

# Low-power, low-voltage accelerometer

## LPA100T

### SPECIFICATIONS

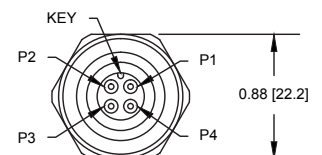
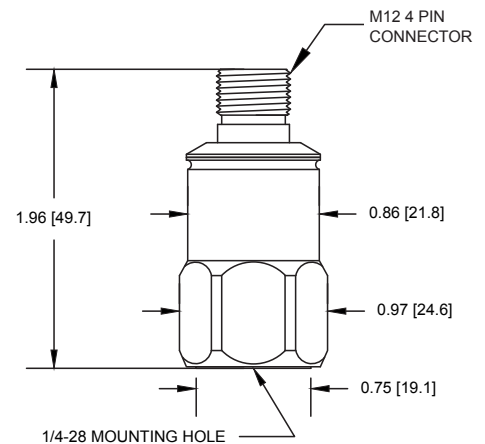
<b>Sensitivity, <math>\pm 5\%</math>, 25°C</b>		50 mV/g
<b>Acceleration range</b>		25 g peak
<b>Amplitude nonlinearity</b>		1%
<b>Frequency response:</b>	$\pm 5\%$	3 - 5,000 Hz
	$\pm 10\%$	1 - 9,000 Hz
	$\pm 3$ dB	0.3 - 15,000 Hz
<b>Resonance frequency</b>		30 kHz
<b>Transverse sensitivity, max</b>		5% of axial
<b>Sensitivity variation with temp:</b>	-25°C	-10%
	+120°C	+10%
<b>Temperature sensor:</b>		
Temperature range		-40°C to +120°C
Voltage range		+2.52 to +0.77 V
Temperature signal sensitivity		-10.9 mV/°C
Voltage at 0°C		+2.1 V
<b>Power requirement:</b>	Voltage source	3.0 - 5.5 VDC
	Current (no cable)	100 $\mu$ A, max
<b>Electrical noise, equiv. g:</b>		
Broadband	2.5 Hz to 25 kHz	660 $\mu$ g
Spectral	10 Hz	60 $\mu$ g/ $\sqrt{\text{Hz}}$
	100 Hz	16 $\mu$ g/ $\sqrt{\text{Hz}}$
	1,000 Hz	5 $\mu$ g/ $\sqrt{\text{Hz}}$
<b>Output impedance, max</b>		1,000 $\Omega$
<b>Bias output voltage, settling time, 25°C</b>		<10 ms
Including temp effects		1.5 VDC $\pm 5\%$
<b>Grounding</b>		case isolated, internally shielded
<b>Vibration limit</b>		500 g peak
<b>Shock limit</b>		5,000 g peak
<b>Electromagnetic sensitivity, equiv. g, max</b>		150 $\mu$ 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>Mating connector</b>		M12 style, socket
<b>Recommended cabling</b>		J12 / J9T4A

Accessories supplied: SF6 mounting stud; calibration data (level 2)



### Key features

- 300  $\mu$ W power consumption
- BOV settling time of <10 ms
- Certified version available for use in hazardous areas (LPA100T-D2)
- Internal temperature sensor
- Manufactured in ISO 9001 facility



Connections	
Function	Connector pin
power	1
common	2
accel signal	3
temp signal	4
shield*	shell

\*For installations requiring CE conformance, cable shield must be tied to sensor case.



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