

HS-100IS Intrinsically Safe Accelerometer

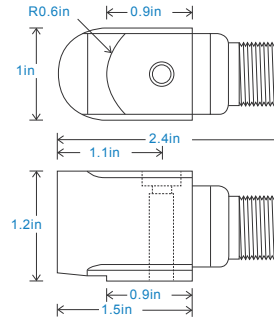
AC acceleration output via 2 Pin MS Connector

Key Features

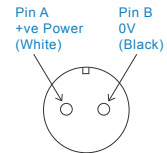
- Intrinsically Safe with European, USA, South African, Indian and Australian approvals
- Side entry for easy access

Industries

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



Connection Details



Technical Performance

Mounted Base Resonance	see 'How To Order' table (nominal)
Sensitivity	see: 'How To Order' table $\pm 10\%$ Nominal 80Hz at 72°F
Frequency Response	120cpm (2Hz) to 600kcpm (10kHz) $\pm 5\%$ 90cpm (1.5Hz) to 720kcpm (12kHz) $\pm 10\%$ 48cpm (0.8Hz) to 900kcpm (15kHz) $\pm 3\text{dB}$
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	5.9ft. lbs
Mounting Bolt Provided	see: 'How To Order' table x 1.2in long
Weight	6.5 oz. (nominal)
Shielded Cable Assembly	see: www.hansfordsensors.com for options
Connector	HS-AA004 - non-booted HS-AA053 or HS-AA054 - booted
Mounting Threads	see: 'How To Order' table

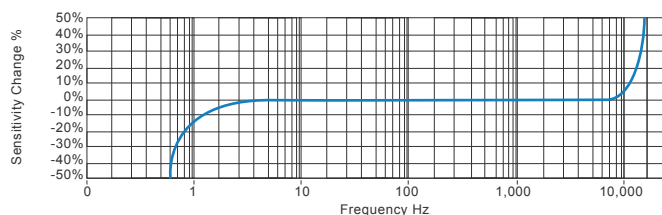
Electrical

Electrical Noise	0.1mg max
Current Range	0.5mA to 8mA
Bias Voltage	10 - 12 Volts DC
Settling Time	2 seconds
Output Impedance	200 Ohms max.
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

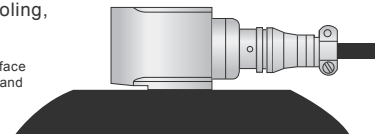
Typical Frequency Response (at 100mV/g)



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

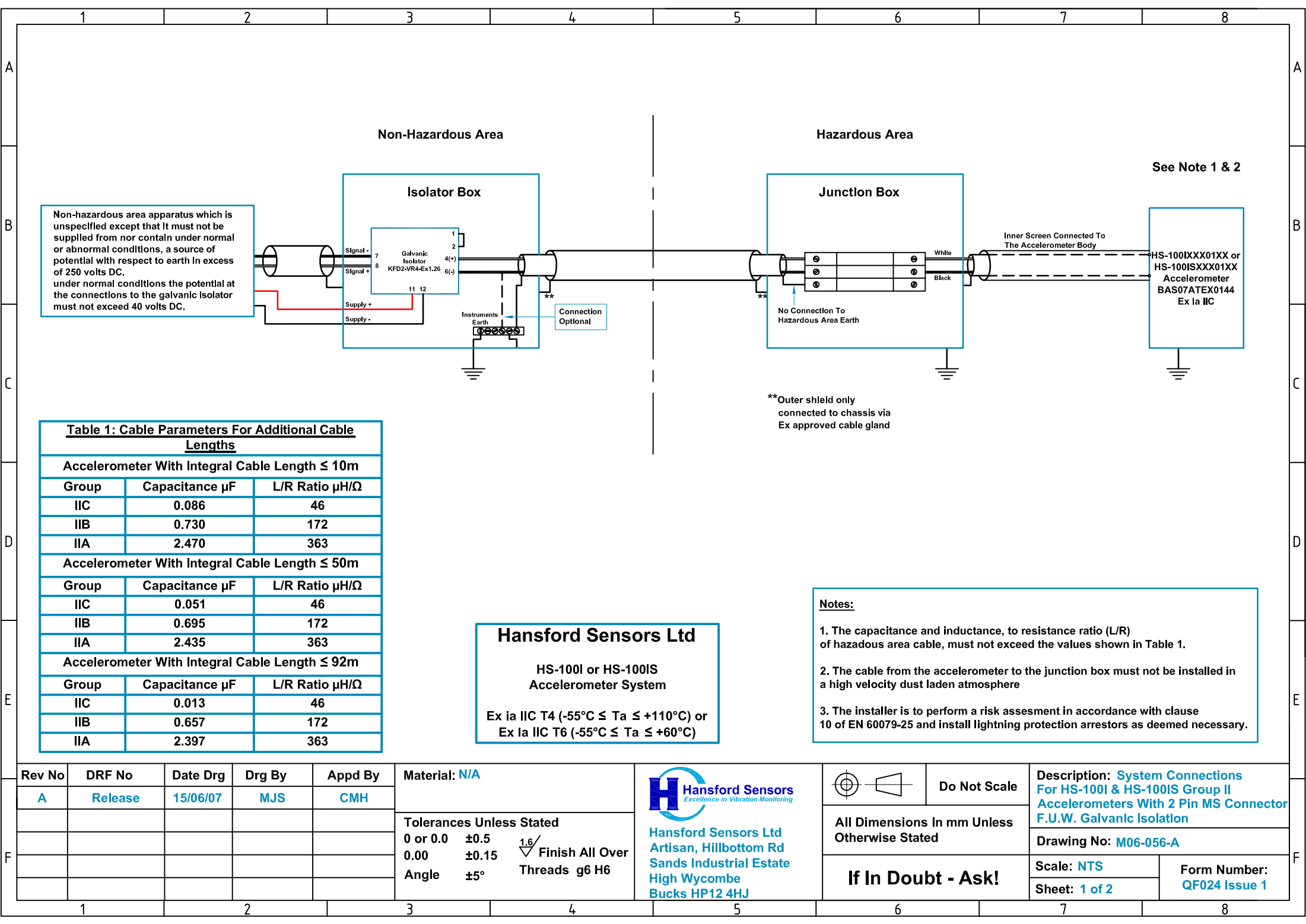


www.hansfordsensors.com
sales@hansfordsensors.com

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

TS039U.12





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.

