



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 08.0034X issue No.: 2

Status: **Current**

Date of Issue: **2008-09-18**

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Certificate history:

Issue No. 2 (2008-9-18)

Issue No. 1 (2008-7-1)

Issue No. 0 (2008-4-12)

Applicant: **Hansford Sensors Limited**
Saunderton Business Park
Haw Lane
Saunderton
Bucks
HP14 4JE
United Kingdom

Electrical Apparatus: **HS-420 Series Accelerometer**
Optional accessory: **Fuse Box**

Type of Protection: **Intrinsic Safety and Dust, protection by enclosure**

Marking: **Ex ia I (-40°C ≤ Ta ≤ +60°C)**
Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C)
Ex tD A20 IP65 T80°C (-40°C ≤ Ta ≤ +60°C)

Approved for issue on behalf of the IECEx
Certification Body:

R S Sinclair

Position:

Managing Director

Signature:
(for printed version)

Date:

18-9-08

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**
Saunderton Business Park
Haw Lane
Saunderton
Bucks
HP14 4JE
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 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*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

Quality Assessment Report:

GB/BAS/QAR07.0040/00



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The HS-420 Series 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 33cm³. 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.

For terminal parameters see Annex.

CONDITIONS OF CERTIFICATION: YES as shown below:

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.



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

Variation 2.1

To permit the introduction the HS-420IT or HS-422IT Accelerometer, with an integral temperature sensor and associated electrical connections.

The terminal parameters for all four electrical connections considered as a single intrinsically safe circuit are as follows:

$U_i = 44V$
 $I_i = 117mA$
 $P_i = 0.722W$
 $C_i = 3nF$
 $L_i/R_i = 13nH/ohm$

ExTR: GB/BAS/ExTR08.0181/00

File Reference: 08/0558