

HS-170S Premium Accelerometer

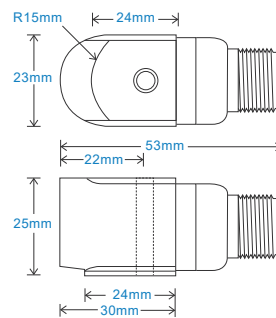
AC acceleration output via 2 Pin MS Connector

Key Features

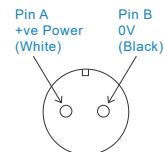
- Compact design
- Side entry for easy access
- Premium design

Industries

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



Connection Details



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	8Nm
Mounting Bolt Provided	see: 'How To Order' table x 30mm long
Weight	135gms (nominal) body only
Connector	Use booted connector only
Mounting Threads	see: 'How To Order' table

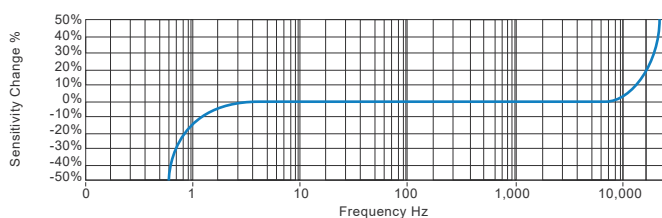
Electrical

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	-55 to 150°C
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

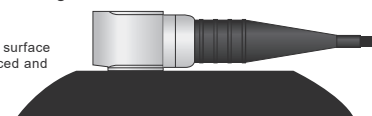
Typical Frequency Response (at 100mV/g)



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.)



How To Order

Product Prefix	Product Series										
HS - Hansford Sensors	170 - Compact Premium Industrial Vibration Sensor										
H	S	1	7	0	S	X	X	X	X	X	X
Extra Options (if required)		Sensitivity		Range		Resonant Frequency		Cable/Connector		Mounting Threads	
F - Filtered		010 - 10mV/g		$\pm 800\text{g}$		30kHz (1,800kcpm)		01 - PUR		02 - 1/4-28" UNF Male	
L - 316L Stainless Steel		030 - 30mV/g		$\pm 250\text{g}$		28kHz (1,680kcpm)		02 - Braided		06 - M6 x 1mm Male	
RT - Temperature Output PT100		050 - 50mV/g		$\pm 160\text{g}$		26kHz (1,560kcpm)		07 - Silicon		08 - M8 x 1.25mm Male	
S - 90° Side Exit		100 - 100mV/g		$\pm 80\text{g}$		24kHz (1,440kcpm)		08 - Flame Retardant			
T - Temperature Output		250 - 250mV/g		$\pm 32\text{g}$		22kHz (1,320kcpm)		50 - 2 Pin MS			
Y - 5% tolerance on sensitivity		500 - 500mV/g		$\pm 16\text{g}$		20kHz (1,200kcpm)		54 - M12			



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TS220.7



HS-170S Premium Accelerometer

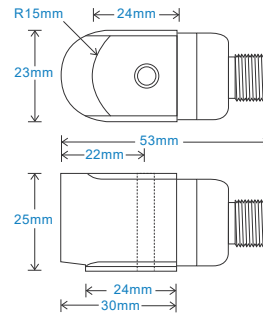
AC acceleration output via M12 Connector

Key Features

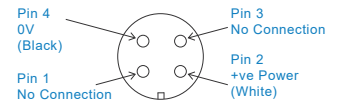
- Compact design
- Premium design
- Side entry for easy access

Industries

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



Connection Details



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	135gms (nominal) body only
Connector	Use booted connector only
Mounting Threads	see: 'How To Order' table

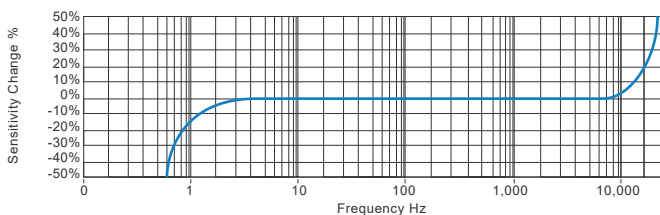
Electrical

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	-55 to 150°C
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.)



How To Order

Product Prefix	Product Series										
HS - Hansford Sensors	170 - Compact Premium Industrial Vibration Sensor										
H	S	1	7	0	S	X	X	X	X	X	X
Extra Options (if required)		Sensitivity		Range		Resonant Frequency		Cable/Connector		Mounting Threads	
F - Filtered		010 - 10mV/g		$\pm 800\text{g}$		30kHz (1,800kcpm)		01 - PUR		02 - 1/4-28" UNF Male	
L - 316L Stainless Steel		030 - 30mV/g		$\pm 250\text{g}$		28kHz (1,680kcpm)		02 - Braided		06 - M6 x 1mm Male	
RT - Temperature Output PT100		050 - 50mV/g		$\pm 160\text{g}$		26kHz (1,560kcpm)		07 - Silicon		08 - M8 x 1.25mm Male	
S - 90° Side Exit		100 - 100mV/g		$\pm 80\text{g}$		24kHz (1,440kcpm)		08 - Flame Retardant			
T - Temperature Output		250 - 250mV/g		$\pm 32\text{g}$		22kHz (1,320kcpm)		50 - 2 Pin MS			
Y - 5% tolerance on sensitivity		500 - 500mV/g		$\pm 16\text{g}$		20kHz (1,200kcpm)		54 - M12			



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TS487.3



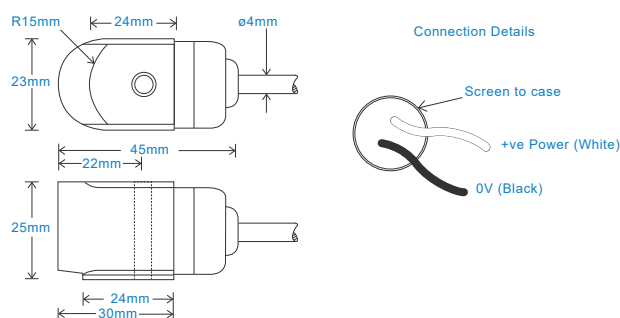
AC acceleration output via Braided Cable

Key Features

- Compact design
- Side entry for easy access
- Premium design

Industries

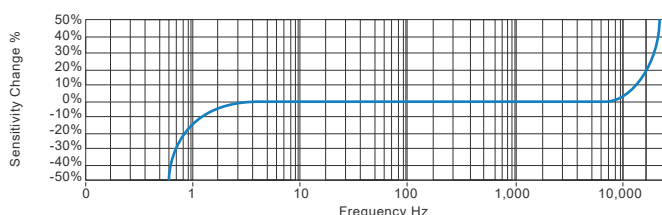
Building services, Pulp and Paper,
Mining, Metals, Utilities, Automotive,
Water, Pharmaceutical



