

# HS-100 Accelerometer

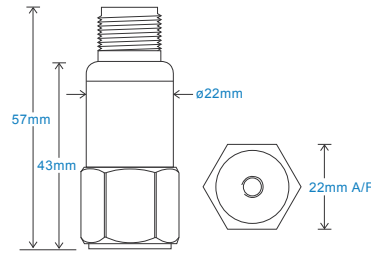
## AC acceleration output via 2 Pin MS Connector

### Key Features

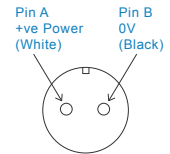
- Most common seller
- For use with data collector
- Customisable features

### Industries

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



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 10kHz (600kcpm) $\pm 5\%$ 1.5Hz (90cpm) to 12kHz (720kcpm) $\pm 10\%$ 0.8Hz (48cpm) to 15kHz (900kcpm) $\pm 3\text{dB}$
Isolation	Base isolated
Range	see: 'How To Order' table
Transverse Sensitivity	Less than 5%

### Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Compression
Mounting Torque	8Nm
Weight	106gms (nominal) body only
Screened Cable Assembly	see: <a href="http://www.hansfordsensors.com">www.hansfordsensors.com</a> for options
Connector	HS-AA004 - non-booted HS-AA053 or HS-AA054 - booted
Mounting Threads	see: 'How To Order' table

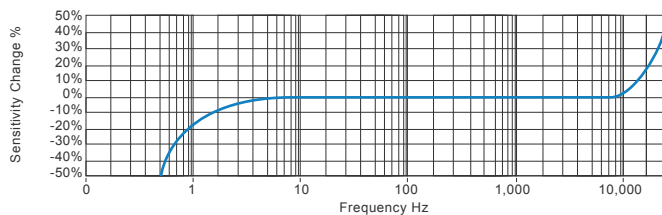
### Electrical

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	-55 to 140°C
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

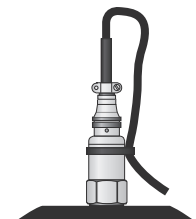
### Typical Frequency Response (at 100mV/g)



### 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 100 - Industrial Vibration Sensor										
H	S	1	0	0	X	X	X	X	X	X	X
Extra Options (If required)		Sensitivity		Range		Resonant Frequency		Cable/Connector		Mounting Threads	
F - Filtered		010 - 10mV/g		$\pm 800\text{g}$		34kHz (2,040kcpm)		01 - PUR		01 - 1/4-28" UNF Female	
I - Intrinsically Safe		030 - 30mV/g		$\pm 250\text{g}$		33kHz (1,980kcpm)		02 - Braided		02 - 1/4-28" UNF Male	
L - 316L Stainless Steel		050 - 50mV/g		$\pm 160\text{g}$		32kHz (1,920kcpm)		07 - Silicon		05 - Quick Fit Female	
RT - Temperature Output PT100		100 - 100mV/g		$\pm 80\text{g}$		30kHz (1,800kcpm)		08 - Flame Retardant		06 - M6 x 1mm Male	
T - Temperature Output		250 - 250mV/g		$\pm 32\text{g}$		28kHz (1,680kcpm)		50 - 2 Pin MS		08 - M8 x 1.25mm Male	
Y - 5% tolerance on sensitivity		500 - 500mV/g		$\pm 16\text{g}$		26kHz (1,560kcpm)		54 - M12		10 - M10 x 1.5mm Male	



[www.hansfordsensors.com](http://www.hansfordsensors.com)  
[sales@hansfordsensors.com](mailto:sales@hansfordsensors.com)

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

TS001.9



# HS-150 Premium Accelerometer

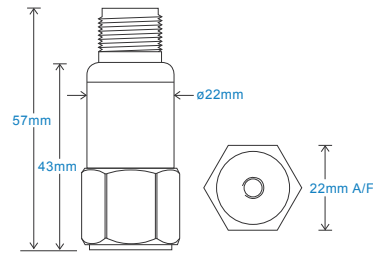
AC acceleration output via 2 Pin MS Connector

## Key Features

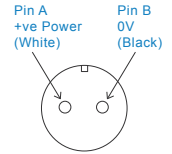
- For use with data collector
- Premium design
- Customisable features

