



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

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CALIBRATION

Valid To: December 31, 2025

Certificate Number: 3474.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1,6}:

I. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC ^{2,3} ($\pm$)	Comments
DC Voltage – Generate	Up to 329.9999 mV 330 mV to 3.299 999 V (3.3 to 32.999 99) V (32 to 329.9999) V (100 to 1000) V	15 μ V/V + 0.84 μ V 8.4 μ V/V + 1.6 μ V 9.2 μ V/V + 16 μ V 14 μ V/V + 120 μ V 14 μ V/V + 1.2 mV	Fluke 5520A
DC Voltage – Measure	Up to 199.990 000 mV (>0.199 99 to 1.999 900 00) V (>1.9999 to 19.999 000 0) V (>19.999 to 199.990 000) V (>199.99 to 1050) V	4.3 μ V/V + 0.26 μ V 3.3 μ V/V + 0.72 μ V 3.3 μ V/V + 6.8 μ V 5.2 μ V/V + 68 μ V 5.1 μ V/V + 0.73 mV	Fluke 8508A
DC Current – Generate	Up to 329.9999 μ A (0.33 to 3.299 999) mA (3.3 to 32.999 99) mA (33 to 329.9999) mA (0.33 to 1.1) A (1.1 to 3) A (3 to 11) A (11 to 20) A	0.012 % + 0.02 μ A 77 μ V/V + 0.04 μ A 77 μ V/V + 0.19 μ A 77 μ V/V + 2.0 μ A 0.015 % + 31 μ A 0.030 % + 30 μ A 0.038 % + 0.38 mA 0.077 % + 0.56 mA	Fluke 5520A, 5522A

Parameter/Equipment	Range	CMC ^{2, 3, 4} ($\pm$)	Comments
DC Current – Measure	Up to 199.990 000 μ A (>0.199 99 to 1.999 900 00) mA (>1.9999 to 19.999 000 0) mA (>19.999 to 199.990 000) mA (>0.199 99 to 1.999 900 00) A (1.9999 to 20) A	14 μ A/A + 1.5 μ A 18 μ A/A + 1.5 μ A 48 μ A/A + 1.5 μ A 88 μ A/A + 3.6 μ A 340 μ A/A + 32 μ A 530 μ A/A + 0.46 mA	Fluke 8508A
Resistance – Generate	Up 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 (330 to 1100) M Ω	31 $\mu\Omega/\Omega$ + 7.6 m Ω 23 $\mu\Omega/\Omega$ + 11 m Ω 22 $\mu\Omega/\Omega$ + 11 m Ω 22 $\mu\Omega/\Omega$ + 15 m Ω 22 $\mu\Omega/\Omega$ + 15 m Ω 22 $\mu\Omega/\Omega$ + 150 m Ω 22 $\mu\Omega/\Omega$ + 76 m Ω 22 $\mu\Omega/\Omega$ + 760 m Ω 22 $\mu\Omega/\Omega$ + 760 m Ω 25 $\mu\Omega/\Omega$ + 7.6 Ω 25 $\mu\Omega/\Omega$ + 7.6 Ω 46 $\mu\Omega/\Omega$ + 120 Ω 0.010 % + 190 Ω 0.020 % + 1.9 k Ω 0.039 % + 2.2 k Ω 0.23 % + 75 k Ω 1.2 % + 380 k Ω	Fluke 5520A, 5522A
Resistance – Measure	Up to 2 Ω (0 to 20) Ω (0 to 200) Ω (0 to 2) k Ω (0 to 20) k Ω (0 to 200) k Ω (0 to 2) M Ω (0 to 20) M Ω (0 to 200) M Ω (0 to 2) G Ω	0.51 % + 54 $\mu\Omega$ 7.5 $\mu\Omega/\Omega$ + 5.9 $\mu\Omega$ 7.6 $\mu\Omega/\Omega$ + 0.15 m Ω 7.6 $\mu\Omega/\Omega$ + 1.5 m Ω 7.6 $\mu\Omega/\Omega$ + 15 m Ω 43 $\mu\Omega/\Omega$ + 0.15 Ω 9.6 $\mu\Omega/\Omega$ + 1.1 Ω 22 $\mu\Omega/\Omega$ + 91 Ω 0.013 % + 9.1 k Ω 0.14 % + 910 k Ω	Fluke 8508A
Oscilloscopes – Level Sine Amp 50 Ω Level Sine Flatness Relative to 50 kHz Reference	4.4 mV to 5.560 V _{p-p} 0.1 Hz to 550 MHz 550 MHz to 1.16 GHz (1.16 to 2.5) GHz (2.5 to 3.2) GHz	2.1 % 5.0 % flatness 6.0 % flatness 5.5 % flatness 5.5 % flatness	Fluke 9500B 0.2 Hz to 550 MHz 5V 3V 2V

