OT 215952

~ *Multi-Axis Load Cell Calibration Summary*~

Model Number: 260A11/FCS-DN

Customer: _____

Serial Number: 16938

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.)	225	225	225
	(N)	**1001**	**1001**	**1001**
Sensitivity:	(pC/lb)	33.93	34.16	15.63
	(pC/N)	**7.627**	**7.680**	**3.515**
Linearity:	(% FS)	0.2	0.08	0.2
Capacitance:	(pF)	18.8	18.8	18.7

Cross Talk Percentage

Cross Talk	%
X to Y	1.76
Y to X	1.32
X to Z	1.83
Y to Z	1.14
Z to X	0.29
Z to Y	0.25

Condition of Unit

As Found: In tolerance

As Left: In tolerance

Notes

1. Station #25 Sensivitity at 6744 lb is 17.06 pC/lb (30 kN is 3.84 pC/N)
2. This sensor is calbrated with a 081A70 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 # KE104
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/NCSL 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: Ryan Roskwitalski RR

Date: 1/19/2018

ACCREDITED

Cert. No. 1862.01

PCB PIEZOTRONICS INC.
FORCE / TORQUE DIVISION
3425 Walden Avenue
Depew, New York 14043
TEL: 888-684-0013 FAX: 716-685-3886 www.pcb.com

CALIBRATION CERTIFICATE

Model: 260A11/FCS-DN
Serial #: 16938 X - Axis
Description: Force Sensor
Type: Charge
Capacitance: 18.8 pF

Sensitivity*: 33.93 pC/LBF
7.627 pC/N

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

Date: 1/19/2018
By: Ryan Roskwitalski, Cal. Tech. RR
Station: 0-1000 lb Load Cell (Test Procedure AT-501-3)

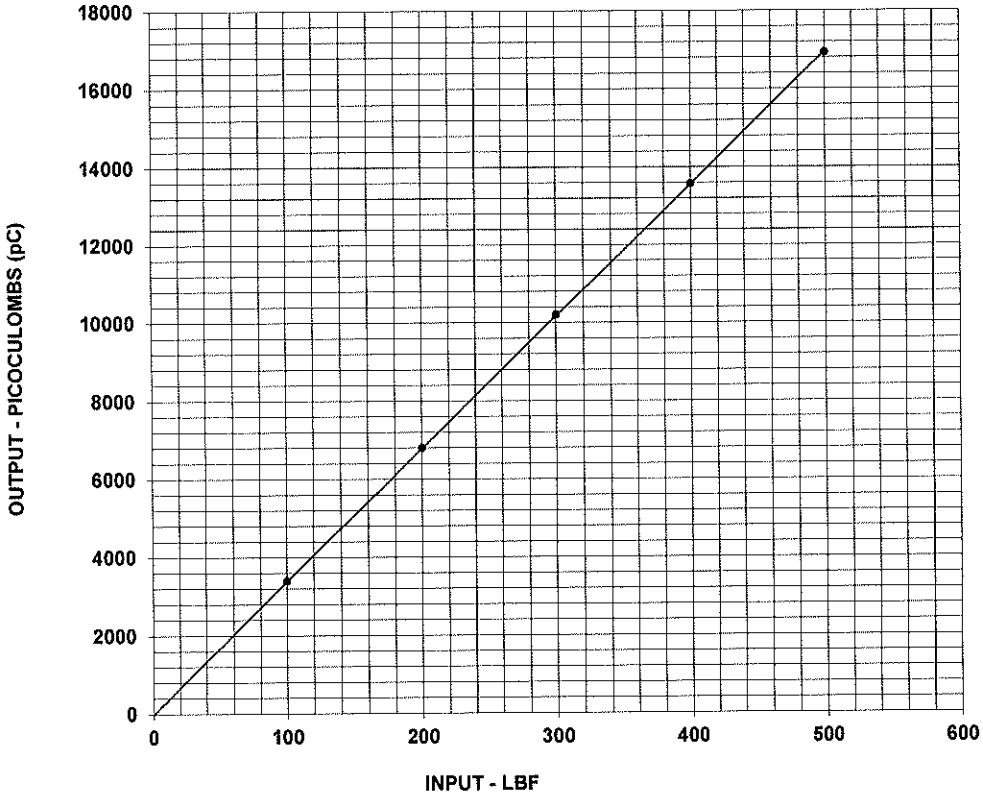
Temp: 73 deg F [23deg C]
Humidity: 44 %

Cert #: 685705

* 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	3397
200	6803
300	10203
400	13576
500	16936

