

GD-1000

Hazardous Gas Detector



The Model GD-1000 Premier Series Gas Detector is a fast, reliable, easy-to-program instrument for detection of chlorine, sulfur dioxide and other specified gases in air. The GD-1000 is capable of responding to levels of gas in air over ranges specified in table on page 2. The unit consists of an electro-chemical gas sensor and a microprocessor-based alarm indicator unit. The sensor can be mounted in the hazardous area, while the monitor remains in a safe area, protecting the operator from exposure to the hazardous gas. The operator is alerted to the hazardous condition by an audible alarm and flashing display on the indicator. The alarm indicating unit can interface with up to two sensors, each of which can monitor the same or a different gas.

System Features

- Alarms in presence of target gas
 - Chlorine
 - Sulfur Dioxide
 - Ammonia
 - Ozone
- Single or dual sensor input
- Field programmable alarms and range settings
- Alphanumeric display of gas concentration
- Simple, fast calibration in engineering units
- Integral audible and visual alarms
- 4-20 mAdc output
- Battery backup (optional)

Calibration

Field calibration of the GD-1000 is ultra-simple. A special program feature in the indicator allows the operator to perform field calibration from the operator keypad using only a simple voltmeter and a 4-20 mAdc signal generator. Whether calibrating electrically or using a calibration gas, there is no need to open the instrument to accomplish calibration.

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Description and Operation

Gas Sensor

The Gas Sensor is housed in a weatherproof enclosure. The sensor reacts rapidly to the specific hazardous gas in the atmosphere. The signal from the sensor is conditioned and displayed as gas concentration at the remotely mounted alarm indicator unit. Sensor status is monitored via an LED mounted on the sensor assembly.

Alarm Indicator Unit (AIU)

The electronics of the Alarm Indicating Unit are housed in a NEMA 4X enclosure. The unit has a back lit two-line by 16-character LCD display which provides all information in a clear and easily readable, alpha-numeric format. Upon sensing an alarm condition the display will flash and the loud, on-board audible alarm will sound.

The unit provides an isolated 4-20 mAdc output signal for recording or transmission to remote instrumentation or a computer. RS232 and RS485 digital signals are also available. Three programmable relays are provided as standard: two for actuation of Danger and Critical alarm levels; the third monitors sensor failure and, when furnished, backup battery condition. Alarm set points and configuration parameters are programmed directly through the front panel pushbuttons and stored in non-volatile EEPROM memory. Battery backup is optionally available.

Options

- Battery backup
- Second gas sensor (any gas)
- Critical alarm relay for second input channel
- RS485 output
- Second isolated analog output
- Electrochemical Gas Generators for live calibration
- RFI Shielding

Gas Sensor Specifications					
Target Gas		Chlorine	Sulfur Dioxide	Ammonia	Ozone
Type	Electrochemical				
Enclosure	NEMA 4X (IP65)				
Dimensions	4" wide x 4" high x 2" deep				
Range, full scale (Field adjustable)		0.1-30 ppm	0.1-30 ppm	0-50 ppm	0-100 ppm
Sensor resolution		0.1 ppm	0.5 ppm	<1 ppm	20 ppb
Temperature		-20 to +50°C	-20 to +50°C	-40 to +40°C	-20 to +50°C
Power, from AIU	12 Vdc				

Alarm Indicator Unit Specifications	
Enclosure	NEMA 4X (IP65)
Dimensions	6.5" wide x 6.5" high x 5.5" deep
Analog output	Isolated 4-20 mAdc into 650 ohms max
Digital output	RS232; RS485 optional
Power requirement	120/240 Vac, 50/60 Hz, single phase, switch selectable
Display	16-character x 2-line LCD, backlit
Alarms	Programmable, 3 std. (4 w/dual sensors)
Alarm contacts	3A @ 120 Vac, gold flashed contacts
Audible Alarm	105 dB
Memory	Flash EEPROM
Data & Command Entry	Front mounted keypad, 4 tactile feedback pushbuttons

Ordering Information

- Gas(es) to be monitored
- Number of sensor assemblies
- Initial Range (for factory calibration)
- Options required

