



Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by ČIA Praha

Certificate No. FTZÚ 09 E 0026

about verification of workplace atmospheres – Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours

This certificate is issued for: **ALTAIR 5 Multigas Detector**

Manufacturer: **Mine Safety Appliances Co., Instrument Division**

Address: **P.O.Box 427, Pittsburgh, PA 15230,
1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, U.S.A.**

Above mentioned product and any of its variant are specified in Annex of the certificate and in documentation, list of which is attached in Annex of this certificate.

The examination and test results are recorded in confidential Report No.

09E/0026 dated 31.08.2010

FTZÚ – National testing authority No. 210 confirms, that product comply with requirements following standards:

EN 45544-1:1999 EN 45544-2:1999

Manufacturer (or applicant) listed in the certificate is responsible for product conformity assurance in accordance with its specification (documentation) listed in Annex of the certificate and for successful performance of all specified routine tests and verification.

This certificate is valid till: **31.08.2015**

Responsible person:

Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 31.08.2010

Number of pages: 2
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This certificate is valid only for products described in this certificate and doesn't replace any other documents.
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Physical Technical Testing Institute, Ostrava-Radvanice

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Schedule

Certificate No. FTZÚ 09 E 0026

Product description:

The ALTAIR 5 Multigas Detector is a portable apparatus designed to monitor gases in ambient air and in the workplace. It is available with a maximum of four sensors which can display readings for five gases.

The ALTAIR 5 Multigas Detector is supplied by an encapsulated battery which may be charged only in a safe area and from chargers made available by MSA for use with this instrument.

The ALTAIR 5 Multigas Detector can also be supplied with an alkaline battery pack. The battery pack and individual cells can be changed only in safe area and as specified on the approval label.

This certificate is concerned only the performance tests for toxic gases namely hydrogen sulfide H₂S in the range of 0 - 200 ppm and carbon monoxide CO in the range of 0 - 1000 ppm. The performance tests covers only the test conditions according to standards mentioned in this certificate.

List of documentation:

- [1] Operating Manual ALTAIR 5 – Multigas Detector, No.:10094177, rev. 0 with manual addendum 10103427, rev.1
- [2] WUSB Operating Manual - Supplementary Information No.10102623, rev. 0

Date of verification of documentation by FTZÚ: 31.08.2010

Responsible person: _____

Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 31.08.2010

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Physical Technical Testing Institute, Ostrava-Radvanice

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Supplement No.1 to Certificate No. FTZÚ 09 E 0026

about verification of workplace atmospheres – Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours

This certificate is issued for: **ALTAIR 5 Multigas Detector**

Manufacturer: **Mine Safety Appliances Co., Instrument Division**

Address: **P.O.Box 427, Pittsburgh, PA 15230,
1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, U.S.A.**

This supplement of certificate is valid for: - documentation changes

Modification of certified apparatus and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this supplement to the certificate.

The examination and test results are recorded in confidential Report No.

09E0026/1 dated 11.04.2011


FTZÚ – National testing authority No. 210 confirms, that product comply with requirements following standards:

EN 45544-1:1999 EN 45544-2:1999

Manufacturer (or applicant) listed in this supplement to the certificate is responsible for product conformity assurance in accordance with its specification (documentation) listed in schedule of this supplement to the certificate and for successful performance of all specified routine tests and verification.

This certificate is valid till: **31.08.2015**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 11.04.2011

Number of pages: 2
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Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by ČIA Praha

Schedule

**Supplement No.1
to Certificate No. FTZÚ 09 E 0026**

Product description changes:

Variation one, to permit:

- a) Small changes of the documentation – WUSB Operation manual.

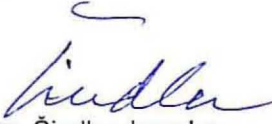
Technical description has not been changed. These changes don't have influence on the safety of the apparatus or the detection performance.

