

Model Number  
627A71

# INDUSTRIAL ICP<sup>®</sup> ACCELEROMETER

Revision: C  
ECN #: 14824

## Performance

	ENGLISH	SI	
Sensitivity ( $\pm 15\%$ )	100 mV/g	10.2 mV/(m/s <sup>2</sup> )	[2]
Measurement Range	$\pm 50$ g	$\pm 490$ m/s <sup>2</sup>	
Frequency Range ( $\pm 3$ dB)	20 to 600000 cpm	0.33 to 10000 Hz	[3]
Resonant Frequency	1080 kcpm	18 kHz	[1]
Broadband Resolution (1 to 10000 Hz)	1000 $\mu$ g	9810 $\mu$ m/s <sup>2</sup>	[1]
Non-Linearity	$\pm 1\%$	$\pm 1\%$	[4]
Transverse Sensitivity	$\leq 5\%$	$\leq 5\%$	

## Environmental

Overload Limit (Shock)	5000 g pk	49050 m/s <sup>2</sup> pk
Temperature Range	-65 to +200 °F	-54 to +93 °C
Temperature Response	See Graph	See Graph
Enclosure Rating	IP64	IP64

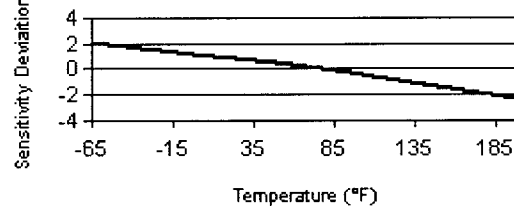
## Electrical

Settling Time (within 1% of bias)	$\leq 10$ sec	$\leq 10$ sec	
Discharge Time Constant	$\geq 0.5$ sec	$\geq 0.5$ sec	
Excitation Voltage	18 to 28 VDC	18 to 28 VDC	
Constant Current Excitation	2 to 20 mA	2 to 20 mA	
Output Impedance	<100 ohms	<100 ohms	
Output Bias Voltage	8 to 12 VDC	8 to 12 VDC	
Spectral Noise (10 Hz)	50 $\mu$ g/ $\sqrt$ Hz	491 ( $\mu$ m/s <sup>2</sup> )/ $\sqrt$ Hz	[1]
Spectral Noise (100 Hz)	20 $\mu$ g/ $\sqrt$ Hz	196 ( $\mu$ m/s <sup>2</sup> )/ $\sqrt$ Hz	[1]
Spectral Noise (1 kHz)	6 $\mu$ g/ $\sqrt$ Hz	59 ( $\mu$ m/s <sup>2</sup> )/ $\sqrt$ Hz	[1]
Electrical Isolation (Case)	$>10^8$ ohms	$>10^8$ ohms	
Electrical Protection	RFI/ESD	RFI/ESD	

## Physical

Size (Hex x Height)	7/8 in x 1.82 in	22 mm x 46.2 mm	
Weight	2.8 oz	81 gm	
Mounting Thread	1/4-28 Female	Not Applicable	[5]
Mounting Torque	2 to 5 ft-lb	2.7 to 6.8 N-m	
Sensing Element	Quartz	Quartz	
Sensing Geometry	Shear	Shear	
Housing Material	Stainless Steel	Stainless Steel	
Sealing	Welded Hermetic	Welded Hermetic	
Electrical Connector	Terminal Block	Terminal Block	
Electrical Connection Position	Top	Top	

Typical Sensitivity Deviation vs Temperature



[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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## 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] Typical.
- [2] Conversion Factor 1g = 9.81 m/s<sup>2</sup>.
- [3] The high frequency tolerance is accurate within  $\pm 10\%$  of the specified frequency.
- [4] Zero-based, least-squares, straight line method.
- [5] 1/4-28 has no equivalent in S.I. units.
- [6] See PCB Declaration of Conformance PS023 for details.

## SUPPLIED ACCESSORIES:

Model 081A40 Mounting Stud (1)  
Model ICS-2 NIST-traceable single-axis single-point amplitude response calibration at 6000 cpm (100 Hz)

Entered: <i>MUS</i>	Engineer: <i>MUS</i>	Sales: <i>ECG</i>	Approved: <i>JS</i>	Spec Number:
Date: <i>10/4/02</i>	Date: <i>10/4/02</i>	Date: <i>10/9/02</i>	Date: <i>10/7/02</i>	8311

**IMI SENSORS**  
A PCB PIEZOTRONICS DIV.  
3425 Walden Avenue, Depew, NY 14043

Phone: 800-959-4464  
Fax: 716-684-3823  
E-Mail: imi@pcb.com