HS-150 Premium Accelerometer

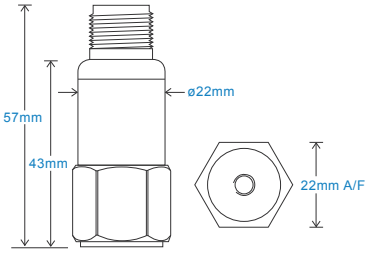
AC acceleration output via 2 Pin MS Connector

Key Features

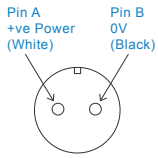
- For use with data collector
- Premium design
- Customisable features

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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: www.hansfordsensors.com for options
Connector	HS-AA004 - non-booted
	HS-AA053 or HS-0054 - booted
Mounting Threads	see: 'How To Order' table

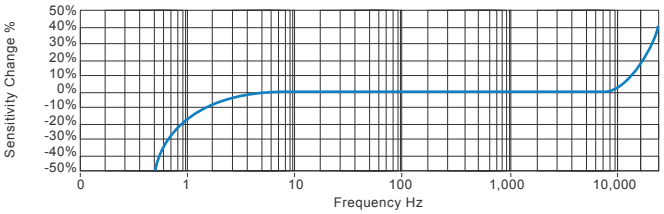
Electrical

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

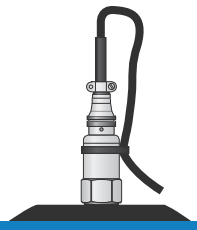
Typical Frequency Response (at 100mV/g)



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
HS - Hansford Sensors

Product Series
150 - Premium Industrial Vibration Sensor

H	S	1	5	0	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 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-150 Premium Accelerometer

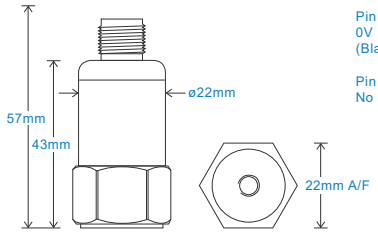
AC acceleration output via M12 Connector

Key Features

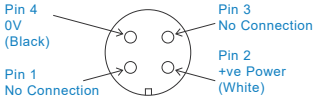
- For use with data collector
- Premium design
- Customisable features

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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	HS-AC010 - straight
	HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

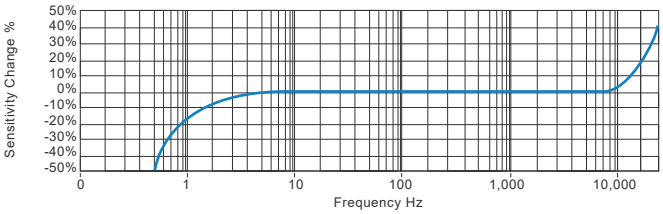
Electrical

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	IP67
Maximum Shock	5000 g
EMC	EN61326-1:2013

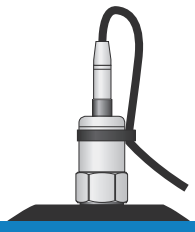
Typical Frequency Response (at 100mV/g)



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
150 - Premium Industrial Vibration Sensor

H	S	1	5	0	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 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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TS265.7

HS-150 Premium Accelerometer

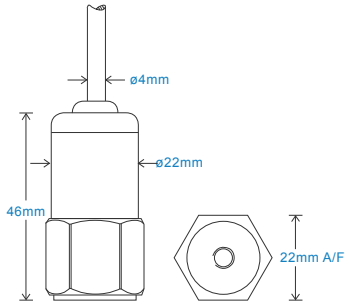
AC acceleration output via Braided Cable

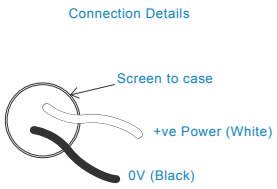
Key Features

- For use with data collector
- Premium design
- 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)
Sensitivity	see: 'How To Order' table ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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
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

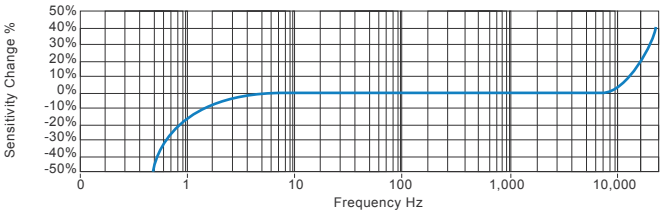
Electrical

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	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

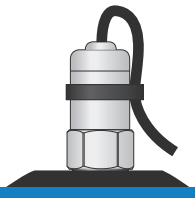
Typical Frequency Response (at 100mV/g)



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.)



How To Order

Product Prefix
HS - Hansford Sensors

Product Series
150 - Premium Industrial Vibration Sensor

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

H	S	1	5	0	X	X	X	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 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-150 Premium Accelerometer

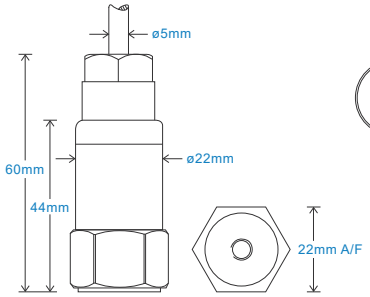
AC acceleration output via Silicon Cable

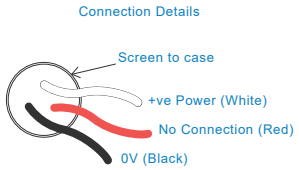
Key Features

- Waterproof
- 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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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
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)

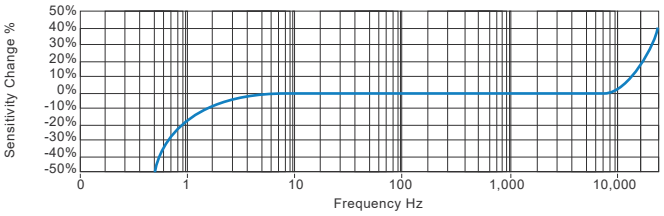
Electrical

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	-50 to 150°C
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

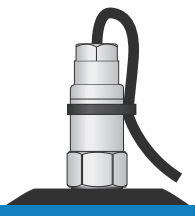
Typical Frequency Response (at 100mV/g)



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
150 - Premium Industrial Vibration Sensor

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

H	S	1	5	0	X	X	X	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		Range	Resonant Frequency	
010	- 10mV/g	±800g	34kHz	(2,040kcpm)
030	- 30mV/g	±250g	33kHz	(1,980kcpm)
050	- 50mV/g	±160g	32kHz	(1,920kcpm)
100	- 100mV/g	±80g	30kHz	(1,800kcpm)
250	- 250mV/g	±32g	28kHz	(1,680kcpm)
500	- 500mV/g	±16g	26kHz	(1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 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-150 Premium Accelerometer

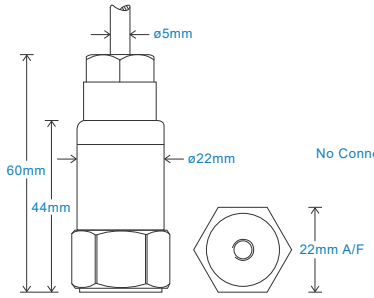
AC acceleration output via PUR Cable

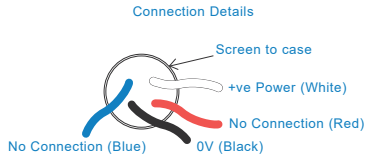
Key Features

- Waterproof
- Resistant to oil
- 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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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
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)

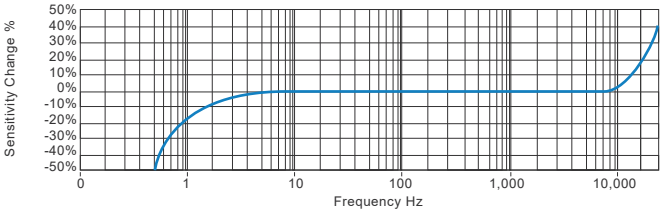
Electrical

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	-30 to 90°C
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

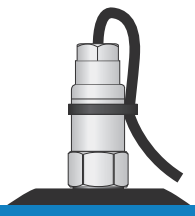
Typical Frequency Response (at 100mV/g)



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												Cable Length (if integral cable) QXX - length specified in metres		
H	S	1	5	0	X	X	X	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 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-150 Premium Accelerometer

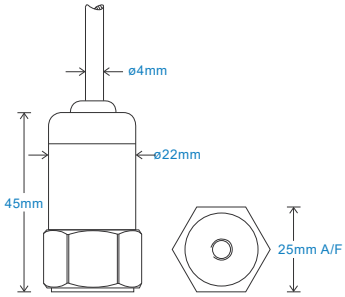
AC acceleration output via Flame Retardant Cable

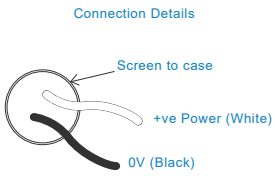
Key Features

- For use with data collector
- Premium design
- Low smoke, halogen free cable

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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
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

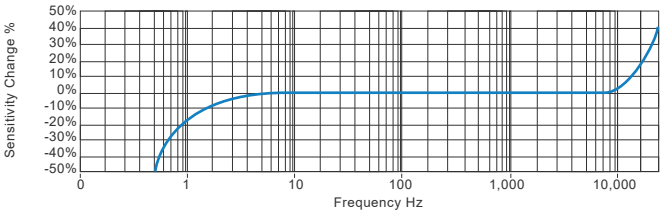
Electrical

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	-40 to 100°C
Sealing	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

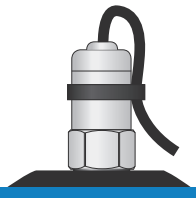
Typical Frequency Response (at 100mV/g)



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.)



