PrimaX IR **Gas Transmitter**

Designed for Reliable Performance in Extreme Conditions

MSA

The Safety Company

MSA

X Series AL Junction Box
p/n: 10115334
Serial-No.: 12/10-000010

BVS 10 ATEX E 066X
II 2G Ex e II T4 -50°C≤Ta≤+70°C
                       T6 -50°C≤Ta≤+40°C
II 2D Ex tD A21 IP6x
                       T135°C -50°C≤Ta≤+70°C
                       T 85°C -50°C≤Ta≤+40°C

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                 D-12059 Berlin
                 Thiemannstr. 1

Because every life has a **purpose…**

PrimaX IR Gas Transmitter

*Every feature of the SIL 2 engineered PrimaX IR Gas Transmitter is designed with reliability in mind to withstand the most challenging environmental conditions throughout the product's life. MSA's **PrimaX IR Gas Transmitter** offers LEL (Lower Explosive Limit) combustible gas detection through a patented PrimaX Gas Transmitter **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.*

Features & Benefits

- Patented dual source design provides redundancy and reliable, uninterrupted performance
- Patented environmental guard sensor housing for fast, efficient response time
- Heated optics prevent condensation buildup
- 4–20 mA 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
- 316 stainless steel, IP 67-rated, rugged housing protects unit from environmental extremes
- Factory-calibrated for fast commissioning
- Wide temperature range of –50 °C to +80 °C
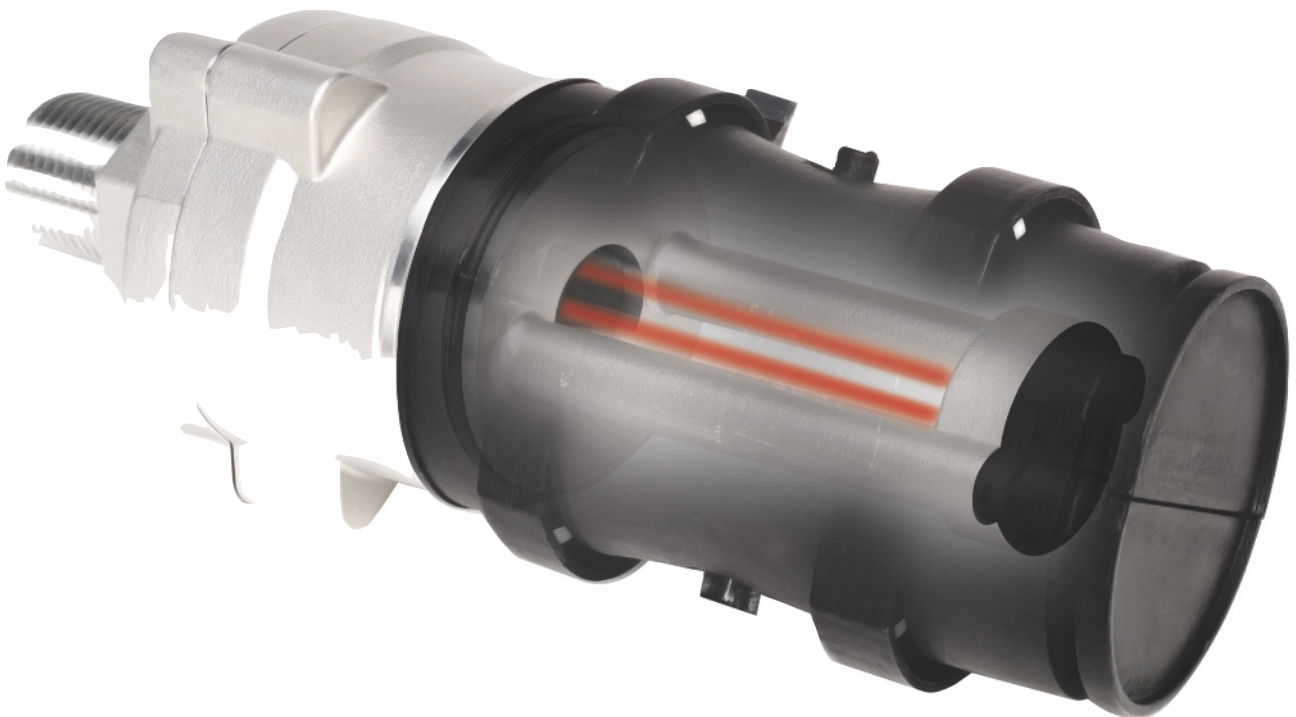
Applications