## 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	1.5Hz (90cpm) to 10kHz (600kcpm) $\pm 5\%$ 0.5Hz (30cpm) to 12kHz (720kcpm) $\pm 10\%$ 0.2Hz (12cpm) to 15kHz (900kcpm) $\pm 3\text{dB}$
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
Weight	106gms (nominal) body only
Screened Cable Assembly	see: <a href="http://www.hansfordsensors.com">www.hansfordsensors.com</a> for options
Connector	HS-AA004 - non-booted HS-AA053 or HS-AA054 - booted
Mounting Threads	see: 'How To Order' table

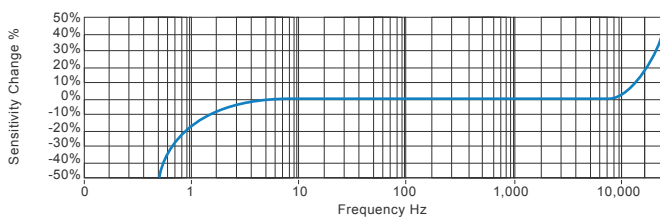
## Electrical

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

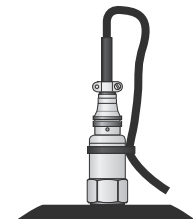
## Typical Frequency Response (at 100mV/g)



## 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	150 - Premium Industrial Vibration Sensor										
H	S	1	5	0	X	X	X	X	X	X	X
Extra Options (If required)		Sensitivity		Range		Resonant Frequency		Cable/Connector		Mounting Threads	
F - Filtered		010 - 10mV/g		$\pm 800\text{g}$		34kHz (2,040kcpm)		01 - PUR		01 - 1/4-28" UNF Female	
L - 316L Stainless Steel		030 - 30mV/g		$\pm 250\text{g}$		33kHz (1,980kcpm)		02 - Braided		02 - 1/4-28" UNF Male	
RT - Temperature Output PT100		050 - 50mV/g		$\pm 160\text{g}$		32kHz (1,920kcpm)		07 - Silicon		05 - Quick Fit Female	
S - 90° Side Exit		100 - 100mV/g		$\pm 80\text{g}$		30kHz (1,800kcpm)		08 - Flame Retardant		06 - M6 x 1mm Male	
T - Temperature Output		250 - 250mV/g		$\pm 32\text{g}$		28kHz (1,680kcpm)		50 - 2 Pin MS		08 - M8 x 1.25mm Male	
Y - 5% tolerance on sensitivity		500 - 500mV/g		$\pm 16\text{g}$		26kHz (1,560kcpm)		54 - M12		10 - M10 x 1.5mm Male	



[www.hansfordsensors.com](http://www.hansfordsensors.com)  
[sales@hansfordsensors.com](mailto:sales@hansfordsensors.com)

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

TS217.7



# HS-170 Premium Accelerometer

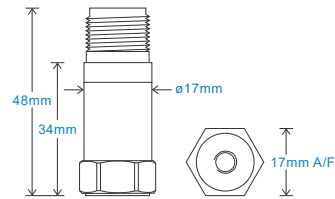
AC acceleration output via 2 Pin MS Connector

## Key Features

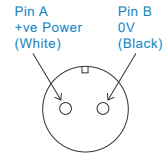
- Compact design
- Premium design
- Customisable features

## 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
Weight	52gms (nominal) body only
Screened Cable Assembly	see: <a href="http://www.hansfordsensors.com">www.hansfordsensors.com</a> for options
Connector	HS-AA004 - non-booted HS-AA053 or HS-AA054 - booted
Mounting Threads	see: 'How To Order' table

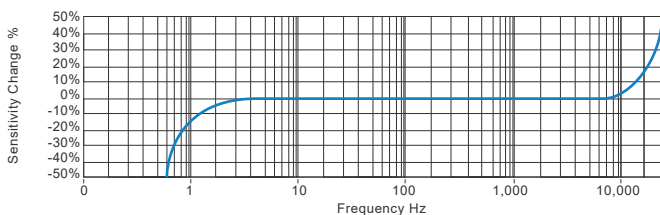
## Electrical

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

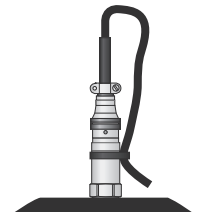
## Typical Frequency Response (at 100mV/g)



