IMI SENSORS
A PCB DIVISION

# Model 66333PPZ1

**Low cost embeddable accelerometer, 3-wire low power, 1000 mV/g, low profile TO8 housing, positive output, header pins**

## Installation and Operating Manual


**For assistance with the operation of this product,**
**contact the PCB Piezotronics, Inc.**

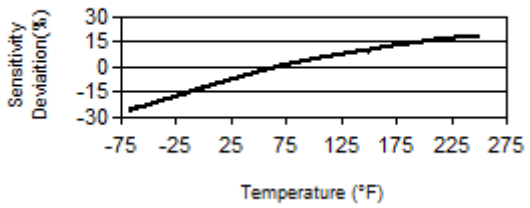
**Toll-free: 800-959-4464**
**24-hour SensorLine: 716-684-0001**
**Fax: 716-684-3823**
**E-mail: imi@pcb.com**
**Web: www.imi-sensors.com**


| Model Number | VOLTAGE OUTPUT TO-8 ACCELEROMETER | Revision: NR |
|---|---|---|
| **66333PPZ1** | | ECN #: 49125 |

| **Performance** | **ENGLISH** | **SI** | |
|---|---|---|---|
| Sensitivity(± 20 %) | 1000 mV/g | 102 mV/(m/s²) | [2][3] |
| Measurement Range | ± 2 g | ± 20 m/s² | [4] |
| Frequency Range(± 3 dB) | 0.5 to 5000 Hz | 0.5 to 5000 Hz | [5][6] |
| Resonant Frequency | >16 kHz | >16 kHz | [6] |
| Broadband Resolution | 0.00104 g rms | 0.010202 m/s² rms | [1] |
| Non-Linearity | ≤ 1 % | ≤ 1 % | [7] |
| Transverse Sensitivity | ≤ 7 % | ≤ 7 % | |
| **Environmental** | | | |
| Overload Limit(Shock) | 5000 g pk | 49,000 m/s² pk | |
| Temperature Range(Operating) | -65 to 185 °F | -54 to 85 °C | |
| Temperature Response | See Graph | See Graph | [1] |
| **Electrical** | | | |
| Settling Time(within 1% of bias) | ≤ 2 sec | ≤ 2 sec | |
| Discharge Time Constant | ≥ 0.4 sec | ≥ 0.4 sec | |
| Excitation Voltage | 5 to 12 VDC | 5 to 12 VDC | |
| Output Impedance | <100 Ohm | <100 Ohm | |
| Current Draw | 0.75 mA | 0.75 mA | |
| Output Bias Voltage | 0.5 x Excitation Voltage | 0.5 x Excitation Voltage | |
| Spectral Noise(10 Hz) | 39 µg/√Hz | 383 (µm/sec$^2$)/√Hz | [1] |
| Spectral Noise(100 Hz) | 15 µg/√Hz | 147 (µm/sec$^2$)/√Hz | [1] |
| Spectral Noise(1 kHz) | 9 µg/√Hz | 88 (µm/sec$^2$)/√Hz | [1] |
| **Physical** | | | |
| Size (Diameter x Height) | 0.64 in x 0.57 in | 16.3 mm x 14.5 mm | |
| Weight | 0.88 oz | 25 gm | |
| Mounting | Adhesive/Solder | Adhesive/Solder | |
| Sensing Element | Ceramic | Ceramic | |
| Sensing Geometry | Shear | Shear | |
| Housing Material | Stainless Steel | Stainless Steel | |
| Sealing | Welded Hermetic | Welded Hermetic | |
| Electrical Connector | Header Pins | Header Pins | |
| Electrical Connection Position | Bottom | Bottom | |
| Electrical Connections(Pin 1) | Output | Output | |
| Electrical Connections(Pin 2) | Neg (-) Ground | Neg (-) Ground | |
| Electrical Connections(Pin 3) | Pos (+) VDC | Pos (+) VDC | |

CE[8]

Typical Sensitivity Deviation vs Temperature




*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.

**HT** - High temperature, extends normal operation temperatures

| | | |
|---|---|---|
| Temperature Range | -65 to 250 °F | -54 to 121 °C |

**RH** - RoHS Compliant

## NOTES:

[1] Typical.
[2] Conversion Factor 1g = 9.81 m/s².
[3] Negative output for acceleration along Z-axis (in upward direction when pin mounted).
[4] Measurement range achieved is dependent upon excitation voltage.
[5] The high frequency tolerance is accurate within ±10% of the specified frequency.
[6] Performance depends on mounting
[7] Zero-based, least-squares, straight line method.
[8] See PCB Declaration of Conformance PS198

## SUPPLIED ACCESSORIES:

Model ICS-2 NIST-traceable single-point amplitude response calibration at 6000 cpm (100 Hz) for each axis (1)

| Entered: LK | Engineer: gs | Sales: MC | Approved: BAM | Spec Number: |
|---|---|---|---|---|
| Date: 3/4/2019 | Date: 3/4/2019 | Date: 3/4/2019 | Date: 3/4/2019 | **71007** |


