

Addendum A - Standards Compliance Certifications
ALTAIR io™ 6 Multigas Detector
Gas Detection Wearable



Order No.: 10253738/00

Print Spec: 10000005389 (EO)

CR: 800000073089

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1 Device Cleaning

NOTICE

Follow the recommendations and limitations shown below for device cleaning. Failure to follow these recommendations may result in damage to the sensors or device itself.

Cleaning of the device is recommended following environmental exposure, such as but not limited to, dirt, debris and/or liquids to help ensure optimal performance.

1.1 Routine Cleaning

Clean the exterior of the device regularly using only a damp cloth. Do not use cleaning agents, as many contain silicone or alcohol, which can damage the sensors.

1.2 Dust and Dirt Exposure

Use a dry, soft bristled brush to remove any dust or dirt that has accumulated on the device, especially at the pump inlet. If there is a buildup of dust or dirt particles remaining in the pump inlet after brushing, use a vacuum to remove remaining particles, but maintain at least a 1/2 inch (1.3 cm) distance from the gas detector.

1.3 Chemical Exposure

If the device is likely to come into contact with aggressive substances, for example acidic liquids or gases that may attack metals or solvents that may affect polymeric materials, then it is the responsibility of the user to take suitable precautions that prevent the device from being adversely affected thus ensuring that the type of protection is not compromised.

1.4 Water Exposure

If the device is exposed to water, turn the device sensor side down and gently shake water off the sensor area. Any remaining water can be removed with a clean dry cloth. In the event that the device is immersed in water, allow the sensor inlets time to dry before retesting and returning to service. Drying time is dependent upon humidity conditions and the duration of immersion.

2 Notices

WARNING!

Repair or alteration of the device beyond the procedures described in the user guide or by anyone other than a person authorized by MSA, could cause the unit to fail to perform properly.

Use only genuine MSA replacement parts and battery when performing any maintenance procedures described in the user guide. Substitution of components can seriously impair performance of the unit, alter intrinsic safety characteristics or void agency approvals.

Failure to follow this warning can result in serious personal injury or death.

Approvals subject to change without notice and may differ based on configuration, part number and/or country. Contact Customer Service or check the approval label on the product for specific approval information.

2.1 Bluetooth Special Interest Group (SIG) Statement

The design is listed as “Industrial Portable Gas Monitoring Equipment”, Declaration ID D064674.

<https://qualification.bluetooth.com/ListingDetails/186876>

2.2 Conditions for Safe Usage

Combustible Gas Sensor Overrange: When the combustible gas sensors reading reaches its maximum range, to protect the sensor the device enters a locked alarm state, the sensor shuts down and user-interface displays overrange in the combustible sensor tile. This state can be reset by turning the device off and on in a fresh-air environment. If the device is in overrange state, move the device to a fresh air environment until readings have stabilized and then perform a zeroing of the sensors.

The RF radiation power used to activate the RFID tag antenna shall not exceed 6 Watts for EPL Group I applications or 2 Watts for EPL Group IIC applications.

Performance of gas detection and assurance of any safety functions are not covered by this certification. Suitability for use in the final application shall be determined by the local authority having jurisdiction.

(North America) This equipment may only be charged by a power supply unit with a limited energy electric circuit in accordance with CAN/CSA C22.2 No. 61010-1-12 and ANSI/UL 61010-1, or Class 2 as defined in the Canadian Electrical Code C22.1, Section 16-200 and/or National Electrical Code (NFPA 70), article 725.121.

2.3 Radio Information

2.3.1 US Federal Communications Commission (FCC) notice

United States Federal Communications Commission ID

FCC ID: P9R-MSAAL Tio6

- Contains FCC ID: XPYUBX19KM01
- Contains FCC ID: XPYANNAB1

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) The device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

EMC

Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF exposure safety

This device complies with the FCC RF exposure limits and has been evaluated in compliance with portable/mobile exposure conditions with minimum distance of 6.92mm of the human body.

2.3.2 Innovation, Science, Economic Development Canada notice

ISED Canada (formerly known as IC – Industry Canada) Certification Number:

IC: 324C-MSAAL Tio6

Contains IC: 8595A-UBX19KM01

Contains IC: 8595A-ANNAB1

This device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) The device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et,
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF exposure safety

This device complies with the ISED RF exposure limits and has been evaluated in compliance with portable exposure conditions with minimum distance of 6.92mm of the human body

CAN ICES-003

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité peuvent annuler le droit de l'utilisateur à utiliser l'équipement.

