



EC-Type Examination Certificate

- (1)
(2) **Equipment or Protective Systems Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

- (3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

- (4) Equipment or protective system: **ALTAIR 4 Multigas Detector**
(5) Manufacturer: **Mine Safety Appliances Co., Instrument Division**
(6) Address: **P.O.Box 427, Pittsburgh, PA 15230;
1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, U.S.A**
(7) This equipment or protective system and any of acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
(8) The Physical Technical Testing Institute, notified body number 1026 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report N°

07/0169 dated 03. 12. 2007

- (9) Compliance with Essential Health and safety requirements has been assured by compliance with:
EN 60079-0 : 2006; EN 60079-11 : 2007; EN 60079-1 : 2004
(10) If the sign „X” is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
(11) This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and testing of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
(12) The marking of the equipment or protective system shall include following:

 **II 2G Ex ia d IIC T4**

This EC-Type Examination Certificate is valid till: **03. 12. 2012**

Responsible person:

Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 03.12.2007

Number of pages: 3
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Physical Technical Testing Institute
Ostrava-Radvanice

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(14) **EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X**

(15) Description of Equipment or Protective System:

The ALTAIR 4 Multigas Detector is 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. One of the sensors has an explosion protection "flameproof enclosure" Exd, certified by SIR A (SIRA 07ATEX1088X).

If the gas concentration reaches the alarm set points, a visual alarm, an audible alarm and a vibrating alarm is given.

The apparatus comprises a printed circuit board on which all of the electronic components are mounted with the exception of the display. The PCB and display are mounted inside a static dissipative moulded plastic enclosure.

The ALTAIR 4 Multigas Detector is supplied by an encapsulated battery which may be charged only in safe area and from chargers made available by MSA for use with this instrument.

Parameters:

Power supply: nominal voltage 3.7 V (built-in battery)

Ambient temperature range: $-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$

(16) Report No. : 07/0169

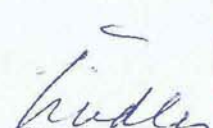
(17) Special conditions for safe use:

The ALTAIR 4 Multigas Detector may be charged only in a safe area.

(18) Essential Health and Safety Requirements:

Essential health and safety requirement of Directive 94/9/EC are covered by the standard mentioned in (9), according which the product was verified and in the manufacturer's instruction for use.

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 03.12.2007

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(14) **EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X**

(19) **LIST OF DOCUMENTATION**

Drawings No:


- Drawings No.: SK3098-1037 (21 pages) rev. 0
SK3098-1061 (1 page) rev. 0
- Operating Manual ALTAIR 4 – Four Gas Multigas Detector (59 pages)
- Certificate SIRA 07 ATEX 1088X

Date:

28 September 2007

10 October 2007

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 03.12.2007

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Supplement No. 1 to EC-Type Examination Certificate

- (1)
- (2) **Equipment or Protective Systems Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**
- (3) EC-Type Examination Certificate Number:
FTZÚ 07 ATEX 0169X
- (4) Equipment or protective system: **ALTAIR 4 Multigas Detector**
- (5) Manufacturer: **Mine Safety Appliances Co., Instrument Division**
- (6) Address: **P.O.Box 427, Pittsburgh, PA 15230;
1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, U.S.A**
- (7) This supplement of certificate is valid for: - modification of certified apparatus
- (8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.
- (9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains another requirement, which manufacturer shall fulfil before products are placed on market or introduced in service.
- (10) Safety requirements of modified parts were fulfilled by satisfying the following standards:
EN 60079-0 : 2006; EN 60079-11 : 2007; EN 60079-1 : 2004
- (11) Marking of equipment shall contain symbols:
Ex II 2G Ex ia d IIC T4
- (12) This type examination certificate is valid till: **03. 12. 2012**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 27.05.2008

Number of pages: 2
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(13) **Schedule**

(14) **Supplement No. 1 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X**

(15) Description of Variation to the Equipment:

Variation one, to permit:

1. The use of an alternative case overmold material with the similar mechanical and electrostatic dissipative properties.
2. Minor drawing changes.
3. A new version of apparatus firmware.
4. Changes to charging instruction shown on apparatus label.

