

# HS-422 Accelerometer

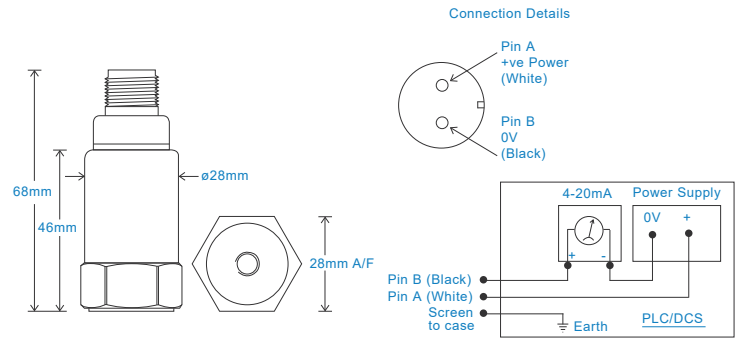
## 4-20mA acceleration output via 2 Pin MS Connector

### Key Features

- 4-20mA acceleration output
- 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	10kHz min
Acceleration Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response	10Hz (600cpm) to 5kHz (300kcpm) $\pm 5\%$ - ISO10816
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	150gms (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

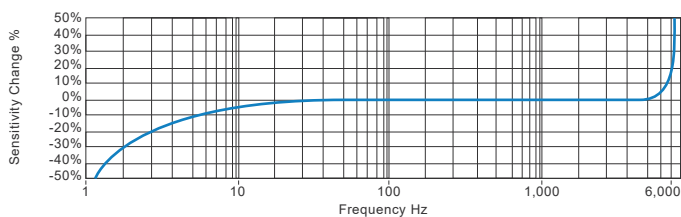
### Electrical

Current Output	4-20mA DC proportional to acceleration
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

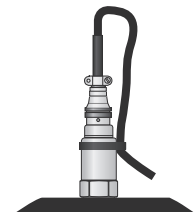
### Typical Frequency Response



### 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	422 - Industrial Vibration Sensor										
H	S	4	2	2	X	X	X	X	X	X	X
Extra Options (if required)					Acceleration Range (RMS unless specified)			Cable/Connector		Mounting Threads	
F - Filtered L - 316L Stainless Steel RT - Temperature Output PT100 S - 90° Side Exit T - Temperature Output					P - Peak Range PP - Peak to Peak Range			01 - PUR 02 - Braided 07 - Silicon 08 - Flame Retardant 50 - 2 Pin MS 54 - M12		01 - 1/4-28" UNF Female 02 - 1/4-28" UNF Male 05 - Quick Fit Female 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male 10 - M10 x 1.5mm Male	



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TS194.7



# HS-422 Accelerometer

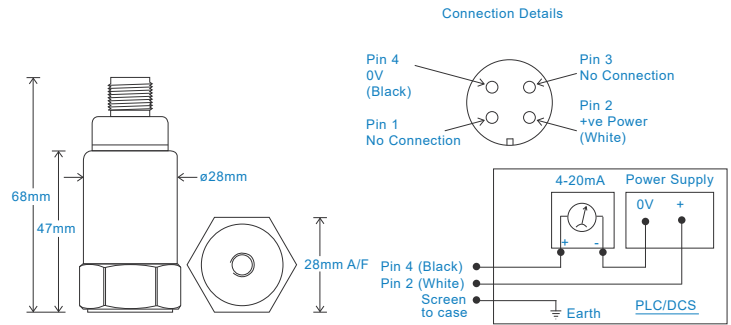
## 4-20mA acceleration output via M12 Connector

### Key Features

- 4-20mA acceleration output
- 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	10kHz min
Acceleration Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response	10Hz (600cpm) to 5kHz (300kcpm) $\pm 5\%$ - ISO10816
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	150gms (nominal) body only
Screened Cable Assembly	HS-AC010 - straight HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

