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

KIMBALL ELECTRONIC LABORATORY, INC.
2200 E Road to Six Flags
Arlington, TX 76011
Javier Balceiro Phone: 214 412 3944

CALIBRATION

Valid To: June 30, 2028 Certificate Number: 2178.02

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with R205 – A2LA's Calibration Program Requirements), accreditation is granted to this laboratory to perform the following calibrations[1, 6]:

I. Dimensional

Parameter/Equipment	Range	CMC[2, 3] (±)	Comments
Calipers	Up to 24 in	(280 + 11*L*) µin	Gage blocks
Micrometers	Up to 12 in	(62 + 15*L*) µin	Gage blocks
Dial & Test Indicators	Up to 1 in	(92 + 2.1*L*) µin	Dial indicator calibrator
Ring Gage	Up to 4 in	(25 + 1.7*L*) µin	ULM & ring gage

II. Electrical – DC Low Frequency

Parameter/Equipment	Range	CMC[2, 4, 7] (±)	Comments
DC Voltage – Generate	Up to 329.999 mV (0.33 to 3.299) V (3.3 to 32.999) V (33 to 329.999) V (330 to 1000) V	61 µV/V + 3 µV 51 µV/V + 5 µV 51 µV/V + 50 µV 56 µV/V + 500 µV 0.055 mV/V + 1.5 mV	Fluke 5500A

Parameter/Equipment	Range	CMC[2, 4, 5, 7] (±)	Comments
DC Voltage – Measure	Up to 100 mV (0.1 to 1) V (1 to 10) V (10 to 100) V (100 to 1000) V	14 µV/V + 0.4 µV 14 µV/V + 0.3 µV 14 µV/V + 0.5 µV 14 µV/V + 31 µV 15 µV/V + 90 µV	HP 3458A
DC Current – Generate	(0.3 to 3.29) mA (3.3 to 32.9) mA (33 to 329.9) mA 330 mA to 1 A (1 to 10) A	0.013 % + 0.052 µA 0.010 % + 0.25 µA 0.010 % + 3.3 µA 0.031 % + 43 µA 0.069 % + 250 µA	Fluke 5500A
DC Current – Measure	(10 to 100) µA 100 µA to 1 mA (1 to 10) mA (10 to 100) mA 100 mA to 1 A	22 µA/A + 0.83 nA 18 µA/A + 0.017 µA 18 µA/A + 0.17 µA 28 µA/A + 2.3 µA 0.010 % + 44 µA	HP 3458A
Electrical Calibration of Thermocouple Indicating Equipment –			
Type J	(-210 to -100)°C (-100 to -30)°C (-30 to 150)°C (150 to 760)°C	0.29°C 0.19°C 0.17°C 0.20°C	Fluke 5500A
Type K	(-200 to -100)°C (-100 to -25)°C (-25 to 120)°C (120 to 1000)°C (1000 to 1372)°C	0.34°C 0.21°C 0.19°C 0.28°C 0.41°C	
Type T	(-250 to -150)°C (-150 to 0)°C Up to 120°C (120 to 400)°C	0.64°C 0.26°C 0.19°C 0.17°C	
Resistance – Measure	Up to 10 Ω (10 to 100) Ω (0.1 to 1) kΩ (1 to 10) kΩ (10 to 100) kΩ (0.1 to 1) MΩ (1 to 10) MΩ (10 to 100) MΩ	10 µΩ/Ω + 0.6 mΩ 11 µΩ/Ω + 2.4 mΩ 14 µΩ/Ω + 5.0 mΩ 18 µΩ/Ω + 9.3 mΩ 18 µΩ/Ω + 93 mΩ 23 µΩ/Ω + 3.8 Ω 80 µΩ/Ω + 97 Ω 0.11 % + 690 Ω	HP 3458A

