

**SOUTHWEST RESEARCH INSTITUTE
CALIBRATION LABORATORY
MEMORANDUM**

September 27, 2004

To: RON GREEN DIV20 T1

From: Walt Hill, Metrology Group Leader
Institute Calibration Laboratory

WB

Subject: Status of Calibration Supplier

Manufacturer/Model: OHIO SEMITRONICS PC5-103D

Description: AC WATT TRANSDUCER

Serial Number: 03080277

Asset Number: 010470

Work Order Number: 444060810

Date Calibrated: September 20, 2004

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

Remarks: CMI Cert.#1000176213.

☒ 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

Customer Information

Southwest Research Institute
6220 Culebra Rd
San Antonio, TX 78238

PO #: 479072ROM
Reference #: REQ 04027651
Account #: SO1043
SO #: 47112

Instrument Identification

Instrument Id: **03080277**

Noun: AC Watt Transducer

Serial #: 03080277

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

Certification Information

Reason For Service: Calibration

Technician: Larry Welch

Type Of Calibration: Normal

Cal Date: 20 SEP 04

As Found Condition: In Tolerance

Cal Due: 20 SEP 05

As Left Condition: Left As Found

Temperature: 23.0 °C

Procedure: Mfr Manual :

Humidity: 46.0 %

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.

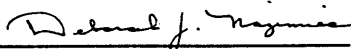
Reported uncertainties and/or "test uncertainty ratios" (TUR's) are expressed as expanded uncertainty values at approximately the 95% confidence level using a coverage factor of K=2. A TUR of 4:1 is routinely observed unless otherwise noted on the Certificate.

Statements of compliance, where applicable, are based on test results falling within specified limits with no reduction by the uncertainty of the measurement.

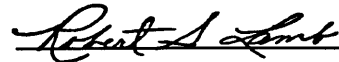
Certified Measurements, Inc.'s Quality System complies with the applicable requirements of 10CFR Part 50 Appendix B, 10CFR Part 21, ANSI/NCSL Z540-1 and ISO/IEC 17025.

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

✓ 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 | 3.996 | ✓ Left as Found | 3.95 | 4.05 |
| 60 W | 6.00 | 6.001 | ✓ Left as Found | 5.95 | 6.05 |
| 80 W | 8.00 | 8.009 | ✓ Left as Found | 7.95 | 8.05 |
| 100 W | 10.00 | 10.016 | ✓ 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> |
|-------------------------|-----------------------|--------------------|--------------|-------------------------|-----------------|
| 1000168068 | 00127 | Multimeter | 1271 | 14 APR 2004 | 31 OCT 2004 |
| 1000170821 | 22956 | Calibrator | 811A | 04 JUN 2004 | 30 JUN 2005 |

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

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

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