

EC - TYPE EXAMINATION CERTIFICATE

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

- 3 EC - Type Examination Certificate Number: **Baseefa07ATEX0149 – Issue 4**
- 4 Equipment or Protective System: **HS-100 Series 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's. **GB/BAS/ExTR13.0101/00**
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0: 2012 EN 60079-11: 2012
- 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 :

⊕ II 1G Ex ia I Ma (-55°C ≤ Ta ≤ +110°C)

Baseefa Customer Reference No. **5943**

Project File No. **13/0342**

This document is issued by the Company subject to its General Conditions for Certification Services accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and the Supplementary Terms and Conditions accessible at <http://www.baseefa.com/terms-and-conditions.asp>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. It does not necessarily indicate that the equipment may be used in particular industries or circumstances. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, schedule included, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

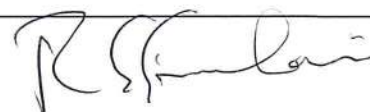
SGS Baseefa Limited

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ

Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com

Registered in England No. 4305578.

Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN



R S SINCLAIR
GENERAL MANAGER

On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa07ATEX0149 – Issue 4**

15 **Description of Equipment or Protective System**

The HS-100 Series Accelerometer is designed to measure acceleration, shock or 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 accelerometer comprises a piezo electric crystal connected to a signal conditioning board, all contained within a stainless steel enclosure of various shapes measuring approximately 25cm³. 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 non-fused version of the apparatus (HS-100Mxxxxxxx and HS-100MSxxxxxxx) with 92m of integral cable has the following terminal parameters:

$$\begin{aligned}U_i &= 28V \\I_i &= 93mA \\P_i &= 0.65W \\C_i &= 83nF \\L_i/R_i &= 15.4\mu H/\Omega\end{aligned}$$

The non-fused version of the apparatus (HS-100Mxxxxxxx and HS-100MSxxxxxxx) with 10m of integral cable has the following terminal parameters:

$$\begin{aligned}U_i &= 28V \\I_i &= 93mA \\P_i &= 0.65W \\C_i &= 9.9nF \\L_i/R_i &= 15.4\mu H/\Omega \quad \text{OR} \quad L_i = 6\mu H\end{aligned}$$

The fused version of the apparatus (HS-100MFxxxxxxx and HS-100SFxxxxxxx) with 92m of integral cable has the following terminal parameters:

$$\begin{aligned}U_i &= 16.5V \\C_i &= 41nF \\L_i/R_i &= 15.4\mu H/\Omega\end{aligned}$$

16 **Report Number**

GB/BAS/ExTR13.0101/00

17 **Specific Conditions of 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**

New drawings submitted for this issue of certificate.

None.

Current drawings also associated with this certificate.

Number	Sheet	Issue	Date	Description
M06-001-B	1 to 5	B	13/01/11	General Arrangement and Product Information for Group I, Group II and Group III Accelerometer
M06-025-C	1 to 5	C	30/08/12	General Arrangement and Product Information for Group I Fused Accelerometer
HS100.M	1 of 1	A	11.11.08	HS-100 Schematic
P01.031	1 of 1	A	30.10.08	Connection PCB for HS-100I M12 or Cable + Fuse
P02.031.1	1 of 1	A	30.10.08	Connection PCB for HS-100 MF Cable Versions
P02.031.2	1 of 1	A	30.10.08	Connection PCB for HS-100 MF M12 Versions

These drawings are also associated with IECEx BAS 07.0035X, IECEx BAS 07.0037X, Baseefa07ATEX0144X and held with IECEx BAS 07.0035X and IECEx BAS 07.0037X.

20 Certificate History

Certificate No.	Date	Comments
Baseefa07ATEX0149	13 July 2007	The release of the prime certificate. The associated test and assessment is documented in Test Report No. GB/BAS/ExTR07.0076/00 held on technical file IECEx BAS 07.0035X.
Baseefa07ATEX0149/1	20 November 2008	1. The introduction of the fused version (HS-100MFxxxxxxx and HS-100SFxxxxxxx), thus eliminating the need to limit power into the equipment. Intrinsic safety is not affected. The associated test and assessment is documented in Test Report No. GB/BAS/ExTR08.0237/00 held on technical file IECEx BAS 07.0037X.
Baseefa07ATEX0149/2X	10 March 2011	1. To permit the use of a different type of cable on the non-fused version only (HS-100Mxxxxxxx and HS-100MSxxxxxxx). The fused versions (HS-100MFxxxxxxx and HS-100SFxxxxxxx) are not affected by this change. 2. Show the new address of the manufacturer on the marking drawings. Intrinsic safety is not affected. The associated test and assessment is documented in Test Report No. GB/BAS/ExTR11.0045/00 held on technical file IECEx BAS 07.0035X.
Baseefa07ATEX0149/3X	10 October 2012	1. To confirm that the equipment covered by this certificate also meets the requirements of EN 60079 0: 2012 (IEC 60079 0: 2011, Edition 6) and EN 60079 11: 2012 (IEC 60079 11: 2011, Edition 6). Intrinsic safety is not affected. The associated test and assessment is documented in Test Report No. GB/BAS/ExTR12.0254/00 held on technical file IECEx BAS 07.0035X.
Baseefa07ATEX0149 Issue 4	29 April 2013	This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and permits the accelerometer to be supplied with 10m of cable with a resultant change to the entity parameters. Specific condition of use relating to a change in Ci removed. Intrinsic safety is not affected. The associated test and assessment is documented in Test Report No. GB/BAS/ExTR13.0101/00 held on technical file IECEx BAS 07.0035X.
For drawings applicable to each issue, see original of that issue.		