



SS1000 PORTABLE H₂O GAS ANALYZER

FOR NATURAL GAS
Application Code 10401

KEY FEATURES

- Virtually maintenance free
- No interference from glycol, methanol or amine contaminants (vapor phase)
- Fast and accurate real-time measurements
- No wet-up or dry-down delays
- Short term payback; no consumables
- NIST-traceable calibration

SpectraSensors SS1000 Portable is a light weight, easy to handle, battery-powered H₂O analyzer, used to verify measurements and for spot-checking when other methods provide questionable results.

In natural gas pipeline applications, poor quality measurement results are extremely costly. Additional processing or dehydration costs, upset conditions, shut-ins and inconsistent process results may be caused by sensors that do not perform properly. The SS1000 reveals poorly performing sensors, pinpoints high moisture and can be used as a standard for measurement validation.

RAPID RESPONSE TIME The SS1000 allows for fast, simple operation. The analyzer's laser and detector take measurements 4 times per second and average the results. These real-time measurements are not hampered by wet-up (absorption) or dry-down (desorption) as with surfaced-based sensors.

Reliability and speed are ultimately critical in process measurements, especially with a portable unit. The SS Series Sensors are the fastest, most dependable method to get an accurate moisture measurement.

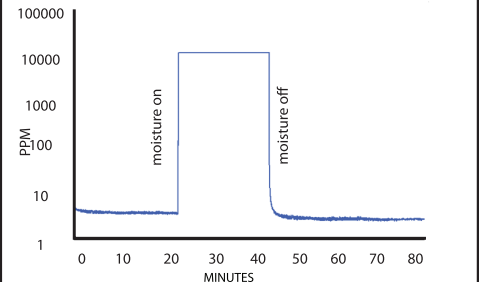


Figure 1: Instant response from a sudden introduction and interruption of a moist stream of air into the SS1000 sample cell.



RELIABLE Using state-of-the-art laser technology developed by NASA, the SS1000 analyzer is more reliable, with greater repeatability than surface based sensors and is not subject to the interpretation errors of a chilled mirror.

NO INTERFERENCE As with all SpectraSensors analyzers, the SS1000 combines a patented laser with control electronics and "smart" software. The analyzer's sensor heads are not subjected to corrosives or contaminants in the gas because the sensor is isolated from the sample gas stream.

The result is an analyzer which does not suffer from contamination or drift due to vapor impurities such as glycol, methanol, amines, hydrogen sulfide, or mercaptans.

PAYBACK The SS1000 very quickly pays for itself by eliminating the cost of consumables, extra sensor heads, factory calibrations, labor, and overhead associated with excessive maintenance. Expensive problems caused by unreliable gas measurements such as added processing steps and poor gas quality can be eliminated.

SS1000 Portable Moisture Analyzer



SPECIFICATIONS

Application Data

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|---------------------------------|---|--|
| Target Components | H ₂ O in Natural Gas | |
| Typical Measurement Ranges | Medium Precision 40-422 ppmv, 40-1055 ppmv, 40-2110 ppmv (2-20 lbs, 2-50 lbs, 2-100 lbs/MMscf) | High Precision 0-422 ppmv, 0-1055 ppmv, 0-2110 ppmv (0.5-20 lbs, 0.5-50 lbs, 0.5-100 lbs/MMscf) |
| Typical Repeatability | ±10 ppmv or ±2% of reading | ±4 ppmv or ±2% of reading |
| Measurement Response Time | 0.25-2 seconds | |
| Principle of Measurement | Tunable Diode Laser Absorption Spectroscopy | |
| Environmental Temperature Range | -20° to 50°C (-4° to 122°F) | |
| Sample Cell Pressure Range | 700-1400 mbara | |
| Sample Cell Temperature Range | -20° to 50°C (-4° to 122°F) | |
| Maximum Cell Pressure | 70kPag (10 PSIG) | |
| Sample Flow Rate | 0.1-10 L/min (0.2 to scfh) | |
| Recommended Validation | Bureau of Mines Chilled Mirror | |

Electrical Data

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|---------------------------------|---|
| Power Supply | 100-240 VAC, 50-60 Hz - <i>standard</i> 12-Volt, Sealed Lead-Acid Battery Approx. 8 hours usage time per charge |
| Max Current | 0.5A @ 120 VAC during recharging |
| Controller to Cell Cable Length | 1 m - <i>standard</i> (3 m, 5 m & 10 m - <i>optional</i>) |
| Communication | RS232C - all parameters |
| LCD Display | Concentration, Cell Pressure and Temperature & Diagnostics |

Physical

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|--------------------------|--|
| Dimensions | Nominal 200 mm H × 175 mm W × 450 mm D (8 × 7 × 18 inches) |
| Weight Approximately | Approx. 6.8 kg (15 lbs) |
| Sample Cell Dimensions | 438 mm H x 108 mm W (17¼ H x 4¼ W inches) |
| Sample Cell Construction | 316L Series Polished Stainless Steel - <i>standard</i> |
| Number of Sample Cells | 1 |

Area Classification

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|---------------|---|
| Certification | Non-Hazardous (certified) locations - General Purpose |
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