



SS1000 PORTABLE GAS ANALYZER

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 or CO₂ 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.



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 eliminating the cost of consumables, extra sensor heads, factory calibrations and 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

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.

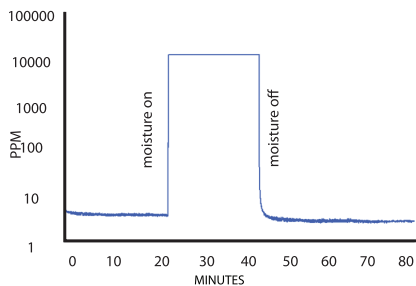


Figure 1: Instant response from a sudden introduction and interruption of a moist stream of air into the SS1000 sample cell. CO₂ sensor response is similar.

Ask about other available products:



SS2000 Gas Analyzer with Sample Conditioning Panel

SS1000 Portable Gas Analyzer



SPECIFICATIONS

Performance

	<i>Standard</i>	<i>Optional</i>
Moisture Concentration (H ₂ O)* NIST-Traceable	0-20 lbs/MMSCF Natural Gas 0-422 ppmv	0-20 lbs/MMSCF Natural Gas 0-422 ppmv
Lower Detection Limit (H ₂ O)	2 lbs/MMSCF (42 ppmv)	0.5 lbs/MMSCF (11 ppmv)
Repeatability (H ₂ O)	±1% of reading or ±10 ppmv, whichever is greater	±1% of reading or ±4 ppmv (ranges up to 10,000 ppmv available)
Carbon Dioxide Concentration (CO ₂)*	0-10%	
Repeatability (CO ₂)	±1% of reading, or ±0.04% (400 ppmv), whichever is greater	
Response time**	Display updates 0.25-2 seconds (software adjustable)	

Application Data

Environmental Temperature Range*	-20° to 50° C (-4° to 122° F)
Sample Inlet Pressure	10 to 25 PSIA, 10 PSIG maximum (70-170 kPa Abs, 70 kPaG maximum)
Sample Flow Rate	0.1-10 L/min (0.2 to 20 scfh)
Contaminant Sensitivity	None for gas phase glycol, methanol, amines, hydrogen sulfides or mercaptans.

Electrical & Communications

Input Voltage	100-240 VAC, 50-60 HZ <i>standard</i>
Electrical Storage	12-Volt, Sealed Lead-Acid Battery Approx. 8 hours usage time per charge
Current	0.5 A @ 120 VAC during recharging
Outputs	RS232 – all parameters
LCD Display	Concentration, Cell Pressure and Cell Temperature

Physical

Dimensions (Includes Handle and Feet)	Nominal 200 mm H × 175 mm W × 450 mm D (8" H x 7" W x 18" D)
Weight	approx. 6.8 Kg (15 lbs)
Sample Cell Construction	316L Series polished stainless steel <i>standard</i>
Accessories	Membrane Separator, Carrying Case, Charger, Quick Connect Fittings included. Sample Conditioning available.

