PRODUCT DATA SHEET

5812 Moisture Analyzer

Reliable moisture in natural gas measurement

Measuring moisture in natural gas is not a difficult application, but reliably measuring on a continuous basis is. The 5812 Moisture Analyzer is designed specifically to meet the needs of the natural gas industry for reliable, low maintenance, and self-verifying moisture analysis.

The 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 is the combination of quartz-crystal sensing and asymmetrical sampling which provides the rugged, reliable, continuous performance demanded in natural gas moisture analysis.

Long sensor life

The 5812 has an exceptional sensor life due to its unique asymmetrical sensing technology, which limits the exposure of the sensing element to potentially dirty natural gas. During asymmetrical sensing, the 5812 directs natural gas into the sensor module for 30 seconds, then directs clean, dry gas for the next 9.5 minutes. In each 10-minute measurement period, the sensor module is 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.

Wide performance range

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

True process analyzer features

Data is provided by RS485 digital interface and two fully programmable 4-20 mA analog outputs. Multiple programmable alarms allow the user to monitor both process conditions and analyzer performance. The RS485 is particularly useful for remote monitoring or troubleshooting an unattended 5812.

KEY BENEFITS

- Reliable performance
- Internal verification on process gas
- Fast response

APPLICATIONS

- Moisture in natural gas

KEY MARKETS

- Natural gas

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 4-20 mA analog outputs, into 1200 ohm load. RS485 bidirectional serial port
Alarms	Three independent contact closures, 30 V DC maximum, 1 A resistive load for system alarm, range alert/or calibration alert, concentration alert/or calibration alert. Alarm signals are available on the RS485 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 requirements	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, EN50082-1Installation category II, Pollution degree 2 Gosstandart Pattern Approval No. 1407
Sample gas temperature	0 to 100°C (32 to 212°F)
Ambient operating temperature	4 to 40°C (40 to 105°F), 90% relative humidity, non-condensing, non-corrosive atmosphere
Software features	Displays ppmv, dew point temperature, or lbs/MMscf 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)	432 x 132 x 381 mm (17 x 5.2 x 15 in.)
Rack-mount version	Same as above, except height is 221 mm (8.71 in.)
Net weight	8.2 kg (18 lb.)