



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017  
& ANSI/NCSL Z540-1-1994

THERMETRICS  
4220 24<sup>th</sup> Avenue W  
Seattle WA 98199  
Matthew Thurber Phone: 206 456 9119

CALIBRATION

Valid To: June 30, 2020

Certificate Number: 3984.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1</sup>:

I. Dimensional

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Length – 1D	Up to 25.4 mm (25.4 to 50.8) mm (50.8 to 76.20) mm	0.0050 mm 0.0050 mm 0.0060 mm	Micrometer

II. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
DC Resistance – Measure	(0 to 9.999) Ω (10 to 99.999) Ω (100 to 1000) Ω	0.0080 Ω 0.018 Ω 0.33 Ω	Agilent 34001A
DC Resistance – Measure <sup>3</sup>	(0 to 9.999) Ω (10 to 99.999) Ω (100 to 1000) Ω	0.033 Ω 0.058 Ω 0.50 Ω	Keysight U2741A

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
DC Voltage – Measure	(0 to 0.1) V (0.1 to 0.9999) V (1 to 9.9999) V (10 to 60) V	0.000 99 V 0.000 20 V 0.000 43 V 0.0043 V	Agilent 34001A
DC Voltage – Measure <sup>3</sup>	(10 to 60) V	0.02 V	Keysight U2741A
DC Voltage – Generate	(0 to 11) V	0.000 50 V	Ectron 1140A

### III. Mechanical

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Mass – Measure	Up to 100 g (100 to 1000) g	0.017 g 0.30 g	Cole-Parmer 20000-32 AND EJ-2000
Mass – Measure <sup>3</sup>	Up to 400 g	0.30 g	Ohaus SP 401

### IV. Thermodynamics

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Temperature – Measure	(0 to 60) °C	0.012 °C	Fluke 1504 and Fluke 5641
Temperature – Measure <sup>3</sup>	(15 to 40) °C	0.023 °C	Thermetrics temperature calibrator 516- XX

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Thermocouples – Measuring Equipment			
Type J	(0 to 200) °C	0.10 °C	Ectron 1140A
Type K	(0 to 200) °C	0.11 °C	
Type T	(0 to 200) °C	0.09 °C	

<sup>1</sup> This laboratory offers commercial and field calibration service.

<sup>2</sup> Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards of nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of  $k = 2$ . The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

<sup>3</sup> Field calibration service is available for this calibration and this laboratory meets A2LA R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories for these calibrations. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.



## *Accredited Laboratory*

A2LA has accredited

**THERMETRICS**

*Seattle, WA*

for technical competence in the field of

**Calibration**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and R205 – Specific Requirements: Calibration Laboratory Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 28<sup>th</sup> day of June 2018.

A handwritten signature in blue ink, written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 3984.01  
Valid to June 30, 2020

*For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.*