

072155949

~ Multi-Axis Load Cell Calibration Summary ~

Model Number: 260A31/FCS-DN

Customer: _____

Serial Number: 16940

P.O. Number: _____

Description: Charge® 3-Component Force Sensor

Manufacturer: PCB Piezotronics, Inc.

Method: Back to Back Comparison
(Test Procedure AT501-3)

Calibration Data

Temperature: 73 °F = 23 °C Humidity: 44 %

		X	Y	Z
Input:	(lbs.)	500	500	1000
	(N)	2224	2224	4448
Sensitivity:	(pC/lb)	34.03	34.07	15.46
	(pC/N)	7.650	7.660	3.476
Linearity:	(% FS)	0.3	0.2	0.2
Capacitance:	(pF)	18.6	18.4	18.6

Cross Talk Percentage

Cross Talk	%
X to Y	2.25
Y to X	1.07
X to Z	0.25
Y to Z	1.67
Z to X	1.58
Z to Y	0.35

Condition of Unit

As Found: _____ In Tolerance
As Left: _____ In Tolerance

Notes

1. Station #24 Sensitivity at 6744 lb is 17.20 pC/lb (30 kN is 3.87 pC/N)
2. This sensor is calibrated with a 081M175 beryllium copper mounting stud.
3. The sensor is preloaded to 5000 lbs. (22.24 kN) prior to calibration.
4. Calibration is N.I.S.T. Traceable thru Project # TA333
5. This certificate shall not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.
6. Calibration is performed in compliance with ISO 9001, ISO 10012-1, ANSI/NC SL Z540-1-1994 and ISO 17025.
7. See Manufacturer's Specification Sheet for a detailed listing of performance specifications.
8. Measurement uncertainty (95% confidence level with a coverage factor of 2) is +/-1%.

Technician: Fran Coleman 

Date: 1/19/2018



Cert. No. 1862.01

 **PCB PIEZOTRONICS**^{INC.}
FORCE / TORQUE DIVISION

3425 Walden Avenue
Depew, New York 14043

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CALIBRATION CERTIFICATE

Model: 260A31/FCS-DN
Serial #: 16940 X - AXIS
Description: Force Sensor
Type: Charge

Capacitance: 18.6 pF

Date: 1/19/2018

By: Fran Coleman, Cal. Tech. *FC*

Station: 0-1,000 lb. Load Cell (Test Procedure AT501-3)

Sensitivity*: 34.03 pC/LBF
 7.650 pC/N

Temp: 73 deg F [23deg C]

Humidity: 44 %

Linearity*: 0.3% FS

Cert #: 685647

Uncertainty:** +/- 1 %

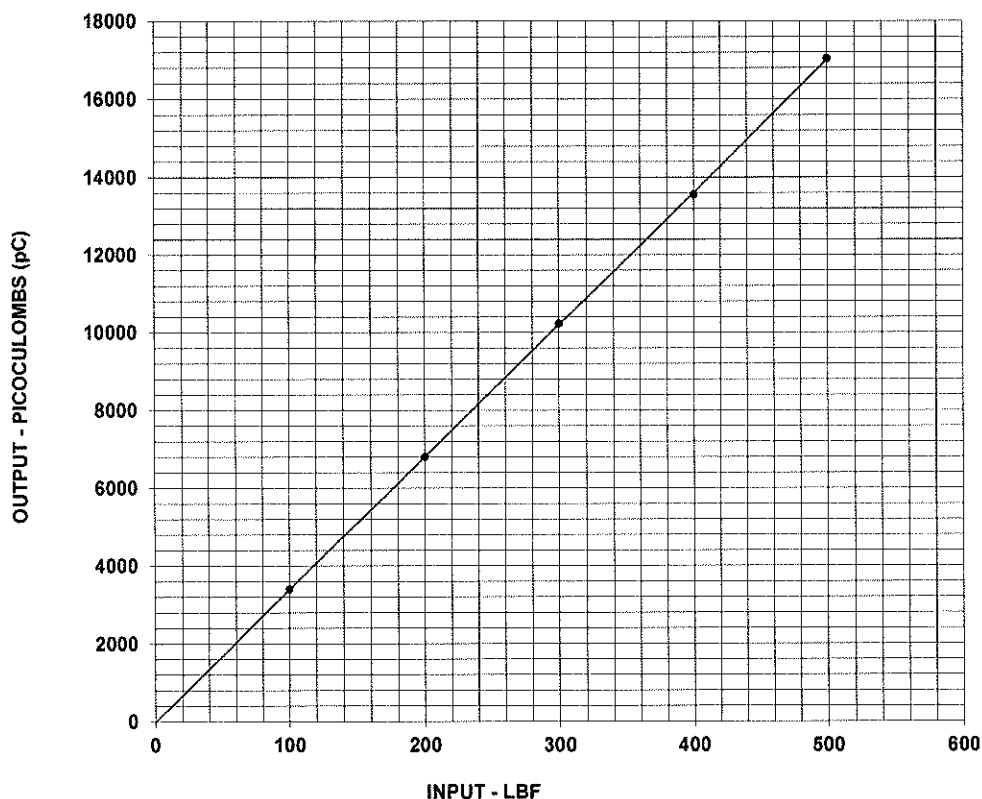
* Zero based, least-squares straight line.