How To Order

Product Prefix
HS - Hansford Sensors

Product Series
150 - Premium Industrial Vibration Sensor

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

H	S	1	5	0	X	X	X	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		Range	Resonant Frequency	
010	- 10mV/g	±800g	34kHz	(2,040kcpm)
030	- 30mV/g	±250g	33kHz	(1,980kcpm)
050	- 50mV/g	±160g	32kHz	(1,920kcpm)
100	- 100mV/g	±80g	30kHz	(1,800kcpm)
250	- 250mV/g	±32g	28kHz	(1,680kcpm)
500	- 500mV/g	±16g	26kHz	(1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 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-150 Premium Accelerometer

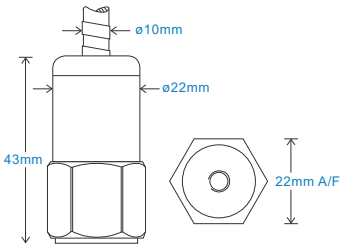
AC acceleration output via FEP Cable with Protective Conduit

Key Features

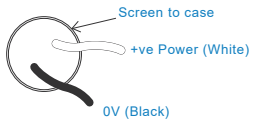
- Resistant to oil
- Protective Conduit
- Premium design

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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: www.hansfordsensors.com for options
Maximum Cable Length	1000 metres
Standard Cable Length	5 metres
Mounting Threads	see: 'How To Order' table
Conduit Material	316 Stainless Steel
Conduit Length	Conduit Length is approx. 0.5m shorter than the cable Maximum Conduit Length:30m

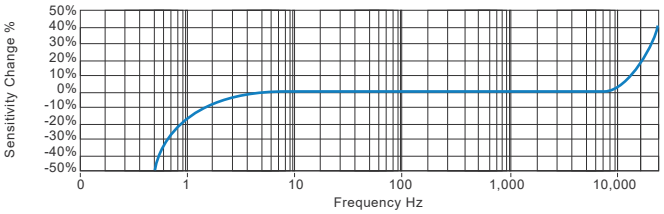
Electrical

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	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

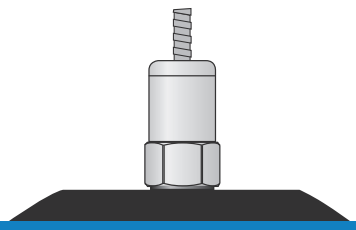
Typical Frequency Response (at 100mV/g)



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.)



How To Order

Product Prefix
HS - Hansford Sensors

Product Series
150 - Premium Industrial Vibration Sensor

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

H	S	1	5	0	S	X	X	X	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
30C - FEP with Protective Conduit

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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TS785.7

HS-150 Premium Accelerometer

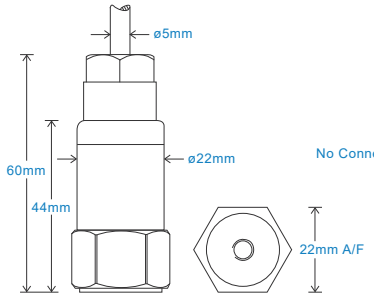
AC acceleration output via 4 Core Polyolefin HFFR

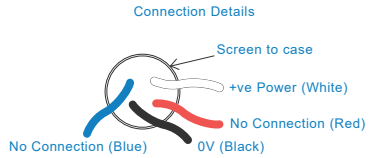
Key Features

- Halogen free cable
- Resistant to oil
- 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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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
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

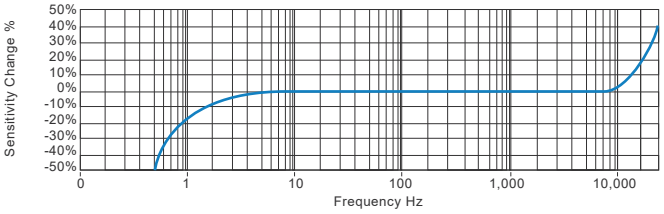
Electrical

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 130°C
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

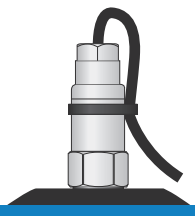
Typical Frequency Response (at 100mV/g)



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												Cable Length (if integral cable) QXX - length specified in metres		
H	S	1	5	0	X	X	X	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
37 - 4 Core Polyolefin HFFR

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-150 Premium Accelerometer

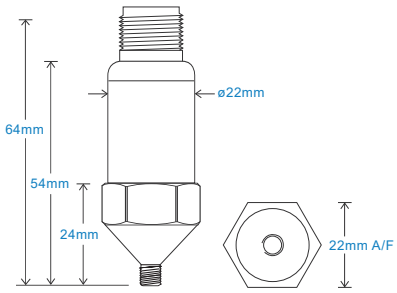
AC acceleration output via 2 Pin MS Connector with Conical Mounting

Key Features

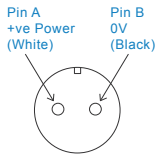
- For use with data collector
- Premium design
- M8 Conical Mounting

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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	140gms (nominal) body only
Screened Cable Assembly	see: www.hansfordsensors.com for options
Connector	HS-AA004 - non-booted
	HS-AA053 or HS-0054 - booted
Mounting Threads	M8 Conical Base

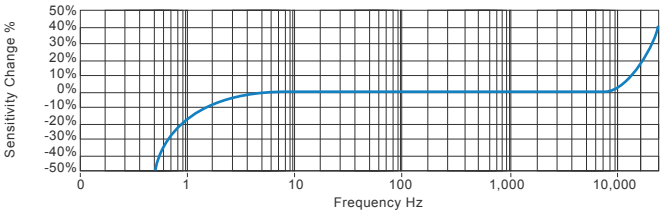
Electrical

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

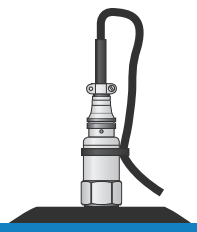
Typical Frequency Response (at 100mV/g)



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	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
50 - 2 Pin MS
54 - M12

Mounting Threads
19 - M8 Conical Base

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TS1167

HS-150 Premium Accelerometer

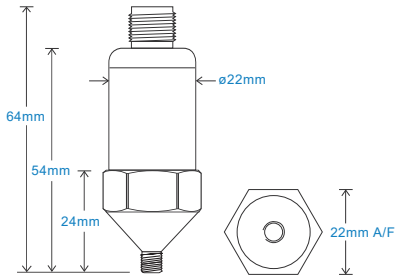
AC acceleration output via M12 Connector with Conical Mounting

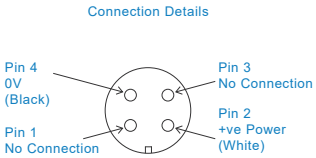
Key Features

- For use with data collector
- Premium design
- M8 Conical Mounting

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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	140gms (nominal) body only
Screened Cable Assembly	HS-AC010 - straight
	HS-AC011 - right angle
Mounting Threads	M8 Conical Base

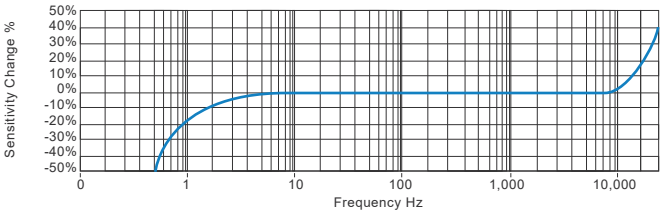
Electrical

Excitation Voltage:	18-30Volts DC
Electrical Noise	0.1mg max
Current Range	0.5mA to 8mA
Bias Voltage	10 - 12 Volts DC
Settling Time	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

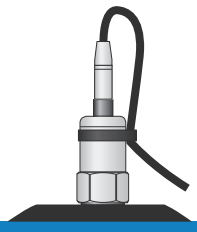
Typical Frequency Response (at 100mV/g)



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
150 - Premium Industrial Vibration Sensor

H	S	1	5	0	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
50 - 2 Pin MS
54 - M12

Mounting Threads
19 - M8 Conical Base

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HS-150T Premium Accelerometer

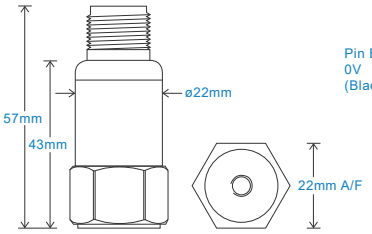
AC acceleration and temperature output via 3 Pin MS Connector

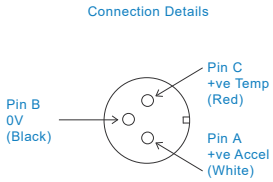
Key Features

- Temperature output
- Customisable features
- 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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature	10 mV/ºC standard 100°C - Option 150°C
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: www.hansfordsensors.com for options
Connector	HS-AA005 - non-booted
	HS-AA068 or HS-0069 - booted
Mounting Threads	see: 'How To Order' table