Parameter/Equipment	Range	CMC ^{2, 3, 4} (±)	Comments
Oscilloscopes – (cont)			Fluke 9500B
Square Wave Amp	2 mV to 200 V _{p-p} 2 mV to 5 V _{p-p}	0.18 % 0.18 %	Into 1 MΩ load Into 50 Ω load (10 Hz)
DC Signal Level	±1 mV to ±200 V ±1 mV to ±5 V	0.086 % 0.097 %	Into 1 MΩ load Into 50 Ω load
Edge Transition Time	10 Hz to 2 MHz	210 ps	
Time Marker Output	(0.5 to 10) ns	0.20 %	
Frequency	(10 to 40) Hz 40 Hz to 11.999 kHz 12 kHz to 10 MHz	73 μHz/Hz + 240 μHz 53 μHz/Hz + 47 mHz 12 μHz/Hz + 340 mHz	Fluke 9500B
Electrical Calibration of Thermocouple Indicating Systems ³ –			
Type E	(250 to 1000) °C	0.45 °C	Fluke 5520A
Type J	(210 to 1200) °C	0.27 °C	
Type K	(200 to 1372) °C	0.37 °C	
Type T	(250 to 400) °C	0.56 °C	
DC Power – Generate			
33 mV to 1020 V	(0.33 to 329.99) mA (0.33 to 2.9999) A (3 to 20.5) A	0.18 mW/W + 1.8 μW 0.17 mW/W + 25 μW 0.54 mW/W + 85 μW	Fluke 5520A

Parameter/Range	Frequency	CMC ^{2, 3} (±)	Comments
AC Voltage – Generate			
(1.0 to 33) mV	(10 to 45) Hz 45 Hz to 10 kHz	0.061 % + 4.6 μV 0.012 % + 4.6 μV	Fluke 5520A

Parameter/Range	Frequency	CMC ^{2,3} (±)	Comments
AC Voltage – Generate (cont)			
(1.0 to 33) mV	(10 to 20) kHz (20 to 50) kHz (50 to 100) kHz	0.015 % + 4.6 µV 0.077 % + 4.6 µV 0.27 % + 9.1 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	0.023 % + 38 µV 0.011 % + 6.1 µV 0.012 % + 6.1 µV 0.027 % + 6.1 µV 0.061 % + 24 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	0.023 % + 38 µV 0.015 % + 46 µV 0.015 % + 46 µV 0.023 % + 38 µV 0.054 % + 95 µV 0.18 % + 0.46 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	0.023 % + 0.50 mV 0.012 % + 0.46 mV 0.018 % + 0.46 mV 0.027 % + 0.46 mV 0.069 % + 1.2 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	0.015 % + 1.5 mV 0.015 % + 4.6 mV 0.019 % + 4.6 mV 0.023 % + 4.6 mV 0.15 % + 38 mV	
(330 to 1020) V	45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.023 % + 7.9 µV 0.019 % + 7.9 µV 0.023 % + 7.8 µV	
AC Voltage – Measure			
Up to 199.990 000 mV	(10 to 40) Hz (40 to 100) Hz 100 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz	0.012 % + 5.3 µV 0.010 % + 3.9 µV 0.010 % + 1.9 µV 0.013 % + 3.8 µV 0.030 % + 7.6 µV 0.066 % + 18 µV	Fluke 8508A

