



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 04ATEX2269X** Issue: **5**

4 Equipment: **ULTRAPROBE™ 2000MPH**

5 Applicant: **UE Systems, .**

6 Address: 14 Hayes Street  
Elmsford  
New York 10523-2536  
USA

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

8 CSA Group Netherlands B.V., Notified Body Number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 the confidential reports listed in Section 14.2.

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

EN 50014:1997 + Amendments 1 and 2

EN 50020:2002

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 2 G  
EEx ib IIC T3

Project Number 1050

Signed: 

Title: Director of Operations

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**CSA Group Netherlands B.V.**  
Utrechtseweg 310,  
6812 AR, Arnhem,  
Netherlands



## SCHEDULE

### EU-TYPE EXAMINATION CERTIFICATE

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Issue 5

#### 13 DESCRIPTION OF EQUIPMENT

The ULTRAPROBE™ 2000 is a portable, handheld, battery operated leak detector. The ULTRAPROBE™ 2000 monitors ultrasonic signals such as those given off by steam traps, valves, bearings, pressure leaks, vacuum leaks and electrical corona discharge.

The ULTRAPROBE™ 2000 System comprises:

##### **ULTRAPROBE™ 2000 MPH Pistol**

The ULTRAPROBE™ 2000 MPH Pistol is the main component of the system and features intensity adjustment, battery level indicator, sensitivity selection, headset jack, trigger switch, frequency adjust dial, meter selection of log, linear or auxiliary positions and battery recharge jack. The circuitry for the ULTRAPROBE™ 2000 MPH Pistol is contained on two printed circuit boards that are mounted and housed in an extruded painted aluminium enclosure with plastic end-caps. A triple redundant active limiting circuit located on the encapsulated main circuit board limits the energy from internal sixteen-cell nickel metal hydride battery pack to the ULTRAPROBE™ 2000 MPH Pistol circuitry.

The enclosure affords a degree of protection of at least IP20, therefore, the ULTRAPROBE™ 2000 MPH Pistol may only be used in dry, clean and well controlled environments.

The permitted battery pack, BPA-2, comprises 16 Varta type V150H 150 mAh nickel metal hydride cells.

Replacement or charging of the nickel metal hydride battery pack is permitted only in a non-hazardous area and by a charger having a maximum output voltage of 15 V d.c and a maximum output current of 60 mA. (e.g. The charger supplied by UE Systems ).

##### **Trisonic Scanning Module**

The Trisonic Scanning Module is a sensor array that attaches to the ULTRAPROBE™ 2000 MPH Pistol. This sensor array receives airborne ultrasounds through an array of three piezoelectric transducers. The module comprises three piezoelectric transducers mounted above a fully encapsulated printed circuit board containing electronic components all housed in an open ended plastic enclosure. Covering the open end of the enclosure is a wire mesh thus affording an ingress protection rating of not less than IP20, therefore, the Trisonic Scanning Module connected to the ULTRAPROBE™ 2000 MPH Pistol may only be used in dry, clean and well controlled environments.

A cone shaped rubber-focusing probe can be attached to the module to block out stray ultrasound.

##### **Contact Module**

The Contact Module is a sensor array that attaches to the Ultraprobe 2000 MPH Pistol. The Contact Module has a metal rod which is sensitive to ultrasound generated internal to the device being monitored. The contact module's encapsulated circuitry is the same as the trisonic scanning module.

##### **Headset**

The Headset connects to the ULTRAPROBE™ 2000 MPH Pistol and is designed to block out sounds found in the industrial environment and let the user hear only those produced by the Ultraprobe.

The inductance of the headset must not exceed 60  $\mu$ H measured at 1kHz.

The resistance of the headset must not be less than 6.4  $\Omega$  measured at 20°C  $\pm$  2°C.



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#### Warbling Tone Generator

The tone generator is an ultrasonic transmitter used for leak tests and powered by an integrally mounted 4.8 Volt nickel cadmium battery pack. It has a battery recharge jack and a switch that turns the generator off or selects a low or high amplitude signal. The tone generator can only be used with the BPA-1 battery pack assembly. The circuitry for the Warbling Tone Generator is contained on a single printed circuit board that is mounted and housed in an extruded painted aluminium enclosure with plastic end-caps. A current limiting resistor and an encapsulated fuse located in the battery pack limit the energy from the internal four-cell nickel cadmium battery to the Warbling Tone Generator circuitry.

