

2-Pack & 3-Pack H₂S, H₂O, CO₂ Analyzer Systems Datasheet

For natural gas

Key Features

- One technology, one supplier
- Complete gas quality analyzer in one small package
- Includes sample conditioning and regulation
- No complex fiber or fiber optics
- Simple installation and operation
- Fast and continuous
- Low maintenance, no light source or probe replacements, no tape and no carrier gas
- No field calibration
- Reliable in harsh environments
- CSA Certification



Applications

- Transportation Pipeline and Sales Gas
- Raw Gas / Gathering
- Underground Storage
- Gas Processing, Dehydration and Sweetening

The SpectraSensors H₂S, H₂O & CO₂ 2-Pack and 3-Pack Gas Analyzer Systems retain the analytical benefits and reliability known by our existing customers. In addition, reduced installation costs, support and complexity are achieved via a single technology for gas quality measurements.

Gas quality simplified The analyzer system includes all required sample conditioning and regulation. The sample system is heated to keep all constituents in vapor phase.

Training requirements are reduced and the system enables fewer electrical runs, fewer sample runs and less labor. Installation and operational costs are dramatically reduced.

Sample probe options A variety of sample probe products are available to compliment the application. SpectraSensors offers probes, probe regulators, and heated regulators depending on the pressure in the pipeline, the gas and ambient temperatures and the hydrocarbon dew point.



The lower enclosure shows the spectrometer cells, the temperature controlled heater, and a typical sample conditioning system.

3-Pack Analyzer System with Heated Sample Conditioning and Pressure Regulation

Specifications

Application Data	
Target Components (2-Pack)	H ₂ S+H ₂ O or H ₂ S+CO ₂ in Natural Gas
Target Components (3-Pack)	H ₂ S+H ₂ O+CO ₂ in Natural Gas
Measurement Performance	Refer to Application Notes (AN 10902 for H ₂ S) (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) -15° to 60°C (5° to 140°F) - optional
Sample Inlet Pressure	1.5-4 barG (20-50 PSIG) to enclosure inlet
Sample Cell Temperature Range	-20° to 50°C (-4° to 122°F) -15° to 60°C (5° to 140°F) - optional
Cell Pressure Range	800-1200 mbar or 950-1700 mbar - optional
Electrical Data	
Voltage	100-240 VAC, 50-60 Hz - standard (18-24 VDC - optional for electronics only)
Max Current	3A max @ 120 VAC , 1.5A max @ 240 VAC Hz
Analog Communications	Isolated 4-20mA Analog Output, 1200 ohms @ 24 VDC max (concentration only)
Serial Communications	Channel 1 (H ₂ S) - RS232 (all parameters) and Ethernet Channel 2 & 3 (H ₂ O and/or CO ₂) - RS232 (all parameters) or Ethernet
Digital Outputs	2, 1 General Fault and 1 Hi/Lo Concentration Alarm per measurement cell
Protocol	Modbus Gould RTU or Daniel RTU
LCD Display	Concentration, Cell Pressure, and Temperature & Diagnostics
Physical	
Enclosure Type	NEMA 4X - Stainless Steel
Dimensions	1450 mm H × 760 mm W × 330 mm D (57 H × 30 W × 13 D inches)
Weight	Approximately 154 Kg (340 lbs)
Sample Cell Construction	316L Series Polished Stainless Steel
Number of Sample Cells	2 or 3; Depends on Requirements
Certifications	
H ₂ S Analyzer (Electronics & Laser)	CSA Class I, Div 2, Groups A, B, C & D, T3C Class I, Zone 2 OIIC, T3C, Type 4x and IP66
H ₂ O & CO ₂ Analyzer (Electronics & Laser)	CSA Class I, Div 2, Groups B, C & D, T3 with heater (T3C without Heater) Class I, Zone 2 IIB+H ₂ (T3C without Heater), IP66
Analyzer with Sample Conditioning System	SCS is assembled using electrical components which are certified for Class I, Div 2, Groups B, C & D, T3 or better.



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