

CERTIFICATE OF CONFORMITY



Member of the FM Global Group

1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS

2. **Certificate No:** FM23US0004X
3. **Equipment:** Combustible, Oxygen Depletion, and Toxic Gas Detectors
(Type Reference and Name) Ultima X Series
4. **Name of Listing Company:** MSA Innovation LLC dba MSA - The Safety Company
5. **Address of Listing Company:** 1000 Cranberry Woods Drive,
Cranberry Township, Pennsylvania 16066, USA

6. The examination and test results are recorded in confidential report number:

3022220 dated 12th May 2005

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM 3600:2022, FM 3610:2021, FM 3611:2021, FM 3615:2022, FM 3810:2005, FM 6320:2018, FM 6340:2004, ANSI/FM/UL 60079-29-1:2019, NEMA 250:1991, ANSI/UL 60079-0:2013, ANSI/UL 60079-1:2015, ANSI/UL 60079-11:2018, ANSI/IEC 60529:2004, ANSI/UL 121201:2019

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. **Equipment Ratings:**

See Annex.

11. **The marking of the equipment shall include:**

See Annex.

12. **Description of Equipment:**

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

21 November 2023

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

See Annex.

13. Specific Conditions of Use:

See Annex.

14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
12 May 2005	Original Issue.
26 January 2023	<u>Supplement 9:</u> Report Reference: – RR235529 dated 26 th January 2023. Description of the Change: 1) Documentation updates. 2) Minor updates to the listings specific to <i>Sensors XE</i> and <i>XIR</i> 3) Issuance of FM23US0004 4) FM 3600 and FM 3615 updated to 2018 editions due to non-technical changes in the successive editions

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

Date	Description
21 November 2023	<p><u>Supplement 10:</u> Report Reference: PR464190 dated 21 November 2023. Description of the Change(s):</p> <ol style="list-style-type: none">1. Documentation Updates; minor label modifications were required as part of the standards update.2. Minor changes to the electronics in the sensor enclosures, covering combustible (catalytic bead), toxic (electrochemical), oxygen, and oxygen solvent types; no changes to electronics in the transmitter/controller enclosure; qualification of updated A-UltX-Sens-a-b-c, Ultima XE Sensors—combustible (catalytic bead), toxic (electrochemical), and oxygen (electrochemical), oxygen solvent (electrochemical) per SK3098-1540 drawing.3. Updates to FM 3600, FM3610, FM 3611, FM 3615, FM 6320, and ANSI/FM/UL 60079-29-1 standards

FM Approvals

FM Approvals

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



ANNEX

Ultima X

Equipment Ratings:

Explosionproof for Class I, Division 1, Groups A, B, C, and D
Intrinsically safe connections to Class I, Division 1, Groups A, B, C, and D
Nonincendive with Nonincendive Field Wiring for installation in Class I, Division 2, Groups A, B, C and D
Type 4X/IP66

Markings:

Class I Division 1, Groups A, B, C and D; T*
IS Class I, Division 1, Groups A, B, C, and D; T3C
Class I, Division 2, Groups A, B, C, D; T*
Ta = -20°C to +40°C; Type 4X; IP66

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

Toxic GAS DETECTORS, Fixed

Stationary Single Channel 4-20 mA electrochemical toxic Gas Detector. The Ultima X Gas Detector consists of an Ultima X Control Unit and an Ultima XE Detector Head. There are two variations of the Ultima X Control Unit, Ultima XE Main (with Display) and Ultima XL (without Display). The Ultima XE Main and Ultima XL Control Unit have an optional XP Port with I.S. barrier for HART communication. The Control Units are also provided with an optional HART Module. The Ultima XE Main Control Unit optional XP Port with I.S. barrier is either integral to the Control Unit or remote to the Control Unit. The XP Port with I.S. barrier provides intrinsically safe connections. The XP Port with I.S. barrier provides a lead seal for the explosion proof enclosure permitting the user to interface with the control unit while powered and functioning.

The Ultima XE Sensor is an electrochemical toxic Sensor. The Sensor mounts remotely or integrally via a ¾ NPT or M25 connection to the Control Unit. The Control Unit communicates to the Sensors via a proprietary protocol. The Sensors may be remotely connected up to 100 ft away from the Control Unit. All configurations of the systems are suitable for installation in Class I, Division 1, Groups A, B, C, and D Hazardous (Classified) Locations, indoor and outdoor (Type 4X/IP66) and have intrinsically safe connections to Class I, Division 1, Groups A, B, C, and D Hazardous (Classified) Locations in accordance with Entity requirements and Control Drawing SK3098-1057 when installed with the intrinsically safe barrier. All configurations of the systems are also Nonincendive with Nonincendive Field Wiring for installation in Class I, Division 2, Groups A, B, C and D Hazardous (Classified) Locations when installed per control drawing SK3098-1108. The Ultima XE Sensor may be connected to any junction box with an internal volume of less than 40.04 cubic inches which has been identified, as defined within the National Electrical Code, for its intended area of installation.

