



Mining And Surface Certification (Pty) Ltd

2015/021934/07

THIS CERTIFICATE IS ISSUED AS AN I.A. CERTIFICATE IN TERMS OF THE MINE HEALTH AND SAFETY ACT, ACT NO 29 OF 1996 (AND REGULATIONS), THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) AND REGULATION 17 OF THE ELECTRICAL MACHINERY REGULATIONS

IA CERTIFICATE	MASC S/21-8015X	Issue	1
Issue Date	04 December 2023	Expiry Date	17 June 2025
** Based on Certificate No	IECEx FMG 21.0021X	Issue / Variations / Amendment	1
Requested by	MSA – The Safety Company 1000 Cranberry Woods Township, PA 16066, United States of America		
Manufacturer	MSA - THE SAFETY COMPANY 1000 Cranberry Woods Dr, Cranberry Township, Pennsylvania 16066-5296 United States of America		
Description	The ULTIMA® X5000 Transmitter is the control unit of the ULTIMA® X5000 Gas Monitor fixed gas detection system and is designed for Non-Sparking (Ex nA) protection, which excludes Output Alarm Relays and the relay board. The enclosure is provided with either ¾" NPT or M25 threaded entries and a certified adapter can be supplied for M25 entries which can be fitted with the sensors described below or suitably certified cable entry devices or blanking plugs. The equipment enclosure has been separately tested against the requirements of IEC 60529 and meets IP66. The ULTIMA® X5000 Transmitter provides an Organic LED (OLED) display, power, alarm and fault indicators, Bluetooth indication, two 4-20 mA measurement signal outputs, Bluetooth, Modbus (via a Bus Communication Module), wireless HART as well as wired HART communication capabilities. See ** Base certificate Annex for full description.		
Equipment	ULTIMA® X5000 Gas Monitor fixed gas detection system (ULTIMA® X5000 transmitter & ULTIMA® X5000 or JB5000 Junction Box) and ULTIMA® XIR Plus sensor		
MARKING: Original marking as per certificate ** remains applicable. IA number must be added.	Type:	ULTIMA® X5000 Gas Monitor fixed gas detection system (ULTIMA® X5000 transmitter & ULTIMA® X5000 or JB5000 Junction Box) and ULTIMA® XIR Plus sensor	
	Ex Marking:	See **Base certificate Annex	
	IA Number:	MASC S/21-8015X (To be additionally marked on equipment)	
	Warnings:	See Base Certificate ** (original marking must be applied)	
Quality Assurance report (QAR) / Notification (QAN):	GB/SIR/QAR07.0014/10 FR/INE/QAR08.0011/13 US/UL/QAR10.0004/10		
Compliance: The equipment as described above has been allocated the rating <u>Explosion Protected 'as above'</u> utilizing the SANS/IEC Standards: <ul style="list-style-type: none"> SANS (IEC) 60079-0: 2019 Equipment - General requirements SANS (IEC) 60079-1: 2015 Equipment protection by flameproof enclosures "d" SANS (IEC) 60079-15: 2010 Equipment protection by type of protection "n" SANS (IEC) 60079-29-1: 2016 Gas detectors – Performance requirements of detectors for flammable gases SANS (IEC) 60079-31: 2014 Equipment dust ignition protection by enclosure "t" <i>Note: This certificate covers only the listed standards and does not imply compliance to any other standard, related or inferred. It is up to the manufacturer to ensure that the product complies to all relevant standards for the application.</i>			
Special conditions of safe use "X": <ul style="list-style-type: none"> Refer to Annex A below for more details. 			
Conditions of manufacture: <ul style="list-style-type: none"> Refer to Annex A below for more details. 			
 C. WELTHAGEN TECHNICAL SPECIALIST		 N. VILOJEN TECHNICAL OFFICER	
This certificate covers all units sold as long as the QAR/QAN remains valid. According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory).			