Technical Performance		Mechanical	
Mounted Base Resonance	see 'How To Order' table (nominal)	Case Material	Stainless Steel
Sensitivity	see: 'How To Order' table $\pm 10\%$	Sensing Element/Construction	PZT/Shear
	Nominal 80Hz at 22°C	Mounting Torque	8Nm
Frequency Response	2Hz (120cpm) to 14kHz (840kcpm) $\pm 5\%$	Mounting Bolt Provided	see: 'How To Order' table x 30mm long
	1.5Hz (90cpm) to 16kHz (960kcpm) $\pm 10\%$	Weight	135gms (nominal) body only
	0.8Hz (48cpm) to 19kHz (1,140kcpm) $\pm 3\text{dB}$	Maximum Cable Length	1000 metres
Isolation	Base isolated	Standard Cable Length	5 metres
Range	see: 'How To Order' table	Screened Cable	Braided - length to be specified with order
Transverse Sensitivity	Less than 5%	Mounting Threads	see: 'How To Order' table

Electrical		Environmental	
Electrical Noise	0.1mg max	Operating Temperature Range	-55 to 150°C
Current Range	0.5mA to 8mA	Sealing	IP65
Bias Voltage	10 - 12 Volts DC	Maximum Shock	5000g
Settling Time	1 second	EMC	EN61326-1:2013
Output Impedance	200 Ohms max.		
Case Isolation	>10 ⁸ Ohms at 500 Volts		

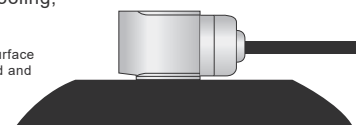
Typical Frequency Response (at 100mV/g)



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.)



How To Order

Product Prefix HS - Hansford Sensors		Product Series 170 - Compact Premium Industrial Vibration Sensor						Cable Length (if integral cable) QXX - length specified in metres						
H	S	1	7	0	S	X	X	X	X	X	X	X	X	X
Extra Options (if required) F - Filtered L - 316L Stainless Steel S - 90° Side Exit T - Temperature Output 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 30kHz (1,800kcpm) 28kHz (1,680kcpm) 26kHz (1,560kcpm) 24kHz (1,440kcpm) 22kHz (1,320kcpm) 20kHz (1,200kcpm)		Cable/Connector 01 - PUR 02 - Braided 07 - Silicon 08 - Flame Retardant 50 - 2 Pin MS 54 - M12		Mounting Threads 02 - ¼-28" UNF Male 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male				



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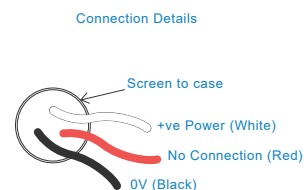
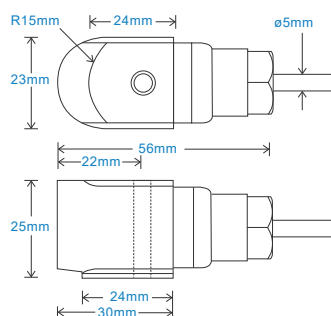
TS308.7



AC acceleration output via Silicon Cable

- Premium design
- Waterproof
- Compact design

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

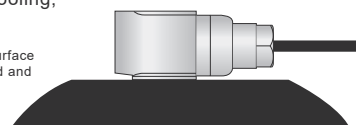
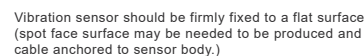


Technical Performance		Mechanical	
Mounted Base Resonance	see 'How To Order' table (nominal)	Case Material	Stainless Steel
Sensitivity	see: 'How To Order' table $\pm 10\%$	Sensing Element/Construction	PZT/Shear
	Nominal 80Hz at 22°C	Mounting Torque	8Nm
Frequency Response	2Hz (120cpm) to 14kHz (840kcpm) $\pm 5\%$	Mounting Bolt Provided	see: 'How To Order' table x 30mm long
	1.5Hz (90cpm) to 16kHz (960kcpm) $\pm 10\%$	Weight	135gms (nominal) body only
	0.8Hz (48cpm) to 19kHz (1,140kcpm) $\pm 3\text{dB}$	Maximum Cable Length	1000 metres
Isolation	Base isolated	Standard Cable Length	5 metres
Range	see: 'How To Order' table	Screened Cable	Silicon - length to be specified with order
Transverse Sensitivity	Less than 5%	Mounting Threads	see: 'How To Order' table
		Submersible Depth	100 metres max (10 bar)

Electrical		Environmental	
Electrical Noise	0.1mg max	Operating Temperature Range	-55 to 150°C
Current Range	0.5mA to 8mA	Sealing	IP68
Bias Voltage	10 - 12 Volts DC	Maximum Shock	5000g
Settling Time	1 second	EMC	EN61326-1:2013
Output Impedance	200 Ohms max.		
Case Isolation	>10 ⁸ Ohms at 500 Volts		

The graph plots Sensitivity Change % on the y-axis (ranging from -50% to 50% in 10% increments) against Frequency Hz on the x-axis (logarithmic scale from 0 to 10,000). The curve is a solid blue line. It shows a sharp negative spike at 1 Hz (approx. -45%), returns to 0% by 2 Hz, and has smaller negative spikes at 10 Hz, 100 Hz, 1,000 Hz, and 10,000 Hz. For frequencies above 10,000 Hz, the sensitivity change increases sharply towards 50%.

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



Product Prefix HS - Hansford Sensors		Product Series 170 - Compact Premium Industrial Vibration Sensor					Cable Length (if integral cable) QXX - length specified in metres							
H	S	1	7	0	S	X	X	X	X	X	X	X	X	X
Extra Options (if required) F - Filtered L - 316L Stainless Steel S - 90° Side Exit T - Temperature Output 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 30kHz (1,800kcpm) 28kHz (1,680kcpm) 26kHz (1,560kcpm) 24kHz (1,440kcpm) 22kHz (1,320kcpm) 20kHz (1,200kcpm)		Cable/Connector 01 - PUR 02 - Braided 07 - Silicon 08 - Flame Retardant 50 - 2 Pin MS 54 - M12		Mounting Threads 02 - ¼-28" UNF Male 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male				



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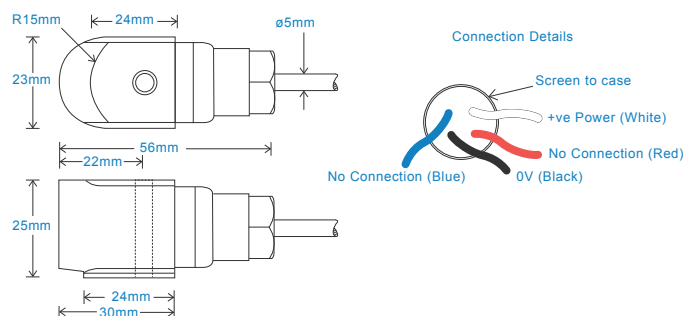
TS313.7