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

The Ultima XE Main Control Units provide the following: a two-digit measurement display with infrared control functions and alarm indication, a 4-20mA measurement signal with optional HART communication, an optional XP Port with I.S. barrier, optional LEDs which indicate alarm and trouble conditions and optional relay contacts; 1 for trouble and 3 for alarm set points. The electrical ratings for the entire system, DC input, are 8-30VDC 10 watts maximum. The electrical ratings for the entire system, AC input, are 110-240VAC, 50/60 Hz, 15 watts maximum. The relay contact ratings are 5A at 250VAC or 30VDC. The Ultima XL Control Units provide the following: a 4-20mA measurement signal with HART communication, an optional XP Port with I.S. barrier, an LED which indicates alarm and trouble conditions. The operating temperature range of the system is -40°C to +60°C and the electrical ratings for the entire system is 8-30VDC 600mA maximum. The non I.S. connections on the HART Module are 30VDC max, 1 amp.

The following accessories are Approved for use with the Ultima X Series Gas Detectors: "Ultima" Controller, "Ultima" Calibrator, Weatherguard (environmental guard) P/N 10028904 for Ultima XE sensor. The Ultima Controller and Ultima Calibrator are Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D Hazardous (Classified) Locations, T3C, Ta = -20°C +40°C.

Entity parameters:

$V_{max} = 30V$, $I_{max} = 100mA$, $C_i = 0$, $L_i = 0$

Control Unit

A-UltimaX-XP - a - b - c - d - e - f - g - h - i - j - k - l - m , Ultima X Series

a = Model: E or L

b = Gas Code: 11, 12, 15, 16, 17 or 25.

c = Configuration: any alpha numeric code that represents stainless steel enclosure with the 3/4 inch NPT threads or M25 Metric threads

d = Sensor Output: 1, 2, 3, or 4

e = Sensor Mounting Style: N, S, or D

f = Relays and LEDs: 0, 1, or 2

g = Display Language/Features: 0, S, or H

h = Optional Power Supply: 0, 1, 2, 3, or 4.

i = Gas Sample Selection: 0 or 1

j = Integrated Accessories: 0 or 1

k = Installation Hardware: Any number indicating how the product is mounted.

l = Manuals: Any number indicating how the manual is supplied.

m = Custom: 0, CB, CC, CF, or T

Sensor

A-UltX - Sens - a - b - c, Ultima XE Sensor

a = Gas Type: 11, 12, 15, 16, 17 or 25.

b = Enclosure Type: 1

c = Custom: 0, CB, CC, CF, T or G

External Power Supplies - 10053967 (11W), 10053966 (15W)

Specifications - The manufacturer's specifications are as follow;

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



Page 5 of 22

SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Operating Temperature:	H2S: 0°C to +40°C, CO: -30°C to +50°C
Relative Humidity:	15 to 95% RH
Supply Parameters:	8-30 Vdc, 24 Vdc (Nominal), 10 watts maximum 110/240 Vac, 50/60 Hz, 15 watts maximum
Measurement Signal:	4-20mA
Calibration:	Infrared or HART

Specific Conditions of Use:

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.
- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

Ultima X Gas Detector

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

Stationary Single Channel 4-20 mA Oxygen Depletion Gas Detector. The Ultima X Gas Detector consists of an Ultima X Control Unit with an Ultima XE Detector Head. There are two variations of the Ultima X Control Unit, Ultima XE Main (with Display) and Ultima XL (without Display). The Ultima XE Main and Ultima XL Control Unit have an optional XP Port with I.S. barrier for HART communication. The Control Units are also provided with an optional HART Module. The Ultima XE Main Control Unit optional XP Port with I.S. barrier is either integral to the Control Unit or remote to the Control Unit. The XP Port with I.S. barrier provides intrinsically safe connections. The XP Port with I.S. barrier provides a lead seal for the explosion proof enclosure permitting the user to interface with the control unit while powered and functioning

Specific Conditions of Use:

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.
- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

Ultima X, Ultima XE Control Units

Equipment Ratings:

Explosionproof for Class I, Division 1 and 2, Groups A, B, C, and D
Class I, Zone 1 and 2 Group IIC
Type 4X/IP66

Markings:

Class I, Division 1 and 2, Groups A, B, C, and D
Class I, Zone 1 and 2 Group IIC
Type 4X/IP66

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

Stationary Single Channel 4-20 mA Combustible or Oxygen Depletion Gas Detector Control Unit. There are two variations of the Ultima X Control Unit, Ultima XE Main (with Display) and Ultima XL (without Display). The Ultima XE Main and Ultima XL Control Unit have an optional XP Port with I.S. barrier for HART communication. The Control Units are also provided with an optional HART Module. The Ultima XE Main Control Unit optional XP Port with I.S. barrier is either integral to the Control Unit or remote to the Control Unit. The XP Port with I.S. barrier provides intrinsically safe connections. The XP Port with I.S. barrier provides a lead seal for the explosion proof enclosure permitting the user to interface with the control unit while powered and functioning. The Ultima X Control Unit is suitable for installation in Class I, Division 1 and 2, Groups A, B, C, and D; Class I, Zone 1 and 2 Group IIC Hazardous (Classified) Locations, indoor and outdoor (Type 4X/IP66) and may provide intrinsically safe connections to Class I, Division 1, Groups A, B, C, and D; Class I, Zone 1, Group IIC Hazardous (Classified) Locations in accordance with Entity requirements and Control Drawing SK3098-1057. The Ultima X control units monitor FM Approved Combustible Gas Detector heads which monitor 0-100% LEL gas-in-air atmospheres. The Ultima X control units monitor FM Approved Oxygen Depletion detector heads which monitor up to 21% O₂ gas-in-air atmospheres. The control unit communicates to the detector

