

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 |
| Sample Flow Rate | 4 slpm (8.5 scfh) |
| 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. |



Contact

www.spectrasensors.com/contact

SpectraSensors[®]
An Endress+Hauser Company