AC acceleration output via PUR Cable

- Compact and Premium design
- Waterproof
- Resistent to oil

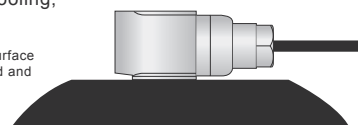
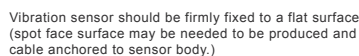
Building services, Pulp and Paper,
Mining, Metals, Utilities, Automotive,
Water, Pharmaceutical



Technical Performance		Mechanical	
Mounted Base Resonance	see 'How To Order' table (nominal)	Case Material	Stainless Steel
Sensitivity	see: 'How To Order' table $\pm 10\%$	Sensing Element/Construction	PZT/Shear
	Nominal 80Hz at 22°C	Mounting Torque	8Nm
Frequency Response	2Hz (120cpm) to 14kHz (840kcpm) $\pm 5\%$	Mounting Bolt Provided	see: 'How To Order' table x 30mm long
	1.5Hz (90cpm) to 16kHz (960kcpm) $\pm 10\%$	Weight	135gms (nominal)
	0.8Hz (48cpm) to 19kHz (1,140kcpm) $\pm 3\text{dB}$	Maximum Cable Length	1000 metres
Isolation	Base isolated	Standard Cable Length	5 metres
Range	see: 'How To Order' table	Screened Cable	PUR - length to be specified with order
Transverse Sensitivity	Less than 5%	Mounting Threads	see: 'How To Order' table
		Submersible Depth	100 metres max (10 bar)

Electrical		Environmental	
Electrical Noise	0.1mg max	Operating Temperature Range	-30 to 90°C
Current Range	0.5mA to 8mA	Sealing	IP68
Bias Voltage	10 - 12 Volts DC	Maximum Shock	5000g
Settling Time	1 second	EMC	EN61326-1:2013
Output Impedance	200 Ohms max.		
Case Isolation	>10 ⁸ Ohms at 500 Volts		

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



Product Prefix HS - Hansford Sensors		Product Series 170 - Compact Premium Industrial Vibration Sensor					Cable Length (if integral cable) QXX - length specified in metres						
H S		1 7 0 S					X X X X X X X X						
Extra Options (if required) F - Filtered L - 316L Stainless Steel RT - Temperature Output PT100 S - 90° Side Exit T - Temperature Output 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 30kHz (1,800kcpm) 28kHz (1,680kcpm) 26kHz (1,560kcpm) 24kHz (1,440kcpm) 22kHz (1,320kcpm) 20kHz (1,200kcpm)		Cable/Connector 01 - PUR 02 - Braided 07 - Silicon 08 - Flame Retardant 50 - 2 Pin MS 54 - M12		Mounting Threads 02 - ¼-28" UNF Male 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male			



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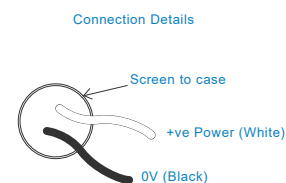
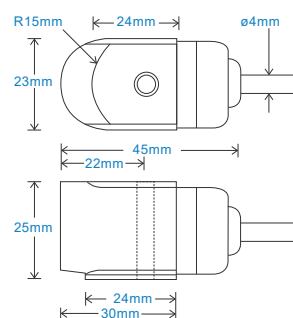
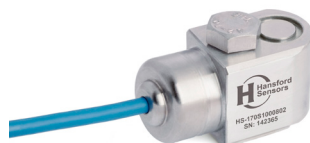
TS312.5



AC acceleration output via Flame Retardant Cable

- Compact design
- Side entry for easy access
- Premium design

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



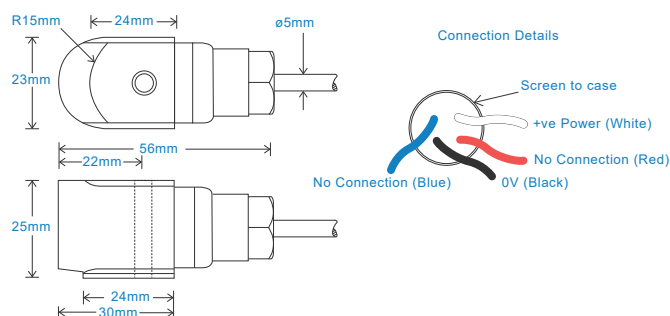
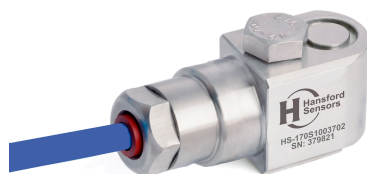
AC acceleration output via 4 Core Polyolefin HFFR

Key Features

- Premium design
- High Temperature
- Compact design

Industries

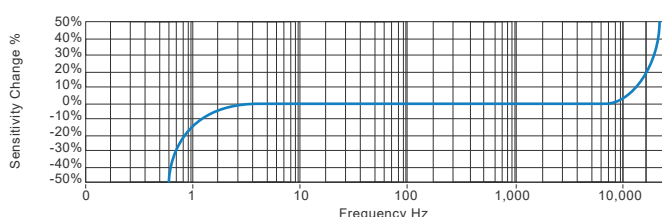
Building services, Pulp and Paper,
Mining, Metals, Utilities, Automotive,
Water, Pharmaceutical



Technical Performance		Mechanical	
Mounted Base Resonance	see 'How To Order' table (nominal)	Case Material	Stainless Steel
Sensitivity	see: 'How To Order' table $\pm 10\%$	Sensing Element/Construction	PZT/Shear
	Nominal 80Hz at 22°C	Mounting Torque	8Nm
Frequency Response	2Hz (120cpm) to 14kHz (840kcpm) $\pm 5\%$	Mounting Bolt Provided	see: 'How To Order' table x 30mm long
	1.5Hz (90cpm) to 16kHz (960kcpm) $\pm 10\%$	Weight	135gms (nominal) body only
	0.8Hz (48cpm) to 19kHz (1,140kcpm) $\pm 3\text{dB}$	Maximum Cable Length	1000 metres
Isolation	Base isolated	Standard Cable Length	5 metres
Range	see: 'How To Order' table	Screened Cable	Polyolefin HFFR - length to be specified with order
Transverse Sensitivity	Less than 5%	Mounting Threads	see: 'How To Order' table

Electrical		Environmental	
Electrical Noise	0.1mg max	Operating Temperature Range	-55 to 130°C
Current Range	0.5mA to 8mA	Sealing	IP68
Bias Voltage	10 - 12 Volts DC	Maximum Shock	5000g
Settling Time	1 second	EMC	EN61326-1:2013
Output Impedance	200 Ohms max.		
Case Isolation	>10 ⁸ Ohms at 500 Volts		

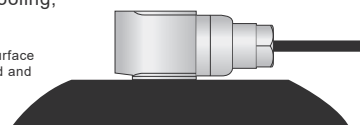
Typical Frequency Response (at 100mV/g)



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.)



