



EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

- EC - Type Examination Certificate Number: **Baseefa08ATEX0086X**
- Equipment or Protective System: **HS-420 Series Accelerometer**
- Manufacturer: **Hansford Sensors Limited**
- Address: **Saunderton, Bucks, HP14 4JE, UK**
- This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- Baseefa (2001) Ltd., Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR08.0059/00**
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-11: 2007 EN 60079-0:2006 EN50303: 2000 EN 61241-0: 2006 EN 61241-1: 2004
- except in respect of those requirements listed at item 18 of the Schedule.
- If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- The marking of the equipment or protective system shall include the following :

See schedule

This certificate may only be reproduced in its entirety, without any change, schedule included.


Baseefa Customer Reference No. **5943**

Project File No. **08/0114**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number Baseefa08ATEX0086X

15 Description of Equipment or Protective System

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.

The marking of the equipment shall include the following:

⊠ II 1GD Ex ia IIC T6 Ex tD A20 IP65 T80°C (−40°C ≤ Ta ≤ +60°C)

⊠ I M1 Ex ia I (−40°C ≤ Ta ≤ +60°C)

The Group II version of the apparatus (excluding cable) has the following terminal parameters:

$$\begin{aligned}U_i &= 28V \\I_i &= 115mA \\P_i &= 0.65W\end{aligned}$$

The Group I version of the apparatus (excluding cable) has the following terminal parameters:

$$\begin{aligned}U_i &= 16.5V \\P_i &= 1.74W\end{aligned}$$

The apparatus must be powered from a power limited source such as an appropriately certified fuse assembly containing a ≤62mA fuse, 1.74W (16.5V x 62mA x 1.7).

The capacitance and inductance to resistance ratio of the different versions have the following parameters:

	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	= 15.4μH/Ω	= 15.4μH/Ω	= 11.7μH/Ω

16 Report Number

GB/BAS/ExTR08.0059/00

17 Special Conditions for Safe Use

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.



18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
M06-008-A	1 to 4	A	28.02.08	General Arrangement and Product Information for Group I and Group II HS-420 & HS-422 Series Accelerometers
M06-009-A	1 of 1	A	08.01.08	Zener Diode Arrangement for HS-420 & HS422 Series Accelerometer
M06-014-A	1 of 2	A	19.03.08	Din Rail Mounted Enclosure with a 62mA Safe-T-Fuse 259 Series F.U.W. HS-420M/HS422M Series Group I Accelerometers
M06-014-A	2 of 2	A	19.03.08	Inline Fuse with a 62mA Pico II 251 Series Fuse F.U.W. HS-420M/HS422M Series Group I Accelerometers
P01-004	1 of 1	B	11.03.08	4-20mA PCB Track Layout
P02-004	1 of 1	B	11.03.08	4-20mA PCB Component Layout
P01-012	1 of 1	A	03.03.08	HS420I PCB for M12 Connector
P02-012	1 of 1	A	27.02.08	HS420I PCB Connector
HS420-IS	1 of 1	A	13.03.08	HS142/HS-422 4-20mA Circuit

These drawings are associated and held with IECEx BAS 08.0034X