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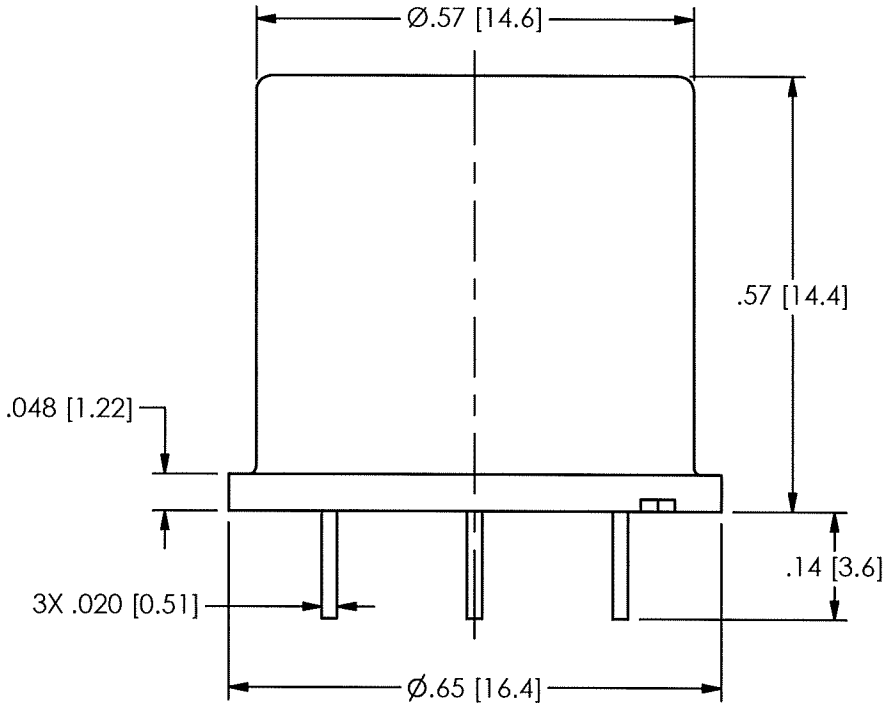
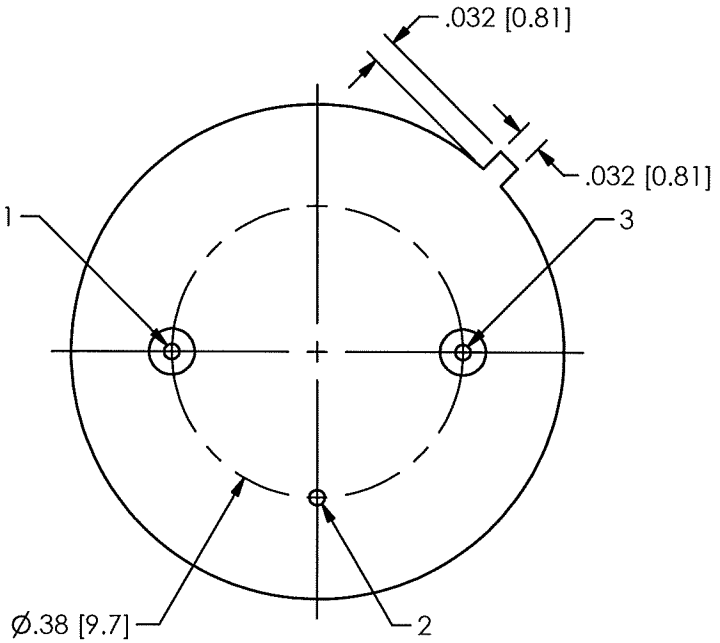
49905

| REVISIONS | | |
|---|---|---|
| REV | DESCRIPTION | DIN |
| NR | RELEASED TO DRAFTING | 35624 |




**CHARGE:** 1 - OUTPUT
2 - GROUND
3 - N/C

**ICP®:** 1 - OUTPUT/POWER
2 - GROUND
3 -N/C

**3-WIRE :** 1 - OUTPUT
2 - GROUND
3 - POWER

| UNLESS OTHERWISE SPECIFIED TOLERANCES ARE: | | DRAWN | CHECKED | ENGINEER | |
|---|---|---|---|---|---|
| DIMENSIONS IN INCHES<br>DECIMALS XX ±.03<br>XXX ±.010<br>ANGLES ± 2 DEGREES | DIMENSIONS IN MILLIMETERS [ IN BRACKETS ]<br>DECIMALS X ±0.8<br>XX ±0.25<br>ANGLES ± 2 DEGREES | MYDF 5/5/11 | ECB 5/5/11 | LAB 5/5/11 | |
| FILLETS AND RADII .003 - .005 | FILLETS AND RADII 0.07 - 0.13 | TITLE: OUTLINE DRAWING MODEL 663 SERIES ACCELEROMETER | | | |

PCB PIEZOTRONICS INC
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(716) 684-0001 E-MAIL: sales@pcb.com

| CODE IDENT. NO. | DWG. NO. | |
|---|---|---|
| 52681 | 49905 | |
| SCALE: 4X | SHEET 1 OF 1 | |