

HS-105I Series Vibration Sensor

Intrinsically Safe, High Temperature, 100mv/g Industrial Accelerometer



Typical Applications

- For offline applications using commercially available intrinsically safe data collectors and online monitoring systems in the fields of Offshore, Petrochemical, Gas.
- **Protecting...**
Fans, Motors, Pumps, Compressors, Centrifuges, Conveyers, Air Handlers, Gearboxes, Rolls, Dryers, Process Equipment and many more.

Technical Performance

Mounted Base Resonance	22 kHz (nominal)
Sensitivity	100 mV/g $\pm 10\%$ Nominal 80 Hz at 22 °C
Frequency Response	2 Hz to 10 kHz $\pm 5\%$ 0.8 Hz to 15 kHz ± 3 dB
Isolation	Base isolated
Measurement Range	± 80 g
Transverse Sensitivity	Less than 5%

Electrical

Electrical Noise	0.1 mg max
Current Range	0.5 mA to 8 mA
Bias Voltage	10 - 12 Volts DC
Settling Time	2 seconds
Output Impedance	200 Ohms max.
Case Isolation	$>10^8$ Ohms at 500 Volts

Environmental

Certified Temperature Range	Ex ia IIC T2 (-20°C \leq Ta \leq +250°C) Accelerometer Ex ia IIC T4 (-20°C \leq Ta \leq +80°C) Charge Amplifier
Sensor Temperature Range	-20 to 250°C
Sealing	IP65
Maximum Shock	5000 g
Emissions	EN61000-6-4:2001
Immunity	EN61000-6-2:1999

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Compression
Mounting Torque	8 Nm
Weight	110 gms (nom)
Maximum Cable length	10 metres between sensor and charge amplifier
Mounting Threads	See 'How to order' table
Options	Cable length, various mounts, other sensitivities



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Intrinsically Safe Requirements

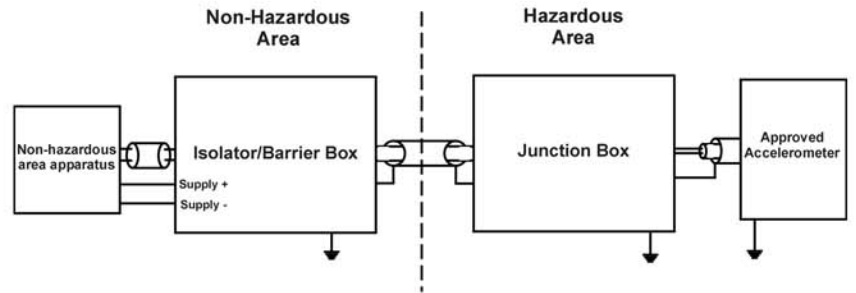
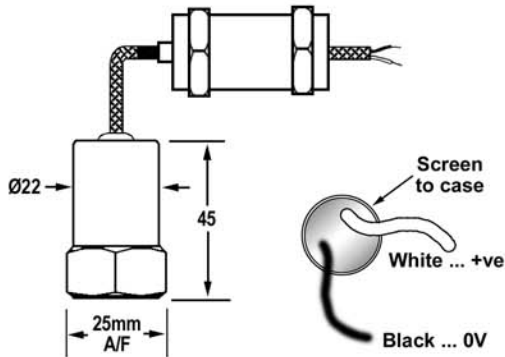
Maximum Cable Length	100 metres max.
Certificate details: Group II Accelerometer	IECEXBAS09.0157 Baseefa07ATEX0336 ⊕II 1G Ex ia IIA T2 Ga (-20°C ≤ Ta ≤ +250°C)
Certificate details: Group II Charge Amplifier	IECEXBAS09.0157 Baseefa07ATEX0336 ⊕II 1G Ex ia IIA T4 Ga (-20°C ≤ Ta ≤ +80°C)
Terminal Parameters	Ui = 28V, Ii = 93mA, Pi = 0.65W, Ci = 54 nF, Li = 60μH
500V Isolation	Units Will Pass A 500V Isolation Test
Barrier	1 x Pepperl + Fuchs Galvanic Isolator KFD2-VR4-Ex1.26 (BAS02ATEX7206) or equivalent 1 x MTL Zener Barrier MTL7728 (BAS01ATEX7217) or Pepperl + Fuchs Zener Barrier Z728 (BAS01ATEX7005) or equivalent
Notes:	Special conditions of safe use for Group II. The free end of the cable on the integral cable version of the apparatus must be terminated in an appropriate enclosure certified flameproof. The unit has no serviceable parts.

PRODUCT DATA

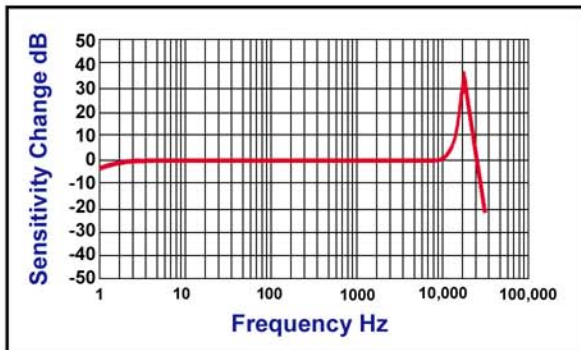


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Dimensions



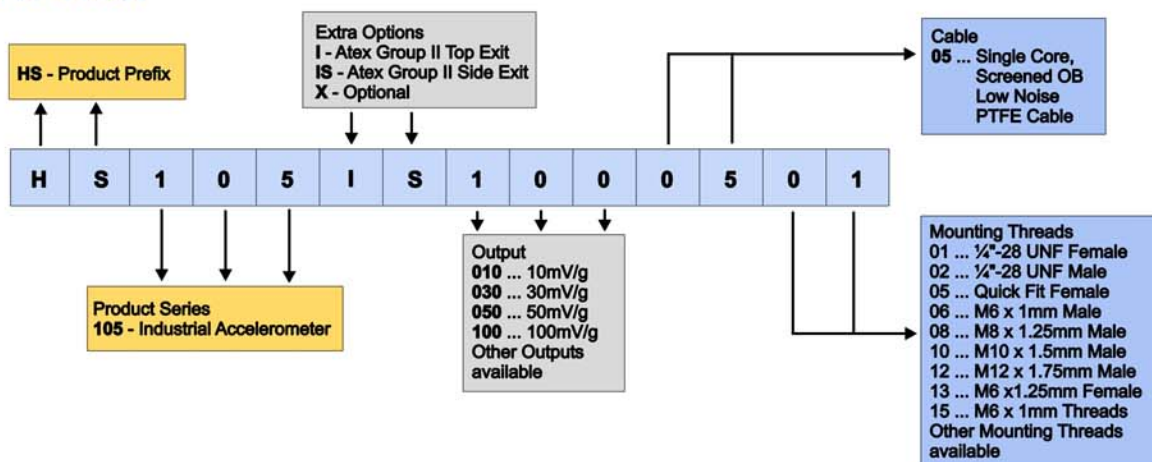
Frequency Response



Mounting of sensor to achieve good repeatable readings. Vibration sensor should be firmly fixed to a flat surface (spot face surface may be needed to be produced and cable anchored to sensor body.)



How to order



Please contact our Sales Office for information on sensor accessories (mounting studs, etc) and multichannel switch boxes.

TS092 Iss01

We reserve the right to alter the specification of this product without prior notice.

Ref: HS105I-ShCAteX-0110