Notes:

1 Station# 25
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 # KE104.
5 This certificate may not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.

ACCREDITED
CALIBRATION CERT #1862.01

PCB PIEZOTRONICS INC.
Tel: 716-684-0001 Fax: 716-684-0987 Email: sales@pcb.com
3425 Walden Avenue, Depew NY 14043

CALIBRATION CERTIFICATE

Model: 260A11/FCS-DN
Serial #: 16938 Y - Axis
Description: Force Sensor
Type: Charge
Capacitance: 18.8 pF

Sensitivity*: 34.16 pC/LBF
7.680 pC/N

Linearity*: 0.08% FS
Uncertainty:** +/- 1 %

Date: 1/19/2018
By: Ryan Roskwitalski, Cal. Tech.
Station: 0-1000 lb Load Cell (Test Procedure AT-501-3)

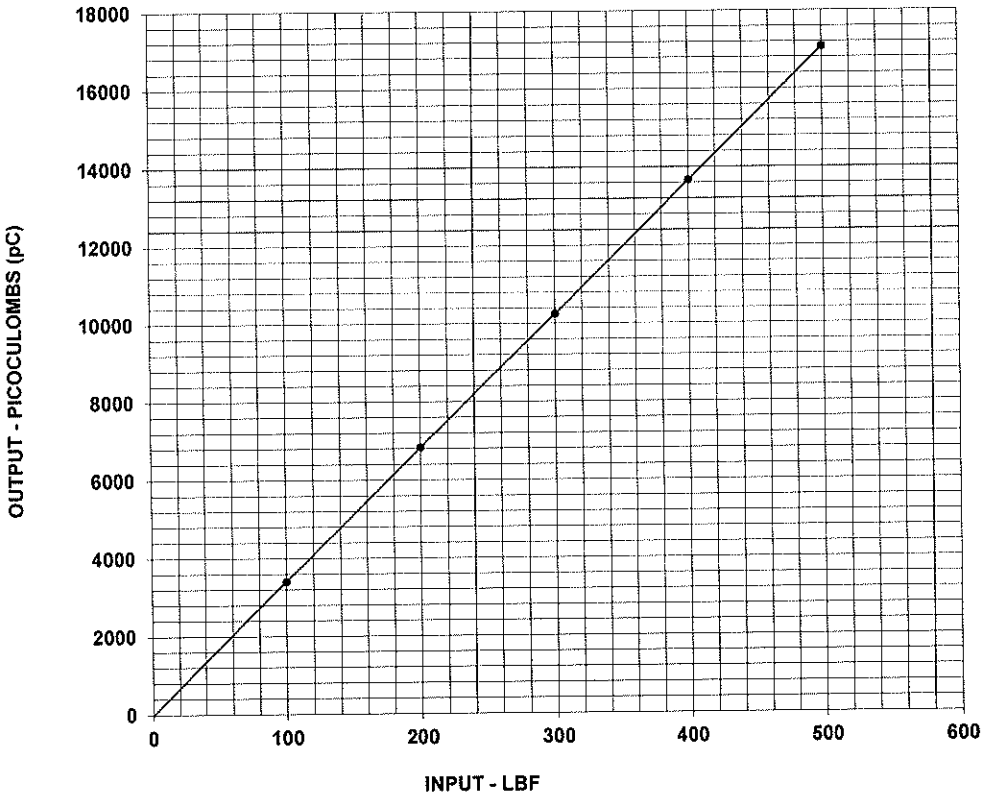
Temp: 73 deg F [23deg C]
Humidity: 44 %

Cert #: 685703

* 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	3403
200	6833
300	10249
400	13671
500	17076

Notes:

1 Station# 25
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 # KE104.
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CALIBRATION CERT #1862.01

PCB PIEZOTRONICS INC.

