HS-104I ATEX Low Power Accelerometer

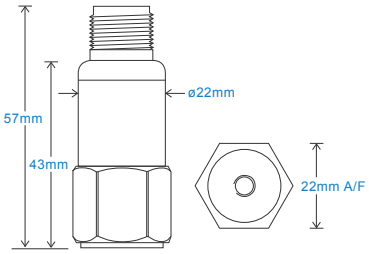
AC acceleration output via 3 Pin MS Connector

Key Features

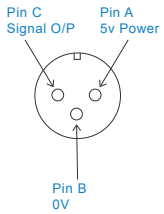
- Intrinsically Safe with European, USA and Australian approvals
- Low voltage
- Ultra low power consumption
- Customisable features

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 ±10%
	Nominal 80Hz at 22°C
Frequency Response	0.3Hz (18cpm) to 10kHz (600kcpm) ± 10%
Isolation	Base isolated
Range	see: 'How To Order' table @ 5V power
Transverse Sensitivity	Less than 5%
Amplitude Linearity	±1%

Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Shear
Mounting Torque	8Nm
Weight	106gms (nominal)
Screened Cable Assembly	see: www.hansfordsensors.com for options
Connector	HS-AA005 - non-booted
	HS-AA068 or HS-0069 - booted
Mounting Threads	see: 'How To Order' table

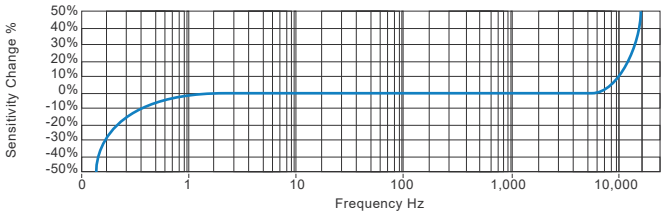
Electrical

Electrical Noise	< 500µg
Power Requirements	5V nominal (other voltages 1.8 to 12V on request)
Current Consumption	100µA nominal at 5V supply (60µA at 1.8V)
Bias Voltage	50% of supply voltage
Settling Time	1 second
Output Impedance	100 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

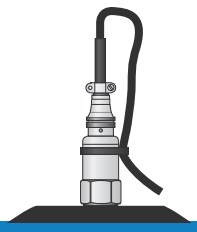
Typical Frequency Response (at 100mV/g)



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

710318

This product is certified in accordance with
UL 60079-0, 6th Ed, Rev. July 26, 2013
UL 60079-11, 6th Ed. Rev. September 6, 2013
CAN/CSA C22.2 No. 60079-0:15 Rev. October 2015
CAN/CSA C22.2 No. 60079-11:14
UL 913, 8th Ed. Rev. October 16, 2015

Hansford Sensors
Excellence in Vibration Monitoring

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AC acceleration output via 3 Pin MS Connector

Intrinsically Safe Requirements

Maximum Cable Length	Up to 92 metres	500V Isolation	Units Will Pass A 500V Isolation Test
Certificate details: Group II	IECEx 18.0099X Baseefa18ATEX0166X Ⓔx II 1G Ex ia IIC T6..T4 Ga	Certified temperature range	Ex ia IIC T6 Ga (-55ºC ≤ Ta ≤ +66ºC) (Gas) Ex ia IIC T4 Ga (-55ºC ≤ Ta ≤ +116ºC) (Gas)
		US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005 Cl I, Div 1, Grp A-D T6 Cl I Zn 0 AEx ia IIC T6 Ga Ex ia IIC T6 Ga (-55ºC to +66ºC)
Terminal Parameters Connector	Ui = 12V, Ii = 160mA, Pi = 0.48W Ci = 494nF, Li = 0		
Terminal Parameters 92m of Cable	Ui = 12V, Ii = 160mA, Pi = 0.48W Ci = 529nF, Li = 66µH		Or
Standards Applied to Product	EN IEC 60079-0:2018 EN 60079-11:2012 IEC 60079-0 Edition 7 2017 IEC 60079-11 Edition 6 2011		Cl I, Div 1, Grp A-D T4 Cl I Zn 0 AEx ia IIC T4 Ga Ex ia IIC T4 Ga (-55ºC to +116ºC)
Barrier	1 x MTL Zener Barrier MTL7766ac (BAS01ATEX7217) Or any other barrier that conforms with the terminal parameters	Control Drawing	M06-091-A

Special Conditions of use: When a sensor is supplied with integral cable, this must be terminated in an enclosure providing at least degree of protection IP20. The equipment is reduced with reduced certification markings. Refer to the Certificate Schedule for full certification marking and applicable temperature classification associated ambient temperature range. The screen of the cable is not to be connected to the barrier in the Safe Area, it must be connected in the Hazardous area only.

Note: If the equipment is to be used in unusual environments or aggressive substances are likely to be encountered, contact the manufacturer to discuss suitability.

How To Order

Product Prefix
HS - Hansford Sensors

Product Series
104 - Intrinsically Safe Low Power Vibration Sensor

Supply Voltage
+3 Volts
+5 Volts

H	S	1	0	4	I	X	X	X	X	X	X	X	X	X

Extra Options (if required)
F - Filtered
L - 316L Stainless Steel
S - 90° Side Exit
I - Intrinsically Safe (Group II)
Y - 5% Tolerance on Sensitivity

Sensitivity		Range	Resonant Frequency	
010	- 10mV/g	±200g	25kHz	(1,500kcpm)
025	- 25mV/g	±80g	25kHz	(1,500kcpm)
030	- 30mV/g	±66g	25kHz	(1,500kcpm)
050	- 50mV/g	±40g	25kHz	(1,500kcpm)
100	- 100mV/g	±20g	25kHz	(1,500kcpm)
250	- 250mV/g	±8g	25kHz	(1,500kcpm)
500	- 500mV/g	±4g	25kHz	(1,500kcpm)

Cable/Connector
01 - PUR
03 - Braided
07 - Silicon
13 - Flame Retardant
52 - 3 Pin MS
54 - M12

Mounting Threads
01 - ¼-28" UNF Female
02 - ¼-28" 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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