MSA
The Safety Company

PrimaX® IR+ Gas Detector

Flexible platform with field proven sensor technology

SAFEGUARDING
PEOPLE, PLACES & THE PLANET

PrimaX IR+ Gas Detector

Proven in the field with more than 45.000 units sold globally, the PrimaX IR platform has now been expanded with new options.

The PrimaX IR+ adds a LED display, status indicators, and remote sensor capabilities to the PrimaX IR combustible sensor. The unit is equipped with 4-20 mA, HART and relay outputs to provide users with reliable combustible gas detection through the PrimaX IR and its patented dual-source sensor.

Display assembly

Simple operation and configuration

- Clear indication of gas reading with LED segment display
- Instrument Status LEDs for Power, Alarm, and Fault
- Two alarm relays for Low & High gas alarms with additional Fault relay
- Stainless Steel or Aluminum housing options
- M25 cable gland entries (NPT adapter available)
- User-friendly setup via remote IR controller
- In depth diagnostics, and maintenance via HART® digital communication

Four digit LED display
with 15 segments for gas readings and function codes

IR receiver for remote controller
allowing quick configuration of alarm relays, password, and LED test

Four status LEDs
to signal normal operation (green), fault (yellow) and two alarm levels (red)

Infrared sensor

Reliability and performance

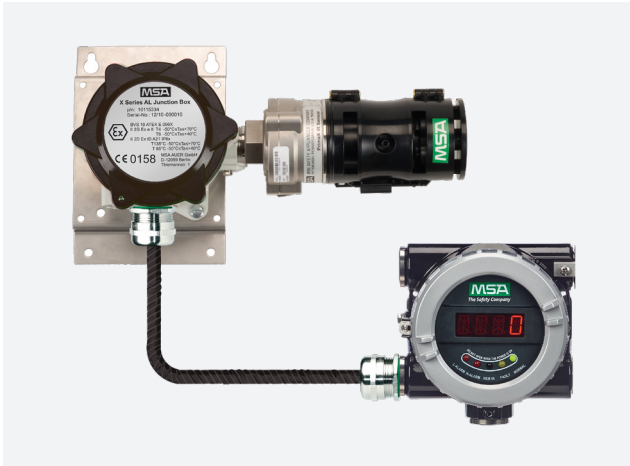
- Patented dual source design with 10-years warranty, provides redundancy for reliable, uninterrupted performance
- Heated optics prevent condensation build-up
- Patented environmental guard for fast response time
- Stainless Steel, dual IP66 and IP67 rated, rugged housing protects unit from many environmental extremes
- Factory-calibrated for fast commissioning

Product configurations

Flexible monitoring for combustible gas hazards

PrimaX IR+ Gas Detector

Stainless Steel or Aluminum housing, equipped with high visibility display, relays and LED indicators. The IR port allows for convenient on-site alarm relays configuration using dedicated IR controller. The complete detector provides 4–20 mA output and diagnostics via HART digital communication.



PrimaX IR+ Gas Detector with remote sensor

Using a PrimaX IR with junction box the sensor can be installed remotely and connected to the PrimaX IR+ display housing in a conveniently accessible location. Both Stainless Steel and Aluminum versions are available. The sensor can be remotely mounted up to 30 meters/100 feet from the display unit.

Calibration

User-friendly calibration options for locally or remotely mounted sensor

The device is shipped factory-calibrated and can later be recalibrated through HART to detect other gases. Users may choose the most suitable calibration method for their application. Locally, a calibration cap is placed on the sensor to provide one-person calibration. The calibration cap uses an icon-driven intuitive interface to guide users through calibration. Alternatively, HART output provides remote calibration capability. An optional HART remote junction box with an explosion-proof port is also available, allowing access via a hand-held controller.

