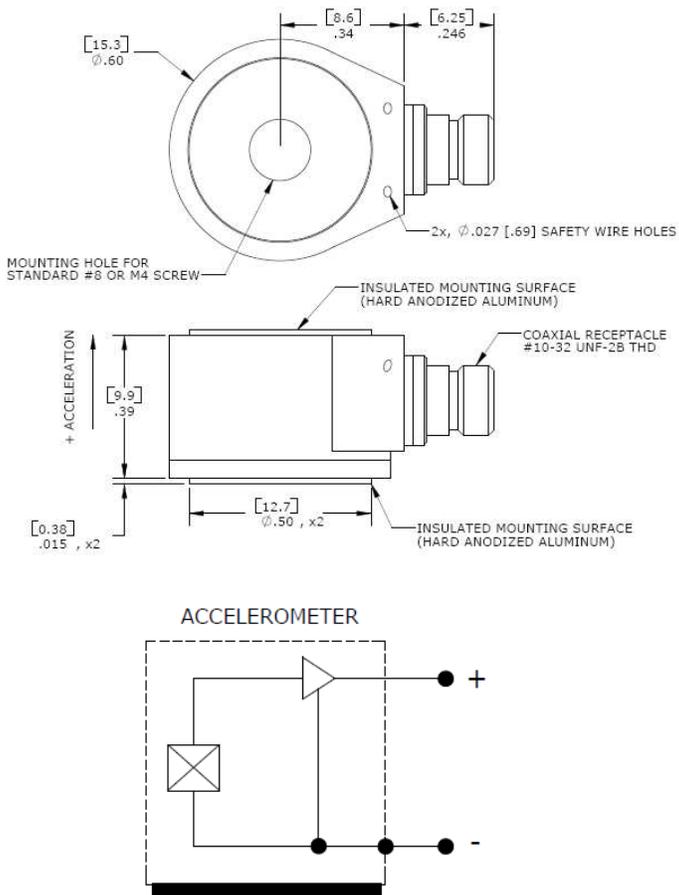


# MODEL 7100A ACCELEROMETER



## DIMENSIONS



## SPECIFICATIONS

- ◆ **+150°C IEPE Accelerometer**
- ◆ **Wide Bandwidth to 15kHz**
- ◆ **Hermetically Sealed**
- ◆ **Through Hole Mount**

The **Model 7100A** is a high performance IEPE accelerometer with an operating temperature range of -55°C to +150°C. The accelerometer is available in  $\pm 50$  to  $\pm 500g$  ranges and provides a flat frequency response up to 15kHz. The model 7100A is hermetically sealed and features the popular through hole mount installation for use with standard mounting screws.

## FEATURES

- ◆  $\pm 50g$  to  $\pm 500g$  Dynamic Range
- ◆ Wide bandwidth up to 15kHz
- ◆ Through Hole Mount
- ◆ Hermetically Sealed
- ◆ Annular Shear Mode
- ◆ Isolated Mounting Surface
- ◆ Stable Temperature Response
- ◆ TEDS Option

## APPLICATIONS

- ◆ Vibration & Shock Monitoring
- ◆ High Temp IEPE Applications
- ◆ Flight Testing
- ◆ Gearbox Vibration Monitoring
- ◆ High Frequency Applications
- ◆ HUMS

