

HS-420IT Intrinsically Safe Accelerometer

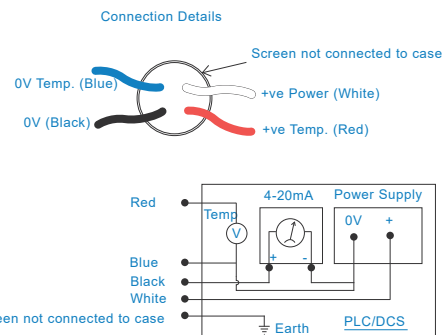
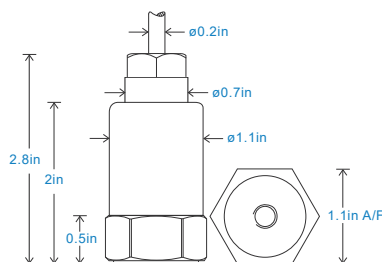
4-20mA velocity and temperature output via PUR Cable

Key Features

- Intrinsically Safe with European, USA, South African, and Indian approvals
- Approved SIL 2 and SIL 3
- For use with PLC/DCS systems
- Temperature output

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 72°F
Frequency Response	600cpm (10Hz) to 60kcpm (1kHz) $\pm 5\%$ - ISO10816
Isolation	Base isolated
Range	50g peak
Temperature Output	10mV/°C - 0-1V proportional to 32-212°F (to convert this to 4-20mA use the HS-540 module)
Transverse Sensitivity	Less than 5%

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Compression
Mounting Torque	5.9ft. lbs
Weight	5.2 oz. (nominal)
Maximum Cable Length	3,280 ft.
Standard Cable Length	16 ft.
Screened Cable	PUR - length to be specified with order
Mounting Threads	see: 'How To Order' table
Submersible Depth	100 metres max (10 bar)

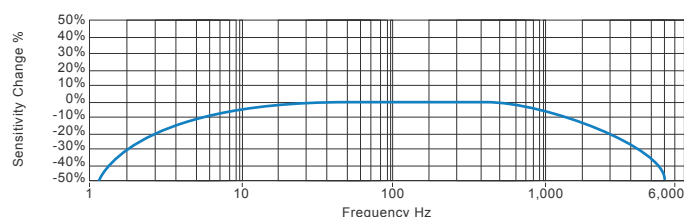
Electrical

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

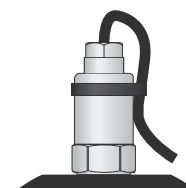
Typical Frequency Response



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



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



www.hansfordsensors.com
sales@hansfordsensors.com

We reserve the right to alter the specification of this product without prior notice
TS1113U.7



4-20mA velocity and temperature output via PUR Cable

Maximum Cable Length	nominal 100 metres	US/Canada Approvals	Certificate No. SGSNA/18/SUW/0000231
	see attached system drawings	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	
Certificate details: Group II	IECEX BAS08.0034X Baseefa08ATEX0086X	Zone 20, AEx, ia, IIIC, T130°C, IP65, Da, -40°C to +110°C	
	ⓂII 1GD	Barrier	1 x Pepperl + Fuchs Galvanic Isolator
	Ex ia IIC T6 Ga		KFD2-VR-Ex1.18 (BAS01ATEX7262)
	Ex ia IIIC T80°C IP65 Da (-40°C ≤ Ta ≤ +60°C)		see attached system drawings
	ⓂII 1GD		1 x MTL Zener Barrier MTL7764+ac (BAS01ATEX7217)
	Ex ia IIC T4 Ga		or Pepperl + Fuchs Zener Barrier
	Ex ia IIIC T130°C IP65 Da (-40°C ≤ Ta ≤ +110°C)		Z764 (BAS01ATEX7005) or any other barrier that conforms to system drawings attached
Accelerometer System Certificate	Baseefa08Y0087	System Connections for Zener Barrier	see attached system drawings
	Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C) *On request - consult Sales Office	System Connections for Galvanic Isolator	see attached system drawings
Terminal Parameters	Ui = 44V, Ii = 117mA, Pi = 0.722W Group II	Terminal Parameters	Ui = Vmax = 28V Ii = Imax = 115mA Pi = 0.65W
500V Isolation	Units Will Pass A 500V Isolation Test		
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)	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.
South African Approval	Certificate No. MASC MS/16-0229X Group I and II (As Baseefa/ATEX)		

The diagram illustrates the structure of a sensor part number, breaking it down into its constituent parts:

