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 ITA 10.0003X issue No.:2	Certificate history: Issue No. 2 (2013-2-12) Issue No. 1 (2011-10-19) Issue No. 0 (2010-3-10)
Status:	**Current**	
Date of Issue:	**2013-02-12**	Page 1 of 5

Applicant: **Hansford Sensors Limited**
Hillbottom Road
Sands Industrial Estate
Buckinghamshire,
High Wycombe HP12 4HJ
England
United Kingdom

Electrical Apparatus: **HS-420AF & HS-422AF Accelerometers**
Optional accessory:

Type of Protection: **Intrinsic safety and dust protected**

Marking: IECEx ITA 10.0003X
Ex ia I Ma
(-40°C ≤ Ta ≤ +60°C)

Approved for issue on behalf of the IECEx Certification Body: Parveen Akther

Position: Certification Authority

Signature:
(for printed version) Parveen Akther

Date: 2013-02-12

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:

International Testing and Certification Services Pty. Ltd
4 - 6 Second Street
Bowden SA 5007
Australia

TÜVRheinland

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Manufacturer: **Hansford Sensors Limited Ltd**
Hillbottom Road
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Buckinghamshire,
High Wycombe HP12 4HJ
England
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/ExTR08.0059/00 GB/BAS/ExTR08.0112/00 GB/BAS/ExTR08.0181/00
GB/BAS/ExTR09.0014/00 GB/BAS/ExTR11.0013/00 GB/BAS/ExTR12.0005/00
GB/BAS/ExTR12.0254/00

Quality Assessment Report:

GB/BAS/QAR07.0040/00 GB/BAS/QAR07.0040/01 GB/BAS/QAR07.0040/02
GB/BAS/QAR07.0040/03 GB/BAS/QAR07.0040/04

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Schedule

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

The HS-420AF & HS-422AF Accelerometers are designed to measure velocity or acceleration by converting the signal generated by the compression of a piezo electric crystal by a given seismic mass and output a 4 to 20mA signal proportional to velocity or acceleration 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 $33cm^3$. 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 accelerometers covered by this certificate are identified as follows:

HS-420AF XXX YY ZZ and HS-422AF XXX YY ZZ where:
XXX = Output Signal Range
YY = Cable Connector Type
ZZ = Mounting Thread Type

DRAWINGS
See attachment

CONDITIONS OF CERTIFICATION: YES as shown below:

The following condition of safe use applies:

1. The free end of the cable on the integral cable version of the apparatus must be terminated in an appropriately certified dust proof enclosure.
2. That the following parameters are taken into account during installation and use:
a) Ui = 16.5V
b) The capacitance and inductance to resistance ratio of the different versions are as follows:

	Integral Cable			Connector
	Polyurethane Cable	Silicone Cable	Armoured Cable	Polyurethane Cable
Ci	160pF/m	370pF/m	290pF/m	120pF/m
Li/Ri	8.32µH/Ω	15.4 µH/Ω	15.4 µH/Ω	11.7 µH/Ω

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

To permit the following;
1. The Group I version of the HS-420SAF & HS-422AF accelerometers to allocated the following input parameters;
   Ui = 16.5 V & Pi = 1.74W
   OR
   Ui = 28 V & Ii = 115 mA & Pi = 0.65 W
2. The apparatus to be assessed to the latest Standards IEC 60079-0: Edition 6 & IEC 60079-11: Edition 6.

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Additional information:

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Annexe: IECEx ITA 10.0003X-01 Annex 1.pdf, IECEx ITA 10.0003X-Annex 2.pdf