



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 05ATEX2295** Issue: **7**

4 Equipment: **!ISA Gas Surveyor/ PS500 Gas Surveyor**

5 Applicant: **Gas Measurement Instruments Limited**

6 Address: **Inchinnan Business Park  
Renfrew  
PA4 9RG  
UK**

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    EN 50018:2000    EN 50018:1994

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 2G

EEx ia d IIC T4 – When fitted with the Alkaline Non-Rechargeable Battery Pack

EEx ia d IIC T3 – When fitted with either the Long Duration Rechargeable Battery Pack, the Slimline Rechargeable Battery Pack or the Fast Charge Rechargeable Battery Pack

•

Project Number    80006335

Signed: J A May

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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#### 13 DESCRIPTION OF EQUIPMENT

The VISA Gas Surveyor is a portable hand held gas sensing instrument that is designed for confined space monitoring, e.g. in sewers, underground piping or within tanks, and other personal monitoring applications. The instrument consists of two parts, a gas measuring part and a battery pack.

The gas measuring part comprises electronic components mounted on 6 printed circuit boards (PCBs), a liquid crystal display unit (LCD), an audible alarm, a single coin cell memory retention battery (BAT1), an optional pump and up to 4 gas sensors; these are all housed in a plastic enclosure held together by tamper resistant fixings. Push buttons are mounted on the front of the enclosure, these operate the instrument and interrogate the measurements displayed on the LCD. A compartment on the front of the enclosure allows up to 4 gas sensors to be fitted; access to these sensors is provided by a removable lid that is secured by a differently sized tamper resistant fixing.

The battery pack comprises electronic components mounted on a printed circuit board (PCB) and 3 series connected cells; these are all housed in a plastic enclosure. The battery pack is attached to the gas measuring part by a 6 pin connector and mechanically secured by a single tamper resistant fixing. The battery pack can be fitted with non-rechargeable cells or with rechargeable nickel metal hydride (NiMH) cells.

**Non-rechargeable cells and their associated battery pack shall only be replaced in a non-hazardous area; the permitted non-rechargeable cells are:**

Battery pack type	Cell specification
Alkaline	3 Sony AA or 3 Energizer no. E91 or 3 Duracell/Procell AA

Replacement or charging of the nickel metal hydride battery packs is only permitted in a non-hazardous area; the permitted rechargeable cells are:

Battery pack type	Cell specification	Charging specification
Slimline	3 Varta type VH 1350 F9	To be charged by a charger that has a maximum output voltage of 9.9 V
Long Duration	3 Energizer no. NH15	To be charged by a charger that has a maximum output voltage of 9.9 V
Fast Charge	3 Energizer no. NH15	To be charged by a G.M.I. supplied Fast Charger

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

- i. The use of the Shock Resistant (SR) Flammable Sensor Assembly (Gas Sensing Head) was permitted.
- ii. It was recognised that the VISA gas detectors meet the requirements of IEC 61779-1 and IEC 61779-4 Performance Requirements; only the later issue versions of the following printed circuit boards are associated with performance tests:  
66061IEC, 66062IEC, 66063IEC, 66065IEC, 66089IEC and 66193IEC

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

- i. The use of an Ion Science Alphasense Mini PID PID-A1 or PID-AH PhotoIonisation Detector Sensor (certificate Baseefa 07ATEX0060/U) was endorsed, this includes the addition of a fuse to limit the power to the Sensor.
- ii. The retrospective introduction of drawings relating to PCB No. 66064.



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

- i. To permit the addition of a carrier PCB to accommodate the change of component U7 (ST3222) from a S018 package to a TSSOP020 package.
- ii. The assessment standards IEC 61779-1 and IEC 61779-4 have been removed at manufacturer's request.

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

- i. The circuit board (66560 SCH+) and assembly (66560A) were modified.
- ii. The introduction of the alternative equipment name/model number, "PS500 Gas Surveyor".
- iii. The Condition of Certification specifying suitable sensors was clarified, in addition, previously applied Conditions were reinstated.