Apparatus in hazardous locations is subject to the following provisions as applicable, which shall be adhered to:

SANS 10086 requirements;

Any conditions mentioned in the above certificate;

Any relevant requirements of the MHS Act;

Any restrictions and conditions enforced by the chief inspector of mines, principal inspector (Group I equipment) or chief inspector of factories (Group II equipment).

This certificate may only be reproduced in full

The certificate is not transferable and remains the property of the issuing body.

IA CERTIFICATE: MASC MS/23-9013X

**Equipment: ULTIMA® X5000 Gas Monitor fixed gas detection system
(ULTIMA® X5000 transmitter & ULTIMA® X5000 or JB5000 Junction Box) and
ULTIMA® XIR Plus sensor
(Expiry date: 04 December 2026)**

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ANNEX A

This document is based on and must be read in conjunction with certificate IECEx FMG 21.0021X.	
Description (According to Base Certificate) **	
"Refer to description in Base Certificate ** (and any applicable schedules/issues/variatioins)."	
Standard compliance	See Base Certificate **
Issue	Issue 1: Supplemented for QAR review as per ARP 0108. IECEx SIR 17.0017X was replaced with IECEx FMG 21.0021X.
Special conditions of safe use ("X")	<ul style="list-style-type: none">• See **Base certificates Annex for Special conditions of safe use.
Conditions of manufacture	<ul style="list-style-type: none">• None.
Conditions of Certification	<ul style="list-style-type: none">• This IA Certificate covers all units sold from the date of this document to the expiry date of this certificate.• As per ARP 0108 a maximum three yearly review is required on this IA Certificate (expiry is determined as per the QAR/QAN/QMS expiry date).• The apparatus must be additionally marked with the MASC marking details above.• This approval only covers the equipment as certified above and does not include any scheduled additions or variations / amendments / new issues to the certificate(s), made after the above date.• The equipment does not need to be re-tested when used on the conditions and with such restrictions as prescribed by the certificate on which this IA Certificate is based and any other conditions in this IA Certificate.• The certification on which this IA Certificate is based must remain valid.• The extent of the requirements in the ARP 0108 (or regulations), SANS 10108 and any other applicable regulations on the certification of the equipment must remain unchanged.• The Ex-quality assurance notification/report for the equipment must remain valid.
Conclusion:	<ul style="list-style-type: none">• From the above and the selective examination of the documentation, nothing contrary to the requirements of the applicable standards was found, provided that the equipment / component is used as described in the above document / certificate and according to the MASC conditions below. A MASC IA certificate is issued based on the work done as per the Base Certificate **.• The routine tests for production units according to the Base Certificate ** must be complied with (if applicable).

This document is issued based on Mining And Surface Certification's Standard Contract terms and conditions available on request.

While every endeavour is made to ensure that a test / assessment / inspection is representative and accurately performed, and that a report / certificate is accurate in the quoted results and conclusions drawn from the test / assessment / inspection, MASC or its directors/employees shall in no way be liable for any error made in carrying out the test / assessment or for any erroneous statement, whether in fact or in opinion, contained in a report / certificate issued pursuant to a test / assessment / inspection.

MASC takes no responsibility for any non-conformances, exclusions, or any results / assessments / inspections not in compliance with the standards. By marking the equipment in accordance with the documentation / standard, the manufacturer / applicant attests on his own responsibility that the equipment / installation has been designed and constructed in accordance with the applicable requirements of the relevant standards and documentation, that the routine verifications / routine tests have been correctly completed and the equipment / installation complies with the documentation and standard(s).

This document is only for use and application in South Africa. It is issued based on National interpretations and accepted practices.

This document may only be reproduced in full.

This certificate is not transferable and remains the property of the issuing body.

This document will not be supported by MASC for certification purposes outside the borders of South Africa.

