

~ Calibration Certificate ~

Per ISO 16063-21

Model Number: 393C

Serial Number: 24742

Description: ICP® Accelerometer

Method: Back-to-Back Comparison (AT401-3)

Manufacturer: PCB

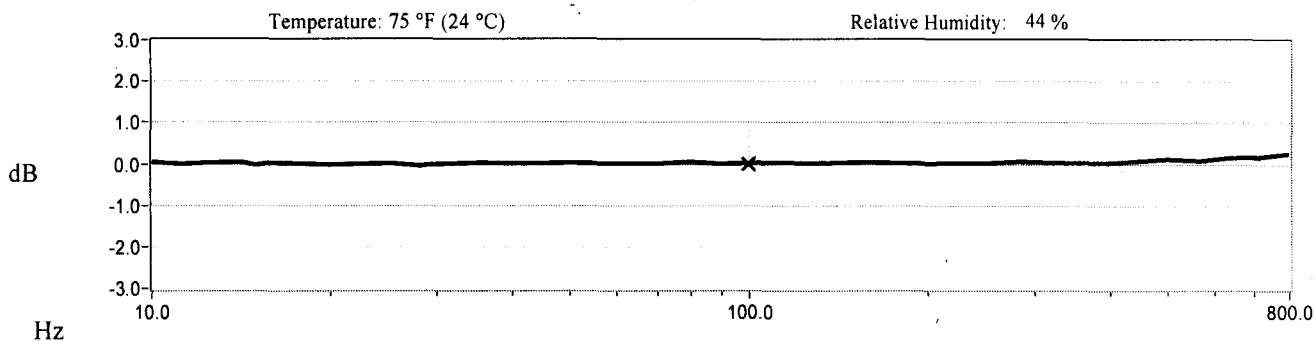
Calibration Data

Sensitivity @ 100.0 Hz 1104 mV/g Output Bias 3.3 VDC

(112.6 mV/m/s²) Transverse Sensitivity 1.3 %

Resonant Frequency 5643.3 Hz

Sensitivity Plot



Data Points

Frequency (Hz)	Dev. (%)	Frequency (Hz)	Dev. (%)
10.0	0.4	300.0	0.6
15.0	-0.3	500.0	1.4
30.0	-0.1	800.0	2.9
50.0	0.2		
REF. FREQ.	0.0		

Mounting Surface: Stainless Steel w/Silicone Grease Coating Fastener: Stud Mount

Fixture Orientation: Vertical

Acceleration Level (rms): 0.100 g (0.981 m/s²)

¹The acceleration level may be limited by shaker displacement at low frequencies. If the listed level cannot be obtained, the calibration system uses the following formula to set the vibration amplitude: Acceleration Level (g) = 0.010 x (freq)².

²The gravitational constant used for calculations by the calibration system is: 1 g = 9.80665 m/s².

Condition of Unit

As Found: n/a

As Left: New Unit, In Tolerance

Notes

1. Calibration is NIST Traceable thru Project 822/274086 and PTB Traceable thru Project 1060.
2. This certificate shall not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.
3. Calibration is performed in compliance with ISO 9001, ISO 10012-1, ANSI/NCSL Z540-1-1994 and ISO 17025.
4. See Manufacturer's Specification Sheet for a detailed listing of performance specifications.
5. Measurement uncertainty (95% confidence level with coverage factor of 2) for frequency ranges tested during calibration are as follows: 5-9 Hz; +/- 2.0%, 10-99 Hz; +/- 1.5%, 100-1999 Hz; +/- 1.0%, 2-10 kHz; +/- 2.5%.