Local Calibration

Electronic calibration cap

Remote Calibration

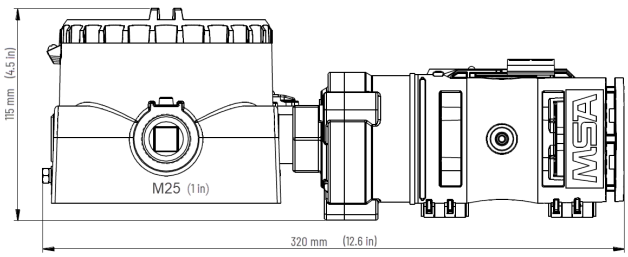
HART hand-held / HART junction box

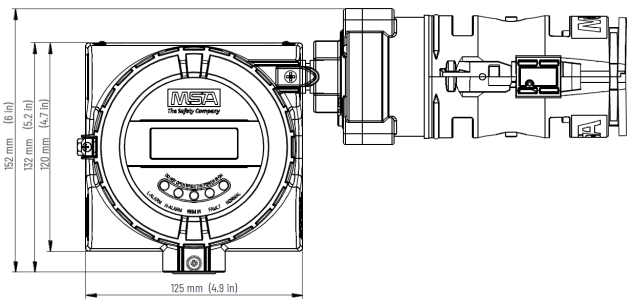
HART calibration cover

Specifications

General specifications		
Measuring Range	0 - 100% LEL	
Gas Types	Hydrocarbon gases and vapours; The PrimaX IR+ Detector is available with factory Methane and Propane calibrations, the instrument may also be calibrated to following performance approved gases: Methane, Propane, Toluene, n-Butane, n-Pentane, n-Hexane, Propylene, Ethane, Propylene Oxide, Acetone, Cyclopentane, Ethyl Acetate, IsoButane, Ethylene. Most of other flammable hydrocarbon vapours are also detectable.	
Warranty	3 years full instrument 10 years IR source	
Signal Outputs	3-Wire, 4-20 mA current source, HART 7 protocol compatible 3 relays: 2 alarm, 1 fault (2A@30 VDC)	
Output Levels (default values)	Normal for 0 - 100% LEL	4.0 - 20.0 mA
	Safety Critical Fault	0.0 mA
	*Fault	2.0 mA
	*Obscuration or dirty optics	2.5 mA
	*Power up or calibration	3.0 mA
	*Cleaning mode	3.5 mA
	Overrange	20.0 - 20.5 mA
	(*) user configurable via the HART interface	
Current Draw	175 mA RMS average @ 24 VDC 250 mA Max in-rush @ 24 VDC including sensor	
Power Input	20-30 VDC, 6 Watts max	
Wiring requirement	Connection terminals: 3-Wires, 2.5 mm2 max	
Performance specifications		
Response Time Methane/Propane	T50 < 5 sec, T90 < 7 sec (without environmental guard) T50 < 7 sec, T90 < 15 sec (with environmental guard)	
Stability	+/- 2% Full Scale/Year	
Repeatability	+/- 1% Full Scale	

Mechanical specifications	
Physical	320-W x 152-L x 115-H mm (12.6 x 6.0 x 4.5 inches) Weight with display and mounting bracket: SS: 3.8 kg (8.4 lb) & AL: 2.8 kg (6.2 lb)
Material Type	Display housing: Aluminum or 316 Stainless Steel with 3 each M25 entries (316 Stainless Steel stopping plug provided) Sensor assembly: 316 Stainless Steel
Mounting bracket (included)	316 Stainless Steel, with 2" pipe mount U-Bolts
Environmental specifications	
Temperature range	-40 to 75°C (-40 to 167°F)
Humidity	15-95% RH, non-condensing
Ingress Protection	Dual IP66 and IP67 rated
Approvals	
General	IECEx, ATEX, UKCA, CE Marking, SIL 2 suitable
Approval Ratings	**European Approvals** ATEX Directive 2014/34/EU, EMC Directive 2014/30/EU Gas II 2 G Ex db IIC T4 Gb Dust II 2 D Ex tb IIIC T130°C Db -40°C ≤ Ta ≤ +75°C EN 60079-0:2018, EN 60079-1:2014, EN 60079-31:2014, EN 60079-29-1:2016, EN 50271:2018 **IEC Approvals** Gas Ex db IIC T4 Gb Dust Ex tb IIIC T130°C Db -40°C ≤ Ta ≤ +75°C IEC 60079-0:2017, IEC 60079-1:2014, IEC 60079-31:2013, IEC 60079-29-1:2016
Safety Integrity Level	Suitable for SIL2 (HFT=0), SIL3 (HFT=1) according to IEC 61508





Stainless Steel version shown.

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