

**SOUTHWEST RESEARCH INSTITUTE  
CALIBRATION LABORATORY  
MEMORANDUM**

**October 4, 2004**

**To:** BRITT HILL DIV20 B189

**From:** Walt Hill, Metrology Group Leader  
Institute Calibration Laboratory

**Subject:** Status of Calibration Supplier

**Manufacturer/Model:** PCB PIEZOTRONICS 113A21

**Description:** PRESSURE TRANSDUCER

**Serial Number:** 10453

**Asset Number:** 009014

**Work Order Number:** 444060772

**Date Calibrated:** September 20, 2004

**Supplier:** PCB PIEZOTRONICS, DEPEW NY - A2LA - 716 684-0001

**Remarks:**

☒ Supplier is on the Approved Suppliers List (ASL).

☐ Supplier is not on the Approved Suppliers List.

☒ Calibration is ISO 17025 accredited.

☐ Calibration is not ISO 17025 accredited.

☐ There is no known supplier to meet ISO 17025 accreditation at this time.

Please notify the Institute Calibration Laboratory, extension 5215, of any discrepancies with the item or calibration documentation.

Attachment(s) 2

# CALIBRATION CERTIFICATE

Model: 113A21  
Serial #: 10453  
Description: Pressure Sensor  
Type: ICP

Date: 9/20/2004  
By: Chris Schultz, Cal. Tech.   
Station: 907 Dyn. Med. Press. #1 (Test Procedure AT601-11)

Sensitivity\*: 21.39 mV/PSI  
3102 mV/MPa

Temp: 71 deg F [22deg C]  
Humidity: 34 %

Linearity\*: 0.2% FS  
Uncertainty\*\*: +/- 1.3 %

Cert #: 179374

Bias: 10.2 VDC

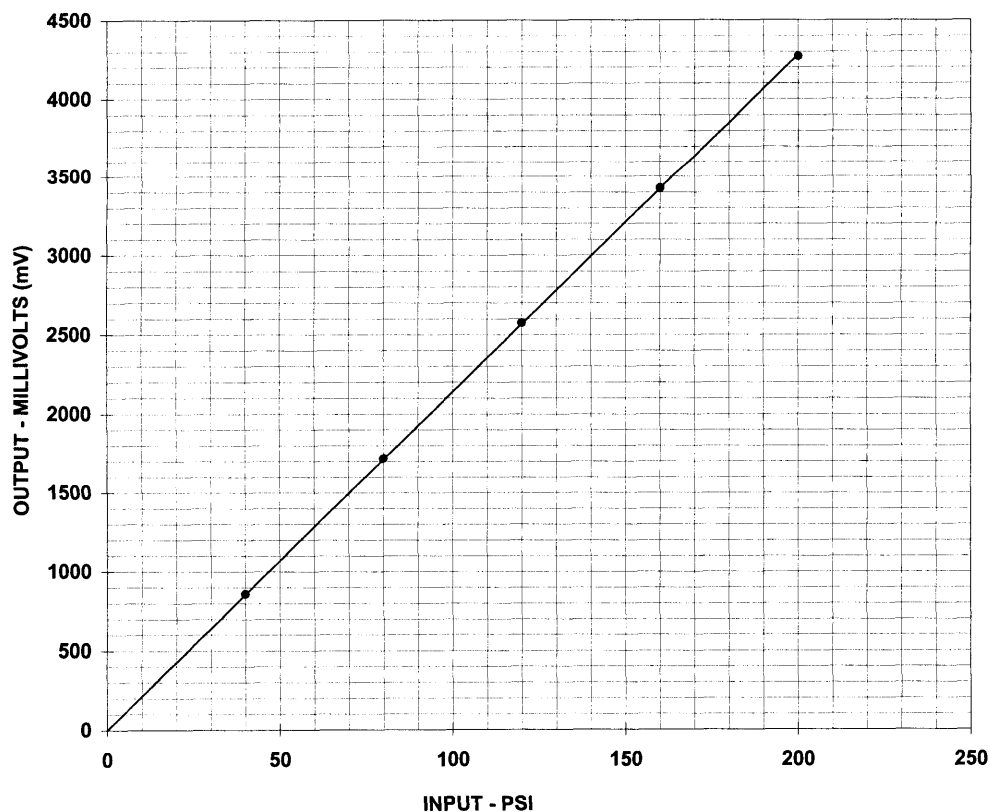
\* Zero based, least-squares straight line.