## 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	X	X	X	X	X	X	X
Extra Options (if required)		Sensitivity		Range		Resonant Frequency		Cable/Connector		Mounting Threads	
F - Filtered		010 - 10mV/g		$\pm 800\text{g}$		34kHz (2,040kcpm)		01 - PUR		01 - 1/4-28" UNF Female	
L - 316L Stainless Steel		030 - 30mV/g		$\pm 250\text{g}$		32kHz (1,920kcpm)		02 - Braided		02 - 1/4-28" UNF Male	
S - 90° Side Exit		050 - 50mV/g		$\pm 160\text{g}$		30kHz (1,800kcpm)		07 - Silicon		06 - M6 x 1mm Male	
Y - 5% tolerance on sensitivity		100 - 100mV/g		$\pm 80\text{g}$		28kHz (1,680kcpm)		08 - Flame Retardant		08 - M8 x 1.25mm Male	
		250 - 250mV/g		$\pm 32\text{g}$		26kHz (1,560kcpm)		50 - 2 Pin MS		10 - M10 x 1.5mm Male	
		500 - 500mV/g		$\pm 16\text{g}$		24kHz (1,440kcpm)		54 - M12			



[www.hansfordsensors.com](http://www.hansfordsensors.com)  
[sales@hansfordsensors.com](mailto:sales@hansfordsensors.com)

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

TS049.16



# HS-173 Premium Triaxial Accelerometer

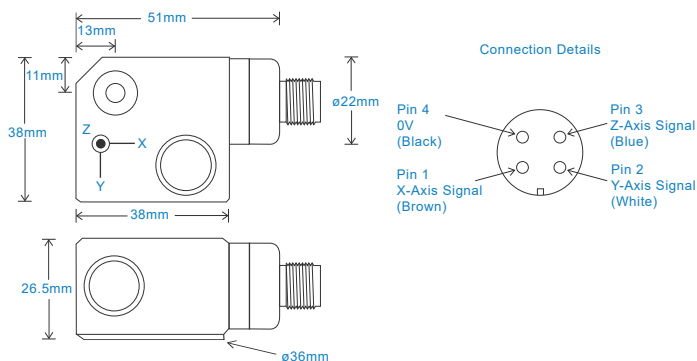
## Three AC outputs via M12 Connector

### Key Features

- Output via three axes
- For use with data collector
- 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) +3kHz for aluminium version
Sensitivity	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C per axes
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) $\pm 5\%$ 1.5Hz (90cpm) to 12kHz (720kcpm) $\pm 10\%$ 0.8Hz (48cpm) to 15kHz (900kcpm) $\pm 3\text{dB}$
Isolation	Base isolated
Range	see: 'How To Order' table
Transverse Sensitivity	Less than 5%

### Mechanical

Case Material	Stainless Steel unless specified Aluminium
Sensing Element/Construction	PZT/Shear
Mounting Torque	8Nm
Mounting Bolt Provided	see: 'How To Order' table x 30mm long
Weight	235gms (nominal) - Stainless Steel 115gms (nominal) - Aluminium
Screened Cable Assembly	HS-AC010 - straight
Mounting Threads	see: 'How To Order' table
Mounting Stud	HS-AS226, HS-AS221 or HS-AS222

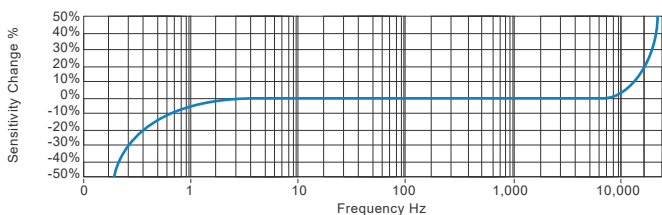
### Electrical

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

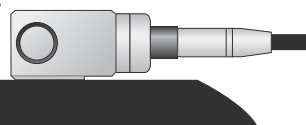
### Typical Frequency Response (at 100mV/g)



