Registration No MDR 0001541 GD
Reference CERT0010185

NOTICE OF REGISTRATION OF PLANT DESIGN (PLANT USED TO DETERMINE OR MONITOR THE PRESENCE OF GAS)

You are notified that the design of the item of plant (used to determine or monitor the presence of gas) detailed below has been registered in accordance with Part 5.3 of the *Work Health and Safety Regulation 2017* and subsection 187(1) of the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2022.*

The conditions of registration in the attached Schedule have been imposed. You must comply with the conditions of registration in accordance with section 45 of the *Work Health and Safety Act 2011.*

Name of the registration holder:	MSA (Aust) Pty Limited ABN 97 000 389 837, ACN 000 389 837
Address of registration holder:	11 Columbia Way BAULKHAM HILLS NSW 2513
Plant design registration number:	MDR 0001541 GD
Date the registration was granted:	19 August 2019
Date the amendment was granted:	24 Novemer 2024
Type of plant design:	Plant used to determine or monitor presence of gas, used in underground coal mines
Description of plant:	Portable Hand-Held Multi-Gas Detector
Make number (if applicable):	MSA
Model number (if applicable):	ALTAIR 4XR
Drawing number:	Title: ALTAIR 4XR, CSA Drawing Number: SK3098-1360 Revision Number: Rev 6
Standards specified for the purpose of this design registration	*Registration of Design of Plant Used to Determine or Monitor the Presence of Gas Order 2015* published in NSW Government Gazette No 52 of 26 June 2015, pages 1852 to 1855

For any enquiries, please phone Mining Authorisations Team on 1300 814 609 or email mca@regional.nsw.gov.au.

Anthony Margetts
Chief Inspector of Mines
Resources Regulator
Signed under delegation from the Secretary, Department of Primary Industries and Regional Development

24 November 2024

DESIGN REGISTRATION HISTORY

Registration	Date	Comment
MDR 0001541 GD	19 August 2024	Original issue
MDR 0001541 GD	24 November 2024	Amendment to a representational drawing SK3098-1360 (Rev 0 to Rev 6)

SCHEDULE – Conditions of registration

1. Detailed description

The MSA ALTAIR 4XR is a handheld battery-operated multi-gas detector that can measure between 1 and 4 gases using a combination of the following MSA XCell Sensors: one catalytic-bead combustible cell, one oxygen electrochemical cell and one dual toxic electrochemical cell.

GAS DETECTED	RANGE	SENSOR TYPE	PART NUMBER
Methane	0-5%	Catalytic	10121212
Oxygen	0-25%	Electrochemical	10106729
Carbon Monoxide	0-2000ppm	Electrochemical	10106725
Hydrogen Sulphide	0-200ppm		

The performance testing undertaken on the above gases was completed by the Mine Safety Technology Centre with the test results recorded in Instrument Evaluation Report: T18-00144 (12/06/2019). This performance testing was undertaken with software version Rev 2.27.

2. Documents to be provided

The following documents must be provided to each person to whom the design and/or plant used to determine or monitor the presence of gas is supplied.

DOCUMENT No.	ISSUE	DATE	TITLE
IECEx SIR 16.0096	7	23/11/23	ALTAIR 4XR Multi-Gas Detector IECEx Certificate of Conformity
10175896 EN	10	n/a	ALTAIR 4XR Multi-Gas Detector Operating Manual
10175895 EN	11	n/a	Addendum A: Standards Compliance Certifications for Altair 4XR

3. Conditions on the registration holder

3.1 There must be no alternation in the materials, design or construction of the plant used to determine or monitor the presence of gas from those detailed in this *Notice of Registration of Plant Design (Plant used to Determine or Monitor the Presence of Gas)* and as detailed in the *Mine Safety Technology Centre Instrument Evaluation Report: T18-00144 (12/06/19)*.

3.2 The following information must be indelibly marked in a prominent position on the plant used to determine or monitor the presence of gas:

a) design registration number MDR 0001541 GD and

b) name of the registration holder.

3.3 The registration holder must ensure that each item of plant used to determine or monitor the presence of gas which it manufactures is checked, at the time of manufacture, to ensure it conforms to this *Notice of Registration of Plant Design (Plant used to Determine or Monitor the Presence of Gas)*.

4. Conditions on 'Limitations on the Use of this Design'

4.1 In satisfying your duties under Division 3 of Part 2 of the Work Health and Safety Act 2011, you must include 'Limitations on the Use of this Design' (see 4.2 below). This information must be given to all people who you provide the design to (including any manufacturer, importer, supplier and any user of the plant used to determine or monitor the presence of gas).

4.2 The 'Limitations on the use of this Design', must include the information below as a minimum:

a) Prior to being used, each plant used to determine or monitor the presence of gas must be tested for accuracy and calibrated by a test facility in Australia that is accredited by the National Association of Testing Authorities (NATA).

b) A copy of a current NATA endorsed calibration certificate must be supplied with the plant if it is to be used in an underground coal mine.

c) The plant used to determine or monitor the presence of gas must be maintained in accordance with Australian Standard *AS/NZS 2290.3:2018 Electrical equipment for coal mines – Introduction, inspection and maintenance – Gas detecting and monitoring equipment*, as amended from time to time.

d) Any repair that may affect the instrument's explosion protection properties must be carried out by the manufacturer or at a recognised service facility licensed for that purpose under Part 10 of the *Work Health and Safety (Mines & Petroleum Sites) Regulation 2022*.

5. Conditions on the registration holder

5.1 The registration holder must inform the Regulator if the plant used to determine or monitor the presence of gas is found to not comply with the *Notice of Registration of Plant Design (Plant used to Determine or Monitor the Presence of Gas)* or if any safety related defects occur.

