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

ELECTRICAL TEST INSTRUMENTS, LLC
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CALIBRATION

Valid To: August 31, 2024 Certificate Number: 5636.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1, 5]:

I. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
DC Voltage[3] – Generate	(0 to 330) mV (0.3 to 3.3) V (3.3 to 33) V (33 to 330) V (330 to 1000) V	21 µV/V + 1 µV 13 µV/V + 3 µV 15 µV/V + 20 µV 19 µV/V + 150 µV 19 µV/V + 1.5 mV	Fluke 5520A
DC Current[3] – Generate	(10 to 330) µA (0.33 to 3.3) mA (3.3 to 33) mA (33 to 330) mA (0.33 to 1.1) A (1.1 to 3.0) A (3.0 to 11) A	140 µA/A + 0.1 µA 120 µA/A + 0.1 µA 140 µA/A + 0.05 µA 150 µA/A + 0.07 µA 250 µA/A + 230 µA 400 µA/A + 200 µA 620 µA/A + 860 µA	Fluke 5520A

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Parameter/Range	Frequency	CMC[2, 4] (±)	Comments
AC Voltage[3] – Generate			
(3 to 33) mV	(10 to 45) Hz	590 µV/V + 130 µV	Fluke 5520A
	45 Hz to 10 kHz	240 µV/V + 13 µV	
	(10 to 20) kHz	210 µV/V + 140 µV	
	(20 to 50) kHz	800 µV/V + 140 µV	
	(50 to 100) kHz	2.9 mV/V + 130 µV	
	(100 to 500) kHz	49 mV/V + 3 µV	
(33 to 330) mV	(10 to 45) Hz	320 µV/V + 46 µV	
	45 Hz to 10 kHz	250 µV/V + 26 µV	
	(10 to 20) kHz	230 µV/V + 39 µV	
	(20 to 50) kHz	420 µV/V + 21 µV	
	(50 to 100) kHz	860 µV/V + 34 µV	
	(100 to 500) kHz	1.4 mV/V + 140 µV	
(0.33 to 3.3) V	(10 to 45) Hz	410 µV/V + 0.8 mV	
	45 Hz to 10 kHz	250 µV/V + 1 mV	
	(10 to 20) kHz	310 µV/V + 1 mV	
	(20 to 50) kHz	290 µV/V + 2 mV	
	(50 to 100) kHz	1.5 mV/V + 5 mV	
	(100 to 500) kHz	1.9 mV/V + 5 mV	
(3.3 to 33) V	(10 to 45) Hz	300 µV/V + 2 mV	
	45 Hz to 10 kHz	240 µV/V + 1.6 mV	
	(10 to 20) kHz	300 µV/V + 3 mV	
	(20 to 50) kHz	260 µV/V + 3 mV	
	(50 to 100) kHz	1.2 mV/V + 18 mV	
(33 to 330) V	45 Hz to 1 kHz	270 µV/V + 2 mV	
	(1 to 10) kHz	550 µV/V + 5 mV	
	(10 to 20) kHz	440 µV/V + 3 mV	
	(20 to 50) kHz	620 µV/V + 2 mV	
	(50 to 100) kHz	1.7 mV/V + 71 mV	
(330 to 1000) V	45 Hz to 1 kHz	370 µV/V + 10 mV	
	(1 to 5) kHz	320 µV/V + 59 mV	
	(5 to 10) kHz	250 µV/V + 71 mV	

Parameter/Range	Frequency	CMC[2, 4] (±)	Comments
AC Current[3] – Generate			
(29 to 330) µA	45 Hz to 1 kHz	0.13 % + 0.12 µA	Fluke 5520A
(0.33 to 3.3) mA		0.17 % + 2 µA	
(3.3 to 33) mA		0.03 % + 12 µA	
(33 to 330) mA		0.06 % + 13 µA	
(0.33 to 1.1) A		0.04 % + 130 µA	
(1.1 to 3) A		0.1 % + 57 µA	
(3 to 11) A		0.1 % + 1 mA	
(3 to 11) A	(1 to 5) kHz	2.3 % + 6 mA	

[1] This laboratory offers commercial calibration service.

[2] 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. 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.

[3] Field calibration service is available for this calibration. 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, repeatability) 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.

[4] The stated measured values are determined using the indicated instrument (see Comments). This capability is suitable for the calibration of the devices intended to measure or generate the measured value in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a percent or fraction of the reading plus a fixed floor specification.

[5] This scope meets A2LA's *P112 Flexible Scope Policy*.

Accredited Laboratory

A2LA has accredited

ELECTRICAL TEST INSTRUMENTS, LLC

Frederick, MD

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 10th day of May 2022.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5636.01
Valid to August 31, 2024
Revised July 29, 2024

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