

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 $\pm 100g$.

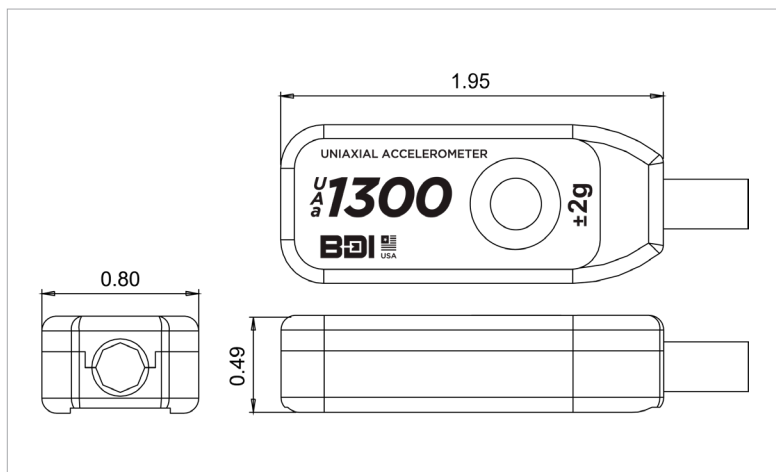
FEATURES

- + 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

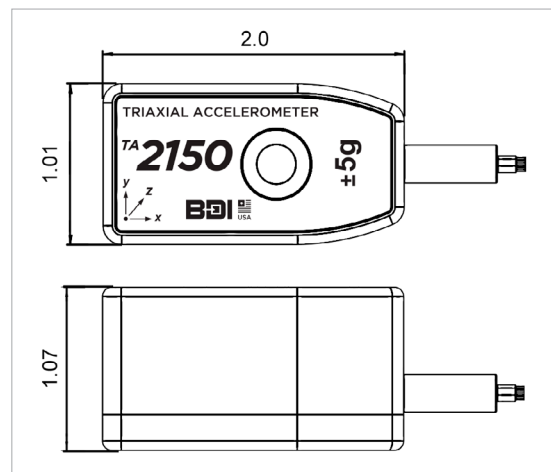
APPLICATIONS

- + 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	UA1521-002 BA1521-002 TA1521-002	UA1521-005 BA1521-005 TA1521-005	UA1521-010 BA1521-010 TA1521-010	UA1521-025 BA1521-025 TA1521-025	UA1521-050 BA1521-050 TA1521-050	UA1521-100 BA1521-100 TA1521-100
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 Vdc ±5%					
POWER RATING MAX (UNI, BI, TRI) TYPICAL (UNI, BI, TRI) INTELLIDUCER ² (UNI, BI, TRI)	75 mW, 150 mW, 225 mW 25 mW, 50 mW, 75 mW 13 mW, 26 mW, 39 mW @ +5.0 Vdc1					
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



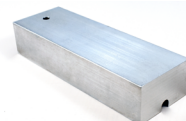
Intelliducer Connector: Required for use with STS Intelliducer Nodes, cable is connected and potted for a weatherproof seal.



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