

# HS-150I Premium Intrinsically Safe Accelerometer

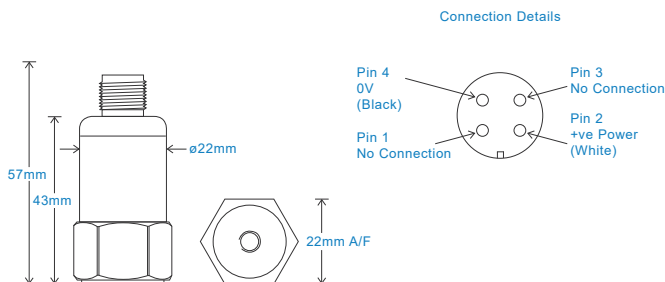
## AC acceleration output via M12 Connector

### 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 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) $\pm 5\%$ 1.5Hz (90cpm) to 12kHz (720kcpm) $\pm 10\%$ 0.8Hz (48cpm) to 15kHz (900kcpm) $\pm 3dB$
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	8Nm
Weight	106gms (nominal) body only
Screened Cable Assembly	HS-AC010 - straight HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

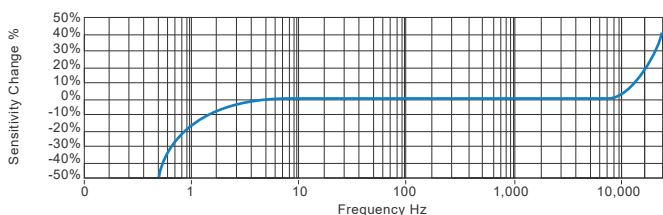
### Electrical

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	IP67
Maximum Shock	5000g
EMC	EN61326-1:2013

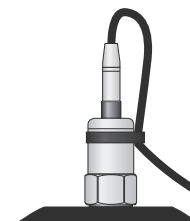
### Typical Frequency Response (at 100mV/g)



### 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.)



### Certifications



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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# HS-150I Premium Intrinsically Safe Accelerometer

## AC acceleration output via M12 Connector

### Intrinsically Safe Requirements

Maximum Cable Length	See <a href="http://www.hansfordsensors.com.cn">www.hansfordsensors.com.cn</a>	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 Ⓢ 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 Ⓢ II 1GD Ex ia IIC T6..T4 Ga Ex ia IIIC T135°C Da Ex ia IIIB T110°C..T145 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 IIIC T135°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 (HS-150IT Only)

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