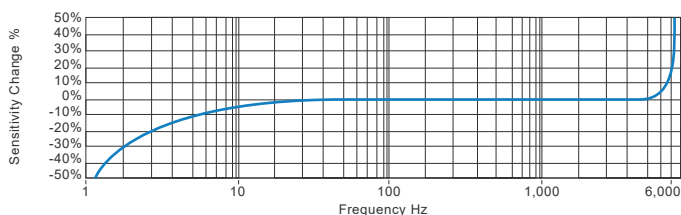
### Electrical

Current Output	4-20mA DC proportional to acceleration
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	IP67
Maximum Shock	5000g
EMC	EN61326-1:2013

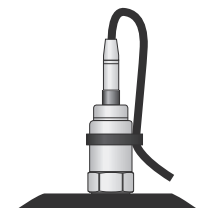
### Typical Frequency Response



### 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		422 - Industrial Vibration Sensor									
H	S	4	2	2	X	X	X	X	X	X	X
Extra Options (if required)					Acceleration Range (RMS unless specified)			Cable/Connector		Mounting Threads	
F	-	Filtered	P - Peak Range		001	-	0-1g	01	-	01 - PUR	01 - ¼-28" UNF Female
L	-	316L Stainless Steel	PP - Peak to Peak Range		002	-	0-2g	02	-	02 - Braided	02 - ¼-28" UNF Male
RT	-	Temperature Output PT100			005	-	0-5g	07	-	07 - Silicon	05 - Quick Fit Female
S	-	90° Side Exit			010	-	0-10g	08	-	08 - Flame Retardant	06 - M6 x 1mm Male
T	-	Temperature Output			100	-	0-100g	50	-	50 - 2 Pin MS	08 - M8 x 1.25mm Male
								54	-	54 - M12	10 - M10 x 1.5mm Male



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# HS-422 Accelerometer

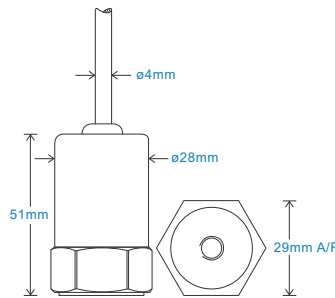
## 4-20mA acceleration output via Braided Cable

### Key Features

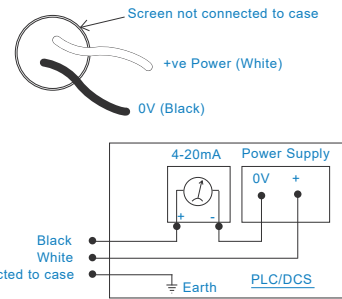
- 4-20mA acceleration output
- For use with PLC/DCS systems
- Customisable features

### Industries

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



### Connection Details



### Technical Performance

Mounted Base Resonance	10kHz min
Acceleration Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response	10Hz (600cpm) to 5kHz (300kcpm) $\pm 5\%$ - ISO10816
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	150gms (nominal) body only
Maximum Cable Length	1000 metres
Standard Cable Length	5 metres
Screened Cable	Braided - length to be specified with order
Mounting Threads	see: 'How To Order' table

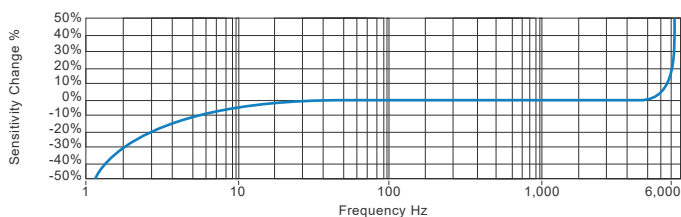
### Electrical

Current Output	4-20mA DC proportional to acceleration
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	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

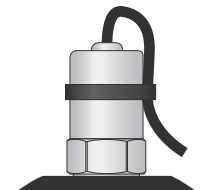
### Typical Frequency Response



### 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 HS - Hansford Sensors	Product Series 422 - Industrial Vibration Sensor											Cable Length (if integral cable) QXX - length specified in metres		
H	S	4	2	2	X	X	X	X	X	X	X	Q	X	X
Extra Options (if required) F - Filtered L - 316L Stainless Steel RT - Temperature Output PT100 S - 90° Side Exit T - Temperature Output					Acceleration Range (RMS unless specified) 001 - 0-1g 002 - 0-2g 005 - 0-5g 010 - 0-10g 100 - 0-100g					Cable/Connector 01 - PUR 02 - Braided 07 - Silicon 08 - Flame Retardant 50 - 2 Pin MS 54 - M12 37 - 4 Core Polyolefin HFFR			Mounting Threads 01 - 1/4-28" UNF Female 02 - 1/4-28" UNF Male 05 - Quick Fit Female 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male 10 - M10 x 1.5mm Male	