ANZEx

Australian/New Zealand Certification Scheme
for Explosion Protected Equipment

Certificate of Conformity

Ex EQUIPMENT

Certificate No.: **ANZEx 20.3008**	*Current Issue:* 1	*Date of Issue:* 2024-04-04

Applicant: **MSA Innovation, LLC**
1000 Cranberry Woods Drive
Cranberry Township PA 16066
USA

Equipment: Altair 4XR Multi-gas Detector

Type of Explosion Protection: Flameproof “da”, Intrinsic safety “ia”

Explosion Protection Marking:

With XCell Ex Sensor
Ex da ia IIC T3 Ga
Ex ia I Ma
Ta = -40°C to +60°C

Without XCell Ex Sensor
Ex ia IIC T3 Ga
Ex ia I Ma
Ta = -40°C to +60°C

This certificate is granted subject to the requirements as set out in
Joint Accreditation System of Australia and New Zealand Publications
ANZEx System Rules 2020 & ANZEx Certified Equipment Scheme Rules 2021

Signed for and on behalf of issuing body .....

Name & Position 04 April 2024

This certificate is not transferable and remains the property of the issuing body.
The status of this certificate can be confirmed through the database located at www.anzex.com.au

Certificate issued by:

TestSafe Australia
919 Londonderry Road, Londonderry NSW 2753 Australia

Certificate of Conformity
Ex EQUIPMENT

Certificate No.: **ANZEx 20.3008**	*Current Issue:* 1	*Date of Issue:* 2024-04-04

Manufacturer : **MSA – The Safety Company**
1000 Cranberry Woods Drive
Cranberry Township PA 16066
USA

Additional Manufacturing Location(s): None.

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 Ed 7	Explosive atmospheres Part 0: Equipment—General requirements
IEC 60079-1:2014 Ed 7	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11:2011 Ed 6	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26:2014 Ed 3	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga

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

Certificate of Conformity
Ex EQUIPMENT

Certificate No.: **ANZEx 20.3008**	*Current Issue:* 1	*Date of Issue:* 2024-04-04

Schedule

Equipment Description:

The MSA ALTAIR® 4XR is a handheld, battery operated, Multi-gas Detector with Bluetooth capabilities (optional) that can measure between 1 and 4 gases using a combination of the following MSA XCell® Sensors: one catalytic-bead combustible cell, one oxygen electrochemical cell and one dual toxic electrochemical cell. The enclosure is rectangular in shape, includes an LCD display window, and is manufactured from a non-metallic material with an overmold. There is an external connection that is only used for charging the battery and shall only be connected when located in a non-hazardous location.

Powered by a rechargeable Lithium Ion Polymer Battery Cell, Sony model US503759A8H, rated 3.8 V (nominal), 1400 mAh (nominal). MSA assembly number 10083913, or rechargeable Lithium Ion Polymer Battery Cell, Inventus Model IP583548, rated 3.8 V (nominal), 1435mAh (nominal), MSA assembly number 10242458.

Performance temperature range: -20°C to +60°C as specified in Altair 4XR Addendum A manual 10175895.

Electrical Ratings/Parameters

None.

Specific Conditions of Use:

None.

Conditions of Certification:

Conditions of manufacture:

The Manufacturer shall comply with the following:

The ALTAIR 4XR incorporates previously certified sensors. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with this device. The manufacturer shall inform TestSafe Australia of any modifications to the device that may impinge upon the explosion safety design of the ALTAIR 4XR.

Additional Information:

None.

Certificate of Conformity
Ex EQUIPMENT

Certificate No.: **ANZEx 20.3008**	*Current Issue:* 1	*Date of Issue:* 2024-04-04

Register of Issues and Variations
includes the current issue

Issue 0 dated 2020-08-20

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: GB/SIR/ExTR16.0248/00, GB/SIR/ExTR16.0329/00, GB/SIR/ExTR19.0123/00, GB/SIR/ExTR20.0090/00; SIRA Certification

QAR No. & Issuing CB: FR/INE/QAR08.0011/10; INERIS

File Reference: 2020/005924

Standards relevant for this issue:

IEC 60079-0:2011 Ed 6	Explosive atmospheres Part 0: Equipment—General requirements
IEC 60079-1:2014 Ed 7	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11:2011 Ed 6	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26:2014 Ed 3	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga

Manufacturer's Documents/Drawings associated with this issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
SK3098-1360	21	Altair 4XR CSA	3	2020-04-08
SK3025-1113	2	Artwork, Label, IEC, Approvals, Altair 4XR	5	2020-07-30

Issue 1 (current issue):

Variations Permitted by this Issue

1. New Li-Ion battery pack,
2. Change in temperature class from T4 to T3.
3. Change in label to show T3.
4. Minor change to PCB to accommodate selecting a different charging voltage.
5. Update approval standard from IEC 60079-0:2011 to IEC 60079-0:2017.

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: GB/SIR/ExTR23.0176/00; CSA Group

QAR No. & Issuing CB: FR/INE/QAR08.0011/14; INERIS

File Reference: 2023/017461

Manufacturer's Documents/Drawings associated with this issue:

Document Number	Page(s)	Document Title	Revision	Date
SK3098-1360	27	*Altair 4XR CSA	6	2023-08-15
SK3025-1113	2	*Artwork, Label, IEC, Approvals, Altair 4XR	7	2024-03-07

Note: An "*" is added before the title of documents that are new or revised.

