



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

FUTEK ADVANCED SENSOR TECHNOLOGY, INC.
19 Morgan
Irvine, CA 92618
Thomas C. Bowles Phone: 949 297 9685

CALIBRATION

Valid To: May 31, 2027

Certificate Number: 2412.01

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^{1,4}:

I. Mechanical

Parameter/Equipment	Range	CMC ^{2,3,5} (±)	Comments
Force – Measure	(200 to 5000) lbf (1294 to 50 000) lbf (5388 to 120 000) lbf	0.040 % FS 0.017 % FS 0.028 % FS	Load cells
Force – Measuring Equipment	(1 to 5) mgf (10 to 20) mgf (50 to 500) mgf (1 to 20) lbf (0.002 to 50) lbf (1 to 10) lbf (5 to 25) lbf (10 to 50) lbf (20 to 100) lbf (10 to 200) lbf (10 to 300) lbf (100 to 500) lbf (100 to 3000) lbf	0.40 % FS 0.19 % FS 0.021 % FS 0.015 % FS 0.015 % FS 0.016 % FS 0.010 % FS 0.012 % FS 0.022 % FS 0.010 % FS 0.013 % FS 0.011 % FS 0.009 % FS	ASTM Class 1 weights ASTM Class 3 weights ASTM Class 6 and Class F weights ASTM Class 7 weights Dead weight machines

Parameter/Equipment	Range	CMC ^{2, 3, 5} (\pm)	Comments
Torque – Measure	(0.10 to 25) lbf·in (890 to 10 000) lbf·in (2082 to 24 000) lbf·in	0.072 % FS 0.066 % FS 0.089 % FS	Torque cells
Torque – Measuring Equipment	(0.0125 to 25) lbf·in (5 to 885) lbf·in (885 to 4000) lbf·in (4000 to 24 000) lbf·in	0.044 % FS 0.048 % FS 0.032 % FS 0.053 % FS	Torque arms and weights
Pressure – Measure	(0 to 1515) psia (300 to 10 000) psig	0.014 % FS 0.047 % FS	Reference pressure cells Mensor CPC6050 CPP 1000X
Rotational Speed, RPM – Measuring Equipment	(120 to 12 000) rpm	0.057 % FS	Tachometer

II. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC ^{2, 3, 6} (\pm)	Comments
DC Voltage – Measure	(0 to 100) mV (0.1 to 1) V (1 to 10) V (10 to 100) V	0.0034 % FS 0.0008 % FS 0.0005 % FS 0.0019 % FS	Fluke 8508A
DC Current – Measure	(0 to 10) mA (10 to 100) mA	0.0067 % FS 0.012 % FS	Fluke 8508A
Resistance – Measure	100 Ω to 10 k Ω	0.015 % FS	Fluke 8508A
DC Voltage Ratio – Measure	(0.05 to 10) mV/V	0.018 % FS	mV/V simulator, Vishay precision calibrator

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 In the statement of CMC, “% FS” means percentage of Full Scale unless otherwise noted.
- ⁴ This scope meets A2LA's *P112 Flexible Scope Policy*.
- 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 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.