



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

SIMCO ELECTRONICS
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CALIBRATION

Valid to: September 30, 2025

Certificate Number: 1395.21

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 – Generate ³	(0 to 330) mV (0.33 to 3.3) V (3.3 to 33) V (33 to 330) V (330 to 1000) V	42 µV/V + 1 µV 9.9 µV/V + 2 µV 11 µV/V + 20 µV 15 µV/V + 150 µV 16 µV/V + 1.5 µV	Fluke 5522A/SC1100
DC Voltage – Measure ³	(10 to 100) mV 100 mV to 1 V (1 to 10) V (10 to 100) V (100 to 1000) V	19 µV/V + 0.3 µV 3.7 µV/V + 0.3 µV 5.2 µV/V + 0.5 µV 8.9 µV/V + 30 µV 9.3 µV/V + 0.1 mV*	HP 3485A OPT-2 * add 12 µV/V x (Vin/1000) ² to all Vin > 100
DC Current – Generate ³	(0 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 11) A (11 to 20) A	0.013 % + 0.02 µA 0.009 % + 0.05 µA 0.009 % + 0.25 µA 0.009 % + 2.5 µA 0.017 % + 40 µA 0.039 % + 500 µA 0.078 % + 750 µA	Fluke 5522A/SC1100

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
DC Current – Measure ³	(10 to 100) μ A (0.1 to 1) mA (1 to 10) mA (10 to 100) mA (0.1 to 1) A	29 μ A/A + 0.8 nA 26 μ A/A + 5 nA 27 μ A/A + 50 nA 47 μ A/A + 0.5 μ A 0.017 % + 10 μ A	HP 3485A OPT-2
Resistance – Generate ³	(0 to 11) Ω (11 to 33) Ω (33 to 110) Ω (110 to 330) Ω (0.33 to 1.1) k Ω (1.1 to 3.3) k Ω (3.3 to 11) k Ω (11 to 33) k Ω (33 to 110) k Ω (110 to 330) k Ω (0.33 to 1.1) M Ω (1.1 to 3.3) M Ω (3.3 to 11) M Ω (11 to 33) M Ω (33 to 110) M Ω (110 to 330) M Ω (0.11 to 1.1) G Ω	180 $\mu\Omega/\Omega$ + 1 m Ω 63 $\mu\Omega/\Omega$ + 1.5 m Ω 30 $\mu\Omega/\Omega$ + 1.4 m Ω 26 $\mu\Omega/\Omega$ + 2 m Ω 29 $\mu\Omega/\Omega$ + 2 m Ω 26 $\mu\Omega/\Omega$ + 0.02 Ω 26 $\mu\Omega/\Omega$ + 0.02 Ω 27 $\mu\Omega/\Omega$ + 0.2 Ω 26 $\mu\Omega/\Omega$ + 0.2 Ω 41 $\mu\Omega/\Omega$ + 2 Ω 34 $\mu\Omega/\Omega$ + 2 Ω 49 $\mu\Omega/\Omega$ + 30 Ω 0.013 % + 50 Ω 0.022 % + 2.5 k Ω 0.052 % + 3 k Ω 0.23 % + 0.1 M Ω 1.3 % + 0.5 M Ω	Fluke 5522A/SC1100
Resistance – Measure ³	10 m Ω to 10 Ω (10 to 100) Ω (0.1 to 1) k Ω (1 to 10) k Ω (10 to 100) k Ω (0.1 to 1) M Ω (1 to 10) M Ω (10 to 100) M Ω	0.017 % + 1 m Ω 15 $\mu\Omega/\Omega$ + 1.4 m Ω 12 $\mu\Omega/\Omega$ + 2.0 m Ω 12 $\mu\Omega/\Omega$ + 20 m Ω 12 $\mu\Omega/\Omega$ + 0.2 Ω 19 $\mu\Omega/\Omega$ + 2.0 Ω 63 $\mu\Omega/\Omega$ + 50 Ω 0.06 % + 3 k Ω	HP 3458A OPT-2

