HS-421 Accelerometer

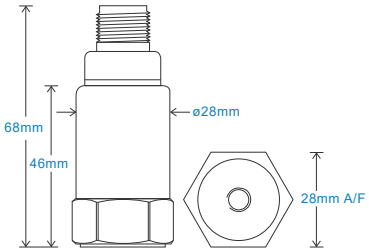
4-20mA velocity and AC acceleration output via 3 Pin MS Connector

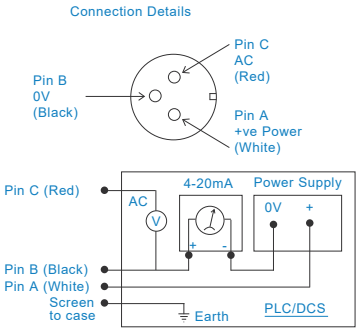
Key Features

- Unique output
- For use with PLC/DCS systems and data collectors
- 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 ±10% Nominal 80Hz at 22°C
Frequency Response: 4-20mA	10Hz (600cpm) to 1kHz (60kcpm) ± 5% - ISO10816
Frequency Response: AC	2Hz (120cpm) to 10kHz (600kcpm) ± 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: www.hansfordsensors.com for options
Connector	HS-AA005 - non-booted HS-AA068 or HS-AA069 - booted
Mounting Threads	see: 'How To Order' table

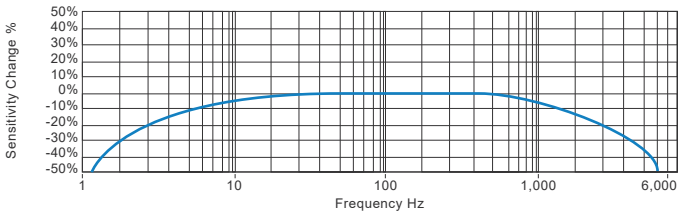
Electrical

Outputs	4-20mA DC current proportional to Range and AC acceleration
Bias Voltage	3 Volts DC (nominal)
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 120ºC
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

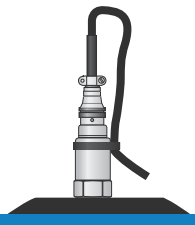
Typical Frequency Response (4-20mA signal)



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	421 - Industrial Vibration Sensor

H	S	4	2	1	X	X	X	X	X	X	X	X

Extra Options (if required)

F - Filtered	P - Peak Range
L - 316L Stainless Steel	PP - Peak to Peak Range
RT - Temperature Output PT100	
S - 90° Side Exit	
T - Temperature Output	

Velocity Range (RMS unless specified)	Sensitivity	Range
010 - 0-10 mm/sec	100mV/g	±30g
020 - 0-20 mm/sec	100mV/g	±30g
025 - 0-25 mm/sec	100mV/g	±30g
050 - 0-50 mm/sec	50mV/g	±60g
100 - 0-100 mm/sec	50mV/g	±60g

Cable/Connector

01 - PUR
03 - Braided
07 - Silicon
15 - Flame Retardant
52 - 3 Pin MS
54 - M12

Mounting Threads

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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CE

TS102.10

HS-421 Accelerometer

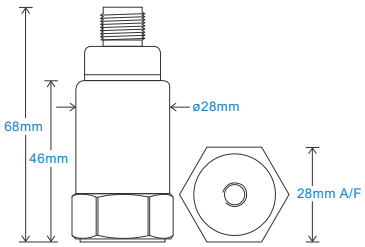
4-20mA velocity and AC acceleration output via M12 Connector

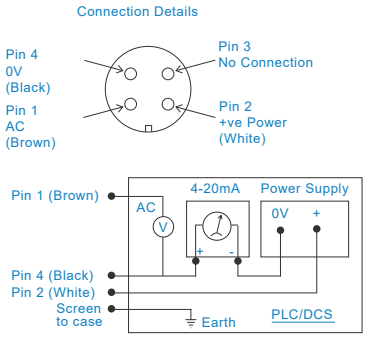
Key Features

- Unique output
- For use with PLC/DCS systems and data collectors
- 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 ±10%
	Nominal 80Hz at 22°C
Frequency Response: 4-20mA	10Hz (600cpm) to 1kHz (60kcpm) ± 5% - ISO10816
Frequency Response: AC	2Hz (120cpm) to 10kHz (600kcpm) ± 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

