

# Murco Gas Sensor (MGS)



## A state-of-the-art gas sensor, which detects most gases

The Murco Gas Sensor (MGS) is a state-of-the-art fixed gas detector which can detect a wide range of different gases. The sensors can be used on a stand-alone basis or integrated into Controls or Building Management Systems (BMS) using its digital or analog output.

It is a high-specification product available at a competitive price and it offers customers absolute confidence that both safety and compliance requirements are met or exceeded. It is ideal for:

- new buildings/areas that require continuous monitoring with high tech gas sensor transmitters
- customers who want to add gas detection solutions to an existing system.

### APPLICATIONS

Typical applications include:

**Refrigerant gases** all refrigerant gases including: Ammonia, Carbon Dioxide, Hydrocarbons, Halocarbons - HFCs, HCFCs, CFCs.

**Combustible gases** such as: Methane, LPG, Propane, Butane, and Hydrogen

**Toxic gases** such as: Carbon Dioxide and Ammonia in refrigeration, Hydrogen Sulphide in sewage treatment and Carbon Monoxide in underground car parks

**Volatile Organic Compounds** such as: Acetone, Benzene, Carbon Tetrachloride, Chloroform, Ethanol, Toluene, Trichloroethylene.

### Control Panels Available

Murco also supply Control Panels if you wish to have a stand-alone gas detection system. Models are available with 2, 4, 6... and up to 16 channels using the ST-MON panel.



### Benefits

#### Cost Effective Detection

Murco is committed to delivering highly competitive quality products and solutions. The early detection of gases afforded by Murco Gas Sensors minimises the cost associated with leaks.

#### Legal Compliance

The MGS series enables compliance with all the necessary regulatory, legal and Insurance requirements.

#### Environmental Considerations

The early detection of gas minimises emissions. Also Murco Gas Sensors enable compliance with all relevant environmental legislation and the product itself is fully recyclable.

#### Better Performance

Because Murco Gas Sensors offer reliable, real-time and continuous monitoring, you can avoid all the usual problems that occur with aspirated systems as a result of blocked filters, damaged tubes and delayed sample analysis.

#### Tailored to Task, Tailored to Gas

Each sensor can be individually specified to meet your requirements in terms of the type of gas to be detected, the range and alarm level. You select the output preferred to integrate the sensor into your system.

#### Increased Connectivity



The MGS can integrate with most Control and Building Management Systems (including the ST-MON and MGD series panels), using one of its linearised analogue outputs and digital (relay) output.

Whatever your business and whatever your budget, Murco has a gas detection system to suit you.













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# Murco Gas Sensor (MGS) Data Sheet

Technical Specification	MGS Standard
Power Supply	12/24V AC/DC ± 20%(IR 24V AC/DC)
Power Consumption	EC (24V): 45.7mA, SC: 91mA, IR:63mA
Power Monitoring*	Green LED
Visual Alarm*	Red LED
Audible Alarm*	Sounder, enabled/disabled
Fault monitoring Fault state	Red LED ON – Green OFF 0-1V, 0-2mA (IR 1V, 2mA)
Analogue Outputs	0-5V, 1-5V, 0-10V, 2-10V, 4-20mA (IR 0-10, 2-10, 4-20mA)
Digital Outputs*	1 Relay rated 1 Amp/24 V d.c./120 V a.c  Selectable delay: 0, 1, 5, 10min
IP Rating	IP41
Dimensions and Weight	86 x 142 x 53 mm 180 g
Standard Compliance	  WEEE RoHS EuP

Sensor Information	Electrochemical EC	Semiconductor with filter (multigas) SC	Infrared IR
Typical Measurement Range	0-1,000 ppm	10-1,000 ppm	ppm - %
Temperature Range	A: -20°C to +40°C B: -40°C to +40°C	-40°C to +50°C	-40°C to +50°C
Humidity Range non condensing	0 to 95%	0 to 95%	0 to 95%
Typical Sensor Life	3 yrs	5-8 yrs	5yrs
Alarm threshold T50	19 sec	76 sec(filtered)	25 sec
T90	47 sec	215sec(filtered)	90sec
Recovery Time	900 sec	600 sec	210 sec
Linearity	Linear over calibrated range		
Calibration Requirements	Local regulations may specify the procedure and frequency required. Standards generally require at least annual testing or calibration. Refer to Murco for instructions. Semiconductor sensors are non-selective, but calibrated to a specific gas.		

