

Model Number  
TO646B32

# LOOP POWERED, CURRENT OUTPUT, INDUSTRIAL VIBRATION SENSOR

Revision: A  
ECN #: 29071

Performance	ENGLISH	SI	
Measurement Range(Vibration)	0.0 to 10 g rms	0.0 to 98.1 m/s <sup>2</sup> rms	[2]
Measurement Range(Temperature)	-40 to 257 °F	-40 to 125 °C	[1]
Output	4-20 mA	4-20 mA	
Frequency Range(± 10 %)	180 to 600,000 cpm	3 to 10 kHz	[3][4]
Broadband Resolution	0.05 g rms	0.49 m/s <sup>2</sup> rms	[5]
Non-Linearity	1 %	1 %	
<b>Environmental</b>			
Temperature Range	-40 to 185 °F	-40 to 85 °C	[1]
<b>Electrical</b>			
Excitation Voltage	12 to 30 VDC	12 to 30 VDC	
Settling Time	<15 sec	<15 sec	
Electrical Isolation(Case)	>10 <sup>8</sup> ohm	>10 <sup>8</sup> ohm	
<b>Physical</b>			
Size (Hex x Height)	1.00 in x 2.60 in	25.4 mm x 66.0 mm	
Weight	4.7 oz	131 gm	
Mounting Thread	1/4-28 UNF	Not Applicable	
Mounting Torque	3 to 5 ft-lb	4 to 7 N-m	
Sensing Element	Ceramic	Ceramic	
Sensing Geometry	Shear	Shear	
Housing Material	Stainless Steel	Stainless Steel	
Sealing	Welded Hermetic	Welded Hermetic	
Electrical Connector	4-Pin Bayonet	4-Pin Bayonet	
Electrical Connection Position	Top	Top	
Electrical Connections(Pin A)	Vibration, 4-20 mA Pos.	Vibration, 4-20 mA Pos.	
Electrical Connections(Pin B)	Vibration, 4-20 mA Neg.	Vibration, 4-20 mA Neg.	
Electrical Connections(Pin C)	Temperature, 4-20 mA Pos.	Temperature, 4-20 mA Pos.	
Electrical Connections(Pin D)	Temperature, 4-20 mA Neg.	Temperature, 4-20 mA Neg.	

**OPTIONAL VERSIONS**  
Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

**M - Metric Mount**  
Supplied Accessory : Model M081A61 Mounting Stud 1/4-28 to M6 X 1 (1) replaces Model 081A40

- NOTES:**
- [1] Vibration 4-20mA output accuracy is limited to 185°F (85°C)
  - [2] Conversion Factor 1g = 9.81 m/s<sup>2</sup>.
  - [3] 1Hz = 60 cpm (cycles per minute).
  - [4] Current will fluctuate at frequencies below 5 Hz.
  - [5] Typical value.
  - [6] See PCB Declaration of Conformance PS039 for details.

**SUPPLIED ACCESSORIES:**  
Model 081A40 Mounting Stud (1)  
Model ICS-4 NIST-traceable single-axis amplitude response calibration from 0 cpm (0 Hz) to upper 10% frequency for 4 - 20 mA output vibration sensor

Entered: <i>JH</i>	Engineer: <i>MAJ</i>	Sales: <i>EGY</i>	Approved: <i>BJ</i>	Spec Number:
Date: <i>7-9-08</i>	Date: <i>7-8-08</i>	Date: <i>7-8-08</i>	Date: <i>7-8-08</i>	<b>28755</b>



[6]  
All specifications are at room temperature unless otherwise specified.  
In the interest of constant product improvement, we reserve the right to change specifications without notice.  
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