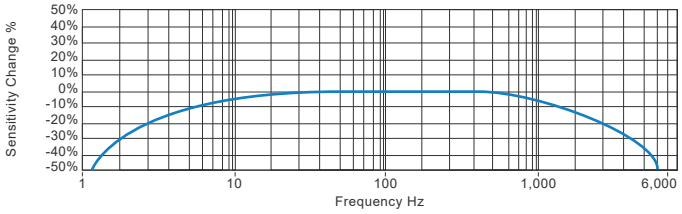
Electrical

Outputs	4-20mA DC current proportional to Range and AC acceleration
Bias Voltage	3 Volts DC (nominal)
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 120ºC
Sealing	IP67
Maximum Shock	5000g
EMC	EN61326-1:2013

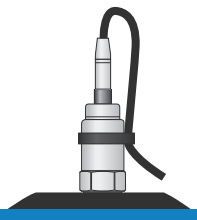
Typical Frequency Response (4-20mA signal)



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
421 - Industrial Vibration Sensor

H	S	4	2	1	X	X	X	X	X	X	X	X

Extra Options (if required)

F - Filtered	P - Peak Range
L - 316L Stainless Steel	PP - Peak to Peak Range
RT - Temperature Output PT100	
S - 90° Side Exit	
T - Temperature Output	

Velocity Range (RMS unless specified)

	Sensitivity	Range
010 - 0-10 mm/sec	100mV/g	±30g
020 - 0-20 mm/sec	100mV/g	±30g
025 - 0-25 mm/sec	100mV/g	±30g
050 - 0-50 mm/sec	50mV/g	±60g
100 - 0-100 mm/sec	50mV/g	±60g

Cable/Connector
01 - PUR
03 - Braided
07 - Silicon
15 - Flame Retardant
52 - 3 Pin MS
54 - M12

Mounting Threads
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-421 Accelerometer

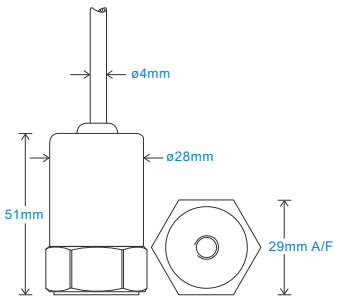
4-20mA velocity and AC acceleration output via Braided Cable

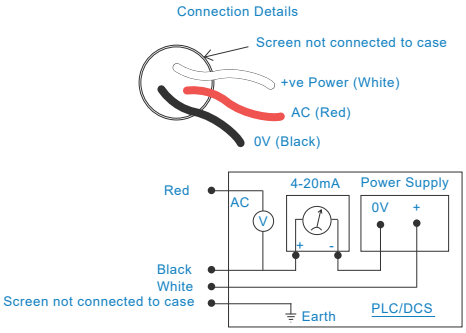
Key Features

- Unique output
- For use with PLC/DCS systems and data collectors
- 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 ±10%
	Nominal 80Hz at 22°C
Frequency Response: 4-20mA	10Hz (600cpm) to 1kHz (60kcpm) ± 5% - ISO10816
Frequency Response: AC	2Hz (120cpm) to 10kHz (600kcpm) ± 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

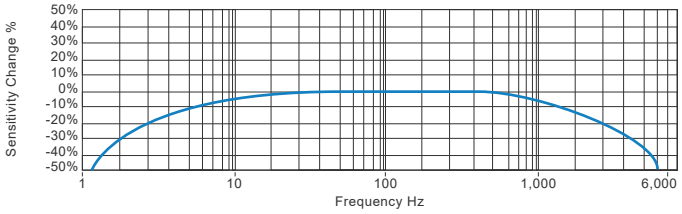
Electrical

Outputs	4-20mA DC current proportional to Range and AC acceleration
Bias Voltage	3 Volts DC (nominal)
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 120ºC
Sealing	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

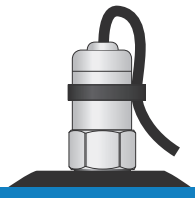
Typical Frequency Response (4-20mA signal)