** Measurement uncertainty represented using a coverage factor of k=2 which provides a level of confidence of approximately 95 %.

Condition of Unit:

As Found: In tolerance

As Left: In tolerance



TEST DATA

INPUT (LBF)	OUTPUT (pC)
100	3408
200	6807
300	10230
400	13557
500	17041

Notes:

- 1 Station # 24
- 2 The sensor is preloaded to 5000 lbs. prior to calibration. The preload is applied to fixtures that do not shunt forces through the mounting stud.
- 3 Calibration is traceable to NIST and is accredited to ISO 17025 and ANSI/NCSL Z540.3.
- 4 NIST traceability through PCB control # TA333.
- 5 This certificate may not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.



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CALIBRATION CERTIFICATE

Model: 260A31/FCS-DN
Serial #: 16940 Y - AXIS
Description: Force Sensor
Type: Charge

Capacitance: 18.4 pF

Date: 1/19/2018

By: Fran Coleman, Cal. Tech. *FC*

Station: 0-1,000 lb. Load Cell (Test Procedure AT501-3)

Sensitivity*: 34.07 pC/LBF
 7.660 pC/N

Temp: 73 deg F [23deg C]

Humidity: 44 %

Linearity*: 0.2% FS

Cert #: 685646

Uncertainty:** +/- 1 %

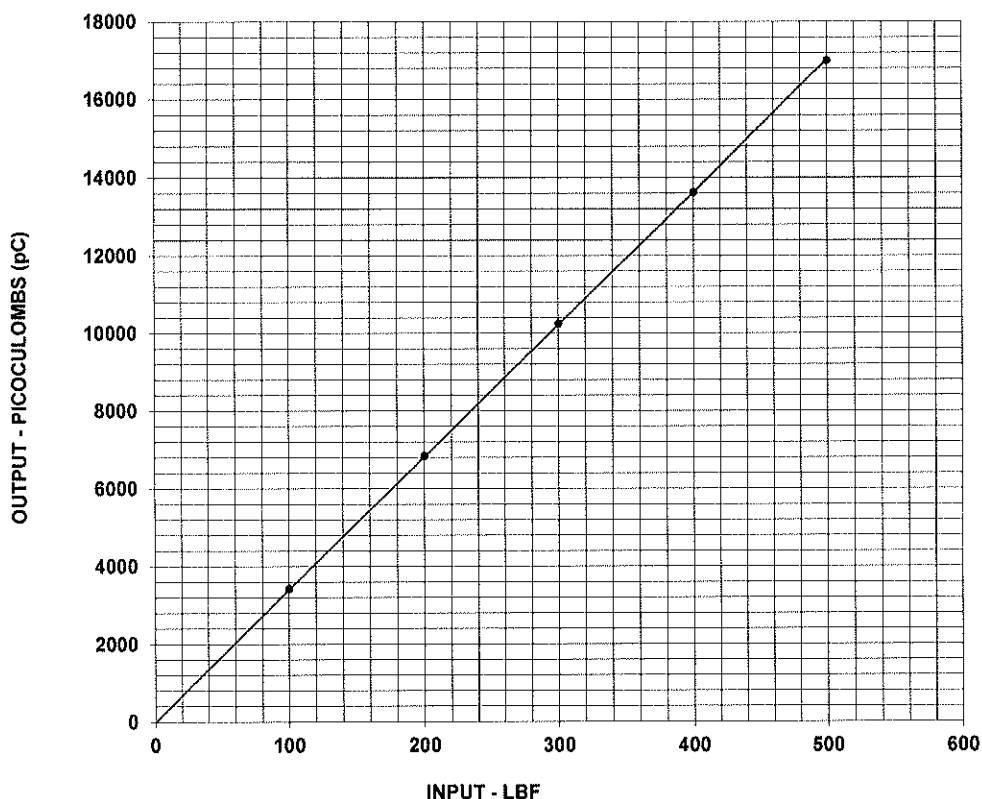
* Zero based, least-squares straight line.