How To Order

Product Prefix HS - Hansford Sensors		Product Series 170 - Compact Premium Industrial Vibration Sensor							Cable Length (if integral cable) QXX - length specified in metres					
H	S	1	7	0	S	X	X	X	X	X	X	X	X	X
Extra Options (if required) F - Filtered L - 316L Stainless Steel S - 90° Side Exit T - Temperature Output 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 30kHz (1,800kcpm) 28kHz (1,680kcpm) 26kHz (1,560kcpm) 24kHz (1,440kcpm) 22kHz (1,320kcpm) 20kHz (1,200kcpm)			Cable/Connector 37 - 4 Core Polyolefin HFFR		Mounting Threads 02 - ¼-28" UNF Male 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male			

HS-170ST Premium Accelerometer

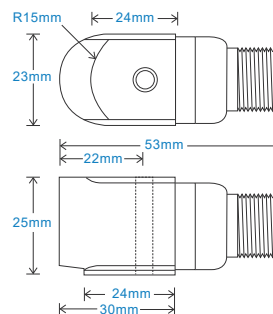
AC acceleration and temperature output via 3 Pin MS Connector

Key Features

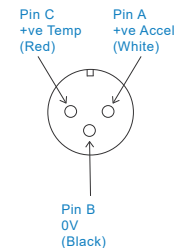
- Temperature output
- Side entry for easy access
- Compact and premium design

Industries

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



Connection Details



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
Temperature Output	10 mV/°C standard 100°C - Option 150°C
Transverse Sensitivity	Less than 5%

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Shear
Mounting Torque	8Nm
Mounting Bolt Provided	see: 'How To Order' table x 30mm long
Weight	135gms (nominal) body only
Connector	Use booted connector only
Mounting Threads	see: 'How To Order' table

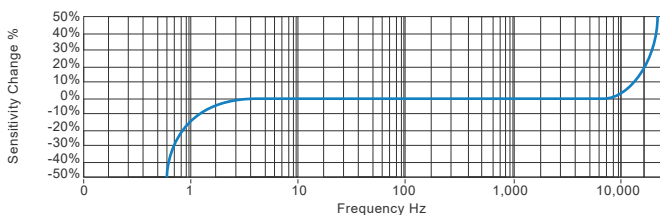
Electrical

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	-55 to 150°C
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

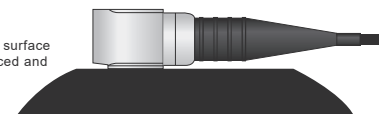
Typical Frequency Response (at 100mV/g)



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.)



How To Order

Product Prefix HS - Hansford Sensors	Product Series 170 - Compact Premium Industrial Vibration Sensor										
H	S	1	7	0	S	T	X	X	X	X	X
Extra Options (if required)		Sensitivity		Range		Resonant Frequency		Cable/Connector		Mounting Threads	
F - Filtered		010 - 10mV/g		$\pm 800\text{g}$		30kHz (1,800kcpm)		01 - PUR		02 - 1/4-28" UNF Male	
HT - High Temperature maximum 150°C		030 - 30mV/g		$\pm 250\text{g}$		28kHz (1,680kcpm)		03 - Braided		06 - M6 x 1mm Male	
L - 316L Stainless Steel		050 - 50mV/g		$\pm 160\text{g}$		26kHz (1,560kcpm)		07 - Silicon		08 - M8 x 1.25mm Male	
S - 90° Side Exit		100 - 100mV/g		$\pm 80\text{g}$		24kHz (1,440kcpm)		15 - Flame Retardant			
T - Temperature Output		250 - 250mV/g		$\pm 32\text{g}$		22kHz (1,320kcpm)		52 - 3 Pin MS			
Y - 5% tolerance on sensitivity		500 - 500mV/g		$\pm 16\text{g}$		20kHz (1,200kcpm)		54 - M12			



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TS223.7



HS-170ST Premium Accelerometer

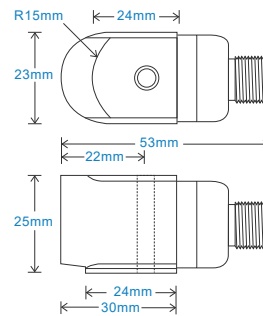
AC acceleration and temperature output via M12 Connector

Key Features

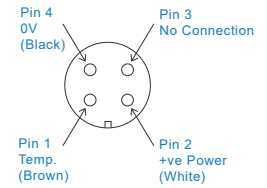
- Compact and premium design
- Temperature output
- Side entry for easy access

Industries

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



Connection Details



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
Temperature Output	10 mV/°C standard 100°C - Option 150°C
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	135gms (nominal) body only
Connector	Use booted connector only
Mounting Threads	see: 'How To Order' table

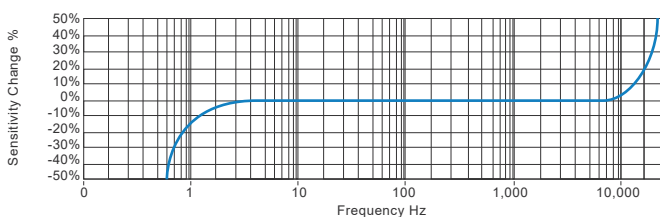
Electrical

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	-55 to 150°C
Sealing	IP67
Maximum Shock	5000g
EMC	EN61326-1:2013

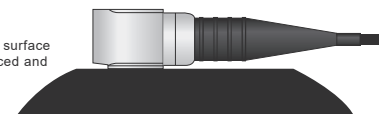
Typical Frequency Response (at 100mV/g)



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.)



How To Order

Product Prefix HS - Hansford Sensors	Product Series 170 - Compact Premium Industrial Vibration Sensor										
H	S	1	7	0	S	T	X	X	X	X	X
Extra Options (if required) F - Filtered HT - High Temperature maximum 150°C L - 316L Stainless Steel S - 90° Side Exit T - Temperature Output 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 $\pm 800\text{g}$ $\pm 250\text{g}$ $\pm 160\text{g}$ $\pm 80\text{g}$ $\pm 32\text{g}$ $\pm 16\text{g}$		Resonant Frequency 30kHz (1,800kcpm) 28kHz (1,680kcpm) 26kHz (1,560kcpm) 24kHz (1,440kcpm) 22kHz (1,320kcpm) 20kHz (1,200kcpm)		Cable/Connector 01 - PUR 03 - Braided 07 - Silicon 15 - Flame Retardant 52 - 3 Pin MS 54 - M12		Mounting Threads 02 - 1/4-28" UNF Male 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male	



