



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) CO<sub>2</sub> 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	
<b>Power Supply:</b>	Available in 110VAC 60Hz • 12VDC • 220VAC 50Hz			
<b>Alarm Levels:</b>	One Level	Two Levels	One Level	Two Levels
<b>Power Monitoring:</b>	Green LED	Green LED	Green LED	Green LED
<b>Visual Alarm:</b>	Red LED	Red LED	Red LED	Red LED
<b>Fault Monitoring:</b>	Red LED, relay, siren inactive	Red LED, relay, siren inactive	Red LED, relay, siren inactive	Red LED, relay, siren inactive, fault relay active
<b>Audible Alarm:</b>	Internal buzzer continuous	Internal buzzer intermittent (low), continuous (high)	External buzzer continuous	External buzzer continuous
<b>Buzzer Deactivate:</b>	By onboard jumper	By key switch	By onboard jumper	By key switch
<b>Alarm Relay (Volt-free):</b>	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)
<b>Relay Expander Box (one relay for each sensor/alarm level):</b>	N/A	N/A	N/A	Available
<b>Alarm Reset:</b>	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)
<b>Delayed Response:</b>	Selectable (3 mins. when on)	25 seconds (low) 30 seconds (high)	Selectable (3 mins. when on)	25 seconds (low) 30 seconds (high)
<b>Power-On Delay:</b>	3 minutes to stabilize from power-up; slightly longer from storage.			
<b>Ratings:</b>	Controller: IP51	Standard Sensor: IP41	Controller: IP51	Standard Sensor: IP41
<b>Cabling, Controller-to-Sensor:</b>	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	
<b>Dimensions &amp; Weight:</b>	<b>Standard Controller:</b> 8.4" x 4.1" x 3.15" 214 x 105 x 80 mm 2.9 lbs. / 1.3 kg  <b>Sensor:</b> 3.4" x 4.73" x 2.08" 86 x 120 x 53 mm 0.33 lbs. / 150 g		<b>Standard Controller:</b> 10.3" x 10.4" x 3.3" 262 x 265 x 84 mm 5.7 lbs. / 2.6 kg  <b>Sensor:</b> 3.4" x 4.73" x 2.08" 86 x 120 x 53 mm 0.33 lbs. / 150 g	
<b>Dimensions &amp; Weight - other enclosures:</b>	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			
<b>Approvals:</b>	CE • UL 61010-1 • CAN/CSA 22.2 61010-1			

# MGD-100 Sensor Information

	Infrared (NDIR) Sensor	Semiconductor Sensor
<b>Temperature Range:</b>	-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)
<b>Humidity (non-condensing):</b>	0 - 95%	0 - 95%
<b>Sensor Life:</b>	5 years, typical	5 - 8 years, typical
<b>Time to Alarm:</b>	30 seconds, typical	24 seconds, typical
<b>Recovery Time:</b>	210 seconds, typical	600 seconds, typical
Infrared (NDIR) Sensor	Gas(es) Detected	Programmed Detection Range
	Carbon Dioxide (CO <sub>2</sub> )	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 <sub>3</sub> )	500 ppm - 1,000 ppm*
	Hydrogen (H <sub>2</sub> )	0 - 2,000 ppm*
	Hydrocarbons: Ethylene, methane and more	0 - 2,000 ppm*
	VOCs: including Acetone, Methanol, Trichloroethylene and more	0 - 2,000 ppm*

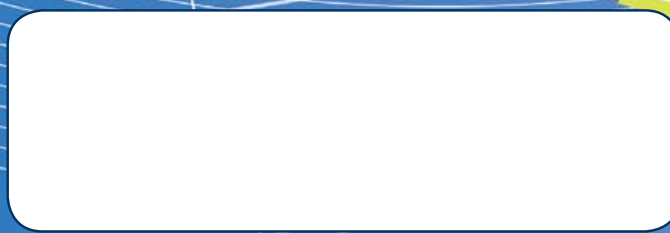
\* Full sensor detection range: 0 - 10,000 ppm

# MGD-100 Ordering Information

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

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