

## Model 5812 Moisture Analyzer for reliable moisture in natural gas measurement

Measuring moisture in natural gas is not a difficult application, but reliably measuring on a continuous basis is. Glycols and entrained compressor oils can quickly contaminate or damage most moisture sensors. In addition, many moisture analyzers have no means to detect the presence of such contamination, leading to inaccurately monitored or completely unmonitored gas streams.

AMETEK's Model 5812 moisture in natural gas analyzer is designed specifically for the needs of the natural gas industry for reliable, low maintenance, and self-verifying moisture analysis.

### Superior benefits

#### **Internal moisture standard for measurement verification**

The Model 5812 employs an internal, NIST-traceable moisture generator. This generator adds a known amount of moisture to conditioned natural gas. The resulting wet gas is then directed to the analyzer's sensor to verify the sensor's proper operation. An alarm contact is provided to alert the operator if the analyzer fails the verification process. Verification may be initiated on programmable schedule or on demand manually.



Model 5812 Moisture Analyzer

### Long sensor life

The Model 5812's exceptional sensor life comes from its unique asymmetrical sensing technology, which limits the exposure of the sensing element to potentially dirty natural gas. During asymmetrical sensing, the Model 5812 directs natural gas into the sensor module for 30 seconds, then directs clean, dry gas for the next 9.5 minutes. Thus, in each 10 minute measurement period, the sensor module is actually exposed to dirty natural gas for only 5% of the time. For the remainder of the measurement period, clean gas protects the sensor and strips away volatile contaminants.

### Rugged quartz crystal sensing

The Model 5812 measures moisture by monitoring the performance of a solid-state, water-sensitized quartz crystal. As wet sample gas passes over the crystal, moisture is sorbed onto the crystal's coated surface. The crystal is then exposed to dried sample gas and moisture is released. The difference in the wet and dry performance of the crystal is proportional to sample moisture level.

This continuous cycling between wet sample and dry sample gases results in the analyzer being constantly ready to detect and respond to changes in moisture. It's the combination of quartz crystal sensing and asymmetrical sampling which provides the rugged, reliable, continuous performance demanded in natural gas moisture analysis.

# Model 5812 Moisture Analyzer

## Exceptional Performance

### Wide performance range

The Model 5812 is calibrated from 1 to 1000 ppmv and provides trend indication above the calibrated range. Alternative output in pounds per million cubic feet is standard.

### Convenient, complete package

The Model 5812 includes an external contaminant trap and dryer, ready for immediate installation in your NEC Division 2 analyzer shelter.

### True process analyzer features

Data is provided by RS-485 digital interface and two fully

programmable 4 to 20 mA analog outputs. Multiple programmable alarms allow the user to monitor both process conditions and analyzer performance. The RS-485, when used with optional AMETALK software, is particularly useful for remote monitoring or troubleshooting an unattended Model 5812.

### After-sale support

The AMETEK Service Assistance Program (ASAP) is available to all AMETEK analyzer customers. ASAP is a comprehensive package of after-sale support programs, from hands-on

training, to 24-hour phone help, to warranty extension. Contact AMETEK for additional details. (ASAP programs may have limited availability in some world areas.)

The AMETEK Model 5812 is one of a family of exceptional moisture analyzers from AMETEK, a leader in process instruments. Contact the factory or your local representative for more information.

## Performance Specifications

**Range:** Calibrated 1 to 1000 ppmv with trend indication above calibrated range

### Outputs:

Four line x 20 character vacuum fluorescent digital display.

Two fully programmable 4 to 20 mA analog outputs, into 1200 ohm load. RS-485 bidirectional serial port

**Alarms:** Three independent contact closures, 30 VDC maximum, 1 A resistive load for system alarm, range alert/or calibration alert, concentration alert/or calibration alert. Alarm signals are available on the RS-485 interface.

**Sensitivity:** 0.02 ppmv or 0.5% of range, whichever is greater

**Accuracy:** ±1.0 ppmv or ±5% of reading, whichever is greater

**Operating Pressure:** Atmospheric

**Inlet Pressure:** 1 to 10 bars (15 to 150 psig)

**Exhaust Pressure:** Atmospheric

**Sample Flow Requirements:** Less than 600 mL/min at STP

**Reference Gas Quality Requirement:** Provided by included dryer and contaminant trap

### Electrical Classifications:

NEC/CEC Class I, Division 2, Groups A B C D, T3C

CE LVD EN61010-1/UL3101-1/CSA #1010.1

CE EMC EN50081-1, EN50082-1 Installation category II, Pollution degree 2

Gosstandart Pattern Approval No. 1407

**Sample Gas Temperature:** 0° to 100° C (32° to 212° F)

**Ambient Operating Range:** 4° to 40° C (40° to 105° F), 90% relative humidity, non-condensing, noncorrosive atmosphere

**Software Features:** Displays ppmv, dewpoint, or lb./mmft<sup>3</sup> moisture reading, timer status, and instrument status

**Power Requirements:** 85 to 265 volts, 47 to 63 Hz

**Mounting Options:** Available for stand-alone or 19 inch rack installation

**Dimensions (W x H x D):** 43.2 x 13.2 x 38.1 cm (17 x 5.2 x 15 in.)

**Rack-mount Version:** same as above, except height is 22.1 cm (8.71 in.)

**Net Weight:** 8.2 kg (18 lb.)



455 Corporate Blvd., Newark, DE 19702  
Ph. +1-302-456-4400, Fax +1-302-456-4444  
www.ametekpi.com



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One of a family of innovative process analyzer solutions from AMETEK Process Instruments.  
Specifications subject to change without notice.

### SALES AND MANUFACTURING:

**Canada - Alberta**  
2876 Sunridge Way N.E., Calgary AB T1Y 7H2 • Tel: +1-403-235-8400, Fax: +1-403-248-3550

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MOISTURE