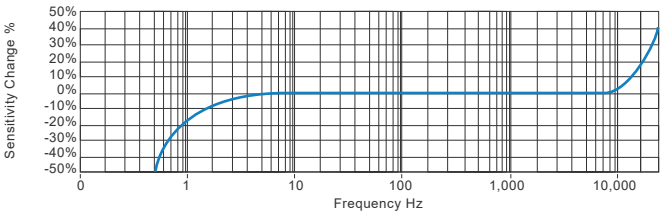
Electrical

Excitation Voltage:	18-30Volts DC
Electrical Noise	0.1mg max
Current Range	0.5mA to 8mA
Bias Voltage	10 - 12 Volts DC
Settling Time	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

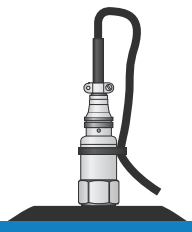
Typical Frequency Response (at 100mV/g)



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
150 - Premium Industrial Vibration Sensor

H	S	1	5	0	T	X	X	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

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-150T Premium Accelerometer

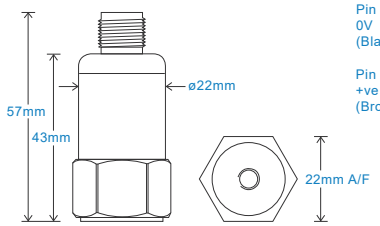
AC acceleration and temperature output via M12 Connector

Key Features

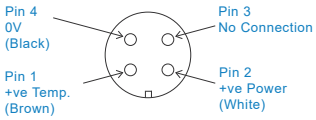
- Temperature output
- Premium design
- Customisable features

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature Output	10 mV/ºC 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
Weight	140gms (nominal) body only
Screened Cable Assembly	HS-AC010 - straight
	HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

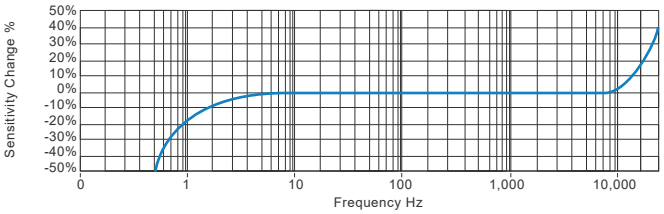
Electrical

Excitation Voltage:	18-30Volts DC
Electrical Noise	0.1mg max
Current Range	0.5mA to 8mA
Bias Voltage	10 - 12 Volts DC
Settling Time	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

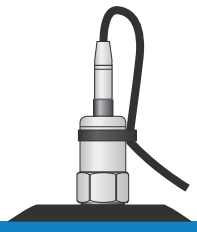
Typical Frequency Response (at 100mV/g)



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
150 - Premium Industrial Vibration Sensor

H	S	1	5	0	T	X	X	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

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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TS267.7

HS-150T Premium Accelerometer

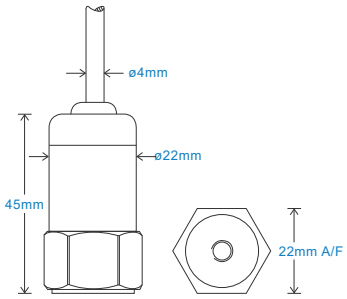
AC acceleration and temperature output via Braided Cable

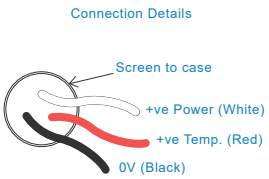
Key Features

- Temperature output
- Customisable features
- 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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature	10 mV/ºC standard 100°C - Option 150°C
Transverse Sensitivity	Less than 5%

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Shear
Mounting Torque	8Nm
Weight	106gms (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

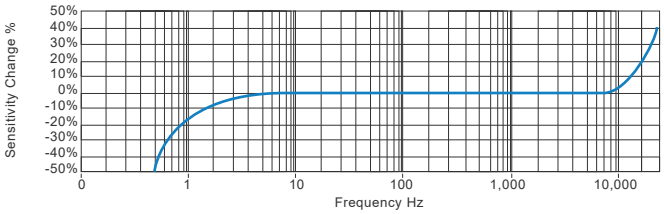
Electrical

Excitation Voltage:	18-30Volts DC
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	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

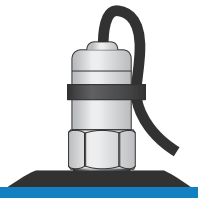
Typical Frequency Response (at 100mV/g)



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.)



How To Order

Product Prefix	Product Series														
HS - Hansford Sensors	150 - Premium Industrial Vibration Sensor											Cable Length (if integral cable) QXX - length specified in metres			
H	S	1	5	0	T	X	X	X	X	X	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

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-150T Premium Accelerometer

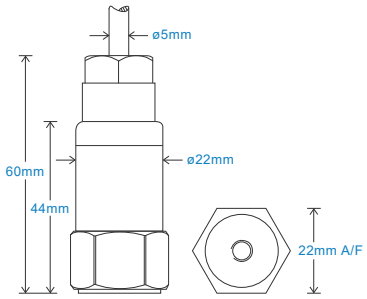
AC acceleration and temperature output via Silicon Cable

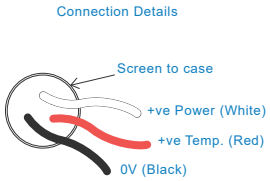
Key Features

- Temperature output
- Waterproof
- 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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature Output	10 mV/ºC standard 100°C - Option 150°C
Transverse Sensitivity	Less than 5%

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Shear
Mounting Torque	8Nm
Weight	106gms (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)

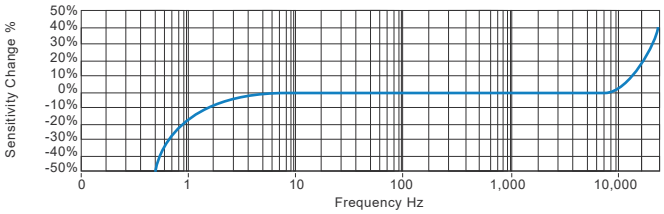
Electrical

Excitation Voltage:	18-30Volts DC
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	-50 to 150°C
Sealing	IP68
Maximum Shock	5000 g
EMC	EN61326-1:2013

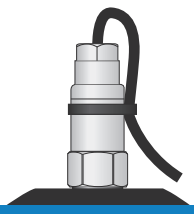
Typical Frequency Response (at 100mV/g)



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
150 - Premium Industrial Vibration Sensor

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

H	S	1	5	0	T	X	X	X	X	X	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		Range	Resonant Frequency	
010	- 10mV/g	±800g	34kHz	(2,040kcpm)
030	- 30mV/g	±250g	33kHz	(1,980kcpm)
050	- 50mV/g	±160g	32kHz	(1,920kcpm)
100	- 100mV/g	±80g	30kHz	(1,800kcpm)
250	- 250mV/g	±32g	28kHz	(1,680kcpm)
500	- 500mV/g	±16g	26kHz	(1,560kcpm)

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-150T Premium Accelerometer

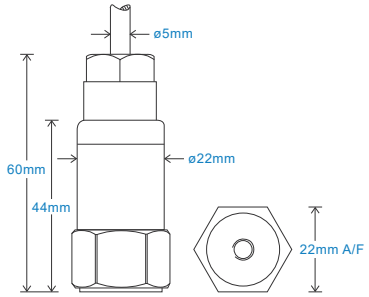
AC acceleration and temperature output via PUR Cable

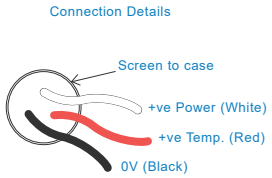
Key Features

- Waterproof
- Resistant to oil
- Temperature output

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature Output	10 mV/ºC standard 100°C - Option 150°C
Transverse Sensitivity	Less than 5%

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Shear
Mounting Torque	8Nm
Weight	106gms (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)

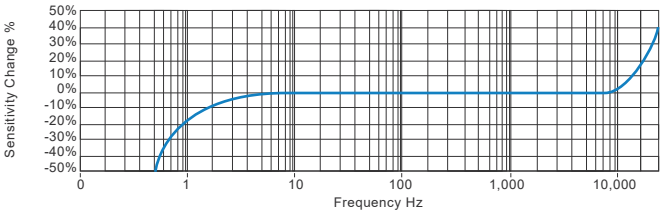
Electrical

Excitation Voltage:	18-30Volts DC
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	-30 to 90°C
Sealing	IP68
Maximum Shock	5000 g
EMC	EN61326-1:2013

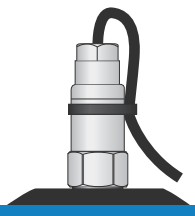
Typical Frequency Response (at 100mV/g)



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
150 - Premium Industrial Vibration Sensor

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

H	S	1	5	0	T	X	X	X	X	X	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	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

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-150T Premium Accelerometer

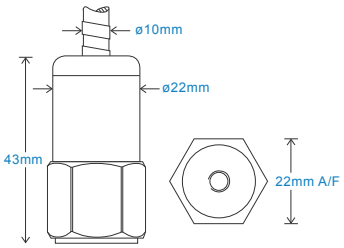
AC acceleration and temperature output via FEP Cable with Protective Conduit

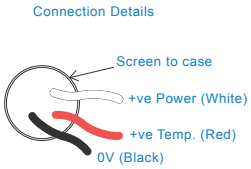
Key Features

- Resistant to oil
- Protective Conduit
- 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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature	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
Weight	106gms (nominal) body only
Screened Cable Assembly	see: www.hansfordsensors.com for options
Maximum Cable Length	1000 metres
Standard Cable Length	5 metres
Mounting Threads	see: 'How To Order' table
Conduit Material	316 Stainless Steel
Conduit Length	Conduit Length is approx. 0.5m shorter than the cable

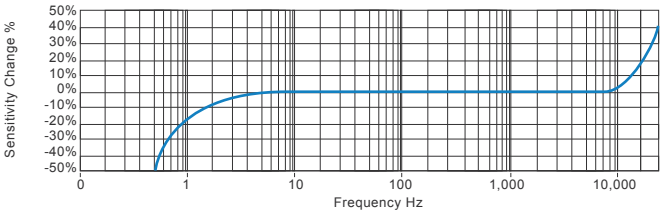
Electrical

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	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

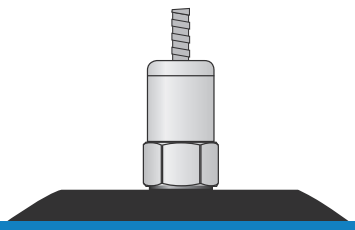
Typical Frequency Response (at 100mV/g)



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.)



