

HS-150I Premium Intrinsically Safe Accelerometer

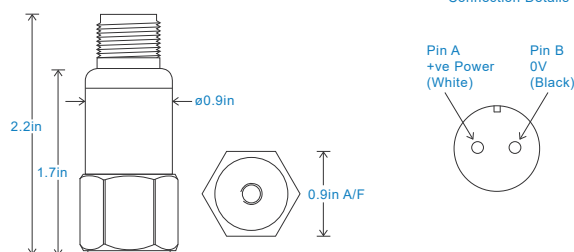
AC acceleration output via 2 Pin MS Connector

Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- For use with data collector

Industries

Building services, Pulp and Paper, Mining, Metals, Utilities, Automotive, Water, Pharmaceutical



Technical Performance

Mounted Base Resonance	see 'How To Order' table (nominal)
Sensitivity	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 72°F
Frequency Response	120cpm (2Hz) to 600kcpm (10kHz) $\pm 5\%$ 90cpm (1.5Hz) to 720kcpm (12kHz) $\pm 10\%$ 48cpm (0.8Hz) to 900kcpm (15kHz) $\pm 3\text{dB}$
Isolation	Base isolated
Range	see: 'How To Order' table
Transverse Sensitivity	Less than 5%

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Shear
Mounting Torque	5.9ft. lbs
Weight	3.7 oz. (nominal) body only
Screened Cable Assembly	see: www.hansfordsensors.com for options
Connector	HS-AA004 - non-booted HS-AA053 or HS-AA054 - booted
Mounting Threads	see: 'How To Order' table

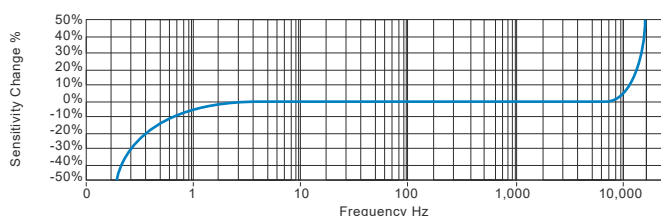
Electrical

Excitation Voltage:	18-30Volts DC
Electrical Noise	0.1mg max
Current Range	0.5mA to 8mA
Bias Voltage	10 - 12 Volts DC
Settling Time	2 seconds
Output Impedance	200 Ohms max.
Case Isolation	$>10^8$ Ohms at 500 Volts

Environmental

Operating Temperature Range	see: attached certification details
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

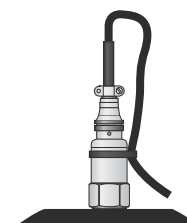
Typical Frequency Response (at 100mV/g)



Applications

Fans, Motors, Pumps, Compressors, Centrifuges, Conveyors, Air Handlers, Gearboxes, Rolls, Dryers, Presses, Cooling, VAC, Spindles, Machine Tooling, Process Equipment

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.)



Certificates



This product is certified in accordance with
 UL 60079-0, 6th Ed, Rev. July 26, 2013
 UL 60079-11, 6th Ed, Rev. September 6, 2013
 CAN/CSA C22.2 No. 60079-0:15 Rev. October 2015
 CAN/CSA C22.2 No. 60079-11:14
 UL 913, 8th Ed, Rev. October 16, 2015



