

# HS-422IT Intrinsically Safe Accelerometer

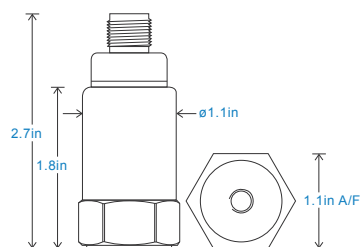
4-20mA acceleration and temperature output via M12 Connector

## Key Features

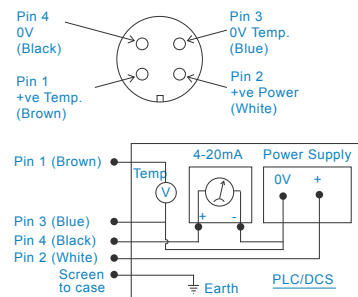
- Intrinsically Safe with European, USA, South African, and Indian approvals
- Approved SIL 2 and SIL 3
- For use with PLC/DCS systems
- Temperature output

## Industries

Building services, Pulp and Paper,  
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 72°F
Frequency Response	600cpm (10Hz) to 300kcpm (5kHz) $\pm 5\%$
	- ISO10816
Isolation	Base isolated
Range	50g peak
Temperature Output	10mV/°C - 0-1V proportional to 0-212°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)
Shielded Cable Assembly	HS-AC010 - straight
	HS-AC011 - right angle
Mounting Threads	see: 'How To Order' table

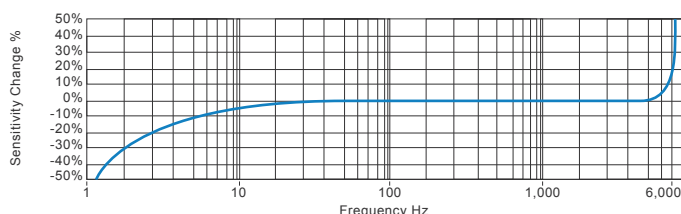
## Electrical

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

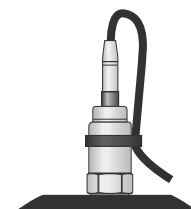
## Typical Frequency Response



## 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



[www.hansfordsensors.com](http://www.hansfordsensors.com)  
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We reserve the right to alter the specification of this product without prior notice  
TS077U.14



# HS-422IT Intrinsically Safe Accelerometer

4-20mA acceleration and temperature output via M12 Connector

## Intrinsically Safe Requirements

Maximum Cable Length	See website: <a href="http://www.hansfordsensors.com">www.hansfordsensors.com</a> see attached system drawings	US/Canada Approvals	Certificate No. SGSNA/18/SUW/0000231 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 Zone 20, AEx, ia, IIIC, T130°C, IP65, Da, -40°C to +110°C
Certificate details: Group II	IECEX BAS08.0034X Baseefa08ATEX0086X Ⓜ II 1GD Ex ia IIC T6 Ga Ex ia IIIC T80°C IP65 Da (-40°C ≤ Ta ≤ +60°C) Ⓜ II 1GD Ex ia IIC T4 Ga Ex ia IIIC T130°C IP65 Da (-40°C ≤ Ta ≤ +110°C)	Barrier	1 x Pepperl + Fuchs Galvanic Isolator KFD2-VR-Ex1.18 (BAS01ATEX7262) see attached system drawings  1 x MTL Zener Barrier MTL7764+ac (BAS01ATEX7217) or Pepperl + Fuchs Zener Barrier Z764 (BAS01ATEX7005) or any other barrier that conforms to system drawings attached
Accelerometer System Certificate	Baseefa08Y0087 Ex ia IIC T6 (-40°C ≤ Ta ≤ +60°C) *On request - consult Sales Office	System Connections for Zener Barrier	see attached system drawings
		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)		

## How To Order

