

**Australian/New Zealand
Certification Scheme for
EXPLOSION-PROTECTED ELECTRICAL EQUIPMENT**
ANZEx Scheme

Certificate of Conformity

Certificate No.: **ANZEx 05.3045X**

Issue No.: **0**

Date of Issue: **2005-12-20**

Issue No.: **8**

Date of Issue: **2017-06-15**

Applicant:

Mine Safety Appliances LLC
1000 Cranberry Woods Drive
Cranberry Township PA 16066
United States of America

Electrical Apparatus:

Altair Portable Single Gas Detector

Type of Protection:

Ex ia

Marking Code:

Ex ia IIC T4 (Ta = -40 °C to 50 °C)

Manufacturer:

Mine Safety Appliances LLC
1000 Cranberry Woods Drive
Cranberry Township PA 16066
United States of America

Manufacturing Location(s):

As above

The EPEE certification database located at <http://www.anzex.com.au> shows the validity of this Certificate.

This certificate and schedule shall not be reproduced except in full



Certificate issued by:

TestSafe Australia
919 Londonderry Road, Londonderry NSW 2753
Australia
Phone: +61 2 4724 4900 Fax: +61 2 4724 4999

<http://www.testsafe.com.au>



www.jas-anz.org/register

**Australian/New Zealand
Certification Scheme for
EXPLOSION-PROTECTED ELECTRICAL EQUIPMENT
ANZEx Scheme**

Certificate of Conformity

Certificate No.: **ANZEx 05.3045X**

Issue No.: **0**

Date of Issue: **2005-12-20**

Issue No.: **8**

Date of Issue: **2017-06-15**

This certificate is granted subject to the conditions as set out in Standards Australia/Standards New Zealand Miscellaneous Publication MP87.1:2008.

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: 2011 Electrical apparatus for explosive gas atmospheres Part 0: General requirements

IEC 60079-11:2011 Electrical apparatus for explosive gas atmospheres Part 11: Intrinsic safety 'i'

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

ASSESSMENT & TEST REPORTS:

The equipment listed has successfully met the assessment and test requirements as recorded in:

Test Report No. and Issuing Body: **35940, TestSafe Australia**

Quality Assessment Report No. and Issuing Body: **FR/INE/QAR08.0011/06, Ineris**

File Reference: **2017/005791**



Debbie Wouters

Signed for and on behalf of issuing body

15 June 2017

Date of Issue

Acting Quality & Certification Manager

Position

**This certificate is not transferable and remains the property of the issuing body
and must be returned in the event of it being revoked or not renewed.**

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Certificate No.: **ANZEx 05.3045X**

Issue No.: **0**

Date of Issue: **2005-12-20**

Issue No.: **8**

Date of Issue: **2017-06-15**

Schedule

EQUIPMENT:

The “Altair” portable single gas detector is initially available in three gas models e.g. O₂, CO and H₂S. The O₂ model is called “Altair O₂”. The gas sensing cells are of the electro-chemical type. The instrument is powered by a non-replaceable lithium cell. The LCD display panel on the front displays the months of battery life remaining or the alarm range when in alarm mode. A push button allows users to select the information viewed on the LCD display. Audible and visual alarm indicators are located on the front of the apparatus, and an imbalanced motor produces an optional vibration alert when in alarm mode.

Altair Single Gas Detector Operation Manual 10068081 Rev.4 was provided.

CONDITIONS OF CERTIFICATION:

It is a condition of safe use that the lithium batteries of XENO XL-055F, Saft LST 17330 and EEMB ER 17335 shall be used in the apparatus.

DOCUMENTS:

Drawing/Document No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	1 of 7	SK3098_Altair Approval Critical Items (<i>Labels</i>)	Orig.	2005-12-15
SK3098-1013	2 of 7	SK3098_Altair Approval Critical Items (<i>Assembly</i>)	Orig.	2005-12-15
SK3098-1013	3 of 7	SK3098_Altair Approval Critical Items (<i>Schematic</i>)	Orig.	2005-12-15
SK3098-1013	4 of 7	SK3098_Altair Approval Critical Items (<i>Parts List</i>)	Orig.	2005-12-15
SK3098-1013	5 of 7	SK3098_Altair Approval Critical Items (<i>Artworks</i>)	Orig.	2005-12-15
SK3098-1013	6 of 7	SK3098_Altair Approval Critical Items (<i>Blank page</i>)	Orig.	2005-12-15
SK3098-1013	7 of 7	SK3098_Altair Approval Critical Items (<i>Approval List</i>)	Orig.	2005-12-15

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Certification Scheme for
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ANZEx Scheme**

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Certificate No.: **ANZEx 05.3045X**

Issue No.: **0**

Date of Issue: **2005-12-20**

Issue No.: **8**

Date of Issue: **2017-06-15**

Schedule of Variations

Variations Permitted by Issue 1:

- Changes H₂S sensor part numbers.