The enclosure affords a degree of protection of at least IP20 and, therefore, the Warbling Tone Generator may only be used in dry, clean and well controlled environments.

The permitted battery pack, BPA-1, comprises 4 nickel metal hydride cells.

Replacement or charging of the nickel cadmium battery is permitted only in a non-hazardous area and by a charger having a maximum output of voltage of 15 V d.c and a maximum output current of 60 mA. (e.g. The charger supplied by UE Systems ).

**Variation 1** - This variation introduced the following changes:

- i. The introduction of an alternative piezoelectric transducer for XDR-4, specified on drawing KEP0407JB01.
- ii. The recognition of minor modifications of drawing KEP0427401A; these changes are administrative and do not affect the aspects of the product that are relevant to explosion safety.

**Variation 2** - This variation introduced the following changes:

- i. Label Artwork changes were recognised.
- ii. The Stethoscope Probe form was changed.
- iii. The piezo-electric device was changed.

**Variation 3** - This variation introduced the following changes:

- i. The use of alternative batteries for the Warbling Tone Generator was approved.
- ii. The vendor number R1 was removed from the bill of materials.
- iii. The special conditions for safe use were rationalised.

**Variation 4** - This variation introduced the following changes:

- i. Introduction of TENERGY AAA 10407 rechargeable cells, with a corresponding update to the product description.



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#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annexe.

##### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	15 November 2004	R52G10337A	The release of the prime certificate.
1	18 September 2007	R52A16943A	This Issue covers the following changes: <ul style="list-style-type: none"><li>All previously issued certification was rationalised into a single certificate, Issue 1, Issues 0 referenced above is only intended to reflect the history of the previous certification and has not been issued as a document in this format.</li></ul> The introduction of Variation 1.
2	01 June 2011	R24741A/00	The introduction of Variation 2.
3	01 July 2015	R70015588B	The introduction of Variation 3.
4	19 January 2017	R70104481B	This Issue covers the following changes: <ul style="list-style-type: none"><li>EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. <i>(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 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</i></li><li>The introduction of Variation 4.</li></ul>
5	15th October 2019	1050	<ul style="list-style-type: none"><li>Transfer of certificate <b>Sira 04ATEX2269X</b> from Sira Certification Service to CSA Group Netherlands B.V..</li></ul>

#### 15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

15.1 Whilst the battery packs used in this equipment may be changed by the user in an area that is known to be non-hazardous, they shall only be replaced with products supplied by UE Systems .

15.2 The battery packs shall only recharged in an area that is known to be non-hazardous and by a charger having a maximum output of voltage of 15 V d.c and a maximum output current of 60 mA. (e.g. The charger supplied by UE Systems .).

#### 16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

# Certificate Annexe



**Certificate Number:** Sira 04ATEX2269X

**Equipment:** ULTRAPROBE™ 2000MPH

**Applicant:** UE Systems, .

## Issue 0

### ULTRAPROBE™ UP2000 MPH

Number	Sheet	Rev.	Date	Description
KEP 0914JD01	1 of 1	-	14 Sep 04	Identification of Parts for UP2000
KEP 0914JD02	1 of 1	-	14 Sep 04	UP2000MPH & WTG-1 General Assembly
KEP 0929901	1 of 1	-	09 Apr 04	Schematic, Main Board 821-5B, Aux. Board 821-4F
KEP 1210901	1 of 1	-	02 Aug 04	Battery Connector Sleeve Procedure
KEP 0521901	1 of 1	-	14 Sep 04	UP2000 Battery Pack Assembly, BPA-2, Ni-Mh
KEP 0929902	1 to 3	-	15 Sep 04	Parts List, Main Board 821-5B, Aux. Board 821-4F
KEP 0823304A	1 of 1	-	29 Sep 89	UP2000 MPH Board 821-4F Component Layout
KEP 0909302A	1 of 1	-	02 Oct 96	Artwork, UP2000 MPH 821-4F
KEP 0909303	1 of 1	-	02 Oct 96	Artwork, Main Board 821-5B
KEP 0823305	1 of 1	-	10 Apr 87	UP2000 MPH Board Layout
KEP 0102001	1 of 1	-	15 Sep 04	UP2000 Circuit Board Source Control Information
KEP 0114JD01	1 of 1	-	14 Jan 04	UP2000 MPH PCB Encapsulation Details
KEP 0825401	1 of 1	-	26 Dec 96	Mechanical Strain Relief
KEP 09210101	1 of 1	-	25 Mar 02	T1 Transformer Specs MPH
KEP 1220901	1 of 1	-	15 Dec 89	Handle Strap Retainer Piece
KEP 1220902	1 of 1	-	20 Dec 89	Handle End Cap Retaining Screw Details
KEP 0808JD01	1 of 1	-	08 Aug 04	Handle Rivet Insulation Details
KEP 1107501	1 of 1	-	09 Jan 04	Ultraprobe 2000 Pistol Housing Label

