



CERTIFICATE OF ACCREDITATION

ANSI National Accreditation Board

11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

Control Systems 21
713 Range End Road
Dillsburg, PA 17019

has been assessed by ANAB and meets the requirements of international standard

ISO/IEC 17025:2017

while demonstrating technical competence in the field of

CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

L2335

Certificate Number


ANAB Approval

Certificate Valid Through: 11/01/2021
Version No. 003 Issued: 08/14/2019



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. 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).



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Control Systems 21
 713 Range End Road
 Dillsburg, PA 17019
 Sam Hackenberger 717-432-5511
 shackenberger@controlsystems21.com

CALIBRATION

Valid to: **November 1, 2021**

Certificate Number: **L2335**

Electrical – DC/Low Frequency

Parameter/Equipment ¹	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Current Measure	(0.05 to 24) mA	0.02 mA	Process Calibrator
	(24 to 60) mA (60 to 400) mA	0.73 mA 5.1 mA	Multimeter
	(0.01 to 6) A (6 to 10) A	0.07 A 0.18 A	
	(0.5 to 25) A (25 to 50) A (50 to 200) A (200 to 600) A	1.5 A 2 A 5.2 A 24 A	Clamp Meter
DC Current Source	(0.01 to 24) mA	0.02 mA	Process Calibrator
AC Current Measure	(0.5 to 200) A	5.2 A	Clamp Meter
Resistance Measure	(0 to 400) Ω	0.2 Ω	Process Calibrator
Resistance Source	(0 to 400) Ω	0.2 Ω	
RTD Resistance Simulation-Source Pt100 385 3W	(-50 to 300) °C	0.4 °C	
DC Voltage Measure	(0.1 to 90) mV	0.07 mV	Process Calibrator
	(90 to 600) mV (0.02 to 6) V	0.9 mV 0.01 V	Multimeter
	(6 to 60) V (60 to 600) V	0.1 V 1 V	



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Electrical – DC/Low Frequency

Parameter/Equipment ¹	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Voltage Source	(0.1 to 90) mV (0.09 to 10) V	0.07 mV 8 mV	Process Calibrator
Thermocouple Millivolt Simulation – Source & Measure	Type J (0 to 1 200) °C Type K (0 to 1 372) °C Type T (0 to 400) °C Type R (500 to 1 750) °C Type S (500 to 1 750) °C	0.57 °C 0.64 °C 0.45 °C 1.1 °C 1.1 °C	Process Calibrator

Mass and Mass Related

Parameter/Equipment ¹	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Pressure Gages	(0 to 100) psi	0.07 psi	Process Calibrator with Pressure Module
	(100 to 1 000) psi	0.6 psi	Pressure Gauge

Thermodynamic

Parameter/Equipment ¹	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Humidity Sensors	(20 to 70) %RH	3.3 %RH	Digital Temperature / Humidity Meter
Temperature Probes	0 °C	0.1 °C	Ice Bath
	(10 to 100) °C	0.13 °C	Bath and PRT with readout
Baths, Chambers, Freezers, Ovens and Furnaces	(-50 to 100) °C	0.1 °C	PRT with readout
	(-40 to 420) °C	2.1 °C	Process Calibrator/ TC Wire
	(420 to 1 100) °C	2.1 °C	



Thermodynamic

Parameter/Equipment ¹	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Baths, Chambers, Freezers, Ovens and Furnaces	(1 100 to 1 200) °C	2.6 °C	Process Calibrator/ TC Wire

Time and Frequency

Parameter/Equipment ¹	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Timers and Stopwatches	(0.01 to 300) s	0.58 s	Precision Timer

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 ($k=2$), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope
2. This scope is formatted as part of a single document including Certificate of Accreditation No. L2335.



Vice President

