

**SOUTHWEST RESEARCH INSTITUTE  
CALIBRATION LABORATORY  
MEMORANDUM**

**October 18, 2005**

**To:** DON BANNON DIV20 B57

**From:** Institute Calibration Laboratory

**Subject:** Status of Calibration Supplier

**Manufacturer/Model:** OHIO SEMITRONICS PC5-103D

**Description:** AC WATT TRANSDUCER

**Serial Number:** 03080276

**Asset Number:** 010468

**Work Order Number:** 303065915

**Date Calibrated:** September 26, 2005

**Supplier:** CMI, CENTERVILLE GA - A2LA - 800 525-0408

**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 contact the Institute Calibration Laboratory, extension 5215, if you have any questions about the condition of this equipment or calibration documentation. Please do not remove or damage any of the calibration seals.

Attachment(s)   2

**Customer Information**

Southwest Research Institute  
6220 Culebra Rd  
San Antonio, TX 78238

PO #: 576218J  
Reference #: 443846  
Account #: SO1043  
SO #: 53277

**Instrument Identification**

Instrument Id: **03080276**

Noun: AC Watt Transducer  
Mfr: Ohio Semitronics  
Model: PC5-103D  
Accuracy:  $\pm 0.5\%$  of Full Scale  
Expanded Measurement Uncertainty at K=2:  $\pm 0.1\%$  of Full Scale

Serial #: 03080276

**Certification Information**

Reason For Service: Calibration  
Type Of Calibration: Normal  
As Found Condition: In Tolerance  
As Left Condition: Left As Found  
Procedure: Mfr Manual :

Technician: Nym Kufuo  
Cal Date: 26 SEP 05  
Cal Due: 26 SEP 06  
Temperature: 22.0 °C  
Humidity: 44.2 %

Technician Remarks: All documented measurements are the voltmeter standard displays with the power standard outputs at the nominal test point values.  
Test leads not submitted with instrument.

Quality Remarks: Calibration complies with ISO/IEC 17025 & ANSI/NC SL Z540 requirements.

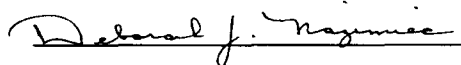
*This instrument has been calibrated using standards with accuracies traceable to the National Institute of Standards and Technology, derived from natural physical constants, derived from ratio measurements, or compared to consensus standards.*

*Reported uncertainties and/or "test uncertainty ratios" (TUR's) are expressed as expanded uncertainty values at approximately the 95% confidence level using a coverage factor of K=2. A TUR of 4:1 is routinely observed unless otherwise noted on the Certificate. Statements of compliance, where applicable, are based on test results falling within specified limits with no reduction by the uncertainty of the measurement.*

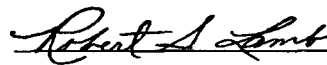
*Certified Measurements, Inc.'s Quality System complies with the applicable requirements of ANSI/NC SL Z540-1 and ISO/IEC 17025.*

*The results contained herein relate only to the item calibrated. Calibration due dates appearing on the Certificate of Calibration and label are determined by the client for administrative purposes and do not imply continued conformance to specification.*

*This certificate shall not be reproduced except in full, without the written permission of Certified Measurements, Inc.*



Deborah J. Nazimiec, Technical Manager



Robert S. Lamb, President

Your calibration records are available on-line at <http://www.cmi-labs.com>

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510 North Houston Lake Blvd.  
Centerville, Georgia 31028  
Tel: 478.953.5171  
Fax: 478.953.2688

**CERTIFIED MEASUREMENTS, INC.**  
*Raising the Calibration Standard...*

1395 South Marietta Parkway  
Building 200, Suite 206  
Marietta, Georgia 30067  
Tel: 770.428.1901  
Fax: 770.428.7331

✓ In Tolerance    ✗ Out of Tolerance

**Calibration Data**

| Range                               | Nominal | As Found |   | As Left       |  | Min  | Max   |
|-------------------------------------|---------|----------|---|---------------|--|------|-------|
| Watt transducer, output in volts dc |         |          |   |               |  |      |       |
| 20 W                                | 2.00    | 2.005    | ✓ | Left as Found |  | 1.95 | 2.05  |
| 40 W                                | 4.00    | 4.007    | ✓ | Left as Found |  | 3.95 | 4.05  |
| 60 W                                | 6.00    | 6.007    | ✓ | Left as Found |  | 5.95 | 6.05  |
| 80 W                                | 8.00    | 8.002    | ✓ | Left as Found |  | 7.95 | 8.05  |
| 100 W                               | 10.00   | 9.990    | ✓ | Left as Found |  | 9.95 | 10.05 |

End of Datasheet

**Calibration Standards**

| <u>NIST Traceable #</u> | <u>Instrument ID#</u> | <u>Description</u>        | <u>Model</u> | <u>Calibration Date</u> | <u>Date Due</u> |
|-------------------------|-----------------------|---------------------------|--------------|-------------------------|-----------------|
| 1000178733              | 07754                 | Multimeter                | 8842A Opt 9  | 11 NOV 2004             | 30 NOV 2005     |
| 1001001412              | 2001                  | Calibrator, Multi-Product | 5500A/SC300  | 24 FEB 2005             | 28 FEB 2006     |

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