List of documentation:

- [1] WUSB Operating Manual - Supplementary Information No.10102623, rev. 1, Date: 10.03.2011
[2] Drawing SK3098-1125, rev.2, date: 10.03.2011

Date of verification of documentation by FTZÚ: 11.04.2011

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 11.04.2011

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Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by ČIA Praha

Supplement No.2 to Certificate No. FTZÚ 09 E 0026

about verification of workplace atmospheres – Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours

This certificate is issued for: **ALTAIR 5 Multigas Detector**

Manufacturer: **Mine Safety Appliances Company**

Address: **1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, U.S.A.**

This supplement of certificate is valid for: - minor firmware changes of equipment
- modification of name and address of manufacturer

Modification of certified apparatus and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this supplement to the certificate.

The examination and test results are recorded in confidential Report No.

09E0026/2 dated 14.11.2011


FTZÚ – National testing authority No. 210 confirms, that product comply with requirements following standards:

EN 45544-1:1999 EN 45544-2:1999

Manufacturer (or applicant) listed in this supplement to the certificate is responsible for product conformity assurance in accordance with its specification (documentation) listed in schedule of this supplement to the certificate and for successful performance of all specified routine tests and verification.

This certificate is valid till: **31.08.2015**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 14.11.2011

Number of pages: 2
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FTZÚ, Pikartská 7, 716 07 Ostrava Radvanice, tel +420 595 223 111, fax +420 596 232 672, e-mail: ftzu@ftzu.cz



Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by ČIA Praha

Schedule

**Supplement No.2
to Certificate No. FTZÚ 09 E 0026**

Product description changes:

Variation two, to permit:

- a) Minor changes of the firmware prescribed in the mentioned documentation.
- b) Due to company restructuring, manufacturer will no longer be recognized at their manufacturing facility as the "Instrument Division" and can just be shown as Mine Safety Appliances Company. Also, the "P.O. Box 427, Pittsburgh, PA 15230" address will no longer be used.


Technical description has not been changed. These changes don't have influence on the safety of the apparatus or the detection performance.

List of documentation:

- [1] Drawings No.: SK3098-1125, rev. 4, (39 sheets), dated 19.10.2011
- [2] Software Change Report Altair 5, rev. 1.01.0004, (3 sheets), dated 14.09.2011
- [3] Source Code Change Report Altair 5, rev. 1.00.0052, (7 sheets), dated 19.10.2011

Date of verification of documentation by FTZÚ: 14.11.2011

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 14.11.2011

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FTZÚ, Pikartská 7, 716 07 Ostrava Radvanice, tel +420 595 223 111, fax +420 596 232 672, e-mail: ftzu@ftzu.cz



Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by ČIA Praha

Supplement No. 3 to Certificate No. FTZÚ 09 E 0026

about verification of workplace atmospheres – Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours

This certificate is issued for: **ALTAIR 5 Multigas Detector**

Manufacturer: **Mine Safety Appliances Company**

Address: **1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, U.S.A.**

This supplement of certificate is valid for: - minor firmware changes of equipment

Modification of certified apparatus and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this supplement to the certificate.

The examination and test results are recorded in confidential Report No.

09E0026/3 dated 12.03.2012

FTZÚ – National testing authority No. 210 confirms, that product comply with requirements following standards:

EN 45544-1:1999 EN 45544-2:1999

Manufacturer (or applicant) listed in this supplement to the certificate is responsible for product conformity assurance in accordance with its specification (documentation) listed in schedule of this supplement to the certificate and for successful performance of all specified routine tests and verification.

This certificate is valid till: **31.08.2015**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 12.03.2012

Number of pages: 2
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Physical Technical Testing Institute, Ostrava-Radvanice

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Certification body No. 3051 accredited by ČIA Praha

Schedule

**Supplement No. 3
to Certificate No. FTZÚ 09 E 0026**

Product description changes:

Variation three, to permit:

- a) Minor changes of the firmware prescribed in the mentioned documentation.

Technical description has not been changed. These changes do not have influence on the safety of the apparatus or the detection performance.