中华人民共和国

计量器具型式批准证书

梅思安（中国）安全设备有限公司：

根据中华人民共和国计量法第十三条和中华人民共和国计量法实施细则有关规定，对你单位申请型式批准的计量器具新产品经审查合格，现予批准，并可使用以下标志和编号：

CPA
2018CE0071-32

批准人：

经批准的计量器具新产品（名称、型号）：

1、便携式多种气体检测仪(可燃气体部分)
规格型号:ALTAIR 4XR
测量范围:可燃气体:(0～100)%LEL
示值误差:±5%FS
2、便携式多种气体检测仪(有毒有害气体部分)
规格型号:ALTAIR 4XR
测量范围:一氧化碳:(0～1999)μmol/mol
示值误差:±5μmol/mol或±10%，满足其一即可；
测量范围:硫化氢:(0～200)μmol/mol
示值误差:±5%FS
测量范围:硫化氢:(0～100)μmol/mol
示值误差:±5μmol/mol
测量范围:二氧化硫::(0～20)μmol/mol
示值误差:±5%FS
--以下空白--

发证日期：二〇一九年四月二日

发证机关（盖章）：江苏省市场监督管理局

No: 0000083

1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 16ATEX2292** Issue: **9**

4 Equipment: **ALTAIR 4XR Multi Gas Detector**

5 Applicant: **MSA – The Safety Company**

6 Address: 1000 Cranberry Woods Dr.
Cranberry Township, PA 16066-5296 USA

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-11:2012 EN 60079-29-1:2016*
EN 50271 :2018 * Applies to Group II only

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

With XCell Ex Sensor

II 1G
Ex da ia IIC T3 Ga
EN 60079-29-1
Ta = -40°C to +60°C

I M1
Ex ia I Ma
Ta = -40°C to +60°C

Without XCell Ex Sensor

II 1G
Ex ia IIC T3 Ga
Ta = -40°C to +60°C

I M1
Ex ia I Ma
Ta = -40°C to +60°C

Signed: Michelle Halliwell

Title: Director of Operations

PRODUCTS RvA C 652

Project Number 80171533

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 16ATEX2292**
Issue 9

13 **DESCRIPTION OF EQUIPMENT**

The MSA ALTAIR® 4XR is a handheld battery operated Multi-gas Detector with Bluetooth capabilities (optional) that can measure between 1 and 4 gases using a combination of the following MSA XCell® Sensors: one catalytic-bead combustible cell, one oxygen electrochemical cell and one dual toxic electrochemical cell. The enclosure is rectangular in shape, includes an LCD display window, and is manufactured from a non-metallic material with an overmold. There is an external connection that is only used for charging the battery and shall only be connected when located in a non-hazardous location.

Powered by a rechargeable Lithium Ion Polymer Battery Cell, Sony model US503759A8H, rated 3.8 V (nominal), 1400 mAh (nominal). MSA assembly number 10083913**,** or rechargeable Lithium Ion Polymer Battery Cell, Inventus Model IP583548, rated 3.8 V (nominal), 1435mAh (nominal), MSA assembly number 10242458.

Performance tested for 0-100% LFL methane, 0-100% LFL propane and other gas(es): 0-100% LFL n-Pentane. Altair 4XR firmware version 2.30 (English) or version 4.23 (French) and XCell Ex sensor firmware version 2.0. Performance temperature range: -20°C to +60°C as specified in Altair 4XR Addendum A manual 10175895.

The ALTAIR 4XR Multi Gas Detector complies with EN 50271 (clause 4.8, safety integrity assessment excluded from the assessment)

Variation 1 - This variation introduced the following change:

i. Issued to recognise a new label drawing.

Variation 2 - This variation introduced the following change:

i. It was recognised that the products conform to the performance testing requirements of EN 60079-29-1:2016, consequently:
   - The introduction of Standard EN 60079-29-1:2016 to the list of Assessment Standards.
   - The introduction of performance marking "EN 60079-29-1" on the label.
   - The introduction of a new label drawing

Variation 3 - This variation introduced the following changes:

i. Sira 16ATEX2291 and Sira 16ATEX2292 have been merged into Sira 16ATEX2292. The ATEX certificate Sira 16ATEX2291 will be suspended.
ii. The detector was allowed to be used for mining applications; as a consequence, the following marking was recognised:

With XCell Ex Sensor

I 1M
Ex ia I Ma
Ta = -40°C to +60°C

Without XCell Ex Sensor

I 1M
Ex ia I Ma
Ta = -40°C to +60°C

Variation 4 - This variation introduced the following changes:

i. The existing Methane (0-100% LFL) version using the XCell Ex sensor (catalytic bead sensor) performance temperature range was extended to include +60°C maximum ambient. The new performance temperature range: -20°C to +60°C and additional instructions were included in revised Marking and Instructions Approval Drawing; SK3098-1413.
ii. Introduction of new Propane (0-100% LFL) and n-Pentane (0-100% LFL) versions with performance temperature range: -20°C to +60°C.
iii. The Product Description section was amended to call out all versions; Methane, Propane and n-Pentane; and confirmation of their performance temperature range: -20°C to +60°C.
iv. "EN 60079-29-1" was removed from the marking for the Without XCell Ex Sensor version; as the "EN 60079-29-1" is only associated with the XCell Ex Sensor (for Group II only) version.
v. The Product Description section was corrected "The ALTAIR 4XR Multi Gas Detector complies with EN 50271 (clause 4.8, safety integrity assessment excluded from the assessment)".

Variation 5 - This variation introduced the following changes:

i. Recognises a correction to the marking; from "I 1M" to "I M1.".

Variation 6 - This variation introduced the following changes:

i. Recognise an update to the firmware (R 2.27) within the Altair 4XR; the firmware change confirmed as having no effect on the gas measuring functions or safety aspects of the instrument.
ii. Introduction of a new resin material for the calibration cap, RTP 2599 X 133889, to replace the obsolete resin material RTP 2599 X 97420D.
iii. Introduction of an alternate sensor filter material, Cobetter PFOY-T1DT, to replace the obsolete filter material Versapor 1200R Hydrophobic.
iv. Recognise an update to the firmware (R 2.28) within the Altair 4XR; the firmware change confirmed as having no effect on the gas measuring functions or safety aspects of the instrument; product description has been updated accordingly.
v. Update of performance standard EN 60079-29-1:2016 to EN 60079-29-1:2007, due to typographical error at Issue 2.

