



GENERAL MONITORS
Protection for life.

MODEL 2280

Four Channel Continuous H₂S Gas Monitor



Features

- Compact Packaging
- 4-20mA Signal
- Digital Displays
- Common or Discrete Relays
- Superior Reliability
- Safe, Easy Calibration

Benefits

- Requires less panel or cabinet space
- Provides remote indication of status and gas concentrations to other devices
- Provides diagnostic capabilities through visible fault codes
- Indicates HIGH, LOW and MALFUNCTION Alarms
- Longer product life and fewer instrument failures resulting in equipment purchase cost savings
- Simple calibration process without the need to de-classify the area resulting in maintenance cost savings

Description

General Monitors' Model 2280 is a system for continuously monitoring Hydrogen Sulfide (H₂S) gas concentration in four locations. The system consists of up to four remote mounted sensors and a solid state controller. The controller consists of four independent channels, each having its own circuitry.

The 2280 features a digital display of gas concentrations in ppm (parts per million) in the ranges of 0-20, 0-50, and 0-99 ppm for each channel. Calibration of each channel is done independently with alarm relays disabled while in this mode.

General Monitors' H₂S sensors consist of a semiconductor material that changes electrical resistance when exposed to H₂S gas. The monitor electronically analyzes this change with the result accurately displayed on a digital readout in ppm of H₂S.

The HIGH and LOW alarms are field adjustable throughout the sensor range. The relay operation of both the HIGH and LOW alarms can be set in the field to provide either latching or non-latching and energized or de-energized operation. For non-latching operation, the

relay will automatically reset when the gas concentration falls below the alarm point. A latching operation requires manual reset before it will return to its normal operating state. The MALFUNCTION relay is always normally energized and non-latching. Upon drop of power supply, open sensor heater leads or low power, the MALFUNCTION relay will activate its alarm with a corresponding digital readout.

Applications

- Refineries
- Drilling Platforms and Rigs
- Gas and Oil Production Platforms
- Gas Collection Facilities
- Mud-logging Operations
- Desulfurization Facilities
- Sulfur Recovery Plants
- Sewage Disposal Plants
- Chemical Plants



MODEL 2280

System Specifications

- Digital Readout:** 0-20, 0-50, or 0-99 ppm H₂S
- Accuracy:** ± 3% ppm or 10% of applied gas, whichever is greater
- Modes:** Operate, Calibrate, Under-range, Over-range
- Electrical Classification:** General purpose for mounting in non-hazardous area
- Warranty:** Two years
- Approvals:** CSA

Environmental Specifications

- Temperature Range:** 32°F to 140°F (0°C to 60°C)
- Relative Humidity:** 0 - 95%, non-condensing

Mechanical Specifications

- Mounting:** Rack, panel or wall
- Dimensions:** 4" W x 7" H x 11.5" D (102mm W x 178mm H x 292mm D)
- Weight:** 6.2 lbs (2.82kg)

Electrical Specifications

- Power:** 117 VAC ± 15% (220 VAC ± 15% optional), 50-60 Hz, 22-30 VDC, 9 watts nominal
- Output:** Analog 0-20 mA (600 ohms max.)
- Alarm Circuits:** Standard High and Low: DPDT 4AMP/117 VAC resistive
Malfunction: SPDT 4 AMP/117 VAC resistive
HIGH and LOW normally de-energized, MALFUNCTION energized 3A, 30 VDC
- LED Status Indicators:** AO - Analog output malfunction
SE - Sensor malfunction
LO - Low line voltage
99, 50, or 20 (blinking) - Over-range

Standard Configuration: 2280-1-1-1-01-1-4

Sensor Elements

Solid-state diffusion adsorption type sensors are used with the Model 2280. The sensors are designed to provide years of reliable, continuous monitoring of H₂S gas concentrations. They require minimum maintenance and only minimal sensor excitation current is needed. DC sensor circuits provide automatic temperature control to eliminate zero-drift and false alarms from ambient temperature changes.

Sensor Specifications

- Type:** Continuous diffusion, adsorption type
- Temperature Range:** -40°F to +195°F (-40°C to +90°C)
- Response Time:** Meter display reads 50% full scale within 60 seconds when exposed to H₂S concentrations equal to full scale
- Zero Drift:** < 5% per year
- Repeatability:** ± 10% of reading or 2 ppm, whichever is greater
- Life:** 3 to 4 years, normal service
- Electrical Classification:** Class I, Division 1, Group B, C and D VDE 0171 (Ex) sd 3n
- Cable Length:** Four conductor cable. Maximum length of cable between controller and sensor assembly with loop resistance of 20 ohms. NOTE: Shielded cable is recommended.

Wire Size	Length	
	(Meters)	(Feet)
14	1,029	3,375
16	686	2,250
18	411	1,350
20	274	900

Specifications subject to change without notice.

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