MGS **Modbus**

murco
gas detection solutions
A Bacharach Company

Easy System Integration – Increased Connectivity

The MGS Modbus can integrate with most Control and Building Management Systems using its linearised analogue and relay outputs. The versatility of Modbus offers software control of (for example) alarm setpoint and delay times. A wide range of gases can be detected with this state of the art detector. It is ideal for:

- maintenance facilities, schools/universities, hospitals, garages, boiler rooms, chiller plants, wineries, supermarkets, food and beverage processing

- 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

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.

1 & 2 Panel Controller

3-6 Channel Controller
Channels can be blanked off using a resister.

ST-MON Panel Controller
For larger systems the controller can accommodate up to 16 channels.

Benefits

Easy integration/Increased Connectivity

The MGS Modbus can integrate with most Control and Building Management Systems using one of it's linearised analogue outputs and digital (relay) output using modbus.

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 Modbus series enables compliance with all the necessary regulatory, legal and Insurance requirements.
Legislation: F Gas Regulation, EH40
Standards: EN378, ASHRAE 15, ASHRAE 147
Regulatory Approvals: UL, CE, CSA, IEC and EN.

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.

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

MGS Modbus Data Sheet

Technical Specification	MGS Standard
Power Supply	12/24V d.c./a.c.
Power Consumption (12V)	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
Relay Output	1 relay, 1 A, 24 VAC/DC
Alarm Delay	User selectable: 0, 1, 5,10
Serial communication	Modbus, RS485
IP Rating	IP41 (Standard) or IP66 (Optional)
Dimensions and Weight	86 x 142 x 53 mm 180 g
Standard Compliance	CE Ex 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	Semiconductor with filter (multigas) SC	Infrared IR
Typical Measurement Range	Up to 1,000 ppm	Up to 10,000 ppm (1%vol) (CO_2)
Humidity Range non condensing	0 to 95%	0 to 95%
Typical Sensor Life * Alarm threshold T50 T90	5-8 yrs 76 sec (filtered) 215sec (filtered)	8-10yrs 25 sec 90 sec
Linearity	Linear over calibrated range	
Calibration Requiremnts	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

			M42 Thread						193mm	
Standard	**IP66**	**IP66 with Splash Guard**	**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

INFRARED			
Carbon Dioxide Carbon Dioxide	CO2 standard range CO2 special request	Up to 10,000 ppm, Up to 5,000 ppm Up to 20,000 ppm Up to 50,000 ppm Up to 100,000 ppm	1% vol 0.5% vol 2% vol 5% vol 10% vol
Hydrocarbons (selected)	Butane, Propane	Up to 100% LEL 100% volume	
Refrigerants (selected)	R134a, R404a, R22, R407a, R407c and R507	Up to 1,000 ppm	

SEMICONDUCTOR			
HFC's - typical examples		R134a, R404A, R407, R410A, R507	Up to 10,000 ppm
HCFC's - typical examples		R22	Up to 10,000 ppm
CFC's - typical examples		R11,R12	Up to 10,000 ppm
Hydrocarbons -typical examples		Methane(Natural gas), Propane, Butane, LPG, Isobutane, Ethylene	Up to 10,000 ppm
Ammonia		NH_3	Up to 10,000 ppm Up to 1,000 ppm
Hydrogen		H_2	Up to 10,000 ppm
VOC's - typical examples		Acetone, Chloroform, Ethanol, Methanol, Methyl and Methylene Chloride, Ethyl and Ethylene Chloride	Up to 10,000 ppm

Temperature Range		Sensor Types	
		Semi Conductor	Infrared
Standard Enclosure		-20 to +50ºC	-20 to +50ºC
IP 66		-40 to +50ºC	-40 to +50ºC

*   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.

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