Mining And Surface Certification (Pty) Ltd Reg No: 2015/021934/07
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IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx FMG 21.0021X** Page 1 of 5 [Certificate history:](#)
Status: **Current** Issue No: 1 [Issue 0 \(2022-08-09\)](#)
Date of Issue: 2023-02-06
Applicant: **MSA - THE SAFETY COMPANY**
1000 Cranberry Woods Dr
Cranberry Township
Pennsylvania 16066-5296
United States of America
Equipment: **ULTIMA® X5000 Gas Monitor fixed gas detection system (ULTIMA® X5000 transmitter & ULTIMA® X5000 or
JB5000 Junction Box) and ULTIMA® XIR Plus sensor**
Optional accessory:
Type of Protection: **Flameproof db, Type nA and Dust Protection by Enclosure tb**
Marking:
Refer to certificate annex for full marking.

Approved for issue on behalf of the IECEx
Certification Body:

J. E. Marquedant

Position:

VP, Manager - Electrical Systems

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

FM Approvals LLC
1151 Boston-Providence Turnpike
Norwood, MA 02062
United States of America





IECEX Certificate of Conformity

Certificate No.: **IECEX FMG 21.0021X**

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Date of issue: 2023-02-06

Issue No: 1

Manufacturer: **MSA - THE SAFETY COMPANY**
1000 Cranberry Woods Dr
Cranberry Township
Pennsylvania 16066-5296
United States of America

Manufacturing locations: **General Monitors Ireland Ltd, Ballybrit Business Park, Galway**
Ireland

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

[IEC 60079-15:2010](#) Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:4

[IEC 60079-29-1:2016-07](#) Explosive atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases
Edition:2.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[US/FMG/ExTR22.0014/00](#) [US/FMG/ExTR22.0014/01](#)

Quality Assessment Reports:

[FR/INE/QAR08.0011/12](#) [GB/SIR/QAR07.0014/10](#) [US/UL/QAR10.0004/10](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx FMG 21.0021X**

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Date of issue: 2023-02-06

Issue No: 1

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

See appendix for details

SPECIFIC CONDITIONS OF USE: YES as shown below:

See appendix for details



IECEx Certificate of Conformity

Certificate No.: **IECEx FMG 21.0021X**

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Date of issue: 2023-02-06

Issue No: 1

Equipment (continued):

See Appendix for details



IECEx Certificate of Conformity

Certificate No.: **IECEx FMG 21.0021X**

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Date of issue: 2023-02-06

Issue No: 1

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Updated to replace obsolete components. No firmware change. Update model code to include missing variables for X5000

Annex:

[US FMG EXTR22.0014 Annex.pdf](#)

Annex to: US FMG EXTR22.0014 Issue 1

Applicant: MSA - The Safety Company

Apparatus: Ultima X5000 Gas Monitor fixed gas detection system (Transmitter and Junction Boxes) and Ultima XIR Plus Sensor

Marking:

ULTIMA® X5000 Transmitter:

Ex db IIC T6 Gb
Ex tb IIIC T85°C Db
Ex nA IIC T4 Gc
 $40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
60079-29-1
IP66

ULTIMA® X5000 Junction Boxes:

Ex db IIC T6 Gb
Ex tb IIIC T85°C Db
Ex nA IIC T6 Gc
 $-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
60079-29-1
IP66

Ultima XIR Plus Sensor

Ex db IIC T6 Gb
Ex nA IIC T6 Gc
 $-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
60079-29-1
IP66

ULTIMA® JB5000 Junction Boxes:

Ex db IIC T6 Gb
Ex tb IIIC T85°C Db
Ex nA IIC T6 Gc
 $-55^{\circ}\text{C} \leq T_a \leq +75^{\circ}\text{C}$
60079-29-1
IP66

Notes to Standard IEC 60079-29-1:

1. Applies only to the X5000 Gas Monitor fixed Combustible Gas Detection System.
2. IEC 60079-31 compliance does not imply that the equipment will detect gas during and after exposure to dust and fibers in suspension in air conditions.

