AMETEK®
PROCESS INSTRUMENTS

MEASURES: H_2O

PRODUCT DATA SHEET

3050-OLV Process Moisture Analyzer

Fast, reliable ppmv moisture measurement

The 3050-OLV Moisture Analyzer combines quartz crystal accuracy with on-line verification in a cost-competitive package. This highly sensitive moisture analyzer is designed for applications that require continuous and reliable measurement of parts per million by volume (ppmv) moisture in gases and vapors.

On-line verification ability

An internal moisture generator allows the 3050-OLV user to quickly confirm analyzer performance on schedule or on demand by comparing sensor and system operation, to conditioned sample gas that contains a known amount of moisture. This unique ability to self-verify inspires operator confidence in the moisture analyzer.

Accurate and responsive

Fast response to changes in moisture levels enables the 3050-OLV to catch a moisture problem as it happens. Its accuracy, on-line verification capability, and repeatability guarantee that industrial gas specifications are met. The analyzer's quartz crystal moisture detection technology has been proven to deliver consistent, reliable and accurate information in hundreds of long-term applications. Its wide range of operation-factory calibration, over a range of 0.1 to 2500 ppmv, allows monitoring from start-up through normal operation.

Rugged sensor

The 3050-OLV is available in four possible configurations: black box, NEMA 1 enclosure, Zone 1/Div 1 IP65 and Div 2 NEMA 4X. The black box and NEMA 1 versions must be installed in weather-protected locations. The NEMA 4X systems are suitable for NEC Class I, Div 2 hazardous indoor or outdoor areas. The explosion-proof Div 1/Zone 1 versions are also suitable for indoor or outdoor installation. The 3050-OLV is ideally suited to monitor natural gas and other industrial gases. The sensor is not unfavorably affected by the presence of methanol, process gas temperature, and ambient temperatures within its operational limits. It can be used in sour gas containing up to 30% hydrogen sulfide or 100% carbon dioxide. The mercury levels typically present in natural gas do not adversely affect sensor performance.

KEY BENEFITS

- Fast response to both increasing and decreasing moisture levels
- Specific to moisture in most applications
- Most accurate trace moisture measurement technology available

APPLICATIONS

- Natural gas
- Feed gas
- Industrial gas

KEY MARKETS

- Petrochemical
- Natural gas
- Refinery
- Chemical

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PERFORMANCE SPECIFICATIONS

Technology	Quartz crystal microbalance (QCM)
Range	Calibrated from 0.1 to 2500 ppmv. Readout capability in ppmw, lb/mmscf, mg/Nm^3, and dew point temperature in °C or °F (requires process pressure as an input)
Reference gas	Continuously produced using actual sample gas
Online verification	Internal moisture source with NIST traceable calibration enables on-demand verification of analyzer accuracy and responsiveness without uninstalling the analyzer
Accuracy	±0.1 ppmv or ±10% of reading whichever is greater with standard calibration; special calibration ranges not required
Reproducibility	±5.0% of reading from 1 to 2500 ppmv
Limits of detection	0.1 ppmv
A/D resolutions	16-bit (0.0015%)
QCM response time	Near real-time. Computer-enhanced response, which may lead to errors, is not required to obtain quick wet-up or dry-down response
Sensitivity	0.1 ppmv or 1% of reading, whichever is greater
Allowable inlet pressure	1.3 to 3.3 Bar (20 to 50 psi) gauge; up to 200 Bar (3000 psi) with optional pressure reducer; analyzer performance is independent of process pressure
Exhaust pressure	0 to 1 Bar (0 to 15 psi) gauge
Sample gas temperature	0 to 100°C (32° to 212°F); analyzer performance is immune to changes in sample gas
Gas flow requirements	Approximately 150 sccm. Approximately 1.0 slpm bypass flow for increased speed of response
Outputs	Isolated 4-20 mA analog signal, 12-bit (0.025%) resolution, RS232 and RS485 serial communication ports (supports Modbus RTU)
Alarms	Three contact closures: system, data valid, and concentration
Ambient temperature limits	Analyzer: 5 to 50°C (41 to 122°F) Enclosed analyzer with sample system: -20 to 45°C (-4 to 113°F)
Voltage/power requirements	Analyzer: 24 VDC, 50 watts Analyzer with sample system: 120 ±10% VAC, 50/60 Hz, 150 W maximum; 230 ±10% VAC, 50/60 Hz, 150 W maximum
Enclosures	IP65 (Zone 1/Div 1) NEMA 4X (Div 2)
Approvals and certifications	UL/CSA General Safety. Requirements (general purpose). UL/CSA Class I, Division 2, Groups A, B, C, D, T4. UL/CSA Class I, Division 1, Groups B, C, D, T6. ATEX Directive: II 2 G Ex d e IIC T6 (or T5) Gb IP65; The T6 rating applies to ambient temperatures below 40°C (104°F). Russian GOST 1ExdIICT6X. Russian GOST Pattern Approval. Complies with all relevant European Directives

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