

1 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 No:** FM11ATEX0013

4 **Equipment or protective system:** 329000-*, 329001-*, ULTIMA OPIR-5 Open Path Gas Detector
(Type Reference and Name)

5 **Name of Applicant:** Mine Safety Appliances

6 **Address of Applicant:** 1000 Cranberry Woods Drive,
Cranberry Township, PA 16066.
United States of America.

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd, notified body number 1725 in accordance with Article 9 of Directive 94/9/EC 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 intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3042476EC dated 13 May 2011.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2009, EN 60079-1:2007, EN61241-0:2006, EN61241-1:2004, EN60529:1991 + A1:2000,
EN 50241-1:1999 + A1:2004, EN 50241-2:1999 & IEC 60079-29-4:2009.

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 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:



II 2 G Ex d IIB+H₂ T4 Gb Ta = -55°C to 65°C; IP66/67

II 2 D Ex tb IIIC T135°C Db Ta = -55°C to 65°C; IP66/67

Andrew Was
Certification Manager, FM Approvals Ltd.

Issue date: 16th May 2011

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

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SCHEDULE



Member of the FM Global Group

to EC-Type Examination Certificate No. FM11ATEX0013

13 Description of Equipment or Protective System:

The ULTIMA OPIR-5; part numbers, 329000-a, 329001-a is a fixed open path gas detector, comprising of a Source and Receiver module operating over a distance of 5-150 meters. The operating temperature range is -55°C to +65°C and the power consumption is as follows: for the Source = 12W and for the Receiver = 10W. The enclosures are manufactured from 316L stainless steel. Field accessories comprise of Attenuation plate P/N 329113-1, Pan-Tilt Base assembly P/N 329071-1, Pan-Tilt Arm assembly P/N 329073-1, Long Range Alignment Kit P/N 329082 and gas filter kits P/N 329083 & 329084. Depending on the model selected, the system communications are Dual Modbus or Single Modbus with HART. Each variation comes complete with (2) 4-20mA outputs for detection of Propane with measurement ranges of 0-1 LEL•m and 0-2000ppm•m and Methane with measurement ranges of 0-5 LEL•m and 0-5000ppm•m, with minimum alarm set point of 10% FSD and repeatability of ±6% FSD.

ULTIMA OPIR-5 Receiver:
329000-a

a: Output & Terminals 17 through 24

ULTIMA OPIR-5 Source:
329001-a

a: Terminals 3 or 4

Specifications - The manufacturer's specification is as follow:

Operating Temperature:	-55°C to +65°C
Relative Humidity:	0 to 95% (Non- condensing)
Supply Parameters:	+24 V nominal, 20-36 VDC
Measurement Signal:	4-20mA
Calibration:	Units are supplied factory calibrated for the specified target gas or gases. Units should not require recalibration in service.

14 Special Conditions for Safe Use:

None

15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 Test and Assessment Procedure and Conditions:

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

17 Approved Drawings

Details of the approved drawings and documents are identified in the confidential report identified in item 8.

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