AMETEK®
PROCESS INSTRUMENTS

MEASURES: H_2O

PRODUCT DATA SHEET

5800 Moisture Analyzer

Excellent performance for critical moisture measurements

For critical moisture measurement applications, the 5800 offers a combination of exceptional performance benefits: high accuracy, multi-gas compatibility, fast response speed, and wide measurement range. The 5800 is ideal for moisture applications that require accurate results. The NIST-traceable internal moisture generator allows the user to quickly confirm analytical performance, at any time, on the sample gas. The generator adds a known amount of moisture to conditioned gas. The resulting known wet gas is then directed to the analyzer's sensor, verifying proper sensor and system operation. An alarm contact alerts the operator if the analyzer fails this verification process. The verification sequence may be started on a programmed schedule or on demand.

Multi-gas compatibility

The 5800 is completely compatible with virtually all non-corrosive gases, including inerts – helium (He), argon (Ar), neon (Ne), xenon (Xe) and krypton (Kr) – oxygen (O_2), hydrogen (H_2), nitrogen (N_2), nitric oxide (NO), carbon monoxide (CO), hydrocarbons, air, and many specialty gases such as sulfur hexafluoride (SF_6). Changing gases is simple and quick.

Fast response speed

The 5800 reaches 63% of a steady state reading in less than five minutes, far faster than other moisture analyzers in the 0.1 to 100 parts per million by volume (ppmv) range. Because the analyzer employs unique non-equilibrium measurement techniques, it delivers this exceptional response during dry-down as well as when wetting-up.

Wide measurement range

The 5800 measures from 0.02 ppmv (20 parts per billion by volume (ppbv)) to 1000 ppmv. The calibrated range is 0.1 ppmv to 100 ppmv. Two custom-settable 4-20 mA outputs are provided, which may be assigned to cover any portion of the operating range. One analog output is auto-ranging, to maintain high output resolution over the widest measurement range possible.

KEY BENEFITS

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

APPLICATIONS

- High-purity gas production
- Olefin production, storage, and transmission
- Semiconductor gases

KEY MARKETS

- Semiconductor manufacturing
- Industrial gas
- Petrochemical

PERFORMANCE SPECIFICATIONS

Compatible gases	Inerts (He, Ar, Ne, Xe, Kr), O_2, H_2, N_2, NO, CO, hydrocarbons, air, and many specialty gases such as SF_6. Carbon dioxide (CO_2) requires a custom measurement cell. (Contact the factory to confirm compatibility with other gases)
Range	0.02 to 100 ppmv. Indicates trend to 1000 ppmv. Display is software-settable to show ppmv, ppbv, or dew point temperature (requires pressure input)
Limit of detection	0.02 ppmv
Accuracy	±20 ppbv or 5% of the reading, whichever is greater
Sensitivity	5 ppbv or 0.5% of instrument range, whichever is greater
Response time	63% of a step change in either direction in less than five minutes
Inlet pressure	1 to 6.89 Bar (15 to 100 psig)
Exhaust pressure	Atmospheric
Sample flow requirements	600 ml/min at STP
Sample gas temperature	0 to 100°C (32 to 212°F)
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, 32 V dc maximum, 1 A noninductive load, for system alarm, range alert/or calibration alert, concentration alert/or calibration alert. Alarm signals are available on the RS485 interface
Software features	Displays ppmv or ppbv moisture reading or dew point temperature, timer status, and instrument status
Environmental	4 to 40°C (40 to 105°F), 90% relative humidity, non-condensing, noncorrosive atmosphere. Optimal performance in ppbv applications is achieved when the ambient temperature is maintained within ±2°C
Utility 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	16.79 kg (37 lbs.)
Approvals and certifications	NEC Class I, Division 2, Groups A, B, C, D EU EN50081/82; EN61010-1

AMETEK®
PROCESS INSTRUMENTS

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