PERFORMANCE SPECIFICATIONS

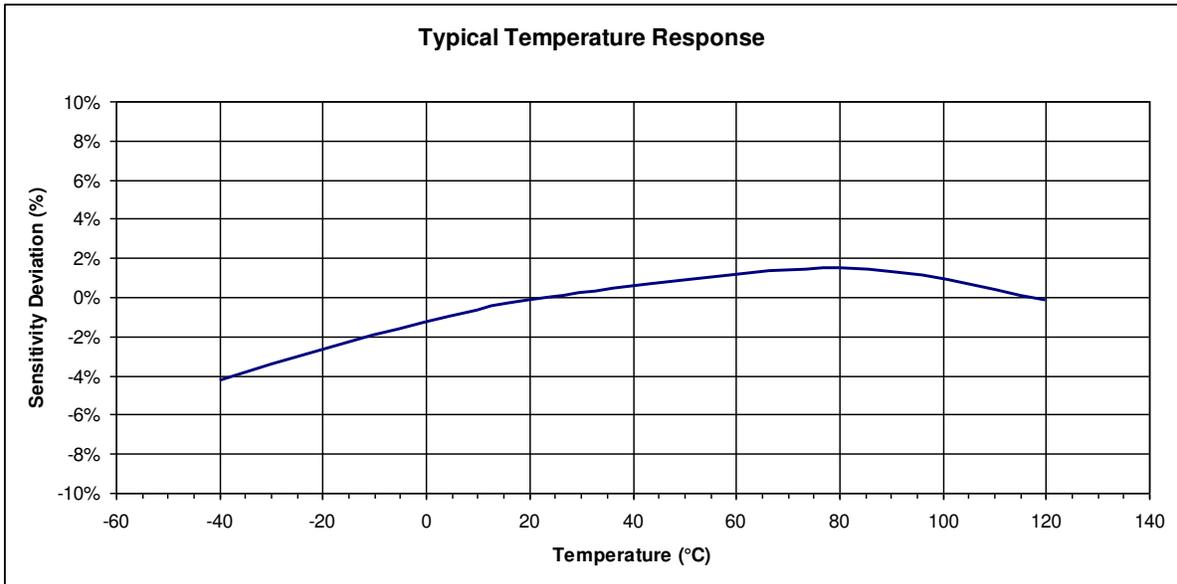
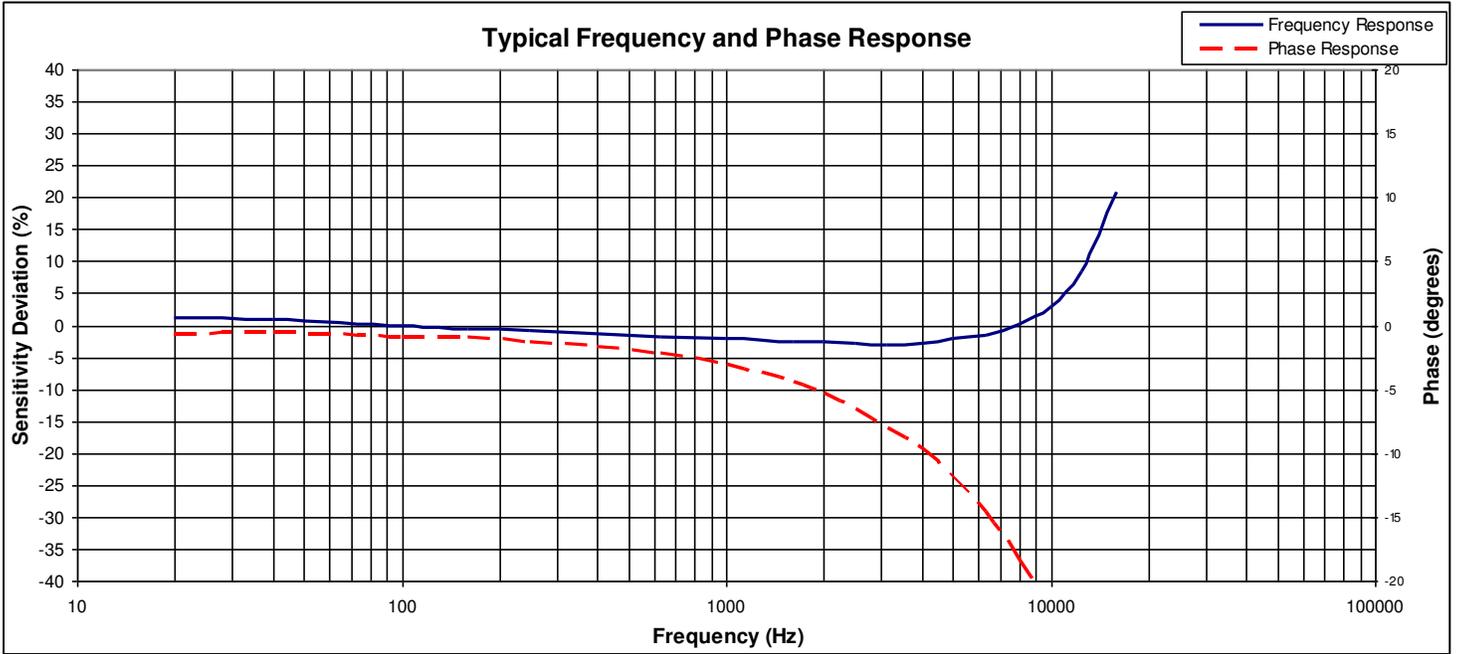
All values are typical at +24°C, 80Hz and 4mA excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

