



# 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 BAS 09.0157 issue No.: 0 Certificate history:

Status: **Current**

Date of Issue: 2009-12-14 Page 1 of 3

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

Electrical Apparatus: **HS-105I High Temperature Accelerometer**  
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **Ex ia IIA T4 Ga (-20°C ≤ Ta ≤ +80°C) – Charge Amplifier**  
**Ex ia IIA T2 Ga (-20°C ≤ Ta ≤ +250°C) – Accelerometer**

Approved for issue on behalf of the IECEx  
Certification Body:


Position:

Signature:  
(for printed version)

Date:

R S Sinclair

Managing Director

  
14/12/9

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:

**Baseefa**  
Rockhead Business Park  
Staden Lane  
Buxton  
Derbyshire  
SK17 9RZ  
United Kingdom





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Manufacturer: **Hansford Sensors Limited**  
Artisan  
Hillbottom Road  
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Bucks  
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/ExTR09.0242/00](#)

Quality Assessment Report:

[GB/BAS/QAR07.0040/01](#)



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## Schedule

### EQUIPMENT:

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

The HS-105I High Temperature Accelerometer is designed to measure velocity or acceleration by amplifying the signal generated by the compression of a piezo electric crystal by a given seismic mass and outputting it to the monitoring equipment.

The HS-105I High Temperature Accelerometer comprises two stainless steel housings connected together with a cable. The piezo electric crystal and seismic mass are located in the accelerometer housing, complete with an integral cable terminated with a connector. The signal conditioning PCB is located in the stainless steel charge-amplifier housing complete with an integral cable for connection to a suitable barrier or isolator and a mating connector for the accelerometer. The accelerometer housing may be in various shapes, whilst the charge-amplifier housing is cylindrical. Both enclosures measure approximately 33cm<sup>3</sup> and are fully seam welded.

Electrical connections are made to the apparatus via an integral cable which is encapsulated in the end of the apparatus.

U <sub>i</sub>	= 28V
I <sub>i</sub>	= 93mA
P <sub>i</sub>	= 0.65W
C <sub>i</sub>	= 54nF *
L <sub>i</sub>	= 60μH *

\* With up to 100 m of cable between the external zener barrier or galvanic isolator and the charge amplifier.

### CONDITIONS OF CERTIFICATION: NO