The changes do not affect the intrinsic safety.

(16) Report No. : 07/0169

(17) Special conditions for safe use: remain unchanged

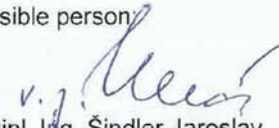
(18) Essential Health and Safety Requirements: remain unchanged

(19) List of documentation:

Date:

- | | |
|--|------------|
| 1. Operating Manual ALTAIR 4, order No. 10088160/00 Y-HLR (62 pages) | 01/2008 |
| 2. Drawings No.: SK3098-1037, Revision 1 (22 sheets) | 08.05.2008 |
| SK3098-1061, Revision 1 | 15.05.2008 |

Responsible person


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 27.05.2008

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(1) **Supplement No. 2 to
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

(4) Equipment or protective system: **ALTAIR 4 Multigas Detector**

(5) Manufacturer: **Mine Safety Appliances Co., Instrument Division**

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

(7) This supplement of certificate is valid for: - **performance tests**

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains another requirement, which manufacturer shall fulfil before products are place on market or introduce in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

EN 61779-1 : 2000+A11 : 2004; EN 61779-4 : 2000; EN 50104 : 2002+A1 : 2004;


EN 50270 : 2006; EN 50271 : 2001

(11) Marking of equipment shall contain symbols:

 **II 2G Ex ia d IIC T4**

(12) This type examination certificate is valid till: **03. 12. 2012**

Responsible person:


Dipl. Ing. Sindler Jaroslav
Head of certification body



Date of issue: 30.07.2008



Number of pages: 3
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**Supplement No. 2 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X**

(15) Description of Variation to the Equipment:

The apparatus ALTAIR 4 has been subjected to the test prescribed in standards listed in (10) for flammable gases (CH₄, Hydrogen, Propane, Pentane) and O₂ and complies with their requirements.

(16) Report No. : 07/0169/2

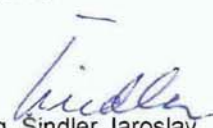
(17) Special conditions for safe use:

17.1 The Universal Pump (sampling) Probe must be used when the air velocity exceeds 1 m/s.

17.2 In the event of CH₄ LEL overrange the apparatus must be exposed to fresh air for 20 minutes minimum and then the fresh air setup procedure must be done.

(18) Essential Health and Safety Requirements: remain unchanged

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 30.07.2008

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(14)

Supplement No. 2 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X

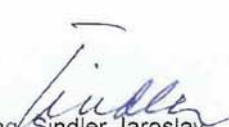
(19)

LIST OF DOCUMENTATION

<i>Documentation:</i>	<i>Date:</i>
• Altair 4, EN 50271 Safety Discussion, rev. 00 (13 pages)	27.06.2008
• User Manual, Altair 4, Czech version, No.: 10088160/00 (61 pages)	
• Verification Test Report for Altair 4 and Software verification v1.04 (41 pages)	27.06.2008
• Altair 4 Firmware Flow Diagram (12 pages)	14.07.2008
• Drawings No.: SK3098-1037 (23 pages), rev. 2	17.07.2008
SK3098-1061 (1 page), rev. 2	18.06.2008
• Source codes *.c and *.h for Altair 4	

Responsible person:

Date of issue: 30.07.2008


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Head of certification body

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(1) **Supplement No. 3 to
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

(4) Equipment or protective system: **ALTAIR 4 Multigas Detector**

(5) Manufacturer: **Mine Safety Appliances Co., Instrument Division**

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

(7) This supplement of certificate is valid for: - modification of the certified equipment

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 (Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements, which manufacturer shall fulfil before products are placed on market or introduced in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

EN 50271:2001

(11) Marking of equipment shall contain symbols:

 **II 2G Ex ia d IIC T4**

(12) This type examination certificate is valid till: **03.12.2012**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 29.09.2009

Number of pages: 2
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**Supplement No. 3 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X**

(15) Description of variation to the Equipment or Protective System:

The software code of the equipment was changed. These changes don't have influence on the safety of the equipment.

Variation three, to permit: Some changes of the software code prescribed in the documentation in the point (19).

