



THE A1521 ACCELEROMETER HAS BEEN DESIGNED FOR DYNAMIC STRUCTURAL TESTING IN TOUGH FIELD CONDITIONS. THESE ACCURATE, RUGGED, AND FULLY WEATHERPROOFED INTEGRATED MEMS SENSORS CAN BE USED FROM ZERO TO MEDIUM FREQUENCY APPLICATIONS THAT REQUIRE LOW NOISE AND RELIABLE LONG-TERM STABILITY. AVAILABLE IN UNI, BI, AND TRI-AXIAL VERSIONS, EACH MODEL CAN BE INSTALLED VERY QUICKLY AND IS AVAILABLE IN RANGES BETWEEN $\pm 2g$ AND $\pm 100g$.

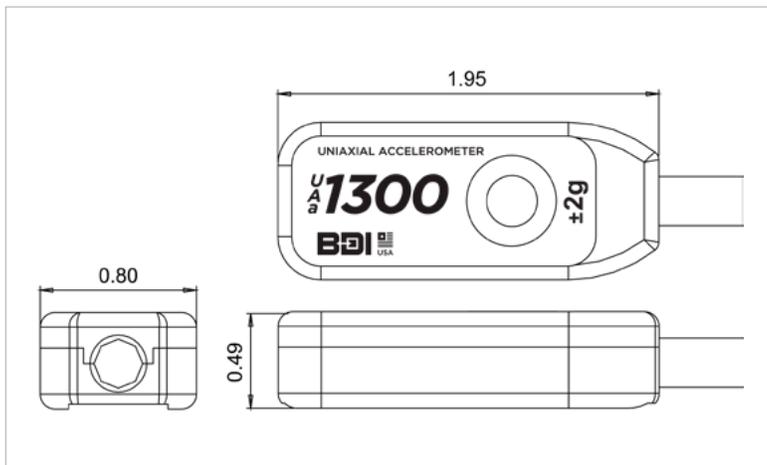
FEATURES

- + Completely reusable
- + Designed to exceed IP67
- + Nitrogen gas damped
- + High stability
- + Low power requirements
- + Various mounting options available
- + Industrial cable, custom lengths
- + N.I.S.T. traceable calibration available
- + High differential output (32.0 Vdc)
- + Responds down to 0 Hz

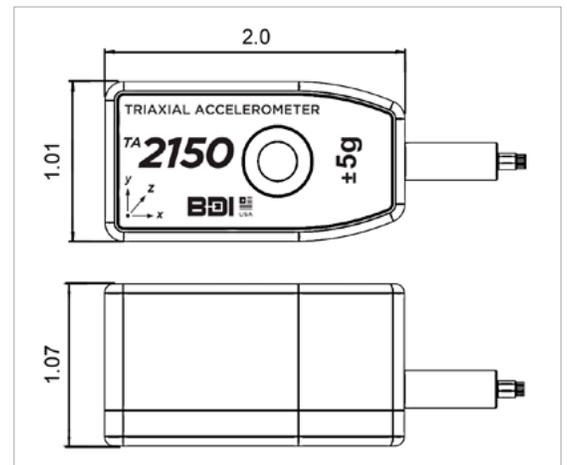
APPLICATIONS

- + Cable force measurements
- + Structure vibration testing & monitoring
- + Earthquake monitoring/detection
- + Structure modal analysis
- + Vehicle dynamics
- + Impact detection

DIMENSIONS



UNIAXIAL ACCELEROMETER



BIAXIAL & TRIAXIAL ACCELEROMETER

SPECIFICATIONS

UNIAXIAL MODELS BIAXIAL MODELS TRIAxIAL MODELS	UA1512-002 BA1512-002 TA1512-002	UA1512-005 BA1512-005 TA1512-005	UA1512-010 BA1512-010 TA1512-010	UA1512-025 BA1512-025 TA1512-025	UA1512-050 BA1512-050 TA1512-050	UA1512-100 BA1512-100 TA1512-100
RANGE (g) ¹	±2	±5	±10	±25	±50	±100
FREQUENCY RESPONSE [NOMINAL, 3dB] (Hz)	0-300	0-400	0-600	0-900	0-1200	0-1400
DIFFERENTIAL SENSITIVITY (mV/g)	1000	400	200	80	40	20
OUTPUT NOISE, DIFFERENTIAL [rms, TYPICAL] (µg/√Hz)	7	12	18	25	50	100
MAX MECHANICAL SHOCK [0.1 ms] (g)	2000	5000				
TYPE	Micro-machined capacitive sense element					
DAMPING	Nitrogen Gas Damped					
EXCITATION VOLTAGE	+5.0 V _{dc} ±5%					
POWER RATING MAX (UNI, BI, TRI) TYPICAL (UNI, BI, TRI) INTELLIDUCER (UNI, BI, TRI) ²	75 mW, 150 mW, 225 mW 25 mW, 50 mW, 75 mW 13 mW, 26 mW, 39 mW @ +5.0 V _{dc}					
OUTPUT IMPEDANCE	50Ω					
DIFFERENTIAL OUTPUT	±2.0 Vdc Full Scale Output					
OPERATING TEMPERATURE ³	-58° to +176 °F (-50° to +80 °C)					
SIZE UNI-AXIAL BI-AXIAL TRI-AXIAL	0.80 in x 1.95 in x 0.49 in (20.3 mm x 49.5 mm x 12.4 mm) 2.0 in x 1.01 in x 1.07 in (50.8 mm x 26.8 mm x 27.2 mm) 2.0 in x 1.01 in x 1.07 in (50.8 mm x 26.8 mm x 27.2 mm)					
WEIGHT UNI-AXIAL BI-AXIAL TRI-AXIAL	0.12 lbs (54 g) 0.26 lbs (118 g) 0.26 lbs (118 g)					
HOUSING	Machined 6061 Aluminum Alloy					
CORROSION RESISTANCE	Hard Anodized Clear (MIL-A-8625 Type III)					
CABLE	Custom lead cable length made to order: IC-02-187 [22 AWG, 2 shielded pair, drain wire, red PVC jacket] IC-03-250 [24 AWG, 3 shielded pair, drain wire, black PVC jacket] IC-04-250 [24 AWG, 4 shielded pair, drain wire, black PVC jacket]					
WEATHER PROTECTION	Designed to exceed IP67					
CIRCUIT PROTECTION	ESD Protection (IEC 61000-4-2) Reverse polarity protection					
MOUNTING	Through holes for ¼ in (M6) bolts or anchors Reusable mounting tabs (gluing/welding)					
COMPLIANCE	ESD protection conforming to IEC 61000-4-2					
CROSS AXIS SENSITIVITY	Max ±3%, TYP ±2%					
BIAS TEMPERATURE SHIFT	±200 (PPM of Full Scale)/°C					
NON-LINEARITY -90 TO +90% OF FULL SCALE	Max 0.50%, TYP 0.15%					

¹ Higher ranges are available, contact BDI for more details

² Intelliducer connector required with STS4 Intelliducer data acquisition nodes.

³ Temperature limit based on instrumentation cable operating temperatures, call BDI for wide temperature range cable options.

OPTIONS & ACCESSORIES



Intelliducer Connector - Required for use with STS Intelliducer Nodes, cable is connected and potted for a weatherproof seal.



V-Notch Cable Mount - Machined aluminum 24 in (610 mm) gage length extension with 3.0 in (76 mm) increments



Reusable Mounting Tabs - ¼-20 or M6, zinc plated steel mounting tab.



Protective Covers - Insulated aluminum protective covers