

## Manning Gas Monitors



### Manning GM-10 Monitor System

The GM-10 is a multi-channel stand-alone monitoring/safety system that supports up to ten (10) Manning Systems gas detection sensors and can interface with the plant central safety controls. Modular construction allows easy addition of up to forty (40) extra relay outputs and individual 4/20 mA signal output from each channel.



### Manning GM-4 Monitor System

Manning Systems new GM-4 is an economical solution for the smaller installation (2-4 sensors). You get all the same great features of the GM-10... at about half the cost. It is designed as a complementary system to the GM-10 when only a few additional sensors are required.



### Manning AirAlert 96d

The new AirAlert™ 96d multi-channel gas monitoring system adds addressable RS-485 Modbus communication protocol to the broad line of Manning Systems readout/alarm units. A total of 96 gas sensors and relay modules can be linked to a single controller.



The "C" and "US" indicator adjacent to the CSA Mark signifies that the product has been evaluated to the applicable ANSI/UL and CSA standards for use in the U.S. and Canada. This includes products eligible to bear the NRTL indicator, NRTL, i.e., Nationally Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety & Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. standards.

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## Manning GM-4000 Gas Monitor

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## Four-Channel Gas Monitoring System

# Manning GM-4000 Gas Monitor



## Stand-alone gas detection controller

The GM-4000 is a microprocessor based four-channel stand-alone monitoring/safety system that can interface with plant central safety controls. Each channel has an independent LCD that displays gas concentrations measured by any Manning sensor. Detected gases include NH<sub>3</sub>, H<sub>2</sub>, CO, Cl<sub>2</sub>, CFCs, HCFCs, HFCs, CH<sub>4</sub>, O<sub>2</sub> and more. As a controller, the GM-4000 provides three common 10 amp relays and two programmable discrete relays per channel.

Gas selector sensor technologies measure selected PPM setpoints and OSHA's Permissible Exposure Level up to the Lower Explosive Limit (LEL) range.

Field adjustable set points for each channel allow the operator the ability to easily set or adjust Warning (low alarm) and Alarm (high alarm) trip levels at the main control panel. Each channel of the controller has a 3 digit alphanumeric Status LCD display of gas concentration, a Warning LED, Alarm LED, and Fault LED, for a complete "at a glance" system status.

The GM-4000 is equipped with a de-energized common Warning relay, a de-energized common Alarm relay, an energized common Fault relay, and eight discrete relays (Warning and Alarm for each channel). The eight discrete relays

are field selected to function as energized or de-energized and latching or non-latching.

Two front panel touch pad switches (Reset Alarm and Lamp Test) are used as control switches to acknowledge alarms and as a general system test. They are also used to calibrate the LCD (if necessary) and to adjust the alarm set points when in calibration mode.

Designed for easy installation, the GM-4000 is housed in a slim wall mounted, hinged swing-down door enclosure. All of the wiring terminals are located inside, opposite the applicable port for conduit fitting. The RFI/EMI protected enclosure is powder-coated steel.

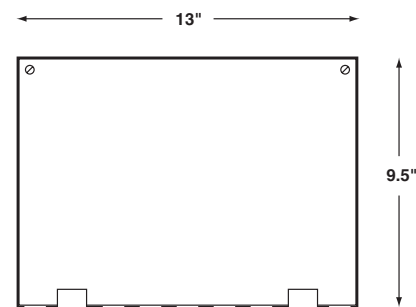
### Applications

- Refrigeration Leak Detection
- Garage Ventilation Control
- Code Compliance
- IAQ
- Zoned Valve Cut-off Control
- Perimeter Monitoring

### Key Features

- Status at a glance
- Continuous alphanumeric "status" LCD for each channel
- Easy installation
- Local 85 dB audible alarm
- Field programmable alarm levels
- Simple operation
- Mix, match or change the gases monitored
- Three common 10 amp relay outputs: Warning, Alarm, and Fault
- Eight discrete 10 amp relay outputs: 2 per channel for warning and alarm. Programmable for energized/de-energized latching or non-latching
- Records and displays Peak (Max) gas concentration for each channel
- Supports all of Manning Systems gas sensors

### Dimensions



### Specifications

<b>Base Unit</b>	Electrical Power	Field selectable for ac (115 and 230) or +24 Vdc. 115 VAC, 0.36 A, 230 VAC 0.18 A, 50/60 Hz, 24 VDC, 1.5A
	Signal Input	4/20 mA, resettable (auto)
	Back-up	Rechargeable 24 V battery kit supplies approximately 3 hours in a normal operation dependant upon the draw of each sensor connected
	Enclosure	16 gauge enameled steel, 2.5" x 13" x 9.5," EMI/RFI protected, NEMA 12 enclosure rating
	Weight	13 lbs
	Operating Ambient Temperature Range	-4°F to +122°F
	Operating Humidity	5%-95% Relative Humidity, non-condensing
<b>Push-Button Controls</b>	Altitude	Up to 6,565 feet (2000 meters)
	Local Horn	Two 75 db buzzers
	Reset Alarm	Acknowledge and peak exposure
<b>LED Indications</b>	Lamp Test	Audible and visual alarm test
	Backlit LCD's	Simple Up/Down buttons control Alarm Setpoints
<b>LED Indications</b>	Warning and Alarm LED's	Four independent three digit alphanumeric status displays PPM, % LEL, O2% by Volume Low (red) High (red) Fault (amber) Power On, ac or dc (green) Gas Concentration icon-PPM %LEL
	Alarm Relays	Common low gas alarm: de-energized, non-latching Common high gas alarm: de-energized, latching Common fault: normally energized, non-latching One low gas alarm and one high gas alarm One low gas alarm and one high gas alarm, two per channel Field selectable energized/de-energized latching/non-latching Zoning (Park) function and audible alarm ON/OFF
	Common Warning Relay	10 second ON time delay 30 second OFF time delay Individual DIP switch selectable latch or not to latch
	Common Alarm Relay	Individual DIP switch selectable to latch or not to latch
<b>Relay Specifications</b>		Rating: 10 amps at 230 VAC or 8 amps at 230 VAC Maximum Operation Load: 250 VAC; 125 VAC SDPT relays