



Translation

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

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

(3) **BVS 05 ATEX E 025 X**

(4) **Equipment: Multigas Detector Type SIRIUS**

(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 05.2122 EG.

(9) The Essential Health and Safety Requirements 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'

(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 T3/T4**

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, dated 11. October 2005

Signed: Dr. Eickhoff

Signed: Dr. Arnold

Certification body

Special services unit

(13) Appendix to

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

BVS 05 ATEX E 025 X

(15) 15.1 Subject and type

Multigas Detector Type SIRIUS

15.2 Description

The Multigas Detector type SIRIUS is a portable apparatus with an integrated power supply battery. The Multigas Detector is used to measure gases (3 electrochemical cells, 1 Photo-Ionization-Detector (PID) 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 and an audible alarm are given.

The Multigas Detector is supplied from a Li-Ion Battery-Pack, which have to be charged and changed only outside the hazardous location or from a Alkaline-Battery-Pack.

The Alkaline-Battery-Pack contains 4 cells (size AA), which have to be changed only outside the hazardous location. The approved battery types are listed in the manufacturer instructions from the Mine Safety Appliances Company.

15.3 Parameters

15.3.1 Type of protection and ambient temperature range of the complete device type SIRIUS considering individual combination of components:

	Type of protection	Ambient temperature range
Measuring unit with Li-Ion Battery Pack or Alkaline Battery Pack (DURACELL)	EEx ia d IIC T4	$-20\text{ °C} \leq T_a \leq +50\text{ °C}$
Measuring unit with Alkaline Battery Pack (VARTA) or Alkaline Battery Pack (ENERGIZER)	EEx ia d IIC T3	$-20\text{ °C} \leq T_a \leq +50\text{ °C}$

15.3.2 Li-Ion Battery Pack

Nominal voltage	3.7	V
Nominal capacity	1700	mAh
Maximum charging voltage U_m	DC 6.54	V

15.3.3 The approved Alkaline battery types are listed in the manufacturer instructions from the Mine Safety Appliances Company.

(16) Test and assessment report

BVS PP 05.2122 EG as of 11.10.2005

(17) Special conditions for safe use

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

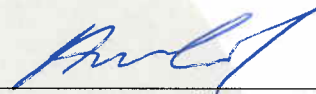
We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 11.10.2005
BVS-Rip/Mi A 20040419

EXAM BBG Prüf- und Zertifizier GmbH



Certification body



Special services unit