



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005  
& ANSI/NCSL Z540-1-1994

A&G INSTRUMENT SERVICE & CALIBRATION, INC.  
1227 North Tustin Avenue  
Anaheim, CA 92807  
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CALIBRATION

Valid To: November 30, 2019

Certificate Number: 4283.01

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. Chemical

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Conductivity Analyzer <sup>3</sup>	100 µS/cm to 100 mS/cm	0.25 % of nominal value	Certified solutions
Resistivity Analyzer <sup>3</sup>	10 kΩ/cm to 10 Ω/cm	0.25 % of nominal value	Calibrators
pH <sup>3</sup>	4, 7 pH 10 pH	0.051 pH 0.045 pH	Certified solutions
ORP <sup>3</sup>	(200 to 600) mV	12 mV	Certified solutions

## II. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
DC Current – Generate <sup>3</sup>	(0 to 24) mA	0.0047 mA + 2.5 µA	Calibrator
DC Current – Measure <sup>3</sup>	(1 to 10) mA (>10 to 20) mA	0.004 mA + 2.5 µA 0.007 mA	DVM
DC Voltage – Generate <sup>3</sup>	(0 to 100) mV (1 to 10) V	0.035 mV + 2.5 µA 6.2 mV + 0.5 µA	Calibrator
DC Voltage – Measure <sup>3</sup>	(0 to 100) mV (>1 to 10) V	0.035 mV + 0.4 µV 33 mV + 2.5 µV	DVM

## III. Mechanical

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Pressure Gages <sup>3</sup>	(0 to 100) in·H <sub>2</sub> O (0 to 1000) psia (0 to 200) psig (>200 to 3000) psig	0.07 in·H <sub>2</sub> O 0.42 psia 0.07 psig 0.96 psig	Digital indicator w/ hand pump

## IV. Thermodynamics

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Temperature – Measure <sup>3</sup>	(-50 to 500) °F	0.54 °F	RTD & thermocouples

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Thermocouple – Generate <sup>3</sup> , Types J, K, T	(-100 to 2500) °F	1.1 °F	Temperature calibrator
Uniformity Survey – Ovens, Incubators, Refrigerators <sup>3</sup>	32 °F 750 °F 1750 °F 2050 °F	2.4 °F 3.3 °F 8.7 °F 10.0 °F	Temperature calibrator
Humidity – Measure <sup>3</sup>	(0 to 80) % RH	3.3 %	Temperature/humidity indicator

#### V. Time & Frequency

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Frequency – Measuring Equipment <sup>3</sup>	0.3 Hz to 100 kHz	2.3 Hz	Multifunction calibrator
Frequency – Measure <sup>3</sup>	0.1 Hz to 100 kHz	1.8 Hz	Multifunction calibrator

<sup>1</sup> This laboratory offers commercial calibration service 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 or nearly ideal measuring equipment. CMC's 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 actual 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

**A&G INSTRUMENT SERVICE AND CALIBRATION INC.**

*Anaheim, CA*

for technical competence in the field of

**Calibration**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *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 8 January 2009*).



Presented this 23<sup>rd</sup> day of January 2018.

A handwritten signature in black ink, appearing to read 'L. L. L.', written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 4283.01  
Valid to November 30, 2019

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