Variation 7 - This variation introduced the following changes:

i. Following appropriate assessment for the existing product, standard EN 60079-0:2012/A11:2013 was replaced by EN IEC 60079-0:2018.
ii. Following appropriate assessment for the existing product, standard EN 60079-29-1:2007 was replaced by EN 60079-29-1:2016.
iii. Introduction of a new non-Bluetooth option (both non-safety critical components U16 and U18 would not be populated on the PCB).
iv. Introduction of creating an option to populate the PCB with either the VQFN package or the UQFN package for the non-safety critical components U17 and U19 (U17 and U19 are the same part made by the same manufacturer).
v. Introduction of a new alternate PCB (P/N 10225260) to support the new alternate UQFN package for components U17 and U19 (as described above).
vi. The Product Description was revised to call out the Bluetooth as optional; as per the introduced Non-Bluetooth option.

vii. Scheduled drawing was revised to include the introduction of making non-Bluetooth an option and the introduction of an alternate PCB with UQFN package: Altair 4XR CSA schedule drawing.
viii. Update of Addendum A to Altair 4X Operating Manual to include updated standards (EN IEC 60079-0:2018 and EN 60079-29-1:2016).

Variation 8 - This variation introduced the following changes:

i. Incorporate FS evaluation of firmware updates per CSA projects 80142606 and 80171531.
ii. Assess alternate construction of Altair 4XR to include:
  a. New Li-Ion battery pack.
  b. Minor change to PCB to accommodate selecting a different charging voltage.
iii. Update markings to reflect a new Temperature Code.
iv. Updated schedule drawing and instructions with updated information.
v. Document Gas Performance Testing necessary for the above alterations.
vi. Add EN 50271:2018 to approval standards.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	25 October 2016	R70071650A	The release of the prime certificate.
1	23 December 2016	R70071668A	The introduction of Variation 1.
2	06 October 2017	R70112838A	The introduction of Variation 2
3	21 March 2018	R70163962A	The introduction of Variation 3.
4	20 June 2018	R70178194A	The introduction of Variation 4.
5	15 April 2019	R80000779A	The introduction of Variation 5.
6	31 October 2019	0442	Transfer of certificate Sira 16ATEX2292 from Sira Certification Service to CSA Group Netherlands B.V.
7	11 June 2020	R80032666A	The introduction of Variation 6.
8	28 January 2022	R80096953A	The introduction of Variation 7.
9	21 November 2023	R80171534A	The introduction of Variation 8.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

None

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF MANUFACTURE

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Group Netherlands B.V. certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 The ALTAIR 4XR incorporates previously certified sensors. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with this device. The manufacturer shall inform Sira of any modifications to the device that may impinge upon the explosion safety design of the ALTAIR 4X.

Certificate Annexe

Certificate Number: **Sira 16ATEX2292**

Equipment: **ALTAIR 4XR Multi Gas Detector**

Applicant: **MSA – The Safety Company**

Issue 0

Drawing	Sheets	Rev.	Date (Sira Stamp)	Description
SK3098-1360	1 to 21	0	02 Sep 16	ALTAIR 4XR schedule drawing
SK3025-1109	1 to 2	0	04 Oct 16	ATEX Approvals Label, ALTAIR 4XR

Issue 1

Drawing no.	Sheets	Rev.	Date (Sira Stamp)	Description
SK3025-1109*	1 to 2	1	14 Dec 16	ATEX Approvals Label, ALTAIR 4XR

Issue 2

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
SK3098-1413*	1 to 4	0	21 Sep 17	ATEX Marking and Instructions Approval Drawing, ALTAIR 4XR Gas Detector

*Note Drawing SK3098-1413 replaces Drawing SK3025-1109

Issue 3

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
SK3098-1413	1 to 4	1	15 Mar 18	ATEX Marking and Instructions Approval Drawing, ALTAIR 4XR Gas Detector

Issue 4

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
SK3098-1413	1 to 5	2	4 June 18	Marking and Instructions Approval Drawing

Issue 5

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
SK3098-1413	1 to 5	2	07 Apr 19	Marking and Instructions Approval Drawing

Issue 6 – No new drawings were introduced.

Issue 7

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
SK3098-1360	1 to 21	3	09 June 2020	Altair 4XR CSA schedule drawing

Issue 8

Drawing	Sheets	Rev.	Date (Stamp)	Title
SK-3098-1360	1 to 27	04	10 Jan 22	Altair 4XR CSA schedule drawing
10175895	1 to 10	08	10 Jan 22	Addendum A to Altair 4X Operating Manual

Issue 9

Drawing	Sheets	Rev.	Date (Stamp)	Title
SK3098-1360	1 to 27	6	31 Oct 23	ALTAIR4XR CSA
10175895	1 to 10	10	06 Nov 23	Addendum A - Standards Compliance Certifications for Altair 4XR Operating Manual
SK3098-1413	1 to 5	4	31 Oct 23	ATEX Marking and Instructions Approval Drawing, ALTAIR 4XR Gas Detector
10175896	1 to 56	9	31 Oct 23	Operating Manual ALTAIR® 4XR Multigas Detector

EU Declaration of Conformity

Manufacturer

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

Authorised representative established in the community:

MSA Technologies and Enterprise Services GmbH	**Thiemannstr. 1, DE – 12059 Berlin**

This declaration of conformity is issued under the sole responsibility of the above stated manufacturer. The following product:

Altair 4XR

is in conformity with the provisions of the following relevant directives, regulations & harmonized standards