List of documentation:

- [1] Drawings No.: SK3098-1125, rev. 5, (39 sheets), dated 01.02.2012

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 12.03.2012

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Physical Technical Testing Institute, Ostrava-Radvanice
National testing authority No 210
Certification body No. 3051 accredited by CAI Praha

Supplement No. 4 to Certificate No. FTZÚ 09 E 0026

about verification of workplace atmospheres – Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours

This certificate is issued for: **ALTAIR 5 Multigas Detector**

Manufacturer: **Mine Safety Appliances Company**

Address: **1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, U.S.A.**

This supplement of certificate is valid for: - performance tests for model ALTAIR5X

Modification of certified apparatus and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this supplement to the certificate.

The examination and test results are recorded in confidential Report No.

09E0026/4 dated 19.12.2012

FTZÚ – National testing authority No. 210 confirms, that product comply with requirements following standards:

EN 45544-1:1999, EN 45544-2:1999

Manufacturer (or applicant) listed in this supplement to the certificate is responsible for product conformity assurance in accordance with its specification (documentation) listed in schedule of this supplement to the certificate and for successful performance of all specified routine tests and verification.

This certificate is valid till: **31.08.2015**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 19.12.2012

Number of pages: 2
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Physical Technical Testing Institute, Ostrava-Radvanice

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Certification body No. 3051 accredited by CAI Praha

Schedule

**Supplement No. 4
to Certificate No. FTZÚ 09 E 0026**

Product description changes:

Variation four, to permit:

a) The equipment model ALTAIR 5X has been subjected to the performance tests prescribed in the standards listed in clause (10) for toxic gases CO in range 0-2000ppm and H₂S in range 0-200ppm with electrochemical sensor and complies with their requirements.

List of documentation:

[1] Operating manual, No.10116951, Rev.2, EN version, Date: 12.2012

[2] Drawings No. SK3098-1184, Rev.4, Date: 07.12.2012

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 19.12.2012

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Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by CAI Praha

Supplement No. 5 to Certificate No. FTZÚ 09 E 0026

about verification of workplace atmospheres – Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours

This certificate is issued for: **ALTAIR 5 Multigas Detector**

Manufacturer: **Mine Safety Appliances Company**

Address: **1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, U.S.A.**

This supplement of certificate is valid for: - modification of model ALTAIR5X

Modification of certified apparatus and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this supplement to the certificate.

The examination and test results are recorded in confidential Report No.

09E0026/5 dated 30.05.2013

FTZÚ – National testing authority No. 210 confirms, that product comply with requirements following standards:

EN 45544-1:1999, EN 45544-2:1999

Manufacturer (or applicant) listed in this supplement to the certificate is responsible for product conformity assurance in accordance with its specification (documentation) listed in schedule of this supplement to the certificate and for successful performance of all specified routine tests and verification.

This certificate is valid till: **31.08.2015**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 30.05.2013

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Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by CAI Praha

Schedule

Supplement No. 5 to Certificate No. FTZÚ 09 E 0026

Product description changes:

Variation five, to permit:

- a) The model ALTAIR 5X can be alternatively supplied by one (1) encapsulated rechargeable 3.6V lithium-ion battery type Panasonic/Sanyo UR18650A which may be charged from chargers made available by MSA for use with this instrument.

Technical description has not been changed. This change doesn't have influence on the safety and the detection performance of the apparatus.

List of documentation:

Document No.:	Revision:	Date:	Pages:	Title:
10116951	2	12.2012	95	Operating Manual
SK3098-1184	5	19.04.2013	75	FTZU approvals, ALTAIR5X / ALTAIR5XIR

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 30.05.2013

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Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by CAI Praha

Supplement No. 6 to Certificate No. FTZÚ 09 E 0026

about verification of workplace atmospheres – Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours

This certificate is issued for: **ALTAIR 5 Multigas Detector**

Manufacturer: **Mine Safety Appliances Company**

Address: **1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, U.S.A.**

This supplement of certificate is valid for: - modification of model ALTAIR5X

Modification of certified apparatus and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this supplement to the certificate.

