

SS3000e DUAL CHANNEL H₂O/CO₂ GAS ANALYZER

FOR NATURAL GAS
Product Code 10704



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

NEW FEATURES

- Heated and Unheated Stainless Steel Sample Conditioning Enclosures with NEMA-4X System Rating
- Optional RS485 and Ethernet Communications
- AMS100 Analyzer Management Software

SpectraSensors SS3000e Dual Channel Gas Analyzer is capable of measuring moisture and carbon dioxide in this cost effective dual channel system which enhances cost 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 (TDL) technology developed by NASA.

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.

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.

SS3000e Dual Channel Moisture & Carbon Dioxide Analyzer

SPECIFICATIONS

Application Data

Target Components	H ₂ O / CO ₂ in Natural Gas
Typical Measurement Ranges - H ₂ O	0-422ppmv (0-20 lb/MMscf) Ranges up to 10,000ppmv available*
Typical Precision - H ₂ O	±4ppmv
Typical Measurement Ranges - CO ₂	0-5% and 0-10%
Typical Precision - CO ₂	±1% of reading or ±0.04ppmv (400ppmv), whichever is greater
Measurement Response Time	0.25-2 seconds (Total system response dependent on flow rate and sample system volume)
Principle of Measurement	Tunable Diode Laser Absorption Spectroscopy
Environmental/Sample Temperature Range	-20° to 50° C (-4° to 122° F) -10° to 60° C (14° to 140° F) <i>optional</i>
Sample Pressure	Maximum cell pressure 70kPaG (10 psig) Pressure inlet to Sample System 140-340kPaG (20-50psig)
Sample Flow Rate	0.5-1 L/min (1-2 scfh)
Recommended Validation	H ₂ O - Bureau of Mines Chilled Mirror or Portable TDL CO ₂ - Binary Cal Gas Bottle with Methane Background


Electrical Data

Input Voltage	100-240 VAC, 50-60 HZ 18-24 VDC <i>optional</i>
Max Current (unheated)	1 amp maximum @ 120 VAC , 1.6A @ 24VDC
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 H,L,W	973, 406, 224mm (38.3, 16, 8.8 inches)
Approximate Weight	45kg (100lbs)
Sample Cell Dimensions	438 mm H x 108 mm W (17 1/4"H x 4 1/4"W)
Sample Cell Construction	316L Series Polished Stainless Steel Standard
Number of Sample Cells	2

Certification

CSA Class 1, Division 2, Groups BCD, Temp Code T3C (T3 with Heaters)
 Directives EN61010-1 & EN61326-1

* Consult factory for alternative or extended ranges.