero verification system, which strips the moisture from the sample gas prior to analysis by the sensor. This allows the user to verify the zero point of the sensor's calibration, enhancing accuracy and confidence when monitoring in the critical 0 to 10 ppmv range. This system is entirely internal to the analyzer eliminating the need to break process connections along with the "wet-up" that would occur from ambient moisture. An alarm alerts the operator if the analyzer fails verification. The verification sequences can be started on a programmable schedule or on manual demand.

Fast response speed

The 3050-AM responds quickly to changes in moisture concentration. Employing a non-equilibrium measurement technique, the unit continuously exposes the sensor to wet sample gas followed by dry sample gas to make its analysis. As a result, the analyzer never needs to wait for the sensor to reach equilibrium to establish its accurate measurement.



KEY BENEFITS

- Wide measurement range
- Quartz-crystal technology provides accuracy, speed, and calibration stability
- On-line zero-gas verification confirms analytical stability
- Intuitive, easy-to-use interface with keypad and display allows quick access to all operating variables
- Multi-gas compatibility is ideal for periodic testing of multiple sample gases
- Menu-driven gas selection eliminates all manual adjustments

APPLICATIONS

- Industrial gas production and quality assurance
- Cryogenic air separation
- Process dryers

KEY MARKETS

- Air separation
- Semiconductor manufacturing
- LCD/OLED display manufacturing

PERFORMANCE SPECIFICATIONS

Compatible gases	Inerts (He, Ar, Ne, Xe, Kr), H ₂ , O ₂ , N ₂ , air, and some specialty gases such as sulfur hexafluoride (SF ₆) CO ₂ requires a custom measurement cell, (contact the factory to confirm compatibility with other gases)
Range	0.1 to 100 ppmv. Indicates trend to 1000 ppmv Display is software settable to show ppmv, or dew point (requires pressure input)
Reference dryer life	Over 1,000,000 ppmv-hrs (e.g. dryer will last over five years with a 20 ppmv inlet moisture concentration)
Limit of detection	0.1 ppmv
Accuracy	±10% or 0.1 ppmv, whichever is greater
Response time	63% in three minutes (as measured for a 0–5 ppmv step change)
Inlet pressure	42 to 345 kPa (6 to 50 psig)
Exhaust pressure	Atmospheric
Sample flow requirements	Approximately 50 sccm; approximately 900 sccm @ 50psig inlet with bypass option
Sample gas temperature	0 to 100°C (32 to 212°F)
Outputs	Four-line digital display. A fully programmable 4-20 mA analog output RS-485/RS-232 serial communication
Alarms	Three independent contact closures of 30 VAC or 60VDC max., 10VA or 1A max., resistive for system alarm, moisture concentration alarm, and data valid. All are fail-safe by default. Alarms are available on RS-485 interface
Software features	Displays ppmv moisture reading or dew point temperature, timer status, and instrument status
Environmental conditions	5 to 50°C (41 to 122°F), 90% relative humidity, non-condensing, noncorrosive atmosphere Optimal performance in sub-ppmv applications is achieved when the ambient temperature is maintained within ±2°C
Utility requirements	120/240 VAC, 47 to 63 Hz, 185 W Max. Instrument air: 483-690 kPa (70-100 psig)
Mounting configuration	19-inch rack/bench-top installation
Dimensions (W x H x D)	483 x 133 x 419 mm (19 x 5.25 x 16.5 in.)
New weight	9.8 kg (22 lbs.)
Approvals and certifications	CE MET Certified to: UL/CSA General Safety Requirements NEC/CEC Class I, Division 2, Groups A, B, C, D T4

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