Parameter/Range	Frequency	CMC ^{2,3} (±)	Comments
AC Voltage – Measure (cont)			
(>0.1999 to 1.999 900 00) V	(10 to 40) Hz (40 to 100) Hz 100 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz (100 to 300) kHz 300 kHz to 1 MHz	0.010 % + 19 µV 0.0084 % + 19 µV 0.0069 % + 19 µV 0.010 % + 19 µV 0.020 % + 38 µV 0.050 % + 180 µV 0.23 % + 1.8 mV 0.77 % + 18 mV	Fluke 8508A
(>1.9999 to 19.999 000 0) V	(10 to 40) Hz (40 to 100) Hz 100 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz	0.010 % + 0.19 mV 84 µV/V + 0.19 mV 68 µV/V + 0.19 mV 0.010 % + 0.19 mV 0.020 % + 0.38 mV 0.05 % + 1.8 mV	
(>19.999 to 199.990 000) V	(40 to 100) Hz 100 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz	0.0084 % + 1.9 mV 0.041 % + 1.9 mV 0.010 % + 2.0 mV 0.020 % + 3.9 mV 0.05 % + 18 mV	
(>199.99 to 1050) V	40 Hz to 5 kHz	0.011 % + 20 mV	
AC Current – Generate			
(29 to 329.9999) µA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz	0.019 mA/A + 0.076 µA 0.012 mA/A + 0.076 µA 9.6 µA/A + 0.076 µA 0.023 mA/A + 0.11 µA 0.061 mA/A + 0.15 µA 0.12 mA/A + 0.3 µA	Fluke 5520A
(0.33 to 3.299 999) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz	20 µA/A + 0.16 µA 11 µA/A + 0.11 µA 8.3 µA/A + 0.11 µA 16 µA/A + 0.15 µA 38 µA/A + 0.23 µA 77 µA/A + 0.46 µA	
(3.3 to 32.999 99) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz	31 µA/A + 1.6 µA 8.4 µA/A + 1.5 µA 5.2 µA/A + 1.5 µA 7.5 µA/A + 0.15 µA 16 µA/A + 2.3 µA 31 µA/A + 3.0 µA	

Parameter/Range	Frequency	CMC ^{2,3} (±)	Comments
AC Current – Generate (cont)			
(33 to 329.9999) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz	30 µA/A + 16 µA 8.6 µA/A + 15 µA 1.6 µA/A + 15 µA 8.2 µA/A + 38 µA 16 µA/A + 76 µA 31 µA/A + 150 µA	Fluke 5520A
(0.33 to 1.1) A	(10 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	27 µA/A + 77 µA 3.8 µA/A + 76 µA 46 µA/A + 760 µA 46 µA/A + 760 µA	
(1.1 to 3) A	(10 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	11 µA/A + 0.083 mA 4.6 µA/A + 0.076 mA 46 µA/A + 0.76 mA 190 µA/A + 3.8 mA	
(3 to 11) A	(45 to 100) Hz 100 Hz to 1 kHz (1 to 5) kHz	4.7 µA/A + 1.5 mA 7.8 µA/A + 1.5 mA 230 µA/A + 1.5 mA	
(11 to 20.5) A	(45 to 100) Hz 100 Hz to 1 kHz (1 to 5) kHz	10 µA/A + 3.8 mA 12 µA/A + 3.8 mA 230 µA/A + 3.8 mA	
AC Current – Measure			
Up to 199.9900 µA	10 Hz to 10 kHz (10 to 30) kHz	0.048 % + 18 µA 0.061 % + 18 µA	Fluke 8508A
(>0.199 99 to 1.999 900) mA	10 Hz to 10 kHz (10 to 30) kHz	0.028 % + 18 µA 0.061 % + 18 µA	
(>1.9999 to 19.999 00) mA	10 Hz to 10 kHz (10 to 30) kHz	0.028 % + 18 µA 0.061 % + 18 µA	
(>19.999 to 199.9900) mA	10 Hz to 10kHz (10 to 30) kHz	0.028 % + 18 µA 0.057 % + 18 µA	
(>0.1999 to 1.999 900) A	10 Hz to 2 kHz (2 to 10) kHz	0.066 % + 19 µA 0.23 % + 19 µA	
(>1.999 900 to 20) A	10 Hz to 2 kHz (2 to 10) kHz	0.070 % + 66 µA 0.19 % + 63 µA	