These changes to the sensor part numbers do not affect the previous assessment in Test Report 27040. No further assessment is required.

Condition of Certification Relating to Issue 1:

The conditions remain as specified for Issue 0 of this certificate.

Drawings Relating to Issue 1:

Drawing/Document No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	7	Approval Critical Items, TestSafe I.S. (ANZEx/IECEx), Altair	1	2007-05-08
Altair.Parts.Details.051 222a119.wFooter.doc	3 of 5	Parts Details, Altair	-	-

Variations Permitted by Issue 2:

- Adding an alternate case overmould material RTP 2099E X 118617 B (Black) to the apparatus.

This change has been assessed in Test Report 30309.

Condition of Certification Relating to Issue 2:

The conditions remain as specified for Issue 0 of this certificate.

Drawings Relating to Issue 2:

Drawing/Document No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	6 of 8	Special Component Requirements	2	2008-05-06

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**Australian/New Zealand
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Certificate No.: ANZEx 05.3045X

Issue No.: 0

Date of Issue: 2005-12-20

Issue No.: 8

Date of Issue: 2017-06-15

Variations Permitted by Issue 3:

- The minimum ambient temperature changed from -20 °C to -40 °C.
- Removed sensor current parameter.
- Some text added/replaced for clarification.
- Added alternate static dissipative case overmould material RTP2099 EX 118617 B (various colours) to the apparatus.

These changes have been assessed in Test Report 31213.

Condition of Certification Relating to Issue 3:

The conditions remain as specified for Issue 0 of this certificate.

Drawings Relating to Issue 3:

Drawing/Document No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	8	Altair_TestSafe (ANZEx / IECEx)	3	2008-12-02

Variations Permitted by Issue 4:

- Only the revision number was changed to indicate a solder mask change.

These changes have been assessed in Test Report 33116.

- The QAR Issuer was changed from CSA to Ineris.

Condition of Certification Relating to Issue 4:

The conditions remain as specified for Issue 0 of this certificate.

Drawings Relating to Issue 4:

Drawing/Document No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	8	Altair_TestSafe (ANZEx / IECEx)	4	2011-03-09

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Issue No.: 0

Date of Issue: 2005-12-20

Issue No.: 8

Date of Issue: 2017-06-15

Variations Permitted by Issue 5:

1. The IR Transceiver (component designator U2) Sharp GP2W0110YP0F is being replaced by a similar device Vishay TFBS4650.
2. Associated capacitor C8 decreased in nominal capacitance from 1.0 μ F to 0.1 μ F.
3. Protective resistor R3 previously 39.2 Ω nominal, $\pm 1\%$ tolerance, 0.5 W rating, has changed to 100 Ω nominal, $\pm 1\%$ tolerance, 0.5 W rating.

These changes have been assessed in Test Report 33797.

Condition of Certification Relating to Issue 5:

The conditions remain as specified for Issue 0 of this certificate.

Drawings Relating to Issue 5:

Drawing/Document No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	26	Altair / Altair O2 TestSafe	5	2012-05-18

Variations Permitted by Issue 6:

Revised Altair PCB P/N 10066407 and Altair O₂ PCB P/N 10068318.

The changes have been assessed in Test Report 34979.

Condition of Certification Relating to Issue 6:

The conditions remain as specified for Issue 0 of this certificate.

Drawings Relating to Issue 6:

Drawing/Document No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	27	Altair / Altair O ₂ , TestSafe	6	2014-09-24

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**Australian/New Zealand
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Certificate No.: **ANZEx 05.3045X**

Issue No.: **0**

Date of Issue: **2005-12-20**

Issue No.: **8**

Date of Issue: **2017-06-15**

Variations Permitted by Issue 7:

Update standards to IEC 60079-0:2011 and IEC 60079-11:2011.

The company name was changed to Mine Safety Appliances LLC.