(16) Report No. : 07/0169/3 dated 29.09.2009

(17) Special conditions for safe use:

remain unchanged

(18) Essential Health and Safety Requirements:

remain unchanged

(19) List of documentation:

[1] Firmware Verification Test Report for Altair 4, v.1.06, Date: 08.07.2009 – 5 pages

[2] Drawing SK3098-1037, rev.3, Date: 18.08.2009 – 23 pages

[3] Source codes *.c and *.h, v. 1.06

Date of verification of documentation [1] to [3] by FTZÚ: 29.09.2009.

Responsible person:

Dipl. Ing. Šindler Jaroslav

Head of certification body



Date of issue: 29.09.2009

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(1) **Supplement No. 4 to
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

(4) Equipment or protective system: **ALTAIR 4 Multigas Detector**

(5) Manufacturer: **Mine Safety Appliances Co., Instrument Division**

(6) Address: **P.O.Box 427, Pittsburgh, PA 15230;**

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

(7) This supplement of certificate is valid for: - new model ALTAIR 4X
- ALTAIR 4 software modification

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 (Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements, which manufacturer shall fulfil before products are placed on market or introduced in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

EN 60079-0:2009, EN 60079-1:2007, EN 60079-11:2007,

EN 60079-18:2009, EN 60079-26:2007, EN 50271:2001

(11) Marking of equipment according to this supplement shall contain symbols:



**II 1G Ex ia IIC T4 Ga
II 2G Ex d ia mb IIC T4 Gb**

(12) This type examination certificate is valid till: **03.12.2012**

Responsible person:

Dipl. Ing. Šindler Jaroslav

Head of certification body



Date of issue: 30.07.2010

Number of pages: 2

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(13)

Schedule

(14)

Supplement No. 4 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X

(15) Description of variation to the Equipment or Protective System:

Variation four, to permit:

1. The formation of a new model ALTAIR 4X which replaces the analog sensors used in the original ALTAIR 4 and on-board sensor circuitry with MSA XCell™ series of sensors (FTZÚ 09ATEX0123U and FTZÚ 09ATEX0223U) each containing the associated analog and digital circuitry and each now having a digital input and output. The new model ALTAIR4X also adds a Zone 0 certification for the Group II instrument configuration whereby the combustible XCell™Ex sensor is not installed.
2. The minor changes in the software of the model ALTAIR 4. There are no affect to safety.
3. New leather carrying case (MSA part number 10113308) may be used.

(16) Report No. : 07/0169/4 dated 30.07.2010

(17) Special conditions for safe use:

are added:

- 17.1 The new model ALTAIR 4X must not be used in Zone 0 when the combustible XCell™Ex sensor is installed.
- 17.2 The new model ALTAIR 4X must only be charged and opened in a non-hazardous area.
- 17.3 The new model ALTAIR 4X has an ambient temperature range: $-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$.

(18) Essential Health and Safety Requirements:

remain unchanged

(19) List of documentation:

- [1] Drawings SK3098-1133, rev.0, Date: 21.07.2010 - 22 sheets
- [2] Drawing SK3098-1156, rev.0, Date: 21.07.2010 - 1 sheet
- [3] Drawing SK3098-1037, rev.4, Date: 12.03.2010 - 23 sheets

Date of verification of documentation [1] to [3] by FTZÚ: 30.07.2010.

Responsible person:

Date of issue: 30.07.2010


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Head of certification body



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(1) **Supplement No. 5 to
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

(4) Equipment or protective system: **ALTAIR 4X Multigas Detector**

(5) Manufacturer: **Mine Safety Appliances Co., Instrument Division**

(6) Address: **P.O.Box 427, Pittsburgh, PA 15230;**

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

(7) This supplement of certificate is valid for: - modification of apparatus marking


(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 (Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements, which manufacturer shall fulfil before products are placed on market or introduced in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:


**EN 60079-0:2009, EN 60079-1:2007, EN 60079-11:2007,
EN 60079-18:2009, EN 60079-26:2007, EN 50303:2000**

(11) Marking of equipment according to this supplement shall contain symbols:

 **I M1 Ex ia I Ma
II 1G Ex ia IIC T4 Ga
II 2G Ex d ia mb IIC T4 Gb**

(12) This type examination certificate is valid till: **03.12.2012**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: **03.09.2010**

Number of pages: 2

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Physical Technical Testing Institute
Ostrava-Radvanice

(13)

Schedule

(14)

**Supplement No. 5 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X**

(15) Description of variation to the Equipment or Protective System:

Variation five, to permit:

1. The equipment ALTAIR4X was evaluated for Group I, category M1 certification.
2. Marking of the equipment ALTAIR4X was updated.