** Measurement uncertainty represented using a coverage factor of k=2 which provides a level of confidence of approximately 95 %.

Condition of Unit:

As Found: In tolerance

As Left: In tolerance



TEST DATA

INPUT (LBF)	OUTPUT (pC)
100	3428
200	6842
300	10252
400	13625
500	17005

Notes:

- 1 Station # 24
- 2 The sensor is preloaded to 5000 lbs. prior to calibration. The preload is applied to fixtures that do not shunt forces through the mounting stud.
- 3 Calibration is traceable to NIST and is accredited to ISO 17025 and ANSI/NCSL Z540.3.
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CALIBRATION CERTIFICATE

Model: 260A31/FCS-DN
 Serial #: 16940 Z - AXIS
 Description: Force Sensor
 Type: Charge

Capacitance: 18.6 pF

Date: 1/19/2018
 By: Fran Coleman, Cal. Tech. *fc*
 Station: 0-1,000 lb. Load Cell (Test Procedure AT501-3)

Sensitivity*: 15.46 pC/LBF
 3.476 pC/N

Temp: 73 deg F [23deg C]
 Humidity: 44 %

Linearity*: 0.2% FS
 Uncertainty**: +/- 1 %

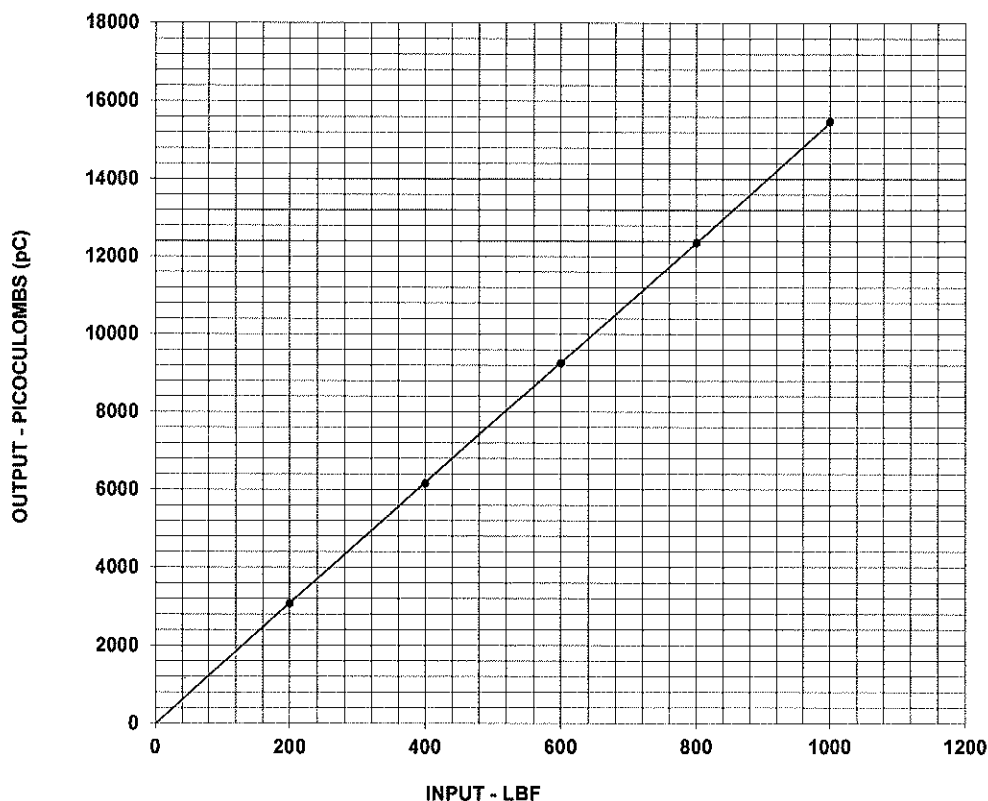
Cert #: 685656

* Zero based, least-squares straight line.

** Measurement uncertainty represented using a coverage factor of k=2 which provides a level of confidence of approximately 95 %.

Condition of Unit:

As Found: In tolerance
 As Left: In tolerance



TEST DATA

INPUT (LBF)	OUTPUT (pC)
200	3076
400	6160
600	9262
800	12365
1000	15483

Notes:

- Station # 24 Sensitivity at 6744 is 17.20 pC/lb (30 kN is 3.87 pC/N)
- The sensor is preloaded to 5000 lbs. prior to calibration. The preload is applied to fixtures that do not shunt forces through the mounting stud.
- Calibration is traceable to NIST and is accredited to ISO 17025 and ANSI/NCSL Z540.3.
- NIST traceability through PCB control # TA333.
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