

SS3000e 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 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 SS3000e 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 SS3000e 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.

Trustworthy measurements Dependable data is an essential element in the quest for improved safety and quality. The SS3000e analyzer delivers precise, reliable measurements using patented tunable diode laser absorption spectroscopy (TDLAS) technology developed by NASA. The TDLAS 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. The SS3000e 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.

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 can be measured in real-time.

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.

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/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	1074 mm H x 508 mm W x 279 mm D (42.3 H x 20 W x 11 D inches)
Approximate Weight	45 kg (100 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	2

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)
---------------	--



Contact

www.spectrasensors.com/contact

SpectraSensors[®]
An Endress+Hauser Company