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# HS-422 Accelerometer

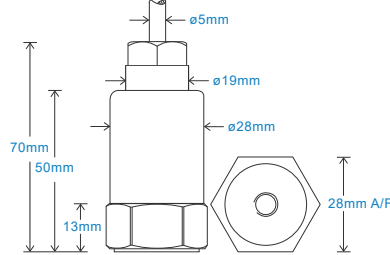
## 4-20mA acceleration output via Silicon Cable

### Key Features

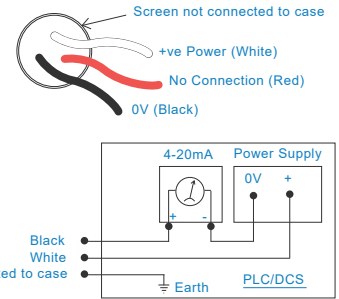
- 4-20mA acceleration output
- For use with PLC/DCS systems
- Waterproof

### Industries

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



### Connection Details



### Technical Performance

Mounted Base Resonance	10kHz min
Acceleration Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response	10Hz (600cpm) to 5kHz (300kcpm) $\pm 5\%$ - ISO10816
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	150gms (nominal) body only
Maximum Cable Length	1000 metres
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)

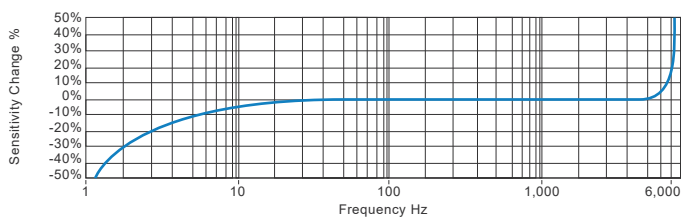
### Electrical

Current Output	4-20mA DC proportional to acceleration
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

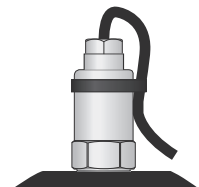
### Typical Frequency Response



### 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 HS - Hansford Sensors	Product Series 422 - Industrial Vibration Sensor	Cable Length (if integral cable) QXX - length specified in metres													
H	S	4	2	2	X	X	X	X	X	X	X	X	Q	X	X
Extra Options (if required) F - Filtered L - 316L Stainless Steel RT - Temperature Output PT100 S - 90° Side Exit T - Temperature Output P - Peak Range PP - Peak to Peak Range						Acceleration Range (RMS unless specified) 001 - 0-1g 002 - 0-2g 005 - 0-5g 010 - 0-10g 100 - 0-100g			Cable/Connector 01 - PUR 02 - Braided 07 - Silicon 08 - Flame Retardant 50 - 2 Pin MS 54 - M12			Mounting Threads 01 - 1/4-28" UNF Female 02 - 1/4-28" UNF Male 05 - Quick Fit Female 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male 10 - M10 x 1.5mm Male			



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# HS-422 Accelerometer

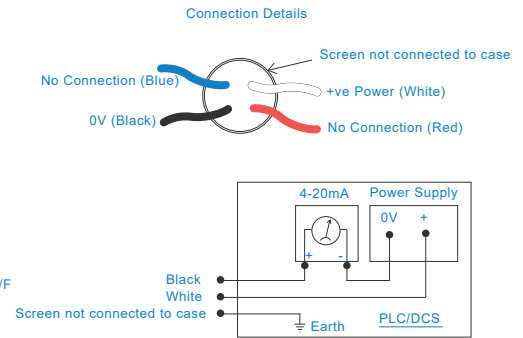
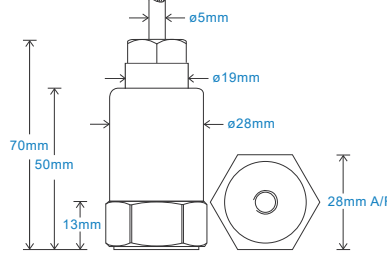
4-20mA acceleration output via PUR Cable

