MGT3 Series of Intrinsically Safe Gas Monitors

Lightweight, rugged, reliable, compact series / high purity

MGT3 Series of Intrinsically Safe Gas Monitors

Optional weather guard

DESCRIPTION

The MSA MGT3 Series of Intrinsically Safe Gas Monitors, powered by Neutronics Technology provide reliable performance in workplace safety applications: MGT3-IR, MGT3-O2, MGT3-PELLISTOR, and the MGT3-TOXIC.

A marine version of the MGT3 is also 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.

An optional weather guard is available for installations exposed to the atmosphere or contaminants and for use in wash down areas. The weather guard improves the reliability of the gas detector in harsh environments by reducing the possibility that water or other contaminants will enter the sensor. The weather guard is attached with tamperproof screws.

MGT3-IR

The MGT3-IR Fixed Gas Monitor with IR Sensor uses infrared sensor technology to detect flammable gas concentrations over various ranges up to 100% volume, these intrinsically safe detectors are designed to be incapable of producing heat or spark sufficient to ignite an explosive atmosphere.

MGT3-O2

The MGT3-O2 Fixed Oxygen Gas Monitor uses electrochemical sensor technology to detect for oxygen deficiency in the atmosphere, these intrinsically safe detectors are designed to be incapable of producing heat or spark sufficient to ignite an explosive atmosphere.

MGT3-PELLISTOR

The MGT3-Pellistor Fixed Flammable Gas Monitor uses 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.

MGT3-TOXIC

The MGT3-Toxic Fixed Gas Monitor uses electrochemical sensor technology to detect the levels of toxic gases in the atmosphere, these intrinsically safe detectors are designed to be incapable of producing heat or spark sufficient to ignite an explosive atmosphere.

MORE INFORMATION:

Scan the QR code to learn more about the MGT3 Series of Intrinsically Safe Gas Monitors and other MSA products.

SAFEGUARDING
PEOPLE, PLACES, & THE PLANET

MGT3-IR Intrinsically Safe Gas Monitor

For continuous monitoring of flammable (hydrocarbon) gases

DESCRIPTION

The MSA MGT3-IR Intrinsically Safe Gas Monitor, powered by Neutronics Technology, provides reliable performance workplace safety applications. Using infrared sensor technology to detect flammable gas concentrations over various ranges up to 100% volume, these intrinsically safe detectors are designed to be incapable of producing heat or spark sufficient to ignite an explosive atmosphere.

Features

- Minimum 5-year sensor life
- Suitable for use in Zones 1 and 2
- Industry standard 4-20mA output
- Local LCD display
- Three-wire connection

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 IR 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 IR 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

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, propane, butane, ethane, pentane, hexane, octane, ethanol, IPA, solvents

*Note: IR detectors are not suitable for detecting hydrogen

MORE INFORMATION:

Scan the QR code to learn more about the MGT3 Series of Intrinsically Safe Gas Monitors and other MSA products.

SAFEGUARDING
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MGT3-IR Intrinsically Safe Gas Monitor

Description	Part Number
MGT3-IR flammable gas detector, range 0-100% LEL methane	2-06-2003-22-1
MGT3-IR flammable gas detector, range 0-100% volume methane	2-06-2003-22-X
Protective weather guard	2-06-2002-46-1
Intrinsically safe output module, DIN rail mounted	2-06-2004-10-0

Specifications	Description
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 (note: IR sensors have no response to hydrogen)
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	NDIR infrared
Measurement range	0—100% LEL (5% vol CH4) or 0—100% vol. CH4
Response time	T90 < 30 seconds (methane)
Measurement resolution	1% LEL or 1% volume
IP rating	Enclosure: IP66 Sensor: IP65
Operating temperature	-20 to +50°C (-4°F to +122°F)
Storage temperature	-20 to +50°C (-4°F to +122°F)
Humidity range	0 to 95% RH non-condensing
Operating pressure	Atmospheric (± 10%)

Specifications are subject to change without notice.

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit https://us.msasafety.com/Trademarks.

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MGT3-O2 Intrinsically Safe Gas Monitor

For continuous monitoring of oxygen deficiency

DESCRIPTION

The MSA MGT3-O2 Intrinsically Safe Gas Monitor, powered by Neutronics Technology, provides reliable performance workplace safety applications. Using electrochemical sensor technology to detect for oxygen deficiency in the atmosphere, these intrinsically safe detectors are designed to be incapable of producing heat or spark sufficient to ignite an explosive atmosphere.

Features

- Suitable for use in Zones 1 and 2 hazardous areas
- Industry standard 4-20mA output
- Plug-in replaceable electrochemical sensors
- Local LCD display
- Two wire connection, loop powered

The industry standard 4-20mA current loop is used to power the detector and to convey the detected gas levels 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.

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.

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

Description	Part Number
MGT3 oxygen detector, range 0-21% oxygen	2-06-2002-58-0
Protective weather guard	2-06-2002-46-1

MORE INFORMATION:

Scan the QR code to learn more about the MGT3 Series of Intrinsically Safe Gas Monitors and other MSA products.

