

HS-170I Premium Intrinsically Safe Accelerometer

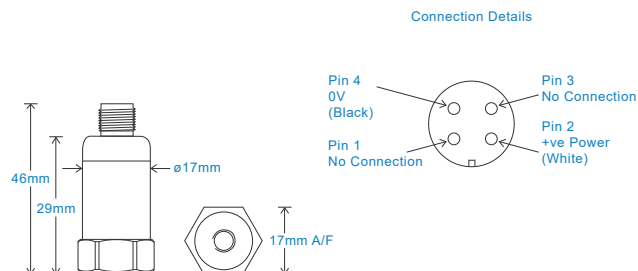
AC acceleration output via M12 Connector

Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- Compact design
- Premium design
- Customisable features

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 14kHz (840kcpm) $\pm 5\%$ 1.5Hz (90cpm) to 16kHz (960kcpm) $\pm 10\%$ 0.8Hz (48cpm) to 19kHz (1,140kcpm) $\pm 3\text{dB}$
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	8 Nm
Mounting Bolt Provided	see: 'How To Order' table x 30mm long
Weight	52gms (nominal)
Connector	Use booted connector only
Mounting Threads	see: 'How To Order' table

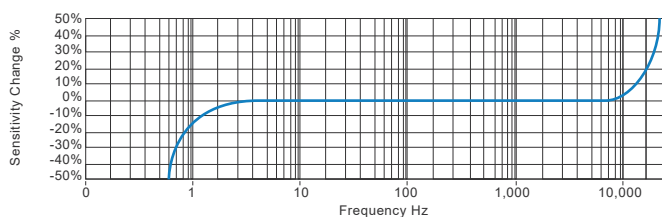
Electrical

Electrical Noise	0.1mg max
Current Range	0.5mA to 8mA
Bias Voltage	10 - 12 Volts DC
Settling Time	1 second
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

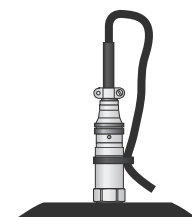
Typical Frequency Response (at 100mV/g)



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

TS914.6



HS-170I Premium Intrinsically Safe Accelerometer

AC acceleration output via M12 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	IECEEx 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	IECEEx 18.0082X Baseefa18ATEX0130X Ⓢ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	IECEEx 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		170I - Premium Intrinsically Safe Accelerometer									
H	S	1	7	0	I	X	X	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)		02 - Braided		01 - ¼-28" UNF Female	
G - SGS (US/Canada Approval)		030 - 30mV/g		±250g		32kHz (1,920kcpm)		08 - Flame Retardant		02 - ¼-28" UNF Male	
I - Intrinsically Safe (Group II)		050 - 50mV/g		±160g		30kHz (1,800kcpm)		50 - 2 Pin MS		06 - M6 x 1mm Male	
L - 316L Stainless Steel		100 - 100mV/g		±80g		28kHz (1,680kcpm)		54 - M12		08 - M8 x 1.25mm Male	
M - Mining (Group I)		250 - 250mV/g		±32g		26kHz (1,560kcpm)				10 - M10 x 1.5mm Male	
S - 90° Side Exit		500 - 500mV/g		±16g		24kHz (1,440kcpm)					
Y - 5% tolerance on sensitivity											