Table 1: Cable Parameters For Additional Cable Lengths		
Accelerometer With Integral Cable Length ≤ 10m		
Group	Capacitance µF	L/R Ratio µH/Ω
IIC	0.086	46
IIB	0.730	172
IIA	2.470	363
Accelerometer With Integral Cable Length ≤ 50m		
Group	Capacitance µF	L/R Ratio µH/Ω
IIC	0.051	46
IIB	0.695	172
IIA	2.435	363
Accelerometer With Integral Cable Length ≤ 92m		
Group	Capacitance µF	L/R Ratio µH/Ω
IIC	0.013	46
IIB	0.657	172
IIA	2.397	363

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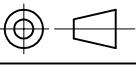
HS-100I or HS-100IS
Accelerometer System

Ex ia IIC T4 (-55°C ≤ Ta ≤ +110°C) or
Ex Ia IIC T6 (-55°C ≤ Ta ≤ +60°C)

- Notes:
1. The capacitance and 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 assesment 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	 Hansford Sensors Ltd Artisan, Hillbottom Rd Sands Industrial Estate High Wycombe Bucks HP12 4HJ	 Do Not Scale	Description: System Connections For HS-100I & HS-100IS Group II Accelerometers With 2 Pin MS Connector F.U.W. Galvanic Isolation	
A	Release	15/06/07	MJS	CMH	Tolerances Unless Stated 0 or 0.0 ±0.5 0.00 ±0.15 Angle ±5° 1.6/√ Finish All Over Threads g6 H6			Drawing No: M06-056-A	
						All Dimensions In mm Unless Otherwise Stated	If In Doubt - Ask!	Scale: NTS	Form Number: QF024 Issue 1
								Sheet: 1 of 2	

Non-Hazardous Area

Hazardous Area

See Note 1 & 2

Non-hazardous area apparatus which is unsuspected 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.

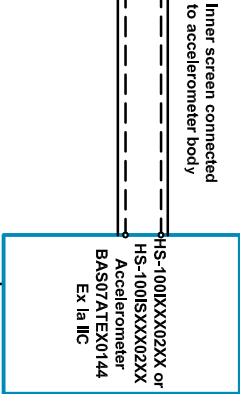
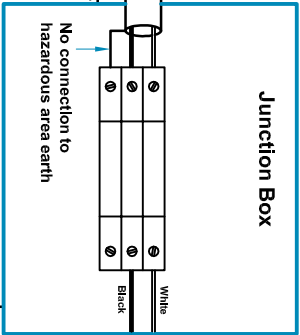
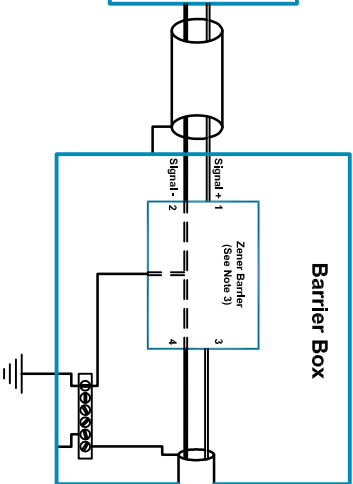


Table 1: Cable Parameters For Additional Cable Lengths

Accelerometer With Integral Cable Length ≤ 10m		
Group	Capacitance µF	L/R Ratio µH/Ω
IIC	0.073	56
IIB	0.239	168
IIA	0.654	448
Accelerometer With Integral Cable Length ≤ 50m		
Group	Capacitance µF	L/R Ratio µH/Ω
IIC	0.038	56
IIB	0.204	168
IIA	0.619	448
Accelerometer With Integral Cable Length ≤ 92m		
Group	Capacitance µF	L/R Ratio µH/Ω
IIC	0.000	56
IIB	0.166	168
IIA	0.581	448

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HS-1001 or HS-1001S
Accelerometer System

Ex ia IIC T4 (-55°C ≤ Ta ≤ +110°C) or
Ex ia IIC T6 (-55°C ≤ Ta ≤ +60°C)

Notes:

1. The capacitance and 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. Any single zener diode safety barrier certified by an approved body to [Ex ia] IIC having the following output parameters: Uo = 28V dc, Io = 93mA dc, Po = 0.65W, e.g. MTL7728 to BAS01ATEX7217 or Pepperl + Fuchs Z728 to BAS01ATEX7005.
4. 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
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A	Release	16/09/15	MJS	CMH	
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					Tolerances Unless Stated
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					0 or 0.0 ±0.5
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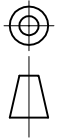
					0.00 ±0.15
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					Angle ±5°
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Hansford Sensors Ltd
Artisan, Hillbottom Rd
Sands Industrial Estate
High Wycombe
Bucks HP12 4HJ



Do Not Scale

All Dimensions in mm Unless
Otherwise Stated

Description: System Connections
For HS-1001 & HS-1001S Group II
Accelerometers With 2 Pin M5 Connector
F.U.W. Zener Barrier

Drawing No: M06-056-A

Scale: NTS

Form Number:
QF024 Issue 1

Sheet: 2 of 2	
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