The changes have been assessed in Test Report 35695.

Condition of Certification Relating to Issue 7:

The conditions remain as specified for Issue 0 of this certificate.

Drawings Relating to Issue 7:

Drawing/Document No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	27	Altair / Altair O2, TestSafe	7	2016-08-09

Variations Permitted by Issue 8:

Some changes on the PCB artworks.

The changes have been assessed in Test Report 35940.

Condition of Certification Relating to Issue 8:

The conditions remain as specified for Issue 0 of this certificate.

Drawings Relating to Issue 8:

Drawing/Document No.:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	27	Altair / Altair O2, TestSafe	8	2017-05-15



Physical-Technical Testing Institute
Ostrava - Radvanice



(1) Supplementary EU - Type Examination Certificate No.10

**(2) Equipment or Protective Systems Intended for Use
in Potentially Explosive Atmospheres
(Directive 2014/34/EU)**

(3) EU - Type Examination Certificate number:

FTZÚ 05 ATEX 0250X

(4) Product: Altair Portable Single Gas Detector

(5) Manufacturer: MSA – The Safety Company

(6) Address: 1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, USA

(7) This supplementary certificate extends EC - Type Examination Certificate No. FTZÚ 05 ATEX 0250 to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute, Notified Body number 1026, in accordance with Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

(9) In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20.04.2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20.04.2016.

(10) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018, EN 60079-11:2012

If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

(11) The marking of the product shall include the following:

Ex II 2G Ex ia IIC T4 Gb

(12) This certificate is valid till:

31.01.2026

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



This certificate is granted subject to the general conditions of the FTZÚ, s.p.
This certificate may only be reproduced in its entirety and without any change, schedule included.

Physical-Technical Testing Institute, s.p., Pikartská 1337/7, 716 07 Ostrava - Radvanice, Czech Republic
tel.: +420 595 223 111, +420 604 203 525, e-mail: ftzu@ftzu.cz, www.ftzu.cz



Physical-Technical Testing Institute
Ostrava - Radvanice

(13)

Schedule

(14) **Supplementary EU - Type Examination Certificate No. 10
to FTZÚ 05 ATEX 0250X**

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Evaluation according to the newest standard: EN IEC 60079-0:2018;
- Prolongation of certificate validity;
- Update of approval documentation.

The product has been evaluated according to the newest edition standard as described in clause (10) of this certificate. The list of modified documents is in the point (19) of this document. The validity of the certificate has been prolonged for next five years. The product parameters remain unchanged.

(16) Report Number: 05/0250/10

(17) Specific Conditions of Use:

None additional to those listed previously.

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (10) of this supplementary certificate.

(19) Drawings and Documents:

Number:	Revision:	Sheets:	Date:	Title:
SK3098-1011	8	27	13.01.2021	Drawings

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 22.01.2021

Page: 2/2

This certificate is granted subject to the general conditions of the FTZÚ, s.p.
This certificate may only be reproduced in its entirety and without any change, schedule included.

Physical-Technical Testing Institute, s.p., Pikartská 1337/7, 716 07 Ostrava - Radvanice, Czech Republic
tel.: +420 595 223 111, +420 604 203 525, e-mail: ftzu@ftzu.cz, www.ftzu.cz

EU Declaration of Conformity



The manufacturer or his authorized representative established in the community

MSA Europe GmbH

Schlüsselstr.12 , CH - 8645 Rapperswil-Jona

Declare under its sole responsibility that the product(s):

ALTAIR

Is in conformity with the following relevant directives, regulations and harmonized standards

Directive or Regulation

Harmonized standards (Prefix Number: Edition or Date)

ATEX: 2014/34/EU

EN IEC 60079-0: 2018, EN60079-11: 2012

EMC: 2014/30/EU

EN50270: 2015 Type 2, EN 61000-6-3 : 2007 +A1 :2011

Battery: 2006/66/EG

RoHS II: 2011/65/EU

EN 50581: 2013

Additional Information

ATEX: 2014/34/EU

Based on the EC-Type Examination Certificate: **FTZU 05 ATEX 0250 X** the product complies with the ATEX directive, Annex III. Quality Assurance Notification complying with Annex IV of the ATEX Directive has been issued by **INERIS of France**., Notified Body number: **0080**

Rapperswil-Jona, CH, 02.03.2021

Jose Manuel Sanchez
Executive Director of Operations - International
MSA Safety

EN



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 TSA 05.0056X

Issue No: 8

Certificate history:

Issue No. 8 (2017-06-16)

Status: **Current**

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Issue No. 7 (2016-09-22)

Date of Issue: 2017-06-16

Issue No. 6 (2014-11-11)

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

Issue No. 5 (2012-08-03)

Equipment: **Altair Portable Single Gas Detector**

Issue No. 4 (2011-08-09)

Optional accessory:

Issue No. 3 (2009-04-16)

Type of Protection: **Intrinsic safety "ia"**

Issue No. 2 (2008-07-08)

Marking:
Ex ia IIC T4 (-40 °C < Ta < +50 °C)
IECEx TSA 05.0056X
Serial No: _____

Issue No. 1 (2007-06-15)

Approved for issue on behalf of the IECEx

Debbie Wouters

Certification Body:

Position:

Acting Quality & Certification Manager

Signature:
(for printed version)


16 JUNE 2017

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:

TestSafe Australia
919 Londonderry Road
Londonderry NSW 2753
Australia





IECEx Certificate of Conformity

Certificate No: IECEx TSA 05.0056X Issue No: 8

Date of Issue: 2017-06-16 Page 2 of 5

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

Additional 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 : 2011 Explosive atmospheres - Part 0: General requirements

Edition:6.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

Edition:6.0

*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:

AU/TSA/ExTR16.0020/00 AU/TSA/ExTR16.0020/01

Quality Assessment Report:

FR/INE/QAR08.0011/06



IECEx Certificate of Conformity

Certificate No: IECEx TSA 05.0056X

Issue No: 8

Date of Issue: 2017-06-16

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The "Altair" portable single gas detector is initially available in three gas models e.g. O₂, CO and H₂S. The O₂ model is called "Altair O₂". The gas sensing cells are of the electro-chemical type. The instrument is powered by a non-replaceable lithium cell. The LCD display panel on the front displays the months of battery life remaining or the alarm range when in alarm mode. A push button allows users to select the information viewed on the LCD display. Audible and visual alarm indicators are located on the front of the apparatus, and an imbalanced motor produces an optional vibration alert when in alarm mode.

Altair Single Gas Detector Operation Manual 10068081 Rev.4 was provided.

SPECIFIC CONDITIONS OF USE: YES as shown below:

It is a condition of safe use that the lithium batteries of XENO XL-055F, Saft LST 17330 and EEMB ER 17335 shall be used in the apparatus.



IECEx Certificate of Conformity

Certificate No: IECEx TSA 05.0056X

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

Variations Permitted by Issue 8:

Some changes on the PCB artworks.



IECEx Certificate of Conformity

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Additional Information:

Drawing list pertaining to Issue 8 of this Certificate:

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	27	Altair / Altair O2, TestSafe	8	2017-05-15



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/21-8004X	Issue	2		
Issue Date	11 November 2024	Expiry Date	11 November 2027		
** Based on Certificate No	IECEx TSA 05.0056X	Issue / Variations / Amendment	8		
Requested by	MSA - The Safety Company 1000 Cranberry Woods Drive Cranberry Township, PA 16066 United States of America				
Manufacturer	Mine Safety Appliances Company, LLC 1000 Cranberry Woods Drive Cranberry Township PA 16066 United States of America				
Description	The "Altair" portable single gas detector is initially available in three gas models e.g. O2, CO and H2S. The O2 model is called "Altair O2". The gas sensing cells are of the electro-chemical type. The instrument is powered by a non-replaceable lithium cell. The LCD display panel on the front displays the months of battery life remaining or the alarm range when in alarm mode. A push button allows users to select the information viewed on the LCD display. Audible and visual alarm indicators are located on the front of the apparatus, and an imbalanced motor produces an optional vibration alert when in alarm mode. Altair Single Gas Detector Operation Manual 10068081 Rev.4 was provided.				
Equipment	Altair Portable Single Gas Detector				
MARKING: Original marking as per certificate ** remains applicable. IA number must be added.	Type: Ex Marking:	Altair Portable Single Gas Detector Ex ia IIC T4 (-40 °C < Ta < +50 °C)			
	IA Number: Warnings:	MASC S/21-8004X (To be additionally marked on equipment) See Base Certificate ** (original marking must be applied)			
Quality Assurance report (QAR) / Notification (QAN):	FR/INE/QAR08.0011/14				
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: 2012 Equipment - General requirementsSANS (IEC) 60079-11: 2012 Equipment protection by intrinsic safety "i"				
	<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>				
Specific conditions of 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.				
S. JORDAAN TECHNICAL SPECIALIST		N. VILOJEN TECHNICAL OFFICER			
<p>This certificate covers all units sold as long as the QAR/QAN remains valid.</p> <p>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).</p>					

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).