## OPTIONAL HOUSINGS

									
<b>Standard</b>	<b>IP66</b>	<b>IP66 with Splash Guard</b>	<b>Splash Guard</b>	<b>IP66 / Remote Head</b>	<b>Exd</b>	<b>Exd Remote Head / IP66</b>	<b>PRV / IP66</b>	<b>Airflow / Duct Mount IP66</b>	<b>Remote / Face Plate</b>
86x142x53mm	175x165x82mm	175x225x82mm	75x50mm	175x155x82mm	140x180x90mm	175x155x82mm	175x155x82mm	175x125x82mm	86x86mm
180g	629g	700g	72g	790g	2234g	1185g	916g	578g	86g

## Typical Gases/Ranges we detect:

ELECTROCHEMICAL		
Ammonia	NH <sub>3</sub>	0-100ppm 0-1,000ppm 0-5,000ppm
Carbon Monoxide	CO	0-100ppm 0-500ppm 0-1,000ppm
Chlorine	Cl <sub>2</sub>	0-20ppm
Chlorine Dioxide	ClO <sub>2</sub>	0-1ppm
Ethylene Oxide	C <sub>2</sub> H <sub>4</sub> O	0-20ppm
Ethylene	C <sub>2</sub> H <sub>4</sub>	0-20ppm, 1,000ppm
Fluorine	F <sub>2</sub>	0-1ppm
Hydrazine	N <sub>2</sub> H <sub>4</sub>	0-1ppm
Silane - Hydride	SiH <sub>4</sub>	0-5ppm
Hydrogen	H <sub>2</sub>	0-1,000ppm 0-10,000ppm 0-100% LEL
Hydrogen Chloride	HCl	0-50ppm
Hydrogen Cyanide	HCN	0-50ppm
Hydrogen Sulphide	H <sub>2</sub> S	0-30ppm 0-200ppm
Nitric Oxide	NO	0-100ppm 0-500ppm
Nitrogen Dioxide	NO <sub>2</sub>	0-50ppm
Oxygen	O <sub>2</sub>	0-30%
Ozone	O <sub>3</sub>	0-2ppm
Phosgene	COCL <sub>2</sub>	0-1ppm
Phosphine	PH <sub>3</sub>	0-5ppm
Sulphur Dioxide	SO <sub>2</sub>	0-100ppm

INFRARED		
Carbon Dioxide	CO <sub>2</sub> standard model	0-10,000ppm, (0-1%vol)
Carbon Dioxide	CO <sub>2</sub> special request	0-1,000ppm 0-2,000ppm 0-20,000ppm 0-5% 0-10%

SEMICONDUCTOR		
HFC's - typical examples	R134a, R404A, R407, R410A, R507	10-10,000ppm
HCFC's - typical examples	R22	10-10,000ppm
CFC's - typical examples	R11, R12	10-10,000ppm
Hydrocarbons - typical examples	Methane(Natural gas), Propane, Butane, LPG, Isobutane, Ethylene	0-10,000ppm
Ammonia	NH <sub>3</sub>	0-10,000ppm
Hydrogen	H <sub>2</sub>	0-10,000ppm
VOC's - typical examples	Acetone, Chloroform, Ethanol, Methanol, Methyl and Methylene Chloride, Ethyl and Ethylene Chloride	0-10,000ppm

Temperature Range	Sensor Types		
	Semi Conductor	Electrochemical	Infrared
Standard Enclosure-	20 - +50°C	-20 - +40°C	-20 - +50°C
IP 66	-40 - +50°C	-40 - +40°C	-40 - +50°C
IP 55 Low Temp	-50 - +50°C	-50 - +40°C	-50 - +50°C