



Fixed Gas Monitors

Gas Detection System MGD-100



**MGD
Standard
Housing**

Ideal for Chiller Rooms, Supermarkets, Brewing and Bottling Facilities, Industrial Refrigeration, Arenas, Food Storage and Processing Facilities.

Features & Benefits:

- Stand-alone, out-of-the-box solution with quick and easy installation - the most cost-effective system available.
- Fast-response sensors detect leaks quickly, which minimize refrigerant gas usage and environmental impact.
- Infrared (NDIR) CO₂ detection
- Long-life semiconductor sensors for detection of all refrigerants, ammonia, halocarbons, combustibles & VOCs
- Robust design allows units to be placed directly in areas where detection is needed.
- Available in a variety of housings, including IP66 and duct mount.
- Select from 1, 2, 4 or 6 remote sensors and 1 or 2 pre-set alarm levels, which can be connected to BMS systems.

Flexible and Dynamic Continuous Monitoring

Bacharach's MGD-100 Series is a robust and scalable gas detection system used for reliable real-time monitoring of refrigerant, combustible, and toxic gases. It's a stand-alone system that alarms when pre-set thresholds are exceeded. The MGD-100's alarms are monitored by a centralized controller, which can alert personnel of potential hazardous conditions via an onboard buzzer and LED alarm indicators.

MGD-100 Systems can be configured from single-sensor, one-alarm level systems to larger scale systems consisting of 6 sensors with 2 alarm levels. This flexibility allows the platform to be used for both small and large systems. Optional MGD-100 housings are shown below:



**MGD
Controller**



MGD-100 Technical Specifications

	Controller with 1 or 2 Sensors		Controller with 4 or 6 Sensors	
Power Supply:	Available in 110VAC 60Hz • 12VDC • 220VAC 50Hz			
Alarm Levels:	One Level	Two Levels	One Level	Two Levels
Power Monitoring:	Green LED	Green LED	Green LED	Green LED
Visual Alarm:	Red LED	Red LED	Red LED	Red LED
Fault Monitoring:	Red LED, relay, siren inactive	Red LED, relay, siren inactive	Red LED, relay, siren inactive	Red LED, relay, siren inactive, fault relay active
Audible Alarm:	Internal buzzer continuous	Internal buzzer intermittent (low), continuous (high)	External buzzer continuous	External buzzer continuous
Buzzer Deactivate:	By onboard jumper	By key switch	By onboard jumper	By key switch
Alarm Relay (Volt-free):	10 amp@ 120v or 230v	10 amp@ 120v or 230v (both low & high level)	10 amp@ 120v or 230v	10 amp@ 120v or 230v (both low & high level)
Relay Expander Box (one relay for each sensor/alarm level):	N/A	N/A	N/A	Available
Alarm Reset:	Automatic when gas clears	Automatic when gas clears (low), Latch out, manual reset by push button when gas clears (high)	Automatic when gas clears	Automatic when gas clears (low), Latch out, manual reset by push button when gas clears (high)
Delayed Response:	Selectable (3 mins. when on)	25 seconds (low) 30 seconds (high)	Selectable (3 mins. when on)	25 seconds (low) 30 seconds (high)
Power-On Delay:	3 minutes to stabilize from power-up; slightly longer from storage.			
Ratings:	Controller: IP51	Standard Sensor: IP41	Controller: IP51	Standard Sensor: IP41
Cabling, Controller-to-Sensor:	4 wire shielded cable, 200 feet (61 m) max, 22AWG @ 120VAC • 0.2mm		4 wire shielded cable, 500 feet (152 m) max, 22AWG @ 120VAC • 0.2mm	
Dimensions & Weight:	Standard Controller: 8.4" x 4.1" x 3.15" 214 x 105 x 80 mm 2.9 lbs. / 1.3 kg Sensor: 3.4" x 4.73" x 2.08" 86 x 120 x 53 mm 0.33 lbs. / 150 g		Standard Controller: 10.3" x 10.4" x 3.3" 262 x 265 x 84 mm 5.7 lbs. / 2.6 kg Sensor: 3.4" x 4.73" x 2.08" 86 x 120 x 53 mm 0.33 lbs. / 150 g	
Dimensions & Weight - other enclosures:	Standard: 3.35"x5.59"x2.09" / 6.3oz. • 86 x 142 x 53mm / 180g IP66: 6.89"x6.5"x3.29" / 1lb. 6oz. • 175 x 165 x 82mm / 629g IP66 w/Splash: 6.89"x8.9"x3.29" / 1lb. 8.7oz. • 175 x 225 x 82mm / 700g IP66 w/Remote: 6.89"x6.1"x3.29" / 1lb. 11oz. • 175 x 155 x 82mm / 790g IP66 w/EXd: 6.89"x6.1"x3.29" / 2lb. 10oz. • 175 x 155 x 82mm / 1185g PRV / IP66: 6.89"x6.1"x3.29" / 2lb. 0.3oz. • 175 x 155 x 82mm / 916g Airflow/Duct: 6.89"x4.9"x3.29" / 1lb. 4oz. • 175 x 125 x 82mm / 578g EXd: 5.12"x6.3"x3.54" / 9lb. 4oz. • 130 x 160 x 90mm / 4200g			
Approvals:	CE • UL 61010-1 • CAN/CSA 22.2 61010-1			