\*\* 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 (PSI)	OUTPUT (mV)
40.0	859
80.0	1717
120	2573
160	3424
200	4268

## Calibration Data Card PRESSURE SENSOR

MODEL # 113A21

SERIAL # 10453

VOLTAGE SENSITIVITY: 21.39 mV/psi  
3102 mV/MPa

OUTPUT BIAS LEVEL: 10.2 VDC

Date: 09/20/04 By: Chris Schultz

For further information, please refer to  
the Calibration Certificate.

 **PCB PIEZOTRONICS**  
PRESSURE DIVISION

3425 Walden Ave. Depew, NY 14043  
888-684-0011

## Notes:

- 1 STATION #16
- 2 Calibration is traceable to NIST and is accredited to ISO 17025 and ANSI/NCSL Z540-1-1994.
- 3 NIST traceability through PCB control # CA334.
- 4 This certificate may not be reproduced, except in full, without written approval from PCB Piezotronics, Inc.



Cert. No. 1862.01


 **PCB PIEZOTRONICS** INC.

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

ISO 9001 CERTIFIED

# CALIBRATION CERTIFICATE

Model: 113A21  
Serial #: 10453  
Description: Pressure Sensor  
Type: ICP

Date: 9/20/2004  
By: Chris Schultz, Cal. Tech.   
Station: 907 Dyn. Med. Press. #1 (Test Procedure AT601-11)

Sensitivity\*: 21.66 mV/PSI  
3.142 mV/kPa

Temp: 71 deg F [22deg C]  
Humidity: 34 %

Linearity\*: 0.4% FS  
Uncertainty\*\*: +/- 1.3 %

Cert #: 179382

Bias: 10.4 VDC

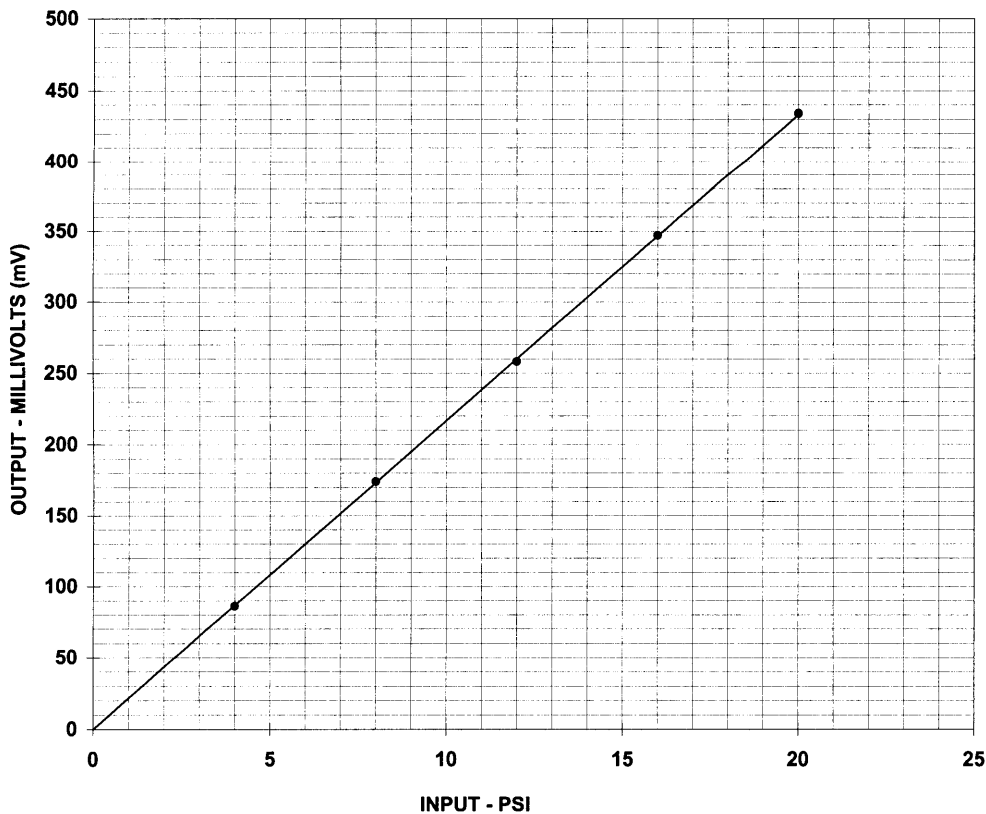
\* Zero based, least-squares straight line.

\*\* 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 (PSI)	OUTPUT (mV)
4.00	86
8.00	174
12.0	258
16.0	347
20.0	434

## Notes:

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