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TS222.7



HS-170IS Premium Intrinsically Safe Accelerometer

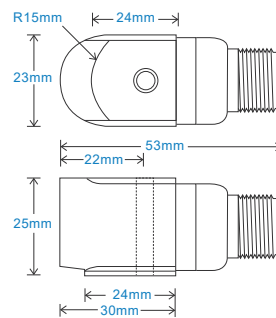
AC acceleration output via 2 Pin MS Connector

Key Features

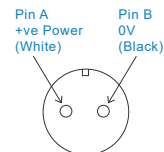
- Intrinsically Safe with European, USA, Indian and Australian approvals
- Compact design
- Side entry for easy access
- Premium design

Industries

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



Connection Details



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	8Nm
Mounting Bolt Provided	see: 'How To Order' table x 30mm long
Weight	135gms (nominal) body only
Connector	Use booted connector only
Mounting Threads	see: 'How To Order' table

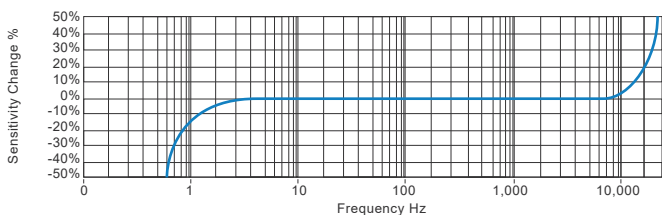
Electrical

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	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

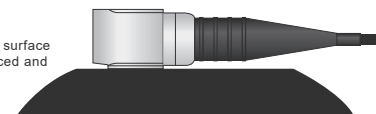
Typical Frequency Response (at 100mV/g)



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.)



Örnek



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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TS915.4



HS-170IS 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		Ex ia IIIB T110°C Da (-55°C ≤ Ta ≤ +57°C) (Dust)
	Baseefa18ATEX0130X		Ex ia IIIB T145°C Da (-55°C ≤ Ta ≤ +92°C) (Dust)
	Ⓢ I M 1		Ex ia IIIC T135°C Da (-55°C ≤ Ta ≤ +70°C) (Dust)
	Ex ia I Ma		Ex ia I Ma (-55°C ≤ Ta ≤ +103°C) (Mining)
Certificate details: Group II and III	IECEX 18.0082X	Australian Approval Group I	IECEX ExTC 18.0032X
	Baseefa18ATEX0130X		Ex ia I Ma
	Ⓢ II 1GD		(-55°C < Ta < +104°C)
	Ex ia IIC T6...T4 Ga		
Terminal Parameters Connector	Ex ia IIIC T135°C Da	US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005
	Ex ia IIIB T110°C...T145°C Da		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
500V Isolation	Ui = 28V, Ii = 93mA, Pi = 0.65W		Ex ia IIC T6...T4 Ga
	CI = 1.2nF		Ex ia IIIC T135°C Da
	Li = 0		
			Or
Standards Applied to Product	EN IEC 60079-0:2018		CI I, II, III, Div 1, 2 Gr A-D G and F T*
	EN 60079-11:2012		CI I Zn 0 AEx ia IIC T6...T4 Ga
	IEC 60079-0 Edition 7 2017		CI II Zn 20 AEx ia IIIB T110°C...T145°C Da
	IEC 60079-11 Edition 6 2011		Ex ia IIC T6...T4 Ga
Barrier	1 x Pepperl + Fuchs Galvanic Isolator	Control Drawing	M06-083-A Overbraided Cable
	KFD2-VR4-Ex1.26 (BAS02ATEX7206)		M06-084-A PUR Cable
	1 x MTL Zener Barrier MTL7728+ (BAS01ATEX7217)		M06-085-A Silicone Cable
	or Pepperl + Fuchs Zener Barrier		M06-086-A FR PUR Cable
500V Isolation	Z728 (BAS01ATEX7005) or any other barrier that conforms with the terminal parameters		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
HS - Hansford Sensors

Product Series
170IS - Premium Intrinsically Safe Accelerometer

H

S

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I

S

X

X

X

X

X

X

Extra Options (if required)
A - Australia (Group I)
I - Intrinsically Safe (Group II)
L - 316L Stainless Steel
M - Mining (Group I)
S - 90° Side Exit
Y - 5% tolerance on sensitivity

Sensitivity	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	32kHz (1,920kcpm)
050 - 50mV/g	±160g	30kHz (1,800kcpm)
100 - 100mV/g	±80g	28kHz (1,680kcpm)
250 - 250mV/g	±32g	26kHz (1,560kcpm)
500 - 500mV/g	±16g	24kHz (1,440kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 Pin MS
54 - M12

Mounting Threads
02 - ¼"-28" UNF Male
06 - M6 x 1mm Male
08 - M8 x 1.25mm Male



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TS915.4



HS-170IS Premium Intrinsically Safe Accelerometer

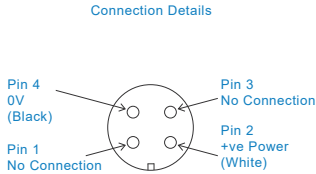
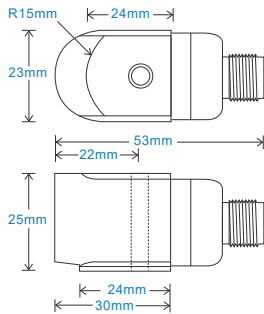
AC acceleration output via M12 Connector

Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- Compact design
- Premium design
- Side entry for easy access

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	135gms (nominal) body only
Connector	Use booted connector only
Mounting Threads	see: 'How To Order' table

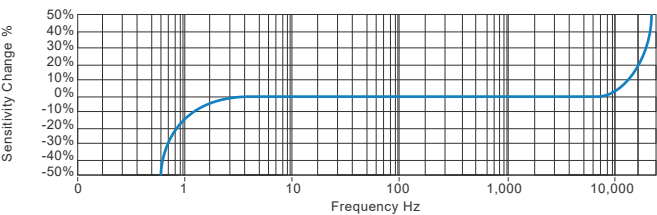
Electrical

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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TS921.4



HS-170IS Premium Intrinsically Safe Accelerometer

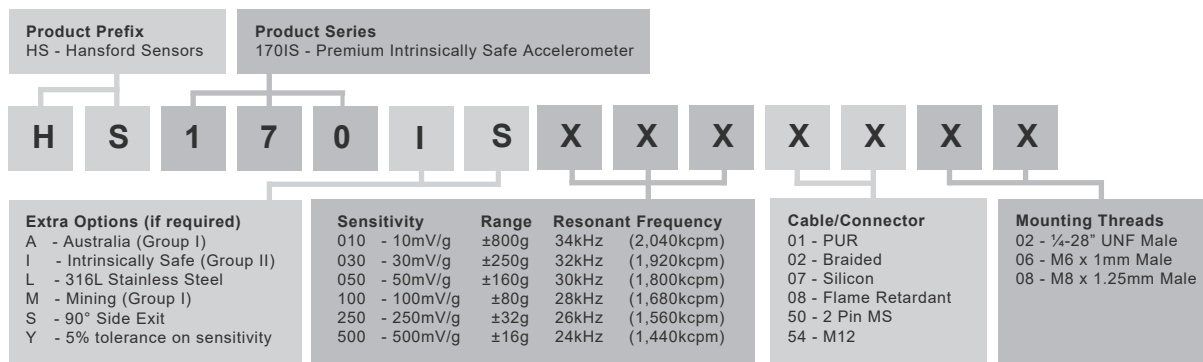
AC acceleration output via M12 Connector