Parameter/Equipment	Range	CMC[2, 4, 7] (±)	Comments
Resistance – Generate	Up to 11 Ω (11 to 33) Ω (33 to 110) Ω (110 to 330) Ω (330 to 1100) Ω (1.1 to 3.3) kΩ (3.3 to 11) kΩ (11 to 33) kΩ (33 to 110) kΩ (110 to 330) kΩ (330 to 1100) kΩ (1.1 to 3.3) MΩ (3.3 to 11) MΩ (11 to 33) MΩ (33 to 110) MΩ (110 to 330) MΩ	0.012 % + 8 mΩ 0.012 % + 15 mΩ 90 µΩ/Ω + 15 mΩ 90 µΩ/Ω + 15 mΩ 0.010 % + 56 mΩ 90 µΩ/Ω + 60 mΩ 90 µΩ/Ω + 600 mΩ 90 µΩ/Ω + 600 mΩ 0.011 % + 6 Ω 0.012 % + 6 Ω 0.015 % + 55 Ω 0.015 % + 55 Ω 0.060 % + 560 Ω 0.10 % + 550 Ω 0.51 % + 5.3 kΩ 0.51 % + 17 kΩ	Fluke 5500A

Parameter/Range	Frequency	CMC[2, 4, 7] (±)	Comments
AC Voltage – Generate			
(1 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	0.35 % + 20 µV 0.15 % + 20 µV 0.21 % + 20 µV 0.25 % + 20 µV 0.35 % + 33 µV 1.1 % + 60 µV	Fluke 5500A
(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	0.25 % + 50 µV 0.05 % + 21 µV 0.10 % + 20 µV 0.16 % + 40 µV 0.24 % + 170 µV 0.70 % + 330 µV	
330 mV 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	0.15 % + 250 µV 0.03 % + 60 µV 0.08 % + 60 µV 0.14 % + 300 µV 0.24 % + 1700 µV	
(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	0.15 % + 2600 µV 0.04 % + 600 µV 0.08 % + 2.6 mV 0.19 % + 5 mV 0.24 % + 17 mV	

Parameter/Range	Frequency	CMC[2, 4, 5, 7] (±)	Comments
AC Voltage – Generate (cont)			
(33 to 330) V	45 Hz to 1 kHz (1 to 10) kHz (10 to 20) kHz	0.05 % + 6.7 mV 0.08 % + 15 mV 0.09 % + 33 mV	Fluke 5500A
(330 to 1000) V	45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.05 % + 81 mV 0.21 % + 120 mV 0.21 % + 510 mV	
AC Voltage – Measure			
(1 to 10) mV	(1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz	0.022 % + 4.5 µV 0.011 % + 3.2 µV 0.02 % + 3.1 µV 0.05 % + 9.3 µV 0.041 % + 11 µV 3.4 % + 75 µV	HP 3458A
(10 to 100) mV	(1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz	90 µV/V + 4.7 µV 0.012 % + 2.8 µV 0.018 % + 2.8 µV 0.044 % + 5.9 µV 0.085 % + 4.9 µV 0.27 % + 50 µV	
100 mV to 1 V	(1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz	80 µV/V + 39 µV 80 µV/V + 21 µV 0.015 % + 21 µV 0.031 % + 32 µV 0.082 % + 25 µV 0.31 % + 0.1 mV	
(1 to 10) V	(1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz	80 µV/V + 0.39 mV 80 µV/V + 0.19 mV 0.016 % + 0.19 mV 0.033 % + 0.19 mV 0.082 % + 0.21 mV	
(10 to 100) V	40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz	0.023 % + 1.8 mV 0.023 % + 1.8 mV 0.038 % + 1.9 mV 0.13 % + 1.6 mV	
(100 to 700) V	40 Hz to 1 kHz	0.042 % + 20 mV	

Parameter/Range	Frequency	CMC[2, 4, 7] (±)	Comments
AC Current – Generate			
(30 to 330) µA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.25 % + 0.15 µA 0.13 % + 0.15 µA 0.13 % + 0.25 µA 0.40 % + 0.15 µA 1.3 % + 0.15 µA	Fluke 5500A
(0.33 to 3.3) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.20 % + 0.3 µA 0.10 % + 0.3 µA 0.10 % + 0.3 µA 0.20 % + 0.3 µA 0.60 % + 0.3 µA	
(3.3 to 33) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.20 % + 3 µA 0.10 % + 3 µA 0.09 % + 3 µA 0.20 % + 3 µA 0.60 % + 3 µA	
(33 to 330) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz	0.20 % + 30 µA 0.10 % + 30 µA 0.09 % + 30 µA 0.20 % + 30 µA	
(0.33 to 1) A	(10 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz	0.22 % + 0.25 mA 0.13 % + 0.21 mA 0.81 % + 0.10 mA	
(1 to 10) A	(45 to 65) Hz (65 to 500) Hz 500 Hz to 1 kHz	0.07 % + 2.1 mA 0.10 % + 2.1 mA 0.33 % + 2.1 mA	

