

# ~ Calibration Certificate ~

Per ISO 16063-21

Model Number: 356B18

Serial Number: 68994 (x axis)

Description: ICP® Triaxial Accelerometer

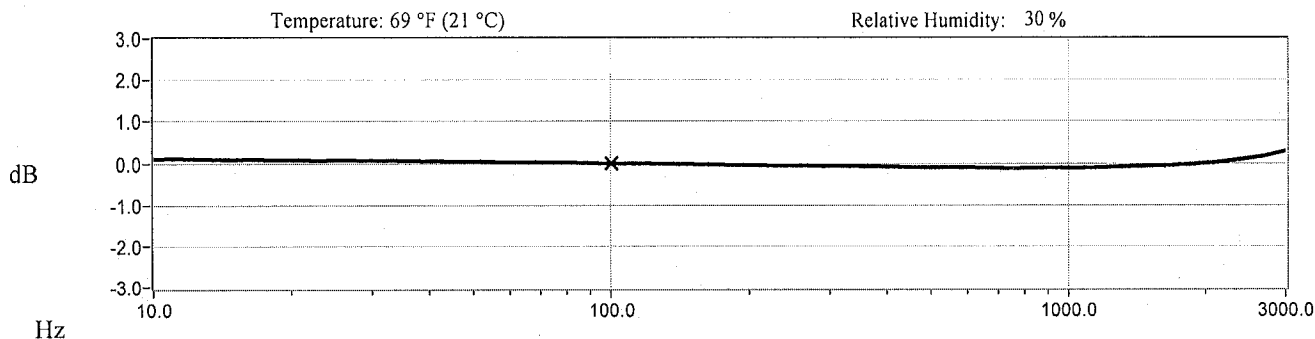
Method: Back-to-Back Comparison (AT401-3)

Manufacturer: PCB

## Calibration Data

Sensitivity @ 100.0 Hz      997    mV/g      Output Bias      11.5    VDC  
(101.7 mV/m/s<sup>2</sup>)      Transverse Sensitivity      0.4    %  
Discharge Time Constant      1.2    seconds

## Sensitivity Plot



## Data Points

Frequency (Hz)	Dev. (%)	Frequency (Hz)	Dev. (%)
10.0	1.2	300.0	-0.8
15.0	1.0	500.0	-1.2
30.0	0.8	1000.0	-1.3
50.0	0.5	3000.0	3.4
REF. FREQ.	0.0		

Mounting Surface: Stainless Steel    Fastener: Cyanoacrylate Adhesive  
Acceleration Level (rms): 1.00 g (9.81 m/s<sup>2</sup>)<sup>†</sup>

Fixture Orientation: Inverted Vertical

<sup>†</sup>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)<sup>2</sup>.  
<sup>‡</sup>The gravitational constant used for calculations by the calibration system is; 1 g = 9.80665 m/s<sup>2</sup>.

## 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: Scott Skibniewski      Date: 02/24/07



CALIBRATION CERT #1862.02

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**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

cal48 - 3255172409.34

# ~ Calibration Certificate ~

Per ISO 16063-21

Model Number: 356B18

Serial Number: 68994 (y axis)

Description: ICP® Triaxial Accelerometer

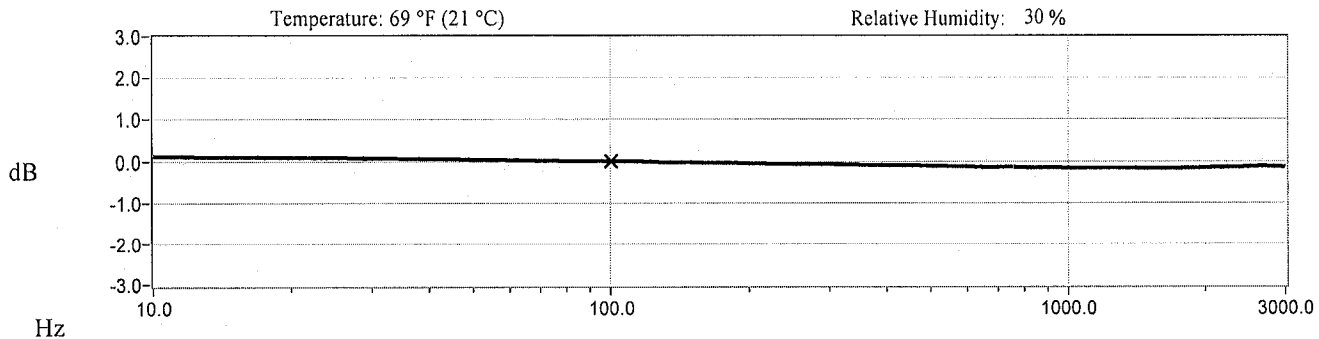
Method: Back-to-Back Comparison (AT401-3)