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	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°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 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



HS-170IS Premium Intrinsically Safe Accelerometer

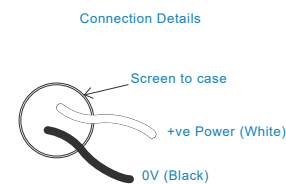
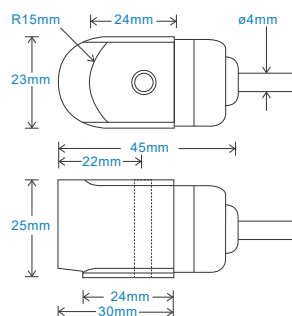
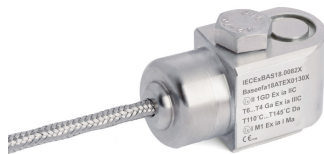
AC acceleration output via Braided Cable

Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- Compact design
- Side entry for easy access
- Premium 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 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	8Nm
Mounting Bolt Provided	see: 'How To Order' table x 30mm long
Weight	135gms (nominal) body only
Maximum Cable Length	See certificate
Standard Cable Length	5 metres
Screened Cable	Braided - length to be specified with order
Mounting Threads	see: 'How To Order' table

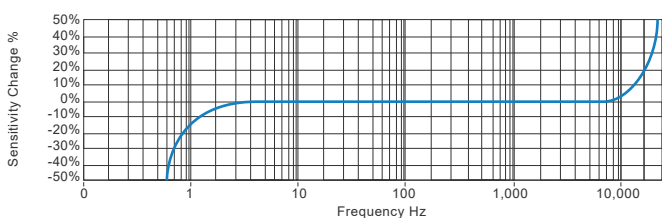
Electrical

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	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

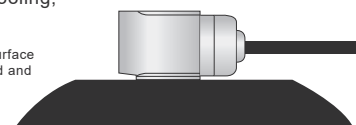
Typical Frequency Response (at 100mV/g)



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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TS916.4

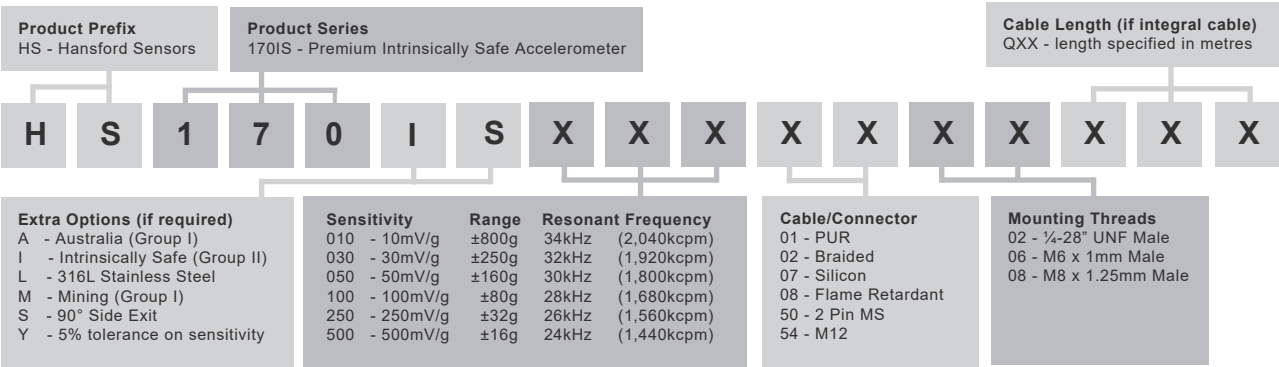


HS-170IS Premium Intrinsically Safe Accelerometer

AC acceleration output via Braided Cable

Intrinsically Safe Requirements			
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	IECEX 18.0082X Baseefa18ATEX0130X ⓈI M 1 Ex ia I Ma		Ex ia IIIC T110°C Da (-55°C ≤ Ta ≤ +57°C) (Dust) Ex ia IIIC T135°C Da (-55°C ≤ Ta ≤ +70°C) (Dust) Ex ia IIIC T145°C Da (-55°C ≤ Ta ≤ +92°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 T110°C...T145°C Da	Australian Approval Group I	IECEX ExTC 18.0032X Ex ia I Ma (-55°C ≤ Ta ≤ +104°C)
Terminal Parameters 10m of cable	Ui = 28V, li = 93mA, Pi = 0.65W Ci = 5.0nF Li = 7.2µH	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 T110°C...T145°C Da 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
Terminal Parameters 92m of cable	Ui = 28V, li = 93mA, Pi = 0.65W Ci = 35.9nF Li = 66µH	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)
500V Isolation	Units Will Pass A 500V Isolation Test		
Standards Applied to Product	EN IEC 60079-0:2018 EN 60079-11:2012	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
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



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TS916.4



HS-170IS Premium Intrinsically Safe Accelerometer

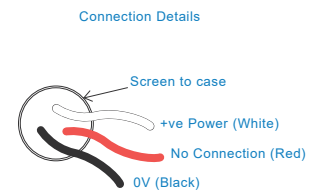
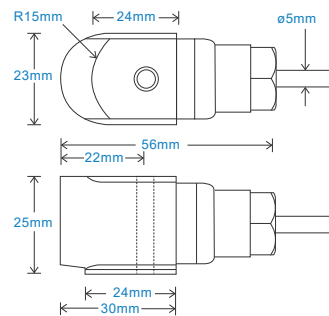
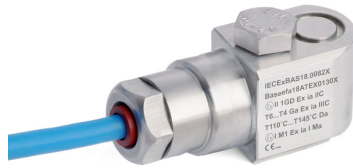
AC acceleration output via Silicon Cable

Key Features

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

Industries

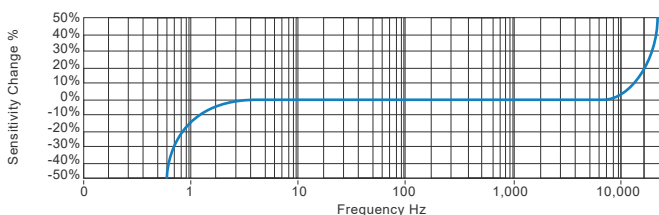
Building services, Pulp and Paper,
Mining, Metals, Utilities, Automotive,
Water, Pharmaceutical



