



## Refrigerant Gas Detector

### MGS-150

#### FEATURES

Infrared, semiconductor and electrochemical sensor options

Configurable alarm relay and analog output

Fast-response sensors

Local audio and visual alarms

Robust design and remote sensor options

Available in a variety of housings

Optional MGS Controller available

#### BENEFITS

Flexibility in sensor type provides acceptable configurations for a variety of applications

Integrate easily with control systems and initiate mitigation actions

Detects gas leaks quickly, protecting personnel, investment and the environment

Immediately alert personnel of potential safety risks

Allows for flexible placement in hard-to-reach areas

Can be used in harsh environments e.g. low temperature

Create an independent, centralised alarm system with up to 6 gas detectors

#### Cost-Effective Refrigerant Leak Detector for Commercial Applications

#### DESCRIPTION

Bacharach's MGS-150 Gas Detector has a wide range of sensor options to provide real-time monitoring of refrigerant, combustible and toxic gases. It comes standard with user-selectable analog outputs that can be set for 4-20 mA, 0-5V, 1-5V, 0-10V, or 2-10V; allowing them to connect directly to most BMS, SCADA or control systems.









Alarm indicators include an onboard alarm LED and audible buzzer, in addition to an alarm relay for connection to external audible/visual alarms or a BMS system. The product's alarm threshold value is pre-set to factory defaults but is also field programmable. A variety of housing options are available (shown below), from standard IP41 enclosures to IP66 water resistant housings, which allow the MGS-150 gas detector to be placed in the toughest of conditions. Special enclosure configurations are available for applications where mounting in vent pipes, duct work or tight spaces is required.

CHOICE OF ANALOG AND/OR RELAY OUTPUT



INTERNAL OR REMOTE SENSOR CAPABILITY

## DIMENSIONS & WEIGHT

ENCLOSURE TYPE	DIMENSIONS	WEIGHT
 <p>Standard IP41:</p>	3.35"x5.59"x2.09" (86x142x53 mm)	6.3oz (180g)
 <p>IP66:</p>	6.89"x6.5"x3.29" (175x165x82 mm)	1lb 6oz (629g)
 <p>IP66 w/ Splash guard:</p>	6.89"x8.9"x3.29" (175x225x82 mm)	1lb 8.7oz (700g)
 <p>IP66 w/ Remote sensor:</p>	6.89"x6.1"x3.29" (175x155x82 mm)	1lb 11oz (790g)
 <p>IP66 w/ EXd Remote head*:</p>	6.89"x6.1"x3.29" (175x155x82 mm)	2lb 10oz (1185g)
 <p>IP66 w/ PRV sensor:</p>	6.89"x6.1"x3.29" (175x155x82 mm)	2lb 0.3oz (916g)
 <p>Airflow / Duct Mount</p>	6.89"x4.9"x3.29" (175x125x82 mm)	1lb 4oz (578g)
 <p>EXd (ATEX only)*:</p>	5.51"x7.09"x3.54" (140x180x90 mm)	4lb 15oz (2234g)

\* MGS-150 is not approved as an explosion-proof product and should NOT be installed in hazardous locations

## TECHNICAL SPECIFICATIONS

PRODUCT ATTRIBUTES	DESCRIPTION
Power Supply	12/24 VAC/VDC operation
Power Consumption (12V)	NDIR: 140 mA / SC: 160mA / EC: 60mA
Power Monitoring	Green LED
Visual Alarm	Red LED
Audible Alarm	Buzzer, enabled/disabled
Fault Monitoring	Red LED (On) / Green LED (Off)
Fault States	0-1 V / 0-2 mA outputs
Analog Outputs	4-20 mA, 0-5 V, 0-10 V, 1-5 V, 2-10 V
Relay Output: (Volt-free)	1 relay, 1 amp 24 VAC/VDC
Alarm Delay	Selectable: 0, 1, 5 or 10 minutes
IP Rating	IP41 (standard) / IP66 (optional)
Approvals	CE / IEC 61010 / EXd / UL CSA

## GASES DETECTED

Below is a list of the gases that can be detected by the MGS-150. Please note that specific sensors are necessary to detect these gases. For ordering information, visit us at [www.mybacharach.com](http://www.mybacharach.com) or contact your Bacharach Regional Sales Manager.

