

## General Information

This unit contains an electrochemical sensor for the detection of a gas not listed in the following Ultima instruction manuals:

- Ultima Gas Monitor Instruction Manual (P/N 813161)
- Ultima Calibrator Instruction Manual (P/N 813167)
- Ultima Controller Instruction Manual (P/N 813379).

This addendum provides information specific to the gas-of-interest not included in these instruction manuals.

## Ultima and ToxGard II Gas Monitor Ethylene Oxide Detection

### Sensor Response to interferants

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 2-1)]

INTERFERANT	CONCENTRATION (PPM)	SENSOR READING
Nitrogen Dioxide	10	0
Ammonia	25	0
Chlorine	10	0
Phosphine	0.5	0
Hydrogen Cyanide	10	0

### Specifications

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 3-1)]

Linearity	± 10% FS
Repeatability	± 5% FS
Time to Reach 20 % of Scale	Less than 20 seconds
Time to Reach 50 % of Scale	Less than 45 seconds
Time to Reach 90 % of Scale	Less than 120 seconds

### Replacement Sensor Kit Part Number

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 4-2)]

- MSA P/N: 10022385

### Factory Set Span Values

[See Ultima Controller Instruction Manual (P/N 813379) and Calibrator Instruction Manual (P/N 813167), TABLE 2-1)]

RANGE	0 to 10 ppm
SPAN GAS PRESET VALUE	4.0 ppm
MSA RP CYLINDER P/N	808978, 10 ppm SO <sub>2</sub>
CALIBRATION KIT	#40
CALIBRATION PROCEDURE	#1
<b>NOTES:</b> The calibration span value should be set at 4.0 ppm Eto for a 10 ppm SO <sub>2</sub> sample. Allow for a four-hour warm-up period after initial power-up prior to operation.	

## Ultima Gas Monitor Ammonia Detection

### Sensor Response to interferants

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 2-1)]

INTERFERANT	CONCENTRATION (PPM)	SENSOR READING
Nitrogen Dioxide	10	0
Carbon Monoxide	100	0
Chlorine	10	0
Phosphine	0.5	0
Hydrogen Cyanide	10	0
Sulfur Dioxide	10	0
Hydrogen Chloride	40	0
Hydrogen Sulfide	40	2
Nitric Acid	50	0
Ethylene	50	0

### Specifications

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 3-1)]

OPERATING TEMPERATURE RANGE	10 to 40 °C
EXTENDED RANGE	-10 to 50 °C
LINEARITY	±10% FS
REPEATABILITY	±5% FS

- Sensor detection function not present with Ultima NH<sub>3</sub>.

### Replacement Sensor Kit Part Number

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 4-2)]

- MSA P/N: 10018903

### Factory Set Span Values

[See Ultima Controller Instruction Manual (P/N 813379) and Calibrator Instruction Manual (P/N 813167), TABLE 2-1)]

RANGE	0 to 50 ppm
SPAN GAS PRESET VALUE	25 ppm
MSA RP CYLINDER P/N	814866 (25 PPM NH <sub>3</sub> )
CALIBRATION KIT	#40
CALIBRATION PROCEDURE	#1

# Ultima Gas Monitor Hydrogen Detection

## Sensor Response to Interferants

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 2-1)]

INTERFERANT	CONCENTRATION (PPM)	SENSOR READING
Nitrogen Dioxide	10	0
Carbon Monoxide	100	2
Chlorine	10	0
Phosphine	0.5	0
Hydrogen Cyanide	10	0
Sulfur Dioxide	10	0
Hydrogen Chloride	40	0
Hydrogen Sulfide	40	0
Nitric Acid	50	3

## Specifications

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 3-1)]

OPERATING TEMPERATURE RANGE	10 to 40 °C
EXTENDED RANGE	-20 to 50 °C
LINEARITY	±5% FS
REPEATABILITY	±5% FS

## Replacement Sensor Kit Part Number

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 4-2)]

- MSA P/N: 10022383

## Factory Set Span Values

[See Ultima Controller Instruction Manual (P/N 813379) and Calibrator Instruction Manual (P/N 813167), TABLE 2-1]

RANGE	0 to 1000 ppm
SPAN GAS PRESET VALUE	500 ppm
MSA RP CYLINDER P/N	10022386 (500 PPM H <sub>2</sub> )
CALIBRATION KIT	#40
CALIBRATION PROCEDURE	#1

# Ultima Gas Monitor Oxygen (0-10%) Detection

## Specifications

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 3-1)]

OPERATING TEMPERATURE RANGE	0 to 40 °C
EXTENDED RANGE	-20 to 50 °C
LINEARITY	±2% FS
REPEATABILITY	±1% FS

## Replacement Sensor Kit Part Number

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 4-2)]

- MSA P/N: 813723

## Factory Set Span Values

[See Ultima Controller Instruction Manual (P/N 813379) and Calibrator Instruction Manual (P/N 813167), TABLE 2-1]

RANGE	0 to 10%
SPAN GAS PRESET VALUE	5% O <sub>2</sub>
MSA RP CYLINDER P/N	493580
CALIBRATION KIT	#40
CALIBRATION PROCEDURE	#1

# Ultima Gas Monitor Sulfur Dioxide Detection (XP Version)

## Specifications

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 3-1)]

TIME TO REACH 50% OF SCALE	less than 22 seconds
TIME TO REACH 90% OF SCALE	less than 195 seconds

[All other specifications, cross-sensitivities, and factory-set span values are as published in the Ultima Gas Monitor Instruction Manual for general purpose (GP) Sulfur Dioxide Gas Detection]

# Ultima Gas Monitor IR Carbon Dioxide Detection

## Sensor Response to Interferants

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 2-1)]

INTERFERANT	CONCENTRATION	SENSOR READING
Carbon Monoxide	300 PPM	0
Pentane	0.75%	0
Propane	0.6%	0
Methane	2.5%	0

## Specifications

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 3-1)]

OPERATING TEMPERATURE RANGE	-20 to 50 °C
ACCURACY	±0.1% CO <sub>2</sub>
DISPLAY RESOLUTION	0.1%
UNIT OF DETECTION	0.2% CO <sub>2</sub>
TIME TO REACH 50% OF SCALE	less than 25 seconds
TIME TO REACH 90% OF SCALE	less than 60 seconds

## Replacement Sensor Kit Part Number

[See Ultima Gas Monitor Instruction Manual (P/N 813161, TABLE 4-2)]

- MSA P/N: 10022383

## Factory Set Span Values

[See Ultima Controller Instruction Manual (P/N 813379) and Calibrator Instruction Manual (P/N 813167), TABLE 2-1]

RANGE	0 to 2% CO <sub>2</sub>
SPAN GAS PRESET VALUE	1.5% CO <sub>2</sub>
MSA RP CYLINDER P/N	807386
CALIBRATION KIT	#40
CALIBRATION PROCEDURE	#1