(16) Report No. : 07/0169/5 dated 03.09.2010

(17) Special conditions for safe use: remain unchanged

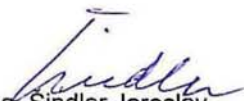
(18) Essential Health and Safety Requirements: remain unchanged

(19) List of documentation:

[1] Drawing SK3098-1156, rev.1, Date: 27.08.2010

Date of verification of documentation by FTZÚ: 03.09.2010.

Responsible person:


Dipl. Ing. Sindler Jaroslav
Head of certification body



Date of issue: 03.09.2010

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Physical Technical Testing Institute
Ostrava-Radvanice



(1) **Supplement No. 6 to
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

(4) Equipment or protective system: **ALTAIR 4X Multigas Detector**

(5) Manufacturer: **Mine Safety Appliances Company**

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

(7) This supplement of certificate is valid for: - performance tests
- change of the manufacturer's name and address


(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 (Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements, which manufacturer shall fulfil before products are placed on market or introduced in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:


EN 60079-29-1:2007, EN 50271:2001, EN 50104:2002 + EN 50104:2002/A1:2004

(11) Marking of equipment according to this supplement shall contain symbols:

 **I M1 Ex ia I Ma
II 1G Ex ia IIC T4 Ga
II 2G Ex d ia mb IIC T4 Gb**

(12) This type examination certificate is valid till: **03.12.2012**

Responsible person:



Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 21.12.2010



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

(13)

Schedule

(14)

**Supplement No. 6 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X**

(15) Description of variation to the Equipment or Protective System:

Variation six, to permit:

1. The equipment ALTAIR 4X has been subjected to the tests prescribed in standards listed in clause (10) for flammable gases (Methane, Propane, Pentane, Hydrogen) and O₂ and complies with their requirements.
2. Small changes in the manufacturer's name and address.

(16) Report No. : 07/0169/6 dated 21.12.2010

(17) Special conditions for safe use: are added:

- 17.1 This supplement does not cover the requirements of the standard EN 50270:2006.

(18) Essential Health and Safety Requirements: remain unchanged

(19) List of documentation:

- [1] Operating manual Altair 4X, No.: 10106503/01 (67 pages), Date: 14.12.2010
- [2] Drawing No.: SK3098-1133 (23 pages), rev.1, Date: 13.10.2010
- [3] Altair 4X EN 50271 Safety Discussion, rev. 00 (13 pages), Date: 14.07.2010
- [4] Drawing No.: SK3098-1156 (1 page), rev. 2, Date: 05.10.2010
- [5] Altair 4X Firmware Flow Diagram (14 pages), Date: 20.08.2010
- [6] Global Sensor ASIC flowcharts (11 pages), rev. 2, Date: 07.10.2010

Date of verification of documentation by FTZÚ: 21.12.2010.

Responsible person:

Date of issue: 21.12.2010


Dipl. Ing. Sindler Jaroslav

Head of certification body



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Physical Technical Testing Institute
Ostrava-Radvanice



(1) **Supplement No. 7 to
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

(4) Equipment or protective system: **ALTAIR 4X Multigas Detector**

(5) Manufacturer: **Mine Safety Appliances Company**

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

(7) This supplement of certificate is valid for: - firmware changes


(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 (Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements, which manufacturer shall fulfil before products are placed on market or introduced in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:


EN 60079-0:2009, EN 50271:2001

(11) Marking of equipment according to this supplement shall contain symbols:

 **I M1 Ex ia I Ma
II 1G Ex ia IIC T4 Ga
II 2G Ex d ia mb IIC T4 Gb**

(12) This type examination certificate is valid till: **03.12.2012**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 26.04.2011

Number of pages: 2
Page: 1/2

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Physical Technical Testing Institute
Ostrava-Radvanice

(13)

Schedule

(14)

**Supplement No. 7 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X**

(15) Description of variation to the Equipment or Protective System:

Variation seven, to permit:

- a) Minor changes of the software code prescribed in the documentation in the point (19).