Manufacturer: PCB

## Calibration Data

Sensitivity @ 100.0 Hz      1053    mV/g      Output Bias      11.7    VDC  
                                 (107.3    mV/m/s<sup>2</sup>)      Transverse Sensitivity      0.5    %  
Discharge Time Constant      1.3    seconds

## Sensitivity Plot



## Data Points

Frequency (Hz)	Dev. (%)	Frequency (Hz)	Dev. (%)
10.0	1.4	300.0	-0.9
15.0	1.2	500.0	-1.4
30.0	0.9	1000.0	-1.9
50.0	0.5	3000.0	-1.6
REF. FREQ.	0.0		

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

Fixture Orientation: Vertical

Acceleration Level (rms): 1.00 g (9.81 m/s<sup>2</sup>)

\*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/s<sup>2</sup>.

## Condition of Unit

As Found: n/a  
As Left: New Unit, In Tolerance

## Notes

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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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cal48 - 3255172880.87



# ~ Calibration Certificate ~

Per ISO 16063-21

Model Number: 356B18

Serial Number: 68994 (z axis)

Description: ICP® Triaxial Accelerometer

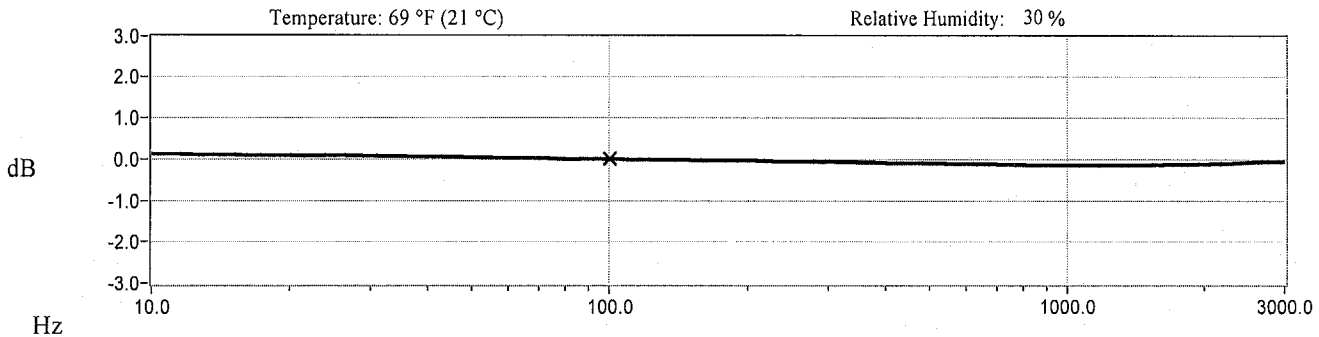
Method: Back-to-Back Comparison (AT401-3)

Manufacturer: PCB

## Calibration Data

Sensitivity @ 100.0 Hz      1010    mV/g      Output Bias      11.6    VDC  
   (102.9 mV/m/s<sup>2</sup>)      Transverse Sensitivity      2.0    %  
Discharge Time Constant      1.2    seconds

## Sensitivity Plot



## Data Points

Frequency (Hz)	Dev. (%)	Frequency (Hz)	Dev. (%)
10.0	1.3	300.0	-0.8
15.0	1.2	500.0	-1.3
30.0	0.8	1000.0	-1.7
50.0	0.4	3000.0	-0.9
REF. FREQ.	0.0		

Mounting Surface: Stainless Steel w/Silicone Grease Coating    Fastener: Stud Mount  
Acceleration Level (rms): 1.00 g (9.81 m/s<sup>2</sup>)

Fixture Orientation: Vertical

<sup>1</sup>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)<sup>2</sup>.  
<sup>2</sup>The gravitational constant used for calculations by the calibration system is; 1 g = 9.80665 m/s<sup>2</sup>.

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