## Key Features

- For use with PLC/DCS systems
- Waterproof
- Resistant to oil

## Industries

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



## Technical Performance

Mounted Base Resonance	10kHz min
Acceleration Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response	10Hz (600cpm) to 5kHz (300kcpm) $\pm 5\%$ - ISO10816
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	150gms (nominal) body only
Maximum Cable Length	1000 metres
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)

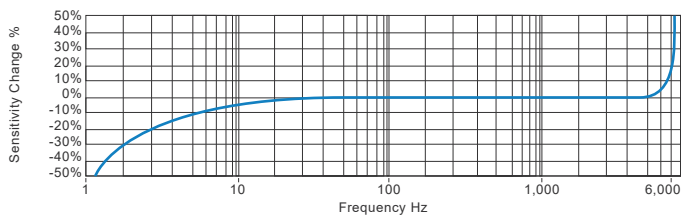
## Electrical

Current Output	4-20mA DC proportional to acceleration
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 90°C
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

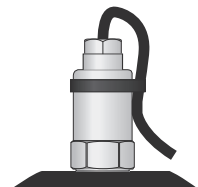
## Typical Frequency Response



## 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												Cable Length (if integral cable)	
HS - Hansford Sensors		422 - Industrial Vibration Sensor												QXX - length specified in metres	
H	S	4	2	2	X	X	X	X	X	X	X	X	Q	X	X
Extra Options (if required)					Acceleration Range (RMS unless specified)			Cable/Connector			Mounting Threads				
F - Filtered					001 - 0-1g			01 - PUR			01 - 1/4-28" UNF Female				
L - 316L Stainless Steel					002 - 0-2g			02 - Braided			02 - 1/4-28" UNF Male				
RT - Temperature Output PT100					005 - 0-5g			07 - Silicon			05 - Quick Fit Female				
S - 90° Side Exit					010 - 0-10g			08 - Flame Retardant			06 - M6 x 1mm Male				
T - Temperature Output					100 - 0-100g			50 - 2 Pin MS			08 - M8 x 1.25mm Male				
P - Peak Range								54 - M12			10 - M10 x 1.5mm Male				
PP - Peak to Peak Range															



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# HS-422 Accelerometer

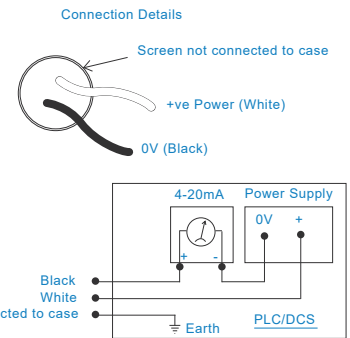
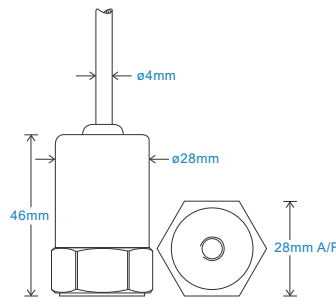
## 4-20mA acceleration output via Flame Retardant Cable

### Key Features

- 4-20mA acceleration output
- For use with PLC/DCS systems
- Low smoke, halogen free cable

### Industries

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



### Technical Performance

Mounted Base Resonance	10kHz min
Acceleration Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response	10Hz (600cpm) to 5kHz (300kcpm) $\pm 5\%$ - ISO10816
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	150gms (nominal) body only
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

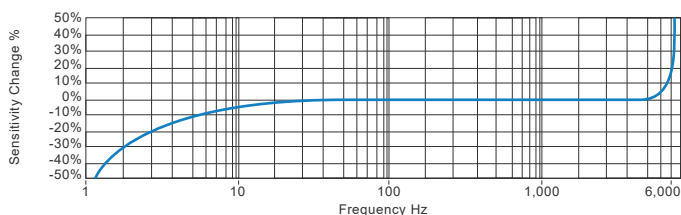
### Electrical

Current Output	4-20mA DC proportional to acceleration
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 90°C
Sealing	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

