



# Certificate of Compliance

**Certificate:** 1981011

**Master Contract:** 241576

**Project:** 2531732

**Date Issued:** July 17, 2012

**Issued to:** INFICON AB

P.O. Box 76  
Linköping, 581 02  
Sweden  
Attention: Fredrik Enquist

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*



*Rawn Murphy*

**Issued by:** Rawn Murphy

## **PRODUCTS**

**CLASS 2258 03** - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non - Incendive Systems - For Hazardous Locations

**CLASS 2258 83** - PROCESS CONTROL EQUIPMENT-Intrinsically Safe and Non-Incendive - Systems-For Hazardous Locations-Certified to U.S. Standards

**Exia IIC:**

**AExia IIC:**

Hydrogen Leak Detector System; portable, consisting of Model Extrima Detector, battery operated, 11.25 Vnominal (three Lithium-Ion non-field-replaceable Batteries); intrinsically safe and providing intrinsically safe circuits to Model PX50x Probe, via P/N CX21 Connection Cable; Temperature Code T3; -20 °C < Tamb. < +50°C; IP 67.

Note: the suffix "x" in the PX50x model number denotes minor variations in the physical characteristics of the Probe nozzle (not affecting safety).



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### **SPECIAL CONDITIONS FOR SAFE USE “X”**

Battery Charger must be CSA Certified (or equivalent), with a maximum charging voltage of 12.6 V and a maximum charging current of 770 mA.

Notes:

### **APPLICABLE REQUIREMENTS**

CAN/CSA-C22.2 No. 0-M91	General Requirements – Canadian Electrical Code, Part II
CAN/CSA-C22.2 No. 60079-0:07	Electrical apparatus for explosive gas atmospheres - Part 0: General Requirements
CAN/CSA-E60079-11:02	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic Safety "i"
CAN/CSA-C22.2 No. 60529:05	Degrees of protection provided by enclosures (IP Code)
ANSI/UL 60079-0:09	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
ANSI/UL 60079-11:09	Electrical apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety “i”
ANSI/IEC 60529:2004	Degrees of Protection Provided by Enclosures (IP Code)

### **MARKINGS**

For the Extrima Detector and CX21 cable the following markings are provided on a min 0.02 in thick metal nameplate, secured to the enclosure with adhesive (Refer to Drawing 1421). For the Probe the following markings are produced by a laser-engraving method printed directly on the side of the aluminum handle:

Extrima Detector

- CSA Monogram with C US Indicator;
- Company name;
- Model number;
- Serial number or Date Code (appears on a separate nameplate);
- Certificate reference (“CSA 2007 1981011 X”)



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- Hazardous Location designation for Canada: “Exia IIC T3” (In addition to these required markings, the following optional markings may also appear: “Class I, Zone 0, Group IIC”)
- Hazardous Location designation for the US: “Class I, Zone 0 AExia IIC T3”
- Ambient Temperature (“Ta = -20 Deg. C to + 50 Deg. C”)
- The statement: “WARNING – Charge batteries in safe area only. Do not open detector” (appears on separate label)
- The statement: “Charging Um = 12.6 V, max 770 mA”

#### PX50x Probe

- Model number
- Serial number or date code
- The statement: “Part of Extrima Detector System”
- The statement: “See label on detector for details”

#### CX21 Connection Cable

- Model number
- The statement: “Part of Extrima Detector System”
- The statement: “See label on detector for details”

*Note - Jurisdictions in Canada may require these markings to also be provided in French language. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the manufacturer to determine this requirement and have bilingual wording added to the "Markings".*



## *Supplement to Certificate of Compliance*

**Certificate:** 1981011

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*The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.*

### **Product Certification History**

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<b>Project</b>	<b>Date</b>	<b>Description</b>
2531732	July 17, 2012	Update to report 1981011 to include changing the company name from Adixen Scandinavia AB to INFICON AB and the change of the probe's base material per test report R25248A/00.
2360055	October 25, 2010	Update of report 1981011 to cover minor revisions to the LCD circuitry and to the Bill of Materials.
2308810	June 28, 2010	Update to cover evaluation of probe generation and protection circuitry; alternative probe material; company name change to "Adixen Scandinavia AB".
2016205	March 3, 2008	Update to include the US Certification as AEx ia IIC.
1981011	December 20, 2007	Model Extrima Hydrogen Leak Detector with Model PX50x Probe and P/N PX21 Connection Cable; I.S. for Zone 0 Hazardous Locations.