Parameter/Range	Frequency	CMC ^{2,4} (±)	Comments
AC Current – Generate ³ @ 1 kHz @ 5 kHz	(30 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 11) A (11 to 20) A (30 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 11) A (11 to 20) A	0.12 % + 0.1 µA 0.079 % + 0.15 µA 0.033 % + 2 µA 0.035 % + 20 µA 0.040 % + 100 µA 0.040 % + 2 mA 0.12 % + 5 mA 0.24 % + 0.1 µA 0.16 % + 0.15 µA 0.064 % + 2 µA 0.079 % + 20 µA 0.47 % + 100 µA 0.25 % + 2 mA 2.4 % + 5 mA	Fluke 5522A/SC1100
AC Current – Measure ³ @ 1 kHz	(5 to 100) µA (0.1 to 1) mA (1 to 10) mA (10 to 100) mA (0.1 to 1) A	0.07 % + 0.03 µA 0.036 % + 0.2 µA 0.036 % + 2 µA 0.036 % + 20 µA 0.12 % + 0.2 mA	HP 3458A OPT-2
AC Voltage – Generate ³ (1 to 33) mV (33 to 330) mV (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 (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 (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	0.063 % + 6 µV 0.017 % + 6 µV 0.02 % + 6 µV 0.08 % + 6 µV 0.28 % + 12 µV 0.63 % + 50 µV 0.024 % + 8 µV 0.012 % + 8 µV 0.013 % + 8 µV 0.028 % + 8 µV 0.063 % + 32 µV 0.16 % + 70 µV 0.023 % + 50 µV 0.012 % + 60 µV 0.015 % + 60 µV 0.024 % + 50 µV 0.055 % + 0.13 mV 0.19 % + 0.60 mV	Fluke 5522A/SC1100

Parameter/Range	Frequency	CMC ^{2,4} (±)	Comments
AC Voltage – Generate ³ (cont)			
(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	0.023 % + 0.65 mV 0.012 % + 0.6 mV 0.019 % + 0.6 mV 0.028 % + 0.6 mV 0.070 % + 1.6 mV	Fluke 5522A/SC1100
(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	0.015 % + 2 mV 0.016 % + 6 mV 0.02 % + 6 mV 0.02 % + 6 mV 0.18 % + 50 mV	
(330 to 1020) V	45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.024 % + 10 mV 0.020 % + 10 mV 0.024 % + 10 mV	
AC Voltage – Measure ³			
(10 to 100) mV	40 Hz to 1 kHz (1 to 20) kHz (20 to 100) kHz (100 to 300) kHz (300 to 1000) kHz	0.008 % + 2 μV 0.016 % + 2 μV 0.092 % + 2 μV 0.092 % + 2 μV 0.092 % + 2 μV	HP 3458A OPT-2
100 mV to 1 V	40 Hz to 1 kHz (1 to 20) kHz (20 to 100) kHz (100 to 300) kHz (300 to 1000) kHz	0.009 % + 20 μV 0.017 % + 20 μV 0.094 % + 20 μV 0.11 % + 20 μV 0.13 % + 20 μV	
(1 to 10) V	(1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 100) kHz (100 to 300) kHz (300 to 1000) kHz	0.009 % + 0.4 mV 0.010 % + 0.2 mV 0.017 % + 0.2 mV 0.093 % + 0.2 mV 0.096 % + 0.2 mV 0.15 % + 0.2 mV	
(10 to 100) V	40 Hz to 1 kHz (1 to 20) kHz (20 to 100) kHz	0.024 % + 2 mV 0.025 % + 2 mV 0.14 % + 2 mV	
(100 to 700) V	40 Hz to 1 kHz	0.047 % + 20 mV	

¹ This laboratory offers commercial and field 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) 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 measurands stated are generated using the indicated instrument (see Comments). This capability is suitable for the calibration of the devices intended to measure the measurand in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a percent/fraction of the reading plus a fixed floor specification.

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



Accredited Laboratory

A2LA has accredited

SIMCO ELECTRONICS

Cordova, TN

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 11th day of September 2023.

A blue ink signature of Trace McInturff, written in a cursive style.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1395.21
Valid to September 30, 2025

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