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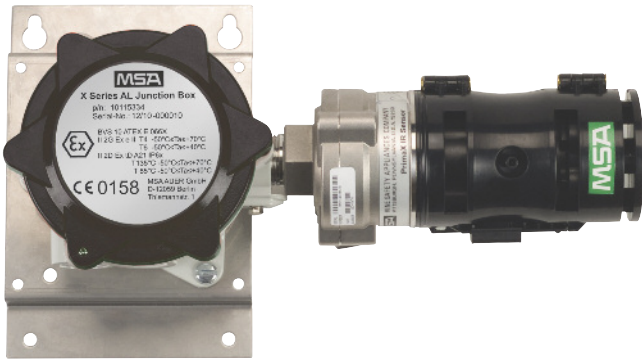
Installation

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

Calibration

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. Alternatively, 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 provided to initiate calibration from remote locations.

Maintenance

The PrimaX IR Gas Transmitter is designed to minimize maintenance costs without replacement of internal components. The PrimaX IR Gas Transmitter 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 4–20 mA and HART outputs.
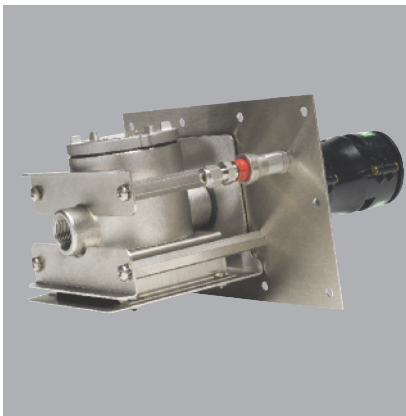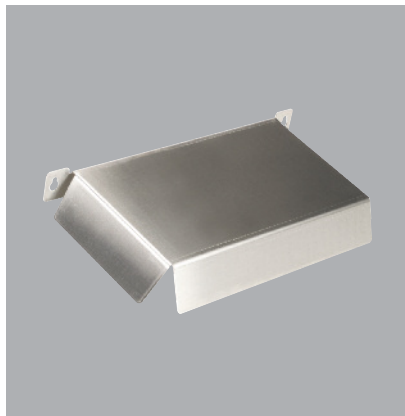
Calibration cap

Junction boxes

Flow cap

Duct-mount kit

Sun shield

Insect guard

HART calibration cover

HART junction box

Environmental guard tether

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Specifications

Description	Specification
Gas Types and Ranges	Hydrocarbon gases & vapors; 0–100 % LEL
	The PrimaX IR Detector is ATEX performance approved to following gases: Methane, Propane, Toluene, n-Butane, n-Pentane, n-Hexane, Propylene, Ethane, Propylene Oxide, Acetone, Cyclopentane, Ethyl Acetate, IsoButane and is shipped from the factory set and calibrated to one of these gases.
	Most of other flammable hydrocarbon vapours are also detectable.
Temperature Range	−50 °C to +80 °C (−58 °F to +176 °F)
Repeatability	±1 % full-scale
Response Times without environmental guard with environmental guard	τ_{90} <4 sec. Tested as per procedure in EN 60079-29-1. For 50 % LEL, 50% response <12 sec., 90 % response <25 sec.
Humidity	0 %–95 % RH, non-condensing
Sensor Warranty	10 years for IR source
Power Input	18–32 VDC, 5 watts (−50 °C to +80 °C)
Current Draw	350 mA RMS average @ 24 VDC
Wiring Requirements	3-wire, 2.0 mm max (14 AWG)
Signal Output	4–20 mA 3-wire current source with HART protocol
Sensor Physical Characteristics Weight Dimensions	316 stainless steel 1.5 kg (3.3 lbs.) 89 x 203 mm (3.5″ dia. x 8″ long)
Approval Ratings	**Europe/International** EN 60079-0:2009, EN 60079-1:2007 IEC 60079-31:2009 EN 60079-29-1:2007, EN 50271:2010 CE EMC Directive: 2014/30/EU ⟨Ex⟩ II 2 G Ex d IIC T4 Gb ⟨Ex⟩ II 2 D Ex tb IIIC T130° Db IP67 **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 **IEC** China Ex/CMC/CCCF Russia Ex/EAC (T_{amb} −50 °C to +80 °C)
Ingress Protection	IP67
Source Redundancy	100 % redundancy with failure of 1st source
HART	Compatibility with HART 7.0
Safety Integrity Level	SIL 2

Your direct contact

For contact details of your local MSA affiliate, please visit our website.