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

head via a proprietary protocol. The control unit provides a 4-20mA signal proportional to the gas detector head's measuring range of gas of interest and trouble signals.

The Ultima XE Main Control Units provide the following: a two-digit measurement display with infrared control functions and alarm indication, a 4-20mA measurement signal with optional HART communication, an optional XP Port with I.S. barrier, optional LEDs which indicate alarm and trouble conditions and optional relay contacts; 1 for trouble and 3 for alarm set points. The electrical ratings for the entire system, DC input, are 8-30VDC 10 watts maximum. The electrical ratings for the entire system, AC input, are 110-240VAC, 50/60 Hz, 15 watts maximum. The relay contact ratings are 5A at 250VAC or 30VDC. The Ultima XL Control Units provide the following: a 4-20mA measurement signal with HART communication, an optional XP Port with I.S. barrier, an LED which indicates alarm and trouble conditions. The operating temperature range of the systems is -40°C to +60°C and the electrical ratings for the entire system is 8-30VDC 600mA maximum. The non I.S. connections on the HART Module are 30VDC max, 1 amp. In addition, the apparatus complies with ANSI/ISA-12.13.01-2003 Performance Requirements for Combustible Gas Detectors.

A-UltimaX-XP - a - b - c - d - e - f - g - h - i - j - k - l - m , Ultima X Series

a = Model: E or L

b = Gas Code: 31, 32, 33, 38, or 39.

c = Configuration: any alpha numeric code that represents stainless steel enclosure with the 3/4 inch NPT threads or M25 Metric threads

d = Sensor Output: 1, 2, 3, or 4

e = Sensor Mounting Style: N, S, or D

f = Relays and LEDs: 0, 1, or 2

g = Display Language/Features: 0, S, or H

h = Optional Power Supply: 0, 1, 2, 3, or 4.

i = Gas Sample Selection: 0 or 1

j = Integrated Accessories: 0 or 1

k = Installation Hardware: Any number indicating how the product is mounted.

l = Manuals: Any number indicating how the manual is supplied.

m = Custom: 0, CB, CC, CF or T

Entity Parameters

$U_o = 6.14\text{VDC}$, $I_o = 170\text{mA}$, $C_o = 34\mu\text{F}$, $L_o = 1.3\text{mH}$, $P_o = 260\text{ mW}$

Specific Conditions of Use:

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.
- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmaprovals.com www.fmaprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Ultima X, Ultima XIR, Ultima XE Main (with Display)....

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

Stationary Single Channel 4-20 mA Combustible Gas Detector. The Ultima X Gas Detector consists of an Ultima X Control Unit and an Ultima XE Detector Head or Ultima XIR Detector Head. There are two variations of the Ultima X Control Unit, Ultima XE Main (with Display) and Ultima XL (without Display). The Ultima XE Main and Ultima XL Control Unit have an optional XP Port with I.S. barrier for HART communication. The Control Units are also provided with an optional HART Module. The Ultima XE Main Control Unit optional XP Port with I.S. barrier is either integral to the Control Unit or remote to the Control Unit. The XP Port with I.S. barrier provides intrinsically safe connections. The XP Port with I.S. barrier provides a lead seal for the explosion proof enclosure permitting the user to interface with the control unit while powered and functioning.

Specific Conditions of Use:

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.
- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

Ultima XE

Equipment Ratings:

Explosionproof for Class I, Division 1, Groups A, B, C, and D
Nonincendive with Nonincendive field wiring for installation in Class I, Division 2, Groups A, B, C, and D
Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D

Markings:

Class I, Division 1, Groups A, B, C, and D
Class I, Division 2, Groups A, B, C, and D
IS Class I, Division 1, Groups A, B, C and D

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

Toxic GAS DETECTORS, Fixed

Stationary multi-channel 4-20 mA Toxic Gas Detector. The Ultima XE Main with X3 technology Gas Detector consists of an Ultima XE main with X3 technology Control Unit with any combination of three Detector Heads. The Detector Heads can be an Ultima XE Detector Head (Toxic, combustible or oxygen depletion). The Ultima XE Combustible Detector Head is either a Catalytic Combustible Gas Detector Head or an electrochemical Oxygen Depletion or toxic Gas Detector Head. The Detector Heads mount remotely or integrally via a 3/4 NPT or M25 connections to the Control Unit. The Control Unit communicates to the Detector Heads via a proprietary protocol. The Detector Heads may be remotely connected up to 100 ft away from the Control Unit when powered by the Control Unit or up to 3000 ft away from the Control Unit with boost board option when powered by AC Power Supply, input rated 120/240 V AC, 5 W max or DC Power Supply, input rated 9-30 V dc, 5 W max.