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TS897U.9



HS-150I Premium Intrinsically Safe Accelerometer

AC acceleration output via 2 Pin MS Connector

Intrinsically Safe Requirements

Maximum Cable Length	See website www.hansfordsensors.com	Certified Temperature Range	Ex ia IIC T6 Ga (-55°C ≤ Ta ≤ +57°C) (Gas) Ex ia IIC T4 Ga (-55°C ≤ Ta ≤ +103°C) (Gas)
Certificate details: Group I	IECEX 18.0082X Baseefa18ATEX0130X Ex I M 1 Ex ia I Ma		Ex ia IIIB T110°C Da (-55°C ≤ Ta ≤ +57°C) (Dust) Ex ia IIIB T145°C Da (-55°C ≤ Ta ≤ +92°C) (Dust) Ex ia IIIC T135°C Da (-55°C ≤ Ta ≤ +70°C) (Dust) Ex ia I Ma (-55°C ≤ Ta ≤ +103°C) (Mining)
Certificate details: Group II and III	IECEX 18.0082X Baseefa18ATEX0130X Ex II 1GD Ex ia IIC T6...T4 Ga Ex ia IIIC T135°C Da Ex ia IIIB T110°C...T145°C Da	Australian Approval Group I	IECEX ExTC 18.0032X Ex ia I Ma (-55°C < Ta < +104°C)
Terminal Parameters Connector	Ui = 28V, Ii = 93mA, Pi = 0.65W Ci = 1.2nF Li = 0	US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005 CI I, II, III, Div 1, 2 Gr A-G T* CI I Zn 0 AEx ia IIC T6...T4 Ga CI II Zn 20 AEx ia IIIB T110°C...T145°C Da Ex ia IIC T6...T4 Ga Ex ia IIIC T135°C Da
500V Isolation	Units Will Pass A 500V Isolation Test		Or
Standards Applied to Product	EN IEC 60079-0:2018 EN 60079-11:2012 IEC 60079-0 Edition 7 2017 IEC 60079-11 Edition 6 2011		CI I, II, III, Div 1, 2 Gr A-D G and F T* CI I Zn 0 AEx ia IIC T6...T4 Ga CI II Zn 20 AEx ia IIIB T110°C...T145°C Da Ex ia IIC T6...T4 Ga Ex ia IIIC T110°C...T145°C Da
Barrier	1 x Pepperl + Fuchs Galvanic Isolator KFD2-VR4-Ex1.26 (BAS02ATEX7206) 1 x MTL Zener Barrier MTL7728+ (BAS01ATEX7217) or Pepperl + Fuchs Zener Barrier Z728 (BAS01ATEX7005) or any other barrier that conforms with the terminal parameters	Control Drawing	M06-083-A Overbraided Cable M06-084-A PUR Cable M06-085-A Silicone Cable M06-086-A FR PUR Cable M06-087-A Various Cables

Special conditions of use: When a sensor is supplied with integral cable, this must be terminated in an enclosure providing at least degree of protection IP20.

Note: If the equipment is to be used in unusual environments or aggressive substances are likely to be encountered, contact the manufacturer to discuss suitability.

How To Order

Product Prefix	Product Series										
HS - Hansford Sensors	150I - Premium Intrinsically Safe Accelerometer										
		H	S	1	5	0	I	X	X	X	X
		Extra Options (if required)		Sensitivity		Range	Resonant Frequency		Cable/Connector		Mounting Threads
		A - Australia (Group I)		010 - 10mV/g		±800g	34kHz (2,040kcpm)		01 - PUR		01 - ¼-28" UNF Female
		G - SGS (US/Canada Approval)		030 - 30mV/g		±250g	33kHz (1,980kcpm)		02 - Braided		02 - ¼-28" UNF Male
		I - Intrinsically Safe (Group II)		050 - 50mV/g		±160g	32kHz (1,920kcpm)		07 - Silicon		05 - Quick Fit Female
		L - 316L Stainless Steel		100 - 100mV/g		±80g	30kHz (1,800kcpm)		08 - Flame Retardant		06 - M6 x 1mm Male
		M - Mining (Group I)		250 - 250mV/g		±32g	28kHz (1,680kcpm)		50 - 2 Pin MS		08 - M8 x 1.25mm Male
		S - 90° Side Exit		500 - 500mV/g		±16g	26kHz (1,560kcpm)		52 - 3 Pin MS		10 - M10 x 1.5mm Male
		Y - 5% tolerance on sensitivity							54 - M12		



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