





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/23-8581	Issue	1
Issue Date	11 November 2024	Expiry Date	11 November 2027
** Based on Certificate No	IECEX UL 21.0030	Issue / Variations / Amendment	3
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 Model Altair io4 is a portable battery-operated gas detector designed to detect up to 4 gases; combustible, oxygen, and a variety of toxic gases. The device provides visual and audible alarms when predetermined levels are reached. The apparatus can communicate wirelessly. These other devices are not covered as part of this investigation. Please see Base certificate** Annex for additional information.		
Equipment	Multi-Gas Detector, Altair io4		
MARKING: Original marking as per certificate ** remains applicable. IA number must be added.	Type:	Multi-Gas Detector, Altair io4	
	Ex Marking:	Ex ia I Ma Ex da ia IIC T4 Ga -20°C ≤ Ta ≤ 55°C	
	IA Number:	MASC MS/23-8581 (To be additionally marked on equipment)	
	Warnings:	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: 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" <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	 C. van Brakel TECHNICAL OFFICER	
This certificate covers all units sold as long as the QAR/QAN remains valid. According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory).			

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

- SANS 10086 requirements;
- Any conditions mentioned in the above certificate;
- Any relevant requirements of the MHS Act;

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

This certificate may only be reproduced in full
The certificate is not transferable and remains the property of the issuing body.

IA CERTIFICATE: MASC MS/23-8581
Equipment: Multi-Gas Detector, Altair io4
(Expiry date: 11 November 2027)

ANNEX A

This document is based on and must be read in conjunction with certificate IECEx UL 21.0030.	
Description (According to Base Certificate) **	
"Refer to description in Base Certificate ** (and any applicable schedules/issues/variations)."	
Supplementary Standard compliance	• Issue 1: Supplemented for review as per ARP 0108 & NCoP 2398 See Base Certificate **
Special conditions of safe use ("X")	• None.
Conditions of manufacture	• 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.

This document may only be reproduced in full.
This certificate is not transferable and remains the property of the issuing body.
This document will not be supported by MASC for certification purposes outside the borders of South Africa.

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

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.: **IECEX UL 21.0030** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 3 [Issue 2 \(2023-01-24\)](#)
Date of Issue: 2023-10-20 [Issue 1 \(2022-05-16\)](#)
[Issue 0 \(2022-03-16\)](#)
Applicant: **MSA - The Safety Company**
1000 Cranberry Woods Dr
Cranberry Township, PA 16066-5296
United States of America
Equipment: **Multi-Gas Detector, Altair io4**
Optional accessory:
Type of Protection: **Flameproof "da", Intrinsic Safety "ia"**
Marking: Ex ia I Ma
Ex da ia IIC T4 Ga
-20°C ≤ Ta ≤ 55°C

Approved for issue on behalf of the IECEx
Certification Body:

Katy A. Holdredge

Position:

Senior Staff Engineer

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:

UL Solutions (US)
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America





IECEX Certificate of Conformity

Certificate No.: **IECEX UL 21.0030**

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Date of issue: 2023-10-20

Issue No: 3

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

Manufacturing locations: **MSA Safety Pittsburgh Manufacturing, LLC**
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
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](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

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

[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:

[US/UL/ExTR21.0030/00](#)
[US/UL/ExTR21.0030/03](#)

[US/UL/ExTR21.0030/01](#)

[US/UL/ExTR21.0030/02](#)

Quality Assessment Report:

[FR/INE/QAR08.0011/13](#)



IECEX Certificate of Conformity

Certificate No.: **IECEX UL 21.0030**

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Date of issue: 2023-10-20

Issue No: 3

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Model Altair io4 is a portable battery operated gas detector designed to detect up to 4 gases; combustible, oxygen, and a variety of toxic gases. The device provides visual and audible alarms when predetermined levels are reached. The apparatus can communicate wirelessly. These other devices are not covered as part of this investigation.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: NO



IECEX Certificate of Conformity

Certificate No.: **IECEX UL 21.0030**

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Date of issue: 2023-10-20

Issue No: 3

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1: Changes minimum ambient from -40°C to -20°C and alternate battery and alternate components were added.

Issue 2: Adding Group I certification.

Issue 3: Change of components due to circuit change. In addition, adding alternate components to the design.

Annex:

[Annex to IECEx UL 21.0030 Issue 3.pdf](#)



IECEX Certificate of Conformity

Annex to Certificate No.:

IECEX UL 21.0030

Issue No.: 3



Page 1 of 1

PARAMETERS RELATING TO THE SAFETY



Um of 5.25VDC



MARKING


Marking has to be readable and indelible; it has to include the following indications:


SN SSSSSSSSSSSSSSSSSSS
KEY KKKKKK
 MSAsafety.com

CCCCC
 INTRINSICALLY SAFE
 SÉCURITÉ INTRINSÈQUE,
 CL I, DIV. 1, GPS A-D
 Ex da ia IIC T4 Ga
 (Zone 0)
 CL I, Zn 0, AEx da ia
 IIC T4 Ga (Zone 0)
 -20°C ≤ Ta ≤ +55°C
 16066 USA | Product of U.S.

CLASSIFIED
 US
 E190105
 Li-Poly Battery



 UL 21 ATEX 2539
 UL21UKEX2141
 II 1G Ex da ia IIC T4 Ga
 IM1 Ex ia I Ma
 IECEX UL 21.0030
 Ex da ia IIC T4 Ga
 Ex ia I Ma
 -20°C ≤ Ta ≤ +55°C
 CHARGE VOLTAGE
 Um ≤ 5.25 V.D.C.

⚠ WARNING / AVERTISSEMENT
 Read and understand manual before use. Do not charge in a hazardous loca-
 tion. Misuse can result in ignition of flammable or ignitable atmospheres. Lisez
 et comprenez le mode d'emploi avant utilisation. Ne chargez pas dans
 une zone à risques. Une mauvaise utilisation risque de causer
 des atmosphères inflammables.