



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

ELECTRICAL TEST INSTRUMENTS, LLC
8430 Spires Way, Suites A - F
Frederick, MD 21701
Jonathan Blanchard Phone: 410 857 1880

CALIBRATION

Valid To: April 30, 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 $\mu\text{V/V} + 1 \mu\text{V}$ 13 $\mu\text{V/V} + 3 \mu\text{V}$ 15 $\mu\text{V/V} + 20 \mu\text{V}$ 19 $\mu\text{V/V} + 150 \mu\text{V}$ 19 $\mu\text{V/V} + 1.5 \text{ mV}$	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 $\mu\text{A/A} + 0.1 \mu\text{A}$ 120 $\mu\text{A/A} + 0.1 \mu\text{A}$ 140 $\mu\text{A/A} + 0.05 \mu\text{A}$ 150 $\mu\text{A/A} + 0.07 \mu\text{A}$ 250 $\mu\text{A/A} + 230 \mu\text{A}$ 400 $\mu\text{A/A} + 200 \mu\text{A}$ 620 $\mu\text{A/A} + 860 \mu\text{A}$	Fluke 5520A

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

Parameter/Range	Frequency	CMC ^{2,4} (\pm)	Comments
AC Current ³ – Generate (29 to 330) μ A (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) A (3 to 11) A (3 to 11) A	45 Hz to 1 kHz (1 to 5) kHz	0.13 % + 0.12 μ A 0.17 % + 2 μ A 0.03 % + 12 μ A 0.06 % + 13 μ A 0.04 % + 130 μ A 0.1 % + 57 μ A 0.1 % + 1 mA 2.3 % + 6 mA	Fluke 5520A

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/NCCL 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.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5636.01
Valid to April 30, 2024

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