

HS-420I/M Intrinsically Safe Accelerometer

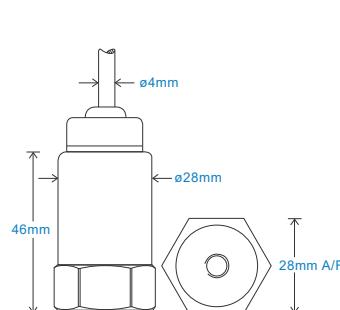
4-20mA velocity output via Flame Retardant Cable

Key Features

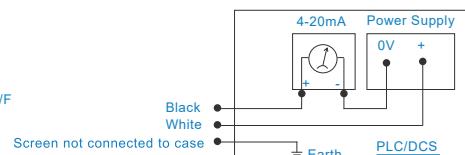
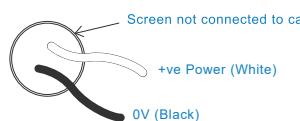
- Intrinsically Safe with European, USA, Australian, South African, and Indian approvals
- Approved SIL 2 and SIL 3
- For use with PLC/DCS systems
- Low smoke, halogen free cable

Industries

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



Connection Details



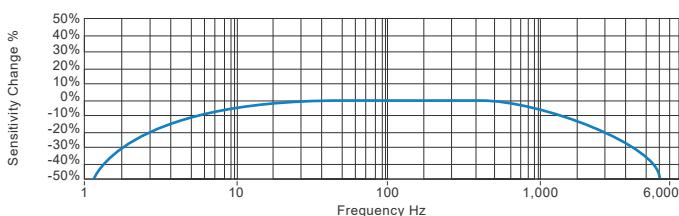
Technical Performance

Technical Performance		Mechanical	
Mounted Base Resonance	5kHz min	Case Material	Stainless Steel
Velocity Ranges	see: 'How To Order' table ±10% Nominal 80Hz at 22°C	Sensing Element/Construction	PZT/Compression
Frequency Response	10Hz (600cpm) to 1kHz (60kcpm) ± 5% - ISO10816	Mounting Torque	8Nm
Isolation	Base isolated	Weight	150gms (nominal)
Range	50g peak	Maximum Cable Length	1000 metres
Transverse Sensitivity	Less than 5%	Standard Cable Length	5 metres
		Screened Cable	Flame Retardant - length to be specified with order
		Mounting Threads	see: 'How To Order' table

Electrical

Current Output	4-20mA DC proportional to Velocity Range	Operating Temperature Range	see: attached certification details
Supply Voltage	15-30 Volts DC (for 4-20mA)	Sealing	IP65
Settling Time	2 seconds	Maximum Shock	5000g
Output Impedance	Loop Resistance 600 Ohms max. at 24 Volts	EMC	EN61326-1:2013
Case Isolation	>10 ⁸ Ohms at 500 Volts		

Typical Frequency Response



Environmental

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

Certifications



This product is certified in accordance with
UL 913, 8th Ed. Rev. December 6, 2013
CAN/CSA C22.2 No. 157-92 (R2012) +Upd1 +Upd2



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We reserve the right to alter the specification of this product without prior notice
TS062.24



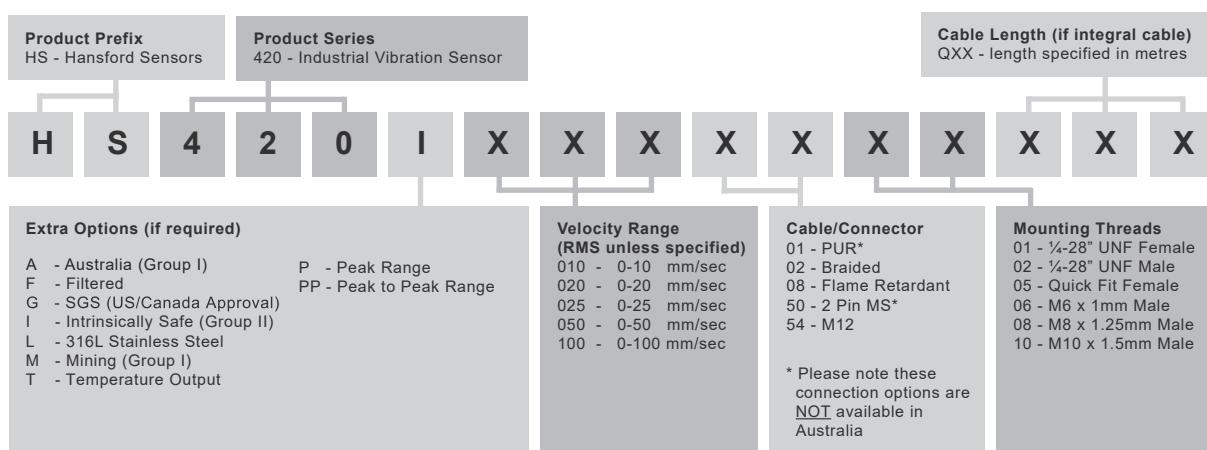
HS-420I/M Intrinsically Safe Accelerometer