| Parameters                    |  |           |           | Notes                  |
|-------------------------------|--|-----------|-----------|------------------------|
| <b>DYNAMIC</b>                |  |           |           |                        |
| Range (g)                     | ±50                                    | ±100      | ±500      |                        |
| Sensitivity (mV/g)            | 100                                    | 50        | 10        | ±10%                   |
| Frequency Response (Hz)       | 1-5000                                 | 1-5000    | 1-6000    | ±5%                    |
| Frequency Response (Hz)       | 0.5-10000                              | 0.5-10000 | 0.5-15000 | ±1dB                   |
| Natural Frequency (Hz)        | 33000                                  | 33000     | 43000     |                        |
| Non-Linearity (%FSO)          | ±1                                     | ±1        | ±1        |                        |
| Transverse Sensitivity (%)    | <5                                     | <5        | <5        |                        |
| Shock Limit (g)               | 5000                                   | 5000      | 5000      |                        |
| Residual Noise (g RMS)        | 0.001                                  | 0.0015    | 0.0025    | Broadband 1Hz to 10kHz |
| <b>ELECTRICAL</b>             |  |           |           |                        |
| Compliance Voltage (Vdc)      | 18 to 30                               | 18 to 30  |           |                        |
| Excitation Current (mA)       | 2 to 20                                | 2 to 20   |           |                        |
| Bias Voltage (Vdc)            | 8 to 12                                | 8 to 12   |           | Room Temperature       |
| Bias Voltage (Vdc)            | 6 to 14                                | 6 to 14   |           | -55 to +150°C          |
| Output Impedance (Ω)          | <100                                   | <100      |           |                        |
| Full Scale Output Voltage (V) | ±5                                     | ±5        |           |                        |
| Discharge Time Constant (sec) | 0.8 to 1.2                             |           |           |                        |
| Warm-Up Time (sec)            | 2                                      |           |           |                        |
| Grounding                     | Isolated from Mounting Surface         |           |           |                        |
| <b>ENVIRONMENTAL</b>          |  |           |           |                        |
| Temperature Response (%)      | See Typical Temperature Response Curve |           |           |                        |
| Operating Temperature (°C)    | -55 to +150                            |           |           | See Note 1             |
| Storage Temperature (°C)      | -55 to +150                            |           |           | See Note 1             |
| Humidity                      | Hermetically Sealed                    |           |           |                        |
| <b>PHYSICAL</b>               |  |           |           |                        |
| Sensing Element               | Ceramic (shear mode)                   |           |           |                        |
| Case Material                 | Stainless Steel                        |           |           |                        |
| Electrical Connector          | 10-32 Coaxial Receptacle               |           |           |                        |
| Weight (grams)                | 11                                     |           |           |                        |
| Mounting                      | Through Hole (#8 or M4 cap screw)      |           |           |                        |
| Mounting Torque               | 16 lb-in (1.8 N-m)                     |           |           |                        |

<sup>1</sup> Contact factory for +175°C temperature option.

|                              |              |   |
|------------------------------|--------------|---|
| <b>Calibration supplied:</b> | CS-FREQ-0100 | NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Response Limit |
| <b>Supplied accessories:</b> | AC-D02787    | 1x #8-32 Mounting Screw (5/8 inch length)                                       |
| <b>Optional accessories:</b> | 310-XXX      | Cable Assembly, 10-32 to 10-32 (XXX designates length in inches, 10ft standard) |
|                              | 314-XXX      | Cable Assembly, 10-32 to BNC (XXX designates length in inches, 10ft standard)   |
|                              | AC-A03389    | Triaxial Mounting Block   |
|                              | AC-A03388    | Adhesive Mounting Adaptor   |
|                              | AC-A03472    | Magnetic Mounting Adaptor   |
|                              | 161A         | 4-Channel PE & IEPE Signal Conditioner, Bench Top                               |

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## ORDERING INFORMATION

PART NUMBERING Model Number+Range

7100AT-GGGG

I I Range (0050 is 50g)

I TEDS compliant to IEEE 1451.4 when 'T' option is included

Example: 7100A-0050  
Model 7100A, 50g

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