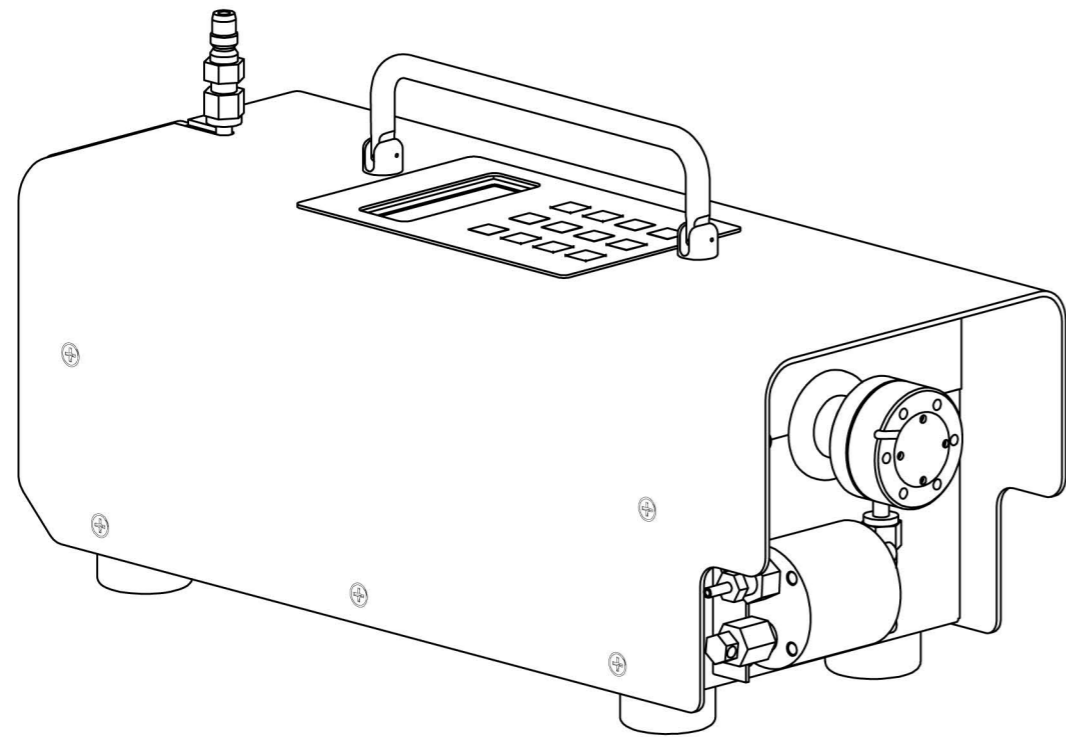
Area Classification

Certification	Non-Hazardous (certified) locations – General Purpose
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