**Variation 5** - This variation introduced the following change:

- i. Introduction of an alternative cell "Energizer NH15-2000 (HR6) for the Long Duration and fast Charge battery packs.

## 14 DESCRIPTIVE DOCUMENTS

### 14.1 Drawings

Refer to Certificate Annexe.

### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	17 November 2006	R52A13730B	The release of prime certificate.
1	10 April 2007	R52A14593B	This Issue covers the following changes: <ul style="list-style-type: none"><li>• All previously issued certification were rationalised into a single certificate Issue 1, Issue 0 referenced above is only intended to reflect the history of the previous certification and has not been issued as actual documents.</li><li>• The introduction of Variation 1.</li></ul>
2	3 April 2008	N.A.	The standard references listed under Variation 1 were corrected, in addition the allusion to a Safety Related Device was removed.
3	5 May 2009	R52A19163A	The introduction of Variation 2.
4	10 June 2013	R29785A/00	The introduction of Variation 3.
5	28 January 2015	R52A19163A/01 R70007058A	This Issue covers the following changes: <ul style="list-style-type: none"><li>• Report R52A19163A was replaced by R52A19163A/01, in consequence, the changes associated with Variation 2 and the Condition of Certification were amended.</li><li>• The introduction of Variation 4.</li></ul>



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Issue	Date	Report no.	Comment
6	15th October 2019	1719	<ul style="list-style-type: none"><li>• Transfer of certificate Sira 05ATEX2295 from Sira Certification Service to CSA Group Netherlands B.V..</li><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></ul>
7	08 November 2019	R80006335A	The introduction of Variation 5

15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)

None

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 05ATEX2295  
 Equipment: VISA Gas Surveyor/ PS500 Gas Surveyor  
 Applicant: Gas Measurement Instruments Limited

## Issue 0

Drawing	Sheet	Rev.	Description
66000 – IEC	1 of 1	1	VISA GA - Certification
66061IEC	1 of 2	4	VISA Main PCB Circuit Diagram
66061IEC	2 of 2	4	VISA Main PCB Artwork Details
66061IEC	2 of 2	3	VISA Main PCB Artwork Details
66062IEC	1 of 2	2	VISA Oxygen Head Circuit Diagram
66062IEC	2 of 2	2	VISA Oxygen Head Artwork Details
66062IEC	2 of 2	1	VISA Oxygen Head Artwork Details
66063IEC	1 of 2	2	VISA Toxic Head Circuit Diagram
66063IEC	2 of 2	2	VISA Toxic Head Artwork Details
66063IEC	2 of 2	1	VISA Toxic Head Artwork Details
66065IEC	1 of 2	3	VISA Dual Toxic Head Circuit Diagram
66065IEC	2 of 2	3	VISA Dual Toxic Head Artwork Details
66065IEC	2 of 2	2	VISA Dual Toxic Head Artwork Details
66089IEC	1 of 2	2	VISA Toxic 2 Head Circuit Diagram
66089IEC	2 of 2	2	VISA Toxic 2 Head Artwork Details
66089IEC	2 of 2	1	VISA Toxic 2 Head Artwork Details
66097IEC	1 of 2	2	VISA Battery Pack Circuit Diagram
66097IEC	2 of 2	2	VISA Battery Pack Artwork Details
66110IEC	1 of 2	1	VISA Dry Cell Battery Pack Circuit Diagram
66110IEC	2 of 2	1	VISA Dry Cell Battery Pack Artwork Details
66113IEC	1 of 2	1	VISA Interconnection Board Circuit Diagram
66113IEC	2 of 2	1	VISA Interconnection Board Artwork Details
66122IEC	1 of 2	2	VISA Long Duration Battery Pack Circuit Diagram
66122IEC	2 of 2	2	VISA Long Duration Battery Pack Artwork Details
66151IEC	1 of 2	3	VISA Fast Charge Duration Battery Pack Circuit Diagram
66151IEC	2 of 2	3	VISA Fast Charge Duration Battery Pack Artwork Details
66193IEC	1 of 2	2	VISA Biased Toxic Sensor PCB Circuit Diagram
66193IEC	1 of 2	2	VISA Biased Toxic Sensor PCB Artwork Details
66193IEC	2 of 2	1	VISA Biased Toxic Sensor PCB Artwork Details
66196IEC	1 of 2	4	VISA IR Sensor PCB Circuit Diagram
66196IEC	2 of 2	4	VISA IR Sensor PCB Artwork Details
66210 – IEC	1 of 1	1	Dry cell battery pack
66333 – IEC	1 of 1	1	Slimline Battery Pack Assembly
66335 – IEC	1 of 1	1	Fast Charge Battery Pack
66149ATEX	1 of 1	3	Certification Label (Alkaline Batt. Pack T4)
66116ATEX	1 of 1	4	Certification Label (Serial No.)
66114ATEX	1 of 1	4	Certification Label (Slimline Batt. Pack T3)
66117ATEX	1 of 1	3	Certification Label (Long Duration Batt. Pack T3)
66160ATEX	1 of 1	3	Certification Label (Fast Charge Batt. Pack T3)
66064*	1 of 2	2	VISA Flammable Head
66064*	1 of 2	1	VISA Flammable Head

