

# Intrinsically safe low-frequency accelerometer

## 786-500-M12-IS







### SPECIFICATIONS

<b>Sensitivity, <math>\pm 5\%</math>, 25°C</b>		500 mV/g
<b>Acceleration range, VDC &gt; 22 V</b>		80 g peak
<b>Amplitude nonlinearity</b>		1%
<b>Frequency response<sup>1</sup>:</b>	$\pm 5\%$	0.7 - 5,000 Hz
	$\pm 10\%$	0.5 - 5,000 Hz
	$\pm 3$ dB	0.2 - 10,000 Hz
<b>Resonance frequency</b>		30 kHz
<b>Transverse sensitivity, max</b>		5% of axial
<b>Temperature response:</b>	-25°C	-10%
	+120°C	+10%
<b>Power requirement:</b>		
Voltage source		18 - 30 VDC
Current regulating diode		2 - 10 mA
<b>Electrical noise, equiv. g<sup>1</sup>:</b>		
Broadband	2.5 Hz to 25 kHz	250 $\mu$ g
Spectral	10 Hz	2.5 $\mu$ g/ $\sqrt$ Hz
	100 Hz	1.5 $\mu$ g/ $\sqrt$ Hz
	1,000 Hz	1.5 $\mu$ g/ $\sqrt$ Hz
<b>Output impedance, max</b>		100 $\Omega$
<b>Bias output voltage</b>		12 VDC
<b>Grounding</b>		case isolated, internally shielded
<b>Temperature range</b>		-50° to +120°C
<b>Vibration limit</b>		500 g peak
<b>Shock limit</b>		5,000 g peak
<b>Electromagnetic sensitivity, equiv. g, max</b>		70 $\mu$ g/gauss
<b>Sealing</b>		hermetic
<b>Base strain sensitivity, max</b>		0.0002 g/ $\mu$ strain
<b>Sensing element design</b>		PZT, shear
<b>Weight</b>		90 grams
<b>Case material</b>		316L stainless steel
<b>Mounting</b>		1/4-28 UNF tapped hole
<b>Output connector</b>		M12 style, 4 pin

**Notes:** <sup>1</sup> Frequency response limits and spectral noise values are typical.

**Accessories supplied:** SF6M mounting stud; calibration data (level 2)

### Certifications

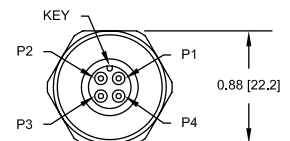
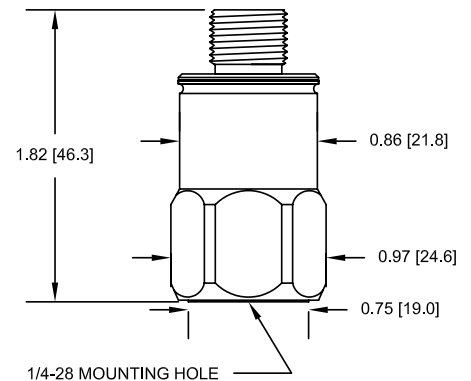
	Class I, Div 1 Groups A, B, C, D		II 1 G	
	Class II, Div 1 Groups E, F, G		Ex ia IIC T4 Ga	
	Class III		Ta = -50°C to 120°C	
	Class I Zone 0 AEx/Ex ia IIC T4		Ta = -50°C to 120°C	

Must be installed per document 12879. For application in explosive atmospheres caused by gases, vapours or mists and where the use of apparatus of category 1G is required, electrostatic charges on the cable and non-metallic parts of the enclosure shall be avoided. The ambient temperature range for these applications is -40°C to +80°C.



### Key features

- Class I, Div 1/Zone 0/1 certified intrinsically safe
- High sensitivity
- Extended low frequency response
- Manufactured in ISO 9001 facility



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.