Tel: 716-684-0001 Fax: 716-684-0987 Email: sales@pcb.com
3425 Walden Avenue, Depew NY 14043

CALIBRATION CERTIFICATE

Model: 260A11/FCS-DN
Serial #: 16938 Z - Axis
Description: Force Sensor
Type: Charge
Capacitance: 18.7 pF

Sensitivity*: 15.63 pC/LBF
3.515 pC/N

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

Date: 1/19/2018
By: Ryan Roskwitalski, Cal. Tech. RR
Station: 0-1000 lb Load Cell (Test Procedure AT-501-3)

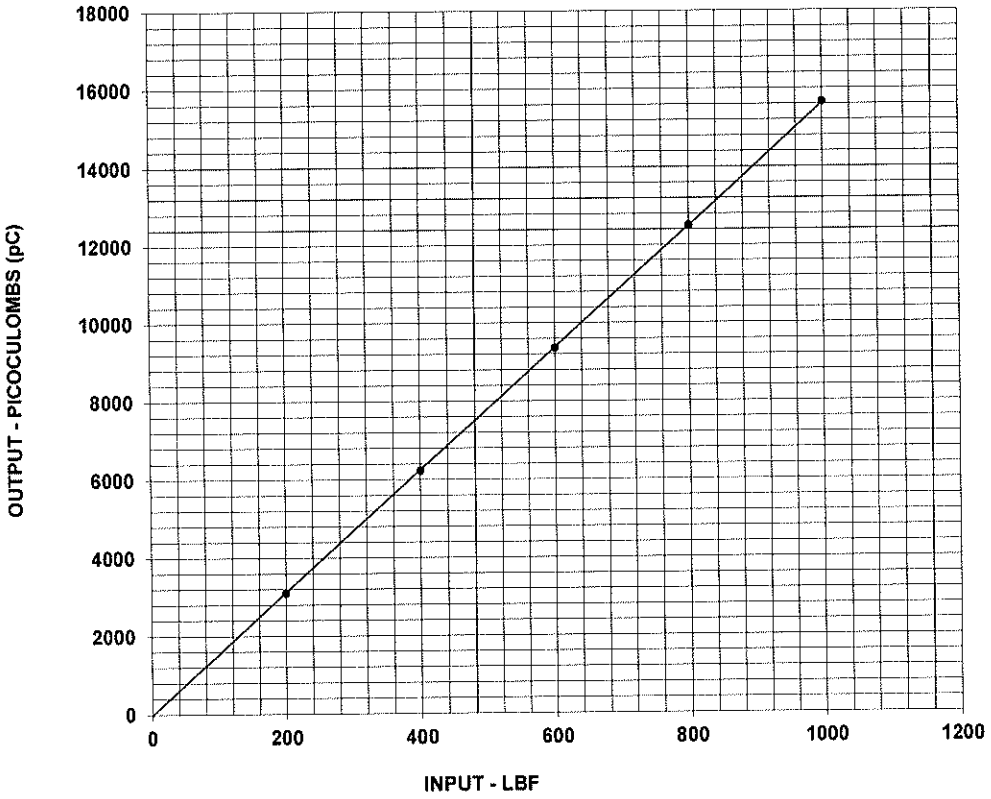
Temp: 73 deg F [23deg C]
Humidity: 44 %

Cert #: 685704

* 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	3101
400	6227
600	9361
800	12511
1000	15658

Notes:

1 Station# 25 Sensitivity at 6744 lb is 17.06 pC/lb (30 kN is 3.84pC/N)
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 # KE104.
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