Equipment:

The ULTIMA® X5000 Transmitter is the control unit of the ULTIMA® X5000 Gas Monitor fixed gas detection system and is designed for Non-Sparking (Ex nA) protection, which excludes Output Alarm Relays and the relay board. The enclosure is provided with either $\frac{3}{4}$ " NPT or M25 threaded entries and a certified adapter can be supplied for M25 entries which can be fitted with the sensors described below or suitably certified cable entry devices or blanking plugs. The equipment enclosure has been separately tested against the requirements of IEC 60529 and meets IP66. The ULTIMA® X5000 Transmitter provides an Organic LED (OLED) display, power, alarm and fault indicators, Bluetooth indication, two 4-20 mA measurement signal outputs, Bluetooth, Modbus (via a Bus Communication Module), wireless HART as well as wired HART communication capabilities.

The ULTIMA® X5000 and JB5000 Junction Boxes are the remote mounting units of ULTIMA® X5000 Gas Monitor fixed gas detection system and is designed for Non-Sparking (Ex nA) protection. The enclosures are provided with either $\frac{3}{4}$ " NPT or M25 threaded entries and a certified adapter can be supplied for M25 entries which can be fitted with the sensors described below or suitably certified cable entry devices or blanking plugs. The equipment enclosures have been separately tested against the requirements of IEC 60529 and meets IP66.

The ULTIMA® XIR Plus Sensor assembly is the infra-red sensor unit of the ULTIMA® X5000 Gas Monitor fixed gas detection system and is designed for Non-Sparking (Ex nA) protection. The equipment enclosure has been separately tested against the requirements of IEC 60529 and meets IP66.

The product model code options for the ULTIMA® X5000 transmitter, ULTIMA® X5000 and JB5000 Junction Boxes, ULTIMA® X5000 XIR Plus Sensor are shown in the Model Code Options section below.

Annex to: US FMG EXTR22.0014 Issue 1

Applicant: MSA - The Safety Company

Apparatus: Ultima X5000 Gas Monitor fixed gas detection system (Transmitter and Junction Boxes) and Ultima XIR Plus Sensor

Model Code Options:

ULTIMA® X5000 Transmitter:

Model coding appearing on the transmitter enclosure are shown below:

ULTIMA® X5000 transmitter (equipment) Software Revision: 2.00.0065	
Model reference	Description
A-X5000- abcdeffggh	<p>Transmitter control unit of the Fixed Gas Detection System for use in explosive gas atmospheres; where up to two sensors may be connected, either coupled to the transmitter enclosure or one coupled to the transmitter and the other coupled to the Junction Box enclosure – only one sensor per Junction Box permitted; two Digital Sensors or/ one ULTIMA® XIR Plus sensor and one Digital Sensor or/ two ULTIMA® XIR Plus sensors are permitted for installation (the main transmitter enclosure and the Junction Box enclosure)</p> <p>a is for Enclosure Material: 0 = Stainless Steel – ¾" NPT 1 = Aluminum – ¾" NPT 2 = Stainless Steel – M25</p> <p>b is A = ATEX/UKCA/IEC</p> <p>c is for Bluetooth: 0 = Yes 1 = No</p> <p>d is for Output Communication: 0 = Analog/HART 1 = Analog/HART/Relays 2 = Analog/HART/Relays/Isolate Modbus</p> <p>e is 0 = Default place holder, not relevant to certification</p> <p>ff is for Sensor 1 selection: gg is for Sensor 2 selection:</p> <p>h is for Tag: 0 = None T# = (# = 1, 2, or 3) Stainless Steel affixed tags</p> <p>Sensors: for Sensor Selection ff or gg: (Sensors tested to EN 60079-29-1 or EN 50104 are denoted by [^])</p> <p>- ULTIMA® XIR Plus sensor selections include: 00 = No Sensor AA = IR Combustible 0 – 100% LEL – 5% Methane [^] AB = IR Combustible 0 – 100% LEL – 2.1 % Propane [^] AC = IR Combustible 0-100% LEL – 4.4 % Methane [^] AD = IR Combustible 0-100% LEL – 1.7% Propane [^] AK = IR Combustible 0 – 100% LEL – 2.5% Acetone [^] AS = IR Combustible 0 – 100% LEL – 1.2% Benzene [^] BY = IR Combustible 0 – 100% LEL – 3.3% Ethanol [^] CD = IR Combustible 0 – 100% LEL – 2.7% Ethylene [^] CF = IR Combustible 0 – 100% LEL – 3% Ethylene Oxide [^] CJ = IR Combustible 0 – 100% LEL – 1.1% Hexane [^] CP = IR Combustible 0 – 100% LEL – 2% Isopropanol [^] DJ = IR Combustible 0 – 100% LEL – 1.7% Methyl Methacrylate [^] FJ = IR Combustible 0 - 100% LEL – 3.1% Ethanol [^] FL = IR Combustible 0 - 100% LEL – 2.3% Ethylene [^] FM = IR Combustible 0 - 100% LEL – 2.6% Ethylene Oxide [^]</p>