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX SP 07.0002X** issue No.:3

Status: **Current**

Date of Issue: **2012-04-17** Page 1 of 4

Certificate history:  
Issue No. 3 (2012-4-17)  
Issue No. 2 (2010-12-10)  
Issue No. 1 (2010-6-7)  
Issue No. 0 (2007-9-21)

Applicant: **INFICON AB**  
Westmansgatan 49  
Box 76  
SE-581 02 Linköping  
Sweden

Electrical Apparatus: **Hydrogen Leak Detector type Extrima**  
*Optional accessory:*

Type of Protection: **Intrinsic safety "ia"**

Marking: **Ex ia IIC T3**  
**Ta: -20 °C to +50 °C**

*Approved for issue on behalf of the IECEx* Peter Bremer  
*Certification Body:*

*Position:* Certification Officer

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**SP Technical Research Institute of Sweden**  
Box 857  
SE-501 15 Borås  
Sweden





# IECEx Certificate of Conformity

Certificate No.: IECEx SP 07.0002X

Date of Issue: 2012-04-17

Issue No.: 3

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Manufacturer: **INFICON AB**  
Westmansgatan 49  
Box 76  
SE-581 02 Linköping  
Sweden

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

<b>IEC 60079-0 : 2004</b> Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2006</b> Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"
<b>IEC 60079-26 : 2006</b> Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

#### Test Report:

GB/SIR/ExTR07.0085/00

GB/SIR/ExTR09.0206/01

GB/SIR/ExTR10.0252/00

GB/SIR/ExTR12.0063/00

SE/SP/ExTR07.0001/00

#### Quality Assessment Report:

SE/SP/QAR07.0002/00



# IECEx Certificate of Conformity

Certificate No.: IECEx SP 07.0002X

Date of Issue: 2012-04-17

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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The detector is a hand held device used to detect hydrogen leaks and is powered by a rechargeable Lithium ion battery. The device consists of a main unit interconnected by a pluggable cable to a PX50 series probe unit.

The housing of the main unit is made from aluminium which is anodized and protected by conductive rubber face seals fitted to the front and rear panels. The side panels and corners of the enclosure are fitted with protective rubber ribs. The back panel has a Gortex seal and a socket intended to be used outside hazardous areas, for connecting to the battery charger/barcode reader. The battery charger has the following maximum parameters, 12.6 V, 770 mA.

The probe has a conductive plastic enclosure and a nozzle which varies in length and type. Inside the nozzle fits a hydrogen sensor (Ex component according to ExTR SE/SP/ExTR07.0001/00 and ATEX certificate SP07ATEX3636U). The probe is fully encapsulated, however, a switch, two LEDs and the hydrogen sensor are located outside the encapsulation.

The detector has an ingress protection rating of IP67.

### CONDITIONS OF CERTIFICATION: YES as shown below:

#### Conditions of Certificate and Manufacture

The applicant (manufacturer) shall note the following:

1. The permitted battery pack is constructed from 3 series connected SAFT type MP174865IS or type MP174865 Lithium ion rechargeable cells all encapsulated in Wacker Elastosil RT675.
2. The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform SP of any modifications of the devices that may impinge upon the explosion safety design of their products.
3. The IECEx certificate number referred to in the Manufacturer's Documents and in the Marking Plate, according to ExTR GB/SIR/ExTR07.0085/00, shall be "IECEx SP 07.0002X".

#### Conditions for Safe Use

As aluminium is used at the accessible surface of this equipment, in the event of rare incidents, ignition sources due to impact and friction sparks could occur. This shall be considered when the detector is being installed or used in locations that specifically require level of protection Ga (see IEC 60079-26).



# IECEx Certificate of Conformity

Certificate No.: IECEx SP 07.0002X

Date of Issue: 2012-04-17

Issue No.: 3

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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

### Issue 1 of the certificate

This issue of the certificate, introduces variation 1 of the Detector Unit and the Probe. The following modifications are introduced by this variation:

To prolong the battery life, the probe power generation and protection circuit on the MAIN PCB in the Detector Unit has been redesigned. The circuit contains voltage enhancement and controlled semiconductor voltage shunts. These changes give increased output parameters to the probe.

PX50x Series Probe Assembly now uses a housing made from an alternative plastic material. The circuit has been modified to provide increased power to the sensor to improve its sensitivity.

The name of the applicant and manufacturer, has been changed from Adixen Sensistor AB to Adixen Scandinavia AB. The introduced modifications have been assessed and tested according to ExTR GB/SIR/ExTR09.0206/01, which also include assessment and test of the HS85 sensor.

### Issue 2 of the certificate

This variation - variation 2 - introduces the following modifications:

The LCD module has been modified and the bill of material drawings has been amended. New components on the LCD module, have affected the original thermal assessment. The modifications have been assessed according to ExTR GB/SIR/ExTR10.0252/00, which also introduces and confirm compliance with IEC 60079-26:2006 (ed 2).

### Issue 3 of the certificate

The name of the applicant and manufacturer is changed from "Adixen Scandinavia AB" to "INFICON AB". The outline of the hand probe and the track layout of the probe PCB has been amended. The material of the hand probe has been changed from plastic to aluminium. The changes have been assessed according to ExTR GB/SIR/ExTR12.0063/00.