How To Order

Product Prefix
HS - Hansford Sensors

Product Series
150 - Premium Industrial Vibration Sensor

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

H	S	1	5	0	T	X	X	X	X	X	X	X	X	X	X	X

Extra Options (if required)
F - Filtered
HT - High Temperature maximum 150°C
L - 316L Stainless Steel
RT - Temperature Output PT100
S - 90° Side Exit
T - Temperature Output
Y - 5% tolerance on sensitivity

Sensitivity	Range	Resonant Frequency
010 - 10mV/g	±800g	27kHz (1,620kcpm)
030 - 30mV/g	±250g	25kHz (1,500kcpm)
050 - 50mV/g	±160g	23kHz (1,380kcpm)
100 - 100mV/g	±80g	21kHz (1,260kcpm)
250 - 250mV/g	±32g	19kHz (1,140kcpm)
500 - 500mV/g	±16g	17kHz (1,020kcpm)

Cable/Connector
33C - FEP with Protective Conduit

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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TS786.6

HS-150T Premium Accelerometer

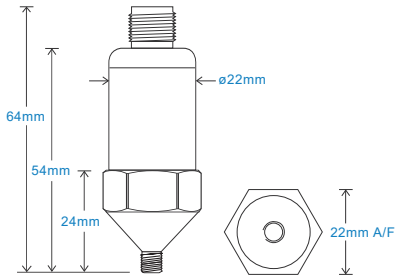
AC acceleration and temperature output via M12 Connector with Conical Mounting

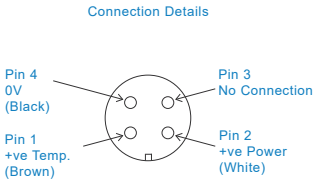
Key Features

- Temperature output
- Premium design
- M8 Conical Mounting

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature Output	10 mV/ºC 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
Weight	140gms (nominal) body only
Screened Cable Assembly	HS-AC010 - straight
	HS-AC011 - right angle
Mounting Threads	M8 Conical Base

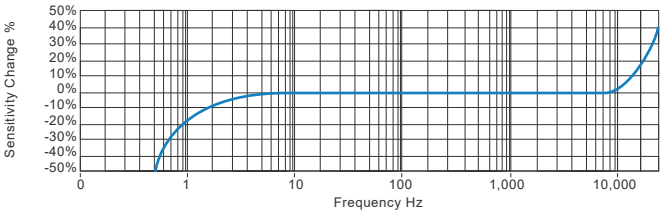
Electrical

Excitation Voltage:	18-30Volts DC
Electrical Noise	0.1mg max
Current Range	0.5mA to 8mA
Bias Voltage	10 - 12 Volts DC
Settling Time	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

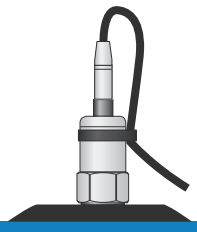
Typical Frequency Response (at 100mV/g)



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
150 - Premium Industrial Vibration Sensor

H	S	1	5	0	T	X	X	X	X	X	X	X

Extra Options (if required)
F - Filtered
HT - High Temperature maximum 150°C
L - 316L Stainless Steel
T - Temperature Output
Y - 5% tolerance on sensitivity

Sensitivity	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
50 - 2 Pin MS
54 - M12

Mounting Threads
19 - M8 Conical Base

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HS-150RT Premium Accelerometer

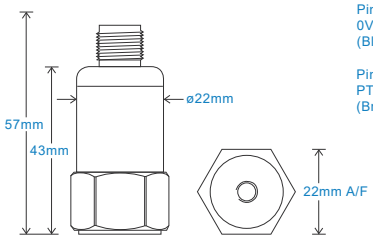
AC acceleration and PT100 temperature output via M12 Connector

Key Features

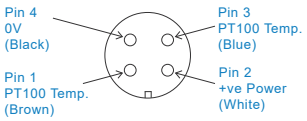
- Temperature output PT100
- Premium design
- Customisable features

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 ± 10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature Output	PT100 (100 Ohms)
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	HS-AC010 - straight
	HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

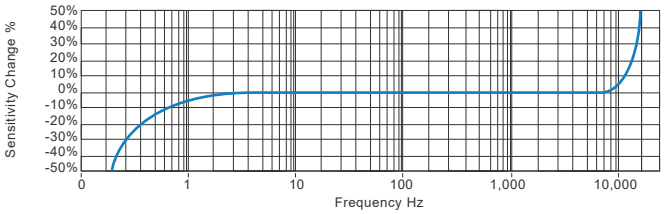
Electrical

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	5000 g
EMC	EN61326-1:2013

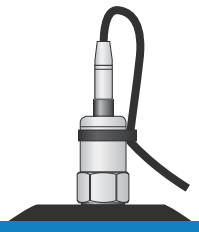
Typical Frequency Response (at 100mV/g)



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
150 - Premium Industrial Vibration Sensor

H	S	1	5	0	R	T	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
Y - 5% tolerance on sensitivity

Sensitivity	Range	Resonant Frequency
010 - 10mV/g	±800g	28kHz (1,680kcpm)
030 - 30mV/g	±250g	26kHz (1,560kcpm)
050 - 50mV/g	±160g	24kHz (1,440kcpm)
100 - 100mV/g	±80g	22kHz (1,320kcpm)
250 - 250mV/g	±32g	20kHz (1,200kcpm)
500 - 500mV/g	±16g	18kHz (1,080kcpm)

Cable/Connector
01 - PUR
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-150F Premium Accelerometer

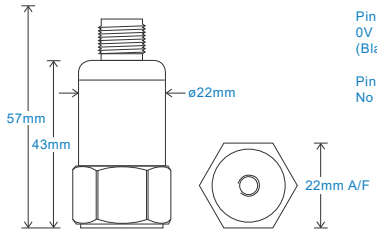
AC acceleration output via M12 Connector

Key Features

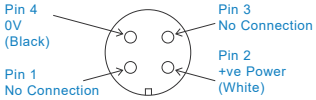
- For use with data collector
- Premium design
- Filtered output

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	1.5Hz (90cpm) to 10kHz (600kcpm) ± 5%
	0.5Hz (30cpm) to 12kHz (720kcpm) ± 10%
	0.2Hz (12cpm) to 15kHz (900kcpm) ± 3dB
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	HS-AC010 - straight
	HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

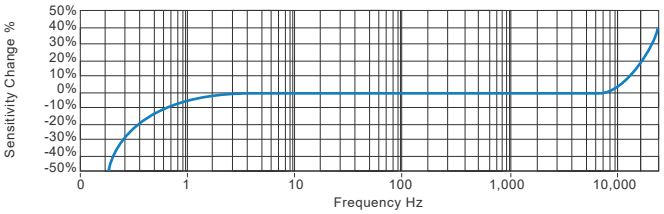
Electrical

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	IP67
Maximum Shock	5000 g
EMC	EN61326-1:2013

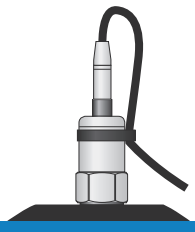
Typical Frequency Response (at 100mV/g)



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
150 - Premium Industrial Vibration Sensor

H	S	1	5	0	F	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		Range	Resonant Frequency	
010	- 10mV/g	±800g	34kHz	(2,040kcpm)
030	- 30mV/g	±250g	33kHz	(1,980kcpm)
050	- 50mV/g	±160g	32kHz	(1,920kcpm)
100	- 100mV/g	±80g	30kHz	(1,800kcpm)
250	- 250mV/g	±32g	28kHz	(1,680kcpm)
500	- 500mV/g	±16g	26kHz	(1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 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-150I Premium Intrinsically Safe Accelerometer

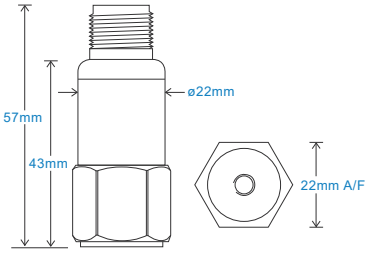
AC acceleration output via 2 Pin MS Connector

Key Features

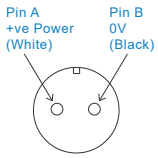
- Intrinsically Safe with European, USA, Indian and Australian approvals
- For use with data collector

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) ± 5%
	1.5Hz (90cpm) to 12kHz (720kcpm) ± 10%
	0.8Hz (48cpm) to 15kHz (900kcpm) ± 3dB
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: www.hansfordsensors.com for options
Connector	HS-AA004 - non-booted
	HS-AA053 or HS-0054 - booted
Mounting Threads	see: 'How To Order' table

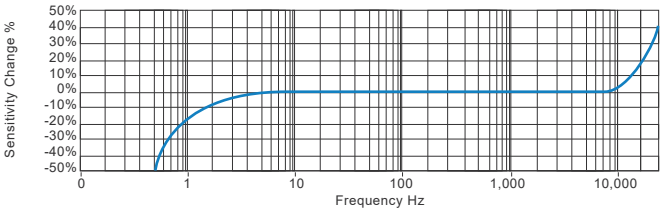
Electrical

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	see: attached certification details
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

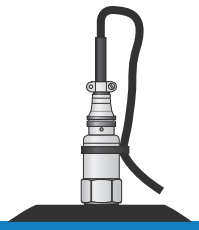
Typical Frequency Response (at 100mV/g)



Applications

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

Vibration sensor should be firmly fixed to a flat surface (spot face surface may be needed to be produced and cable anchored to sensor body.)