Parameter/Range	Frequency	CMC ^{2, 3, 4} (±)	Comments
Capacitance – Generate (0.19 to 1.0999) nF (1.10 to 3.2999) nF (3.3 to 329.999) nF (.33 to 1.099 99) μF (1.1 to 3.299 99) μF (3.3 to 10.9999) μF (11 to 32.9999) μF (33 to 109.999) μF (110 to 329.999) μF (0.33 to 1.099 99) mF (1.1 to 3.2999) mF (3.3 to 10.9999) mF (11 to 32.9999) mF	10 Hz to 10 kHz (10 to 3000) Hz (10 to 1000) Hz (10 to 600) Hz (10 to 300) Hz (10 to 150) Hz (10 to 120) Hz (10 to 80) Hz (0 to 50) Hz (0 to 20) Hz (0 to 6) Hz (0 to 2) Hz (0 to 0.6) Hz	1.1 % 0.55 % 0.23 % 0.23 % 0.23 % 0.24 % 0.32 % 0.41 % 0.35 % 0.35 % 0.35 % 0.35 % 0.64 %	Fluke 5520A
Phase – Generate (0 to ± 179.99)°	45 Hz to 10 kHz	0.12°	Fluke 5520A, 5522A

Parameter/Equipment	Range	CMC ^{2, 3} (±)	Comments
AC Power – Generate (PF = 1, 45 to 65 Hz) (33 to 330) mV	(3.3 to 9) mA (9 to 33) mA (33 to 90) mA (90 to 330) mA (0.33 to 0.9) A (0.9 to 2.2) A (2.2 to 4.5) A (4.5 to 20) A	1.1 mW/W + 2.8 nW 0.77 mW/W + 1.8 nW 1.1 mW/W + 33 nW 0.77 mW/W + 14 nW 0.99 mW/W + 0.33 μW 0.84 mW/W + 0.27 μW 0.92 mW/W + 0.12 μW 0.61 mW/W + 0.08 μW	Fluke 5520A, 5522A
330 mV to 1020 V	(3.3 to 9) mA (9 to 33) mA (33 to 90) mA	0.92 mW/W + 0.12 μW 0.61 mW/W + 0.08 μW 0.92 mW/W + 0.72 μW	

Parameter/Equipment	Range	CMC ^{2,3} (±)	Comments
AC Power – Generate (PF = 1, 45 to 65 Hz) (cont) 330 mV to 1020 V	(90 to 330) mA (0.33 to 0.9) A (0.9 to 2.2) A (2.2 to 4.5) A (4.5 to 20) A	0.61 mW/W + 0.51 µW 0.84 mW/W + 5.7 µW 0.69 mW/W + 4.4 µW 0.18 mW/W + 1.8 µW 0.17 mW/W + 25 µW	Fluke 5520A, 5522A

II. Mechanical

Parameter/Equipment	Range	CMC ^{2,4,5} (±)	Comments
Pressure – Measuring Equipment	(0.2 to 25) psi (1.7 to 100) psi (1 to 1000) psi (1000 to 10 000) psi	0.000 62 % + 0.54 mpsi 0.000 49 % + 0.50 mpsi 0.0019 % + 0.23 mpsi 0.0055 % + 0.48 psi	Ruska 2465-725 Ruska 2465-727 Ruska 2465-729 Fluke PPCH-G A70M

III. Time & Frequency

Parameter/Equipment	Range	CMC ^{2,5} (±)	Comments
Frequency – Measuring Equipment	(10 to 40) Hz 40 Hz to 11.999 kHz 12 kHz to 10 MHz	73 µHz/Hz + 240 µHz 53 µHz/Hz + 47 mHz 12 µHz/Hz + 340 mHz	Fluke 9500B

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 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 fraction/percentage of the reading plus a fixed floor specification.

⁴ In the statement of CMC, percentages are percentage of reading, unless otherwise indicated.

⁵ The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.

⁶ This scope meets A2LA's *P112 Flexible Scope Policy*.



Accredited Laboratory

A2LA has accredited

YOKOGAWA CORPORATION OF AMERICA

Newnan, GA

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 13th day of February 2024.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3474.01
Valid to December 31, 2025

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