



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

CONSOLIDATED CONTROLS LLC
3620 Busch Dr. SW
Grandville, MI 49418
Bruce Whipple Phone: 616 361 9090

CALIBRATION

Valid To: July 31, 2026

Certificate Number: 1375.01

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with A2LA's Calibration Program Requirements), accreditation is granted to this laboratory to perform the following calibrations^{1,4}:

I. Dimensional

Parameter/Equipment	Range	CMC ^{2, 6} (±)	Comments
Calipers ³	Up to 12 in	100 µin	Gage blocks
Height Indicators ³	Up to 12 in	400 µin	Gage blocks
Rules & Tape Measures ³	Up to 12 in	0.02 in	Gage blocks
Micrometers ³	Up to 12 in	100 µin	Gage blocks

II. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC ^{2,5} (±)	Comments
DC Voltage – Generate ³	(-99.900 to 99.900) mV	0.03 mV	Yokogawa 7651
	(-30.00 to 30.00) V	0.031 V	Yokogawa 7651
Electrical Simulation and Measure of Temperature Indicating Systems ³ –			
Type E T/C	(-50 to 1000) °F	0.41 °F	Yokogawa 7651
Type J	(-50 to 1400) °F	0.41 °F	
Type K	(-50 to 2400) °F	0.51 °F	
Type N	(-50 to 1800) °F	0.52 °F	
Type R	(100 to 3100) °F	1.2 °F	
Type S	(100 to 3100) °F	1.4 °F	
Type T	(-50 to 700) °F	0.42 °F	
Temperature – Measure ³			
Type J	(32 to 1400) °F	1.8 °F	PIE 422 and standard thermocouples
Type K	(32 to 2400) °F	1.8 °F	
Type N	(32 to 1800) °F	1.8 °F	
Type R	(100 to 3100) °F	2.3 °F	
Type T	(32 to 700) °F	1.8 °F	
Other Probe Types	(32 to 2000) °F	2.3 °F	
IR Thermometers – Measuring Equipment	(100 to 2200) °F	4.7 °F	Ircon Model BCH-22F-1 & PIE 422 w/ probe ε = (0.99)

III. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Pressure – Measuring Equipment & Measure Hydraulic Gage ³	(0 to 5000) psi	2.6 psig	UPS 3000AAA

IV. Thermodynamics

Parameter/Equipment	Range	CMC ^{2, 5} (±)	Comments
Relative Humidity – Measure ³	(20 to 80) % RH	2.6 % RH	Vaisala HMP110

¹ This laboratory offers commercial calibration service and field calibration services.

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 the 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 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 contributions from the “best existing device” are not included in the CMC claim.



Accredited Laboratory

A2LA has accredited

CONSOLIDATED CONTROLS LLC

Grandville, 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 the requirements of ANSI/NCSL Z540-1-1994 and the requirements of ANSI/NCSL Z540.3-2006 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 21st day of August 2024.

A blue ink signature of Trace McInturff, written over a horizontal line.

Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1375.01
Valid to July 31, 2024

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