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

(16) Report No. : 07/0169/7 dated 26.04.2011

(17) Special conditions for safe use: remain unchanged

(18) Essential Health and Safety Requirements: remain unchanged

(19) List of documentation:

- [1] Drawings SK3098-1133, rev.2, Date: 18.04.2011 - 23 pages

Date of verification of documentation by FTZÚ: 26.04.2011.

Responsible person:

Dipl. Ing. Šindler Jaroslav

Head of certification body



Date of issue: 26.04.2011

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Physical Technical Testing Institute
Ostrava-Radvanice



(1) **Supplement No. 8 to
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

(4) Equipment or protective system: **ALTAIR 4X Multigas Detector**

(5) Manufacturer: **Mine Safety Appliances Company**

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

(7) This supplement of certificate is valid for: - firmware and documentation changes

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 (Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements, which manufacturer shall fulfil before products are placed on market or introduced in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

EN 60079-0:2009, EN 50271:2001

(11) Marking of equipment according to this supplement shall contain symbols:



**I M1 Ex ia I Ma
II 1G Ex ia IIC T4 Ga
II 2G Ex d ia mb IIC T4 Gb**

(12) This type examination certificate is valid till: **03.12.2012**

Responsible person:

Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 16.05.2011

Number of pages: 2
Page: 1/2

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Physical Technical Testing Institute
Ostrava-Radvanice

(13)

Schedule

(14)

**Supplement No. 8 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X**

(15) Description of variation to the Equipment or Protective System:

Variation eight, to permit:

- a) Minor changes of the software code.
- b) Minor corrections of the Operating manual and Label drawing.

Technical description has not been changed. These changes don't have influence on the safety of the apparatus or the detection performance. These changes are prescribed in the documentation in the point (19) of this Supplement.

(16) Report No. : 07/0169/8 dated 16.05.2011

(17) Special conditions for safe use: remain unchanged


(18) Essential Health and Safety Requirements: remain unchanged

(19) 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. Šindler Jaroslav
Head of certification body



Date of issue: 16.05.2011

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(1) **Supplement No. 9 to
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

(4) Equipment or protective system: **ALTAIR 4X Multigas Detector**

(5) Manufacturer: **Mine Safety Appliances Company**

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

(7) This supplement of certificate is valid for: - firmware changes


(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 (Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements, which manufacturer shall fulfil before products are placed on market or introduced in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

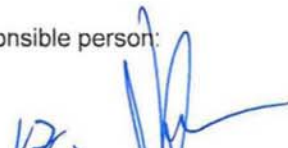
EN 60079-0:2009, EN 50271:2001

(11) Marking of equipment according to this supplement shall contain symbols:

 **I M1 Ex ia I Ma
II 1G Ex ia IIC T4 Ga
II 2G Ex d ia mb IIC T4 Gb**

(12) This type examination certificate is valid till: **03.12.2012**

Responsible person:


Dipl. Ing. Šindler Jaroslav
Head of certification body



Date of issue: 26.09.2011

Number of pages: 2

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(13)

Schedule

(14)

Supplement No. 9 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X

(15) Description of variation to the Equipment or Protective System:

Variation nine, to permit:

- a) Minor changes of the software code.

Technical description has not been changed. These changes don't have influence on the safety of the apparatus or the detection performance. These changes are prescribed in the documentation in the point (19) of this Supplement.

(16) Report No. : 07/0169/9 dated 26.09.2011

(17) Special conditions for safe use: remain unchanged

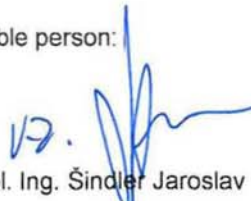
(18) Essential Health and Safety Requirements: remain unchanged

(19) List of documentation:

- [1] Drawings No. SK3098-1133, rev.4, Date: 13.09.2011 - 23 pages

Date of verification of documentation by FTZÚ: 26.09.2011.

