

HS-422I/M Intrinsically Safe Accelerometer

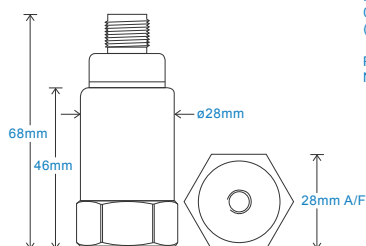
4-20mA acceleration output via M12 Connector

Key Features

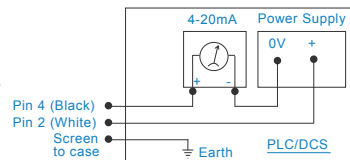
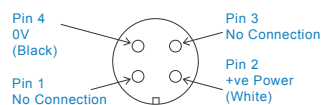
- Intrinsically Safe with European, USA, Australian, South African, and Indian approvals
- Approved SIL 2 and SIL 3
- For use with PLC/DCS systems
- Customisable features

Industries

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



Connection Details



Technical Performance

Mounted Base Resonance	10kHz min
Acceleration Ranges	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 22°C
Frequency Response	10Hz (600cpm) to 5kHz (300kcpm) $\pm 5\%$ - 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	HS-AC010 - straight HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

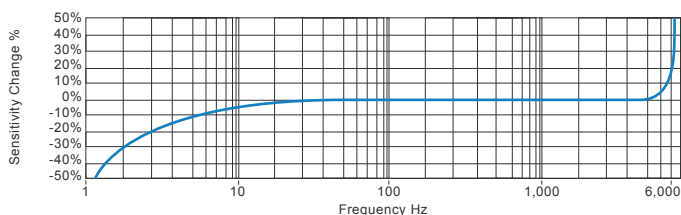
Electrical

Current Output	4-20mA DC proportional to acceleration
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

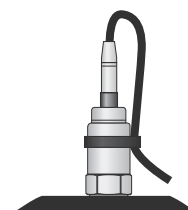
Typical Frequency Response



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



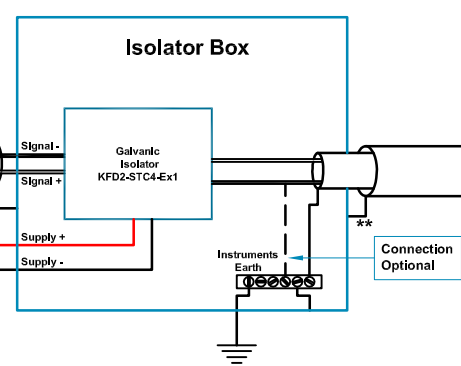
This product is certified in accordance with
UL 913, 8th Ed. Rev. December 6, 2013
CAN/CSA C22.2 No. 157-92 (R2012) +Upd1 +Upd2



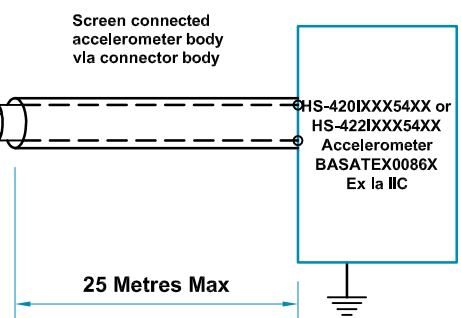
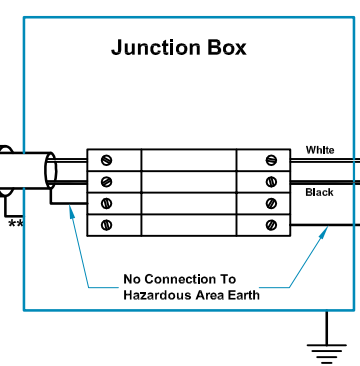
T: 150 210 98804
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 汉施弗德传感器（上海）有限公司



Non-hazardous area apparatus which is unspecified except that it must not be supplied from nor contain under normal or abnormal conditions, a source of potential with respect to earth in excess of 250 volts DC. under normal conditions the potential at the connections to the galvanic isolator must not exceed 40 volts DC.



See Table 1



See Note 1 & 2

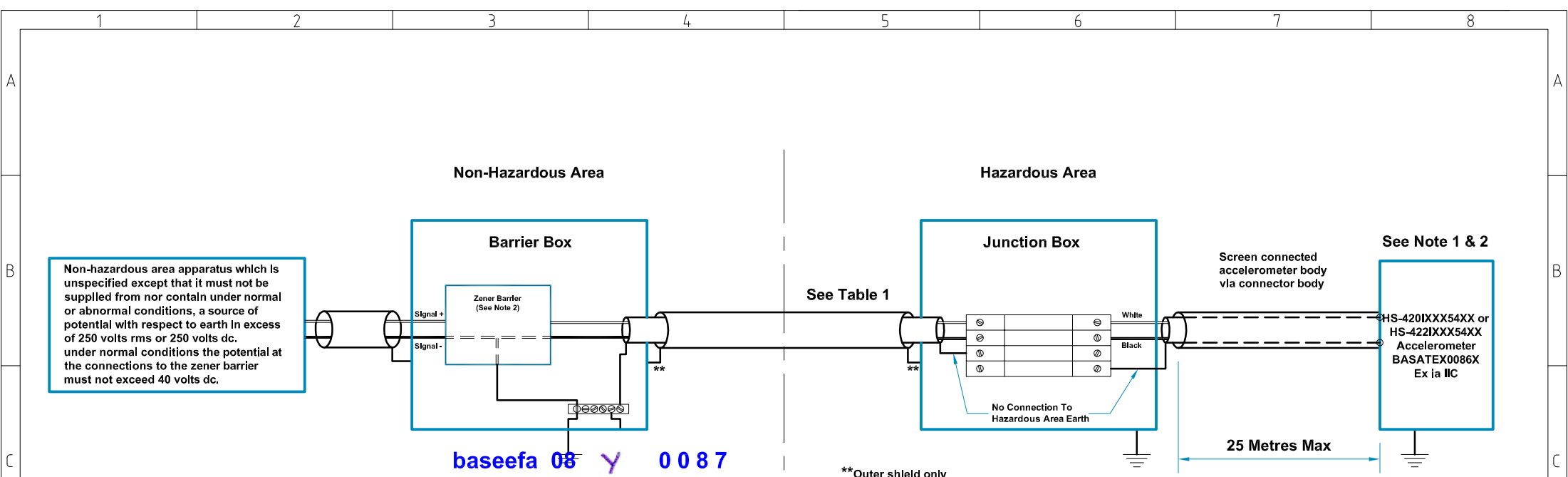
Table 1: Cable Connecting The Connector Version