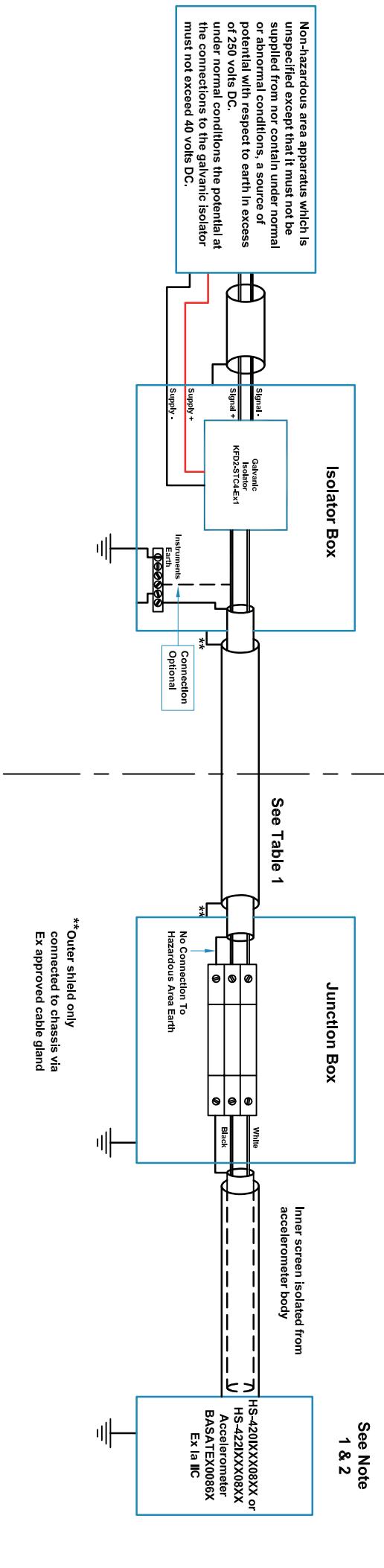
4-20mA velocity output via Flame Retardant Cable

Intrinsically Safe Requirements

Maximum Cable Length	nominal 100 metres see attached system drawings	US/Canada Approvals	Certificate No. SGSNA/18/SUW/0000231
Certificate details: Group I + II	IECEx BAS08.0034X Baseefa08ATEX0086X	Class I, II, III, Division 1, 2, Groups A - G, T4, -40°C to +110°C, Class I, Zone 0, AEx, ia, IIC, T4, Ga, -40°C to +110°C Zone 20, AEx, ia, IIIC, T130°C, IP65, Da, -40°C to +110°C	
	Ex ia IIC T6 Ga Ex ia IIIC T80°C IP65 Da Ex ia I Ma (-40°C ≤ Ta ≤ +60°C)	② II 1GD ② I M1 ② I Ma	Barrier 1 x Pepperl + Fuchs Galvanic Isolator KFD2-STC4-Ex1, which has superseded KFD2-CR-Ex1.30300 (BAS00ATEX7164) see attached system drawings
Certificate details: Group II	Ex ia IIC T4 Ga Ex ia IIIC T130°C IP65 Da (-40°C ≤ Ta ≤ +110°C)	② II 1GD	1 x MTL Zener Barrier MTL7787+ (BAS01ATEX7217) or Pepperl + Fuchs Zener Barrier Z787 (BAS01ATEX7005) or any other barrier that conforms to system drawings attached
Accelerometer System Certificate	Baseefa08Y0087 Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C) *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 or Ui = 28V Ii = 115mA Pi = 0.65W Group I	System Connections for Galvanic Isolator	see attached system drawings
500V Isolation	Units Will Pass A 500V Isolation Test	Terminal Parameters	Ui = Vmax = 28V Ii = Imax = 115mA Pi = 0.65W
Certified Temperature Range	Ex ia IIC T6 Ga (-40°C ≤ Ta ≤ +60°C) (Gas) Ex ia IIC T4 Ga (-40°C ≤ Ta ≤ +110°C) (Gas) Ex ia IIIC T80°C IP65 Da (-40°C ≤ Ta ≤ +60°C) (Dust) Ex ia IIIC T130°C IP65 Da (-40°C ≤ Ta ≤ +110°C) (Dust) Ex ia I Ma (-40°C ≤ Ta ≤ +60°C) (Mining)	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.
Australia Approval Group 1	IECEx ITA 10.0003X Ex ia I Ma (-40°C ≤ Ta ≤ +60°C)		
South African Approval	Certificate No. MASC MS/16-0229X Group I and II (As Baseefa/ATEX)		

How To Order





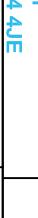
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Accelerometer With Integral Cable Length \leq 10m		
Group	Capacitance μ F	L/R Ratio μ H/ Ω
IIC	0.097	72
IIB	0.768	277
IIA	2.598	585
Accelerometer With Integral Cable Length \leq 50m		
Group	Capacitance μ F	L/R Ratio μ H/ Ω
IIC	0.091	72
IIB	0.762	277
IIA	2.592	585
Accelerometer With Integral Cable Length \leq 100m		
Group	Capacitance μ F	L/R Ratio μ H/ Ω
IIC	0.083	72
IIB	0.754	277
IIA	2.584	585

Hansford Sensors Ltd

HS-420I & HS-422I Accelerometer System

Ex ia IIIC T6 (-40°C ≤ Ta ≤ +60°C)

Rev No	DRF No	Date Drg	Drg By	Appd By	Material: N/A	 Hansford Sensors <small>Excellence in Vibration Monitoring</small>		Description: System Connections For HS-4201 & HS-4221 Group II Accelerometers With Non Armoured FR Polyurethane Cable F.U.W. Galvanic Isolation	
A	Release	17/06/10	MJS	CMH	Tolerances Unless Stated	 Do Not Scale		All Dimensions In mm Unless Otherwise Stated	
					0 or 0.0 0.00 Angle	±0.5 ±0.15 1.6 Finish All Over		Hansford Sensors Ltd Saunderton Business Park Haw Lane Saunderton Bucks HP14 4JE	
1		2	3	4	5	If In Doubt - Ask!		Drawing No: M06-033-A	
					6	Scale: NTS		Sheet: 1 of 1	
					7	Form Number: QF024 Issue 1		8	