Responsible person:


Dipl. Ing. Šindler Jaroslav

Head of certification body



Date of issue: 26.09.2011

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(1) **Supplement No. 10 to
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for Use
in Potentially Explosive Atmospheres
(Directive 94/9/EC)**

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

(4) Equipment or protective system: **ALTAIR 4X Multigas Detector**

(5) Manufacturer: **Mine Safety Appliances Company**

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

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


(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains another requirements, which manufacturer shall fulfil before products are place on market or introduce in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

EN 60079-0:2009, EN 60079-11:2007

(11) Marking of equipment shall contain symbols:

 **I M1 Ex ia I Ma
II 1G Ex ia IIC T4 Ga
II 2G Ex d ia mb IIC T4 Gb**

(12) This type examination certificate is valid till: **03.12.2012**

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 26.07.2012

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Physical Technical Testing Institute
Ostrava – Radvanice

(13)

Schedule

(14)

Supplement No. 10 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X

(15) Description of Equipment or Protective System:

Variation ten, to permit:

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

The changes are listed in verified manufacturer's document mentioned in clause (19) of this supplement. The changes do not affect the intrinsic safety.

(16) Report No.: 07/0169/10 dated 26.07.2012

(17) Special conditions for safe use: remain unchanged

(18) Essential Health and Safety Requirements: Covered by standards mentioned in (10) of this supplement.

(19) 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

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Supplement No. 11 to EC-Type Examination Certificate

- (1)
- (2) **Equipment or Protective Systems Intended for Use
in Potentially Explosive Atmospheres
(Directive 94/9/EC)**

(3) EC-Type Examination Certificate Number:


FTZÚ 07 ATEX 0169X

- (4) Equipment or protective system: **ALTAIR 4X Multigas Detector**
- (5) Manufacturer: **Mine Safety Appliances Company**
- (6) Address: **1000 Cranberry Woods Drive, Cranberry Twp, PA 16066, USA**
- (7) This supplement of certificate is valid for: - evaluation according to new versions of standards
- prolongation of certificate validity
- (8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.
- (9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains another requirements, which manufacturer shall fulfil before products are place on market or introduce in service.
- (10) Safety requirements of modified parts were fulfilled by satisfying the following standards:
- | | | |
|-------------------------|---------------------------|--------------------------------|
| EN 60079-0:2009 | EN 60079-18:2009 | EN 50303:2000 |
| EN 60079-1:2007 | EN 60079-26:2007 | EN 50271:2001 |
| EN 60079-11:2012 | EN 60079-29-1:2007 | EN 50104:2002 + A1:2004 |
- (11) Marking of equipment shall contain symbols:

 **I M1 Ex ia I Ma
II 1G Ex ia IIC T4 Ga
II 2G Ex d ia mb IIC T4 Gb**

- (12) This type examination certificate is valid till: **03.12.2017**

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: **03.12.2012**

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(13)

Schedule

(14)

Supplement No. 11 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X

(15) Description of Equipment or Protective System:

This supplement concerns model Altair 4X. No construction or software changes have occurred.

The goal of issuing Supplement 11 is prolongation of certificate validity and evaluation for new edition of standard (EN 60079-11:2012).

(16) Report No.: 07/0169/11

(17) Special conditions for safe use: remain unchanged

(18) Essential Health and Safety Requirements: Covered by standards mentioned in (10) of this supplement.

(19) List of Documentation:

None

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 03.12.2012

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(1) **Supplement No. 12 to
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for Use
in Potentially Explosive Atmospheres
(Directive 94/9/EC)**

(3) EC-Type Examination Certificate Number:

FTZÚ 07 ATEX 0169X

(4) Equipment or protective system: **ALTAIR 4X Multigas Detector**

(5) Manufacturer: **Mine Safety Appliances Company**

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

(7) This supplement of certificate is valid for: - evaluation according to new versions of standards

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains another requirements, which manufacturer shall fulfil before products are place on market or introduce in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

