1 # EC - TYPE EXAMINATION CERTIFICATE

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

3 EC - Type Examination Certificate Number: **Baseefa09ATEX0336**

4 Equipment or Protective System: **HS-105I High Temperature Accelerometer**

5 Manufacturer: **Hansford Sensors Ltd**

6 Address: **Sands Industrial Estate, Bucks, HP12 4HJ**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa, 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/ExTR09/0242/00**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2006 **EN 60079-11: 2007**

except in respect of those requirements listed at item 18 of the Schedule.

10 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.

11 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.

12 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. **09/0043**

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

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

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13 **Schedule**

14 **Certificate Number Baseefa09ATEX0336**

15 Description of Equipment or Protective System

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 able 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 $33cm^3$ and are fully seam welded.

The accelerometer is suitable for Temperature Class T2 in an ambient temperature $-20°C \leq T_a \leq +250°C$ and is marked:

⟨Ex⟩ II 1G Ex ia IIA T2 ($-20°C \leq T_a \leq +250°C$)

The charge-amplifier is suitable for Temperature Class T4 in an ambient temperature $-20°C \leq T_a \leq +80°C$ and is marked:

⟨Ex⟩ II 1G Ex ia IIA T4 ($-20°C \leq T_a \leq +80°C$).

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

$U_i = 28V$
$I_i = 93mA$
$P_i = 0.65W$
$Ci = 54nF$ *
$Li = 60\mu H$ *

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

16 Report Number

GB/BAS/ExTR09/0242/00

17 Special Conditions for Safe Use

None

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
M06-028-A	1 to 10	A	27/08/09	General Arrangement and Product Information for Group II HS105I Accelerometers
HS-105I-CIRC	1 of 1	A	08.12.09	HS-105I Circuit
P01-036	1 of 1	A	27.10.09	HS-105I Charge Amp. PCB Track Layout
P02-036	1 of 1	A	20.11.09	HS-105I Charge Amp. Component Layout

These drawings are also associated and held with IECEx BAS 09.0157.