Parameter/Range	Frequency	CMC[2, 5, 7] (±)	Comments
AC Current – Measure			
Up to 100 µA	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz	0.40 % + 0.04 µA 0.15 % + 0.03 µA 0.06 % + 0.03 µA 0.06 % + 0.03 µA	HP 3458A
100 µA to 1 mA	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz	0.41 % + 0.21 µA 0.15 % + 0.22 µA 0.06 % + 0.20 µA 0.03 % + 0.20 µA	
(1 to 10) mA	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz	0.40 % + 2 µA 0.15 % + 2 µA 0.06 % + 2 µA 0.03 % + 2 µA	
(10 to 100) mA	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz	0.40 % + 20 µA 0.15 % + 20 µA 0.06 % + 20 µA 0.03 % + 20 µA	
100 mA to 1A	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz	0.40 % + 200 µA 0.16 % + 200 µA 0.08 % + 200 µA 0.10 % + 200 µA	

Parameter/Equipment	Range	CMC[2, 4, 7] (±)	Comments
Capacitance – Generate	(0.5 to 1.1) nF (1.1 to 3.3) nF (3.3 to 11) nF (11 to 33) nF (33 to 110) nF (110 to 330) nF (0.33 to 1.1) µF (1.1 to 3.3) µF (3.3 to 11) µF (11 to 33) µF (33 to 110) µF (110 to 330) µF 330 µF to 1.1 mF	0.45 % + 11 pF 0.51 % + 10 pF 0.50 % + 11 pF 0.26 % + 100 pF 0.26 % + 100 pF 0.26 % + 290 pF 0.23 % + 1.1 nF 0.36 % + 3 nF 0.36 % + 9.9 nF 0.41 % + 30 nF 0.79 % + 13 nF 0.67 % + 490 nF 1.1 % + 370 nF	Fluke 5500A

III. Mechanical

Parameter/Equipment	Range	CMC[2] (±)	Comments
Pressure (Gauges, Transducers, Air Data Test Sets, Pitot Testers)	(0.5 to 32) in·Hg (32 to 68) in·Hg Up to 400 psi (400 to 4000) psi (-14 to 3000) psi (2000 to 10 000) psi	0.0012 in·Hg 0.0016 in·Hg 0.005 % + 0.014 psi 0.0022 % + 0.65 psi 0.039 % + 0.83 psi 0.17 % + 1 psi	Fluke 7750i Mensor Fluke 700G29 Crystal XP2I
Torque – Measuring Equipment	Up to 1000 lbf·ft (0 to 50) lbf·in (30 to 400) lbf·in (100 to 1000) lbf·in (20 to 250) lbf·ft (60 to 600) lbf·ft	1.0 % full scale 0.17 % + 0.11 lbf·in 0.28 % + 0.17 lbf·in 0.31 % + 0.03 lbf·in 0.26 % + 0.16 lbf·ft 0.30 % + 0.10 lbf·ft	AKO TSD 1011 & 2511 CDI 2000-400-02 CDI 2000-12-02

[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. Where ranges are not specified, the best measurement uncertainty stated is for the cardinal points only.

[3] In the statement of CMC, L is the numerical value of the nominal length of the device measured in inches, .

[4] The measurands stated are generated with the Fluke 5500A. This capability is suitable for the calibration of the devices intended to measure the stated measurand in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a fraction of the reading plus a fixed floor specification.

[5] The measurands stated are measured with the HP 3458A. This capability is suitable for the calibration of the devices intended to generate the measurand in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a combination of the fraction of the reading/output plus a range specification.

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

[7] 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. CMC's 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.

Accredited Laboratory

A2LA has accredited

KIMBALL ELECTRONIC LABORATORY, INC.

Arlington, TX

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 1st of September 2026.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2178.02
Valid to June 30, 2028

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