



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

PCB PIEZOTRONICS, INC., PCB LOAD & TORQUE DIVISION
24350 Indoplex Circle
Farmington Hills, MI 48335
Lance Pellens Phone: 716 684 0002 x 3310

CALIBRATION

Valid To: April 30, 2022

Certificate Number: 1015.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1, 4}:

I. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC ^{2, 3} (±)	Comments
DC Voltage – Measure	(0 to 100) mV 100 mV to 1 V (1 to 10) V (10 to 100) V	10 µV 44 µV 0.41 mV 6.0 mV	6.5 digit digital multi-meter
Electrical Calibration of Load Indicators	(0 to 2.5) mV/V	0.0004 mV/V	mV/V ratio calculated
Torque/Force Indicating System	(0 to 2.5) mV/V	0.003 mV/V	Precision bridge simulator

II. Mechanical

Parameter/Equipment	Range	CMC ^{2, 5} (±)	Comments
Force – Tension and Compression	Up to 250 lbf (250 to 500) lbf	0.021 % 0.011 %	Deadweight
	(500 to 2200) lbf (2200 to 30 000) lbf (30 000 to 100 000) lbf	0.020 % Full Scale 0.023 % Full Scale 0.024 % Full Scale	Reference load cell

Parameter/Equipment	Range	CMC ² (±)	Comments
Torque	Up to 2 lbf-in (2 to 100) lbf-in (10 to 3600) lbf-in (3600 to 12 000) lbf-in (12 000 to 144 000) lbf-in (144 000 to 216 000) lbf-in	0.230 % Full Scale 0.042 % Full Scale 0.016 % Full Scale 0.011 % Full Scale 0.024 % Full Scale 0.016 % Full Scale	Torque arm with weights
	(12 000 to 64 800) lbf-in (64 800 to 216 000) lbf-in	0.082 % Full Scale 0.042 % Full Scale	Reference torque cell

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 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.

⁴ This scope meets A2LA's *P112 Flexible Scope Policy*.

⁵ In the statement of CMC, percentages are percentage of reading, unless otherwise indicated.



Accredited Laboratory

A2LA has accredited

PCB PIEZOTRONICS, INC., PCB LOAD & TORQUE DIVISION

Farmington Hills, MI

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 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 2nd day of October 2020.

A handwritten signature in blue ink, appearing to be "A. M. ...".

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1015.01
Valid to April 30, 2022

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