

IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: **IECEX FMG 07.0006X** issue No.: **6**

Status: **Current**

Date of Issue: **2009-09-14** Page 1 of 5

Applicant: **Mine Safety Appliances
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
United States of America**

Certificate history:
Issue No. 6 (2009-9-14)
Issue No. 5 (2009-2-27)
Issue No. 4 (2008-11-12)
Issue No. 3 (2008-7-21)
Issue No. 2 (2007-10-18)
Issue No. 1 (2007-10-15)
Issue No. 0 (2007-10-5)

Electrical Apparatus: **Ultima X Series Controller, Ultima XE Sensor, Ultima XI Sensor, Ultima XIR Sensor**
Optional accessory: **Refer to Equipment section of this certificate.**

Type of Protection: **Construction, Test and Marking of type of protection "d", "n", "ia" and "[ib]"**

Marking: **Refer to annex.**


Approved for issue on behalf of the IECEx Certification Body:

David w. Styracula

Position:

Technical Team Manager

Signature:
(for printed version)


September 14, 2009

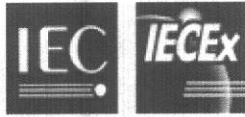
Date:

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 the Official IECEx Website.

Certificate issued by:

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





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Manufacturer: **Mine Safety Appliances**
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
United States of America

Manufacturing location(s):

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 electrical apparatus 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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-1 : 2003 Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2005-03 Edition: 3	Electrical apparatus for explosive gas atmospheres Part 15: Construction, test and Marking of Type of Protection "n" electrical apparatus
IEC 61779-1 : 1998 Edition: 1	Electrical apparatus for the detection and measurement of flammable gases - Part 1: General requirements and test methods
IEC 61779-4 : 1998 Edition: 1	Electrical apparatus for the detection and measurement of flammable gases - Part 4: Performance requirements for group II apparatus indicating up to 100% lower explosive limit

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

TEST & ASSESSMENT REPORTS:

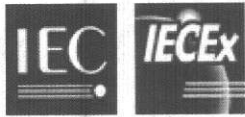
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

US/FMG/ExTR07.0004/00
US/FMG/ExTR07.0011/00
US/FMG/ExTR08.0007/00
US/FMG/ExTR08.0009/00
US/FMG/ExTR08.0009/01
US/FMG/ExTR08.0009/02

Quality Assessment Report:

CA/CSA/QAR06.0001/01



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

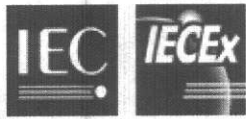
Controllers: Ultima XL, Ultima XE Main

Sensors: Ultima XE Sensor, Ultima XI Sensor, Ultima XIR Sensor

Accessories: Ultima Calibrator, Ultima Controller, Ultima XE Sensor Weather/Wind/Sensor Guard P/N 10028904, Ultima XI and Ultima XIR Environmental Guard P/N 10041265, Ultima X Power Supply, HART Module

CONDITIONS OF CERTIFICATION: YES as shown below:

- 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 X Control Unit complies with IEC 61779-1 and IEC 61779-4 when connected to a Detector Head that also has been evaluated to IEC 61779-1 and IEC 61779-4.*
- 3) *The Ultima XE Sensor, Ultima XI Sensor, and Ultima XIR Sensor complies with IEC 61779-1 and IEC 61779-4 when connected to a Control Unit that also has been evaluated to IEC 61779-1 and IEC 61779-4.*
- 4) *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.*
- 5) *The Ultima XE Sensor and the Ultima XIR Sensor shall be connected directly to an Ultima X Series Control Unit or remote junction box.*



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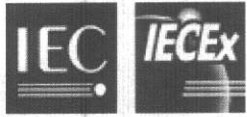
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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Changes have been made to yhr firmware of teh Ultima X series without HART only. Subroutine 6 on the mainline loop was modified to disable the TIC interrupts after 2 hours. Modified drift subroutine to prevent possible rollover of the count. This sets the maximum drift count to its limit plus 1.



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Additional information:

Annex: IECEx FMG 07.0006X provides marking information.

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



ANNEX to IECEx FMG 07.0006X Issue No. 4

Marking

Ultima XL with XP Port:

Ex d [ib] IIC T6 Ta = -40 °C to +60 °C IP66
Ex nA [ib] IIC T6 Ta = -40 °C to +60 °C IP66
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Ultima XL without XP Port:

Ex d IIC T6 Ta = -40 °C to +60 °C IP66
Ex nA IIC T6 Ta = -40 °C to +60 °C IP66
IECEX FMG 07.0006X

Ultima XE Main with XP Port:

Ex d [ib] IIC T4 Ta = -40 °C to +60 °C IP66
IECEX FMG 07.0006X

Ultima XE Main without XP Port:

Ex d IIC T4 Ta = -40 °C to +60 °C IP66
IECEX FMG 07.0006X

Ultima XE Sensor:

Ex d IIC T4 Ta = -40 °C to +60 °C IP66
IECEX FMG 07.0006X

Ultima XI Sensor:

Ex d IIC T5 Ta = -40 °C to +60 °C IP66
IECEX FMG 07.0006X

Ultima XIR Sensor:

Ex d IIC T5 Ta = -40 °C to +60 °C IP66
IECEX FMG 07.0006X

HART Module:

Ex d IIC T5 Ta = -40 °C to +60 °C IP66
IECEX FMG 07.0006X

Ultima X Power Supply:

Ex d IIC T4 Ta = -40 °C to +60 °C IP66
IECEX FMG 07.0006X

Ultima Calibrator

Ex ia IIC T3
IECEX FMG 07.0006X

Ultima Controller:

Ex ia IIC T3
IECEX FMG 07.0006X