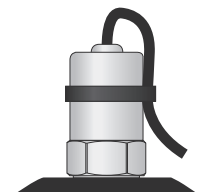
### Typical Frequency Response



### 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		Cable Length (if integral cable)											
HS - Hansford Sensors		422 - Industrial Vibration Sensor		QXX - length specified in metres											
H	S	4	2	2	X	X	X	X	X	X	X	X	Q	X	X
Extra Options (if required)					Acceleration Range (RMS unless specified)			Cable/Connector			Mounting Threads				
F - Filtered L - 316L Stainless Steel RT - Temperature Output PT100 S - 90° Side Exit T - Temperature Output					P - Peak Range PP - Peak to Peak Range			01 - PUR 02 - Braided 07 - Silicon 08 - Flame Retardant 50 - 2 Pin MS 54 - M12			01 - ¼-28" UNF Female 02 - ¼-28" UNF Male 05 - Quick Fit Female 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male 10 - M10 x 1.5mm Male				



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# HS-422 Accelerometer

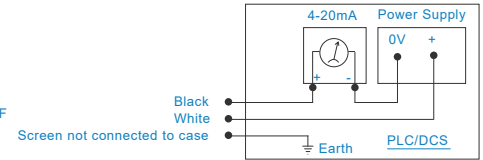
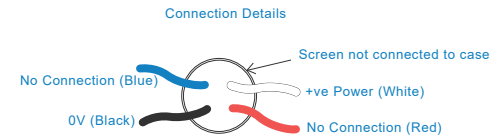
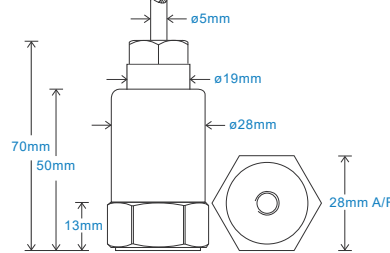
## 4-20mA acceleration output via 4 Core Polyolefin HFFR

### Key Features

- Halogen free cable
- Resistant to oil
- For use with PLC/DCS systems

### Industries

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



### Technical Performance

Mounted Base Resonance	10kHz min
Acceleration Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response	10Hz (600cpm) to 5kHz (300kcpm) $\pm 5\%$ - ISO10816
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	150gms (nominal) body only
Maximum Cable Length	1000 metres
Standard Cable Length	5 metres
Screened Cable	Polyolefin HFFR - length to be specified with order
Mounting Threads	see: 'How To Order' table

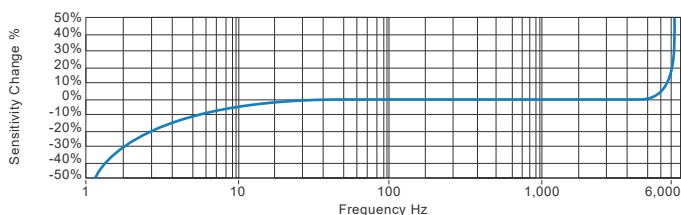
### Electrical

Current Output	4-20mA DC proportional to acceleration
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	-55 to 130°C
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

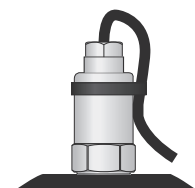
### Typical Frequency Response



### 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 HS - Hansford Sensors		Product Series 422 - Industrial Vibration Sensor				Cable Length (if integral cable) QXX - length specified in metres									
H	S	4	2	2	X	X	X	X	X	X	X	X	Q	X	X
<b>Extra Options (if required)</b> F - Filtered L - 316L Stainless Steel RT - Temperature Output PT100 S - 90° Side Exit T - Temperature Output						<b>Acceleration Range (RMS unless specified)</b> 001 - 0-1g 002 - 0-2g 005 - 0-5g 010 - 0-10g 100 - 0-100g			<b>Cable/Connector</b> 37 - 4 Core Polyolefin HFFR			<b>Mounting Threads</b> 01 - ¼-28" UNF Female 02 - ¼-28" UNF Male 05 - Quick Fit Female 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male 10 - M10 x 1.5mm Male			



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We reserve the right to alter the specification of this product without prior notice  
TS1066.3

