



Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by ČIA Praha

## Certificate No. FTZÚ 08 E 0034

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 4 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.

**08/0034 dated 16.12.2008**

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: **19.12.2013**

Responsible person:

Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: **19.12.2008**

Number of pages: 2

Page: 1/2

This certificate is valid only for products described in this certificate and doesn't replace any other documents.  
This certificate shall not be reproduced except in full without written approval of authorized entity (FTZÚ).



Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by ČIA Praha

## Schedule

### Certificate No. FTZÚ 08 E 0034

#### Product description:

The ALTAIR 4 Multigas Detector is a portable apparatus designed to monitor gases in ambient air and in the workplace. It is available with a maximum of three sensors which can display readings for four gases.

The ALTAIR 4 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.


This certificate is concerned only the performance tests for toxic gases namely hydrogen sulfide H<sub>2</sub>S in the range of 0 - 200 ppm and carbon monoxide CO in the range of 0 - 999 ppm. The performance tests covers only the test conditions according to standards mentioned in this certificate.

#### List of documentation:

- [1] Operating Manual ALTAIR 4 – Four Gas Multigas Detector, No.:10088975 – 58 pages
- [2] Drawings SK3098-1037, rev.2, Date: 17.07.2008 – 23 pages

Date of verification of documentation [1] to [2] by FTZÚ: 19.12.2008

Responsible person:

  
Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: 19.12.2008

Page: 2/2

This certificate is valid only for products described in this certificate and doesn't replace any other documents.  
This certificate shall not be reproduced except in full without written approval of authorized entity (FTZÚ).



Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by ČIA Praha

## Supplement No.1 to Certificate No. FTZÚ 08 E 0034

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 4 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: - new model ALTAIR 4X

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.

**08E0034/1 dated 16.05.2011**

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: **19.12.2013**

Responsible person:

Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: 16.05.2011

Number of pages: 2  
Page: 1/2

This certificate is valid only for products described in this certificate and doesn't replace any other documents.  
This certificate shall not be reproduced except in full without written approval of authorized entity (FTZÚ).



Schedule

**Supplement No.1**  
**to Certificate No. FTZÚ 08 E 0034**

Product description changes:

Variation one, to permit:


- a) The new model ALTAIR 4X has been subjected to the performance tests prescribed in standards EN 45544-1:1999 and EN 45544-2:1999 for toxic gases - hydrogen sulfide H<sub>2</sub>S in the range of 0 - 200 ppm and carbon monoxide CO in the range of 0 - 1999 ppm and complies with their requirements. This evaluation does not cover the requirements of the standard EN 50270:2006.

List of documentation:

- [1] Operating Manual ALTAIR 4X - Multigas Detector, No. 10106503 – 68 pages  
[2] Drawings No. SK3098-1133, rev.3, Date: 28.04.2011 - 23 pages  
[3] Label drawing No. SK3098-1156, rev.3, Date: 07.04.2011 – 1 page

Date of verification of documentation by FTZÚ: 16.05.2011

Responsible person:

  
Dipl. Ing. Sindler Jaroslav  
Head of certification body



Date of issue: 16.05.2011

Page: 2/2

This certificate is valid only for products described in this certificate and doesn't replace any other documents.  
This certificate shall not be reproduced except in full without written approval of authorized entity (FTZÚ).



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 08 E 0034

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 4X Multigas Detector**

Manufacturer: **Mine Safety Appliances Company**

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

This supplement of certificate is valid for: - modification of certified apparatus

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.

**08E0034/2 dated 26.07.2012**

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: **19.12.2013**

Responsible person:

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 26.07.2012

Page: 1/2

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

FTZÚ, s.p., Pikartská 1337/7, 716 07 Ostrava-Radvanice, Czech Republic,  
tel +420 595 223 111, fax +420 596 232 672, ftzu@ftzu.cz, www.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 08 E 0034

Product description changes:

Variation two, to permit:

- a) Minor corrections on the PCB and in the circuitry schematic.
- 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.

These changes don't have influence on the detection performance. These changes are prescribed in the List of documentation below.

List of documentation:

- [1] Drawings No. SK3098-1133, rev.5, Date: 06.06.2012 - 23 pages

Responsible person:

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 26.07.2012

Page: 2/2

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



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 08 E 0034

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 4X Multigas Detector**

Manufacturer: **Mine Safety Appliances Company**

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

This supplement of certificate is valid for: - prolongation of validity

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.

**08E0034/3 dated 06.12.2013**

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: **19.12.2018**

Responsible person:

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 06.12.2013

Page: 1/2

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

FTZÚ, s.p., Pikartská 1337/7, 716 07 Ostrava-Radvanice, Czech Republic,  
tel +420 595 223 111, fax +420 596 232 672, ftzu@ftzu.cz, www.ftzu.cz



Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by ČIA Praha

## Schedule

### Supplement No. 3 to Certificate No. FTZÚ 08 E 0034

Product description changes:

Variation three, to permit:

- a) The certificate has been prolonged for next five years to date 19.12.2018. There are no changes of the equipment Altair 4X Multigas Detector and of the standards according to which was compliance verified for toxic gases - hydrogen sulfide H<sub>2</sub>S in the range of 0 - 200 ppm and carbon monoxide CO in the range of 0 - 1999 ppm with inner XCell Electro-Chemical Toxic Gas Sensor. The firmware version is 2.03.

List of documentation: no

Responsible person:

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 06.12.2013

Page: 2/2

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

FTZÚ, s.p., Pikartská 1337/7, 716 07 Ostrava-Radvanice, Czech Republic,  
tel +420 595 223 111, fax +420 596 232 672, ftzu@ftzu.cz, www.ftzu.cz





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 08 E 0034

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 4X Multigas Detector**

Manufacturer: **Mine Safety Appliances Company**

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

This supplement of certificate is valid for: - evaluation according to new standards

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.

**08E0034/4 dated 28.04.2014**

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: **19.12.2018**

Responsible person:

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 28.04.2014

Page: 1/2

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

FTZÚ, s.p., Pikartská 1337/7, 716 07 Ostrava-Radvanice, Czech Republic,  
tel +420 595 223 111, fax +420 596 232 672, ftzu@ftzu.cz, www.ftzu.cz



Physical Technical Testing Institute, Ostrava-Radvanice

National testing authority No 210

Certification body No. 3051 accredited by CAI Praha

## Schedule

### Supplement No. 4 to Certificate No. FTZÚ 08 E 0034

Product description changes:

Variation four, to permit:

- a) The equipment ALTAIR 4X Multigas Detector 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. The evaluation according to standard EN 50270:2006 is on manufacturer's responsibility.

There are no constructional or firmware changes of the equipment Altair 4X Multigas Detector.

Parameters recapitulation:

Performance tests have been carried out with inner XCell Electro-Chemical Toxic Gas Sensor:

- Gas CO in range 0-1999 ppm
- Gas H<sub>2</sub>S in range 0-200 ppm
- Gas O<sub>2</sub> in range 0-25% (v/v)

Performance tests for temperature range: -20 to +60°C

Firmware version: v2.03

List of documentation:

Document No.:	Revision:	Date:	Pages:	Title:
10106503	03	04.2014	74	Operating Manual
SK3098-1133	6	08.04.2014	23	FTZU approvals, ALTAIR4X
SK3098-1312	01	27.03.2014	21	Safety Discussion

Responsible person:

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 28.04.2014

Page: 2/2

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