



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

INSCO, INSTRUMENTATION SERVICES INC.
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CALIBRATION

Valid To: December 31, 2021

Certificate Number: 5247.01

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 – Generate	(0 to 100) mV (0 to 1) V (0 to 10) V	0.10 μ V/mV + 1.1 μ V 50 mV/V + 1.5 mV 50 μ V/mV + 53 mV	DC Millivolt reference source E100RC
	(0 to 12) V (0 to 500) mV	0.20 μ V/mV + 19 mV 200 nV/mV + 29 μ V	BEAMEX MC5
DC Voltage – Measure	(0 to 50) V (0 to 500) mV	0.20 μ V/mV + 22 mV 0.20 μ V/mV + 31 μ V	BEAMEX MC5
DC Current – Generate	(0 to 25) mA	0.20 μ A/mA + 22 μ A	BEAMEX MC5
DC Current – Measure	(0 to 100) mA	0.20 μ A/mA + 50 μ A	BEAMEX MC5

II. Mechanical

Parameter/Equipment	Range	CMC ^{2,3} (±)	Comments
Pressure – Measure	(0 to 315) psi	0.19 psi	Druck DPI-104
	(0 to 1015) psi	0.58 psi	
	(0 to 3000) psi	1.5 psi	
	(-15 to 30) psi	0.04 % RDG + 0.048 psi	Beamex MC5 INT2C
	(0 to 2400) psi	0.05 % RDG + 0.78 psi	Beamex MC5 INT160

III. Thermodynamics

Parameter/Equipment	Range	CMC ^{2,3} (±)	Comments
Temperature – Measure and Measuring Equipment	(-195 to 420) °C	0.045 °C	IRTD model 400, 500
	(350 to 1600) °C	1.2 °C	Type S thermocouple
Humidity – Measure and Measuring Equipment	(10 to 85) % RH	1.3 % RH	Vaisala T/H indicator with probe
Thermocouple – Generate			
Type J	(-200 to 0) °C (0 to 1372) °C	0.1 % RDG + 0.63 °C 0.03 % RDG + 0.60° C	Beamex MC5
Type K	(500 to 1000) °C (1000 to 1372) °C	0.02 % RDG + 0.23 °C 0.03 % RDG + 0.14 °C	
Type N	(-200 to 0) °C (0 to 750) °C	0.25 % RDG + 0.68 °C 0.03 % RDG + 0.47 °C	
Type S	(50 to 1500) °C (1500 to 1763) °C	1.7 °C 1.4 °C	
Type T	(-250 to 0) °C (0 to 400) °C	1.5 °C 0.01 % RDG + 0.46 °C	

Parameter/Equipment	Range	CMC ^{2,3} (±)	Comments
Thermocouple – Measure			
Type J	(-200 to 0) °C (0 to 1200) °C	0.07 % RDG + 0.55 °C 0.02 % RDG + 0.51 °C	Beamex MC5
Type K	(-200 to 0) °C (0 to 500) °C	0.10 % RDG + 0.45 °C 0.10 % RDG + 0.23 °C	
Type N	(-200 to 0) °C (0 to 750) °C	0.25 % RDG + 0.68 °C 0.03 % RDG + 0.47 °C	
Type S	(50 to 1500) °C (1500 to 1763) °C	1.7 °C 1.4 °C	
Type T	(-250 to 0) °C (0 to 400) °C	1.5 °C 0.01 % RDG + 0.92 °C	

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 percent or fraction of the reading plus a fixed floor specification.

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



Accredited Laboratory

A2LA has accredited

INSCO, Instrumentation Services Inc.

San Juan, Puerto Rico

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 24th day of February 2020.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5247.01
Valid to December 31, 2021

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