

HS-421I Intrinsically Safe Accelerometer

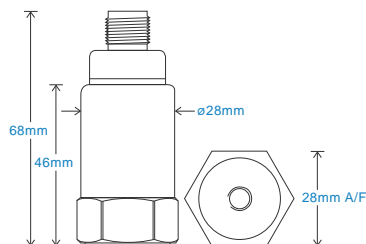
4-20mA velocity and AC acceleration output via M12 Connector

Key Features

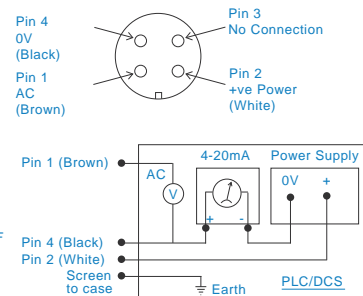
- Intrinsically Safe with European approval
- For use with PLC/DCS systems and data collectors
- Customisable features

Industries

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



Connection Details



Technical Performance

Mounted Base Resonance	5kHz min
Velocity Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response: 4-20mA	10Hz (600cpm) to 1kHz (60kcpm) $\pm 5\%$ - ISO10816
Frequency Response: AC	2Hz (120cpm) to 10kHz (600kcpm) $\pm 5\%$ - ISO10816
Isolation	Base isolated
Range	see: 'How To Order' table
Transverse Sensitivity	Less than 5%

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Compression
Mounting Torque	8Nm
Weight	150gms (nominal) body only
Screened Cable Assembly	HS-AC010 - straight HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

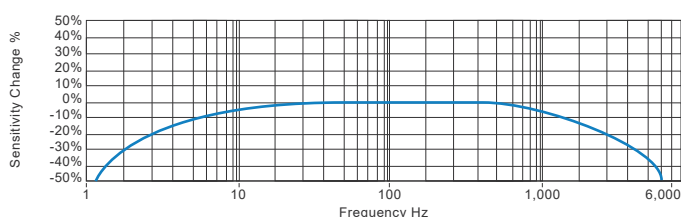
Electrical

Outputs	4-20mA DC current proportional to Range and AC acceleration
Bias Voltage	3 Volts DC (nominal)
Supply Voltage	15-30 Volts DC (for 4-20mA)
Settling Time	2 seconds
Output Impedance	Loop Resistance 600 Ohms max. at 24 Volts
Case Isolation	$>10^8$ Ohms at 500 Volts

Environmental

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

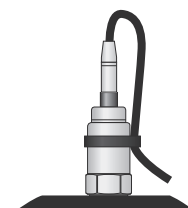
Typical Frequency Response (4-20mA signal)



Applications

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

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



Certifications



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We reserve the right to alter the specification of this product without prior notice
TS1103.3



HS-421I Intrinsically Safe Accelerometer

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

Intrinsically Safe Requirements

Maximum Cable Length	See website: www.hansfordsensors.com	Barrier: 4-20mA loop	1x Pepperl + Fuchs Galvanic Isolator KFD2-STC5-Ex1 (HS-AA154)
Certificate details: Group II	IECEX BAS08.0034X Baseefa08ATEX0086X Ⓔ II 1GD Ex ia IIC T6 Ga	Barrier: AC output	1x Pepperl + Fuchs Galvanic Isolator KFD2-VR-Ex1.19 (HS-AA155)
	Ex ia IIIC T80°C IP65 Da (-40°C ≤ Ta ≤ +55°C)		1 x MTL Zener Barrier MTL7764+ (HS-AA023)
Certificate details: Group II	Ⓔ II 1GD Ex ia IIC T4 Ga	Terminal Parameters	Ui = Vmax = 28V Ii = Imax = 115mA Pi = 0.856W
	Ex ia IIIC T130°C IP65 Da (-40°C ≤ Ta ≤ +105°C)		
Terminal Parameters	Ui = 28V, Ii = 115mA, Pi = 0.856W Group II	Notes:	Special conditions of safe use for Group II dust. The free end of the cable on the integral cable version of the apparatus must be terminated in an appropriately certified dust-proof enclosure. The unit has no serviceable parts.
500V Isolation	Units Will Pass A 500V Isolation Test		
Certified Temperature Range	Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +55°C) (Gas) Ex ia IIC T4 Ga (-40°C ≤ Ta ≤ +105°C) (Gas) Ex ia IIIC T80°C IP65 Da (-40°C ≤ Ta ≤ +55°C) (Dust) Ex ia IIIC T130°C IP65 Da (-40°C ≤ Ta ≤ +105°C) (Dust)		

How To Order

Product Prefix HS - Hansford Sensors		Product Series 421 - Industrial Vibration Sensor									
H	S	4	2	1	I	X	X	X	X	X	X
Extra Options (if required) F - Filtered I - Intrinsically Safe (Group II) L - 316L Stainless Steel P - Peak Range PP - Peak to Peak Range						Velocity Range (RMS unless specified) 010 - 0-10 mm/sec 020 - 0-20 mm/sec 025 - 0-25 mm/sec 050 - 0-50 mm/sec 100 - 0-100 mm/sec		Sensitivity 100mV/g 100mV/g 100mV/g 50mV/g 50mV/g	Range ±30g ±30g ±30g ±60g ±60g	Cable/Connector 01 - PUR 03 - Braided 07 - Silicon 15 - Flame Retardant 52 - 3 Pin MS 54 - M12	Mounting Threads 01 - ¼-28" UNF Female 02 - ¼-28" UNF Male 05 - Quick Fit Female 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male 10 - M10 x 1.5mm Male