

# SS500/SS2000 Single Channel H<sub>2</sub>O or CO<sub>2</sub> 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
- Analog and serial outputs for remote monitoring
- CSA certified



Class I, Div 1  
Groups B, C, and D

SpectraSensors SS500/SS2000 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 Diode (TDL) to determine the concentration of the gas without coming into physical contact with the stream.

**Rapid response time** The SS500/SS2000 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 SS500/SS2000 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 SS500/SS2000 is the first to offer truly reliable measurement and simple operation.



**Long life** The TDL 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 significantly reduced by eliminating the cost of consumables, extra sensor heads, labor and overhead associated with excessive maintenance.

The SS500/SS2000 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.

## Specifications

Application Data		
Target Components	H <sub>2</sub> O or CO <sub>2</sub> in natural gas (SS500 H <sub>2</sub> O only)	
Measurement Performance	Refer to Application Notes (AN 10101 for H <sub>2</sub> O) (AN 10303 for CO <sub>2</sub> )	
Principle of Measurement	Tunable Diode Laser Absorption Spectroscopy (TDLAS)	
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)	
Electrical Data		
Voltage	100-240 VAC, 50-60 Hz 9-16 VDC OR 18-32 VDC - optional	
Max Current	1 amp maximum @ 120 VAC 1.6A @ 24VDC, 3.2A @ 12 VDC	
Communication	Analog: 1 or 2 4-20mA Isolated, 1200 ohms @ 24 VDC max load Serial: RS232C, Protocol: Modbus Gould RTU or Daniel RTU or ASCII	
Alarms	2, General Fault and Concentration Alarms via Modbus and Analog Output(s)	
LCD Display	Concentration, Cell Pressure and Temperature & Diagnostics	
Physical	Class I, Div 2	Class I, Div 1
Electronics Enclosure Type	NEMA 3R – 304 Stainless Steel*	NEMA 4, 7, 9 – Cast Aluminum
Electronics with Sample Cell Dimensions	444 mm H× 376 mm W × 135 mm D (17.5 × 14.8 × 5.8 inches)	565 mm H x 413 mm W x 222 mm D (22.25 x 16.25 x 8.75 inches)
Weight Approximately	11.5 kg (25 lbs)	46.8 kg (103 lbs)
Sample Cell Dimensions	438 mm x 108 mm (H x W) (17.3 x 4.3 inches)	438 mm x 108 mm (H x W) (17.3 x 4.3 inches)
Sample Cell Construction	316L Series Polished Stainless Steel	316L Series Polished Stainless Steel
Number of Sample Cells	1	1
Area Classification		
Certification	CSA Class I, Div 2, Groups A,B,C, and D, Temp Code T3C	CSA Class I, Div 1, Groups B, C and D, Temp Code T4

\*Intended for indoor installation or within an overall enclosure.  
For installations requiring NEMA 4X, refer to Model SS2000e.

