

## Sensor Transmitter (ST-IAM) Integrated Area Monitor



### A state-of-the-art gas detection system which detects most gases

The Murco Sensor Transmitter Integrated Area Monitor (ST-IAM) utilises a range of sensor technologies to detect most gases. The ST-IAM can be used on a stand-alone basis or integrated into Controls or Building Management Systems (BMS).

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; either on an integrated or stand-alone basis.

#### 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. The ST-MON 350 panel can have up to 65 ST-IAM connected using the RS485. The ST-IAM can also be used with the MGD series of panels 2,4,6 channels.



#### 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. Also the costs of recalibration and maintenance can be reduced by Murco plug-in replacement sensors exchanged as part of a regular maintenance programme.

##### Flexibility

The target gas and/or detection range can be changed simply by changing a plug-in sensor board.

##### Legal Compliance

The ST-IAM series enables compliance with all the necessary regulatory, legal and Insurance requirements.

##### Environmental Considerations

The early detection of gas minimises the contribution to global warming. Also this unit enables compliance with all relevant environmental legislation and the product itself is fully recyclable.

##### Better Performance

Because ST-IAM offers 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 product 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 analogue or digital output preferred to integrate the sensor into your system.



##### Increased Connectivity

The ST-IAM can interface with most Control and Building Management Systems (including the Murco ST-MON and MGD series panels) using one of its linearised analogue outputs, RS485 port and digital (Relay) outputs.

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

**Murco Ltd,**  
114a Georges St Lower, Dun Laoghaire, Co Dublin  
tel: + 353 1 284 63 88, fax: + 353 1 284 63 89,  
email: info@murco.ie, [www.murcogasdetection.com](http://www.murcogasdetection.com)

# Sensor Transmitter Integrated Area Monitor (ST-IAM) Data Sheet

Technical Specification	ST-IAM Standard
Power Supply	12/24 V a.c., 12/30 V d.c., 400mA maximum
Power Monitoring	Green LED
Visual Alarm	Orange LED for low level Red LED for high level
Analogue Outputs	0-5V, 0-10V, 4-20mA
Serial Data Interface	RS 485
Digital Outputs	2 Relays rated 1 Amp/24 V d.c./120 V a.c. Selectable: NO/NC auto or manual reset, response delay 0, 1, 5 or 10 min
Dimensions and Weight	145 x 185 x 80 mm - 850 g
Standard Compliance	  WEEE RoHS EuP

Sensor Information	Electrochemical EC	Semiconductor with filter (multigas) SC	Catalytic (multigas) CAT	Infrared IR
	Typical Measurement Range	0-1000ppm	10-1000ppm	ppm- LEL%
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%	0 to 95%
Typical Sensor Life	3 yrs	5-8 yrs	5 yrs	5 yrs
Alarm threshold T50	19 sec	76 sec(filtered)	28 sec	42 sec
T90	47 sec	215 sec(filtered)	46 sec	95 sec
Recovery Time	900 sec	600 sec	600 sec	8 mins
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>Digital Display / IP66</b>	<b>IP66</b>	<b>IP66 with Splash Guard</b>	<b>Splash Guard</b>	<b>IP66 / Remote Head</b>	<b>Exd</b>	<b>Exd + Digital Display</b>	<b>Exd Remote Head / IP66</b>	<b>PRV / IP66</b>	<b>Airflow / Duct Mount</b>	<b>Remote / Face Plate</b>
145x185x80mm	175x165x82mm	175x165x82mm	175x225x82mm	75mmx50mm	175x155x82mm	130x175x90mm	140x180x130mm	175x155x82mm	175x155x82mm	175x125x82mm	86x86mm
850g	719g	660g	756g	72g	917g	4003g	2322g	1240g	971g	643g	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, 1000ppm
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	0-2,000ppm 0-20,000ppm 0-5% 0-10%
Hydrocarbons (selected)		0-100% LEL 0-100% Volume

CATALYTIC		
All Combustible gases including Ammonia		0-100% LEL

SEMICONDUCTOR		
HFC's - typical examples	R134a, R404A, R407C, R410A, R507	10-10,000ppm
HCFC's - typical example	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	Catalytic	IR
Standard Enclosure	-20 - +50°C	-20 - +40°C	-20 - +50°C	-20 +50°C
IP 66	-40 - +50°C	-40 - +40°C	-40 - +50°C	-40 +50°C

For temperatures lower than -40°C please contact us for our solution.