Technical Performance		Mechanical	
Mounted Base Resonance	see 'How To Order' table (nominal)	Case Material	Stainless Steel
Sensitivity	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C	Sensing Element/Construction	PZT/Shear
Frequency Response	2Hz (120cpm) to 14kHz (840kcpm) $\pm 5\%$ 1.5Hz (90cpm) to 16kHz (960kcpm) $\pm 10\%$ 0.8Hz (48cpm) to 19kHz (1,140kcpm) $\pm 3\text{dB}$	Mounting Torque	8Nm
Isolation	Base isolated	Mounting Bolt Provided	see: 'How To Order' table x 30mm long
Range	see: 'How To Order' table	Weight	135gms (nominal) body only
Transverse Sensitivity	Less than 5%	Maximum Cable Length	See certificate
		Standard Cable Length	5 metres
		Screened Cable	Silicon - length to be specified with order
		Mounting Threads	see: 'How To Order' table
		Submersible Depth	100 metres max (10 bar)

Electrical		Environmental	
Electrical Noise	0.1mg max	Operating Temperature Range	see: attached certification details
Current Range	0.5mA to 8mA	Sealing	IP68
Bias Voltage	10 - 12 Volts DC	Maximum Shock	5000g
Settling Time	1 second	EMC	EN61326-1:2013
Output Impedance	200 Ohms max.		
Case Isolation	$>10^8$ Ohms at 500 Volts		

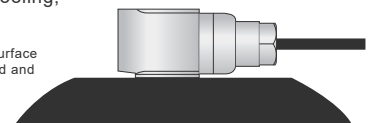
Typical Frequency Response (at 100mV/g)



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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TS919.4



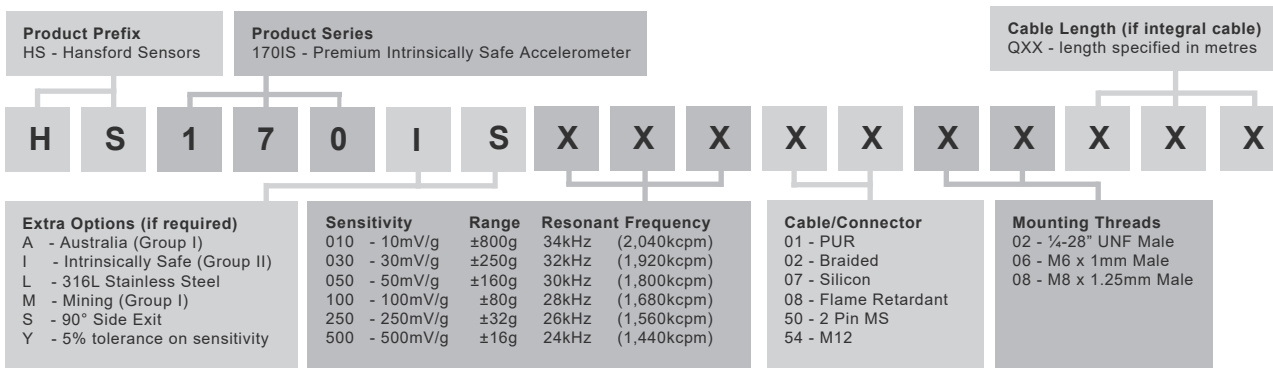
HS-170IS Premium Intrinsically Safe Accelerometer

AC acceleration output via Silicon cable

Intrinsically Safe Requirements

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	IECEX 18.0082X Baseefa18ATEX0130X ⓈI M 1 Ex ia I Ma		Ex ia IIIC T110°C Da (-55°C ≤ Ta ≤ +57°C) (Dust) Ex ia IIIC T135°C Da (-55°C ≤ Ta ≤ +70°C) (Dust) Ex ia IIIC T145°C Da (-55°C ≤ Ta ≤ +92°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 T110°C...T145°C Da	Australian Approval Group I	IECEX ExTC 18.0032X Ex ia I Ma (-55°C ≤ Ta ≤ +104°C)
Terminal Parameters 10m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W Ci = 5.0nF Li = 7.2μH	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 T110°C...T145°C Da 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
Terminal Parameters 92m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W Ci = 35.9nF Li = 66μH	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)
500V Isolation	Units Will Pass A 500V Isolation Test		
Standards Applied to Product	EN IEC 60079-0:2018 EN 60079-11:2012	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
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



HS-170IS Premium Intrinsically Safe Accelerometer

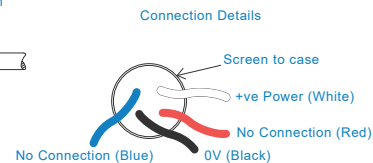
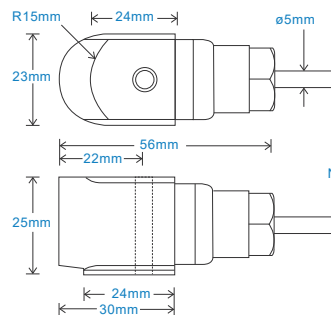
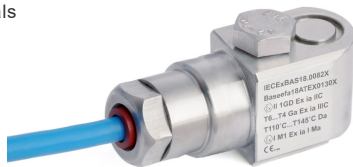
AC acceleration output via PUR Cable

Key Features

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

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	8Nm
Mounting Bolt Provided	see: 'How To Order' table x 30mm long
Weight	135gms (nominal) body only
Maximum Cable Length	See certificate
Standard Cable Length	5 metres
Screened Cable	PUR - length to be specified with order
Mounting Threads	see: 'How To Order' table
Submersible Depth	100 metres max (10 bar)

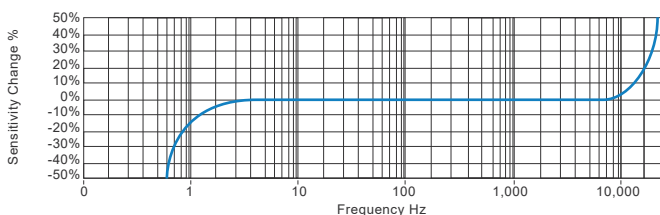
Electrical

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

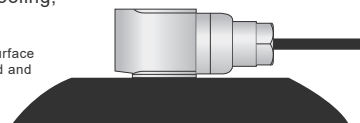
Typical Frequency Response (at 100mV/g)



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.)