All configurations of the systems are suitable for installation in Class I, Division 1, Groups A, B, C, and D, The Ultima XE main with X3 technology Control Units are also Nonincendive with Nonincendive field wiring for installation in Class I, Division 2, Groups A, B, C, and D Hazardous (Classified) Locations when installed per control drawing SK3098-1108. The operating temperature range of the systems is -40°C to +60°C and the electrical ratings for the entire system is 7-30VDC, 10 watts maximum. The relay contact ratings are 5A at 250VAC or 30VDC.

The following accessories are Approved for use with the Ultima X Series Gas Detectors: "Ultima" Controller, "Ultima" Calibrator, Weatherguard (environmental guard) P/N 10028904 for Ultima XE sensor

The Ultima Controller and Ultima Calibrator are Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D Hazardous (Classified) Locations, T3C, Ta = -20°C to +40°C.

Entity parameters:

Vmax = 30V, Imax = 100mA, Ci = 0, Li = 0

Control Unit

A-Ultima X3-a-b-c-d-e-f-g-h-i-j-k-l-m-n-o-p-q-r Ultima XE Main with X3 Technology

a = Model: E

b = Enclosure Type: any alpha numeric code that represents the 3/4 inch NPT threads or M25 Metric threads

c = Sensor Output: M

d = Relay/LED option: 0, 1, 2 and 3.

e = Connection for external Power Supply Option: 0 = None; 3 = 12 VDC external, 4 = 24 VDC external. Note, external power supplies not FM Approved.

f = Language option: 0

g = Hardware/Software option: 0

h = Signal Boost option: 0 or 1

i* = Gas type sensor 1: 11, 12, 15, 16, 17 or 25.

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



- j = Sensor 1 mounting/power: 0, 1, 2 or 3
- k = A number indicating how the product is mounted.
- L* = Gas type sensor 2: 11, 12, 12, 16, 17 or 25.
- m = Sensor 2 mounting/power: 0, 1, 2 or 3
- n = A number indicating how the product is mounted.
- o* = Gas type sensor 3: 11, 12, 12, 16, 17 or 25.
- P = Sensor 3 mounting/power: 0, 1, 2 or 3
- q = A number indicating how the product is mounted.
- r = Custom: 0, CB, CC, CF, or T
- * One of the three gas sensor types shall be either: 11, 12, 12, 16, 17 or 25

Sensor

A-UltX - Sens - a - b - c, Ultima XE Sensor

- a = Gas Type: 11, 12, 12, 16, 17 or 25.
- b = Enclosure Type: 1
- c = Custom: 0, CB, CC, CF, T or G

Specifications - The manufacturer's specifications are as follow:

Operating Temperature:	H2S: 0°C to +40°C, CO: -30°C to +50°C
Relative Humidity:	15 to 95% RH
Supply Parameters:	7-30 Vdc, 24 Vdc (Nominal), 10 watts maximum.
Measurement Signal:	4-20mA
Calibration:	Infrared

Specific Conditions of Use:

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.
- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

Ultima XE Gas Detector

Equipment Ratings:

Explosionproof for Class I, Division 1, Groups A, B, C, and D
Nonincendive with Nonincendive field wiring for installation in Class I, Division 2, Groups A, B, C, and D
Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D

Markings:

Class I, Division 1, Groups A, B, C, and D
Class I, Division 2, Groups A, B, C, and D
IS Class I, Division 1, Groups A, B, C, and D T3C Ta = -20°C to +40°C

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

Stationary multi-Channel 4-20 mA Oxygen Depletion Gas Detector. The Ultima XE main with X3 technology Gas Detector consists of an Ultima XE main with X3 technology Control Unit with any combination of three Detector Heads. The Detector Heads can be either an Ultima XE Detector Head (combustible or oxygen depletion) or Ultima XIR Detector Head. The Ultima XE Detector Head is either a Catalytic Combustible Gas Detector Head or an electrochemical Oxygen Depletion Gas Detector Head. The Ultima XIR Detector Head is an Infrared Combustible Gas Detector Head. The Detector Heads mount remotely or integrally via a ¼ NPT or M25 connections to the Control Unit. The Control Unit communicates to the Detector Heads via a proprietary protocol. The Detector Heads may be remotely connect up to 100 ft away from the Control Unit or up to 3000 ft away from the Control Unit with boost board option when powered by AC Power Supply, input rated 120/240 V AC, 5 W max or DC Power Supply, input rated 9-30 V dc, 5 W max. All configurations of the systems which do not include the Ultima XIR are suitable for installation in Class I, Division 1, Groups A, B, C, and D. Configurations of the systems which include the Ultima XIR are suitable for installation in Class I, Division 1, Groups B, C, and D. The Ultima XE main with X3 technology Control Units are also Nonincendive with Nonincendive field wiring for installation in Class I, Division 2, Groups A, B, C, and D Hazardous (Classified) Locations when installed per control drawing SK3098-1108. The operating temperature range of the systems is -40°C to +60°C and the electrical ratings for the entire system is 7-30VDC, 10 watts maximum. The relay contact ratings are 5A at 250VAC or 30VDC.

