PRODUCT DATA

Piezoelectric Accelerometer
Charge Accelerometer — Type 4393, 4393 S and 4393 V

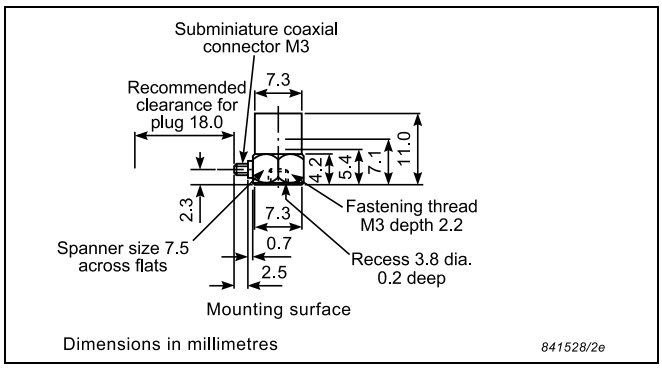
FEATURES
- High frequency
- Low weight
- Vibration testing and analysis

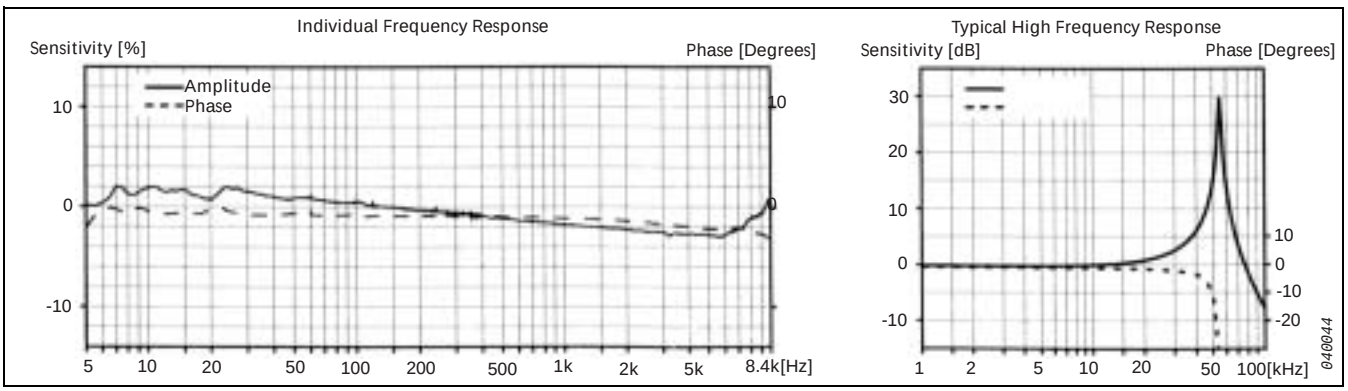
Description
Type 4393 is a piezoelectric, DeltaShear®, Unigain® accelerometer with side connector. Type 4393 features M3 receptacle for output connection and has an M3 hole for mounting.

Characteristics
This piezoelectric accelerometer may be treated as a charge source. Its sensitivity is expressed in terms of charge per unit acceleration (pC/g).

The DeltaShear design involves three piezoelectric elements and three masses arranged in a triangular configuration around a triangular centre post. The ring prestresses the piezoelectric elements to give a high degree of linearity. The charge is collected between the housing and the clamping ring. The piezoelectric element used is a PZ 23 lead zirconate titanate element. The housing material is titanium.

Calibration
The sensitivity given in the calibration chart has been measured at 159.2 Hz and an acceleration of 10 g. For 99.9% confidence level, the accuracy of the factory calibration is ±2%.





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Specifications – Charge Accelerometer Type 4393, 4393 S and 4393 V

	Units	4393/4393 S	4393 V
Dynamic Characteristics			
Charge Sensitivity (@ 159.2 Hz)	pC/g	3.1 ± 2%	3.1 ± 15%
Frequency Response		See typical Amplitude Response	
Mounted Resonance Frequency	kHz	85	
Amplitude Response ±10% [1]	Hz	0.1 to 16500	
Transverse Sensitivity	%	<4	
Transverse Resonance Frequency	kHz	18	
Electrical Characteristics			
Min. Leakage Resistance @ 20°C	GΩ	≥20	
Capacitance	pF	650	
Grounding		Signal ground connected to case	
Environmental Characteristics			
Temperature Range	°C (°F)	–74 to 250 (–101 to 482)	
Humidity		Welded, sealed	
Max. Operational Sinusoidal Vibration (peak)	g pk	5000	
Max. Operational Shock (± peak)	g pk	25000	
Base Strain Sensitivity	Equiv. g/μ strain	0.0005	
Thermal Transient Sensitivity	Equiv. g/°C (g/°F)	0.5 (0.28)	
Magnetic Sensitivity (50 Hz–0.03 Tesla)	g/T	3	
Physical Characteristics			
Dimensions		See outline drawing	
Weight	gram (oz.)	2.4 (0.08)	
Case Material		Titanium	
Connector		M3	
Mounting		M3 × 2.2 mm threaded hole	

[1] Low-end response of the transducer is a function of its associated electronics

Ordering Information

Type 4393 includes the following accessories:
- Carrying box
- Calibration chart
- AO 0283: Low noise cable fitted with M3 threaded steel stud. Length 5 mm

Type 4393 S includes the following accessories:
- Carrying box
- Calibration chart
- AO 0283: Low noise cable fitted with M3 threaded steel stud. Length 5 mm
- UA 0629: Accessory box including:
  - 10–32 UNF microdot extension connector
  - JP 0162: Input adaptor, TNC to 10–32 UNF microdot
  - M3 threaded steel stud 5mm
  - M3 threaded steel stud. Length 8 mm
  - Cementing stud M3 (Ø8 mm)
  - Mounting magnet and two insulating discs
  - YJ 0216: Case of beeswax
  - Cyanoaclylate adhesive
  - Tap for M3 thread
  - Hexagonal key for M3 studs
  - M3 nut

Type 4393 V includes the following accessories:
- Carrying box
- Calibration chart
- M3 threaded steel stud 5 mm

OPTIONAL ACCESSORIES
- AO 0283: 260°C Teflon® low-noise cable, 10–32 UNF/M3, length 1.2 m
- AO 0339: Flexible low-noise cable, 10–32 UNF/M3, 1.2 m (4 ft)
- AO 1381: Teflon insulated double screened cable, 10–32 UNF/M3, 1.2 m (4 ft)
- DB 0757: Cement stud, M3, ∅8.0 mm
- JJ 0032: Extension connector 10–32 UNF
- JP 0162: 10–32 UNF to TNC connector adaptor
- QA 0041: Tap for M3 thread
- QA 0042: Hexagonal key for M3 studs
- QS 0007: Tube of cyanoacrylate adhesive
- UA 1075: Mounting magnet and two insulating discs, M3, 10.2 mm (set of 5)
- UA 1216: Insulated stud, M3/M3, 2.4 mm
- YJ 0216: Beeswax for mounting
- YQ 2003: M3 threaded steel stud. Length 5 mm
- YQ 2007: M3 threaded steel stud. Length 8 mm

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