Sécurité d'exposition aux RF

Cet appareil est conforme aux limites d'exposition RF d'ISED et a été évalué conformément aux conditions d'exposition portable à une distance minimale de 6.92 mm du corps humain

CAN NMB-003

Cet appareil numérique de classe B est conforme à la norme canadienne NMB-003.

2.3.3 European Conformance CE mark

This device has been evaluated against the essential requirements of the Radio Equipment Directive 2014/53/EU (RED). In order to satisfy the essential requirements of the RED, the device is compliant with the following standards:

Electromagnetic Compatibility (Article 3.1b):

- EN 301 489-1
- EN 301 489-3
- EN 301 489-17
- EN 301 489-19
- EN 301 489-52

Radio Spectrum Efficiency (Article 3.2):

- EN 300 328
- EN 300 330
- EN 303 413
- EN 301 908-1
- EN 301 908-13

2 Notices

Protection against network harm and service degradation (Article 3.3 d):

- EN 18031-1

Health and Safety (Article 3.1a) :

- IEC EN 61010-1
- EN 62311

Radiofrequency radiation exposure Information:

- This device complies with radiation exposure limits and has been evaluated in compliance with portable exposure conditions with minimum distance of 6.92mm of the human body.

Radio	Power	Frequency Range
Bluetooth	≤ 4 dBm	2.400 GHz - 2.4835 GHz
RFID	≤ 17.4 dBm	13.56 MHz
Cellular-NA	≤23dBm	FDD Band 12 (700MHz): 699-716 MHz
	≤23dBm	FDD Band 13 (750MHz): 777-787 MHz
	≤23dBm	FDD Band 26 (850MHz): 814-849 MHz
	≤23dBm	FDD Band 5 (850MHz): 824-829 MHz
	≤23dBm	FDD Band 4 (1700MHz): 1710-1755 MHz
	≤23dBm	FDD Band 2 (1900MHz): 1850-1910 MHz
Cellular - EU/UK	≤ 23 dBm	FDD band 28 (700 MHz):703-748 MHz
	≤ 23 dBm	FDD band 20 (800 MHz):832-862 MHz
	≤ 23 dBm	FDD band 8 (900 MHz):880-915 MHz
	≤ 23 dBm	FDD band 3 (1800 MHz):1710-1785 MHz

To access the FCC and ISED on the ALTAIR io 6:

1. Navigate to the Menu.
2. Select the Device Info option.
3. Select Regulatory and Legal Info.

Radio approval supporting documentation can be found on the MSA website under the ALTAIR io 6 product page's technical information.

2.4 Ingress Protection (IP)

IP ratings do not imply that the equipment will detect gas during and after exposure to those conditions.

Follow the recommendations as described in the ALTAIR io 6 User Guide (P/N 10253498) to determine appropriate calibration interval and maintenance requirements if exposed to conditions representative of the IP Rating.

The IP rating is IP65. Testing was independently performed.

2.5 Environmental Limits

This device is suitable for both indoor and outdoor use, including wet locations, within the following parameters.

Temperature range for hazardous locations approvals: -20C to +50C

Temperature range for combustible gas performance: -20C to +50C

Humidity Range: 20 to 90% RH, non-condensing

Atmospheric Pressure Range: 80kPa to 120kPa

Maximum Altitude: 2000m

Air Velocity Range: 0 to 6 m/sec

Pollution Degree 2

2.6 Warm-Up Time

Combustible: Less than 90 seconds

Toxic gases: Less than 90 seconds

Oxygen: Less than 90 seconds

NOTE: Oxygen sensor warm-up time after replacement of the oxygen sensor may be up to 30 minutes.

2.7 Combustible Sensor Response Times

Methane: $T(50) < 10$ seconds and $T(90) < 20$ seconds

2.8 Charging - Conditions of Safe Use

The equipment shall not be charged in Hazardous Locations.

The internal battery of the device shall only be charged in 0°C to +45°C ambient.

2.9 Calibration Check

Bump test frequency is often stipulated by national or corporate regulations; however, bump testing before each day's use is generally the accepted best safety practice and is therefore MSA's recommendation. The device must pass the bump test. If it fails the test, perform a calibration before using the device.

Perform a bump test more frequently if the device is subjected to physical shock or high levels of contaminants. Also, perform a bump test more frequently if the tested atmosphere contains the following materials, which may desensitize the combustible gas sensor and reduce its readings:

- Organic silicones
- Silicates
- Lead-containing compounds
- Hydrogen sulphide exposures over 200 ppm or exposures over 50 ppm for one minute.

