

MEC

HS-420I/M Intrinsically Safe Accelerometer

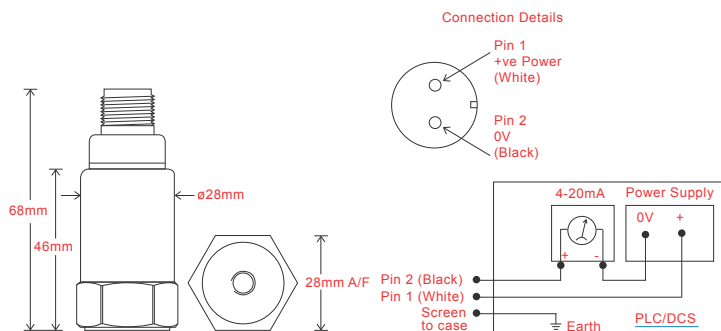
4-20mA velocity output via 2 Pin MS Connector

Key Features

- Intrinsically Safe with European, USA, Australian and South African approvals
- For use with PLC/DCS systems
- Customisable features

Industries

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



Technical Performance

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

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Compression
Mounting Torque	8Nm
Weight	150gms (nominal)
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

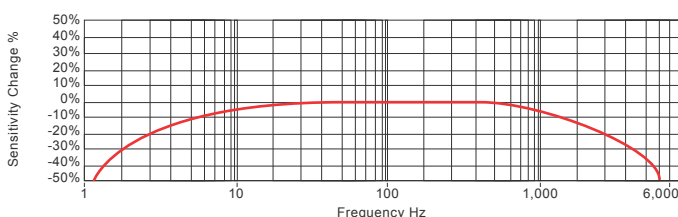
Electrical

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

Environmental

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

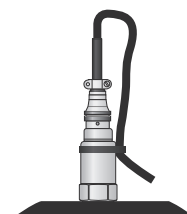
Typical Frequency Response



Applications

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

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



Certifications



*All pictures are for illustration purpose only. Actual markings may vary due to certification

Machine Electrical Components CC

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Maximum Cable Length	nominal 100 metres	US/Canada Approvals	Certificate No. USTC/15/FAI/01350
	see attached system drawings	Class I, II, III, Division 1, 2, Groups A - G, T6, -40°C to +60°C, IP65	Class I, Zone 0, AEx, ia, IIC, T6, Ga, -40°C to +60°C
Certificate details: Group I + II	IECEX BAS08.0034X		Zone 20, AEx, ia, IIIC, T80°C, IP65, Da, -40°C to +60°C
	Baseefa08ATEX0086X		
	E II 1GD	Barrier	1 x Pepperl + Fuchs Galvanic Isolator
	Ex ia IIC T6 Ga		KFD2-STC4-Ex1, which has superseded
	Ex ia IIIC T80°C IP65 Da		KFD2-CR-Ex1.30300 (BAS00ATEX7164)
	E I M1		see attached system drawings
	Ex ia I Ma		
	(-40°C ≤ Ta ≤ +60°C)		1 x MTL Zener Barrier MTL7787+ (BAS01ATEX7217)
			or Pepperl + Fuchs Zener Barrier
Accelerometer System Certificate	Baseefa08Y0087		Z787 (BAS01ATEX7005) or any other barrier that
	Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C)		conforms to system drawings attached
	*On request - consult Sales Office		
		System Connections for Zener Barrier	see attached system drawings
Terminal Parameters	Ui = 28V, Ii = 115mA, Pi = 0.65W Group II		
	Ui = 16.5V Pi = 0.65W	System Connections for Galvanic Isolator	see attached system drawings
	or Ui = 28V Ii = 115mA Pi = 0.65W Group I		
		Terminal Parameters	Ui = Vmax = 28V
500V Isolation	Units Will Pass A 500V Isolation Test		Ii = Imax = 115mA
			Pi = 0.65W
Certified Temperature Range	Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C) (Gas)		
	Ex ia IIIC T80°C IP65 Da (-40°C ≤ Ta ≤ +60°C) (Dust)	Notes:	Special conditions of safe use for Group II dust.
	Ex ia I Ma (-40°C ≤ Ta ≤ +60°C) (Mining)		The free end of the cable on the integral cable
			version of the apparatus must be terminated in
Australia Approval Group 1	IECEX ITA 10.0003X		an appropriately certified dust-proof enclosure.
	Ex ia I Ma		The unit has no serviceable parts.
	(-40°C ≤ Ta ≤ +60°C)		
South African Approval	Certificate No. MASC MS/16-0229X		
	Group I and II (As Baseefa/ATEX)		

Product Prefix HS - MEC Sensors		Product Series 420 - Industrial Vibration Sensor				Cable Length (if integral cable) QXX - length specified in metres								
H	S	4	2	0	I	X	X	X	X	X	X	X	X	X
Extra Options (if required) A - Australia (Group I) F - Filtered I - Intrinsically Safe (Group II) L - 316L Stainless Steel M - Mining (Group I) T - Temperature Output						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		Cable/Connector 01 - PUR* 02 - Braided 07 - Silicon 08 - Flame Retardant 50 - 2 Pin MS* 54 - M12 * Please note these connection options are <u>NOT</u> available in Australia			Mounting Threads 01 - ¼-28" UNF Female 02 - ½-28" UNF Male 05 - Quick Fit Female 06 - M6 x 1mm Male 08 - M8 x 1.25mm Male 10 - M10 x 1.5mm Male			