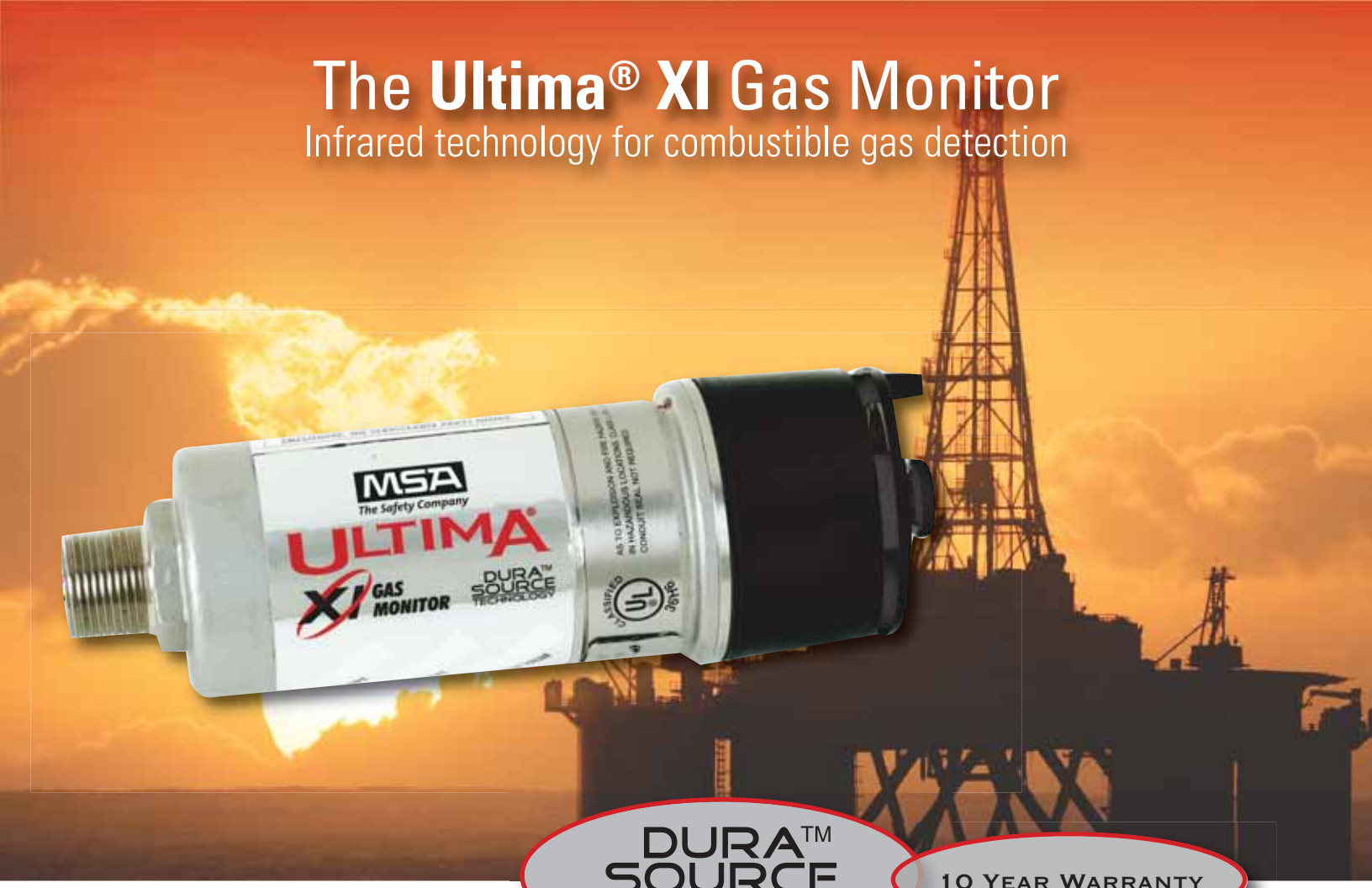
The **Ultima® XI** Gas Monitor

Infrared technology for combustible gas detection



DURA™ SOURCE TECHNOLOGY

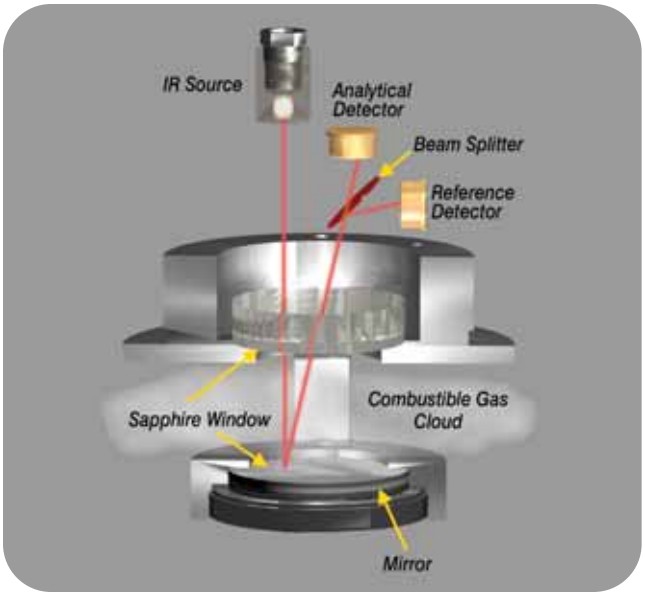
10 YEAR WARRANTY

- DuraSource Technology offers improved IR sensor life
- No-gas calibration. A zero adjustment provides reliable accuracy
- Selectable algorithms for a variety of hydrocarbon-based gases
- 4-20mA output
- "Fail to Safety" operation
- Designed without a sintered disk for optimum performance in the harsh offshore environment
- Operates over extended temperature ranges
- Extreme speed of response
- Immune to poisoning
- Operates in high-gas and low-oxygen environments

The ULTIMA XI Gas Monitor is a digital signal processor-based, infrared point gas detector for continuous monitoring of combustible gases and vapors. Designed around a rugged 316 stainless steel enclosure, the ULTIMA XI Monitor is a completely self-contained, explosion-proof unit that is dependable in harsh environments.

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

MSA
The Safety Company



Principles of IR Technology

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

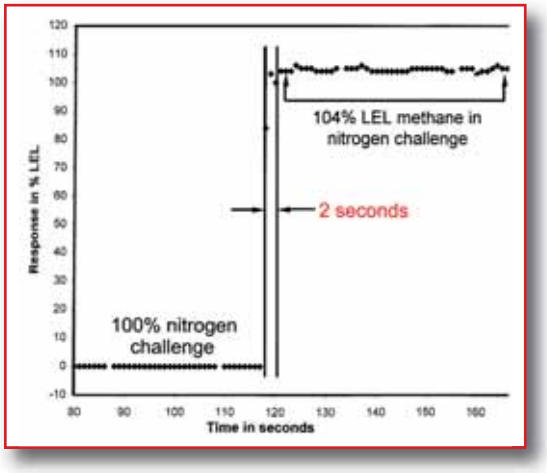
The source emission is directed through a window in the main enclosure into an open volume. A mirror at the end of this volume, protected by a second window, directs the energy back through the window in the main enclosure and onto the detectors.

