

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 120 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 | 0°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 | 8-10yrs |
| 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. | | |

* Not available on IR model

OPTIONAL HOUSINGS

| | | | | | | | | | |
|--|---|---|---|---|---|--|---|---|---|
|  |  |  |  |  |  |  |  |  |  |
| Standard | IP55/ Low Temp | IP66* | Exd | Remote Exd/Head* | Vent Pipe Indoor* | Vent Pipe Outdoor* | Airflow / Duct Mount Indoor | Airflow / Duct Mount Outdoor | Decorative Face Plate (For Remote Sensor)* |
| 86x120x53mm | 152x140x75mm | 152x162x75mm | 140x180x130mm | 152x152x75mm | 86x120x53mm | 152x162x75mm | 100x150x60mm | 152x122x75mm | 86x86mm |
| 180g | 510g | 850g | 2310g | 1160g | 480g | 790g | 261g | 510g | 140g |

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 | 0-20ppm |
| Chlorine Dioxide | ClO ₂ | 0-1ppm |
| Ethylene Oxide | C ₂ H ₄ O | 0-20ppm |
| Ethylene | C ₂ H ₄ | 0-20ppm, 1,000ppm |
| Fluorine | F ₂ | 0-1ppm |
| Hydrazine | N ₂ H ₄ | 0-1ppm |
| Silane - Hydride | SiH ₄ | 0-5ppm |
| 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 | 0-2ppm |
| Phosgene | COCl ₂ | 0-1ppm |
| Phosphine | PH ₃ | 0-5ppm |
| Sulphur Dioxide | SO ₂ | 0-100ppm |

| INFRARED | | |
|---------------------------------|--|--|
| Carbon Dioxide | CO ₂ standard model | 0-10,000ppm, (0-1%vol) |
| Carbon Dioxide | CO ₂ 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 ₃ | 0-10,000ppm |
| 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 - +50°C | -20 - +40°C | 0 - +50°C |
| IP 55/66 | -40 - +50°C | -40 - +40°C | 0 - +50°C |
| IP 55 Low Temp | -50 - +50°C | -50 - +50°C | -40 - +50°C |