

SS3000 Dual Channel H₂O/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
- Analog and serial outputs for remote monitoring
- CSA Certification



SpectraSensors SS3000 Dual Channel Gas Analyzer is capable of measuring moisture and carbon dioxide in this cost effective dual channel system which enhances savings by incorporating two sensors in one.

Rapid response time The SS3000 analyzer takes four measurements per second with a laser and detector and immediately averages the results. 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.

Trustworthy measurements Dependable data is an essential element in the quest for improved safety and quality. The SS3000 analyzer delivers precise, reliable measurements using patented Tunable Diode Laser (TDL) technology developed by NASA.

Because the TDL sensor never comes 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.

State of the art technology The analyzer works by shining a laser beam through the sample cell. The laser beam is selected to interact only with the measured compound, creating an absorption signal. The higher the concentration of H₂O/CO₂, the greater absorption of light and the stronger the



corresponding absorption signal. Spectrum Software analyzes these absorption peaks to produce very accurate and repeatable measurements. Since the calculation is a direct, fundamental measurement, the amount of H₂O/CO₂ present is measured in real-time.

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 SS3000 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 ₂ O/CO ₂ in Natural Gas
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 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 @ 24 VDC, 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
Digital Alarms	Four General Fault and Concentration Alarms via Modbus and Analog Output(s)
LCD Display	Concentration, Cell Pressure and Temperature & Diagnostics
Physical Class I, Div 2	
Enclosure Type	NEMA 3R - 304 Stainless Steel*
Dimensions	444 mm H × 376 mm W × 135 mm D (17.5 H × 14.8 W × 5.8 D inches)
Weight Approximately	11.5 kg (25 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
Number of Sample Cells	2
Area Classification	
Certification	CSA Class I, Div 2, Groups A,B,C, and D, Temp Code T3C

* Intended for indoor installation or within an overall enclosure. For installations requiring NEMA 4X, refer to Model SS3000e.

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