

SS2100 Datasheet

TDL gas analyzer

Key Features

- Laser based – rapid response
- Negligible interference from contaminants
- Non-contact sensing
- Reliable in harsh environments
- Low maintenance
- Intrinsically stable; Field calibration not needed
- Remote diagnostics
- Available for the following measurements:
H₂O (moisture)
CO₂ (carbon dioxide)
H₂S (hydrogen sulfide)
NH₃ (ammonia)
C₂H₂ (acetylene)
- CSA Class I, Div 2, FCC Certifications



SpectraSensors SS2100 Process Gas Analyzers are exceptionally reliable for measuring trace gas components using Tunable Laser Diode (TDL) technology. TDL absorption spectroscopy is a high-resolution infrared technique that enables the measurement of specific gases with precision while avoiding interferences that are common with traditional infrared analyzers. The SS2100 is certified for CSA Class I, Div 2.

Simple operation The operation of the analyzer is very straightforward. Most technical personnel can learn to operate the system in a very brief time. Coupled with the fact the analyzer has very little maintenance requirements, the end result is an extremely low cost of ownership.

At the same time, technical support capability is a crucial element of the product

design. There are several health monitoring parameters and remote access is available using service software or directly through the touch sensitive keypad.

Reliable Trustworthy measurements are vital in process analytical applications. The TDL sensor is unaffected by contaminants and corrosives since the gas stream never touches the laser or detector. The SS2100 requires little maintenance and does not need recalibration or periodic replacement parts due to the inherent stability of TDL technology.

Simple installation The SS2100 is easy to install; connect the power, data link and measured gas line and the analyzer begins working without the need for extensive calibrations or setup.



SS2100 Examples
Trace H₂S (left)
Trace H₂O (right)

Specifications

Application Data	
Target Components	H ₂ O, H ₂ S, CO ₂ , NH ₃ , C ₂ H ₂ (Ranges from low ppmv to %)*
Principle of Measurement	Tunable Diode Laser Absorption Spectroscopy
Environmental Temperature Range	-20°C to +50°C , -10°C to +60°C - optional
Sample Cell Operating Pressure Range	Typically 800-1200 mbara or 950-1700 mbara* - optional
Pressure to Sample Cabinet	Typically between 140-350 kPaG (20-50 PSIG)*
Sample Flow Rate	0.5-4 SLPM (0.02-0.1 SCFM)*
Electrical & Communications	
Input Power, Maximum	120 or 240 VAC +/-10%, 50-60 Hz, 300W - standard 18 - 24VDC, 1.6A max - optional
Analog Communication	Two Isolated 4-20mA Analog Output, 1200 ohms @ 24 VDC max
Serial Communications	RS232C and Ethernet
Digital Outputs	Qty 5: Concentration Alarm, General Fault, Validation Fail*, Validation 1 Active*, Validation 2 Active*
DO Contact Rating (inductive)	250VAC, 3A NO Contact, 1.5A NC Contact 24VDC, 1A NO and NC Contact
Digital Inputs	Qty 2: Flow Alarm*, Validation Request*
Protocol	Modbus Gould RTU or Daniel RTU or ASCII
Diagnostic Value Examples	Detector Power (Optics Health), Spectrum Reference Comparison and Peak Tracking (Spectrum Quality), Cell Pressure and Temperature (Overall System Health)
LCD Display	Concentration, Cell Pressure and Temperature & Diagnostics
Physical	
Electronics Enclosure	NEMA 4X 304 or 316L Stainless Steel
Sample System Enclosure(s)	NEMA 4X 304 or 316L Stainless Steel
Analyzer Dimensions	1300-1500 H x 600-920 W x 300-450 D mm (50-60 H x 24-36 W x 12-17 D inches) with Sample System*
Analyzer Weight	90-130 kg (200-300 lbs) with Sample System*
Sample Cell Construction	316L Series Polished Stainless Steel
Number of Sample Cells	1 per Analyzer
Certifications	
Analyzer (Electronics & Laser)	CSA Class I, Div 2, Groups A, B, C & D, T3C, Type 4X and IP65
Analyzer with Sample Conditioning System	Assembled using electrical components which are certified for Class I, Div. 2, Groups B, C & D, T3 or better.
FCC	Meets FCC Part 15, Subpart B, Sections 15.107 and 15.109

*Application dependant.

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