# EXPLOSION PROTECTION

## CERTIFICATE OF CONFORMITY

Cert NO.GYJ13.1393X

This is to certify that the product

**Hydrogen Leak Detector**

manufactured by **INFICON AB**

(Address: Westmannsgatan 49, SE-582 16 Linköping, Sweden)

which model is **Extrima**

Ex marking **Ex ia II C T3 Ga**

product standard /

drawing number **500131 CERT**

has been inspected and certified by NEPSI, and that it conforms  
to GB 3836.1-2010, GB 3836.4-2010, GB 3836.20-2010

This Approval shall remain in force until **2018.11.07**

**Remarks**

1. Conditions for safe use are specified in the attachment to this certificate.
2. Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment to this certificate.
3. Intrinsic safety parameters specified in the attachment to this certificate.

**Director**

**National Supervision and Inspection Centre for  
Explosion Protection and Safety of Instrumentation**

Issued Date **2013.11.08**



This Certificate is valid for products compatible with the documents and samples approved by NEPSI.

103 Cao Bao Road  
Shanghai 200233, China

<http://www.nepsi.org.cn>  
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Tel: +86 21 64368180  
Fax: +86 21 64844580



# 防 爆 合 格 证

证 号: GYJ13.1393X

由 INFICON AB

制造的产品:

(地址: Westmannsgatan 49, SE-582 16 Linköping, Sweden)

名 称 氢气探测器

型 号 规 格 Extrima

防 爆 标 志 Ex ia II C T3 Ga

产 品 标 准 /

图 样 编 号 500131 CERT

经图样及技术文件的审查和样品检验, 确认上述产品符合 GB 3836.1-2010、GB 3836.4-2010、GB 3836.20-2010 标准, 特颁发此证。

本证书有效期: 2013年11月8日至2018年11月7日

- 备 注
1. 安全使用注意事项见本证书附件。
  2. 证书编号后缀“X”表明产品具有安全使用特殊条件, 内容见本证书附件。
  3. 本安电气参数见本证书附件。

站 长

国家级仪器仪表防爆安全监督检验站

颁 发 日 期 二〇一三年十一月八日



本证书仅对与认可文件和样品一致的产品有效。

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# 国家级仪器仪表防爆安全监督检验站

## National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation

(GYJ13.1393X)

(Attachment I)

### GYJ13.1393X防爆合格证附件 I

由INFICON AB生产的Extrima型氢气探测器（以下简称探测器），经国家级仪器仪表防爆安全监督检验站（NEPSI）检验，符合以下国家标准的规定：

GB3836.1-2010 爆炸性环境 第1部分：设备 通用要求

GB3836.4-2010 爆炸性环境 第4部分：由本质安全型“i”保护的设备

GB3836.20-2010 爆炸性环境 第20部分：设备保护级别（EPL）为Ga级的设备  
产品防爆标志为Ex ia II C T3 Ga，防爆合格证号为GYJ13.1393X。

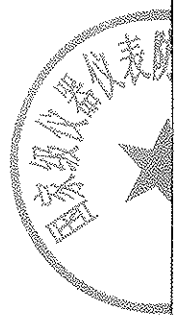
#### 一、 产品安全使用特定条件

证书编号后缀“X”表明产品具有安全使用特殊条件：

- 产品外壳含有轻金属，在0区时应防止由于冲击或摩擦引起的点燃危险。
- 探测器采用由3节MP174865或MP174865IS型锂电池（SAFT公司生产）串联组成的电池组供电。
- 严禁在危险场所充电或更换电池。
- 产品充电器最大输出参数为12.6V，770mA。

#### 二、 产品使用注意事项

1. 探测器的使用环境温度为-20℃~+50℃。
2. 用户不得自行随意更换该产品的电气零部件，应会同产品制造商共同解决运行中出现的故障，以免影响防爆性能和损坏现象的发生。
3. 产品的安装、使用和维护应同时遵守产品使用说明书、GB3836.13-1997“爆炸性气体环境用电气设备 第13部分：爆炸性气体环境用电气设备的检修”、GB3836.15-2000“爆炸性气体环境用电气设备 第15部分：危险场所电气安装（煤矿除外）”、GB3836.16-2006“爆炸性气体环境用电气设备 第16部分：电气装置的检查和维护（煤矿除外）”及GB50257-1996“电气设备安装工程爆炸和火灾危险环境电气装置施工及验收规范”的有关规定。



### 三、 制造厂责任

1. 产品制造厂必须将上述使用注意事项纳入该产品的使用说明书中。
2. 制造厂必须严格按照NEPSI认可的文件资料生产。
3. 产品铭牌中应至少包括下列内容：
  - a) NEPSI认可标志（见防爆合格证书）
  - b) 产品防爆标志
  - c) 防爆合格证号
  - d) 使用环境温度

国家级仪器仪表防爆安全监督检验站

二〇一三年十一月八日