Directive or Regulation	**Harmonized standards (Prefix Number: Edition or Date)**
ATEX: 2014/34/EU	EN IEC 60079-0:2018, EN60079-1: 2014, EN 60079-11:2012, EN60079-29-1: 2016, EN 50271: 2018
EMC: 2014/30/EU	EN 50270:2015/AC2016, EN 61000-6-3:2011
LVD: 2014/35/EU	EN 61010-1:2010
BAT: 2006/66/EG	
RED: 2014/53/EU	EN 301 489-1 V1.9.2:2011 EN 301 489-3 V1.6.1:2013 EN 301 489-17 V2.2.1:2009
MED: 2014/90/EU amended by 2021/1158/EU	ISO 23269-2:2011 EN 1146:2005

Additional Information

ATEX: 2014/34/EU
Based on the EC-Type Examination Certificate **SIRA 16ATEX2292** issued by **CSA Group Netherlands B.V.** (Notified Body Number: **2813**), 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** (**0080**)

MED: 2014/90/EU amended by **2021/1158/EU**
EC-Type Examination Certificate (Module B): **213054-03** issued by **BG-Verkehr**, Notified Body number: **0736**, Subject to the procedure set out in Annex II 10. II. of the directive under the supervision (Module D) of the Notified Body **DNV 0575** (Certificate **MEDD00001EF**)

EN

Berlin, DE, 14.07.2025

By: Elmar Schommer
Regional Manager, EMEA, Product Compliance

제18-0162호

안 전 인 증 서

MSA THE SAFETY COMPANY

1000 Cranberry Woods Drive Cranberry, PA 16066 USA

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Multi Gas Detector

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
ALTAIR 4XR(without sensor)	Ex ia IIC T4 Ga	18-GA4BO-0162

인 증 기 준

방호장치 안전인증 고시(고용노동부고시 제2020-33호)

인 증 조 건

Tamb = -40℃ ≤ Ta ≤ +60℃
기타 사항은 뒷면 참조할 것.

2018 년 03 월 05 일

한국가스안전공사 사장

한국가스안전공사 사장의인

한국가스안전공사

인 증 조 건

1. 제조공장 :
" 1000 Cranberry Woods Dr. Cranberry Township, PA 16066-5296 United States of America"
(MSA-THE SAFETY COMPANY에서 생산하는 제품에 한함.)

2. 제품개요
The MSA ALRAIR 4XR is a handheld, battery operated, Multi-gas detector with Bluetooth capabilities that measure between 1 and 4 gases using combination of the MSA XCell sensor; one catalytic-bead combustible cell, one oxygen electrochemical cell and one dual toxic electrochemical cell. The enclosure is rectangular in shape, includes an LCD display window, and is manufactured from a non-metallic material with an overmold.

3. 인증범위 : 본 인증서는 아래의 형식번호에 한하여 유효함
본체 + rechargeable Lithium Ion Battery Cell, Sony model US503759A8H, rated 3.8V(norminal), 1400 mAh(norminal)

4. 안전한 사용을 위한 조건
- 본 기기는 Zone 0에 사용이 가능함.
- 본 기기는 충전을 위한 외부단자가 있으며, 충전은 반드시 비위험지역에서 하여야 함.
- 기타 사용자매뉴얼을 참조할 것.

5. 인증(변경)사항
- IECEx SIR 16.0096을 바탕으로 작성되었음.

6. 그 밖의 사항
- 안전인증품의품질관리.확인심사수검,변경사항신고등인증받은자의의무준수

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 MS/21-8007	**Issue**	2
Issue Date	11 November 2024	**Expiry Date**	11 November 2027
**** Based on Certificate No**	IECEx SIR 16.0096	**Issue / Variations / Amendment**	7
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, PA 16066-5296, United States of America		
Description	The MSA ALTAIR® 4XR is a handheld, battery operated, Multi-gas Detector with Bluetooth capabilities (optional) that can measure between 1 and 4 gases using a combination of the following MSA XCell® Sensors: one catalytic-bead combustible cell, one oxygen electrochemical cell and one dual toxic electrochemical cell. The enclosure is rectangular in shape, includes an LCD display window, and is manufactured from a non-metallic material with an overmold. There is an external connection that is only used for charging the battery and shall only be connected when located in a non-hazardous location. See **Base certificate for full description.		
Equipment	ALTAIR 4XR Multi Gas Detector		
MARKING: **Original marking as per certificate ** remains applicable.** **IA number must be added.**	**Type:** **Ex Marking:**	ALTAIR 4XR Multi Gas Detector <u>With XCell Ex Sensor</u> Ex da ia IIC T3 Ga IEC 60079-29-1 Ta = -40°C to +60°C Ex ia I Ma Ta = -40°C to +60°C <u>Without XCell Ex Sensor</u> Ex ia IIC T3 Ga Ta = -40°C to +60°C Ex ia I Ma Ta = -40°C to +60°C Note: IEC 60079-29-1 applies to Group II only.	
	IA Number: **Warnings:**	MASC MS/21-8007 (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:

- SANS (IEC) 60079-0: 2019 Equipment - General requirements
- SANS (IEC) 60079-1: 2015 Equipment protection by flameproof enclosures "d"
- SANS (IEC) 60079-11: 2012 Equipment protection by intrinsic safety "i"
- SANS (IEC) 60079-26: 2014 Equipment with Equipment Protection Level (EPL) Ga
- SANS (IEC) 60079-29-1: 2020 Gas detectors – Performance requirements of detectors for flammable gasses

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.

Specific conditions of use "X":

- Refer to Annex A below for more details.

Conditions of manufacture:

- Refer to Annex A below for more details.