The examination and test results are recorded in confidential Report No.

09E0026/6 dated 04.04.2014

FTZÚ – National testing authority No. 210 confirms, that product comply with requirements following standards:

EN 45544-1:1999, EN 45544-2:1999, EN 50104:2010, EN 50271:2010

Manufacturer (or applicant) listed in this supplement to the certificate is responsible for product conformity assurance in accordance with its specification (documentation) listed in schedule of this supplement to the certificate and for successful performance of all specified routine tests and verification.

This certificate is valid till: **04.04.2019**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 04.04.2014



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Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by CAI Praha

Schedule

Supplement No. 6 to Certificate No. FTZÚ 09 E 0026

Product description changes:

Variation six, to permit:

- a) The model ALTAIR 5X has been tested for oxygen deficiency and enrichment according to the standard EN 50104:2010 and software evaluation was done according to the standard EN 50271:2010.
- b) Prolongation of validity of the certificate for next five years.
- c) Minor constructional changes of the color display module, PCB and schematic.

These changes do not have influence on the safety and the detection performance of the apparatus.

Parameters recapitulation:

Performance tests have been carried out for:

- Gas CO in range 0-2000ppm by electrochemical sensor.
- Gas H₂S in range 0-200ppm by electrochemical sensor.
- Gas O₂ in range 0-25% (v/v) by electrochemical sensor. The warm-up time is up to 180 sec.

Firmware version: v1.27.06

List of documentation:

Document No.:	Revision:	Date:	Pages:	Title:
10116951	3	03.2014	98	Operating Manual
SK3098-1184	6	21.10.2013	86	FTZU approvals, ALTAIR5X / ALTAIR5XIR
SK3098-1307	01	27.03.2014	22	Safety Discussion

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 04.04.2014

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Supplement No. 7 to Certificate No. FTZÚ 09 E 0026

about verification of workplace atmospheres – Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours

This certificate is issued for: **ALTAIR 5 Multigas Detector**

Manufacturer: **Mine Safety Appliances Company**

Address: **1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, U.S.A.**

This supplement of certificate is valid for: - modification of model ALTAIR5X

Modification of certified apparatus and any of its approved variants are specified in documentation, a list of which is mentioned in schedule of this supplement to the certificate.

The examination and test results are recorded in confidential Report No.

09E0026/7 dated 23.01.2015

FTZÚ – National testing authority No. 210 confirms, that product comply with requirements following standards:

EN 45544-1:1999, EN 45544-2:1999, EN 50104:2010, EN 50271:2010

Manufacturer (or applicant) listed in this supplement to the certificate is responsible for product conformity assurance in accordance with its specification (documentation) listed in schedule of this supplement to the certificate and for successful performance of all specified routine tests and verification.

This certificate is valid till: **04.04.2019**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 23.01.2015

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Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by CAI Praha

Schedule

Supplement No. 7 to Certificate No. FTZÚ 09 E 0026

Product description changes:

Variation seven, to permit:

- a) The firmware has been updated to version v1.30.12.

This change does not have influence on the safety and the detection performance of the apparatus.

Parameters recapitulation:

Performance tests have been carried out for:

- Gas CO in range 0-2000ppm by electrochemical sensor.
- Gas H₂S in range 0-200ppm by electrochemical sensor.
- Gas O₂ in range 0-25% (v/v) by electrochemical sensor. The warm-up time is up to 180 sec.

Firmware version: v1.30.12

List of documentation:

Document No.:	Revision:	Date:	Pages:	Title:
10116951	3	03.2014	98	Operating Manual
SK3098-1184	7	18.11.2014	86	FTZU approvals, ALTAIR5X / ALTAIR5XIR
SK3098-1307	02	10.10.2014	22	Safety Discussion

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of certification body



Date of issue: 23.01.2015

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