

MODEL

331 H₂S / Total Sulfur Analyzer

This uniquely rugged and simple design by Envent utilizes a lead acetate based detection system that provides a linear and interference-free output of the H₂S or optional Total Sulfur concentration.

APPLICATIONS

An analyzer that measures H₂S and/or Total Sulfur (optional) in natural gas, petrochemical streams, condensate, or LPG with optional integrated CO₂ IR bench

FEATURES

- Ranges from 0-50 ppb to 0-100%
- 1.5% accuracy, 1% repeatability
- Modbus Serial communications,
- Displays up to 5 times full scale
- Dual Isolated 4-20 mA outputs
- less than 20-second response time to alarm
- Optional Total Sulfur and CO₂
- Interference-free Lead acetate sensor
- 60-90 day tape (longest tape life in the market)
- Zero sensor drift

VALUE

The 331 measures H₂S in natural gas or other process gases. The unit has dual 4-20 mA outputs, dual measurement alarms, plus trouble and fault alarm relays. The 331 displays H₂S concentration in user specified units (ppb, ppm, grams, %, m/g³) and as well will auto range to 5 times the lower calibrated range. Calibration is performed manually via the operator interface or automatically when connected to a calibration bottle and optional auto calibration solenoid. The 331 is available with a number of sample systems and accessories to handle various applications such as high range H₂S, Total Sulfur or H₂S in liquids.

Lead Acetate Sensors: Lead acetate is essentially interference-free from other sulfur compounds. This is why it is used by the vast majority of industry users when accurate measurement is required. The linear output enables the user to perform a single-point calibration.

Longest Tape Life: Envent Tape is the strongest in the market, with the longest tape life by using a proprietary tape advance algorithm to make complete use of the 300-foot tape. The unit will accept up to a 350-foot roll.



Model 331, Div 2

SPECIFICATIONS

Power	12-24 vdc @ less than 3 watts 100-240 VAC, 50/60Hz
Electrical Classification	Class 1, Div 2 Grps A, B, C, & D certified to CSA standards
Ambient	0-50 °C (std) consult factory for other requirements
Output Ranges	H ₂ S 0-50 ppb to 0-100 ppm are standard. For higher concentrations, consult factory.
Response time	20-sec to alarm
Accuracy	1.5% full-scale
Inputs	24 bit A/D Microprocessor-based sensor block Low Tape Alarm Remote calibrate, Stream switch, or Low pressure
Outputs	Dual isolated 4-20 mA (loop power required) (Modbus) serial RS-232 & RS-485 Four 5 amp SPDT alarm relays (high reading, high high reading, low tape, failure) Four solid state solenoid drivers (auto cal, total sulfur, stream switching, valve actuator)
Displays	2 x 16 character LCD with back lighting Menu is scrolled by internal button

OPTIONAL EQUIPMENT

Total Sulfur	Total Sulfur furnace—converts all sulfur compounds to H ₂ S which allows analyzer to measure Total Sulfur.
CO₂	Dual-beam IR bench. CO ₂ concentration is displayed on second line of display and can be configured to output 4-20 mA CO ₂ from 0-2% up to 0-20%
Configuration Software	A custom GUI for customer configuration, archive retrieval, Modbus mapping
Auto Calibration	Allows user to initiate a calibration based on time or external switch
Stream Switching	Allows switching of two input streams or from H ₂ S to Total Sulfur measurement
Dilution	Allows measurements up to 100% H ₂ S using permeable membrane dilution.
Liquid sampling	Liquid sample system to measure H ₂ S from hydrocarbon liquids
Custom systems	Envent can design custom integrated systems to meet application requirements
Panels	331 is 13"W x 15"H x 8"L fiberglass enclosure Standard system and 331 are mounted on a 24"W x 16"H x ¼" thick anodized panel



Model 331 Div 2 and sample system



331 Unit with cover removed



Permeable membrane dilution system