Annex to: US FMG EXTR22.0014 Issue 1

Applicant: MSA - The Safety Company

Apparatus: Ultima X5000 Gas Monitor fixed gas detection system (Transmitter and Junction Boxes) and Ultima XIR Plus Sensor

	<p>FP = IR Combustible 0 - 100% LEL – 1% Hexane [^] xx = Any two digit letter representing Gas Type ULTIMA® XIR Plus infrared Combustible sensor, not verified by FM Approvals for the specific flammable gas for performance to EN 60079-29-1 xx = Any two digit letter representing Toxic Type ULTIMA® XIR Plus infrared Toxic sensor</p> <p>- Digital Sensor selections include: 00 = No Sensor or Sensor Body (transmitter only) 01 = No Sensor fine thread w/blank element) 02 = No Sensor (sensor body coarse thread w/blank element) 15 = Oxygen, 0-25% [^] 60 = Combustible, 0-100% LEL – 5% Methane [^] 61 = Combustible, 0-100% LEL – 2.1%Propane [^] 62 = Combustible, 0-100% LEL – 1.05% Heptane [^] 63 = Combustible, 0-100% LEL – 0.8% Nonane [^] 64 = Combustible, 0-100% LEL – 4.0% Hydrogen [^] 65 = Combustible, 0-100% LEL – 4.4 % Methane [^] 66 = Combustible, 0-100% LEL – 1.7% Propane [^] 67 = Combustible, 0-100% LEL – 0.85% Heptane [^] 68 = Combustible, 0-100% LEL – 0.7% Nonane [^] xx = Any two digit number representing Gas Type Digital Sensor (With FRIT), not verified by FM Approvals for the specific flammable gas for performance to EN 60079-29-1 or EN 50104. xx = Any two digit number representing Toxic Type Digital Sensor (With FRIT).</p>
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The X5000 Junction Boxes:

Model coding appearing on the junction box enclosures are shown below:

ULTIMA® X5000 Junction Boxes (equipment)	
Model reference	Description
10179509	ULTIMA® X5000 Junction Box; Stainless Steel, ¾" NPT
10179511	ULTIMA® X5000 Junction Box; Stainless Steel, M25
10179513	ULTIMA® X5000 Junction Box; Aluminum, ¾" NPT

The X5000 Junction Boxes:

Model coding appearing on the junction box enclosures are shown below:

ULTIMA® X5000 Junction Boxes (equipment)	
Model reference	Description
10179509	ULTIMA® X5000 Junction Box; Stainless Steel, ¾" NPT
10179511	ULTIMA® X5000 Junction Box; Stainless Steel, M25
10179513	ULTIMA® X5000 Junction Box; Aluminum, ¾" NPT

Annex to: US FMG EXTR22.0014 Issue 1

Applicant: MSA - The Safety Company

Apparatus: Ultima X5000 Gas Monitor fixed gas detection system (Transmitter and Junction Boxes) and Ultima XIR Plus Sensor

ULTIMA® XIR Plus sensor:

Model coding appearing on ULTIMA® XIR Plus sensor are shown below:

ULTIMA® XIR Plus sensor (equipment)	
Model reference	Description
A-5K-SENS-aa-b-c-d-e	<p>ULTIMA® XIR Plus infrared Combustible sensor; Gas Type verified for Performance per "EN 60079-29-1" where the following applies:.</p> <p>aa is for Gas Type (verified for Performance):</p> <ul style="list-style-type: none">AA = IR Combustible 0 – 100% LEL – 5% MethaneAB = IR Combustible 0 – 100% LEL – 2.1 % PropaneAC = IR combustible 0-100% LEL – 4.4% MethaneAD = IR combustible 0-100% LEL – 1.7% PropaneAK = IR Combustible 0 – 100% LEL – 2.5% AcetoneAS = IR Combustible 0 – 100% LEL – 1.2% BenzeneBY = IR Combustible 0 – 100% LEL – 3.3% EthanolCD = IR Combustible 0 – 100% LEL – 2.7% EthyleneCF = IR Combustible 0 – 100% LEL – 3% Ethylene OxideCJ = IR Combustible 0 – 100% LEL – 1.1% HexaneCP = IR Combustible 0 – 100% LEL – 2% IsopropanolDJ = IR Combustible 0 – 100% LEL – 1.7% Methyl MethacrylateFJ = IR Combustible 0 - 100% LEL – 3.1% EthanolFL = IR Combustible 0 - 100% LEL – 2.3% EthyleneFM = IR Combustible 0 - 100% LEL – 2.6% Ethylene OxideFP = IR Combustible 0 - 100% LEL – 1% Hexane <p>b is 0 = Stainless Steel</p> <p>c is A = ATEX/UKCA/IEC</p> <p>d is for Sensor Body:</p> <ul style="list-style-type: none">1 = ¾" NPT2 = M25 <p>e is 0 = Not relevant to certification</p> <p>ULTIMA® XIR Plus infrared Combustible sensor; Gas Type not verified for Performance per "EN 60079-29-1" where the following applies</p> <p>aa is for Gas Type (not verified for Performance):</p> <ul style="list-style-type: none">xx = Any two digit number representing a Gas Type not verified by FM Approvals for the specific flammable gas for performance to EN 60079-29-1. <p>b is 0 = Stainless Steel</p> <p>c is A = ATEX/UKCA/IEC</p> <p>d is for Sensor Body:</p> <ul style="list-style-type: none">1 = ¾" NPT2 = M25 <p>e is 0 = Not relevant to certification</p> <p>ULTIMA® XIR Plus infrared Toxic sensor; where the following applies:</p> <p>aa is for Gas Type Toxic Type:</p> <ul style="list-style-type: none">xx = Any two digit letter representing Toxic Type ULTIMA® XIR Plus infrared Toxic sensor: <p>b is 0 = Stainless Steel</p> <p>c is A = ATEX/UKCA/IEC</p> <p>d is for Sensor Body:</p> <ul style="list-style-type: none">1 = ¾" NPT2 = M25 <p>e is 0 = Not relevant to certification</p>

Annex to: US FMG EXTR22.0014 Issue 1

Applicant: MSA - The Safety Company

Apparatus: Ultima X5000 Gas Monitor fixed gas detection system (Transmitter and Junction Boxes) and Ultima XIR Plus Sensor

The JB5000 Junction Boxes:

Model coding appearing on the junction box enclosures are shown below:

ULTIMA® X5000 Junction Boxes (equipment)	
Model reference	Description
10213879	JB5000 Junction Box; Stainless Steel, ½" NPT
10213893	JB5000 Junction Box; Stainless Steel, M25

Specific Conditions of Use:

ULTIMA® X5000 transmitter:

1. The following options shall have a seal installed within 2 in (50 mm) of the enclosure: - aluminum x5000 transmitter with and without relay contacts
2. the following options shall have a seal installed within 18 in (450 mm) of the enclosure: - stainless steel x5000 transmitter with relays
3. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall only be cleaned with a damp cloth.
4. This fixed equipment is exclusively designed for field mounting in the vertical orientation with restrictions placed around the conduit entry locations permitted for connection of both the Digital Sensor and ULTIMA® XIR Plus infrared (IR) sensors. The equipment is subject to the installation and orientation requirements defined in the product manual.
5. The flameproof joints shall not be repaired.
6. It is recommended to end users to seek guidance provided in EN 60079-29-2 for installation, use and maintenance of gas detectors for flammable gases and other applicable gases.
7. Guidance for functional safety of fixed gas detection systems are set out in EN 60079-29-3 which has not been covered in the scope of this assessment.