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IA CERTIFICATE: MASC S/21-8004X
Equipment: Altair Portable Single Gas Detector
(Expiry date: 11 November 2027)

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ANNEX A

<p>This document is based on and must be read in conjunction with certificate IECEx TSA 05.0056X.</p>	
Description (According to Base Certificate) **	
<p>"Refer to description in Base Certificate ** (and any applicable schedules/issues/variations)."</p>	
Supplementary	Issue 1: Supplemented for review as per NCoP 2398. Issue 2: Supplemented for review as per NCoP 2398.
Standard compliance	See Base Certificate **
Specific conditions of use ("X")	<ul style="list-style-type: none"> It is a condition of safe use that the lithium batteries of XENO XL-055F, Saft LST 17330 and EEMB ER 17335 shall be used in the apparatus.
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: 2018 / NCoP 2398: 2022 (as applicable) 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 0108:2018 / NCoP 2398: 2022 (as applicable), 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.

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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

Directors: Roelof Viljoen & Francois du Toit

Unit #5, Lelyta Park, 45 Jurg Avenue, Hennopspark Ext 87, Centurion, 0157

P.O. Box 14344, Clubview, 0014

Tel: 012 653 2959 ◊ Fax: 086 605 8568

e-mail: info@masc-ex.co.za



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 TSA 05.0056X**

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Certificate history:

Issue 7 (2016-09-22)
Issue 6 (2014-11-11)
Issue 5 (2012-08-03)
Issue 4 (2011-08-09)
Issue 3 (2009-04-16)
Issue 2 (2008-07-08)
Issue 1 (2007-06-15)
Issue 0 (2005-12-22)

Status: **Current**

Issue No: 8

Date of Issue: 2017-06-16

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

Equipment: **Altair Portable Single Gas Detector**

Optional accessory:

Type of Protection: **Intrinsic safety "ia"**

Marking: Ex ia IIC T4 (-40 °C < Ta < +50 °C)
IECEx TSA 05.0056X
Serial No: _____

Approved for issue on behalf of the IECEx
Certification Body:

Debbie Wouters

Position:

Acting Quality & Certification Manager

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:

TestSafe Australia
919 Londonderry Road
Londonderry NSW 2753
Australia





IECEx Certificate of Conformity

Certificate No.: **IECEx TSA 05.0056X**

Page 2 of 5

Date of issue: 2017-06-16

Issue No: 8

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

Manufacturing
locations:

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 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

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:

[AU/TSA/ExTR16.0020/00](#) [AU/TSA/ExTR16.0020/01](#)

Quality Assessment Report:

[FR/INE/QAR08.0011/06](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx TSA 05.0056X**

Page 3 of 5

Date of issue: 2017-06-16

Issue No: 8

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The "Altair" portable single gas detector is initially available in three gas models e.g. O₂, CO and H₂S. The O₂ model is called "Altair O₂". The gas sensing cells are of the electro-chemical type. The instrument is powered by a non-replaceable lithium cell. The LCD display panel on the front displays the months of battery life remaining or the alarm range when in alarm mode. A push button allows users to select the information viewed on the LCD display. Audible and visual alarm indicators are located on the front of the apparatus, and an imbalanced motor produces an optional vibration alert when in alarm mode.

Altair Single Gas Detector Operation Manual 10068081 Rev.4 was provided.

SPECIFIC CONDITIONS OF USE: YES as shown below:

It is a condition of safe use that the lithium batteries of XENO XL-055F, Saft LST 17330 and EEMB ER 17335 shall be used in the apparatus.



IECEx Certificate of Conformity

Certificate No.: **IECEx TSA 05.0056X**

Page 4 of 5

Date of issue: 2017-06-16

Issue No: 8

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Variations Permitted by Issue 8:

Some changes on the PCB artworks.