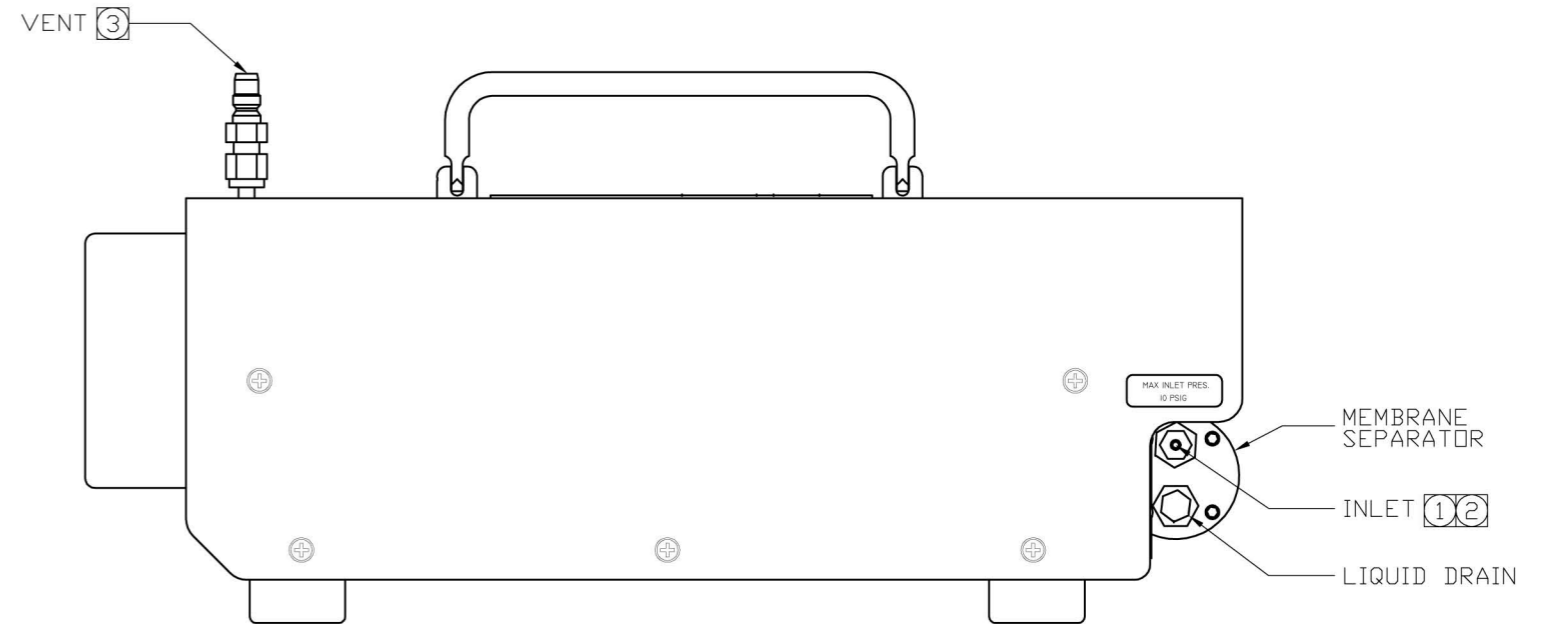
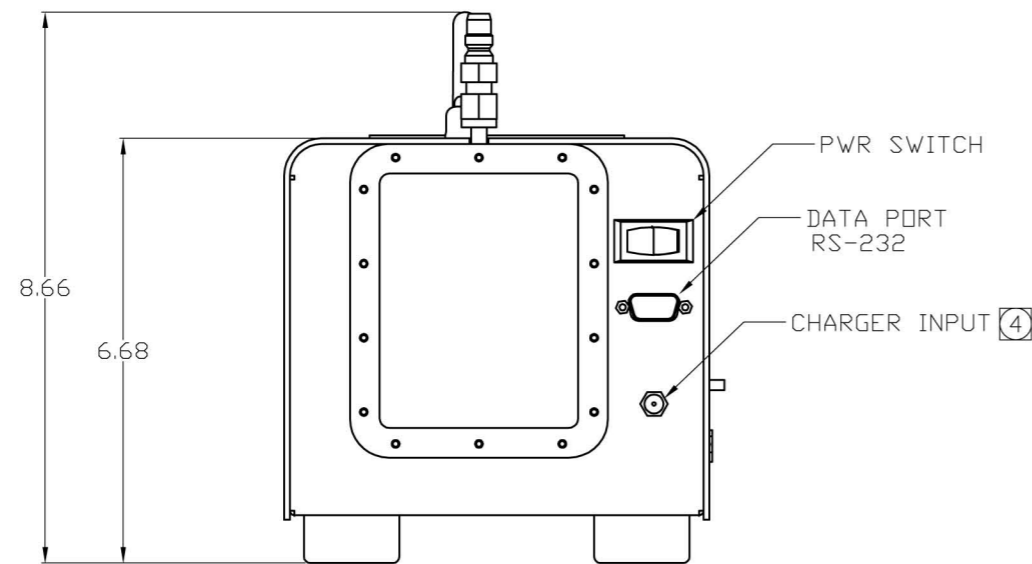
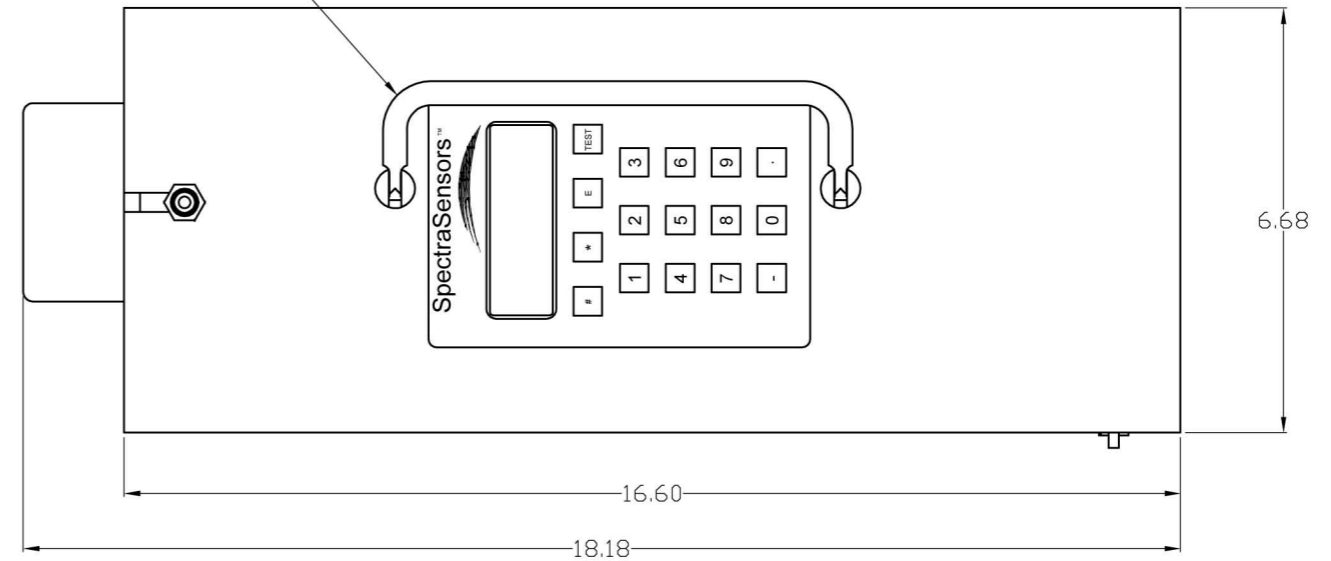
* Consult factory for alternative or extended ranges.