Certificates

710318

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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HS-150I Premium Intrinsically Safe Accelerometer

AC acceleration output via 2 Pin MS Connector

Intrinsically Safe Requirements

Maximum Cable Length	See website www.hansfordsensors.com
Certificate details: Group I	IECEx 18.0082X
	Baseefa18ATEX0130X
	Ⓔx I M 1
	Ex ia I Ma
Certificate details: Group II and III	IECEx 18.0082X
	Baseefa18ATEX0130X
	Ⓔx II 1GD
	Ex ia IIC T6..T4 Ga
	Ex ia IIIC T135ºC Da
	Ex ia IIIB T110ºC..T145ºC Da
Terminal Parameters Connector	Ui = 28V, Ii = 93mA, Pi = 0.65W
	Ci = 1.2nF
	Li= 0
500V Isolation	Units Will Pass A 500V Isolation Test
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
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

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)
	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)
Australian Approval Group I	IECEx ExTC 18.0032X
	Ex ia I Ma
	(-55ºC< Ta<+104ºC)
US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005
	Cl I, II, III, Div 1, 2 Gr A-G T*
	Cl I Zn 0 AEx ia IIC T6...T4 Ga
	Cl II Zn 20 AEx ia IIIC T135ºC Da
	Ex ia IIC T6...T4 Ga
	Ex ia IIIC T135ºC Da
	Or
	Cl I, II, III, Div 1, 2 Gr A-D G and F T*
	Cl I Zn 0 AEx ia IIC T6...T4 Ga
	Cl II Zn 20 AEx ia IIIB T110°C...T145°C Da
	Ex ia IIC T6...T4 Ga
	Ex ia IIIC T110ºC...T145ºC Da
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

Product Prefix
HS - Hansford Sensors

Product Series
150I - Premium Intrinsically Safe Accelerometer

H	S	1	5	0	I	X	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	33kHz	(1,980kcpm)
050	- 50mV/g	±160g	32kHz	(1,920kcpm)
100	- 100mV/g	±80g	30kHz	(1,800kcpm)
250	- 250mV/g	±32g	28kHz	(1,680kcpm)
500	- 500mV/g	±16g	26kHz	(1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 Pin MS
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-150I Premium Intrinsically Safe Accelerometer

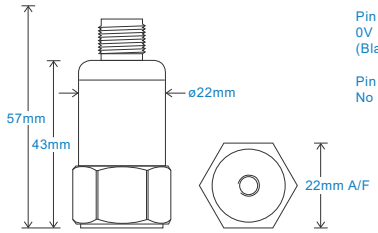
AC acceleration output via M12 Connector

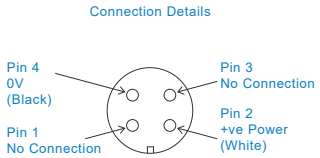
Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- For use with data collector

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) ± 5%
	1.5Hz (90cpm) to 12kHz (720kcpm) ± 10%
	0.8Hz (48cpm) to 15kHz (900kcpm) ± 3dB
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	HS-AC010 - straight
	HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

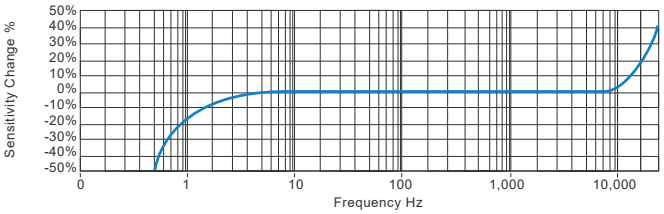
Electrical

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	see: attached certification details
Sealing	IP67
Maximum Shock	5000g
EMC	EN61326-1:2013

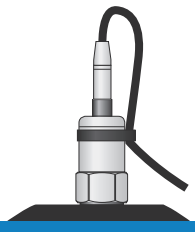
Typical Frequency Response (at 100mV/g)



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

710318

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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sales@hansfordsensors.com

HS-150I Premium Intrinsically Safe Accelerometer

AC acceleration output via M12 Connector

Intrinsically Safe Requirements

Maximum Cable Length	See website www.hansfordsensors.com
Certificate details: Group I	IECEx 18.0082X
	Baseefa18ATEX0130X
	Ⓔx I M 1
	Ex ia I Ma
Certificate details: Group II and III	IECEx 18.0082X
	Baseefa18ATEX0130X
	Ⓔx II 1GD
	Ex ia IIC T6..T4 Ga
	Ex ia IIIC T135ºC Da
	Ex ia IIIB T110ºC..T145ºC Da
Terminal Parameters Connector	Ui = 28V, Ii = 93mA, Pi = 0.65W
	Ci = 1.2nF
	Li= 0
500V Isolation	Units Will Pass A 500V Isolation Test
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
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

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)
	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)
Australian Approval Group I	IECEx ExTC 18.0032X
	Ex ia I Ma
	(-55ºC< Ta<+104ºC)
US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005
	Cl I, II, III, Div 1, 2 Gr A-G T*
	Cl I Zn 0 AEx ia IIC T6...T4 Ga
	Cl II Zn 20 AEx ia IIIC T135ºC Da
	Ex ia IIC T6...T4 Ga
	Ex ia IIIC T135ºC Da
	Or
	Cl I, II, III, Div 1, 2 Gr A-D G and F T*
	Cl I Zn 0 AEx ia IIC T6...T4 Ga
	Cl II Zn 20 AEx ia IIIB T110°C...T145°C Da
	Ex ia IIC T6...T4 Ga
	Ex ia IIIC T110ºC...T145ºC Da
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

Product Prefix
HS - Hansford Sensors

Product Series
150I - Premium Intrinsically Safe Accelerometer

H	S	1	5	0	I	X	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
T -Temperature

Sensitivity	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 Pin MS
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-150I Premium Intrinsically Safe Accelerometer

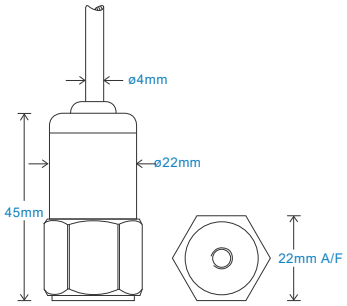
AC acceleration output via Braided Cable

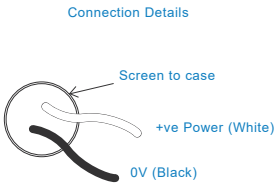
Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- For use with data collector

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) ± 5%
	1.5Hz (90cpm) to 12kHz (720kcpm) ± 10%
	0.8Hz (48cpm) to 15kHz (900kcpm) ± 3dB
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
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

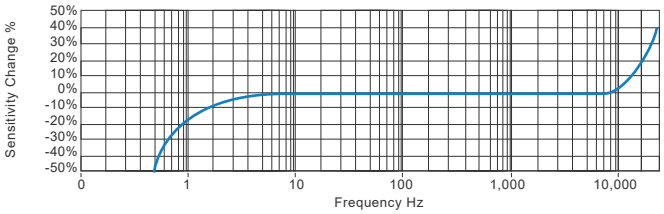
Electrical

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	see: attached certification details
Sealing	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

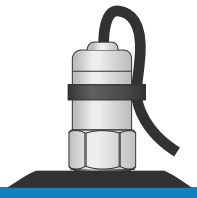
Typical Frequency Response (at 100mV/g)



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

710318

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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HS-150I 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		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)
	Ⓔx 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
	Ⓔx II 1GD		(-55ºC ≤ Ta ≤ +104ºC)
	Ex ia IIC T6..T4 Ga		
	Ex ia IIIC T110ºC..T145ºC Da	US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005
			Cl I, II, III, Div 1, 2 Gr A-G T*
Terminal Parameters 10m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W		Cl I Zn 0 AEx ia IIC T6...T4 Ga
	Ci = 5.0nF		Cl II Zn 20 AEx ia IIIC T110ºC...T145ºC Da
	Li= 7.2µH		Cl II Zn 20 AEx ia IIIB T110ºC...T145ºC Da
			Ex ia IIC T6...T4 Ga
Terminal Parameters 92m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W		Ex ia IIIC T110ºC...T145ºC
	Ci = 35.9nF		
	Li= 66µH	Control Drawing	M06-083-A Overbraided Cable
			M06-084-A PUR Cable
500V Isolation	Units Will Pass A 500V Isolation Test		M06-085-A Silicone Cable
			M06-086-A FR PUR Cable
Standards Applied to Product	EN IEC 60079-0:2018		M06-087-A Various Cables (HS-150IT Only)
	EN 60079-11:2012		
		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

