



# 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 ITA 11.0013X issue No.: 0

Certificate history:

Status: Current

Date of Issue: 2011-06-30 Page 1 of 4

Applicant: **Hansford Sensors Ltd**  
Artisan  
Hillbottom Road  
Sands Industrial Estate  
Buckinghamshire  
HP12 4HJ  
United Kingdom

Electrical Apparatus: **HS-100A Series Accelerometer**  
Optional accessory:

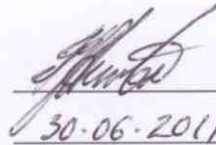
Type of Protection: **Intrinsic safety, Dust ingress protection**

Marking: **IECEx ITA 11.0013X**  
**Ex ia I (-55°C ≤ Ta ≤ +110°C)**

Approved for issue on behalf of the IECEx  
Certification Body:

Position:

Signature:  
(for printed version)

  
30-06-2011

Date:

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:

TUV Rheinland Australia Pty. Ltd  
4 - 6 Second Street  
Bowden SA 5007  
Australia





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Manufacturer: **Hansford Sensors Ltd**  
Artisan  
Hillbottom Road  
Sands Industrial Estate  
Buckinghamshire  
HP12 4HJ  
**United Kingdom**

**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:

**IEC 60079-0 : 2004** Electrical apparatus for explosive gas atmospheres - Part 0: General requirements  
Edition: 4.0  
**IEC 60079-11 : 2006** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition: 5

*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/BAS/ExTR07.0076/00  
GB/BAS/ExTR08.0237/00  
GB/BAS/ExTR11.0045/00

Quality Assessment Report:

GB/BAS/QAR07.0040/02



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## Schedule

### EQUIPMENT:

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

The HS-100 Series Accelerometer is designed to measure acceleration, shock or vibration by converting the signal generated by the compression of a Piezo Electric Crystal by a given seismic mass and outputting a broadband ac signal to the monitoring equipment.

The accelerometer comprises a piezo electric crystal connected to a signal conditioning board all contained within a stainless steel enclosure of various shapes measuring approximately 25cm<sup>3</sup>. The enclosure is a fully welded construction.

Electrical connections are made to the apparatus either via an IP65 rated connector or via an integral cable which is encapsulated in the end of the apparatus.

Variations of the apparatus are identified by the following:

HS-100AS<sup>xy</sup>zz Where

S = 90° Side exit

xxx = Output sensitivity in mV/g

yy = cable/connector details

zz = mounting thread options

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

1. The Ci of the non-fused version of the equipment (HS-100M<sup>xxxxxx</sup> and HS-100MS<sup>xxxxxx</sup>) when fitted with 92m of cable has been increased from 41nF to 83nF.



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## EQUIPMENT(continued):

The apparatus with 92m of integral cable has the following terminal parameters:

U<sub>i</sub> = 28V  
I<sub>i</sub> = 93mA  
i = 0.65W  
C<sub>i</sub> = 83nF  
L<sub>i</sub>/R<sub>i</sub> = 15.4μH/Ω

## Manufacturer's Drawings

Title:	Drawing No.:	Rev. Level:	Date:
HS100I SCHEMATIC	HS100.IS	A	2007/06/12
General Arrangement And Product Information For Group I and Group II Accelerometers	M06-001-BSheet 1 & 2 of 5	B	2011/01/13
Zener Diode Arrangement	M06-002-A	A	2007/06/15
Label Information For ITACS Group I HS-100A and HS-100AS	M06-039ASheets 1 & 2 of 2	A	2011/05/23
AC PCB COMPONENT LAYOUT	P02-003	B	2007/06/07
INNER MODULE PCB CIRCUIT	P03-003	B	2007/06/12