

SS500e/ SS2000e Single Channel H₂O or CO₂ Gas Analyzer Datasheet

For natural gas

Key Features

- Virtually maintenance free
- No interference from glycol, methanol or amine contaminants (vapor phase)
- Accurate, real-time measurements
- No wet-up or dry-down delays
- Reliable in harsh environments
- Short term payback; no consumables
- NIST-traceable calibration
- NEMA 4X enclosure
- Analog and digital Outputs for remote monitoring
- Heated and Unheated Stainless Steel Sample Conditioning Enclosures with NEMA-4X System Rating
- Optional RS485 and Ethernet Communications
- AMS100 Analyzer Management Software
- CSA Certification



SpectraSensors SS500e/SS2000e Single Channel Analyzer is extremely reliable and tailored for the needs of the natural gas industry. The sensor measures gas using a patented tunable diode laser absorption spectroscopy (TDLAS) to determine the concentration of the gas without coming into physical contact with the stream.

Rapid response time The SS2000e analyzer takes four measurements per second with a laser and detector and immediately averages the results. Because there is no contact with the gas, real-time measurements are not hampered by wet-up or dry-down times as with surfaced-based sensors.

Reliable Trustworthy measurements are vital to natural gas pipeline and processing companies. Independent studies have proven that the SS2000e results are highly correlated with those of chilled mirrors. However, chilled mirrors require skilled experts to operate and the results are highly scattered (large standard deviation).

Uncertain measurements can be extremely costly. Additional processing of dehydration costs, upset conditions, shut-ins and inconsistent process results may be caused by sensors that do not perform properly. The SS2000e is the first to offer truly reliable measurement and simple operation.

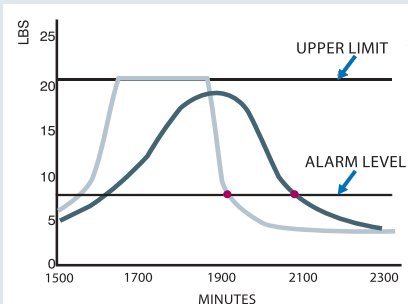
Long life The TDLAS sensor does not come into contact with the sample gas stream. The result is a sensor which does not suffer from contamination or drift due to vapor impurities such as glycol, methanol or amines.



Low cost of ownership Operating costs are dramatically reduced by eliminating the cost of consumables, extra sensor heads, labor and overhead associated with excessive maintenance.

The SS2000e dramatically reduces intangible but real costs associated with unreliable gas measurements. By eliminating added processing steps, detecting poor gas quality and the possibility of costly damage to equipment that can result from sensors that produce incorrect data.

Real-time Analysis



A read out comparison of the SS2000e (left curve) and a slower sensor demonstrates how eliminating long dry-downs can drastically reduce costly shutdown times. In this example, the alarm state is erroneously extended for hours.

Specifications

Application Data	
Target Components	H ₂ O or CO ₂ in Natural Gas (SS500e H ₂ O only)
Measurement Performance	Refer to Application Notes (AN 10101 for H ₂ O) (AN 10303 for CO ₂)
Principle of Measurement	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
Environmental/Sample Temperature Range	-20° to 50° C (-4° to 122° F) -10° to 60° C (15° to 140° F) - optional
Sample Cell Pressure Range	700 - 1400 mbara , 700 - 1700 mbara - optional
Maximum Cell Pressure	70 kPag (10 PSIG)
Electrical Data	
Input Voltage	100-240 VAC, 50-60 HZ 18-24 VDC - optional
Max Current (unheated)	1 amp maximum @ 120 VAC , 1.6A @ 24 VDC
Max Current (heated)	2 amps maximum @ 120 VAC
Communication	Analog: Two 4-20mA Isolated, 1200 ohms @ 24 VDC max load Serial: RS232C - standard, RS485 and Ethernet - optional Protocol: Modbus Gould RTU or Daniel RTU or ASCII
Digital Outputs	2, General Fault and Concentration/Assignable Alarm
LCD Display	Concentration, Cell Pressure, Temperature Alarms & Diagnostics
Physical	
Enclosure Type	NEMA 4X Stainless Steel Enclosures
Dimensions	973 mm H x 406 mm W x 229 mm D (38.3 H x 16 W x 9 D inches)
Approximate Weight	34 kg (75 lbs)
Sample Cell Dimensions	438 mm H x 108 mm W (17.3 H x 4.3 W inches)
Sample Cell Construction	316L Series Polished Stainless Steel - standard
Number of Sample Cells	1
Area Classification	
Certification	CSA Class I, Div 2, Groups B,C, and D, Temp Code T3C (T3 with Heaters) Directives EN61010-1 & EN61326-1 Class I, Zone 2 IIB+H ₂ T3C (T3 with Heaters)



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