

GM-10 GM-4

Multi-Channel Gas Monitoring Systems



Ten and Four Channel Capacity

GM-10 and GM-4 are multi-channel stand-alone monitoring/safety systems that can interface with plant central safety controls.

While the GM-10 supports up to ten sensors, the new GM-4 is an economical solution for smaller installations (2-4 sensors). You get all the same great features of the GM-10—at half the cost.

The GM-10 and GM-4 will support any combination of Manning Systems gas sensors, including NH₃, CO₂, H₂, CO, Cl₂, CFCs, HCFCs, HFCs, CH₄, O₂ and more.

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

Field adjustable setpoints for each channel allow the operator to easily set or adjust Warning and Alarm trip levels at the main control panel.

Each channel of these systems has a 20-segment LED bargraph display of gas concentration, a Warning LED, Alarm LED and

Fault LED. The base unit has four common relays (Warn, Alarm, Fault, Horn) that trip when any channel goes into the associated condition. Warning and Alarm LEDs and relays are DIP switch selectable to latch or not latch.

Modular construction allows easy addition of up to 40 extra relay outputs and individual 4/20 mA signal output from each channel (total of 10).

Unlike sample draw systems, gas detection by diffusion method gives continuous monitoring of all protected areas simultaneously.

The GM-4 is perfect for the smaller application or as a complementary system to the GM-10 when only a few addi-

tional sensors are required. The large easy-to-read display shows complete system status at a single glance. The GM series can interface to, but operates independently of, plant control systems for a highly reliable stand-alone safety system. The GM-10 and GM-4 offer the ultimate in reliability and ease of maintenance.



GM-4

Applications

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

Key Features

- Four or ten zones to monitor any combination of Manning Systems sensors
- Easy setpoint adjustment and system diagnostic features
- Fully modular system with relay and 4/20 mA output options
- Embedded Web Server
- Bargraph displays of gas concentrations
- LEDs for system and relay status indication
- Time delayed relays
- User Selectable – Latching or Non-Latching Alarms
- Calibration By-Pass Mode
- Built-in Fault Circuitry
- CSA (Canadian Standards Association) C/US Certification

Multi-Channel Gas Monitoring Systems

GM-10, GM-4

Specifications

Base Unit

Electrical Power:

115 VAC, 50/60 Hz at 1.5 amps
(230 VAC, 50/60 Hz optional)

Signal input:

4/20 mA

DC Power available for sensors:

Heavy-duty internal 24 VDC, 5 amp
maximum regulated supply

Optional 10 amp supply (GM-10 only)

Enclosure:

16 gauge steel, gasketed plexiglass window,
22" x 18" x 6" deep, NEMA 1 enclosure for
use in non-classified areas only (GM-10)

22" x 12" x 6" deep, NEMA 1 enclosure
(GM-4)

Weight:

45 lbs. (GM-10), 30 lbs. (GM-4)

Operating Ambient Temperature range:

32° F to 105° F

Operating Humidity:

5-95% Relative Humidity, non-condensing

Local Horn:

70db @ two feet

Push-button Controls

Silence:

Silences Buzzer and Horn Relay

Reset:

Clears latched functions (if Warning, Alarm,
or Fault condition exists, indications will
not clear)

LED Indications

Bargraphs:

20 segment LED concentration display

Bottom segment always lighted to indicate
power to channel

Warning and Alarm setpoints adjustable
in 5% increments (optional down-scale
monitoring)

Warning and Alarm LEDs:

Individually DIP switch selectable to latch
or not latch

Fault LEDs:

Always latched

Standard Relay Outputs

Rating: 3 amps @ 24 VDC or 120 VAC,
SPDT, Form C

Common Warning Relay:

10 second ON time delay

30 second OFF time delay

DIP switch selectable to latch or not latch

Common Alarm Relay:

DIP switch selectable to latch or not latch

Common Fault Relay:

Fault indicated below 1.5 mA signal

Always latches

Common Horn Relay:

Acts in conjunction with buzzer
on GM-10 or GM-4

Triggers on alarm or fault

Will clear until next event when silence
button is pushed.

Relay Specifications:

Form C dry contact relays providing
NO (normally open) or NC (normally
closed) operation

Energized in the normal position,
8 second trip time delay

30 second clear time delay, unless
cleared by the reset button

Rated for 3 amps at 24 VDC or
120 VAC

LED in series with the coil, when
lighted, indicates the relay is in the
normal position

Optional Relay Board

Provides individual Warning and
Alarm relays for each channel

Total of 20 relays per board (GM-10)

Total of 8 relays per board (GM-4)

Up to two relay boards can be used
with a single GM-10 or GM-4

Optional Analog Output Board

Provides isolated 4/20 mA output for
each channel

Power required:

24 VDC at 30 mA per channel
(provided by receiving equipment)

Signal:

2-wire 4/20 mA linear

Input impedance:

250 ohms max at receiving equipment

Optional Embedded Web Server

Real-time, web-based remote display
of GM-10/GM-4 operator interface.
IP addressable over inter/intranet
using existing industry standard
web browsers.

Specifications subject to change without notice.

Sold per Manning Systems standard Limited
Warranty.



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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