

**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: 03080278

Asset Number: 010469

Work Order Number: 303065918

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: **03080278**

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 #: 03080278

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/NCSL Z540 requirements.

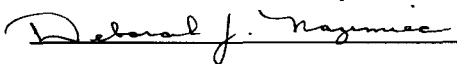
This instrument has been calibrated using standards with accuracies traceable to the National Institute of Standards and Technology, derived from natural physical constants, derived from ratio measurements, or compared to consensus standards.

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.

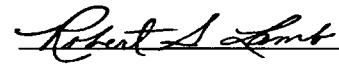
Certified Measurements, Inc.'s Quality System complies with the applicable requirements of ANSI/NCSL Z540-1 and ISO/IEC 17025.

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	2.002	✓	Left as Found	1.95	2.05
40 W	4.00	4.004	✓	Left as Found	3.95	4.05
60 W	6.00	6.002	✓	Left as Found	5.95	6.05
80 W	8.00	8.000	✓	Left as Found	7.95	8.05
100 W	10.00	9.980	✓	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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