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
421 - Industrial Vibration Sensor

Cable Length (if integral cable)
QXX - length specified in metres

H	S	4	2	1	X	X	X	X	X	X	X	X	X	X	X

Extra Options (if required)

F - Filtered	P - Peak Range
L - 316L Stainless Steel	PP - Peak to Peak Range
RT - Temperature Output PT100	
S - 90° Side Exit	
T - Temperature Output	

Velocity Range (RMS unless specified)

	Sensitivity	Range
010 - 0-10 mm/sec	100mV/g	±30g
020 - 0-20 mm/sec	100mV/g	±30g
025 - 0-25 mm/sec	100mV/g	±30g
050 - 0-50 mm/sec	50mV/g	±60g
100 - 0-100 mm/sec	50mV/g	±60g

Cable/Connector
01 - PUR
03 - Braided
07 - Silicon
15 - Flame Retardant
52 - 3 Pin MS
54 - M12

Mounting Threads
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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CE

HS-421 Accelerometer

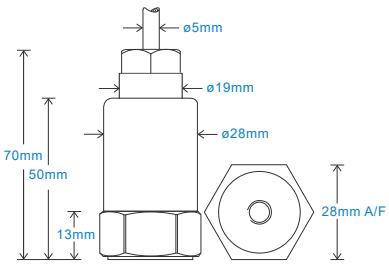
4-20mA velocity and AC acceleration output via Silicon Cable

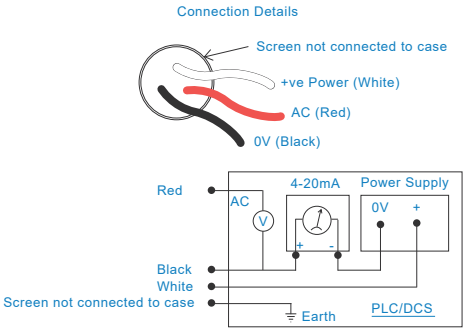
Key Features

- Unique output
- For use with PLC/DCS systems and data collectors
- Waterproof

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 ±10% Nominal 80Hz at 22°C
Frequency Response: 4-20mA	10Hz (600cpm) to 1kHz (60kcpm) ± 5% - ISO10816
Frequency Response: AC	2Hz (120cpm) to 10kHz (600kcpm) ± 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)

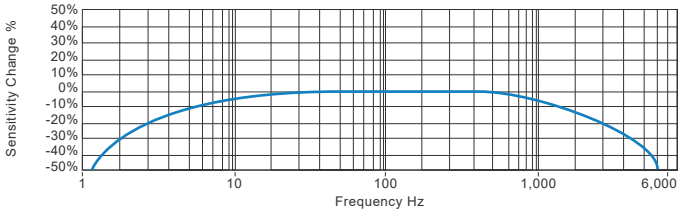
Electrical

Outputs	4-20mA DC current proportional to Range and AC acceleration
Bias Voltage	3 Volts DC (nominal)
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 120ºC
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

Typical Frequency Response (4-20mA signal)



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
421 - Industrial Vibration Sensor

Cable Length (if integral cable)
QXX - length specified in metres

H	S	4	2	1	X	X	X	X	X	X	X	X	X	X	X

Extra Options (if required)

F - Filtered	P - Peak Range
L - 316L Stainless Steel	PP - Peak to Peak Range
RT - Temperature Output PT100	
S - 90° Side Exit	
T - Temperature Output	

Velocity Range (RMS unless specified)

	Sensitivity	Range
010 - 0-10 mm/sec	100mV/g	±30g
020 - 0-20 mm/sec	100mV/g	±30g
025 - 0-25 mm/sec	100mV/g	±30g
050 - 0-50 mm/sec	50mV/g	±60g
100 - 0-100 mm/sec	50mV/g	±60g

Cable/Connector
01 - PUR
03 - Braided
07 - Silicon
15 - Flame Retardant
52 - 3 Pin MS
54 - M12

Mounting Threads
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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CE