S. JORDAAN
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).

Mining And Surface Certification (Pty) Ltd
Unit 5 Lelyta Park, 45 Jurg Avenue, Hennopspark, Ext 87
Centurion 0157

ANNEX A

This document is based on and must be read in conjunction with certificate IECEx SIR 16.0096.	
Description (According to Base Certificate) **	
"Refer to description in Base Certificate ** (and any applicable schedules/issues/variations)."	
Supplementary	Issue 1: Supplemented for review as per ARP 0108 & NCoP 2398. Issue 2: Supplemented for review as per ARP 0108 & NCoP 2398.
Standard compliance	See Base Certificate **
Specific conditions of use ("X")	• None.
Conditions of manufacture	• The ALTAIR 4XR incorporates previously certified sensors. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with this device. The manufacturer shall inform Sira of any modifications to the device that may impinge upon the explosion safety design of the ALTAIR 4XR.
Conditions of Certification	• 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:	• 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).

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 SIR 16.0096**

Issue No: 7

Certificate history:
Issue 6 (2022-01-28)
Issue 5 (2020-06-11)
Issue 4 (2019-04-26)
Issue 3 (2018-03-21)
Issue 2 (2017-05-23)
Issue 1 (2016-12-23)
Issue 0 (2016-10-25)

Status: **Current**

Date of Issue: 2023-11-21

Applicant: **MSA - The Safety Company**
1000 Cranberry Woods Dr
Cranberry Township, PA 16066-5296
United States of America

Equipment: **ALTAIR 4XR Multi Gas Detector**

Optional accessory:

Type of Protection: **Flameproof and Intrinsically Safe**

Marking: **With XCell Ex Sensor**
Ex da ia IIC T3 Ga
IEC 60079-29-1
Ta = -40°C to +60°C
Ex ia I Ma
Ta = -40°C to +60°C
Without XCell Ex Sensor
Ex ia IIC T3 Ga
Ta = -40°C to +60°C
Ex ia I Ma
Ta = -40°C to +60°C

Note: IEC 60079-29-1 applies to Group II only.

Approved for issue on behalf of the IECEx Certification Body: **Michelle Halliwell**

Position: **Director Operations, UK & Industrial Europe**

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:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom

IECEx Certificate of Conformity

Certificate No.: **IECEx SIR 16.0096**

Date of issue: 2023-11-21

Issue No: 7

Manufacturer: **MSA - The Safety Company**
1000 Cranberry Woods Dr
Cranberry Township, PA 16066-5296
United States of America

Manufacturing locations: **MSA - The Safety Company**
1000 Cranberry Woods Dr
Cranberry Township, PA 16066-5296
United States of America

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 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1:2014 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26:2014 Edition:3.0	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
IEC 60079-29-1:2020 Edition:2.1	Explosive atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases

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:

GB/CSAE/ExTR21.0191/00
GB/SIR/ExTR16.0248/00
GB/SIR/ExTR16.0329/00
GB/SIR/ExTR17.0073/00
GB/SIR/ExTR18.0050/00
GB/SIR/ExTR19.0123/00
GB/SIR/ExTR20.0090/00
GB/SIR/ExTR23.0176/00

Quality Assessment Report:

FR/INE/QAR08.0011/13

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The MSA ALTAIR® 4XR is a handheld, battery operated, Multi-gas Detector with Bluetooth capabilities (optional) that can measure between 1 and 4 gases using a combination of the following MSA XCell® Sensors: one catalytic-bead combustible cell, one oxygen electrochemical cell and one dual toxic electrochemical cell. The enclosure is rectangular in shape, includes an LCD display window, and is manufactured from a non-metallic material with an overmold. There is an external connection that is only used for charging the battery and shall only be connected when located in a non-hazardous location.

Powered by a rechargeable Lithium Ion Polymer Battery Cell, Sony model US503759A8H, rated 3.8 V (nominal), 1400 mAh (nominal). MSA assembly number 10083913**,** or rechargeable Lithium Ion Polymer Battery Cell, Inventus Model IP583548, rated 3.8 V (nominal), 1435mAh (nominal), MSA assembly number 10242458.

Performance tested for 0-100% LFL methane, 0-100% LFL propane and other gas(es): 0-100% LFL n- Pentane. Altair 4XR firmware version 2.30 (English) or version 4.23 (French) and XCell Ex sensor firmware version 2.0. Performance temperature range: -20°C to +60°C as specified in Altair 4XR Addendum A manual 10175895.

Conditions of manufacture
The Manufacturer shall comply with the following:

1. The ALTAIR 4XR incorporates previously certified sensors. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with this device. The manufacturer shall inform Sira of any modifications to the device that may impinge upon the explosion safety design of the ALTAIR 4XR.

SPECIFIC CONDITIONS OF USE: NO

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
This issue, Issue 7, recognises the following changes; refer to the certificate annex to view a comprehensive history:

1. Incorporate FS evaluation of firmware updates per CSA projects 80142606 and 80171531.
2. Assess alternate construction of Altair 4XR to include:
    1. New Li-Ion battery pack.
    2. Minor change to PCB to accommodate selecting a different charging voltage.
3. Update markings to reflect a new Temperature Code.
4. Updated schedule drawing and instructions with updated information.
5. Document Gas Performance Testing necessary for the above alterations.
6. Update approval standard from IEC 60079-29-1:2007 to IEC 60079-29-1:2016

Annex:

IECEx SIR 16.0096 Iss 7 Annexe.pdf

Annexe to: **IECEx SIR 16.0096 Issue 7**

Applicant: **MSA - THE SAFETY COMPANY**

Apparatus: **ALTAIR 4XR multi gas detector**

Full certificate change history

Issue 1 – this Issue introduced the following change:

1. Update the method of protection marking to reflect the change from "d" to "da" on the latest XCell Ex sensor certificates.

Issue 2 – this Issue introduced the following change:

1. It was recognised that these gas detectors have been subjected to the performance test requirements of IEC 60079-29-1:2007 Edition 1.