SAFEGUARDING
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MGT3-O2 Intrinsically Safe Gas Monitor

Specifications	Description
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	Oxygen and toxic gases
Supply voltage	7 to 30VDC (for 4 to 20mA signal)
Output signal	0mA – open circuit 2mA – fault 4mA – zero gas 20mA – full scale gas 22mA – over-range
Max. cable loop resistance	Signal – 560 ohms at 24VDC
Sensor type	Electrochemical
Measurement range	0-21% O2
Response time	Sensor response times vary according to the sensor type
IP rating	Enclosure: IP66 Sensor: IP65
Operating temperature	Varies with the sensor type, typically -20 to +40°C (-4°F to +104°F)
Storage temperature	-20 to +50°C (-4°F to +122°F)
Humidity range	0 to 95% RH non-condensing
Operating pressure	Atmospheric (± 10%)

Specifications are subject to change without notice.

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MGT3-Pellistor Intrinsically Safe Gas Monitor

For continuous monitoring of flammable (hydrocarbon) gases or fuels

DESCRIPTION

The MSA MGT3-Pellistor Intrinsically Safe Gas Monitor, powered by Neutronics Technology, 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.

Features

- 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

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.

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

MORE INFORMATION:

Scan the QR code to learn more about the MGT3 Series of Intrinsically Safe Gas Monitors and other MSA products.

MGT3-Pellistor Intrinsically Safe Gas Monitor

Description	Part Number
MGT3-Pellistor series flammable gas detector, range 0-100% LEL gas	2-06-2002-61-0
MGT3-Pellistor series flammable gas detector, for fuel gases	2-06-2002-61-1
MGT3-Pellistor series flammable gas detector, range 0-100% volume gas	2-06-2002-61-2
Protective weather guard	2-06-2002-46-1
Intrinsically safe output module, DIN rail mounted	2-06-2004-10-0

Specifications	Description
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 CH4) or 0—100% vol. CH4
Response time	T90 < 10 seconds (methane)
Measurement resolution	1% LEL
IP rating	Enclosure: IP66 Sensor: IP65
Operating temperature	-20 to +50°C (-4°F to +122°F)
Storage temperature	-20 to +50°C (-4°F to +122°F)
Humidity range	0 to 95% RH non-condensing
Operating pressure	Atmospheric (± 10%)

Specifications are subject to change without notice.

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MGT3-Toxic Intrinsically Safe Gas Monitor

For continuous monitoring of toxic gases

DESCRIPTION

The MSA MGT3-Toxic Intrinsically Safe Gas Monitor, powered by Neutronics Technology, provides reliable performance for workplace safety applications. Using electrochemical sensor technology to detect the levels of toxic gases in the atmosphere, these intrinsically safe detectors are designed to be incapable of producing heat or spark sufficient to ignite an explosive atmosphere.

Features

- Suitable for use in Zones 1 and 2 hazardous areas
- Industry standard 4-20mA output
- Plug-in replaceable electrochemical sensors
- Local LCD display
- Two wire connection, loop powered

The MGT3 toxic gas detectors provide reliable performance for workplace safety applications. Using electrochemical sensor technology to detect the levels of toxic gases in the atmosphere, these intrinsically safe detectors are designed to be incapable of producing heat or spark sufficient to ignite an explosive atmosphere.

The industry standard 4-20mA current loop is used to power the detector and to convey the detected gas levels 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.

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.

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

Description	Part Number
Hydrogen sulfide, 0-50ppm, other ranges up to 0-200ppm	
Carbon monoxide, 0-500ppm, other ranges up to 0-1000ppm	
Chlorine, 0-20ppm	
Nitrogen dioxide, 0-20ppm	
Ammonia, 0-100ppm or 0-1000ppm	
Sulfur dioxide, 0-20ppm	

MORE INFORMATION:

Scan the QR code to learn more about the MGT3 Series of Intrinsically Safe Gas Monitors and other MSA products.

MGT3-Toxic Intrinsically Safe Gas Monitor

Description	Part Number
Nitric oxide 0-100ppm	
Hydrogen 0-100% LEL (over the range of 0-4% volume)	
Hydrogen ppm	
Hydrogen chloride 0-30ppm	
Hydrogen cyanide 0-30ppm	

Specifications	Description
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 weatherguard) – 660 grams (1.5 lbs.) Marine version (excluding weatherguard) – 1 kg (2.2 lbs.) Weatherguard – 225 grams (0.5 lbs.)
Display	LCD
Gas types	Oxygen and toxic gases
Supply voltage	7 to 30VDC (for 4 to 20mA signal)
Output signal	0mA – open circuit 2mA – fault 4mA – zero gas 20mA – full scale gas 22mA – over-range
Max. cable loop resistance	Signal – 560 ohms at 24VDC
Sensor Type	Electrochemical
Measurement range	Dependent upon the sensor type
Response time	Sensor response times vary according to the sensor type
Measurement resolution	1% LEL
IP rating	Enclosure: IP66 Sensor: IP65
Operating temperature	Varies with the sensor type, typically -20 to +40°C (-4°F to +104°F)
Storage temperature	-20 to +50°C (-4°F to +122°F)
Humidity range	Oxygen: 0 to 99% RH non-condensing, Toxic: 15 to 95% RH non-condensing
Operating pressure	Atmospheric (± 10%)

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