TS017.12

HS-421 Accelerometer

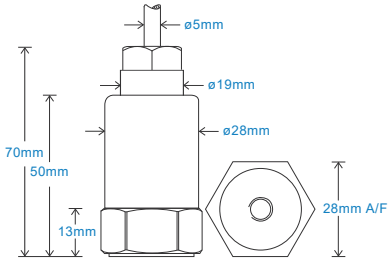
4-20mA velocity and AC acceleration output via PUR Cable

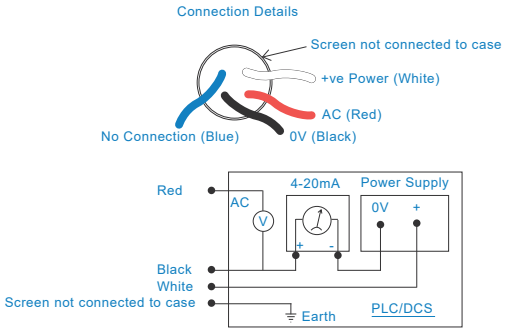
Key Features

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

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 ±10% Nominal 80Hz at 22°C
Frequency Response: 4-20mA	10Hz (600cpm) to 1kHz (60kcpm) ± 5% - ISO10816
Frequency Response: AC	2Hz (120cpm) to 10kHz (600kcpm) ± 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)
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)

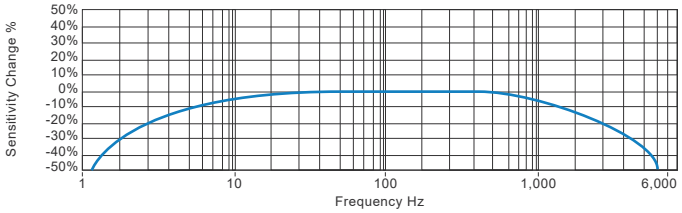
Electrical

Outputs	4-20mA DC current proportional to Range and AC acceleration
Bias Voltage	3 Volts DC (nominal)
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 (4-20mA signal)



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
421 - Industrial Vibration Sensor

Cable Length (if integral cable)
QXX - length specified in metres

H	S	4	2	1	X	X	X	X	X	X	X	X	X	X	X

Extra Options (if required)

F - Filtered	P - Peak Range
L - 316L Stainless Steel	PP - Peak to Peak Range
RT - Temperature Output PT100	
S - 90° Side Exit	
T - Temperature Output	

Velocity Range (RMS unless specified)

	Sensitivity	Range
010 - 0-10 mm/sec	100mV/g	±30g
020 - 0-20 mm/sec	100mV/g	±30g
025 - 0-25 mm/sec	100mV/g	±30g
050 - 0-50 mm/sec	50mV/g	±60g
100 - 0-100 mm/sec	50mV/g	±60g

Cable/Connector
01 - PUR
03 - Braided
07 - Silicon
15 - Flame Retardant
52 - 3 Pin MS
54 - M12

Mounting Threads
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-421 Accelerometer

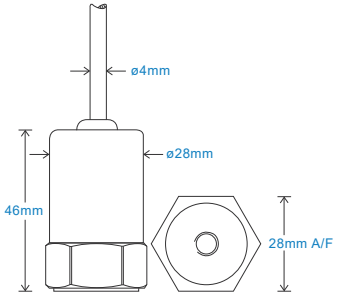
4-20mA velocity and AC acceleration output via Flame Retardant Cable

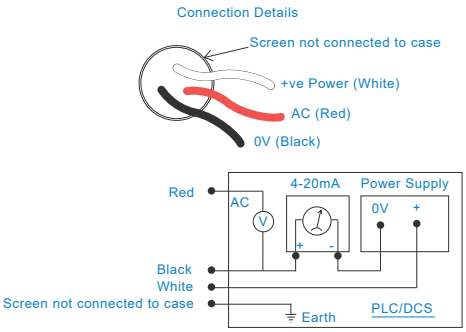
Key Features

- Unique output
- For use with PLC/DCS systems and data collectors
- Low smoke, halogen free cable

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response: 4-20mA	10Hz (600cpm) to 1kHz (60kcpm) ± 5%
	- ISO10816
Frequency Response: AC	2Hz (120cpm) to 10kHz (600kcpm) ± 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

