PrimaX Gas Transmitter

Versatile gas detection to meet your needs

MSA
The Safety Company

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

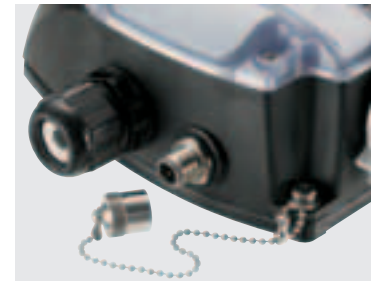## *Intrinsically safe to detect toxic gases or oxygen*

- 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

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
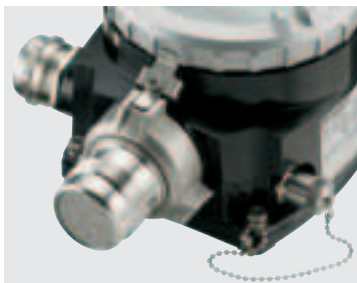- Various industrial applications

PrimaX P

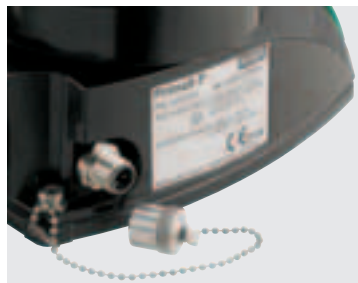### *Flameproof to detect combustible gases, toxic gases or oxygen*

- Powder coated aluminium enclosure (IP 66)
- 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

Dependability

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

Simplicity

■ **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

■ **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 for easy and rapid sensor replacement, simplifying routine maintenance.

■ **Accessories**
The wide range of accessories suit the majority of industrial applications. These include a flow cap, a duct mount kit and a pipe mounting kit.

Economics

■ **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
Sensors			
Combustible	Catalytic	■	–
Oxygen & Toxic	Electrochemical	■	■
Performance			
Typical response time*	$\tau_{50} \leq 10$ sec. / $\tau_{90} \leq 30$ sec. (combustible) $\tau_{20} \leq 12$ sec. / $\tau_{50} \leq 30$ sec. (oxygen & toxic)	■	■
Sensor operating life*	up to 3 years in clean air	■	■
Operating temperature*	−40 °C to +70 °C (−40 °F to +160 °F)	■	■
Storage temperature*	−40 °C to +70 °C (−40 °F to +160 °F)	■	■
Operating humidity range	5 % to 95 % RH non-condensing	■	■
Operating pressure range	80 – 120 kPa	■	■
Electrical			
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^2	■	–
	2 wire – up to 2.5 mm^2	–	■
Display & Indicators			
Display	Alphanumeric LCD	■	■
LED status indicators	Green, Yellow and Red	■	–
Options			
HART digital protocol	Diagnostics and configuration	■	■
Relay output	Alarm and Fault – 1 A / 30 VDC SPDT	■	–
Physical			
Ingress Protection	IP 66	■	■
Weight	1.6 kg (3.5 lbs)	■	–
	0.7 kg (1.5 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	3/4" NPT or M25 x 1.5 mm	■	–
Approvals			
ATEX / IECEx	Gas – II 2G Ex d ia (ia) IIC T4 Ga Dust – II 2D Ex tb ia (ia) IIIC T130 °C Db	■	–
	Gas – II 1G Ex ia IIC T4 Ga Dust – II 2D Ex ia IIIC T130 °C Db	–	■
UL	Class I, Div. 1, Group A, B, C, D	■	■
CSA	Class I, Div. 1, Group A, B, C, D	■	■
Safety Integrity Level	SIL 2	■	■

* sensor dependent

Gases, options and accessories

Description	PrimaX P	PrimaX I
Gases and Ranges		
Methane (100% LEL)	■	–
Propane (100% LEL)	■	–
Oxygen (25%, 10%)	■	■
Hydrogen Sulphide H_2S (10, 20, 50,100 ppm)	■	■
Carbon Monoxide CO (100, 200, 500, 1000 ppm)	■	■
Ammonia NH_3 (50, 100, 500, 1000 ppm)	■	■
Chlorine Cl_2 (5, 10 ppm)	■	■
Sulphur Dioxide SO_2 (10, 20, 50, 100 ppm)	■	■
Hydrogen Cyanide HCN (10, 20, 30, 50 ppm)	■	■
Hydrogen Chloride HCl (10, 20, 30 ppm)	■	■
Hydrogen H_2 (1000 ppm)	■	■
Nitrogen Dioxide NO_2 (10, 20, 100 ppm)	■	■
Phosphine PH_3 (1 ppm)	■	■
Silane SiH_4 (20, 50 ppm)	■	■
Nitric Oxide NO (100 ppm)	■	■
Hydrogen Flouride HF (5, 10 ppm)	■	■
Hydrogen Bromide HBr (30 ppm)	■	■
Germane GeH_4 (2 ppm)	■	■
Flourine F_2 (1 ppm)	■	■
Diborane B_2H_6 (1 ppm)	■	■
Bromine Br_2 (10 ppm)	■	■
Arsine AsH_3 (1 ppm)	■	■
Options		
HART	■	■
Relays	■	–
Galvanic isolated output	■	–
Accessories		
Flow adapter	■	■
Duct mount flange	■	■
Pipe mount kit	■	■
Sensorgard	■	■
Calibration cap	■	■
Sunshield	■	■
Sensor tag	■	■

Other gases and ranges upon request. For details please contact your local MSA representative.

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