MSA PrimaX® IR Gas Monitor

Reliable Performance in Extreme Conditions

MSA
The Safety Company

MSA PrimaX IR Gas Monitor

Every feature of the SIL 2-certified PrimaX IR Gas Monitor is designed with reliability in mind to withstand the most challenging environmental conditions throughout the product's life. MSA's **PrimaX IR Gas Monitor** offers LEL (Lower Explosive Limit) combustible gas detection through a patent-pending PrimaX Gas Monitor **IR dual-source** design. A redundant IR source provides reliability and uninterrupted monitoring should a source failure occur. Furthermore, the possibility of obscurations due to rain, fog, dirt, dust, and other environmental conditions is minimized due to dual-source design. In addition, optics are optimized for maximum signal, resulting in a product of extraordinary stability.

"The PrimaX IR Gas Monitor provides reliable operation, just like I have come to expect from MSA."

– TB, Engineer

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Installation

The PrimaX IR Gas Monitor is designed for quick and easy installation. Stainless steel and aluminum junction boxes can be ordered pre-installed for further ease of installation and wiring. A unique environmental guard with patent-pending clamshell design provides convenient installation in tight locations.

Calibration-Cap Method

Users may choose the most suitable calibration method for their applications. A calibration cap is placed on the unit to provide one-person calibration. Calibration cap icon-driven user interface guides users through the calibration process.

Calibration - HART Remote Method

HART (Highway Addressable Remote Transducer) output provides remote calibration capability. A HART junction box is offered for local calibration in classified areas; HART software is available to initiate calibration from remote locations.

Maintenance

The PrimaX IR Gas Monitor is designed to minimize maintenance costs without replacement of internal components. The PrimaX IR Gas Monitor dual-source design reduces potential system faults due to obscurations caused by rain, fog, dirt, etc. This monitor provides maintenance alerts as well as other fault conditions over 4-20mA and HART outputs.

Specifications

Description	Specification
Gas Types and Ranges	Hydrocarbon gases & vapors; 0-100% LEL
Temperature Range	-50˚C to 75˚C (-58˚F to 167˚F)
Stability	±2% full-scale/year
Repeatability	±1% full-scale
Accuracy	±2% full-scale (≤50% LEL) ±5% full-scale (>50% LEL)
Response Times without environmental guard with environmental guard	T90 <5 sec. Tested as per procedure in IEC 60079-29-1 For 50% LEL, 50% response in <5s, 90% response in <10s
Humidity	0%-95% RH, non-condensing
Sensor Warranty	10 years for IR source, 3-year full product
Power Input	18-32 VDC, 5 watts (-40˚C to 75˚C) (-40°F to 167°F)
Current Draw	150mA RMS average @ 24VDC
Wiring Requirements	3-wire, 2.0 mm max (14AWG)
Signal Output	4-20mA 3-wire current source with HART protocol
Physical Weight Dimensions	316 stainless steel 4.5 lbs. (2.0 kg) 3.5" dia. x 8" long (89 x 203mm)

Approval Ratings	**US and Canada**
	cFMus
	  Class I, Div. 1, Groups A,B, C, & D
	  Class II, Div. 1, Groups E, F, & G
	  Class III
	ANSI/ISA 12.13.01
	CSA C22.2 No. 152 Combustible Gas Performance
	International
	CE EMC Directive: 2004/108/EC
	CE ATEX Directive: 94/9/EC II 2G Ex d IIc T4
	IEC
	China Ex/CMC/CCCF
	Russia Ex/ GOST R
	(Tamb -50˚C to 75˚C) (-58˚F to 167˚F)

Ingress Protection	IP67
HART	HART 7.0 compatible
Safety Integrity Level	SIL 2

Features & Benefits

- Patented dual-source design provides redundancy and reliable, uninterrupted performance
- Patent-pending environmental guard sensor housing for fast, efficient response time
- Heated optics prevent condensation buildup
- 4-20mA analog output
- User-friendly setup, calibration, diagnostics, and maintenance via HART digital communication
- One-person calibration is easily performed using calibration cap
- Easy connection using aluminium or stainless steel junction box
- SIL 2-certification provides safety system integration capability
- 316 stainless steel, IP67-rated, rugged housing protects unit from environmental extremes
- Factory-calibrated for fast commissioning
- Heater element enables operation to -50˚C (-58˚F)

Applications

- OGP including platforms, refineries, drilling rigs, and compressor stations
- Chemical plants
- Fuel-loading and storage facilities
- Wastewater
- Various industrial applications
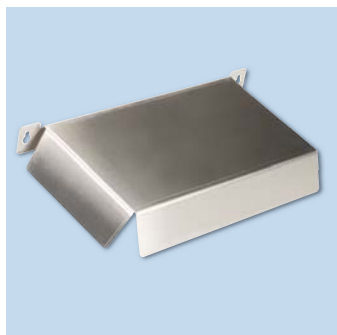
Options & Accessories

Calibration cap

Stainless steel junction box

HART junction box
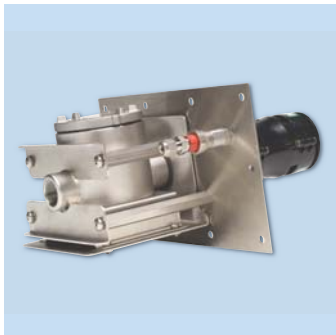
Duct-mount kit

Sun shield

Insect guard

Flow cap

Environmental guard tether

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