Product Prefix
HS - Hansford Sensors

Product Series
150I - Premium Intrinsically Safe Accelerometer

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

H	S	1	5	0	I	X	X	X	X	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	33kHz	(1,980kcpm)
050	- 50mV/g	±160g	32kHz	(1,920kcpm)
100	- 100mV/g	±80g	30kHz	(1,800kcpm)
250	- 250mV/g	±32g	28kHz	(1,680kcpm)
500	- 500mV/g	±16g	26kHz	(1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 Pin MS
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-150I Premium Intrinsically Safe Accelerometer

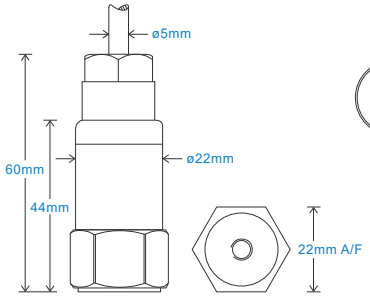
AC acceleration output via Silicon Cable

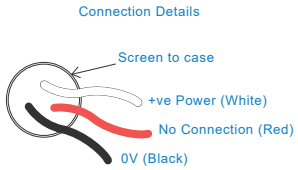
Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- For use with data collector

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) ± 5%
	1.5Hz (90cpm) to 12kHz (720kcpm) ± 10%
	0.8Hz (48cpm) to 15kHz (900kcpm) ± 3dB
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
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)

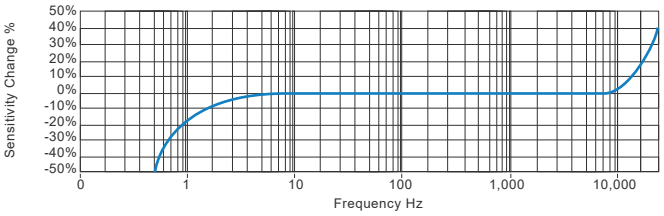
Electrical

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	see: attached certification details
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

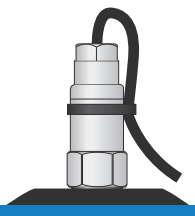
Typical Frequency Response (at 100mV/g)



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

710318

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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HS-150I Premium Intrinsically Safe Accelerometer

AC acceleration output via Silicon cable

Intrinsically Safe Requirements

Sensor Maximum Cable Length	Up to 92 metres
Certificate details: Group I	IECEx 18.0082X Baseefa18ATEX0130X Ⓔx I M 1 Ex ia I Ma
Certificate details: Group II and III	IECEx 18.0082X Baseefa18ATEX0130X Ⓔx II 1GD Ex ia IIC T6..T4 Ga Ex ia IIIC T110ºC..T145ºC Da
Terminal Parameters 10m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W Ci = 5.0nF Li= 7.2µH
Terminal Parameters 92m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W Ci = 35.9nF Li= 66µH
500V Isolation	Units Will Pass A 500V Isolation Test
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

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) 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)
Australian Approval Group I	IECEx ExTC 18.0032X Ex ia I Ma (-55ºC ≤ Ta ≤ +104ºC)
US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005 Cl I, II, III, Div 1, 2 Gr A-G T* Cl I Zn 0 AEx ia IIC T6...T4 Ga Cl II Zn 20 AEx ia IIIC T110ºC...T145ºC Da Cl II Zn 20 AEx ia IIIB T110ºC...T145ºC Da Ex ia IIC T6...T4 Ga Ex ia IIIC T110ºC...T145ºC
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)
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

Product Prefix
HS - Hansford Sensors

Product Series
150I - Premium Intrinsically Safe Accelerometer

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

H	S	1	5	0	I	X	X	X	X	X	X	X	X	X	X

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

Sensitivity	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 Pin MS
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-150I Premium Intrinsically Safe Accelerometer

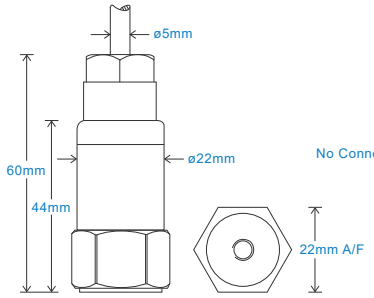
AC acceleration output via PUR Cable

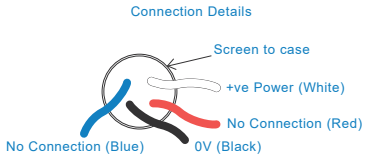
Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- For use with data collector

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) ± 5%
	1.5Hz (90cpm) to 12kHz (720kcpm) ± 10%
	0.8Hz (48cpm) to 15kHz (900kcpm) ± 3dB
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
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)

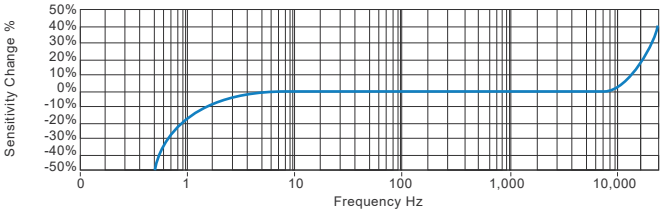
Electrical

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	see: attached certification details
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

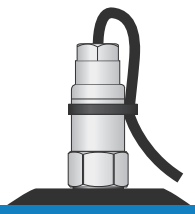
Typical Frequency Response (at 100mV/g)



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

710318

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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HS-150I Premium Intrinsically Safe Accelerometer

AC acceleration output via PUR cable

Intrinsically Safe Requirements

Sensor Maximum Cable Length	Up to 92 metres
Certificate details: Group I	IECEx 18.0082X
	Baseefa18ATEX0130X
	Ⓔx I M 1
	Ex ia I Ma
Certificate details: Group II and III	IECEx 18.0082X
	Baseefa18ATEX0130X
	Ⓔx II 1GD
	Ex ia IIC T6..T4 Ga
	Ex ia IIIC T110ºC..T145ºC Da
Terminal Parameters 10m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W
	Ci = 5.0nF
	Li= 7.2µH
Terminal Parameters 92m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W
	Ci = 35.9nF
	Li= 66µH
500V Isolation	Units Will Pass A 500V Isolation Test
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

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)
	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)
Australian Approval Group I	IECEx ExTC 18.0032X
	Ex ia I Ma
	(-55ºC ≤ Ta ≤ +104ºC)
US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005
	Cl I, II, III, Div 1, 2 Gr A-G T*
	Cl I Zn 0 AEx ia IIC T6...T4 Ga
	Cl II Zn 20 AEx ia IIIC T110ºC...T145ºC Da
	Cl II Zn 20 AEx ia IIIB T110ºC...T145ºC Da
	Ex ia IIC T6...T4 Ga
	Ex ia IIIC T110ºC...T145ºC
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)
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

Product Prefix
HS - Hansford Sensors

Product Series
150I - Premium Intrinsically Safe Accelerometer

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

H	S	1	5	0	I	X	X	X	X	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
T - Temperature Output
Y - 5% tolerance on sensitivity

Sensitivity		Range	Resonant Frequency	
010	- 10mV/g	±800g	34kHz	(2,040kcpm)
030	- 30mV/g	±250g	33kHz	(1,980kcpm)
050	- 50mV/g	±160g	32kHz	(1,920kcpm)
100	- 100mV/g	±80g	30kHz	(1,800kcpm)
250	- 250mV/g	±32g	28kHz	(1,680kcpm)
500	- 500mV/g	±16g	26kHz	(1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 Pin MS
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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sales@hansfordsensors.com

HS-150I Premium Intrinsically Safe Accelerometer

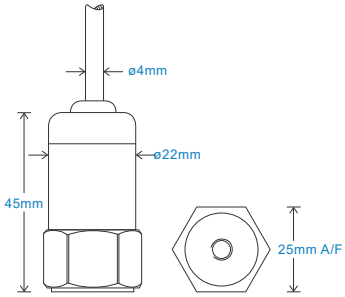
AC acceleration output via Flame Retardant Cable

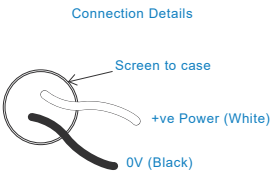
Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- Low smoke, halogen free cable

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) ± 5%
	1.5Hz (90cpm) to 12kHz (720kcpm) ± 10%
	0.8Hz (48cpm) to 15kHz (900kcpm) ± 3dB
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
Maximum Cable Length	See certificate
Standard Cable Length	5 metres
Screened Cable	Flame Retardant - length to be specified with order
Mounting Threads	see: 'How To Order' table

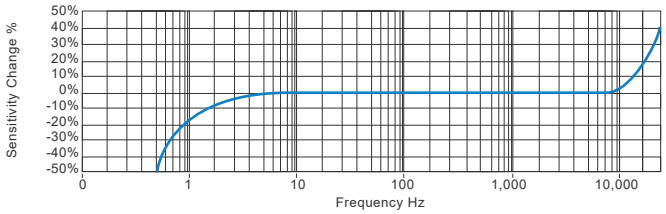
Electrical

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	see: attached certification details
Sealing	IP65
Maximum Shock	5000g
EMC	EN61326-1:2013