**EN 60079-0:2009
EN 60079-1:2007
EN 60079-11:2012**

**EN 60079-18:2009
EN 60079-26:2007
EN 60079-29-1:2007**

**EN 50303:2000
EN 50271:2010
EN 50104:2010**

(11) Marking of equipment shall contain symbols:

 **I M1 Ex ia I Ma
II 1G Ex ia IIC T4 Ga - when combustible XCell Ex sensor is not installed
II 2G Ex d ia mb IIC T4 Gb**

(12) This type examination certificate is valid till: **03.12.2017**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 25.04.2014

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Physical Technical Testing Institute
Ostrava – Radvanice

(13)

Schedule

(14)

Supplement No. 12 to
EC-Type Examination Certificate N° FTZÚ 07 ATEX 0169X

(15) Description of Equipment or Protective System:

Variation twelve, to permit for equipment Altair 4X Multigas Detector:

- a) Evaluation according to standard EN 50271:2010.
- b) Oxygen inertization performance tests have been added according to EN 50104:2010.

No construction or software changes have occurred on the equipment.

Recapitulation of parameters:

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

Gases CH₄, C₃H₈, H₂, C₅H₁₂ in range 0-100% LEL for Group II by catalytic sensor.

Gas CH₄ in range 0-100% LEL for Group I by catalytic sensor.

Gas O₂ in range 0-25% (v/v) for inertization purposes only for Group I and II by electrochemical sensor.

Firmware version: v2.03

Charging contacts entity parameters: $U_m \leq 6.7 \text{ V}$

Ambient temperature range: $-40^\circ\text{C} \leq T_a \leq +60^\circ\text{C}$ for explosion safety

Temperature class: T4

(16) Report No.: 07/0169/12

(17) Special conditions for safe use:

- 17.1 The equipment shall only be charged and opened in a non-hazardous area.
- 17.2 The equipment shall not be used in Zone 0 when the combustible XCell™Ex sensor is installed.
- 17.3 The evaluation according to standard EN 50270:2006 is on manufacturer's responsibility.
- 17.4 The alarm set points are not applied for measuring oxygen inertization and it shall be taken into account.

(18) Essential Health and Safety Requirements: Covered by standards mentioned in (10) of this supplement.

(19) 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: 25.04.2014

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(1) **Supplementary EU - Type Examination Certificate No.13**

(2) **Equipment or Protective Systems Intended for Use
in Potentially Explosive Atmospheres
(Directive 2014/34/EU)**

(3) EU - Type Examination Certificate number:

FTZÚ 07 ATEX 0169X

(4) Product: **ALTAIR 4X Multigas Detector**

(5) Manufacturer: **MSA – The Safety Company**

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

(7) This supplementary certificate extends EC - Type Examination Certificate No. FTZÚ 07 ATEX 0169X to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute, Notified Body number 1026, in accordance with Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

(9) In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20.04.2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20.04.2016

(10) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013

EN 60079-18:2009

EN 50271:2010

EN 60079-1:2014

EN 50303:2000

EN 50104:2010

EN 60079-11:2012


EN 60079-29-1:2007

(11) The marking of the product shall include the following:

 **I M1 Ex ia I Ma**
II 1G Ex ia IIC T4 Ga - when combustible XCell Ex sensor is not installed
II 2G Ex db ia mb IIC T4 Gb

(12) The certificate is valid till: **24.11.2021**

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 24.11.2016

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Physical-Technical Testing Institute
Ostrava - Radvanice

(13)

Schedule

(14) **Supplementary EU - Type Examination Certificate No. 13
to FTZÚ 07 ATEX 0169X**

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- evaluation according to the new standards,
- prolongation of certificate validity,
- change of name of manufacturer.

The product has been evaluated according to new editions of standards EN 60079-0 and EN 60079-1. The product marking has been updated – "d" to "db". No construction or software changes have occurred on the product. The specific conditions of use have been updated. The manufacturer's name has been changed from Mine Safety Appliances Company to MSA – The Safety Company.

