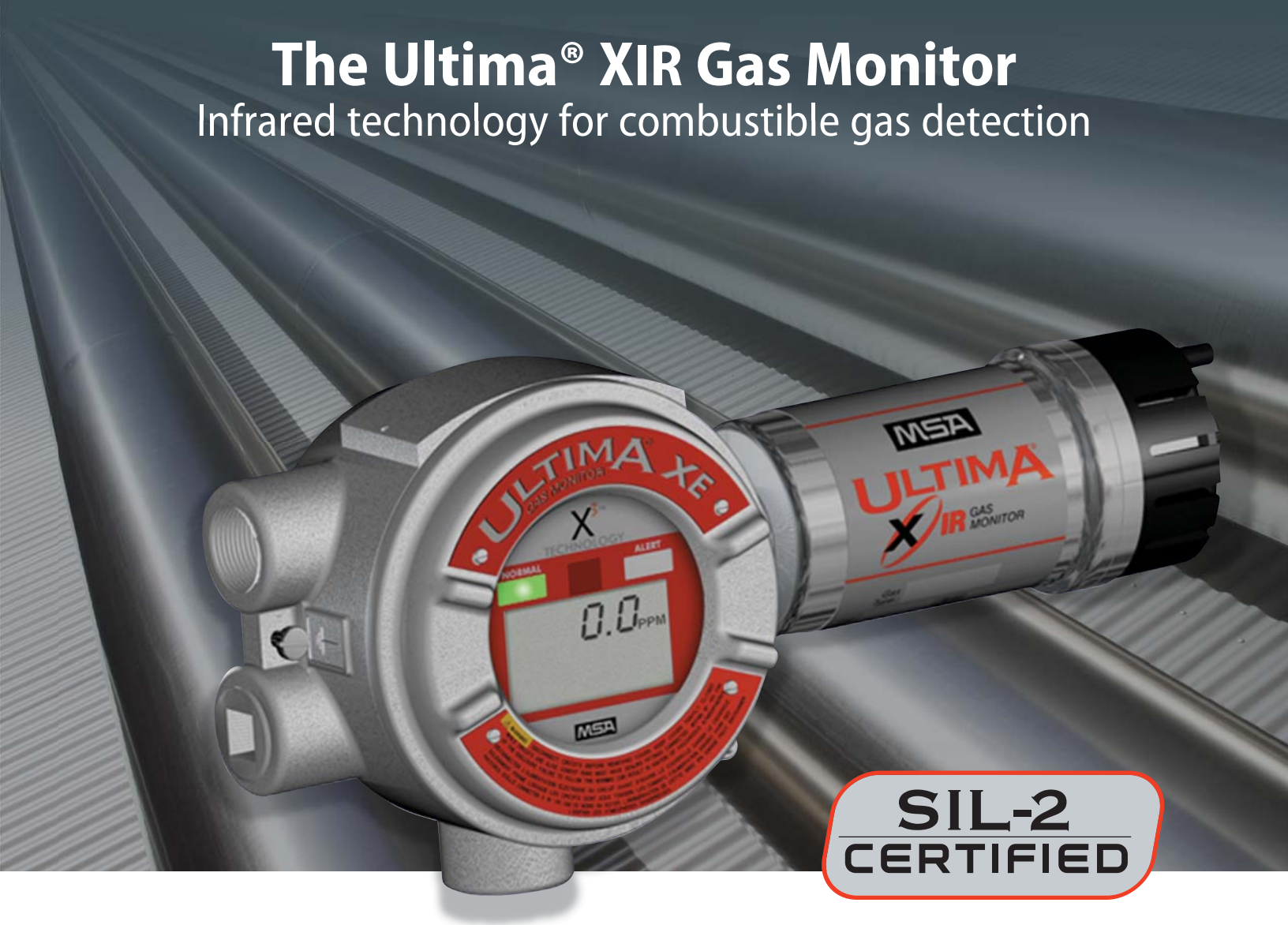
The Ultima® XIR Gas Monitor

Infrared technology for combustible gas detection



SIL-2 CERTIFIED

Features

- DuraSource Technology offers improved IR sensor life
- Field-selectable algorithms for a variety of hydrocarbon-based gases
- LCD display with scrolling messages and LEDs
- Single-board design for ultimate reliability and easy, no-tool servicing
- 4-20mA, HART, and Modbus ($X^{3®}$ Technology) output
- Optional quick-check LEDs for increased product visibility
- *Fail-to-safety* operation