\* These drawings were added retrospectively, refer to report R52A19163 associated with Issue3.

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# Certificate Annexe



Certificate Number: Sira 05ATEX2295  
 Equipment: VISA Gas Surveyor/ PS500 Gas Surveyor  
 Applicant: Gas Measurement Instruments Limited

## Issue 1

Drawing	Sheet	Rev.	Description
67018A SIRA V2	1 of 1	1	SR Flammable Sensor Assembly
67271 SIRA	1 of 1	1	Sensor Body
66463 SIRA	1 of 1	1	Sintered Disc
66072 SIRA	1 of 1	1	Sensor Contact Pin
66473	1 of 1	1	Insert Moulding 1
66474	1 of 1	1	Insert Moulding 2
66465A	1 of 1	1	Filter Assembly
66040 SIRA	1 of 1	1	Sensor Label

Issue 2 No new drawings were introduced with this issue

## Issue 3

Drawing	Sheet	Rev.	Description
66560 SIRA SCH+	1 of 1	1	VISA PID Smart Sensor PCB
66560A SIRA	1 of 1	1	PID Smart PCB Assy

The following drawings are retrospectively included

Drawing	Sheet	Rev.	Description	
66064IEC	2 of 2	1	VISA Flammable Head	<i>(Either of the revisions of these PCBs may be used)</i>
66064IEC	1 to 2	2	VISA Flammable Head	

## Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
66051ATEX	1 of 1	1	26 Apr 13	VISA Main PCB Certification Drawing
66590 ATEX-IECEX	1 of 1	1	26 Apr 13	BOM
66590 ATEX-IECEX	1 of 1	1	26 Apr 13	ST3222 Adapter PCB SO18 to TSSOP20
66590	1 of 3	1	26 Apr 13	Manufacturing (manuf.pho gerbers)
66590	2 of 3	1	26 Apr 13	Gas Measurement Systems ST3222 Adapter- Layer 1 -Top (gerbers)
66590	3 of 3	1	26 Apr 13	Gas Measurement Systems ST3222 Adapter
66051.IEC	1 of 1	1	26 Apr 13	VISA Main PCB Certification Drawing

## Issue 5

Drawing no.	Sheets	Rev.	Date (Sira stamp)	Title
66557UL	1 to 5	2	20 Nov 14	Gerbers
66572.SIRA	1 of 1	1	19 Dec 14	VOC Smart PCB Assembly
66557SIRA	1 of 1	2	20 Nov 14	VISA PID Smart Sensor PCB
66000IEC	1 of 1	2	22 Jan 15	Certification Label (Serial No.)
66116ATEX	1 of 1	5	22 Jan 15	VISA GA- Certification
66116IEC	1 of 1	3	22 Jan 15	Certification Label (Serial No.)

Issues 6 and 7. No new drawings were introduced

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