



Translation

(1) **EC-Type Examination Certificate**

- (2) **- Directive 94/9/EC -**
Equipment and protective systems intended for use
in potentially explosive atmospheres

- (3) **BVS 03 ATEX E 238 X**

- (4) **Equipment:** **Multigas Detector type SOLARIS**

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

- (6) **Address:** **USA - Pittsburgh, PA 15230-0427**

- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

- (8) The certification body of EXAM BBG Prüf- und Zertifizier GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment 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 the test and assessment report BVS PP 03.2296 EG.

- (9) The Essential Health and Safety Requirements are assured by compliance with:

EN 50014:1997 + A1-A2	General requirements	
EN 50018:2000	Flameproof enclosure	'd'
EN 50020:2002	Intrinsic safety	'i'

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment 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 tests of the specified equipment in accordance to Directive 94/9/EC.

Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate

- (12) The marking of the equipment shall include the following:

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

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, dated 02. February 2004

Signed: **Jockers**

Certification body

Signed: **Eickhoff**

Special services

(13) Appendix to

(14) **EC-Type Examination Certificate**

BVS 03 ATEX E 238 X

(15) 15.1 Subject and type

Multigas Detector type SOLARIS

15.2 Description

The Multigas Detector type SOLARIS is a portable apparatus with an integrated power supply battery. The Multigas Detector is used to measure gases (3 electrochemical cells and 1 flameproof enclosure sensor type 20L, certificate number: Sira 02ATEX1298U) in the ambient air under atmospheric conditions. The measurement values are indicated on an integrated LC-display. When the set limit values are reached, a visual alarm, an audible alarm and optionally a vibrating alarm is given.

The Multigas Detector is supplied from a Li-Ion battery, which have to be charged outside the hazardous location.

15.3 Parameters

Power supply battery:

Nominal voltage

3,7 V

Nominal capacity

1700 mAh

Maximum charging voltage

U_m

DC 7,26 V

Ambient temperature range

$-20\text{ °C} \leq T_a \leq +50\text{ °C}$

(16) Test and assessment report

BVS PP 03.2296 EG as of 02.02.2004

(17) Special conditions for safe use

The measurement function for explosion protection is not the subject of this EC-Type Examination Certificate.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 02. February 2004

BVS-Rip/Kw A 20030296

EXAM BBG Prüf- und Zertifizier GmbH


Certification body


Special services



Translation

1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate BVS 03 ATEX E 238 X

Equipment: Multigas Detector type SOLARIS FX

Manufacturer: Mine Safety Appliances Company

Address: USA - Pittsburgh, PA 15230-0427

Description

The Multigas Detector type SOLARIS can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report and receives then the marking type **SOLARIS FX**.

Instead of the sensor type 20L (Sira 02ATEX1298U) the sensor type 4P-50 (Sira 01ATEX1205X) is used.
The changed Multigas Detector type SOLARIS FX is used for an ambient temperature range of -20 °C up to +40 °C.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 50014:1997+A1-A2	General requirements	
EN 50018:2000 +A1	Flameproof enclosure	'd'
EN 50020:2002	Intrinsic safety	'i'

The marking of the equipment shall include the following:

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

Parameters

Multigas Detector type SOLARIS FX

Power supply battery:

Nominal voltage

Nominal capacity

Maximum charging voltage U_m

3,7 V
1700 mAh
DC 7,26 V

Ambient temperature range

$-20\text{ °C} \leq T_a \leq +40\text{ °C}$

Special conditions for safe use

The measurement function for explosion protection is not the subject of this supplement.

Test and assessment report

BVS PP 03.2296 EG as of 07.04.2005

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, dated 07. April 2005

Signed: Dr. Jockers

Signed: Dr. Eickhoff

Certification body

Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 07. April 2005
BVS-Rip/Kw A 20040685

EXAM BBG Prüf- und Zertifizier GmbH



Certification body



Special services unit