SS2100i-1 Single Box IECEx/ATEX Zone 1 Datasheet

TDLAS gas analyzer

Key Features

- Touch keypad interface, no tools required
- Simple design, trouble-free operation
- No routine maintenance required
- Field calibration not needed
- No drift or interference from contaminants
- Reliable in harsh environments
- Available for the following measurements:
  H_2O (moisture)
  CO_2 (carbon dioxide)
  H_2S (hydrogen sulfide)
  NH_3 (ammonia)
  C_2H_2 (acetylene)
- ATEX, IECEx, CNEx KC, CCOE, and EAC Certifications

SpectraSensors SS2100i-1 Process Gas Analyzers are exceptionally reliable for measuring trace gas components using tunable diode laser absorption spectroscopy technology (TDLAS). TDLAS 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 SS2100i-1 is certified for ATEX, IECEx, CNEx, KC, CCOE, and EAC*.

Simple operation The operation of the analyzer is very straightforward. +perate the system in a very brief time. When 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 TDLAS sensor is unaffected by contaminants and corrosives since the gas stream never touches the laser or detector. The SS2100i-1 requires little regular maintenance and does not need recalibration or periodic replacement parts due to the inherent stability of TDLAS technology.

Trouble-free installation The SS2100i-1 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.

* EAC (Formerly GOST-R)

SS2100i-1

SpectraSensors®
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Specifications

Application Data	
Target Components	H_2O, H_2S, CO_2, NH_3, C_2H_2 (Ranges from low ppmv to %)*
Principle of Measurement	Tunable Diode Laser Absorption Spectroscopy
Measurement Time	Typically less than 20 seconds*
Environmental Temperature Range	-20°C to +50°C (-4°F to 122°F) - standard
Sample Cell Operating Pressure Range	800-1200 mbara - standard, 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*
Analog Communication	Isolated Analog channels, 1200 ohms @ 24 VDC max Outputs: Qty 2 4-20 mA (measurement value) Input: Qty 1 4-20 mA (process pressure)*
Serial Communication	Ethernet & RS485 half-duplex
Digital Signals	Outputs: Qty 5 Hi/Lo Alarm, General Fault, Validation Fail*, Validation 1 Active*, Validation 2 Active* 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	IP66 Copper-Free Aluminum with Weather Resistant Polyeurothane Powder Coating, 80-120 micron thickness
Analyzer Dimensions	670 H x 470 W x 377 D mm (26.3 H x 18.5 W x 14.8 D inches) (not including Sample System)
Analyzer Weight	Approximately 86 kg (190 lbs) (not including Sample System)
Sample Cell Construction	316L Series Polished Stainless Steel - standard
Number of Sample Cells	1 per Analyzer
Certification	
Analyzer (Electronics & Laser)	CE, ATEX and IECEx: CE Ex II 2 G Ex db IIB+H2 T4 Gb; LCIE 10 ATEX 3108x, IECEx LCI 11.0007x; TC RU C-US.ГБ05.B.00787; CNEx 14.3397, CCE P353439/2); KTL15 KB4BO-0083, CML 18JPN1095
Analyzer Assembly	Assembled using electrical components certified for: Ex II 2 G IIB+H2 T3 Gb

*Application dependant.

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