MGD-100 Sensor Information

	Infrared (NDIR) Sensor	Semiconductor Sensor
Temperature Range:	-4° F to 122° F (Standard housing) -20° C to 50° C (Standard housing) -40° F to 122° F (IP66 housing) -40° C to 50° C (IP66 housing)	-4° F to 122° F (Standard housing) -20° C to 50° C (Standard housing) -40° F to 122° F (IP66 housing) -40° C to 50° C (IP66 housing)
Humidity (non-condensing):	0 - 95%	0 - 95%
Sensor Life:	5 years, typical	5 - 8 years, typical
Time to Alarm:	30 seconds, typical	24 seconds, typical
Recovery Time:	210 seconds, typical	600 seconds, typical
Infrared (NDIR) Sensor	Gas(es) Detected	Programmed Detection Range
	Carbon Dioxide (CO ₂)	0 - 5,000 ppm 0 - 10,000 ppm 0 - 20,000 ppm 0 - 30,000 ppm 0 - 50,000 ppm 0 - 1% vol
	Hydrocarbons (Combustibles)	0 - 100% LEL, 0 - 100% vol
Semiconductor Sensor	Gas(es) Detected	Programmed Detection Range*
	Refrigerants, HFC, CFCs, HCFCs: including R134a, R404a, R407a, R410a, R507a, R11, R12, R22, R32, R600a, R290 and many more	1,000 ppm*
	Ammonia (NH ₃)	500 ppm - 1,000 ppm*
	Hydrogen (H ₂)	0 - 2,000 ppm*
	Hydrocarbons: Ethylene, methane and more	0 - 2,000 ppm*
	VOCs: including Acetone, Methanol, Trichloroethylene and more	0 - 2,000 ppm*

* Full sensor detection range: 0 - 10,000 ppm

MGD-100 Ordering Information

Infrared Sensor - Common Configurations	
6150-4090	CO ₂ IR: 4 sensors, 2 alarms, 110VAC, IP66 w/Remote Sensor
6170-1090	CO ₂ IR: 6 sensors, 2 alarms, 110VAC, Standard Housing
6130-2090	CO ₂ IR: 2 sensors, 2 alarms, 110VAC, IP66 Housing
6170-1051	IR Combustible Gas • 6 sensors, 2 alarms, 110VAC, IP66 Housing
6130-1051	IR Combustible Gas • 2 sensors, 2 alarms, 110VAC, Standard Housing
6150-4051	IR Combustible Gas • 4 sensors, 2 alarms, 110VAC, IP66 w/Remote Sensor
Semiconductor Sensor - Common Configurations	
6150-2116	NH ₃ : 4 sensors, 2 alarms, 110VAC, IP66 Housing
6150-4116	NH ₃ : 4 sensors, 2 alarms, 110VAC, IP66 w/Remote Sensor
6170-3117	NH ₃ : 6 sensors, 2 alarms, 110VAC, IP66 Housing w/Splash Guard
6110-1101	R134a: 1 sensor, 2 alarms, 110VAC, Standard Housing
6130-2101	R134a: 2 sensors, 2 alarms, 110VAC, IP66 Housing
6150-1103	R404a: 4 sensors, 2 alarms, 110VAC, Standard Housing
6170-2103	R404a: 6 sensors, 2 alarms, 110VAC, IP66 Housing
6130-1105	R407a: 2 sensors, 2 alarms, 110VAC, Standard Housing
6130-2107	R410a: 2 sensors, 2 alarms, 110VAC, IP66 Housing
6170-1107	R410a: 6 sensors, 2 alarms, 110VAC, Standard Housing
6130-1111	R507a: 2 sensors, 2 alarms, 110VAC, Standard Housing
6130-2119	H ₂ : 2 sensors, 2 alarms, 110VAC, IP66 Housing
6170-1119	H ₂ : 6 sensors, 2 alarms, 110VAC, Standard Housing
6110-1114	CH ₄ : 1 sensor, 2 alarms, 110VAC, Standard Housing
6170-4120	Ethylene: 6 sensors, 2 alarms, 110VAC, IP66 w/Remote Sensor
6170-1121	VOC: 6 sensors, 2 alarms, 110VAC, Standard Housing
6110-2121	VOC: 1 sensor, 2 alarms, 110VAC, IP66 Housing

Please contact your Bacharach sales representative for other configurations based on your unique specifications.

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