2.10 Suppression of Combustible Gas Readings

Reference [Table 1](#) for combustible gas zero suppression values.

Zero suppression may be enabled/disabled via MSA Grid

Table 1 Suppression Values

Actual LEL Values	Display, Suppression Enabled	Display, Suppression Disabled
3% to -5%	0%	actual reading
-6% to -9%	actual reading	actual reading
-10% or below	actual reading, yellow LED warns after 3 seconds	actual reading, yellow LED warns after 3 seconds

3 Certifications and Markings

See device label on your specific device for applicable certification markings. Label examples included in this document are for demonstration purposes only and may not accurately depict the current product certification status.

Information common to all labels:

Manufacturer	MSA - The Safety Company 1000 Cranberry Woods Drive Cranberry Township, PA 16066 USA
Product	ALTAIR io™ 6 Multigas Detector
Serial Number and Date	On the ALTAIR io 6, refer to the Device Info menu, and select the "About" screen for the instrument serial number and month/year of manufacture. The date of manufacture is also encoded in the serial number found on the label. 

3.1 Calibration Certification

All applicable inspections, testing, and calibrations were performed using NIST traceable equipment, where available, in accordance with MSA's ISO 9001 Certified Quality System.

3.2 Conformance Statement

MSA certifies that the materials, components, and/or instruments delivered in this shipment conform to all applicable specifications. The items delivered have been processed through the appropriate approved document-controlled procedures for receiving, manufacturing, and inspection. The materials, components and/or instruments were inspected, tested, and calibrated, as applicable, per the associated drawings, standards requirements, and/or specifications, and were deemed acceptable by appropriate authorized personnel.

3.3 Suitability

The following certifications ensure that the Altair io 6 is suitable for use in hazardous locations.

3.4 Model ALTAIR io 6 Certifications - US, Canada, ATEX, and IECEx

Table 2 Model ALTAIR io 6

Location	Certificate	Applicable Standards	Ambient Temperature Range
North America (USA and Canada)	CSA Certificate Number: 25CA00250117X	UL 913, 8th Edition	-20°C ≤ Ta ≤ 50°C
		CAN/CSA C22.2 No 60079-0	
		CAN/CSA C22.2 No. 60079-1	
		CAN/CSA C22.2 No. 60079-11	
		CAN/CSA C22.2 No. 61010-1	
		UL 60079-0	
		UL 60079-1	
		UL 60079-11	
		UL 61010-1	
ATEX	EC-Type Examination Certificate: CSACa 25ATEX 1007X	EN IEC 60079-0: 2018	-20°C ≤ Ta ≤ 50°C
		EN 60079-1: 2014	Temperature Code: T4
		EN 60079-11: 2012	
		EN 50303: 2000	
IEC	Certificate Number: ECEX CSA 25.0077X	IEC 60079-0: Ed. 7.0	-20°C ≤ Ta ≤ 50°C
		IEC 60079-1: Ed. 7.0	Temperature Code: T4
		IEC 60079-11: Ed.	
		EN 50303: 2000	

Approved Accessories:

Refer to ALTAIR io6 User Manual MSA PN: 10253498

3.4.1 Markings Model ALTAIR io 6 - US, Canada, ATEX, and IECEx

NOTE: Labels may vary based on geographic location. The label below is an example, and the label on the device may differ from the example based upon local requirements.

INTRINSICALLY SAFE
SÉCURITÉ
INTRINSÈQUE,
CL I, DIV. 1, Gr ABCD
Ex da ia IIC T4 Ga
(Zone 0)
CL I, Zn 0, AEx da ia
IIC T4 Ga (Zone 0)
-20°C ≤ Ta ≤ +50°C
CSACa 25ATEX1007X
II 1G Ex da ia IIC T4 Ga
I M1 Ex ia I Ma
IECEX CSA 25.0077X
Ex da ia IIC T4 Ga
Ex ia I Ma
-20°C ≤ Ta ≤ +50°C
CHARGE VOLTAGE
Um ≤ 5.25 V.D.C.
IP65




0080

REF ALT-GL-XX-XX

KEY KKKKKK

MMYY

SN SSSSSSSSSSSSSSSSSSSS



25CA80250117X



ALTAIR io 6

MSAsafety.com

msasafety.info/altairio6

Cranberry Twp., PA 16066 USA
Product of U.S.



Li-Poly Battery



⚠ WARNING / AVERTISSEMENT

Read and understand manual before use. Do not charge in a hazardous location. 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.