

# Bacharach® MGS-450 Gas Detector



For Safety Compliance in Refrigeration Applications



IP66



IP41

## DESCRIPTION

The MSA Bacharach® MGS-450 Gas Detector makes compliance with refrigeration safety codes simple and easy, saving time and money on equipment and installation. Using the MGS-400 App, users can intuitively use, commission and maintain their gas detection system without the need for specialty training or tools. Pre-calibrated sensor modules simplify maintenance, take minutes to exchange and do not require the use of calibration gas.

The MGS-450 can trigger additional audio-visual alarms and act as a standalone gas detection system, or integrate easily into a BMS / BAS or with the MSA Bacharach® optional MGS-408 Gas Detection Controller.

## REFRIGERANT GAS DETECTOR FOR HALOGENATED AND NATURAL REFRIGERANTS WITH DIGITAL AND ANALOG COMMUNICATIONS

### Features

### Benefits

Mobile App Interface	Quick, easy and intuitive commissioning, configuration and maintenance requires no special training
Simple Configuration via App	No tools required to set alarm behavior and alarm levels
Pre-calibrated Sensors	Save time and money on maintenance procedures
Semi-automated Calibration	Easy process with no potentiometers or volt meters
Temperature-compensated Measurement	Mitigates false alarms and optimizes accuracy in refrigeration applications
Analog and Digital Communications	Integrates with BMS / BAS control systems via Modbus and / or analog outputs
On-board Relays	Trigger additional alarm beacons and mechanical ventilation in the event of a refrigerant leak
Audible and Visual Alarms	Comply with ASHRAE 15 / EN 378 - no additional hardware
Multiple Cable Entries and Terminals	Quick and easy installation of all wiring; daisy-chain power and digital communications
Low-temperature Performance	Suitable for use in all refrigeration applications from machinery rooms to freezers



### MORE INFORMATION:

Scan the QR code to learn about the MGS-450 and other MSA Bacharach® products.

Product Attributes	Description		Definition
<b>GASES AND RANGES</b>	Refrigerants		1,000 ppm
	CO <sub>2</sub>		5,000/10,000/20,000/30,000/40,000/50,000 ppm
	NH <sub>3</sub>		100 / 1,000 / 5,000 / 100% LEL
	O <sub>2</sub>		30 Vol%
	CO		500
	Combustible gases - Semiconductor (R-290, R-600, R-50, R-600a, HC-12a, R-717)		5,000 ppm
	Combustible gases - NDIR (R-600, R-50, R-290)		100% LEL
	Combustible gases - Catalytic (R-600, R-50, R-290, R-717)		100% LEL
	NO <sub>2</sub>		20 ppm
<b>STATUS INDICATOR</b>	Single tri-color LED (green, red, orange)		
<b>BUZZER</b>	72dB @ 10 cm		
<b>OUTPUT</b>	Single configurable analog output		4 to 20 mA, 0 to 5 V, 0 to 10 V, 1 to 5 V, 2 to 10 V
	Digital		Modbus RTU via RS 485
<b>POWER SUPPLY</b>	24V AC or DC (auto selecting), 4W (max)		
<b>RELAY</b>	Three relays, SPDT, fixed low / high fault alarms		
	Rating 1 A @ 30 VDC		
<b>ENCLOSURE</b>	IP41, IP66		
<b>SIZE (W×H×D) APPROX.</b>	IP41		6.5" × 6.5" × 3.0" (165 × 165 × 77 mm)
	IP66		6.5" × 6.5" × 3.4" (165 × 165 × 87 mm)
<b>WEIGHT APPROX.</b>	1lb, 1oz (480 g)		
<b>APPROVALS</b>	CE, UL / CSA / IEC EN 61010-1		
<b>AMBIENT CONDITIONS</b>	Temperature	Semiconductor	-40 to 122°F / -40 to +50°C
		Electrochemical	NH <sub>3</sub> 100 / 1,000 ppm: -40 to 40°C
			NH <sub>3</sub> 5,000 ppm: -20 to 40°C
			CO 500 ppm: -40 to 50°C
			NO <sub>2</sub> 20 ppm: -20 to 40°C
			O <sub>2</sub> 30% Volume: -20 to 50°C
	Infrared	-40 to 122°F / -40 to +50°C	
	Catalytic Bead	-40 to 122°F / -40 to +50°C	
Humidity	5 to 90 % RH, non condensing		
Pressure	23.6 to 32.5 inch Hg / 800 to 1,100 mbar		

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit <https://us.msasafety.com/Trademarks>.

MSA operates in over 40 countries worldwide. To find an MSA office near you, please visit [MSAsafety.com/offices](https://us.msasafety.com/offices).