

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 Class I, Div 2, FCC Certifications



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.



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

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

Specifications

Application Data	
Target Components (2-Pack)	H ₂ S and H ₂ O or H ₂ S and CO ₂ in Natural Gas
Target Components (3-Pack)	H ₂ S and H ₂ O and 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) -10° to 60°C (14° to 140°F) - optional
Sample Inlet Pressure	1.5-4 barG (20-50 PSIG) to enclosure inlet
Cell Pressure Range	800-1200 mbar or 950-1700 mbar - optional
Electrical & Communications	
Voltage	120 or 240 VAC ±10%, 50-60 Hz, 314W max (3 total power connections) - standard 18-24 VDC, 3.2A max (2 power connections + 200W AC heater power) - optional
Max Current	3A max @ 120 VAC , 1.5A max @ 240 VAC Hz
Analog Communications	4 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	Channel 1 (H ₂ S) - concentration alarm, general fault, validation fail*, validation 1 active*, validation 2 active* Channel 2 & 3 (H ₂ O + CO ₂) - general fault and hi/low concentration alarm per channel
Protocol	Modbus Gould RTU or Daniel RTU
LCD Display	Concentration, Cell Pressure, and Temperature & Diagnostics
Physical	
Electronics & Sample System Enclosure	Built with NEMA 4X 304 or 316L Stainless Steel enclosure
Analyzer Dimensions	1300-1500 H x 600-920 W x 300-450 D mm (51 H x 24-36 W x 17 D inches) with Sample System*
Shipping Weight (with crate)	204-227 kg (450-500 lbs)*
Sample Cell Construction	316L Polished Stainless Steel
Number of Sample Cells	2 or 3; Depends on Requirements
Certifications	
Analyzer with Sample Conditioning System	CSA Class I, Div 2, Groups B, C & D, T3 with heater, IP66
FCC	Meets FCC Part 15, Subpart B, Sections 15.107 & 15.109
EMC	EN/IEC 61326-1

*Application dependent.



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