

Bacharach® MGS-250 Infrared Gas Detector

For Safety and Regulatory Compliance



DESCRIPTION

The MSA Bacharach® MGS-250 Infrared Refrigerant Gas Detector delivers accurate, stable and precise refrigerant monitoring for safety and regulatory compliance. It can be configured as either a broadband sensor used for coarse leak detection (ASHRAE 15, EN 378), or as a gas-specific version that's characterized for precision response to individual refrigerants (CARB). The MGS-250 is the economical solution for detecting refrigerants without the limitations posed by solid-state sensor technologies.

Advanced infrared sensor technology makes the MGS-250 immune to cross sensitivities from combustible and toxic gases, as well as changes in temperature and humidity. The sensor provides accurate leak detection and delivers up to 5 to 7 years of virtually maintenance-free operation. The MGS-250 has an alpha-numeric LED display, status indicator, on-board relay and Modbus via RS485. An audio-visual alarm is included to alert personnel when measurements exceeded the user-defined threshold, enabling compliance with safety standards including ASHRAE 15 and EN 378.

Features

Infrared Sensor Technology

On-board Audio-visual Alarms

Modbus, 4-20mA Output & Alarm Relay

Digital Display Screen

Self-diagnostics

Minimal Maintenance Requirements

Optional MGS-408 Controller Available

Benefits

Minimize false alarms from cross-interference from other gases, temperature and humidity

Enable compliance with regulatory standards, including ASHRAE 15, EN 378:2016*, and EN 14624:2020*
(*A1 gases only)

Integrate with BMS / BAS control systems to initiate action when a leak is detected

Easy user interface for configuration and set-up

Enhanced troubleshooting capability

Low cost of ownership

Create an independent, centralized alarm system with up to 8 gas detectors

Specifications	Description
SENSOR	Non Dispersive Infrared (NDIR); 5-7 year life
RANGE	0-3,500 ppm
RESPONSE TIME, T90	90 Seconds



MORE INFORMATION:

Scan the QR code to learn about the MGS-250 and other MSA Bacharach products.

Bacharach® MGS-250 Infrared Gas Detector



Product Details	Description
POWER SUPPLY	24 VDC, 24 VAC 50/60 Hz, 2.5 W max
DISPLAY / VISUAL STATUS	Red 4-digit alpha-numeric LED display; Power LED
AUDIBLE ALARM	Buzzer (80 dB @ 10cm), enable / disable
ANALOG OUTPUTS	4-20 mA; 0-5 V; 0-10 V; 1-5 V; 2-10 V
RELAY	1 relay rated 1 A @ 24 VAC / VDC (0.5 A, 125 V AC UL rating)
COMMUNICATION	Modbus RTU over RS-485
ALARM DELAY	Selectable; 0 to 15 minutes
TEMPERATURE RANGE	-22 to 104°F (-30 to 40°C)
HUMIDITY RANGE	5-90% relative humidity, non-condensing; 0-10,000 ft. altitude
APPROVALS	CE, UL/CSA/IEC/EN 61010-1* (*A1 gases only)
DIMENSIONS	4.0" × 5.5" × 1.5" (100 × 140 × 40 mm)
WEIGHT	6.3 oz (180 g)

Part Number	Accuracy	Target Gas
6401-0501	±5%	R-22
6401-0503	±5%	R-134a
6401-0504	±5%	R-404a
6401-0505	±3%	R-407a
6401-0506	±3%	R-407c
6401-0507	±3%	R-407f
6401-0508	±3%	R-410a
6401-0509	±5%	R-422a
6401-0510	±5%	R-422d
6401-0511	±3%	R-427a
6401-0512	±5%	R-507
6401-0513	±5%	HFO-1234YF
6401-0514	±5%	HFO-1234Ze
6401-0515	±5%	HFO-1233ZD
6401-0516	±5%	R-32
6401-0517	±5%	R-448A
6401-0518	±5%	R-449A
6401-0519	±5%	R-513A
6401-0520	±5%	R-452A

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).