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

Certificate No.:	IECEx BAS 07.0037X issue No.:7
Status:	Current
Date of Issue:	2016-03-22 Page 1 of 4
Applicant:	**Hansford Sensors Limited** Artisan Hillbottom Road Sands Industrial Estate Bucks HP12 4HJ **United Kingdom**
Electrical Apparatus: *Optional accessory:*	**HS-100 Series Accelerometer**
Type of Protection:	**Intrinsic Safety**
Marking:	**Ex ia I Ma (-55°C ≤ Ta ≤ +110°C)**
Approved for issue on behalf of the IECEx Certification Body:	R S Sinclair
Position:	Technical Manager
Signature: *(for printed version)*	pp Allan Ogden
Date:	22 March 2016.

Certificate history:
Issue No. 7 (2016-3-22)
Issue No. 6 (2015-1-9)
Issue No. 5 (2013-5-8)
Issue No. 4 (2012-10-12)
Issue No. 3 (2011-3-10)
Issue No. 2 (2009-11-30)
Issue No. 1 (2008-11-24)
Issue No. 0 (2007-7-12)

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.

Certificate issued by:

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

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

Additional 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 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*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
GB/BAS/ExTR12.0254/00 GB/BAS/ExTR13.0101/00 GB/BAS/ExTR16.0097/00

Quality Assessment Report:

GB/BAS/QAR07.0040/06

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

Variation 7.1

To permit the use of an alternative cable type and the use of an alternative catalyst with the encapsulant.

ExTR: **GB/BAS/ExTR16.0097/00** File Reference: **16/0137**

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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^3. 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.

The non-fused version of the apparatus (HS-100Mxxxxxxx and HS-100MSxxxxxxx) has the following terminal parameters:

Connector only	
Ui =	28V
Ii =	93mA
Pi =	0.65W
Ci =	1.0nF
Li =	negligible

10m of Cable			
Ui =	28V		
Ii =	93mA		
Pi =	0.65W		
Ci =	9.9nF		
Li =	7µH	or Li/Ri =	15.4µH/Ω

92m of Cable	
Ui =	28V
Ii =	93mA
Pi =	0.65W
Ci =	83nF
Li/Ri =	15.4µH/Ω

The fused version of the apparatus (HS-100MFxxxxxxx and HS-100SFxxxxxxx) has the following terminal parameters:

Connector only	
Ui =	16.5V
Ci =	1.0nF
Li =	negligible

10m of Cable			
Ui =	16.5V		
Ci =	5nF		
Li =	7µH	or Li/Ri =	15.4µH/Ω

92m of Cable	
Ui =	16.5V
Ci =	41nF
Li/Ri =	15.4µH/Ω

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The Ci of the non-fused version of the equipment (HS-100Mxxxxxxx and HS-100MSxxxxxxx) when fitted with 92m of cable has been increased from 41nF to 83nF.