Technician: Joseph Rogerson

Date: 07/30/08



CALIBRATION CERT #1862.02

PCB PIEZOTRONICS
VIBRATION DIVISION

Headquarters: 3425 Walden Avenue, Depew, NY 14043

Calibration Performed at: 10869 Highway 903, Halifax, NC 27839

TEL: 888-684-0013 FAX: 716-685-3886 www.pcb.com



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Serial Number: 24743

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Method: Back-to-Back Comparison (AT401-3)

Manufacturer: PCB

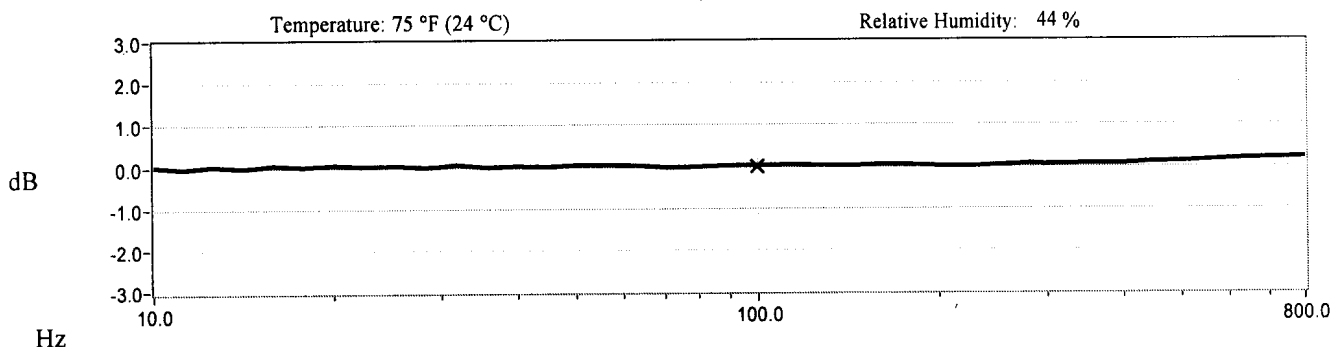
Calibration Data

Sensitivity @ 100.0 Hz 1097 mV/g Output Bias 3.3 VDC

(111.8 mV/m/s²) Transverse Sensitivity 3.3 %

Resonant Frequency 5843.4 Hz

Sensitivity Plot



Data Points

Frequency (Hz)	Dev. (%)	Frequency (Hz)	Dev. (%)
10.0	0.2	300.0	0.4
15.0	0.1	500.0	1.2
30.0	0.2	800.0	2.4
50.0	0.4		
REF. FREQ.	0.0		

Mounting Surface: Stainless Steel w/Silicone Grease Coating Fastener: Stud Mount

Fixture Orientation: Vertical

Acceleration Level (rms): 0.100 g (0.981 m/s²)

*The acceleration level may be limited by shaker displacement at low frequencies. If the listed level cannot be obtained, the calibration system uses the following formula to set the vibration amplitude: Acceleration Level (g) = 0.010 x (freq).
*The gravitational constant used for calculations by the calibration system is: 1 g = 9.80665 m/s².

Condition of Unit

As Found: n/a

As Left: New Unit, In Tolerance

Notes

1. Calibration is NIST Traceable thru Project 822/274086 and PTB Traceable thru Project 1060.
2. This certificate shall not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.
3. Calibration is performed in compliance with ISO 9001, ISO 10012-1, ANSI/NC SL Z540-1-1994 and ISO 17025.
4. See Manufacturer's Specification Sheet for a detailed listing of performance specifications.
5. Measurement uncertainty (95% confidence level with coverage factor of 2) for frequency ranges tested during calibration are as follows: 5-9 Hz; +/- 2.0%, 10-99 Hz; +/- 1.5%, 100-1999 Hz; +/- 1.0%, 2-10 kHz; +/- 2.5%.