IECEx Certificate of Conformity

Certificate No.: **IECEx TSA 05.0056X**

Page 5 of 5

Date of issue: 2017-06-16

Issue No: 8

Additional information:

Drawing list pertaining to Issue 8 of this Certificate:

Drawing/Document Number:	Page/s:	Title:	Revision Level:	Date: (yyyy-mm-dd)
SK3098-1013	27	Altair / Altair O2, TestSafe	8	2017-05-15

UK Declaration of Conformity



Manufacturer

MSA - The Safety Company **1000 Cranberry Woods Drive, Cranberry Township, PA 16066, USA**

Authorised representative established in the community:

MSA Britain Ltd. **Unit 2, Waller Road • Hopton Park, Devizes • Wiltshire, SN10 2JP UK**

The manufacturer declares under its sole responsibility that the product(s)

ALTAIR

corresponds to the provisions of the following relevant directives, regulations and designated standards

Directive or Regulation	Designated standards (Prefix Number: Edition or Date)
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UKEEx: S.I. 2016:1107	EN IEC 60079-0:2018 EN 60079-11:2012
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EMC: S.I. 2016:1091	EN 50270:2015 Type 2, EN 61000-6-3: 2007 + A1: 2011
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BAT: 2006/66/EG	
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RoHS II: 2012:2032	EN 50581:2013
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Additional Information

UKEEx: S.I. 2016:1107 (as amended by UKSI 2019:696)

Based on the UK-Type Examination Certificate: **ExVeritas 22UKEX1261X** the product complies with the regulation, Schedule 1. Quality Assurance Notification complying with Part 5 of this regulation has been issued by **Eurofins-CML**, Approved Body number: **2503**

Berlin, DE, 01.02.2023

Elmar Schommer
Regional Manager, EMEA, Product Compliance

EN

1 **UNITED KINGDOM CONFORMITY ASSESSMENT**
2 **UK TYPE EXAMINATION CERTIFICATE**

2 **Product Intended for use in Potentially Explosive Atmospheres**
UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1

3 Type Examination Certificate Number: **ExVeritas 22UKEX1261X** Issue: **0**

4 Product: Altair Portable Single Gas Detector

5 Manufacturer: MSA – The Safety Company

6 Address: 1000 Cranberry Woods Drive,
Cranberry Twp,
PA 16066, USA

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 ExVeritas Limited Approved Body number 2585, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

9 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0: 2018

EN 60079-11:2012

Except in respect of those requirements listed at section 16 of the schedule to this certificate.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the equipment shall include the following:

 II 2 G Ex ia IIC T4 Gb T_{amb} –20°C/40°C to +50°C



No. 8613

This certificate may only be reproduced in its entirety and without any change, schedule included.

The status of this certificate can be verified at www.exveritas.com

For help or assistance relating to this certificate, contact info@exveritas.com.

ExVeritas, Units 16-18, Abenbury Way, Wrexham Industrial Estate, Wrexham, United Kingdom LL13 9UZ.

ExVeritas® is a registered trademark, unauthorised use will lead to prosecution.

On behalf of ExVeritas



S Clarke CEng MSc FIET
Managing Director

Schedule

13 Description of Product

The "Altair" portable single gas detector is initially available in three gas models e.g. O₂, CO and H₂S. The gas sensing cells are of the electro-chemical type. The instrument is powered by a non-replaceable lithium cell. The LCD display panel on the front displays the months of battery life remaining or the alarm range when in alarm mode. A push button allows users to select the information viewed on the LCD display. Audible and visual alarm indicators are located on the front of the apparatus and an imbalanced motor produces an optional vibration alert when in alarm mode. All electronic components are mounted on one printed circuit board and housed in an antistatic plastic enclosure.

14 Descriptive Documents

14.1 Associated Report and Certificate History:

Report Number	Cert Issue Date	Issue	Comment
R3961/A/1	2022-11-10	0	Initial issue of the Prime Certificate

14.2 Compliance Drawings:

Title:	Drawing No.:	Rev. Level:	Date:
ALTAIR/ALTAIR O2 FTZU (Sheets 1 to 27)	SK3098-1011	9	7-7-2022

15 Specific Conditions of Use

15.1 Special Conditions for Safe Use

- The equipment shall only be opened in a non-hazardous area.
- Use only the cell type Saft LS 17330 in the equipment.
- The equipment enclosure includes accessible metal parts. The end user shall determine suitability in the specific application. The measured capacitance of the equipment on the item back clip is 40pF.
- The performance tests of the equipment are not a subject of this certification.