Benefits

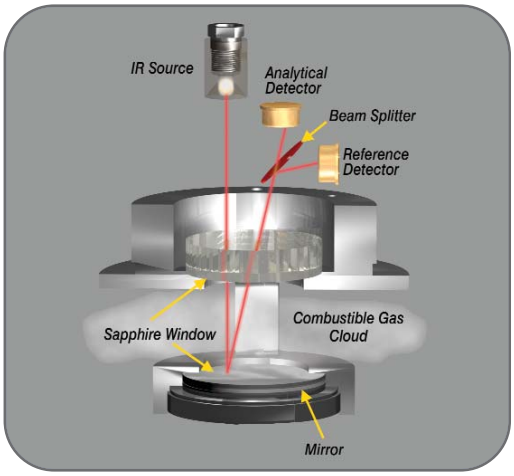
- No-gas calibration; zero adjustment meets requirement for full calibration
- Extremely fast response speed (t90 < 2 sec)
- Designed without sintered disk for optimum performance in harsh, offshore environments
- Operates over extended temperature ranges
- Immune to poisoning
- No sensor life reduction from gas exposure
- Automatic compensation for humidity and temperature changes
- Operates in high gas and low oxygen environments

DURA™ SOURCE TECHNOLOGY 10-YEAR WARRANTY

MSA
The Safety Company

The Ultima XIR Gas Monitor is a microprocessor-based, infrared point gas detector for continuous monitoring of combustible gases and vapors. Designed around a rugged, 316 stainless steel enclosure, the Ultima XIR Monitor has multiple entries for maximum flexibility.

Ultima XIR Monitor operation is based upon dual-wavelength, heated-optics technology, providing definitive compensation for temperature, humidity, and aging effects. IR technology offers excellent long-term stability, eliminates the need for frequent calibrations, and reduces overall cost of ownership.



Principles of IR Technology

The Ultima XI Gas Monitor uses an electronically modulated infrared energy source and two detectors that convert infrared energy into electrical signals. Each detector is sensitive to a different range of wavelengths in the spectrum's infrared portion.

The source emission is directed through a main enclosure window into an open volume. A mirror at the end of this volume, protected by a second window, directs energy back through the main enclosure window and onto the detectors.

Combustible gas presence in the open volume will reduce the source emission intensity reaching the analytical detector but not the source emission intensity reaching the reference detector. The microprocessor monitors the ratio of these two signals and correlates this ratio to a %LEL combustible reading.

Ordering Information

All Ultima X Series Gas Monitors are manufactured using MSA's Assemble-To-Order (ATO) process. For further information on the Ultima X Series Gas Monitors, see bulletins 07-2051-MC and 07-2054-MC.

Ultima XIR Accessories

Specifications

Gas Types and Ranges	Combustible gases & vapors; 0-100% LEL CO_2 0-5% and 0-2% by volume , 0-5000 ppm
Temperature Range	-40˚C to +60˚C (-40˚F to +140˚F)
Stability	± 2% full scale/year
Repeatability	± 1% full scale
Accuracy	± 3% full scale (≤ 50% LEL) ± 5% full scale (> 50% LEL)
Response Times (without sensor guard) t90	< 2 sec.
Humidity	0%-95% RH, non-condensing
Sensor Warranty	10 years for IR source
Power Input	8-30 VDC, 5 watts
Current Draw	290mA maximum @ 24 VDC
Wiring Requirements	3-wire
Signal Output	4-20mA 3-wire current source
Conduit Entries	One entry, 3/4" NPT (19.05 mm) with optional conduit
Physical Weight Dimensions	316 stainless steel 6 lbs. (2.7 kg) 2.5" dia. x 8" long (64 x 203 mm)
Approval Ratings	$_cFM_{us}$, $_cUL_{us}$, CSA Class I, Div. 1 and 2, Groups 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 CE EMC Directive: 89/336/EEC CE ATEX Directive: 94/9/EC II 2G EEx d IIc T5 (Tamb -40˚C to +60˚C) TYPE 4X, IP 66 SIL 2 assessed to IEC 61508

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