



SERIES 333

ACCELEROMETERS FOR MODAL TESTING



- High-output, piezoceramic sensing elements for strong output signal levels when measuring lower-amplitude input vibrations
- Reduced mass-loading effects by employing ultra-lightweight casing materials
- Minimal phase deviation, an important consideration for mode shape analysis

TYPICAL APPLICATIONS

- Structural vibration testing
- Multi-channel modal analysis
- Analytical model correlation
- Ground vibration testing (GVT)
- Force response simulation

STRUCTURAL TEST ICP® ACCELEROMETERS

The Series 333 ICP[®] accelerometers, and their accessories, are designed to address the needs of multi-point modal and structural test measurement applications. This equipment was developed in conjunction with the world renowned University of Cincinnati Structural Dynamics Research Laboratory and proven in real-world testing situations.

Conventional structural test data systems use a few to several hundred sensors. Cable bundles can be complex and confusing, resulting in setup errors. Sensors with TEDS (Transducer Electronic Data Sheet) allow for an internal sensor digital chip to store sensor information. This information contains descriptive identifiers, that when connected to a TEDS compatible signal conditioner or data system, reads the descriptive information and automatically aligns the data system. Human error is minimized, reducing time consuming data verification or re-test.

SPECIFICATIONS												
Model Number											()	
	333A22		333B30		333B35		333B40		333B45		333B50	
D. f.	English	SI	English	SI	English	SI	English	SI	English	SI	English	SI
Performance	1	4.00	1	(0.0		(0.0	1		1		1	400
Sensitivity (±10%)	10 mV/g	1.02 mV/(m/s²)	100 mV/g	10.2 mV/(m/s ²)	100 mV/g	10.2 mV/(m/s ²)	500 mV/g	51 mV/(m/s²)	500 mV/g	51 mV/(m/s²)	1000 mV/g	102 mV/(m/s²)
Measurement Range	±500 g pk	±4905 m/s² pk	±50 g pk	±490 m/s² pk	±50 g pk	±490 m/s² pk	±10 g pk	±98 m/s² pk	±10 g pk	±98 m/s² pk	±5 g pk	±49 m/s² pk
Frequency Range (±5%)	1.0 to 10,000 Hz 0.5 to 3000 Hz											
Resonant Frequency	> 50) kHz	≥ 40 kHz				≥ 20 kHz					
Phase Response (±5 °)	3 to 10	3 to 10,000 Hz 2 to 3000 Hz					2 to 3000 Hz 2.5 to 3000 H					3000 Hz
Broadband Resolution	0.0005 g rms	(10005 d rms) $(10005 d rms)$ $(10005 d rms)$ $(10005 d rms)$								ms)		
Non-Linearity	≤1 %											
Transverse Sensitivity	≤5 %											
Environmental												
Overload Limit (Shock)	±5000 g pk	±49,000 m/s² pk										0 g pk
Temperature Range (Operating)	-65 to +250 °F (-54 to +121 °C) 0 to +150 °F (-18 to +66 °C)											
Base Strain Sensitivity	0.01 g/με (0.1 (m/s ²)/με)											
Electrical												
Excitation Voltage	20 to 30 VDC 18 to 30 VDC											
Constant Current Excitation	2 to 20 mA											
Output Impedance	≤ 300 0hm ≤ 200 0hm								≤ 500	≤ 500 Ohm		
Output Bias Voltage	7 to 1	6 VDC					7 to 12 VDC					
Discharge Time Constant	1.0 to	4.0 sec	1.0 to 3.0 sec				1.0 to 2.5 sec				0.7 to 2.0 sec	
Spectral Noise (10 Hz)	20 μg/√Hz 11 μg/√Hz (110 (μm/sec²)/√Hz)						3.8 µg/√Hz (37 (µm/sec²)/√Hz)					
Physical												
Weight	0.14 oz (4.0 gm) 0.26 oz (7.5 gm)											
Sensing Element	Ceramic Shear											
Housing / Sealing	Titanium / Hermetic											
Size - Height	0.40 in	10.2 mm	0.40 in	10.2 mm	0.57 in	14.5 mm	0.45 in	11.4 mm	0.65 in	16.5 mm	0.45 in	11.4 mm
Size - Length	0.64 in	16.3 mm	0.63 in	16.0 mm	0.40 in	10.2 mm	0.68 in	17.3 mm	0.45 in	11.4 mm	0.68 in	17.3 mm
Size - Width	0.40 in	10.2 mm	0.40 in	10.2 mm	0.40 in	10.2 mm	0.45 in	11.4 mm	0.45 in	11.4 mm	0.45 in	11.4 mm
Electrical Connector		-				10-32 Co	axial Jack					-
Electrical Connection Position	Side		Side Top				Side Top				Side	
Mounting Thread	Adhesiv	e Mount	5-40 Female									
Mounting Torque	N/A 4 to 5 in-lb											
TEDS MODEL AVAILABLE												
	Incl	uded	TLD333B30 TLD333B35			33B35	TLD333B40		TLD333B45		TLD333B50	



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