The following accessories are Approved for use with the Ultima X Series: "Ultima" Controller, "Ultima" Calibrator, Weatherguard (environmental guard) P/N 10028904 for the Ultima XE sensor or 10041265 for the Ultima XIR sensor.

The Ultima Controller and Ultima Calibrator are Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D Hazardous (Classified) Locations, T3C, Ta = -20°C to +40°C.

A-Ultima X3-a-b-c-d-e-f-g-h-i-j-k-l-m-n-o-p-q-r Ultima XE Main with X3 Technology

a = Model: E

b = Enclosure Type: any alpha numeric code that represents the ¼ inch NPT threads or M25 Metric threads

c = Sensor Output: M

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

- d = Relay/LED option: 0, 1, 2 and 3.
 - e = Connection for external Power Supply Option: : 0, 3 or 4
 - f = Language option: 0
 - g = Hardware/Software option: 0
 - h = Signal Boost option: 0 or 1
 - i* = Gas type sensor 1: 13, 14, 31, 32, 33, 38 or 39.
 - j = Sensor 1 mounting/power: 0, 1, 2 or 3
 - k = A number indicating how the product is mounted.
 - L* = Gas type sensor 2: 13, 14, 31, 32, 33, 38 or 39.
 - m = Sensor 2 mounting/power: 0, 1, 2 or 3
 - n = A number indicating how the product is mounted.
 - o* = Gas type sensor 3: 13,14, 31, 32, 33, 38 or 39.
 - P = Sensor 3 mounting/power: 0, 1, 2 or 3
 - q = A number indicating how the product is mounted.
 - r = Custom: 0 or T
- *One of the three gas sensor types shall be either Sensor Type: 13 or 14

Sensors

A-UltX-Sens-a-b-c, Ultima XIR Sensor

- a = Gas Type: 38 or 39
- b = Enclosure Type: 2 or 3
- c = Custom: 0, CB, CC, CE , T, or G

A-UltX-Sens-a-b-c, Ultima XE Sensor

- a = Gas Type: 13, 14, 31, 32, or 33
- b = Enclosure Type: 1
- c = Custom:: 0,CB, CC, CE, T, or G

Specifications - The manufacturer's specifications are as follows:

Operating Temperature:	-40°C to +60°C
Relative Humidity:	10 to 90% RH
Supply Voltage:	7-30 Vdc, 24 Vdc (Nominal), 10 watts maximum
Measurement Signal:	4-20 mA
Calibration:	infrared

Specific Conditions of Use:

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

Ultima XE Main with X3 Technology Gas Detector

Equipment Ratings:

Explosionproof for Class I, Division 1, Groups A, B, C, and D
Nonincendive with Nonincendive field wiring for installation in Class I, Division 2, Groups A, B, C, and D
Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D

Markings:

Class I, Division 1, Groups A, B, C, and D
Class I, Division 2, Groups A, B, C, and D
IS Class I, Division 1, Groups A, B, C and D T3C, Ta = -20°C to +40°C

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

Stationary multi-channel 4-20 mA Combustible Gas Detector. The Ultima XE Main with X3 technology Gas Detector consists of an Ultima XE main with X3 technology Control Unit with any combination of three Detector Heads. The Detector Heads can be either an Ultima XE Detector Head (combustible or oxygen depletion) or Ultima XIR Detector Head. The Ultima XE Combustible Detector Head is either a Catalytic Combustible Gas Detector Head or an electrochemical Oxygen Depletion Gas Detector Head. The Ultima XIR Detector Head is an Infrared Combustible Gas Detector Head. The Detector Heads mount remotely or integrally via a 3/4 NPT or M25 connections to the Control Unit. The Control Unit communicates to the Detector Heads via a proprietary protocol. The Detector Heads may be remotely connected up to 100 ft away from the Control Unit when powered by the Control Unit or up to 3000 ft away from the Control Unit with boost board option when powered by AC Power Supply, input rated 120/240 V AC, 5 W max or DC Power Supply, input rated 9-30 V dc, 5 W max.

All configurations of the systems are suitable for installation in Class I, Division 1, Groups A, B, C, and D. The Ultima XE main with X3 technology Control Units are also Nonincendive with Nonincendive field wiring for installation in Class I, Division 2, Groups A, B, C, and D Hazardous (Classified) Locations when installed per control drawing SK3098-1108. The operating temperature range of the systems is -40°C to +60°C and the electrical ratings for the entire system is 7-30VDC, 10 watts maximum. The relay contact ratings are 5A at 250VAC or 30VDC. In addition, the apparatus complies with ANSI/ISA-12.13.01-2000 Performance Requirements for Combustible Gas Detectors.

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

The following accessories are Approved for use with the Ultima X Series: "Ultima" Controller, "Ultima" Calibrator, Weatherguard (environmental guard) P/N 10028904 for the Ultima XE sensor or 10041265 for the Ultima XIR sensor.