Butane	CH <sub>4</sub>	CO
CO <sub>2</sub>	Ethylene	LPG
Methane	NH <sub>3</sub>	NO
NO <sub>2</sub>	Propane	R-11
R-123	R-1234ze	R-134a
R-22	R-23	R-290
R-32	R-404A	R-407A
R-407C	R-407F	R-410A
R-4120A	R-448A	R-449A
R-450A	R-452A	R-507A
R-513A	R-600a	



COMMERCIAL



REFRIGERATION

**SENSOR INFORMATION**

PRODUCT ATTRIBUTES	DESCRIPTION		DEFINITION
<b>Semiconductor Sensor</b>	Refrigerants - HCFCs: (R-134a, R-404A, R-407A etc.)	0-1,000 / 0-3,000 / 0-5,000 / 0-10,000 ppm	
	Refrigerants - HFCs: (R-22, R-32, R-290 etc.)	0-1,000 / 0-3,000 / 0-5,000 / 0-10,000 ppm	
	Refrigerants - CFCs (R-11, R-12 etc.)	0-1,000 / 0-3,000 / 0-5,000 / 0-10,000 ppm	
	NH <sub>3</sub>	0-1,000 ppm / 0-5,000 ppm / 0-10,000 ppm	
	Hydrocarbons: (Methane, Propane, Butane etc.)	0-2,000 ppm	
<b>Infrared (NDIR) Sensor</b>	CO <sub>2</sub>	0-5,000 / 0-10,000 (0-1%vol.) 0-20,000 ppm (0-2%vol.) / 0-5% / 0-10%	
	Hydrocarbons (Methane, propane, etc.)	0-100% LEL	
<b>Electrochemical Sensor</b>	NH <sub>3</sub> *	0-100 / 0-250 / 0-500 / 0-1,000 / 0-5,000 ppm	
	CO	0-1,000 ppm	
	C <sub>2</sub> H <sub>4</sub>	0-20 / 0-1,000 ppm	
	NO**	0-100 ppm	
	NO <sub>2</sub> **	0-10 ppm	
	O <sub>2</sub>	0-30% vol.	
	Infrared (NDIR)	Semiconductor (SC)	Electrochemical (EC)
<b>Temperature Range</b>	-4 - 122°F (Standard housing)	-4 - 122°F (Standard housing)	-4 - 104°F (Standard housing)
	-20 - 50°C (Standard housing)	-20 - 50°C (Standard housing)	-20 - 40°C (Standard housing)
	-40 - 122°F (IP66 housing)	-40 - 122°F (IP66 housing)	-4 - 104°F (IP66 housing)
	-40 - 50°C (IP66 housing)	-40 - 50°C (IP66 housing)	-20 - 40°C (IP66 housing)
<b>Humidity (non-condensing)</b>	0-95%	0-95%	0-95%
<b>Sensor Life</b>	5-8 years, typical	2 years, minimum	2 years, typical
<b>Time to Alarm: (T50)</b>	25 seconds, typical	20 seconds, typical;	80 seconds, typical
<b>Time to Alarm: (T90)</b>	90 seconds, typical	50 seconds, typical	220 seconds, typical
<b>Recovery Time</b>	210 seconds, typical	900 seconds, typical	600 seconds, typical

\* The ammonia (NH<sub>3</sub>) EC sensor is available -40 to 104°F (-40 to 40°C) with the IP66 housing for 100, 250, 500 and 1000 ppm.

\*\* Only available in the IP41 housing.

\*\*\* It is recommended that alarm set points are adjusted within >10% - <90% of the specified sensor range.