### 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	173 - Triaxial Industrial Vibration Sensor										
H	S	1	7	3	X	X	X	X	X	X	X
Extra Options (if required)		Sensitivity		Range		Resonant Frequency		Cable/Connector		Mounting Threads	
AL - Aluminium Material		010 - 10mV/g		$\pm 800\text{g}$		20kHz (1,200kcpm)		54 - M12		02 - 1/4-28" UNF Male	
F - Filtered		030 - 30mV/g		$\pm 250\text{g}$		19kHz (1,140kcpm)				06 - M6 x 1mm Male	
RT - Temperature Output PT100		050 - 50mV/g		$\pm 160\text{g}$		18kHz (1,080kcpm)				08 - M8 x 1.25mm Male	
T - Temperature Output		100 - 100mV/g		$\pm 80\text{g}$		17kHz (1,020kcpm)					
		250 - 250mV/g		$\pm 32\text{g}$		16kHz (960kcpm)					
		500 - 500mV/g		$\pm 16\text{g}$		15kHz (900kcpm)					



[www.hansfordsensors.com](http://www.hansfordsensors.com)  
[sales@hansfordsensors.com](mailto:sales@hansfordsensors.com)

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

TS262.16



# HS-420 Accelerometer

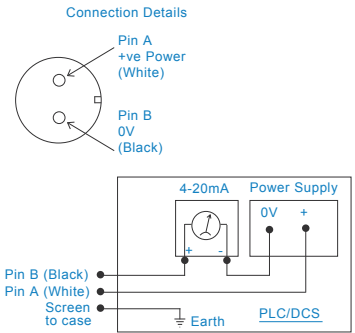
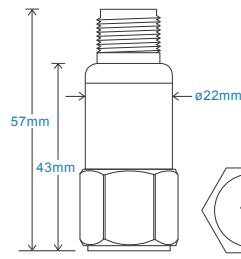
## 4-20mA velocity output via 2 Pin MS Connector

### Key Features

- For use with PLC/DCS systems
- Customisable features

### Industries

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



### Technical Performance

Mounted Base Resonance	5kHz min
Velocity Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response	10Hz (600cpm) to 1kHz (60kcpm) $\pm 5\%$ - ISO10816
Isolation	Base isolated
Range	50g peak
Transverse Sensitivity	Less than 5%

### Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Compression
Mounting Torque	8Nm
Weight	100gms (nominal)
Screened Cable Assembly	see: <a href="http://www.hansfordsensors.com">www.hansfordsensors.com</a> for options
Connector	HS-AA004 - non-booted HS-AA053 or HS-AA054 - booted
Mounting Threads	see: 'How To Order' table

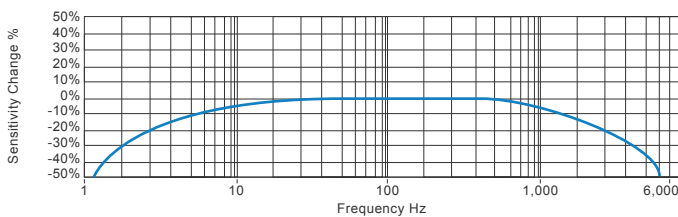
### Electrical

Current Output	4-20mA DC proportional to Velocity Range
Supply Voltage	15-30 Volts DC (for 4-20mA)
Settling Time	2 seconds
Output Impedance	Loop Resistance 600 Ohms max. at 24 Volts
Case Isolation	$>10^8$ Ohms at 500 Volts

### Environmental

Operating Temperature Range	-25 to 120°C
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

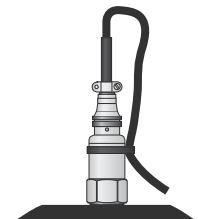
### Typical Frequency Response



### 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		420 - Industrial Vibration Sensor									
H	S	4	2	0	X	X	X	X	X	X	X
Extra Options (if required)					Velocity Range			Cable/Connector		Mounting Threads	
F - Filtered					010 - 0-10 mm/sec			01 - PUR		01 - ¼-28" UNF Female	
I - Intrinsically Safe					020 - 0-20 mm/sec			02 - Braided		02 - ¾-28" UNF Male	
L - 316L Stainless Steel					025 - 0-25 mm/sec			07 - Silicon		05 - Quick Fit Female	
RT - Temperature Output PT100					050 - 0-50 mm/sec			08 - Flame Retardant		06 - M6 x 1mm Male	
S - 90° Side Exit					100 - 0-100 mm/sec			50 - 2 Pin MS		08 - M8 x 1.25mm Male	
T - Temperature Output								54 - M12		10 - M10 x 1.5mm Male	