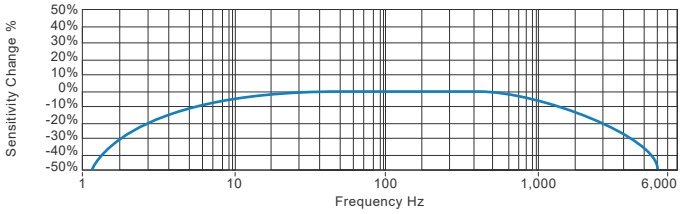
Electrical

Outputs	4-20mA DC current proportional to
	Range and AC acceleration
Bias Voltage	3 Volts DC (nominal)
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

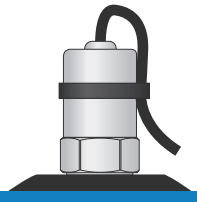
Typical Frequency Response (4-20mA signal)



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
421 - Industrial Vibration Sensor

Cable Length (if integral cable)
QXX - length specified in metres

H	S	4	2	1	X	X	X	X	X	X	X	X	X	X	X

Extra Options (if required)

F - Filtered	P - Peak Range
L - 316L Stainless Steel	PP - Peak to Peak Range
RT - Temperature Output PT100	
S - 90° Side Exit	
T - Temperature Output	

Velocity Range (RMS unless specified)

	Sensitivity	Range
010 - 0-10 mm/sec	100mV/g	±30g
020 - 0-20 mm/sec	100mV/g	±30g
025 - 0-25 mm/sec	100mV/g	±30g
050 - 0-50 mm/sec	50mV/g	±60g
100 - 0-100 mm/sec	50mV/g	±60g

Cable/Connector
01 - PUR
03 - Braided
07 - Silicon
15 - Flame Retardant
52 - 3 Pin MS
54 - M12

Mounting Threads
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

Hansford Sensors
Excellence in Vibration Monitoring

www.hansfordsensors.com
sales@hansfordsensors.com

HS-421 Accelerometer

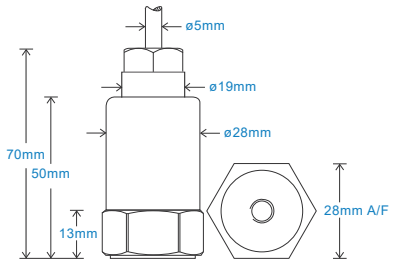
4-20mA velocity and AC acceleration output via 4 Core Polyolefin HFFR

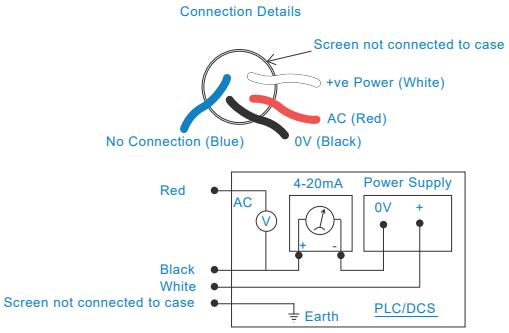
Key Features

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

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response: 4-20mA	10Hz (600cpm) to 1kHz (60kcpm) ± 5%
	- ISO10816
Frequency Response: AC	2Hz (120cpm) to 10kHz (600kcpm) ± 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)
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

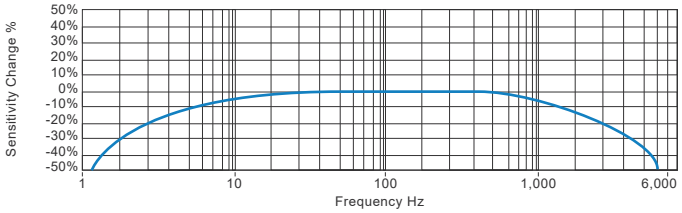
Electrical

Outputs	4-20mA DC current proportional to Range and AC acceleration
Bias Voltage	3 Volts DC (nominal)
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 (4-20mA signal)



Applications

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Product Series
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100 - 0-100 mm/sec	50mV/g	±60g

Cable/Connector
37 - 4 Core Polyolefin HFFR

Mounting Threads
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08 - M8 x 1.25mm Male
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CE