

EU - TYPE EXAMINATION CERTIFICATE

**Component Intended for use on/in an Equipment or Protective System
Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU**

- 3 EU - Type Examination Certificate Number: **Baseefa18ATEX0110U**
- 4 Product: **HS-004I Capsule**
- 5 Manufacturer: **Hansford Sensors Limited**
- 6 Address: **Artisan, Hillbottom Road, Sands Industrial Estate, Bucks, HP12 4HJ**
- 7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 SGS Baseefa, Notified Body number 1180, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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/ExTR17.0256/00**
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013 EN 60079-11:2012
except in respect of those requirements listed at item 18 of the Schedule.
- 10 The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.
- 11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- 12 The marking of the product shall include the following :

Ex II 1G Ex ia IIC Ga

See schedule for T Class and operating ambient temperature range

SGS Baseefa Customer Reference No. **5943**

Project File No. **17/0208**

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On behalf of SGS Baseefa Limited

13

Schedule

14

Certificate Number Baseefa18ATEX0110U

15 Description of Product

The HS-004I Capsule is an accelerometer module designed to measure 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 HS-004I Capsule comprises a piezo electric crystal connected to a signal conditioning board all contained within a stainless steel enclosure measuring approximately 5.5cm³. The enclosure is a fully welded construction with the top face where the interconnecting wires protrude encapsulated.

Electrical connections are made to the apparatus via the integral wires (3 off).

The terminal parameters are:

$$\begin{aligned}U_i &= 5.2V \\I_i &= 367mA \\P_i &= 305mW \\C_i &= 12pF \\L_i &= 0\end{aligned}$$

The HS-004I Capsule is suitable for the following T Classes and maximum operating local ambient temperatures:

	T6	T5	T4	T3	T2	T1
Mounted in free space (11K surface temperature rise)	69°C	84°C	110°C	110°C	110°C	110°C
Mounted in enclosed space with approximately 61cm ³ of free space around the capsule (16.5K surface temperature rise)	63.5°C	78.5°C	110°C	110°C	110°C	110°C
Mounted in enclosed space with approximately 40cm ³ of free space around the capsule (20K surface temperature rise)	60°C	75°C	110°C	110°C	110°C	110°C

The minimum operating ambient temperature is -30°C

16 Report Number

GB/BAS/ExTR17.0256/00

17 Schedule of Limitations

1. The piezo-electric crystal within the assembly is internally protected by adequately rated, triplicated zener diodes and so no further consideration is required.
2. The HS-004I Capsule shall be completely encased within an equipment enclosure providing a degree of ingress protection of at least IP20.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
M06-068-A	1 of 5	A	26/05/17	General Arrangement and Product Information for Group II HS-004I Capsule
M06-068-A	2 of 5	A	26/05/17	General Arrangement and Product Information for Group II HS-004I Capsule
M06-068-A	3 of 5	A	26/05/17	Zener Diode Arrangement for HS-004 Series Capsule
M06-068-A	4 of 5	A	26/05/17	General Arrangement and Product Information for Group II HS-004I Capsule (Product codes)
M06-068-A	5 of 5	A	26/05/17	General Arrangement and Product Information for Group II HS-004I Capsule (Label information)
P01-067	1 of 1	A	08.05.14	3-Wire Batt. Power PCB Track Layout (Compression)
P02-067	1 of 1	A	13/05/14	3-Wire Batt. Power PCB Component Layout
P03-067-IS	1 of 1	A	08.06.17	3-Wire Batt. Power PCB Circuit for HS-004I Module

These drawings are also associated with Baseefa18ATEX0110U and held with IECEx BAS 18.0072U Iss. 1