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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TS918.4



AC acceleration output via PUR cable

Intrinsically Safe Requirements

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	IECEx 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)
	Ex 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	IECEX 18.0082X	Australian Approval Group I	IECEX ExTC 18.0032X
	Baseefa18ATEX0130X		Ex ia I Ma
	ⓈII 1GD		(-55°C ≤ Ta ≤ +104°C)

	Ex ia IIIC T110°C..T145°C Da	US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005
			CI I, II, III, Div 1, 2 Gr A-G T*
Terminal Parameters 10m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W		CI I Zn 0 AEx ia IIIC T6...T4 Ga
	Ci = 5.0nF		CI II Zn 20 AEx ia IIIC T110°C...T145°C Da
	Li = 7.2uH		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	Control Drawing	Ex ia IIC T110°C...T145°C	M06-083-A Overbraided Cable
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500V Isolation	Units Will Pass A 500V Isolation Test	M06-085-A Silicone Cable
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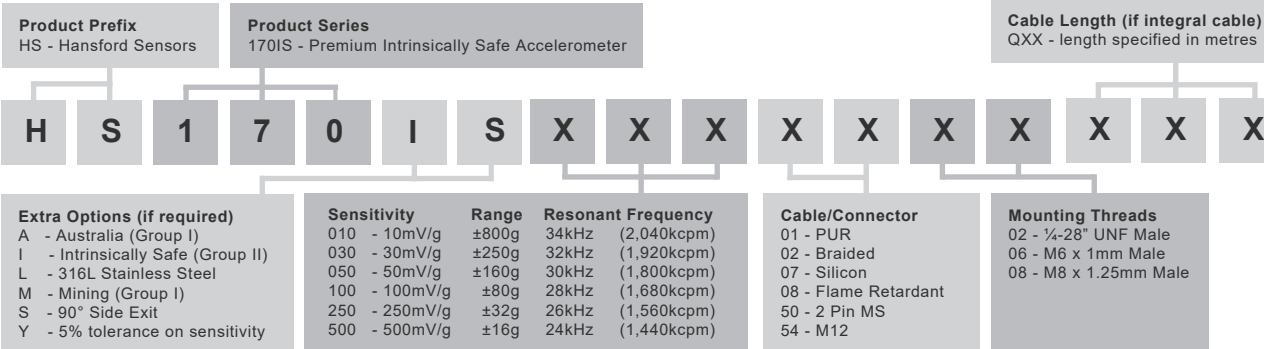
Standards Applied to Product	EN IEC 60079-0:2018 EN 60079-11:2012	M06-087-A Various Cables (HS-150IT Only)
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	Barrier	1 x Pepperl + Fuchs Galvanic Isolator
IEC 60079-0 Edition 7 2017		KFD2-VR4-Ex1.26 (BAS02ATEX7206)
IEC 60079-11 Edition 6 2011		1 x MTL Zener Barrier MTL7728+ (BAS01ATEX7217)
		or Pepperl + Fuchs Zener Barrier
		Z728 (BAS01ATEX7005) or any other barrier that
		conforms with the terminal parameters

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



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TS918 4



HS-170IS Premium Intrinsically Safe Accelerometer

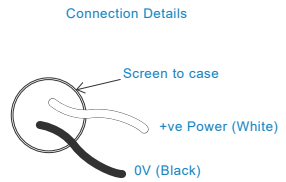
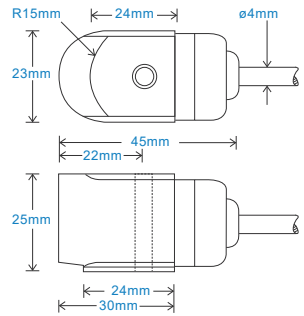
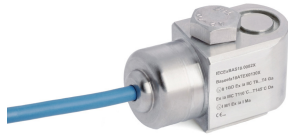
AC acceleration output via Flame Retardant Cable

Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- Compact design
- Side entry for easy access
- Premium design

Industries

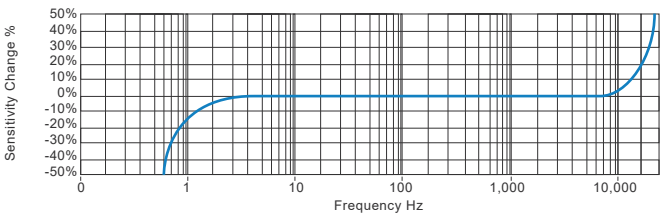
Building services, Pulp and Paper, Mining, Metals, Utilities, Automotive, Water, Pharmaceutical



Technical Performance		Mechanical	
Mounted Base Resonance	see 'How To Order' table (nominal)	Case Material	Stainless Steel
Sensitivity	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C	Sensing Element/Construction	PZT/Shear
Frequency Response	2Hz (120cpm) to 14kHz (840kcpm) $\pm 5\%$ 1.5Hz (90cpm) to 16kHz (960kcpm) $\pm 10\%$ 0.8Hz (48cpm) to 19kHz (1,140kcpm) $\pm 3\text{dB}$	Mounting Torque	8Nm
Isolation	Base isolated	Mounting Bolt Provided	see: 'How To Order' table x 30mm long
Range	see: 'How To Order' table	Weight	135gms (nominal) body only
Transverse Sensitivity	Less than 5%	Maximum Cable Length	1000 metres
		Standard Cable Length	5 metres
		Screened Cable	Flame Retardant - length to be specified with order
		Mounting Threads	see: 'How To Order' table

Electrical		Environmental	
Electrical Noise	0.1mg max	Operating Temperature Range	See attached certification details
Current Range	0.5mA to 8mA	Sealing	IP65
Bias Voltage	10 - 12 Volts DC	Maximum Shock	5000g
Settling Time	1 second	EMC	EN61326-1:2013
Output Impedance	200 Ohms max.		
Case Isolation	$>10^8$ Ohms at 500 Volts		

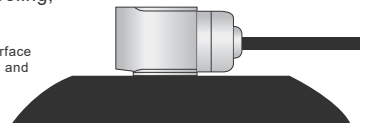
Typical Frequency Response (at 100mV/g)



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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TS917.4



AC acceleration output via Flame Retardant Cable

Intrinsically Safe Requirements

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	IECEx 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)
	Ex 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	IECEX 18.0082X	Australian Approval Group I	IECEX ExTC 18.0032X
	Baseefa18ATEX0130X		Ex ia I Ma
	ⓈII 1GD		(-55°C ≤ Ta ≤ +104°C)

	Ex ia IIIC T110°C..T145°C Da	US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005
			CI I, II, III, Div 1, 2 Gr A-G T*
Terminal Parameters 10m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W		CI I Zn 0 AEx ia IIIC T6...T4 Ga
	Ci = 5.0nF		CI II Zn 20 AEx ia IIIC T110°C...T145°C Da
	Li = 7.2uH		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	Control Drawing	Ex ia IIC T110°C...T145°C	M06-083-A Overbraided Cable
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500V Isolation	Units Will Pass A 500V Isolation Test	M06-085-A Silicone Cable
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Standards Applied to Product	EN IEC 60079-0:2018 EN 60079-11:2012	M06-087-A Various Cables (HS-150IT Only)
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	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

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