### Module

Number	Sheet	Rev.	Date	Description
KEP 0711301	1 of 1	-	12 Jul 03	UP2000 Module Board 821-1C Schematic
KEP 0711302	1 of 1	-	12 Jul 03	UP2000 Module Board 821-1C Parts List
KEP 0823301	1 of 1	-	18 Aug 04	UP2000 Module Board 821-1C Component Layout
KEP 0909301	1 of 1	-	28 Nov 01	UP2000 Module Board 821-1C Artwork
KEP 0407JB01	1 of 1	-	07 Apr 02	Piezoelectric Transducer Specifications
KEP 0914JD03	1 of 1	-	20 Sep 04*	UP2000 Module Label (* This is the date that the drawing was stamped by Sira.)

### Accessories

Number	Sheet	Rev.	Date	Description
KEP 1220903	1 of 1	-	29 Nov 94	UP2000 Stethoscope Probe Detail drawing
KEP 1104301	1 of 1	-	26 Mar 02	UP2000 Headphone Schematic

### Warble Tone Generator WTG-1

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# Certificate Annexe



**Certificate Number:** Sira 04ATEX2269X

**Equipment:** ULTRAPROBE™ 2000MPH

**Applicant:** UE Systems, .

Number	Sheet	Rev.	Date	Description
KEP 0112401	1 of 1	-	14 May 99	WTG-1 Board Revised Artwork Surface Mount
KEP 0112401B	1 of 1	-	14 May 99	UP2000 Revised Tone Noise Generator-Component Layout
KEP 0112402B	1 of 1	-	14 Jun 99	UP2000 Revised Tone Noise Generator-Schematic SRD-1
KEP 0112403	1 & 2	-	28 Mar 02	SRD-1 Tone/Noise Generator Parts List
KEP 0812701	1 of 1	-	15 Sep 04	WTG-1 Battery Retainer Board
KEP 0427401A	1 of 1	-	14 Sep 04	WTG-1 Battery Pack Assembly
KEP 0712JC01	1 of 1	-	12 Jul 03	Insulated Mounting of Recharge Jack
KEP 09210102	1 of 1	-	26 Mar 02	T1 Transformer Specs WTG-1
KEP 0802JD01	1 of 1	-	02 Aug 04	WTG-1 PCB Encapsulation Details
KEP 0117502	1 of 1	-	01 Sep 04	UP2000 Warbling Tone Generator Label

## Issue 1

Number	Sheet	Rev.	Date	Description
KEP0407JB01	1 of 1	-	13 Sep 07	Piezoelectric transducer specification
KEP0427401A	1 of 1	-	11 Sep 07	UP2000 BPA-1 Battery Pack Assembly

## Issue 2

Number	Sheet	Rev.	Date (Sira stamp)	Description
KEP1107501	1 of 1	-	20 Apr 11	UP2000 Atex MPH Label Artwork
KEP1107502	1 of 1	-	20 Apr 11	UP2000 WTG-1 Label Artwork
KEP1220903	1 of 1	-	21 Apr 11	UP2000 Stethoscope Probe Detail drawing
KEP0711302	1 of 1	-	04 May 11	UP2000 Module Board 821-1C Parts List

## Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
KEP 0812701	1 of 1	11-10-2014	20 May 15	WTG-1 Battery Retainer Board
KEP0427401A	1 of 1	3-18-2015	20 May 15	WTG-1 Battery Pack Assembly

## Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
KEP0427401A	1 of 1	12-22-2016	28 Dec 16	UP2000 BPA-1 Battery Pack Assembly

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