

HS-170IS Premium Intrinsically Safe Accelerometer

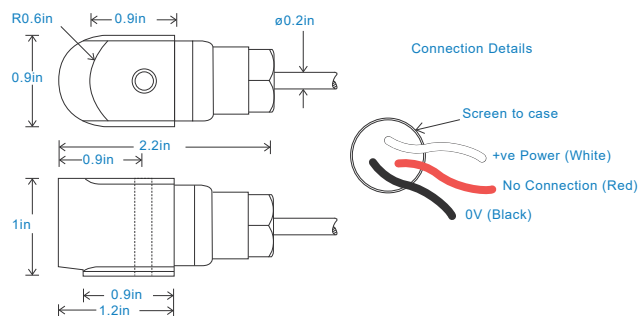
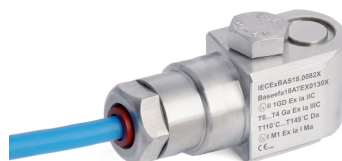
AC acceleration output via Silicon Cable

Key Features

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

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 840kcpm (14kHz) $\pm 5\%$ 90cpm (1.5Hz) to 960kcpm (16kHz) $\pm 10\%$ 48cpm (0.8Hz) to 1,140kcpm (19kHz) $\pm 3\text{dB}$ Base isolated
Isolation	see: 'How To Order' table
Range	Less than 5%
Transverse Sensitivity	Less than 5%

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Shear
Mounting Torque	5.9ft. lbs
Mounting Bolt Provided	see: 'How To Order' table x 1.2in long
Weight	4.7 oz. (nominal) body only
Maximum Cable Length	See certificate
Standard Cable Length	16 ft.
Screened Cable	Silicon - length to be specified with order
Mounting Threads	see: 'How To Order' table
Submersible Depth	328 ft. max (10 bar)

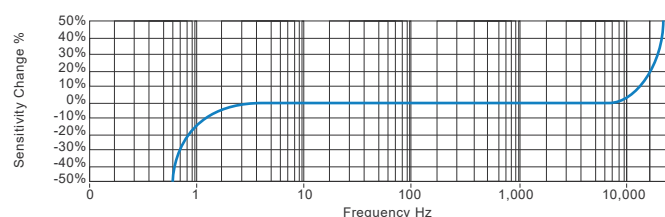
Electrical

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	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

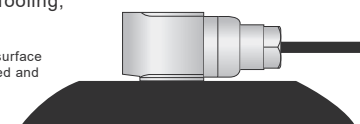
Typical Frequency Response (at 100mV/g)



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



www.hansfordsensors.com
sales@hansfordsensors.com

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

TS919U.7



AC acceleration output via Silicon cable

Sensor Maximum Cable Length		Up to 92 metres	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		Ex ia IIIC T110°C Da (-55°C ≤ Ta ≤ +57°C) (Dust)
		Baseefa18ATEX0130X		Ex ia IIIC T135°C Da (-55°C ≤ Ta ≤ +70°C) (Dust)
		ⓈI M 1		Ex ia IIIC T145°C Da (-55°C ≤ Ta ≤ +92°C) (Dust)
		Ex ia I Ma		Ex ia I Ma (-55°C ≤ Ta ≤ +103°C) (Mining)
Certificate details: Group II and III		IECEEx 18.0082X	Australian Approval Group I	IECEEx ExTC 18.0032X
		Baseefa18ATEX0130X		Ex ia I Ma
		ⓈII 1GD		(-55°C ≤ Ta ≤ +104°C)
		Ex ia IIC T6..T4 Ga		
	Ex ia IIIC T110°C..T145°C Da	US/Canada Approvals		Certificate No. SGSNA/19/BAS/00005
Terminal Parameters 10m of cable	Ui = 28V, li = 93mA, Pi = 0.65W Ci = 5.0nF Li= 7.2µH			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 T110°C...T145°C Da
				CI II Zn 20 AEx ia IIIB T110°C...T145°C Da
Terminal Parameters 92m of cable	Ui = 28V, li = 93mA, Pi = 0.65W Ci = 35.9nF Li= 66µH			Ex ia IIC T6...T4 Ga
				Ex ia IIIC T110°C...T145°C
		Control Drawing		M06-083-A Overbraided Cable
				M06-084-A PUR Cable
500V Isolation	Units Will Pass A 500V Isolation Test			M06-085-A Silicone Cable
				M06-086-A FR PUR Cable
Standards Applied to Product	EN IEC 60079-0:2018 EN 60079-11:2012			M06-087-A Various Cables (HS-150IT Only)
		Barrier		1 x Pepperl + Fuchs Galvanic Isolator
	IEC 60079-0 Edition 7 2017			KFD2-VR4-Ex1.26 (BAS02ATEX7206)
	IEC 60079-11 Edition 6 2011			1 x MTL Zener Barrier MTL7728+ (BAS01ATEX7217)
				or Pepperl + Fuchs Zener Barrier
				Z728 (BAS01ATEX7005) or any other barrier that
				conforms with the terminal parameters

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.

Product Prefix HS - Hansford Sensors		Product Series 170IS - Premium Intrinsically Safe Accelerometer								Cable Length (if integral cable) UXX - length specified in feet							
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Extra Options (if required) A - Australia (Group I) G - SGS (US/Canada Approval) I - Intrinsically Safe (Group II) L - 316L Stainless Steel M - Mining (Group I) S - 90° Side Exit Y - 5% tolerance on sensitivity		Sensitivity 010 - 10mV/g 030 - 30mV/g 050 - 50mV/g 100 - 100mV/g 250 - 250mV/g 500 - 500mV/g		Range ±800g ±250g ±160g ±80g ±32g ±16g		Resonant Frequency 34kHz (2,040kcpm) 32kHz (1,920kcpm) 30kHz (1,800kcpm) 28kHz (1,680kcpm) 26kHz (1,560kcpm) 24kHz (1,440kcpm)		Cable/Connector 01 - PUR 02 - Braided 07 - Silicon 08 - Flame Retardant 50 - 2 Pin MS 54 - M12				Mounting Threads 02 - 1/8"-28" UNF Male 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male					