** Flow Rate Dependant - Sample cell volume is 0.14 L (0.005 ft³). Time to displace cell volume at a flow of 1 L/min 2 scfh) is ~10 sec.

REVISION			
REV	DESCRIPTION	APPROVED	DATE
-	INITIAL RELEASE		



HANDLE SHOWN IN FOLDED POSITION



SpectraSensors®

Portable Natural Gas Analyzer with carrying case and 100/250 VAC, 50/60 Hz charger
 (Suitable for use in non-hazardous areas)

Measured Component

0	H2O range 2 - 20 lbs/MMSCF (42-420 ppmv), Accuracy ± 0.5 lbs/MMSCF
1	H2O range 0.5 - 20 lbs/MMSCF (10-420 ppmv), Accuracy ± 0.2 lbs/MMSCF
2	CO2 range 0-10%
4	H2O range 0-100 ppmv
8	H2O range 0-6000 ppmv
X	Other

SS1000- 5 1 1 1 1

Probe-Regulator Assembly - removes liquid and reduces pressure; 0-10 psig output pressure

Probe Length

4	4" Probe (typically suitable for 4" to 8" line diameter)
7	7" Probe (typically suitable for 8" to 16" line diameter)
9	9" Probe (typically suitable for 12" to 24" line diameter)

Housing

0	No housing
1	3/4" NPT, up to 2000 psig
2	1" NPT, up to 3500 psig

SC401- 1 1 1

Portable Heated Regulator Assembly - 0-10 psig output pressure; 85° F, 50 ft cable length

Power Supply

5	110 VAC
6	220 VAC

SC403- 1 1 1 1



H₂O / CO₂ in Natural Gas Analyzer
Portable SS1000 Analyzer Solution
Product Codes 10401, 10501, 10603

Typical Accessories

P/N 02199-00001 Spares Kit- includes fuses, o-rings and hardware	\$79
P/N 00000-02015 Extended calibration range (up to 100lb/MMSCF H ₂ O) Other ranges available (consult factory)	\$500
P/N 39901-12012 Replacement battery charger	\$150
P/N 01902-93001 Instruction Manuals (up to 2 copies at no charge)	\$30 each
P/N 00403-90001 Quick-connect flow meter	\$300
Replacement mating quick-connect fittings (1 ea. input and output)	\$125
P/N 01910-30017 Stainless Steel Tag, up to 2 lines of text	\$45
P/N 00000-02014 Certified As-Built Drawings 2 sets	\$50