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~ Calibration Certificate - Phase ~

Per ISO 16063-21

Model Number: 393C

Serial Number: 24743

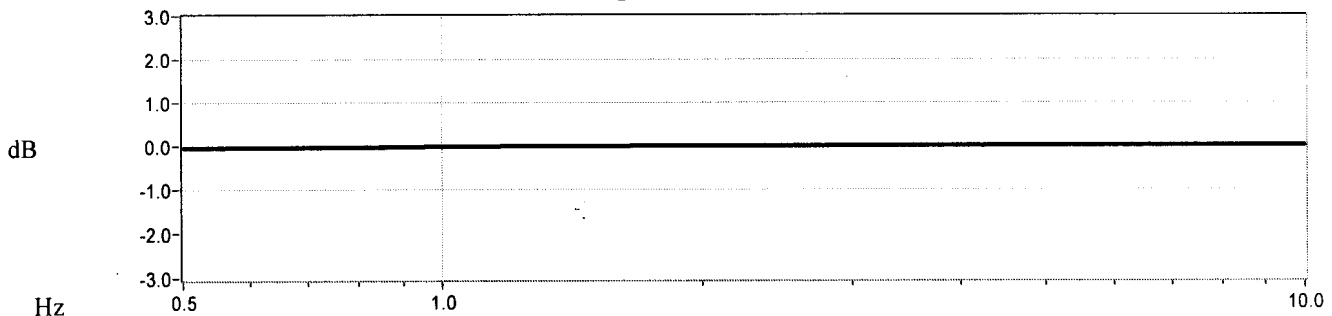
Description: ICP® Accelerometer Method: Back-to-Back Comparison (AT401-12)

Manufacturer: PCB

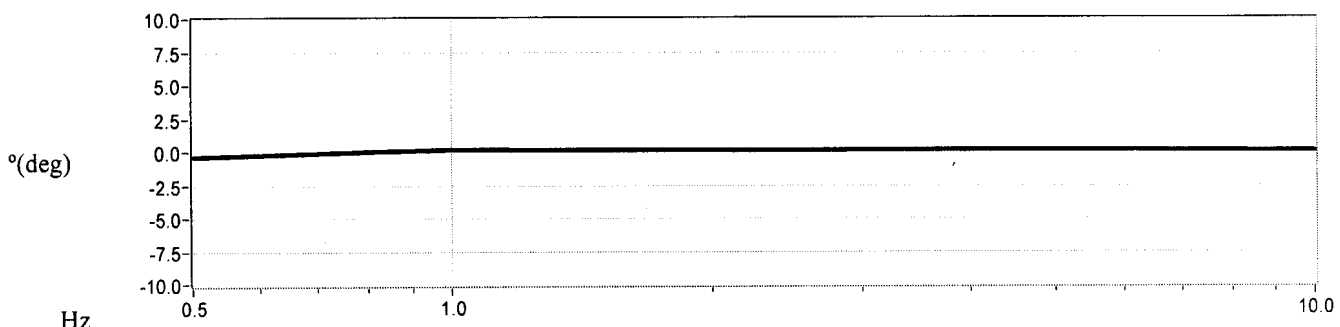
Calibration Data

Sensitivity @ 100.0 Hz 1097 mV/g (111.8 mV/m/s²)

Magnitude Plot



Phase Plot



Data Points

Frequency (Hz)	Deviation (%)	Phase (°)
0.5	-0.5	-0.4
1.0	-0.2	0.2
2.0	-0.0	0.1
5.0	0.2	0.1
7.0	0.2	0.1
10.0	0.2	0.1

Notes

1. Calibration is traceable to one or more of the following report numbers; PTB 5399, PTB 5400 and NIST 822/271196.
2. This certificate shall not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.
3. Calibration is performed in compliance with ISO 9001, ISO 10012-1, ANSI/NCSL Z540-1-1994 and ISO 17025.
4. See Manufacturer's Specification Sheet for a detailed listing of performance specifications.
5. Measurement uncertainty (95% confidence level with coverage factor of 2) for frequency ranges tested during calibration are as follows: 0.5-0.99 Hz; +/- 1.8%, 1-30 Hz; +/- 1.0%, 30.01-199 Hz; +/- 1.5%, 200-1 kHz; +/- 3.0%.

Technician: Joseph Rogerson Date: 07/30/08



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