

GMT Toxic Gas Detection Head

Carbon Monoxide (CO)



UTILISES WELL PROVEN AND RELIABLE SENSOR TECHNOLOGY



SUITABLE FOR HAZARDOUS AREA USE (WITH SUITABLE ZENER BARRIER)  **II 1 G EEx ia IIC T4**



INDUSTRY STANDARD ANALOGUE 4 ~ 20 mA O/P



SIMPLE CONSTRUCTION ALLOWS EASY SENSOR REPLACEMENT



VERY ROBUST STAINLESS STEEL CONSTRUCTION



GMT Detection Head

The GMT range of detection heads provides a comprehensive range of toxic gas detectors for connection to our gas detection control panels. They are designed to provide a rugged, reliable, easy to maintain solution to your fixed gas detection needs. They can be used in safe area locations or when used with a suitable zener barrier device in all flammable hazardous areas as they are also designed to be intrinsically safe (ia).

Gas Information Carbon Monoxide (CO)

Carbon monoxide is a significantly toxic gas, but, being colourless, odourless, tasteless, and non-irritating, it is very difficult for people to detect. Exposures at 100 ppm can be life-threatening.

Carbon monoxide is a product of combustion of organic matter with insufficient oxygen supply, and is often produced in domestic or industrial settings by vehicles and other gasoline-powered tools, heaters, and cooking equipment. As a result, carbon monoxide poisoning is the most common type of fatal poisoning in many countries.

Symptoms of mild Carbon monoxide poisoning include headaches, vertigo, and flu-like effects; larger exposures can lead to significant toxicity of the central nervous system, heart, and even death.

Carbon monoxide combines with haemoglobin to form carboxyhaemoglobin (HbCO) in the blood and prevents binding of oxygen, so causing anoxemia. (an absence of oxygen in arterial blood.)

CO Relative Density (Air =1) = 0.967

Typical CO Detection head location would be in the "breathing zone" (approx 1.5 meters)


EH40 workplace exposure recommended exposure limits :-

Long term exposure limit (8hour TWA reference period) 30 ppm

Short term exposure limit (15 min TWA reference period) 200 ppm



General Details

Type:	GMT—Carbon Monoxide
Part number	59510—0-100 parts per million (PPM) 59511— 0-500 parts per million (PPM) 59590—0-1000 parts per million (PPM)
Certification	 II 1 G EEx ia IIC T4 Certificate BAS00ATEX1042X
Ingress Protection	IP 54 (sensor electronics)
Sensor Type	Electrochemical
Mounting Thread	20mm. 1.5mm Pitch
Supply Voltage	24 Vdc $\pm 10\%$
Connections	Red – N.C. Yellow – Signal/supply. Blue – 0v. Green – Screen
Output	4~20 mA Linear 2/3 wire
Material	Stainless Steel EN 316
Weight	166gms.
Dimensions:	Body 48mm. long x 42mm. dia.
EMC Regulations	EC Directive 89/336/EEC
Low voltage	EC Directive 73/23/EEC

Effects Of Carbon Monoxide

%COHb	Approximate ppm Level	Effects And Symptoms
0.1 to 1.0	0 to 3.2	Normal background endogenous level (higher during pregnancy, in new-born infants and anaemic patients).
1.0 to 5.0	3.2 to 28	Selective increase in blood flow to vital organs, to compensate for reduced oxygen carrying capacity of the blood.
5.0 to 10	28 to 60	Visual light threshold increased. No subjective effects.
10 to 20	60 to 120	Tightness across forehead. Mild headache.
30 to 40	180 to 240	Severe headache, dizziness, nausea and vomiting.
40 to 50	240 to 300	Increased pulse and respiration rate. Collapse.
50 to 60	300 to 360	Intermittent convulsions. Coma.
60 to 70	360 to 420	Depressed heart actions. Death possible.
70 to 80	420 to 480	Weak pulse and slowed respiration. Death likely.

Note: The details contained in the above table were extracted from BS7860.

Compatible GMI control panels



SPGA



ACTIVE-8



4500 GAS ALARM



ACTIVE-80

Replacement Sensor
Calibration Cap Assembly

GMI Part number 12419
GMI Part number 59614



Sensor Specification

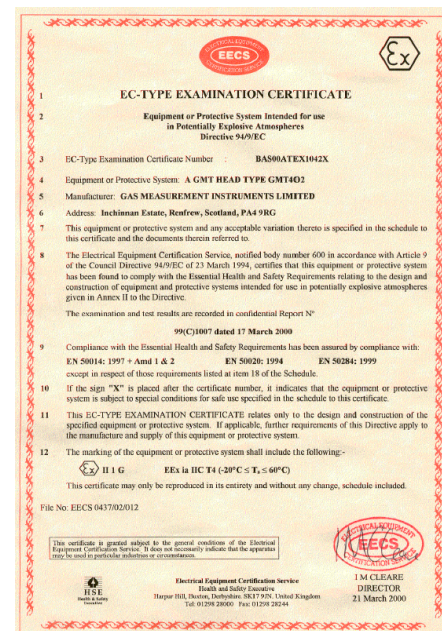
Nominal Range	0-100, 0-500, 0-1000 ppm
Maximum Overload	2000 ppm
Expected Operating Life	Three Years in Air
Temperature Range	-20°C. to +50°C.
Pressure Range	Atmospheric $\pm 10\%$
Response Time	Typically 40 seconds to T90 Typically 20 seconds to T50.
Relative Humidity Range	15 to 90% non-condensing
Repeatability	1% of signal
Output Linearity	Linear
Warranty Life	24 Months from date of despatch
Calibration frequency	6 months recommended



Q 09760



The Council of Gas Detection and Environmental Monitoring



As a BS EN ISO 9001:2008 approved company, GMI Ltd's quality assurance programmes demand the continuous assessment and improvement of all GMI products. Information in this leaflet could thus change without notification and does not constitute a product specification. Please contact GMI or their representative if you require more details.



Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.