

General purpose intrinsically safe accelerometer

786A-M12-IS

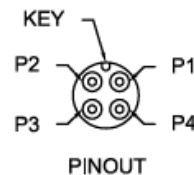
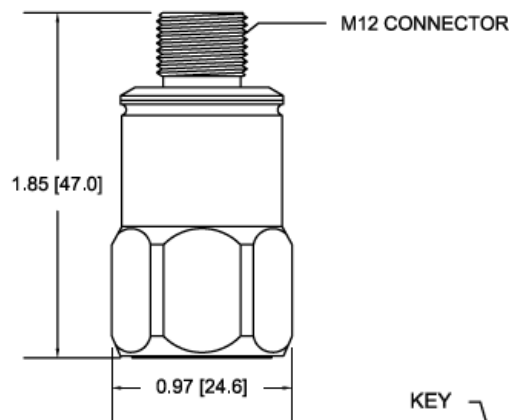


Wilcoxon's top-exit 100 mV/g broadband sensor is certified for usage in hazardous areas. The general purpose accelerometer is ideal for monitoring machine vibration on a wide range of rotating equipment such as motors, pumps, fans, compressors, turbines and generators. 316L stainless steel casing provides rugged durability for most extreme environments. The sensing element is housed in a case-isolated Faraday shield, providing maximum protection from ground loops and RF interference. The sensor is supplied with the popular M12 connector.

The 786A-M12-IS sensor is classified for usage in Class I Division 1/Zone 0/1 locations where ignitable concentrations of flammable gases, vapors or liquids are present continuously under normal operating conditions. Class I areas are defined into groups by the presence of the following flammable material:

- Group A - Acetylene
- Group B - Hydrogen
- Group C - Ethylene
- Group D - Propane

For proper protection the installation drawing must be followed.



Connections	
Function	Connector pin
power/signal	1
common	2
N/C	3
N/C	4
ground	shell

Note: Due to continuous process improvement, specifications are subject to change without notice. This document is cleared for public release.

Wilcoxon Sensing Technologies
20511 Seneca Meadows Parkway
Germantown, MD 20876
info@wilcoxon.com

Tel: (301) 330 8811
Fax: (301) 330 8873
www.wilcoxon.com

Key features

- Class I, Div 1/Zone 0/1 certified
- Comes with the industry popular M12 connector
- Mounts in any orientation
- Hermetically sealed
- ESD-protected
- Reverse wiring protection
- Manufactured in an approved ISO 9001 facility

Certifications



Class I, Div 1 Groups A, B, C, D
Class II, Div 1 Groups E, F, G
Class III, Div 1
Class I, Zone 0, Ex ia IIC T4
Class I, Zone 0, AEx ia IIC T4
Tamb: -50°C to 120°C



II 1 G
Ex ia IIC T4 Ga
-50°C ≤ Ta ≤ 120°C



For hazardous area locations, sensor must be installed in accordance with installation instructions or local code requirements. Special conditions for safe use: for applications in explosive atmospheres caused by gases, vapors or mists and where the use of apparatus of category 1 G is required, electrostatic charges on cable and non-metallic parts of the enclosure shall be avoided. The ambient temperature range for these applications is -40°C ≤ Tamb ≤ +80°C.



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SPECIFICATIONS

Sensitivity, $\pm 5\%$, 25° C	100 mV/g
Acceleration range, VDC > 25V	80 g peak
Amplitude nonlinearity	1%
Frequency response:	
$\pm 5\%$	3 - 5,000 Hz
$\pm 10\%$	1 - 9,000 Hz
± 3 dB	0.5 - 14,000 Hz
Resonance frequency	30 kHz
Transverse sensitivity, max	5% of axial
Temperature response:	
-25° C	-10%
+120° C	+10%
Power requirement:	
Voltage source	18 - 30 VDC
Current regulating diode	2 - 10 mA
Electrical noise, equiv. g:	
Broadband 2.5 Hz to 25 kHz	700 μ g
Spectral 10 Hz	10 μ g/ \sqrt Hz
100 Hz	5 μ g/ \sqrt Hz
1,000 Hz	5 μ g/ \sqrt Hz
Output impedance, max	100 Ω
Bias output voltage	12 VDC
Grounding	case isolated, internally shielded
Temperature range	-50 to +120° C
Vibration limit	500 g peak
Shock limit	5,000 g peak
Electromagnetic sensitivity, equiv. g, max	70 μ g/gauss
Sealing	hermetic
Base strain sensitivity, max	0.0002 g/ μ strain
Sensing element design	PZT, shear
Weight	90 grams
Case material	316L stainless steel
Mounting	M6 captive screw
Mating connector	M12 style, 4 or 5 pin
Recommended cabling	J10 / J9T2A

Contact

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Germantown MD 20876, USA

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Fax: +1 301 330 8873

info@wilcoxon.com

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Accessories supplied:

- Calibration data (level 2)
- M6 captive screw

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