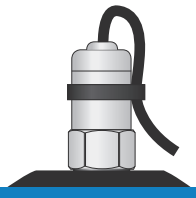
Typical Frequency Response (at 100mV/g)



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

710318

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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sales@hansfordsensors.com

HS-150I Premium Intrinsically Safe Accelerometer

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)
	Ⓔx 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
	Ⓔx II 1GD		(-55ºC ≤ Ta ≤ +104ºC)
	Ex ia IIC T6..T4 Ga		
	Ex ia IIIC T110ºC..T145ºC Da	US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005
			Cl I, II, III, Div 1, 2 Gr A-G T*
Terminal Parameters 10m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W		Cl I Zn 0 AEx ia IIC T6...T4 Ga
	Ci = 5.0nF		Cl II Zn 20 AEx ia IIIC T110ºC...T145ºC Da
	Li= 7.2µH		Cl II Zn 20 AEx ia IIIB T110ºC...T145ºC Da
			Ex ia IIC T6...T4 Ga
Terminal Parameters 92m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W		Ex ia IIIC T110ºC...T145ºC
	Ci = 35.9nF		
	Li= 66µH	Control Drawing	M06-083-A Overbraided Cable
			M06-084-A PUR Cable
500V Isolation	Units Will Pass A 500V Isolation Test		M06-085-A Silicone Cable
			M06-086-A FR PUR Cable
Standards Applied to Product	EN IEC 60079-0:2018		M06-087-A Various Cables (HS-150IT Only)
	EN 60079-11:2012		
		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

Product Prefix
HS - Hansford Sensors

Product Series
150I - Premium Intrinsically Safe Accelerometer

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

H	S	1	5	0	I	X	X	X	X	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	33kHz	(1,980kcpm)
050	- 50mV/g	±160g	32kHz	(1,920kcpm)
100	- 100mV/g	±80g	30kHz	(1,800kcpm)
250	- 250mV/g	±32g	28kHz	(1,680kcpm)
500	- 500mV/g	±16g	26kHz	(1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
50 - 2 Pin MS
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-150I Premium Intrinsically Safe Accelerometer

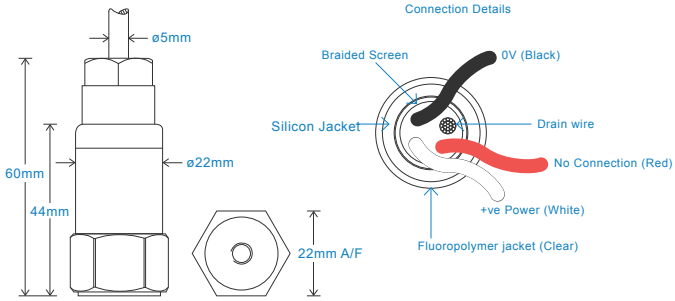
AC acceleration output via 3 Core Silicon Cable with Protective Over-Sheath

Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- For use with data collector

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) ± 5%
	1.5Hz (90cpm) to 12kHz (720kcpm) ± 10%
	0.8Hz (48cpm) to 15kHz (900kcpm) ± 3dB
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
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)

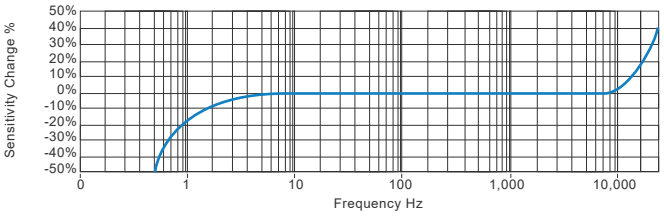
Electrical

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	see: attached certification details
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

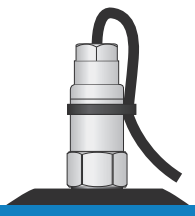
Typical Frequency Response (at 100mV/g)



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

710318

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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HS-150I Premium Intrinsically Safe Accelerometer

AC acceleration output via 3 Core Silicon Cable with Protective Over-Sheath

Intrinsically Safe Requirements

Sensor Maximum Cable Length	Up to 92 metres
Certificate details: Group I	IECEx 18.0082X Baseefa18ATEX0130X Ⓔx I M 1 Ex ia I Ma
Certificate details: Group II and III	IECEx 18.0082X Baseefa18ATEX0130X Ⓔx II 1GD Ex ia IIC T6..T4 Ga Ex ia IIIC T110ºC..T145ºC Da
Terminal Parameters 10m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W Ci = 5.0nF Li= 7.2µH
Terminal Parameters 92m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W Ci = 35.9nF Li= 66µH
500V Isolation	Units Will Pass A 500V Isolation Test
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

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) 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)
Australian Approval Group I	IECEx ExTC 18.0032X Ex ia I Ma (-55ºC ≤ Ta ≤ +104ºC)
US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005 Cl I, II, III, Div 1, 2 Gr A-G T* Cl I Zn 0 AEx ia IIC T6...T4 Ga Cl II Zn 20 AEx ia IIIC T110ºC...T145ºC Da Cl II Zn 20 AEx ia IIIB T110ºC...T145ºC Da Ex ia IIC T6...T4 Ga Ex ia IIIC T110ºC...T145ºC
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)
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

Product Prefix
HS - Hansford Sensors

Product Series
150I - Premium Intrinsically Safe Accelerometer

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

H	S	1	5	0	I	X	X	X	X	X	X	X	X	X	X

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

Sensitivity	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
01 - PUR
02 - Braided
07 - Silicon
08 - Flame Retardant
29 - Silicon Over-Sheath
50 - 2 Pin MS
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-150IT Premium Intrinsically Safe Accelerometer

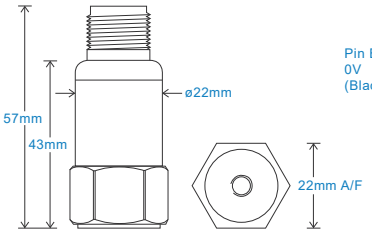
AC acceleration and temperature output via 3 Pin MS Connector

Key Features

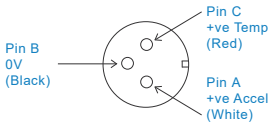
- Temperature output
- Intrinsically Safe with European, USA, Indian and Australian approvals
- For use with data collector

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) ± 5%
	1.5Hz (90cpm) to 12kHz (720kcpm) ± 10%
	0.8Hz (48cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature	10 mV/ºC standard 100°C - Option 130°C
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: www.hansfordsensors.com for options
Connector	HS-AA005 - non-booted
	HS-AA068 or HS-0069 - booted
Mounting Threads	see: 'How To Order' table

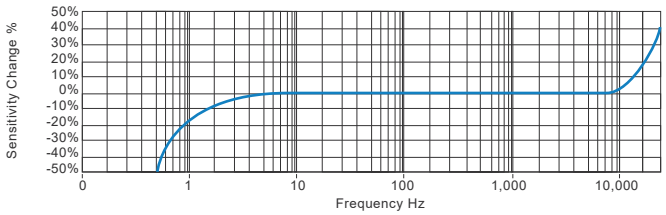
Electrical

Excitation Voltage:	18-30Volts DC
Electrical Noise	0.1mg max
Current Range	0.5mA to 8mA
Bias Voltage	10 - 12 Volts DC
Settling Time	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

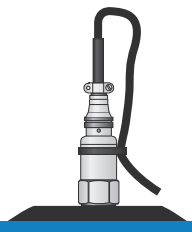
Typical Frequency Response (at 100mV/g)



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

710318

This product is certified in accordance with
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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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HS-150IT Premium Intrinsically Safe Accelerometer

AC acceleration and temperature output via 3 Pin MS Connector

Intrinsically Safe Requirements

Maximum Cable Length	See website www.hansfordsensors.com
Certificate details: Group I	IECEx 18.0082X Baseefa18ATEX0130X Ⓔx I M 1 Ex ia I Ma
Certificate details: Group II and III	IECEx 18.0082X Baseefa18ATEX0130X Ⓔx II 1GD Ex ia IIC T6..T4 Ga Ex ia IIIC T135ºC Da Ex ia IIIB T110ºC..T145ºC Da
Terminal Parameters Connector	Ui = 28V, Ii = 93mA, Pi = 0.65W Ci = 1.2nF Li= 0
500V Isolation	Units Will Pass A 500V Isolation Test
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
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
Temperature	1 x Pepperl + Fuchs Galvanic Isolator KFD2-VR-Ex1.18 (BAS01ATEX7262) 1 x MTL Zener Barrier MTL7764+ac(BAS01ATEX7217) or Pepperl + Fuchs Zener Barrier Z764 (BAS01ATEX7005) or any other barrier that conforms with the terminal parameters

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) 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)
Australian Approval Group I	IECEx ExTC 18.0032X Ex ia I Ma (-55ºC< Ta<+104ºC)
US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005 Cl I, II, III, Div 1, 2 Gr A-G T* Cl I Zn 0 AEx ia IIC T6...T4 Ga Cl II Zn 20 AEx ia IIIC T135ºC Da Ex ia IIC T6...T4 Ga Ex ia IIIC T135ºC Da Or Cl I, II, III, Div 1, 2 Gr A-D G and F T* Cl I Zn 0 AEx ia IIC T6...T4 Ga Cl II Zn 20 AEx ia IIIB T110°C...T145°C Da Ex ia IIC T6...T4 Ga Ex ia IIIC T110ºC...T145ºC Da
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

