



Intrinsically Safe Fixed Gas Detector

For continuous monitoring of flammable (hydrocarbon) gases or fuels



Fast. Reliable. Adaptable.

- Suitable for use in Zones 1 and 2 hazardous areas
- Detects a wide range of hydrocarbons, fuel gases, and hydrogen
- Sensors available for 0-100% LEL or 0-100% volume gas
- Industry standard 4-20mA output
- Local LCD display

Description

The MGT3-Pellistor series flammable gas monitors provide reliable performance workplace safety applications. Using pellistor sensor technology to detect hydrocarbons over the range 0 to 100% Lower Explosive Limit (LEL) or 0 to 100% volume gas, these intrinsically safe detectors are designed to be incapable of producing heat or spark sufficient to ignite an explosive atmosphere. The sensor can be set to detect either methane or general hydrocarbons.

The detectors use the industry standard 4-20mA current loop to power the detector and to convey the gas levels detected to a controller. This means that under zero gas conditions 4mA is drawn from the supply, and under full scale gas conditions 20mA is drawn from the supply. The current varies linearly for gas levels between zero and full scale.

The detector heads use a three-wire connection with a current loop pair to power the electronics and a third connection to provide power for the pellistor sensor. Safety barriers must be used to connect the power and signals between the gas detector and the safe area. This is required to preserve the safety integrity of the installation by limiting the power entering the potentially explosive area to a safe level. The Intrinsically Safe Output Module, type SS359, provides the necessary interface between a non-intrinsically safe mains powered system and the MGT3-IR gas detector.

A marine version of the MGT3 is available. This version is housed in a cast aluminum enclosure to provide higher RFI immunity where high power portable radios are used in the close confines of a vessel. The enclosure is plated and painted to withstand the harsh salt spray environment of the marine industry. The digital display is fitted with a sliding stainless steel front cover designed to remain closed over the display window when not being viewed. This maintains the RFI shielding properties of the enclosure during normal operation.



Hazardous Area Certification

| | |
|---------------------|--|
| Certificate number: | BAS 01ATEX2300 Code II 2G Ex ia IIC T4 Gb (-20°C < Ta < +60°C) |
| Standard: | EN 60079-0: 2009 EN 60079-1: 2007 EN 60079-11: 2007 |
| Zones: | 0, 1, & 2 |

Partial list of gases detected: **methane, hydrogen, propane, butane, ethane, pentane, hexane, octane, ethanol, IPA, solvents**

An optional weather guard is available for installations exposed to the atmosphere or contaminants and for use in wash down areas. The weather guard reduces the possibility of water or other contaminants entering into the gas sensor thereby improving the overall reliability of the gas detector in harsh environments.

MODEL MGT3-Pellistor

Intrinsically Safe Fixed Gas Detector

Specifications

| | |
|----------------------------|---|
| Material | Standard housing: composite (ABS and polycarbonate) Marine version: cast aluminum alloy |
| Cable entry | 1 x M20 or ½" NPT |
| Dimensions | 122 x 122 x 75 mm (4.8 x 4.8 x 3.0 in) |
| Weights | Standard housing (excluding weather guard) – 660 grams (1.5 lbs.) Marine version (excluding weather guard) – 1 kg (2.2 lbs.) Weather guard – 225 grams (0.5 lbs.) |
| Display | LCD |
| Gas types | Hydrocarbons including methane, hydrogen, ammonia |
| Operating voltage | 8 to 28VDC (for 4 to 20mA signal) 5.8 to 7.5VDC (for sensor supply) |
| Output signal | 0mA – open circuit 2mA – fault 4mA – zero gas 20mA – full scale gas 22mA – over-range |
| Max. cable loop resistance | Signal – 640 ohms at 24VDC Sensor – 15 ohms at 7.5VDC |
| Sensor type | Pellistor (catalytic bead) |
| Measurement range | 0—100% LEL (5% vol CH ₄) or 0—100% vol. CH ₄ |
| Response time | T90 < 10 seconds (methane) |
| Measurement resolution | 1% LEL |
| IP rating | Enclosure: IP66 Sensor: IP65 |
| Operating temperature | -20°C to +50°C |
| Storage temperature | -20°C to +50°C |
| Humidity range | 0 to 95% RH non-condensing |
| Operating pressure | Atmospheric (± 10%) |

Specifications are subject to change without notice.

Order Information

| Part No. | Description | Stock No. |
|----------------|---|-----------|
| 2-06-2002-61-0 | MGT3-Pellistor series flammable gas detector, range 0-100% LEL gas | SS416 |
| 2-06-2002-61-1 | MGT3-Pellistor series flammable gas detector, for fuel gases | SS417 |
| 2-06-2002-61-2 | MGT3-Pellistor series flammable gas detector, range 0-100% volume gas | SS415 |
| 2-06-2002-46-1 | Protective weather guard | SS475 |
| 2-06-2004-10-0 | Intrinsically safe output module, DIN rail mounted | SS359 |
| | Swivel mounting bracket | SS374 |
| | Ceiling mounting bracket | SS375 |
| | Collector cone | SS429 |



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