Group	Capacitance μF	L/R Ratio $\mu\text{H}/\Omega$
IIC	0.096	72
IIB	0.767	277
IIA	2.597	585

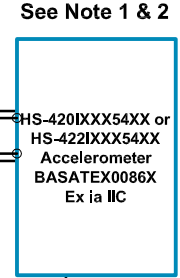
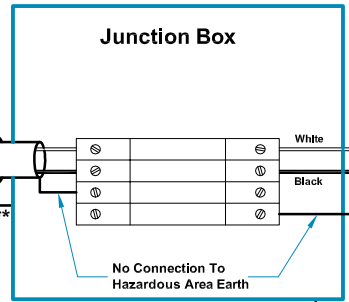
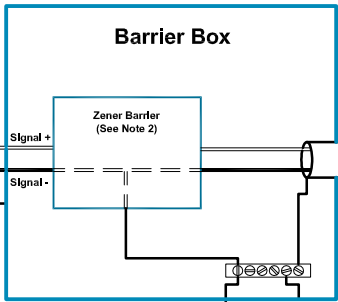
Hansford Sensors Ltd
 HS-4201 & HS-4221
 Accelerometer System
 Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C)

- Notes:**
1. The capacitance and inductance, or inductance - to - resistance ratio (L/R) of hazardous area cable, must not exceed the values shown in Table 1.
 2. The cable from the accelerometer to the junction box must not be installed in a high velocity dust laden atmosphere.
 3. The Installer is to perform a risk assessment in accordance with clause 10 of EN 60079-25 and install lightning protection arrestors as deemed necessary.

Rev No	DRF No	Date Drg	Drg By	Appd By	Material: N/A	<p>Hansford Sensors Excellence in Vibration Monitoring</p> <p>Hansford Sensors Ltd Saunderton Business Park Haw Lane Saunderton Bucks HP14 4JE</p>	<p>Do Not Scale</p>	Description: System Connections For HS-4201 & HS-4221 Group II Accelerometers With Connectors F.U.W. Galvanic Isolation	
A	Release	31/03/08	MJS	CMH	Tolerances Unless Stated 0 or 0.0 ±0.5 0.00 ±0.15 Angle ±5°			All Dimensions In mm Unless Otherwise Stated	Drawing No: M06-034-A
					Finish All Over Threads g6 H6	<p>If In Doubt - Ask!</p>	Scale: NTS	Form Number: QF024 Issue 1	
							Sheet: 1 of 1		



Non-hazardous area apparatus which is unspecified except that it must not be supplied from nor contain under normal or abnormal conditions, a source of potential with respect to earth in excess of 250 volts rms or 250 volts dc. Under normal conditions the potential at the connections to the zener barrier must not exceed 40 volts dc.



baseefa 08 Y 0087



Baseefa Certification Schedule Drawing

**Outer shield only connected to chassis via Ex approved cable gland

J.S. Waples

Group	Capacitance μF	L/R Ratio $\mu\text{H}/\Omega$
IIC	0.080	56
IIB	0.246	168
IIA	0.661	448

Hansford Sensors Ltd
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 Baseefa08Y0087
 Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C)

- Notes:**
- The capacitance and inductance, or inductance - to - resistance ratio (L/R) of hazardous area cable, must not exceed the values shown in Table 1.
 - The cable from the accelerometer to the junction box must not be installed in a high velocity dust laden atmosphere
 - Any shunt zener diode safety barrier certified by an EC approved body to [EEx ia] IIC having the following output parameters: $U_o = 28\text{V dc}$, $I_o = 93\text{mA dc}$, $P_o = 0.65\text{W}$, e.g. MTL7787+ to BAS01ATEX7217 or Pepperl + Fuchs Z787 to BAS01ATEX7005
 - The installer is to perform a risk assessment in accordance with clause 10 of EN 60079-25 and install lightning protection arrestors as deemed necessary.

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A	Release	31/03/08	MJS	CMH			
					Tolerances Unless Stated 0 or 0.0 ±0.5 0.00 ±0.15 Angle ±5°	All Dimensions In mm Unless Otherwise Stated	Drawing No: M06-018-A
					Finish All Over Threads g6 H6		
						If In Doubt - Ask!	Sheet: 2 of 2

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