

# HS-104I ATEX Low Power Accelerometer

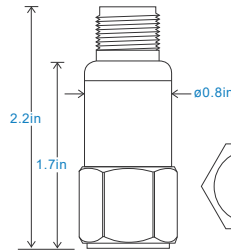
## AC acceleration output via M12 Connector

### Key Features

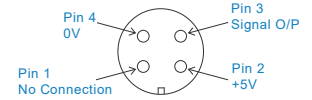
- Intrinsically Safe with European, USA and Australian approvals
- Low voltage
- Ultra low power consumption
- Customisable features

### 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 $\pm 10\%$ Nominal 80Hz at 72°C
Frequency Response	18cpm (0.3Hz) to 600kcpm (10kHz) $\pm 10\%$
Isolation	Base isolated
Range	see: 'How To Order' table @ 5V power
Transverse Sensitivity	Less than 5%
Amplitude Linearity	$\pm 1\%$

### Mechanical

Case Material	Stainless Steel
Sensing Element/Construction	PZT/Shear
Mounting Torque	5.9ft. lbs
Weight	3.7 oz. (nominal)
Screened Cable Assembly	HS-AC010 - straight HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

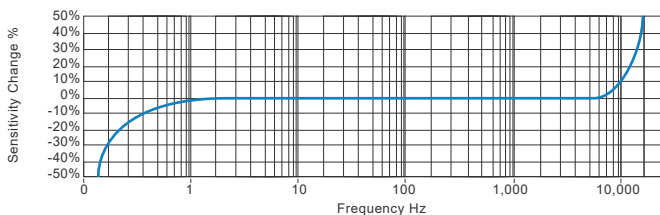
### Electrical

Electrical Noise	< 500 $\mu$ g
Power Requirements	5V nominal (other voltages 1.8 to 12V on request)
Current Consumption	100 $\mu$ A nominal at 5V supply (60 $\mu$ A at 1.8V)
Bias Voltage	50% of supply voltage
Settling Time	1 second
Output Impedance	100 Ohms max.
Case Isolation	>10 <sup>8</sup> Ohms at 500 Volts

### Environmental

Operating Temperature Range	see: attached certification details
Sealing	IP67
Maximum Shock	5000g
EMC	EN61326-1:2013

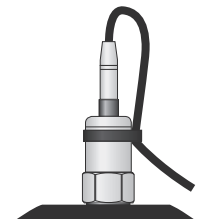
### Typical Frequency Response (at 100mV/g)



### 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 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



[www.hansfordsensors.com](http://www.hansfordsensors.com)  
[sales@hansfordsensors.com](mailto:sales@hansfordsensors.com)

We reserve the right to alter the specification of this product without prior notice  
TS929U.6



## AC acceleration output via M12 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 18.0095X	Certified temperature range	Ex ia IIC T6 Ga (-55°C ≤ Ta ≤ +66°C) (Gas)
	Baseefa18ATEX0157X		Ex ia IIC T4 Ga (-55°C ≤ Ta ≤ +116°C) (Gas)
	Ⓔ II 1G		
	Ex ia IIC T6..T4 Ga	US/Canada Approvals	Certificate No. SGSNA/19/BAS/00005
Terminal Parameters Connector	Ui = 12V, Ii = 160mA, Pi = 0.48W		CI I, Div 1, Grp A-D T6
	Ci = 494nF, Li = 0		CI I Zn 0 AEx ia IIC T6 Ga
			Ex ia IIC T6 Ga
			(-55°C to +66°C)
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		CI I, Div 1, Grp A-D T4
	EN 60079-11:2012		CI I Zn 0 AEx ia IIC T4 Ga
	IEC 60079-0 Edition 7 2017		Ex ia IIC T4 Ga
	IEC 60079-11 Edition 6 2011		(-55°C to +116°C)
Barrier	1 x MTL Zener Barrier MTL7766ac (BAS01ATEX7217)	Control Drawing	M06-091-A
	Or any other barrier that conforms with the terminal parameters		

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