ULTIMA® X5000 Junction Box:

1. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall only be cleaned with a damp cloth.
2. This fixed equipment is exclusively designed for field mounting in the vertical orientation with restrictions placed around the conduit entry locations permitted for connection of the Digital Sensor and the ULTIMA® XIR Plus infrared (IR) sensor. The equipment is subject to the installation and orientation requirements defined in the product manual.
3. The flameproof joints shall not be repaired.

ULTIMA® XIR Plus Sensor:

1. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall only be cleaned with a damp cloth.
2. The flameproof joints shall not be repaired.
3. The ULTIMA® XIR Plus infrared (IR) sensor is provided with a ¾" NPT thread and shall only be connected to a suitably certified junction box or instrument for the hazardous area of installation and thereby provide Ex protection for the flying lead connections. The installation to the certified enclosure shall be with five fully engaged threads, tightened wrench-tight.
4. The ULTIMA® XIR Plus infrared (IR) sensor shall only be fitted to enclosures having a maximum reference pressure of 13.5 bars.
5. In combustible gas detection performance applications, the appropriate ULTIMA® XIR Plus model number shall only be used to construct the ULTIMA® X5000 Gas Monitor fixed gas detection system; mounted onto either the

Annex to: US FMG EXTR22.0014 Issue 1

Applicant: MSA - The Safety Company

Apparatus: Ultima X5000 Gas Monitor fixed gas detection system (Transmitter and Junction Boxes) and Ultima XIR Plus Sensor

ULTIMA® X5000 transmitter or ULTIMA® X5000 Junction Box enclosures and receive power and control from the transmitter.

6. The Ingress Protection rating is exclusively based upon the installation instruction for orientation specified in the operating manual.
7. Guidance for Installation of fixed gas detection systems are set out in EN 60079-29-2 which has not been covered in the scope of this assessment.
8. Guidance for functional safety of fixed gas detection systems are set out in EN 60079-29-3 which has not been covered in the scope of this assessment.
9. The ULTIMA ® X5000 Gas Monitor fixed gas detection system complies with EN 50271 (Clause 4.8, safety integrity assessment excluded from the assessment). For the ULTIMA® XIR Plus sensor the new software version 3.0 and the checksum is 0xF33C with hardware part number 10172003.
10. The XIR Plus Sensor enclosure with Sensor Guard (opaque cover) or enclosure must fully contain the optical radiation and comply with a suitable type of protection as required by the involved EPL, complying with one of the following conditions:
11. An enclosure for which protection regarding ingress of an explosive dust atmosphere is provided, such as dust protection "t" enclosures" (IEC 60079-31), or
12. An enclosure that provides a minimum ingress protection of IP 6X and where no internal absorbers are to be expected and complying with "Tests of enclosures" in IEC 60079-0.
13. When the manufacturer of the equipment has not identified the type of protection on the label, the user shall, on installation, mark the label adjacent to the type of protection used. Once the type of protection has been marked it shall not be changed.

JB5000 Junction Box

1. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall only be cleaned with a damp cloth.
2. This fixed equipment is exclusively designed for field mounting in the vertical orientation with restrictions placed around the conduit entry locations permitted for connection of the Digital Sensor and the ULTIMA® XIR Plus infrared (IR) sensor. The equipment is subject to the installation and orientation requirements defined in the product manual.
3. The flameproof joints shall not be repaired.

Full Certificate change history

Issue 0

Issue 1 – Replace component. Update to drawing list. Correx X5000 model code structure to show all variables.