The Ultima Controller and Ultima Calibrator are Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D Hazardous (Classified) Locations, T3C, Ta = -20°C to +40°C.

Nonincendive Field wiring parameters:

$V_{max}= 30V$, $I_{max}= 100mA$, $C_i= 0$, $L_i= 0$

Control Unit

A-Ultima X3-a-b-c-d-e-f-g-h-i-j-k-l-m-n-o-p-q-r Ultima XE Main with X3 Technology

a = Model: E

b = Enclosure Type: any alpha numeric code that represents the 3/4 inch NPT threads or M25 Metric threads

c = Sensor Output: M

d = Relay/LED option: 0, 1, 2 and 3.

e = Connection for external Power Supply Option: 0 = None; 3 = 12 VDC external, 4 = 24 VDC external. Note, external power supplies not FM Approved.

f = Language option: 0

g = Hardware/Software option: 0

h = Signal Boost option: 0 or 1

i* = Gas type sensor 1: 13, 14, 31, 32, 33, 38 or 39.

j = Sensor 1 mounting/power: 0, 1, 2 or 3

k = A number indicating how the product is mounted.

L* = Gas type sensor 2: 13, 14, 31, 32, 33, 38 or 39.

m = Sensor 2 mounting/power: 0, 1, 2 or 3

n = A number indicating how the product is mounted.

o* = Gas type sensor 3: 13, 14, 31, 32, 33, 38 or 39.

P = Sensor 3 mounting/power: 0, 1, 2 or 3

q = A number indicating how the product is mounted.

r = Custom: 0, CB, CC, CF or T

*One of the three gas sensor types shall be either: 31, 32, 33, 38 or 39

Sensors

A-UltX-Sens-a-b-c, Ultima XIR Sensor

a = Gas Type: 38 or 39

b = Enclosure Type: 2 or 3

c = Custom: 0, CB, CC, CF, T, or G

A-UltX-Sens-a-b-c, Ultima XE Sensor

a = Gas Type: 13, 14, 31, 32, or 33

b = Enclosure Type: 1

c = Custom: 0, CB, CC, CF, T, or G

Specifications - The manufacturer's specifications are as follows:

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

Operating Temperature:	-40°C to +60°C
Relative Humidity:	10 to 90% RH
Supply Voltage:	7-30 Vdc, 24 Vdc (Nominal), 10 watts maximum
Measurement Signal:	4-20 mA
Calibration:	infrared

Specific Conditions of Use:

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.
- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

Ultima XE Sensor

Equipment Ratings:

Explosionproof for Class I, Division 1, Groups A, B, C, and D
Intrinsically safe connections to Class I, Division 1, Groups A, B, C, and D
Nonincendive with Nonincendive Field Wiring for installation in Class I, Division 2, Groups A, B, C and D
Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D
Type 4X/IP66

Markings:

Class I, Division 1, Groups A, B, C, and D
IS Class I, Division 1, Groups A, B, C, and D
Class I, Division 2, Groups A, B, C and D
Type 4X/IP66

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

is a standalone unit with a 4 to 20 mA output.

The Ultima XE Sensor is an Electrochemical Oxygen Depletion Gas Sensor. The Sensor mounts remotely or integrally via a 3/4 NPT or M25 connection to the Control Unit. The Control Unit communicates to the Sensor via a proprietary protocol. The Sensor may be remotely connected up to 100 ft away from the Control Unit. All configurations of the systems are suitable for installation in Class I, Division 1, Groups A, B, C, and D Hazardous (Classified) Locations, indoor and outdoor (Type 4X/IP66) and have intrinsically safe connections to Class I, Division 1, Groups A, B, C, and D Hazardous (Classified) Locations in accordance with Entity requirements and Control Drawing SK3098-1057 when installed with the intrinsically safe barrier. All configurations of the systems are also Nonincendive with Nonincendive Field Wiring for installation in Class I, Division 2, Groups A, B, C and D Hazardous (Classified) Locations when installed per control drawing SK3098-1108. The Ultima XE Detector Head monitors 0-10% O₂ or 0-21% O₂ gas-in-air atmospheres.

The Ultima XE Main Control Units provide the following: a two-digit measurement display with infrared control functions and alarm indication, a 4-20mA measurement signal with optional HART communication, an optional XP Port with I.S. barrier, optional LEDs which indicate alarm and trouble conditions and optional relay contacts; 1 for trouble and 3 for alarm set points. The electrical ratings for the entire system, DC input, are 8-30VDC 10 watts maximum. The electrical ratings for the entire Ultima XE system, AC input, are 110-240VAC, 50/60 Hz, 15 watts maximum. The relay contact ratings are 5A at 250VAC or 30VDC. The Ultima XL Control Units provide the following: a 4-20mA measurement signal with HART communication, an optional XP Port with I.S. barrier, an LED which indicates alarm and trouble conditions. The operating temperature range of the systems is -40°C to +60°C and the electrical ratings for the entire system is 8-30VDC 600mA maximum. The non I.S. connections on the HART Module are 30VDC max, 1 amp.