Product Prefix
HS - Hansford Sensors

Product Series
150IT - Premium Intrinsically Safe Accelerometer

H	S	1	5	0	I	T	X	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
T - Temperature Output
Y - 5% tolerance on sensitivity

Sensitivity	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

Cable/Connector
01 - PUR
03 - Braided
07 - Silicon
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-150IT Premium Intrinsically Safe Accelerometer

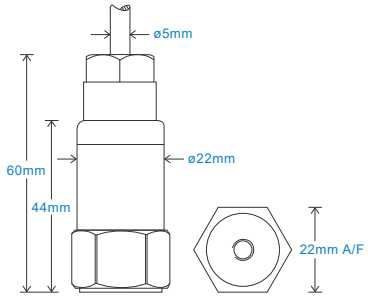
AC acceleration and temperature output via PUR Cable

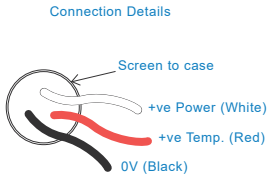
Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- For use with data collector
- Temperature output

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) ± 5%
	1.5Hz (90cpm) to 12kHz (720kcpm) ± 10%
	0.8Hz (48cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature Output	10 mV/ºC standard 100°C - Option 130°C
Transverse Sensitivity	Less than 5%

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Shear
Mounting Torque	8Nm
Weight	106gms (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)

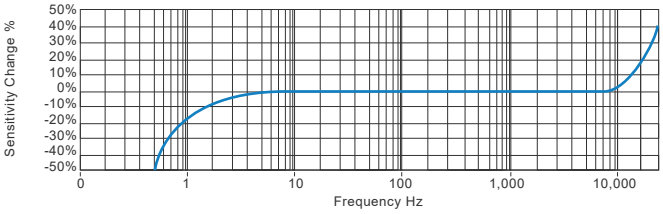
Electrical

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	see: attached certification details
Sealing	IP68
Maximum Shock	5000g
EMC	EN61326-1:2013

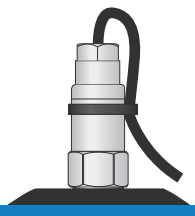
Typical Frequency Response (at 100mV/g)



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

710318

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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HS-150IT Premium Intrinsically Safe Accelerometer

AC acceleration and temperature output via PUR Cable

Intrinsically Safe Requirements

Sensor Maximum Cable Length	Up to 92 metres
Certificate details: Group I	IECEx 18.0082X Baseefa18ATEX0130X Ⓔx I M 1 Ex ia I Ma
Certificate details: Group II and III	IECEx 18.0082X Baseefa18ATEX0130X Ⓔx II 1GD Ex ia IIC T6..T4 Ga Ex ia IIIC T110ºC..T145ºC Da
Terminal Parameters 10m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W Ci = 5.0nF Li= 7.2µH
Terminal Parameters 92m of cable	Ui = 28V, Ii = 93mA, Pi = 0.65W Ci = 35.9nF Li= 66µH
500V Isolation	Units Will Pass A 500V Isolation Test
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
Temperature	1 x Pepperl + Fuchs Galvanic Isolator KFD2-VR-Ex1.18 (BAS01ATEX7262) 1 x MTL Zener Barrier MTL7764+ac(BAS01ATEX7217) or Pepperl + Fuchs Zener Barrier Z764 (BAS01ATEX7005) or any other barrier that conforms with the terminal parameters

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) 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)
Australian Approval Group I	IECEx ExTC 18.0032X Ex ia I Ma (-55ºC ≤ Ta ≤ +104ºC)
US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005 Cl I, II, III, Div 1, 2 Gr A-G T* Cl I Zn 0 AEx ia IIC T6...T4 Ga Cl II Zn 20 AEx ia IIIC T110ºC...T145ºC Da Cl II Zn 20 AEx ia IIIB T110ºC...T145ºC Da Ex ia IIC T6...T4 Ga Ex ia IIIC T110ºC...T145ºC
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)
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

Product Prefix
HS - Hansford Sensors

Product Series
150I - Premium Intrinsically Safe Accelerometer

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

H	S	1	5	0	I	T	X	X	X	X	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
T - Temperature Output
Y - 5% tolerance on sensitivity

Sensitivity	Range	Resonant Frequency
010 - 10mV/g	±800g	34kHz (2,040kcpm)
030 - 30mV/g	±250g	33kHz (1,980kcpm)
050 - 50mV/g	±160g	32kHz (1,920kcpm)
100 - 100mV/g	±80g	30kHz (1,800kcpm)
250 - 250mV/g	±32g	28kHz (1,680kcpm)
500 - 500mV/g	±16g	26kHz (1,560kcpm)

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

Mounting Threads
01 - ¼-28" UNF Female
02 - ¼-28" UNF Male
05 - Quick Fit Female
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08 - M8 x 1.25mm Male
10 - M10 x 1.5mm Male

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HS-150IT Premium Intrinsically Safe Accelerometer

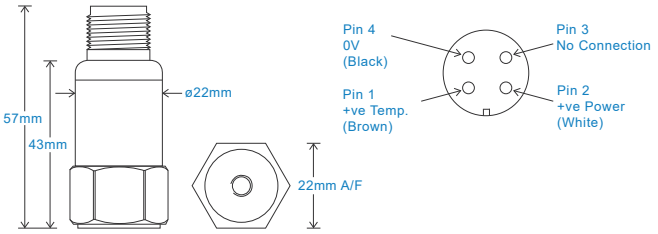
AC acceleration and temperature output via M12 Connector

Key Features

- Intrinsically Safe with European, USA, Indian and Australian approvals
- Temperature output
- 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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	2Hz (120cpm) to 10kHz (600kcpm) ± 5%
	1.5Hz (90cpm) to 12kHz (720kcpm) ± 10%
	0.8Hz (48cpm) to 15kHz (900kcpm) ± 3dB
Isolation	Base isolated
Range	see: 'How To Order' table
Temperature	10 mV/ºC standard 100°C - Option 130°C
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	HS-AC010 - straight
	HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

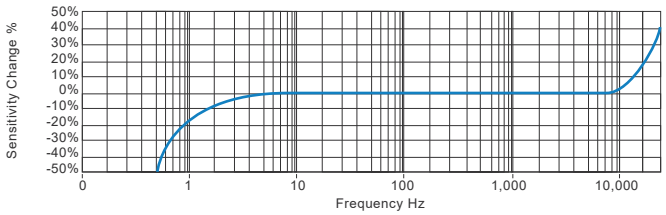
Electrical

Excitation Voltage:	18-30Volts DC
Electrical Noise	0.1mg max
Current Range	0.5mA to 8mA
Bias Voltage	10 - 12 Volts DC
Settling Time	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

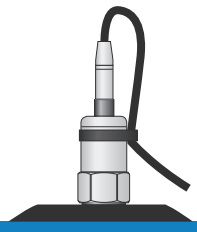
Typical Frequency Response (at 100mV/g)



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.)



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HS-150IT Premium Intrinsically Safe Accelerometer

AC acceleration and temperature output via M12 Connector

Intrinsically Safe Requirements

Maximum Cable Length	See website www.hansfordsensors.com
Certificate details: Group I	IECEx 18.0082X
	Baseefa18ATEX0130X
	Ex I M 1
	Ex ia I Ma
Certificate details: Group II and III	IECEx 18.0082X
	Baseefa18ATEX0130X
	Ex II 1GD
	Ex ia IIC T6..T4 Ga
	Ex ia IIIC T135ºC Da
	Ex ia IIIB T110ºC..T145ºC Da
Terminal Parameters Connector	Ui = 28V, Ii = 93mA, Pi = 0.65W
	Ci = 1.2nF
	Li= 0
500V Isolation	Units Will Pass A 500V Isolation Test
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
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
Temperature	1 x Pepperl + Fuchs Galvanic Isolator
	KFD2-VR-Ex1.18 (BAS01ATEX7262)
	1 x MTL Zener Barrier MTL7764+ac(BAS01ATEX7217)
	or Pepperl + Fuchs Zener Barrier
	Z764 (BAS01ATEX7005) or any other barrier that
	conforms with the terminal parameters

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)
	Ex ia IIIB T110°C Da (-55°C ≤ Ta ≤ +57°C) (Dust)
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Australian Approval Group I	IECEx ExTC 18.0032X
	Ex ia I Ma
	(-55ºC< Ta<+104ºC)
US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005
	Cl I, II, III, Div 1, 2 Gr A-G T*
	Cl I Zn 0 AEx ia IIC T6...T4 Ga
	Cl II Zn 20 AEx ia IIIC T135ºC Da
	Ex ia IIC T6...T4 Ga
	Ex ia IIIC T135ºC Da
	Or
	Cl I, II, III, Div 1, 2 Gr A-D G and F T*
	Cl I Zn 0 AEx ia IIC T6...T4 Ga
	Cl II Zn 20 AEx ia IIIB T110°C...T145°C Da
	Ex ia IIC T6...T4 Ga
	Ex ia IIIC T110ºC...T145ºC Da
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

Product Prefix
HS - Hansford Sensors

Product Series
150IT - Premium Intrinsically Safe Accelerometer

H	S	1	5	0	I	T	X	X	X	X	X	X	X

Extra Options (if required)
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