

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. MGS Controllers are available in 2,4, or 6 channel configurations for 4-20 mA installations and up to 16 channels using the ST-MON panel.

3-6 Channel Controller

Channels can be blanked off using a resistor.



1 & 2 Panel Controller



ST-MON Panel Controller

For larger systems the controller can accommodate up to 16 channels.



Benefits

Increase Efficiency, Minimise Costs

Murco is committed to delivering highly competitive quality products and solutions. Early detection minimises costs of replacing refrigerant and increases efficiency in systems with a reduced charge. ✓

Compliance

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

Legislation: F Gas Regulation, EH40

Standards: EN378, Lloyds Approval, ASHRAE 15, ASHRAE 147

Regulatory Approvals: UL, CE

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. ✓

Green Building Programmes – BREEAM, LEED, Energy Technology List (UK).

Better Performance

Murco Gas Sensors offer reliable, real-time and continuous monitoring. ✓

Tailored to Task, Tailored to Gas


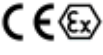


Each sensor can be individually specified to meet your requirements in terms of the type of gas to be detected. You select the output preferred to integrate the sensor into your system. ✓

Increased Connectivity

The MGS can integrate with most Control and Building Management Systems (including the ST-MON and MGS 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. ”

Murco Gas Sensor (MGS) Data Sheet

Technical Specification	MGS Standard
Power Supply	12/24V d.c./a.c. 50/60 Hz 2 W max.
Power Consumption (12V)	EC: 60mA, SC: 153mA, IR:136mA
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
Analogue Outputs	0-5V, 1-5V, 0-10V, 2-10V, 4-20mA
Digital Outputs	1 Relay rated 1 Amp/24 V d.c / a.c Selectable delay: 0,1,5,10min
IP Rating	IP41 (Standard) or IP66 (Optional)
Dimensions and Weight	86 x 142 x 53 mm 180 g
Standard Compliance	    Qualified for Energy Technology List UL 61010-1, CSA C22.2 No. 61010-1, IEC 61010-1, EN 61010-1, EN 55011, EN 50270, FCC Part 15, Subpart B, WEEE RoHS EuP

Sensor Information	Electrochemical EC	Semiconductor with filter (multigas) SC	Infrared IR
Typical Measurement Range	0-1,000 ppm	0-1,000 ppm	0-10,000 ppm (0-1%vol)
Humidity Range non condensing	0 to 95%	0 to 95%	0 to 95%
Typical Sensor Life	3 yrs	5-8 yrs	8-10yrs
* Alarm threshold T50	19 sec	76 sec (filtered)	25 sec
T90	47 sec	215sec (filtered)	90 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

									
Standard	IP66	IP66 with Splash Guard	M42 Thread Splash Guard	IP66 / Remote Head	** Exd	Exd Remote Head / IP66	PRV / IP66	Airflow / Duct Mount IP66	Remote / Face Plate
86x142x53mm	175x165x82mm	175x225x82mm	75x50mm	175x155x82mm	140x180x90mm	175x155x82mm	175x155x82mm	175x125x82mm	86x86mm
180g	629g	700g	72g	790g	2234g	1185g	830g	578g	86g

Typical Gases/Ranges we detect:

ELECTROCHEMICAL		
Ammonia	NH ₃	0-100ppm 0-1,000ppm 0-5,000ppm
Carbon Monoxide	CO	0-100ppm 0-500ppm 0-1,000ppm
Chlorine	Cl ₂ (IP41 only)	0-20ppm
Chlorine Dioxide	ClO ₂ (IP41 only)	0-1ppm
Ethylene Oxide	C ₂ H ₄ O	0-20ppm
Ethylene	C ₂ H ₄	0-20ppm, 1,000ppm
Fluorine	F ₂ (IP41 only)	0-1ppm
Hydrogen	H ₂	0-1,000ppm 0-10,000ppm 0-100% LEL
Hydrogen Chloride	HCl	0-50ppm
Hydrogen Cyanide	HCN	0-50ppm
Hydrogen Sulphide	H ₂ S	0-30ppm 0-200ppm
Nitric Oxide	NO	0-100ppm 0-500ppm
Nitrogen Dioxide	NO ₂	0-50ppm
Oxygen	O ₂	0-30%
Ozone	O ₃ (IP41 only)	0-2ppm
Phosphine	PH ₃	0-5ppm
Sulphur Dioxide	SO ₂	0-100ppm

INFRARED		
Carbon Dioxide	CO ₂ standard range	0-10,000ppm, (0-1%vol)
Carbon Dioxide	CO ₂ special request	0-5,000ppm 0-20,000, (0-2%vol) 0-5% 0-10%
Hydrocarbons (selected)	Butane, Propane	0-100% LEL 0-100% volume

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 ₃	0-10,000ppm 1-1000ppm 10-10,000ppm
Hydrogen	H ₂	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 to +50°C	-20 to +40°C	-20 to +50°C
IP 66	-40 to +50°C	-20 to +40°C	-40 to +50°C -40 to +40°C (NH ₃ only)

* Response times may vary based on temperature of operation, enclosure and environmental conditions.
 ** The hazardous area Exd Gas Monitor products are designed with individually certified EXD main housing enclosure and certified EXD sensor enclosures. The final Exd Gas Monitor assemblies (main enclosure and sensor assembly) have not been certified as a complete unit.