The following accessories are Approved for use with the Ultima X Series Gas Detectors: "Ultima" Controller, "Ultima" Calibrator, Weatherguard (environmental guard) P/N 10028904 for Ultima XE sensor

The Ultima Controller and Ultima Calibrator are Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D Hazardous (Classified) Locations, T3C, Ta = +40°C.

Nonincendive Field wiring parameters: V_{max} = 30V, I_{max} = 100mA, Ci = 0, Li = 0

Control Unit

A-Ultima X3-a-b-c-d-e-f-g-h-i-j-k-l-m-n-o-p-q-r Ultima XE Main with X3 Technology

a = Model: E

b = Enclosure Type: any alpha numeric code that represents the 3/4 inch NPT threads or M25 Metric threads

c = Sensor Output: M

d = Relay/LED option: 0, 1, 2 and 3.

e = Connection for external Power Supply Option: 0 = None; 3 = 12 VDC external, 4 = 24 VDC external. Note, external power supplies not FM Approved.

f = Language option: 0

g = Hardware/Software option: 0

h = Signal Boost option: 0 or 1

i* = Gas type sensor 1: 11, 12, 15, 16, 17 or 25.

j = Sensor 1 mounting/power: 0, 1, 2 or 3

k = A number indicating how the product is mounted.

L* = Gas type sensor 2: 11, 12, 12, 16, 17 or 25.

m = Sensor 2 mounting/power: 0, 1, 2 or 3

n = A number indicating how the product is mounted.

o* = Gas type sensor 3: 11, 12, 12, 16, 17 or 25.

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



P = Sensor 3 mounting/power: 0, 1, 2 or 3

q = A number indicating how the product is mounted.

r = Custom: 0, CB, CC, CF, or T

* One of the three gas sensor types shall be either: 11, 12, 12, 16, 17 or 25.

Sensors

A-UltX - Sens - a - b - c, Ultima XE Sensor

a = Gas Type: 13 or 14

b = Enclosure Type: 1

c = Custom: 0, CB, CC, CF, T, or G

External Power Supplies - 10053967 (11W), 10053966 (15W)

Specifications - The manufacturer's specifications are as follows:

Operating Temperature:	-40°C to +60°C
Relative Humidity:	10 to 90% RH
Supply Parameters:	8-30 Vdc, 24 Vdc (Nominal), 10 watts maximum. 110/240 Vac, 50/60 Hz, 15 watts maximum
Measurement Signal:	4-20 mA
Calibration:	Infrared or HART

Specific Conditions of Use:

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.
- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

Ultima XE, Ultima X, Ultima XIR

Equipment Ratings:

Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D

Markings:

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

IS Class I, Division 1, Groups A, B, C and D T3C Ta = -20°C to +40°C.

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

The Ultima XE Main Control Units provide the following: a two-digit measurement display with infrared control functions and alarm indication, a 4-20mA measurement signal with optional HART communication, an optional XP Port with I.S. barrier, optional LEDs which indicate alarm and trouble conditions and optional relay contacts; 1 for trouble and 3 for alarm set points. The electrical ratings for the entire system, DC input, are 8-30VDC 10 watts maximum. The electrical ratings for the entire system, AC input, are 110-240VAC, 50/60 Hz, 15 watts maximum. The relay contact ratings are 5A at 250VAC or 30VDC. The Ultima XL Control Units provide the following: a 4-20mA measurement signal with HART communication, an optional XP Port with I.S. barrier, an LED which indicates alarm and trouble conditions. The operating temperature range of the systems is -40°C to +60°C and the electrical ratings for the entire system is 8-30VDC 600mA maximum. The non I.S. connections on the HART Module are 30VDC max, 1 amp. In addition, the apparatus complies with ANSI/ISA-12.13.01-2003 Performance Requirements for Combustible Gas Detectors.

The following accessories are Approved for use with the Ultima X Series Gas Detectors: "Ultima" Controller, "Ultima" Calibrator, Weatherguard (environmental guard) P/N 10028904 for the Ultima XE sensor or 10041265 for the Ultima XIR sensor.

The Ultima Controller and Ultima Calibrator are Intrinsically Safe for use in Class I, Division 1, Groups A, B, C and D Hazardous (Classified) Locations, T3C, Ta = -20°C to +40°C.

Nonincendive Field wiring parameters:
 $V_{max} = 30V$, $I_{max} = 100mA$, $C_i = 0$, $L_i = 0$

Control Unit

A-UltimaX-XP - a - b - c - d - e - f - g - h - i - j - k - l - m , Ultima X Series

a = Model: E or L

b = Gas Code: 31, 32, 33, 38, or 39.

c = Configuration: any alpha numeric code that represents stainless steel enclosure with the 3/4 inch NPT threads or M25 Metric threads

d = Sensor Output: 1, 2, 3, or 4

e = Sensor Mounting Style: N, S, or D

f = Relays and LEDs: 0, 1, or 2

g = Display Language/Features: 0, S, or H

h = Optional Power Supply: 0, 1, 2, 3, or 4.

