

EU - TYPE EXAMINATION CERTIFICATE

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

- 1 EU - Type Examination Certificate Number: **SGS22ATEX0075X**
- 2 Product: **HS-107 Series Accelerometer**
- 3 Manufacturer: **Hansford Sensors Ltd**
- 4 Address: **Sands Industrial Estate, Bucks, HP12 4HJ, UK**
- 5 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 6 SGS Fimko Oy, Notified Body number 0598, 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.
- 7 The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR22.0149/00**
- 8 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN IEC 60079-0: 2018 EN 60079-11: 2012
- 9 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 product is subject to the Specific Conditions of Use specified in the schedule to this certificate.
- 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:
Ⓢ See Schedule

SGS Fimko Oy Customer Reference No. **5943**

Project File No. **22/0385**

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13 Schedule

14 Certificate Number SGS22ATEX0075X

15 Description of Product

The HS-107 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 apparatus has the following terminal parameters:

Connector only	10m of Cable	92m of Cable
U _i = 28V I _i = 93mA P _i = 0.65W C _i = 1.0nF L _i = zero	U _i = 28V I _i = 93mA P _i = 0.65W C _i = 9.9nF L _i = 7μH or L _i /R _i = 15.4μH/Ω	U _i = 28V I _i = 93mA P _i = 0.65W C _i = 83nF L _i /R _i = 15.4μH/Ω

The fused version of the apparatus (HS-107MFxxxxxxx and HS-107SFxxxxxxx) has the following terminal parameters:

Connector only	10m of Cable	92m of Cable
U _i = 16.5V C _i = 1.0nF L _i = negligible	U _i = 16.5V C _i = 5nF L _i = 7μH or L _i /R _i = 15.4μH/Ω	U _i = 16.5V C _i = 41nF L _i /R _i = 15.4μH/Ω

The equipment may be marked:-

- ⊗ II 1G Ex ia IIC T4 Ga (-55°C ≤ Ta ≤ +110°C)
- ⊗ II 1D Ex ia IIIC T₂₀₀ 130°C IP65 Da (-55°C ≤ Ta ≤ +110°C)
- ⊗ II 1G Ex ia IIC T6 Ga (-55°C ≤ Ta ≤ +60°C)
- ⊗ II 1D Ex ia IIIC T₂₀₀ 80°C IP65 Da (-55°C ≤ Ta ≤ +60°C)
- ⊗ I M1 Ex ia I Ma (-55°C ≤ Ta ≤ +110°C)

16 Report Number

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17 Specific Conditions of Use

- The C_i of non-fused versions of the equipment (HS-107Mxxxxxxx and HS-107MSxxxxxxx) when fitted with 92m of cable increases from 9.9nF to 83nF. The fused versions when fitted with 92m of cable have C_i = 41nF.
- The free end of the cable on the integral cable version of the apparatus must be terminated in an appropriately certified dust proof enclosure when dust protection is required.

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
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
P03-008	1 of 1	B	31/08/11	MICRO-AMP/G PCB CIRCUIT
M06-002-A	1 of 1	A	15/06/07	Zener Diode Arrangement
M06-040-C	1 to 9	C	23/09/22	General Arrangement And Production Information For Group I And Group II HS-107I Series Accelerometers
HS107.IS	1 of 1	A	30.08.11	HS107I SCHEMATIC
P02-008-B	1 of 1	B	31/08/11	MICRO-AMP/G PCB COMPONENT LAYOUT
P02-008-C	1 of 1	-	31 Aug 2011	PARTS LIST for P02-008-C
P01-008	1 of 1	C	05/02/21	MICRO-AMP/G PCB TRACK LAYOUT
HS107.M	1 of 1	A	30.08.11	HS-107M SCHEMATIC

These drawings are common to IECEx BAS 22.0041X.