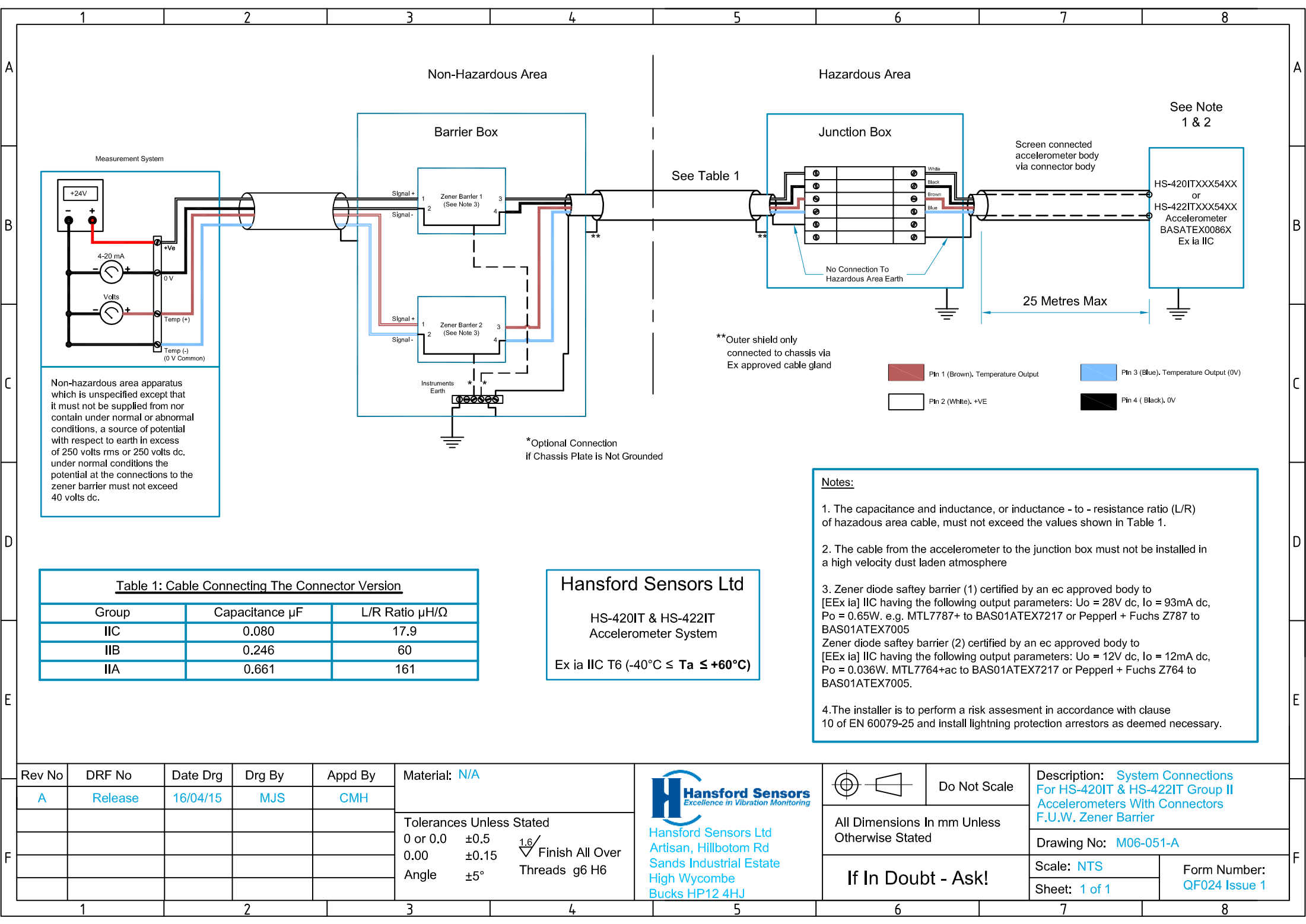
- Product Prefix:** HS - Hansford Sensors
- Product Series:** 420 - Industrial Vibration Sensor
- Cable Length (if integral cable):** UXX - length specified in feet
- Extra Options (if required):**
 - F - Filtered
 - G - SGS (US/Canada Approval)
 - I - Intrinsically Safe (Group II)
 - L - 316L Stainless Steel
 - T - Temperature Output
 - U - Imperial Range
 - UP - Imperial Peak Range
 - UPP - Imperial Peak to Peak Range
- Velocity Range (RMS unless specified):**
 - 012 - 1/2 IPS
 - 025 - 1 IPS
 - 050 - 2 IPS
 - 100 - 4 IPS
- Cable/Connector:**
 - 01 - PUR*
 - 54 - M12

* Please note these connection options are NOT available in Australia
- Mounting Threads:**
 - 01 - 1/4-28" UNF Female
 - 02 - 1/4-28" 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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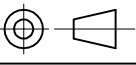
Rev No	DRF No	Date Drg	Drg By	Appd By
A	Release	16/04/15	MJS	CMH

Material: N/A
Tolerances Unless Stated
0 or 0.0 ±0.5
0.00 ±0.15
Angle ±5°
1.6/ Finish All Over
Threads g6 H6



Hansford Sensors
Excellence in Vibration Monitoring

Hansford Sensors Ltd
Artisan, Hillbottom Rd
Sands Industrial Estate
High Wycombe
Bucks HP12 4HJ



Do Not Scale

All Dimensions In mm Unless
Otherwise Stated

If In Doubt - Ask!

Description: System Connections
For HS-420IT & HS-422IT Group II
Accelerometers With Connectors
F.U.W. Zener Barrier

Drawing No: M06-051-A

Scale: NTS

Form Number:
QF024 Issue 1

Sheet: 1 of 1