i = Gas Sample Selection: 0 or 1

j = Integrated Accessories: 0 or 1

k = Installation Hardware: Any number indicating how the product is mounted.

l = Manuals: Any number indicating how the manual is supplied.

m = Custom: 0, CB, CC, CF or T

Sensors

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



A-UltX - Sens - a - b - c, Ultima XIR Sensor

a = Gas Type: 38 or 39

b = Enclosure Type: 2 or 3

c = Custom: 0, CB, CC, CF, T or G

A-UltX - Sens - a - b - c, Ultima XE Sensor

a = Gas Type: 31, 32, or 33

b = Enclosure Type: 1

c = Custom: 0, CB, CC, CF, T or G

External Power Supplies- 10053967 (11W), 10053966 (15W)

Specifications - The manufacturer's specifications are as follow;

Operating Temperature:	-40°C to +60°C
Relative Humidity:	10 to 90% RH
Supply Parameters:	8-30 Vdc, 24 Vdc (Nominal), 10 watts maximum 110/240 Vac, 50/60 Hz, 15 watts maximum
Measurement Signal:	4-20mA
Calibration:	Infrared or HART

Specific Conditions of Use:

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.
- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

Ultima XE, Ultima XIR

Equipment Ratings:

Explosionproof for Class I, Division 1, Groups A, B, C, and D

Intrinsically safe connections to Class I, Division 1, Groups A, B, C, and D

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

Nonincendive with Nonincendive Field Wiring for installation in Class I, Division 2, Groups A, B, C and D
Type 4X/IP66

Markings:

Class I, Division 1, Groups A, B, C, and D
IS Class I, Division 1, Groups A, B, C, and D
Class I, Division 2, Groups A, B, C and D
Type 4X/IP66

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

The Ultima XE Sensor is a Catalytic Combustible Gas Sensor. The Ultima XIR Sensor is an Infrared Combustible Gas Sensor. The Sensors mount remotely or integrally via a 3/4 NPT or M25 connection to the Control Unit. The Control Unit communicates to the Sensors via a proprietary protocol. The Sensors may be remotely connected up to 100 ft away from the Control Unit. All configurations of the systems are suitable for installation in Class I, Division 1, Groups A, B, C, and D Hazardous (Classified) Locations, indoor and outdoor (Type 4X/IP66) and have intrinsically safe connections to Class I, Division 1, Groups A, B, C, and D Hazardous (Classified) Locations in accordance with Entity requirements and Control Drawing SK3098-1057 when installed with the intrinsically safe barrier. All configurations of the systems are also Nonincendive with Nonincendive Field Wiring for installation in Class I, Division 2, Groups A, B, C and D Hazardous (Classified) Locations when installed per control drawing SK3098-1108. The Ultima XE Sensor and Ultima XIR Sensor may be connected to any junction box with an internal volume of less than 40.04 cubic inches which has been identified, as defined within the National Electrical Code, for its intended area of installation. The Ultima XE Sensor and Ultima XIR Sensor monitor 0-100% LEL methane or propane gas-in-air atmospheres.

Specific Conditions of Use:

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.
- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM23US0004X



Member of the FM Global Group

Ultima XI Gas Monitor

Equipment Ratings:

Explosionproof for Class I, Division 1, Groups A, B, C and D

Markings:

Class I, Division 1, Groups A, B, C and D

Description of Equipment:

The Ultima X Series is a fixed combustible or oxygen gas detector. It is suitable for outdoor and indoor applications. The device is able to detect and alert users to potentially dangerous levels of combustible hydrocarbon gas. The device is a standalone unit with a 4 to 20 mA output.

Stationary 4-20 mA Combustible Gas Detector. The Ultima XI Gas Monitor is Explosionproof for installation in Class I, Division 1, Groups A, B, C and D Hazardous (Classified) Locations. The Ultima XI remote sensor may be connected to any junction box with an internal volume of less than 40.04 cubic inches that has been identified, as defined within the National Electrical Code, for its intended area of installation. The Ultima XI monitors 0-100% LEL methane gas-in-air atmospheres. The instrument provides a 4-20 mA measurement signal. The Ultima XI is an Infrared Combustible Gas Detector Sensor. The operating temperature range for the sensor is -40°C to +60°C the electric ratings are 7-30 VDC, 800 mA max.

The apparatus complies with ANSI/ISA-12.13.01-2000 Performance Requirements for Combustible Gas Detectors and 60079-29-1 "Explosive Atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases". The following accessories are Approved for use with the Ultima XI Gas Monitor: Weatherguard (environmental guard) P/N 10028904 or 10041265.

Specific Conditions of Use:

- 1) Upon installation of the Ultima XL Control Unit, the label shall be permanently marked to show the type of explosion protection used for the installation.
- 2) The Ultima XE Sensor, Ultima XI Sensor and Ultima XIR shall be interconnected with an UltimaX Control Unit for compliance with 60079-29-1.
- 3) The Ultima XI Sensor shall be connected directly to a junction box or instrument suitable for the area of installation to provide protection for the flying leads.
- 4) The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.
- 5) The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- 6) Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 347 (Apr 21)