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

Ultima XI Accessories

Specifications

Gas Types and Ranges	Combustible gases & vapors; 0-100% LEL CO_2 0–5%, 0–2%, 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 the 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	200mA maximum @ 24VDC
Wiring Requirements	3-wire
Signal Output	4-20mA 3-wire current source
Conduit Entries	One entry, 3/4" NPT (19.05mm) with optional conduit
Physical	316 stainless steel
Weight	6 lbs. (2.7kg)
Dimensions	2.5" dia. x 8" long (64 x 203mm)
Approval Ratings	$_cFM_{us}$, $_cUL_{us}$, CSA Class I, Div. 1, 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



Extremely Fast Speed of Response (T90 < 2 sec.)

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 datasheets 07-2051 and 07-2054.

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.

ID 07-2074-MC / Jul 2008

Corporate Headquarters
P.O. Box 426, Pittsburgh, PA 15230 USA
Phone 412-967-3000
www.MSAnet.com

U.S. Customer Service Center
Phone 1-800-MSA-2222
Fax 1-800-967-0398

MSA Canada
Phone 1-800-967-222
Fax 1-800-967-0398

MSA Mexico
Phone (52) 55 2122 5770
Fax (52) 55 5359 4330

MSA International
Phone 412-967-3354
FAX 412-967-3451

Offices and representatives worldwide
For further information:

MSA
The Safety Company