(16) Report Number.: 07/0169/13

(17) Specific Conditions of Use:

updated

1. The equipment shall only be charged and opened in a non-hazardous area.
2. The equipment shall not be used in Zone 0 when the combustible XCell™Ex sensor is installed.
3. The evaluation according to standard EN 50270 is on manufacturer's responsibility.
4. The alarm set points are not applied for measuring oxygen inertization and it shall be taken into account.
5. The equipment enclosure includes accessible metal parts. The end user shall determine suitability in the specific application. The measured capacitance of the equipment on the item: D-ring with clip is 23 pF and on the item: Pins for charging is 12 pF.

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (10) of this supplementary certificate.

(19) Drawings and Documents:

Number:	Rev.	Title:
10106503	04	Operating Manual
SK3098-1133	07	FTZU approvals, ALTAIR 4X
SK3025-1060	01	Artwork, Label

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 24.11.2016

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(1) **Supplementary EU - Type Examination Certificate No.14**

(2) **Equipment or Protective Systems Intended for Use
in Potentially Explosive Atmospheres
(Directive 2014/34/EU)**

(3) EU - Type Examination Certificate number:

FTZÚ 07 ATEX 0169X

(4) Product: **ALTAIR 4X Multigas Detector**

(5) Manufacturer: **MSA – The Safety Company**

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

(7) This supplementary certificate extends EC - Type Examination Certificate No. FTZÚ 07 ATEX 0169X to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute, Notified Body number 1026, in accordance with Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

(9) In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20.04.2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20.04.2016.

(10) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013

EN 60079-18:2009

EN 50271:2010

EN 60079-1:2014

EN 50303:2000

EN 50104:2010

EN 60079-11:2012

EN 60079-29-1:2007

(11) The marking of the product shall include the following:

 **I M1 Ex ia I Ma**
II 1G Ex ia IIC T4 Ga - when combustible XCell Ex sensor is not installed
II 2G Ex db ia mb IIC T4 Gb

(12) The certificate is valid till: **24.11.2021**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 10.04.2017

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Physical-Technical Testing Institute
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(13)

Schedule

(14) **Supplementary EU - Type Examination Certificate No. 14
to FTZÚ 07 ATEX 0169X**

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Modification of certified apparatus (minor change in the printed circuit board),
- Updating of approval document.

Technical data remain unchanged.

(16) Report Number.: 07/0169/14

(17) Specific Conditions of Use:

None additional to those listed previously.

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (10) of this supplementary certificate.

(19) Drawings and Documents:

Number:	Rev.	Title:
SK3098-1133	08	FTZU approvals, ALTAIR 4X

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 10.04.2017

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(1) **Supplementary EU - Type Examination Certificate No.15**

(2) **Equipment or Protective Systems Intended for Use
in Potentially Explosive Atmospheres
(Directive 2014/34/EU)**

(3) EU - Type Examination Certificate number:

FTZÚ 07 ATEX 0169X

(4) Product: **ALTAIR 4X Multigas Detector**

(5) Manufacturer: **MSA – The Safety Company**

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

(7) This supplementary certificate extends EC - Type Examination Certificate No. FTZÚ 07 ATEX 0169X to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute, Notified Body number 1026, in accordance with Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

(9) In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20.04.2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20.04.2016.

(10) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013	EN 60079-18:2009	EN 50271:2010
EN 60079-1:2014	EN 50303:2000	EN 50104:2010
EN 60079-11:2012	EN 60079-29-1:2007	

(11) The marking of the product shall include the following:

 **I M1 Ex ia I Ma**
II 1G Ex ia IIC T4 Ga - when combustible XCell Ex sensor is not installed
II 2G Ex db ia mb IIC T4 Gb

(12) The certificate is valid till: **24.11.2021**

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 16.11.2017

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Physical-Technical Testing Institute
Ostrava - Radvanice

(13)

Schedule

(14) **Supplementary EU - Type Examination Certificate No. 15
to FTZÚ 07 ATEX 0169X**

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Updating of Operating manual.

Technical data remain unchanged.

(16) Report Number.: 07/0169/15

(17) Specific Conditions of Use:

None additional to those listed previously.

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (10) of this supplementary certificate.

(19) Drawings and Documents:

Number:	Revision:	Date:	Title:
10106503	04	09.11.2017	Operating Manual

Responsible person:


Dipl. Ing. Lukáš Martinák
Head of Certification Body



Date of issue: 16.11.2017

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