15.2 Routine tests

- None

16 Essential Health and Safety Requirements (Regulations Schedule 1)

Essential Health and Safety Requirements are addressed by the standards listed in section 9 and where required the report listed in section 14.1

The manufacturer shall inform ExVeritas of any modifications to the design of the product described by this schedule.

Certificate: **ExVeritas 22UKEX1261X**

Issue 0

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ExVeritas, Units 16-18, Abenbury Way, Wrexham Industrial Estate, Wrexham, United Kingdom LL13 9UZ.

ExVeritas® is a registered trademark, unauthorised use will lead to prosecution.



Certificate of Compliance

Certificate:

1719689

Master Contract:

167534

Project:

80234535

Date Issued:

2025-06-26

Issued to:

MSA - The Safety Company
1000 Cranberry Woods Dr
Cranberry Township,
Pennsylvania 16066-5296
United States

Issued by:

Neeteel Ujoodha
Neeteel Ujoodha

Attention: Craig Gestler

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



PRODUCTS

Class 4828 02 SIGNAL APPLIANCES - Toxic Gas Detection Instruments - For Hazardous Locations

Class 4828 82 SIGNAL APPLIANCES - Toxic Gas Detection Instruments - For Hazardous Locations - Certified to US Standards

PRODUCTS

CLASS 4828 02 - SIGNAL APPLIANCES - Toxic Gas Detection Instruments - For Hazardous Locations

Ex ia IIC T4 Ga

Class I, Div.1, Groups A, B, C and D; Class II, Div.1, Group G:

Toxic gas detector, Model Altair and Altair O₂, portable, battery operated, intrinsically safe when used with one 3.6 V Lithium battery cell, Part No. XL-055F, manufactured by XENO, Part No. LST17330, manufactured by SAFT or Part No. ER17335, manufactured by EEMB.



Certificate: 1719689

Project: 80234535

Master Contract: 167534

Date Issued: 2025-06-26

Tamb. -40 Deg. C to +50 Deg. C. Temperature Code T4.

Toxic gas detector, Model Altair Pro, Altair Pro O₂ and Altair Pro-R O₂, portable, battery operated, intrinsically safe when used with one 3.2 V Photo Lithium battery cell, Manufactured by Varta CR2 6206 or Varta (power one) CR2, CR15H270, 6206 or Panasonic CR-2PA/1B or Energizer CR2 EL1CR2BP. Tamb. -40 Deg. C to +50 Deg. C. Temperature Code T4.

CLASS 4828 82 - SIGNAL APPLIANCES - Toxic Gas Detection Instruments - For Hazardous Locations. Certified to U.S. Standards.

Class 1, Zone 0, AEx ia IIC T4 Ga

Class I, Div.1, Groups A, B, C and D; Class II, Div.1, Group G:

Toxic gas detector, Model Altair and Altair O₂, portable, battery operated, intrinsically safe when used with one 3.6 V Lithium battery cell, Part No. XL-055F, manufactured by XENO, Part No. LST17330, manufactured by SAFT or Part No. ER17335, manufactured by EEMB. Tamb. -40 Deg. C to +50 Deg. C. Temperature Code T4.

Toxic gas detector, Model Altair Pro, Altair Pro O₂ and Altair Pro-R O₂, portable, battery operated, intrinsically safe when used with one 3.2 V Photo Lithium battery cell, Manufactured by Varta CR2 6206 or Varta (power one) CR2, CR15H270, 6206 or Panasonic CR-2PA/1B or Energizer CR2 EL1CR2BP. Tamb. -40 Deg. C to +50 Deg C. Temperature Code T4.

"Conditions of Use"

1. The equipment shall only be opened in a non-hazardous area.
2. The lithium batteries of Panasonic CR-2PA/1 B, Energizer CR2 EL 1 CR2BP, Varta CR2 6206 and Varta (Power One) CR2 CR15H270, 6206 can be used in the apparatus.
3. The maximum length of the remote sensor connecting cable in the "Altair Pro-R 0 2" does not exceed 3.3 metres (10 feet).
4. The performance tests of the equipment are not a subject of this supplement.

APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 N0. 0-M91 - General Requirements - Canadian Electrical Code, Part II

CSA C22.2 No. 60079-0:19 - Explosive atmospheres — Part 0: Equipment -General requirements

CAN/CSA-C22.2 No. 60079-11:14 (R2023) - Explosive atmospheres — Part 11: Equipment protection by intrinsic safety "i"

ANSI/UL 60079-0 (Seventh Edition) - UL Standard for Explosive Atmospheres - Part 0: Equipment - General Requirements

ANSI/UL 60079-11:2013 - Sixth Edition - Including revisions through January 25, 2023 - UL Standard for Safety Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety "i"

UL 913:2006 - Seventh Edition - UL Standard for Safety Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division I, Hazardous (Classified) Locations

Markings

MARKINGS



Certificate: 1719689

Master Contract: 167534

Project: 80234535

Date Issued: 2025-06-26

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Nameplate adhesive label material approval information:

The following markings are provided on a UL Recognized to Canadian requirements (PGJ18) and UL Recognized (PGJ12) adhesive nameplate, used with the printer and ribbon specified in the Listing, and is suitable for indoor and outdoor use on clear polycarbonate at a maximum service temperature of 50°C or higher. Nameplate is affixed to the unit exterior. The following markings are etched onto the nameplate plate:

- Manufacturer's name, "MSA", or CSA Master Contract Number "167534" adjacent to the CSA Mark in lieu of Manufacturer's name
- Model number: as specified in the PRODUCTS section above
- Electrical ratings: as specified in the PRODUCTS section above (may be abbreviated)
- Manufacturing date in MMYY format, or serial number, traceable to month of manufacture
- Enclosure ratings: As specified in the PRODUCTS section above
- The CSA Mark with or without the "C" and/ or "US" indicators
- Hazardous Location designation: as specified in the PRODUCTS section above (may be abbreviated)
- Temperature Code: as specified in the PRODUCTS section above (optional marking)
- Ambient temperature as per PRODUCTS section above
- The following words:
 - "Exia"
 - "Intrinsically Safe"
 - "WARNING: Substitution of components may impair intrinsic safety."
- French warning is in the operating manual (10074734/05)

Note - Jurisdictions in Canada may require these markings to also be provided in French language. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the manufacturer to determine this requirement and have bilingual wording added to the "Markings".



Certificate: 1719689

Project: 80234535

Master Contract: 167534

Date Issued: 2025-06-26





Certificate: 1719689

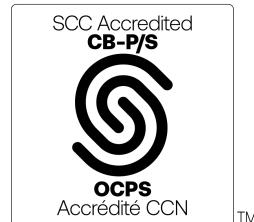
Project: 80234535

Master Contract: 167534

Date Issued: 2025-06-26

Notes:

Products certified under Class(es) C482802, C482882 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Supplement to Certificate of Compliance

Certificate: 1719689

Master Contract: 167534

*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

Product Certification History

Project	Date	Description
80234535	2025-06-26	Update to cCSAus Report 1719689 due to the Hazardous Locations Products Notice No. 23 for standard CAN/CSA-C22.2 No.157-92 requiring upgrade to CAN/CSA-C22.2 No.60079-11:14
80156176	2023-04-06	Update markings section to include verbiage on accepted label materials in Report 1719689
70160082	2017-11-09	Update report 1719689 to include "AEx ia" marking on the label.
70118832	2017-02-16	Update to report 1719689 to cover changes In Altair and Altair O2 models based on minor PCB and drawing changes.
70008937	2014-11-06	Update to report 2416827 to cover analysis of the new board layout, added capacitance and documentation.
2538173	2012-06-27	Update to report 1719689 to cover revised construction of models "Altair" per ACR490459 and "Altair Pro" per ACR490462.
2416827	2011-04-21	Update of report to include revised drawings per ACR 490277.
2118696	2009-01-06	Update to change overmould material RTP 2099 EX 118617 B (blk/blk) to RTP 2099 EX 118617 B in any color per ACR# 483278 and 483279. Revised construction per ACR# 483157.
2054905	2008-07-03	Update Report to include revised temperture range -40C to +50C per ACR 483227.
2040129	2008-05-26	Update to include 1 alternate thermoplastic elastomer case overmold material per ACR 483212, H2S sensor p/n change per ACR 483099a and descriptive clarification changes.
1871840	2007-02-27	Addition of new model Altair Pro-R O2 and Group G per ACR#483053.



Certificate: 1719689

Master Contract: 167534

Project: 80234535

Date Issued: 2025-06-26

1792224 2006-06-26 Addition of Model Altair Pro and Altair Pro O2

1719689 2006-01-05 Original Certification