SpectraSensors®

SS3000 DUAL CHANNEL H_2O/CO_2 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
- NEMA 4X or NEMA 7 enclosure
- CSA Certified
- Analog and digital Outputs for remote monitoring

SpectraSensors SS3000 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 SS3000 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 SS3000 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 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.

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 H_2O/CO_2, 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 H_2O/CO_2 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.

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SS3000 Dual Channel
Moisture & Carbon Dioxide Analyzer

SPECIFICATIONS

Application Data

Target Components	H_2O / CO_2 in Natural Gas
Typical Measurement Ranges - H_2O	0-100ppmv/0-422ppmv/0-1000ppmv (0-20 lbs/MMscf) Natural Gas ranges up to 10,000ppmv available*
Typical Precision - H_2O	±1% of reading or ±4ppmv
Typical Measurement Ranges - CO_2	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 is dependent on flow rate and sample system volume)
Principle of Measurement	Tunable Diode Laser Absorption Spectroscopy
Environmental Temperature Range	-20° to 50° C (-4° to 122° F) -15° to 60° C (-5° to 140° F) *optional*
Sample Inlet Pressure	10 PSIA, 10 PSIG Maximum (70-170kPa Abs, 70kPaG maximum)
Sample Cell Temperature Range	-20° to 50° C (-4° to 122° F) -15° to 60° C (-5° to 140° F) *optional*
Maximum Cell Pressure	70kPag (10 PSIg)
Sample Flow Rate	0.1-10 L/min (0.2 to scfh)
Recommended Validation	H_2O - Bureau of Mines Chilled Mirror or Portable TDL CO_2 - Binary Cal Gas Bottle with Methane Background

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	Generic or Modbus RS232C, 4-20mA loop
Digital Outputs	4, General Fault and Concentration Alarms for Each Measurement Channel
LCD Display	Concentration, Cell Pressure and Temperature & Diagnostics

Physical

Enclosure Type	NEMA 4X – stainless steel *standard*
Dimensions	444 mm H × 376 mm W × 135 mm D (17.5" H × 14.8"W × 5.8" D)
Weight Approximately	Approx. 11.5Kg (25lbs)
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 (Dual Channel SS3000)

Area Classification

Certification	CSA Certified for Class I, Div. 2, Groups ABCD T3C

* Consult factory for alternative or extended ranges.

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ISO 9001:2000 certification
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