[www.hansfordsensors.com](http://www.hansfordsensors.com)  
[sales@hansfordsensors.com](mailto:sales@hansfordsensors.com)

We reserve the right to alter the specification of this product without prior notice  
TS008.11



# HS-473 Triaxial Accelerometer

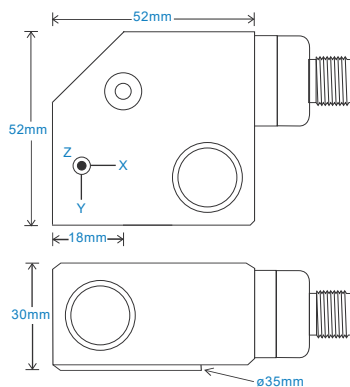
4-20mA velocity output via 8 Pin M12 Connector

## Key Features

- For use with PLC/DCS systems
- Customisable features

## Industries

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



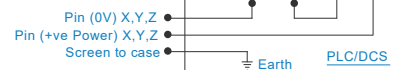
### Connection Details

- Pin 1 - White - X Power
- Pin 2 - Brown - X 0V
- Pin 3 - Green - Temp Out
- Pin 4 - Yellow - Y Power
- Pin 5 - Black - Y 0V
- Pin 6 - Purple - Temp 0V
- Pin 7 - Blue - Z Power
- Pin 8 - Red - Z 0V



### Temp Sensor

- Pin 1 - +
- Pin 3 - Temp Out
- Pin 6 - 0V



## Technical Performance

Mounted Base Resonance	17kHz (nominal)
Velocity Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response	10Hz (600cpm) to 1kHz (60kcpm) $\pm 5\%$ - ISO10816
Isolation	Base isolated
Range	50g peak
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 37mm long
Weight	530 gms (nominal) body only
Screened Cable Assembly	HS-AC731
Mounting Threads	see: 'How To Order' table

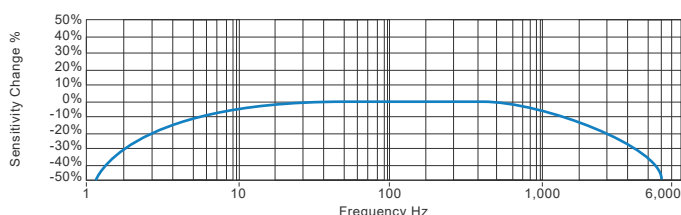
## Electrical

Current Output	4-20mA DC proportional to Velocity Range
Supply Voltage	15-30 Volts DC (for 4-20mA)
Settling Time	1 second
Output Impedance	Loop Resistance 600 Ohms max. at 24 Volts
Case Isolation	$>10^8$ Ohms at 500 Volts

## Environmental

Operating Temperature Range	-25 to 120°C
Sealing	IP67
Maximum Shock	5000g
EMC	EN61326-1:2013

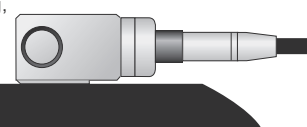
## Typical Frequency Response



## 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		473 - Industrial Vibration Sensor									
H	S	4	7	3	X	X	X	X	X	X	X
Extra Options (if required)					Velocity Range (RMS unless specified)			Cable/Connector		Mounting Threads	
F - Filtered					010 - 0-10 mm/sec			66 - 8 Pin Connector		02 - 1/4-28" UNF Male	
L - 316L Stainless Steel					020 - 0-20 mm/sec					06 - M6 x 1mm Male	
RT - Temperature Output PT100					025 - 0-25 mm/sec					08 - M8 x 1.25mm Male	
T - Temperature Output					050 - 0-50 mm/sec						
					100 - 0-100 mm/sec						