

# PrimaX Gas Transmitter

Versatile Gas Detection to Meet Your Needs



*Because every life has a **purpose...***



## Ease of use, versatility and reliability

### The new modular style

The new PrimaX gas transmitter offers proven MSA quality and reliability, SIL 2 certification, HART digital communication option and is available in flameproof or intrinsically safe versions. Innovative enclosure design, ease of use, fast installation and being suitable for both indoor and outdoor installations makes the PrimaX transmitter your choice for versatile gas detection.

### PrimaX I

#### Intrinsically safe to detect toxic gases or oxygen



- Robust, anti-static, reinforced nylon housing (IP 66)
- Integral mounting plate for quick and easy installation



- Large easy-to-read LCD display
- Menu, gas concentration and error messages displayed in plain text



- Plug-in replacement sensor
- Quick-release connector



- 4–20 mA output signal and SIL 2
- HART digital communication option



## Dependability

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- Versatile and reliable monitoring  
Innovative modular design for the detection of combustible gases, toxic gases or oxygen.



## Simplicity

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- Easy to use  
The large display with clear plain text provides information at a glance and the additional LEDs (PrimaX P only) give a clear status indication.
- Easy installation  
Installation is simple and secure with the integral mounting plate.
- Easy calibration  
Calibration is easily performed using the built-in keypad.



## Adaptability

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- Communication interfaces  
4–20 mA output signal and 2 relay option. For configuration, calibration and diagnostics there is also the optional HART digital communication.
- Plug-in replacement sensors  
Plug-in connector design allows an easy and rapid sensor replacement, simplifying routine maintenance.
- Accessories  
The wide range of accessories suits the majority of industrial applications. These include a flow cap, a duct mount kit and a pipe mounting kit.



## Economics

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- Uncompromising value  
The PrimaX features and specification combine to offer the value and performance expected from MSA.

## Technical Specifications

Description	Values	PrimaX P	PrimaX I
<b>Sensors</b>			
Combustible	Catalytic	■	–
Oxygen & Toxic	Electrochemical	■	■
<b>Performance</b>			
Typical response time*	$\tau_{90} \leq 20$ sec. (Combustible) $\tau_{90} \leq 25$ sec. (O <sub>2</sub> ) $\tau_{90} \leq 20$ sec. (CO) $\tau_{90} \leq 12$ sec. (H <sub>2</sub> S)	■	■
Sensor operating life*	up to 3 years in clean air	■	■
Operating temperature*	–40 °C to +70 °C (–40 °F to +160 °F)	■	■
Operating humidity range	15% to 90% RH non-condensing	■	■
Operating pressure range	80–120 kPa	■	■
<b>Electrical</b>			
Supply voltage	19.2 to 28 VDC (24 VDC nominal)	■	■
Output signal	4–20 mA (max. load 300 ohm)	■	■
Power consumption	3 watt typical at 24 VDC	■	–
	0.7 watt typical at 24 VDC	–	■
Terminals	3 or 4 wire – up to 2.5 mm <sup>2</sup>	■	–
	2 wire – up to 2.5 mm <sup>2</sup>	–	■
<b>Display &amp; Indicators</b>			
Display	Alphanumeric LCD	■	■
LED status indicators	Green, Yellow and Red	■	–
<b>Options</b>			
HART digital protocol	Diagnostics and configuration	■	■
Relay output	Alarm and Fault – 2 A/30 VDC SPDT	■	–
<b>Physical</b>			
Ingress Protection	IP 67	■	–
	IP 66	–	■
Weight	1.6 kg (3.5 lbs)	■	–
	1.2 kg (2.6 lbs)	–	■
Dimensions	220 x 162 x 100 mm (H x W x D)	■	–
	220 x 162 x 81 mm (H x W x D)	–	■
Material	Powder coated aluminium	■	–
	Anti-static reinforced nylon	–	■
Cable gland thread	M25 x 1.5 mm <sup>2</sup>	–	■
	3/4" NPT or M25 x 1.5 mm <sup>2</sup>	■	–
<b>Approvals</b>			
ATEX/IECEX	Gas – II 2G Ex d ia [ia] IIC T4 Gb Dust – II 2D Ex tb ia [ia] IIIC T130°C Db EN 60079-29-1, EN 50104, EN45544	■	–
	Gas – II 1G Ex ia IIC T4 Ga Dust – II 2D Ex ia IIIC T130°C Db EN 50104, EN 45544	–	■
UL	Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III	■	–
	Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups F, G; Class III	–	■
	Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups F, G; Class III	–	■
Other Approvals	CSA, CMC, CCCF, EAC, INMETRO, HART registered, BG RCI	■	■
Safety Integrity Level	SIL 2	■	■

\*sensor dependent

## Applications

**PrimaX gas transmitters are suitable for many industrial applications:**

- Agriculture, fertilisers
- Construction
- Storage of hazardous materials
- Laboratory
- Utilities
- OGP
- Chemical plants
- General industry
- Power plants
- Steel plants
- Car industry
- Waste water
- Food and beverages
- Various industrial applications

## PrimaX P

**Flameproof to detect combustible gases, toxic gases or oxygen**



- Powder coated aluminium enclosure (IP 67)
- Integral mounting plate for quick and easy installation



- Easy menu navigation using the integrated 4-way keypad
- Large easy to read LCD display and 3 LED status indicators



- 3- or 4-wire connection
- Plug-in replacement sensor



- 4–20 mA output signal and SIL 2 certification
- HART digital communication and 2 relay option



## Gases, Options & Accessories

Description	PrimaX P	PrimaX I
<b>Gases and Ranges</b>		
Methane (100% LEL)	■	—
Propane (100% LEL)	■	—
Oxygen (25%, 10%)	■	■
Hydrogen Sulphide H <sub>2</sub> S (10, 20, 50, 100 ppm)	■	■
Carbon Monoxide CO (100, 200, 500, 1000 ppm)	■	■
Ammonia NH <sub>3</sub> (50, 100, 500, 1000 ppm)	■	■
Chlorine Cl <sub>2</sub> (5, 10 ppm)	■	■
Sulphur Dioxide SO <sub>2</sub> (10, 20, 50, 100 ppm)	■	■
Hydrogen Cyanide HCN (10, 20, 30, 50 ppm)	■	■
Hydrogen Chloride HCl (10, 20, 30 ppm)	■	■
Hydrogen H <sub>2</sub> (1000 ppm)	■	■
Nitrogen Dioxide NO <sub>2</sub> (10, 20, 100 ppm)	■	■
Nitric Oxide NO (100 ppm)	■	■
<b>Options</b>		
HART	■	■
Relays	■	—
Galvanic isolated output	■	—
<b>Accessories</b>		
Flow adapter	■	■
Pipe mount kit	■	■
Sensorgard	■	■
Calibration cap	■	■
Sunshield	■	■
Sensor tag	■	■
CalGard remote calibration adapter	■	■
Duct Mounting Kit	■	■
HART Cable	■	■

For details please contact your local MSA representative.

Note: This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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