Issue 3 – this Issue introduced the following change:

1. The detector was allowed to be used for mining applications; as a consequence, the following marking was recognised:

With XCell Ex Sensor	**Without XCell Ex Sensor**
Ex ia I Ma	Ex ia I Ma
Ta = -40°C to +60°C	Ta = -40°C to +60°C

Issue 4 – this Issue introduced the following change:

1. Introduction of IEC 60079-26:2014 Edition 3, following the appropriate assessment to demonstrate compliance with the latest technical knowledge; IEC 60079-26:2014 Edition 3 was added to the list of standards.

2. Recognises a correction to the marking; to remove "da" from Without XCell Ex Sensor.

Issue 5 – this Issue introduced the following change:

1. Recognise an update to the firmware (R 2.27) within the Altair 4XR; the firmware change confirmed as having no effect on the gas measuring functions or safety aspects of the instrument.

2. Introduction of a new resin material for the calibration cap, RTP 2599 X 133889, to replace the obsolete resin material RTP 2599 X 97420D.

3. Introduction of an alternate sensor filter material, Cobetter PFOY-T1DT, to replace the obsolete filter material Versapor 1200R Hydrophobic.

4. Recognise an update to the firmware (R 2.28) within the Altair 4XR; the firmware change confirmed as having no effect on the gas measuring functions or safety aspects of the instrument.

5. Recognise a correction to the markings in Issue 4 of the Certificate due to a typographical error.

6. Equipment Description revised to recognizes: "Performance temperature range: -20°C to +60°C as specified in Altair 4XR Addendum A manual 10175895."

Issue 6 – this Issue introduced the following change:

1. Following appropriate assessment for the existing product, standard IEC 60079-0:2011 (Edition 6) was replaced by IEC 60079-0:2017 (Edition 7).

2. Introduction of a new non-Bluetooth option (both non-safety critical components U16 and U18 would not be populated on the PCB).

3. Introduction of creating an option to populate the PCB with either the VQFN package or the UQFN package for the non-safety critical components U17 and U19 (U17 and U19 are the same part made by the same manufacturer).

4. Introduction of a new alternate PCB (P/N 10225260) to support the new alternate UQFN package for components U17 and U19 (as described above).

5. The Product Description was revised to call out the Bluetooth as optional; as per the introduced Non-Bluetooth option.

6. Scheduled drawing was revised to include the introduction of making non-Bluetooth an option and the introduction of an alternate PCB with UQFN package: Altair 4XR CSA schedule drawing.

7. Update of Addendum A to Altair 4X Operating Manual to include updated standard IEC 60079-0:2017

Issue 7 – this Issue introduced the following change:

1. Incorporate FS evaluation of firmware updates per CSA projects 80142606 and 80171531.

2. Assess alternate construction of Altair 4XR to include:

a. New Li-Ion battery pack.

b. Minor change to PCB to accommodate selecting a different charging voltage.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

3. Update markings to reflect a new Temperature Code.
4. Updated schedule drawing and instructions with updated information.
5. Document Gas Performance Testing necessary for the above alterations.
6. Update approval standard from IEC 60079-29-1:2007 to IEC 60079-29-1:2016

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

UK Declaration of Conformity

Manufacturer

MSA Innovation LLC **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 4XR

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

Directive or Regulation	**Designated standards (Prefix Number: Edition or Date)**
UKEx: S.I. 2016:1107	EN IEC 60079-0:2018, EN 60079-1:2014, EN 60079-11: 2012, EN 60079-29-1: 2016, EN 50271 : 2018
EMC: S.I. 2016:1091	EN 50270: 2015 Type 2, EN 61000-6-3 : 2011
LVD: S.I. 2016:1101	EN 61010-1:2010
BAT: 2006/66/EG	
RED: S.I. 2017:1206	EN 301 489-1 V1.9.2:2011-09, EN 301 489-3 V1.6.1:2013-08, EN 301 489-17 V2.2.1:2012-09
RoHS II: 2012:2032	EN 50581:2013

Additional Information

UKEx: S.I. 2016:1107 (as amended by UKSI 2019:696)
Based on the UK-Type Examination Certificate: **CSAE 22UKEX1160** 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, 12.12.2022

UKCA

Elmar Schommer
Regional Manager, EMEA, Product Compliance

EN

Certificate of Compliance

Certificate:	70110604	**Master Contract:**	167534
Project:	80171532	**Date Issued:**	2023-11-09

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

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.

Issued by: William E. Miller

C US

PRODUCTS

CLASS - C482801 - SIGNAL APPLIANCES Combustible Gas Detection Instruments-For Hazardous Locations

CLASS - C482881 - SIGNAL APPLIANCES Combustible Gas Detection Instruments - For Hazardous Location - Certified to U.S. Standards

IS Class I, Division 1, Groups A, B, C, & D T3, Class II, Division 1 Groups E, F, & G, Class III;

Ex da ia IIC T3 Ga – With XCell Ex Sensor
Class I, Zone 0, AEx da ia IIC T3 Ga – With XCell Ex Sensor

(Non-Combustible option)
Ex ia IIC T3 Ga – Without XCell Ex Sensor
Class I, Zone 0, AEx ia IIC T3 Ga – Without XCell Ex Sensor

Certificate: 70110604
Project: 80171532

Master Contract: 167534
Date Issued: 2023-11-09

Combustible multi gas detector, model ALTAIR 4XR, portable, powered by a rechargeable Lithium Ion Polymer Battery Cell, Sony model US503759A8H, rated 3.8 V (nominal), 1400 mAh (nominal), MSA battery pack part number 10083913 or Lithium Ion Polymer Battery Cell, Inventus Model IP583548, rated 3.8 V (nominal), 1435mAh (nominal), MSA battery pack part number 10242458. Ambient temperature range -40°C ≤ Ta ≤ 60°C. For combustible gas detection performance the ambient temperature range is -20°C ≤ Ta ≤ 60°C. IP68 (2 m, 1 hour)

Note: The Altair 4XR has not been assessed by CSA Group for Oxygen / Toxic Gas performance.

APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 60079-0:19	Explosive atmospheres – Part 0: Equipment – General requirements
CAN/CSA-C22.2 No. 60079-1:16	Explosive atmospheres — Part 1: Equipment protection by flameproof enclosures “d”
CAN/CSA-C22.2 No. 60079-11:14 *(R2018)*	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”
CAN/CSA-C22.2 No. 60079-29-1:17	Explosive atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases
CAN/CSA-C22.2 No. 61010-1-12 *Third Edition*	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
ANSI/UL 60079-0-2020 *Seventh Edition*	Explosive atmospheres – Part 0: Equipment – General requirements
ANSI/UL 60079-1-2009 *Sixth Edition (April 10, 2009)*	Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures “d”
ANSI/UL 60079-11-2018 *Sixth Edition*	Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety “i”
ANSI/UL 60079-29-1-2019 *Second Edition*	Explosive atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases
ANSI/UL 913-2015 *Eighth Edition*	Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations
ANSI/UL 61010-1-2012 *Third Edition (May 11, 2012)*	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use — Part 1: General Requirements

MARKINGS

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 (PGJI8) and UL Recognized (PGJI2) 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.

- Manufacturer's name: "MSA - THE SAFETY COMPANY", trademark or CSA master contract number "167534" adjacent to the CSA Mark.
- The characters "CSA 17.70110604", designating the certification body, followed by the last two digits of the year of report issue, followed by a period, followed by the original report number.
- The CSA Mark, with or without the "C" and/or "US" indicators, as shown on the Certificate of Conformity.
- Hazardous Location designation and/or Method of Protection (Ex) markings: As specified in the PRODUCTS section above.
- Temperature code: As specified in the PRODUCTS section above.
- Model number: As specified in the PRODUCTS section above.
- Battery pack details: As specified in the PRODUCTS section above. Due to product size marking may be provided in the manual.
- Ambient temperature rating: As specified in the PRODUCTS section above.
- Enclosure rating: IP68 (2 m, 1 hour).
- Serial number X… & Date code, which is comprised of a letter for month, two digit year, E0=no extended warranty and E1=extended warranty
- The following or equivalent wording:
  - "Exia".
  - "INTRINSICALLY SAFE" and "SÉCURITÉ INTRINSÈQUE";
  - "60079-29-1" (only for the Class I, Zone 0, AEx/Ex da ia IIC T4 T3 Ga (Zone 0) – With XCell Ex Sensor configuration)
  - "WARNING: UNDERSTAND MANUAL BEFORE OPERATING" and "AVERTISSEMENT: LIRE ATTENTIVEMENT LES INSTRUCTIONS AVANT DE METTRE EN MARCHE."
- The following or equivalent warning markings (Due to product size marking may be provided in the manual):
  - "WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY" and "AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SÉCURITÉ INTRINSÈQUE"

- "WARNING: USE ONLY BATTERY PACK P/N 10083913" and "ATTENTION: UTILISEZ UNIQUEMENT BATTERIE P/N 10083913"
  - Alternative - "WARNING: USE ONLY BATTERY PACK P/N 10242458" and "ATTENTION: UTILISEZ UNIQUEMENT BATTERIE P/N 10242458"
- "WARNING: BATTERIES MUST ONLY BE CHANGED OR CHARGED IN AN AREA KNOWN TO BE NONHAZARDOUS." and "AVERTISSEMENT: NE CHANGER OU CHARGER LES BATTERIES QUE DANS DES EMPLACEMENTS DESIGNES NON DANGEREUX."
- "WARNING: UNDERSTAND MANUAL BEFORE OPERATING" and "AVERTISSEMENT: LIRE ATTENTIVEMENT LES INSTRUCTIONS AVANT DE METTRE EN MARCHE."
- "CAUTION — OFF-SCALE READINGS MAY INDICATE EXPLOSIVE CONCENTRATION." and "ATTENTION - LES LECTURES HORS ÉCHELLE PEUVENT INDIQUER UNE CONCENTRATION EXPLOSIVE."

Notes:

Products certified under Class C482801, C482881 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: 70110604 **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
80171532	2023-11-09	Update report 70110604 to include functional safety evaluation of the firmware to handle the LCD driver concern (FS project 80142606) and addition of soft features (FS Project 80171531), construction review of alternate battery tested under project 80160074, assess revision of PCB, performance testing required to support the above. (Unpowered Storage, Calibration curve, Alarm Set Points, Response Time, Battery capacity).
80156178	2023-04-06	Update markings section to include verbiage on accepted label materials in Report 70110604 (MSA ALTAIR 4XR).
80096951	2022-02-07	Update of report 70110604 of the MSA ALTAIR® 4XR to add an alternate PCB to support alternate footprints of U17 and U19. This project report also allows for the selective population of Bluetooth module (U18) and support microprocessor (U16) for both PCB options. CSA C22.2 No 157 was removed as one of the Applicable Requirements. CSA C22.2 No 152 was replaced with CSA C22.2 No. 60079-29-1:17. Report also updated to CSA C22.2 No 60079-0:19, ANSI/UL 60079-0-2020 Seventh Edition, ANSI/UL 60079-29-1-2019 Second Edition, and CSA C22.2 No.0:20. Descriptive Documents SK3098-1360 and 10175895 were changed. Gas performance temperature range increased to -20°C ≤ Ta ≤ +60°C.
80032665	2020-04-30	Update to Report 70110604 to include evaluation of a revised sensor filter material for the Altair 4XR, and (per 80033114) to include evaluation of the impact of the firmware change for the Altair 4XR.
80022729	2019-11-21	Update to Report 70110604 to include revised drawing.
80002959	2019-07-22	Update to report 70110604 to include French version of firmware.
70110604	2017-03-03	Original certification of the ALTAIR 4XR.