SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

RMH ENTERPRISES. INC DBA SCHLEMMER ASSOCIATES
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CALIBRATION

Valid To: August 31, 2020 Certificate Number: 4924.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations [1]:

I. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
DC Voltage – Measure[3]	(0 to 30) V	0.019 % of reading + 1.2 mV	Process calibrator
DC Voltage – Generate[3]	(0 to 20) V	0.019 % of reading + 1.2 mV	Process calibrator
DC Current – Measure[3]	(0 to 24) mA	0.019 % of reading + 1.2 µA	Process calibrator
DC Current – Generate[3]	(0 to 24) mA	0.019 % of reading + 1.2 µA	Process calibrator

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
Electrical Simulation of Thermocouple Indicators[3] –			
Type J	(-210 to 0) °C (0 to 800) °C (800 to 1200) °C	0.55 °C 0.34 °C 0.44 °C	Process calibrator
Type K	(-200 to 0) °C (0 to 1000) °C (1000 to 1372) °C	0.79 °C 0.44 °C 0.67 °C	
Type N	(-200 to 0) °C (0 to 1300) °C	1.0 °C 0.55 °C	
Type R	(-20 to 1767) °C	1.6 °C	
Type S	(-20 to 1767) °C	1.6 °C	
Type T	(-250 to 0) °C (0 to 400) °C	0.79 °C 0.55 °C	
Electrical Simulation of RTD Indicators[3] –			
Pt 385, 100 Ω	(-200 to 100) °C (100 to 300) °C (300 to 600) °C (600 to 800) °C	0.25 °C 0.38 °C 0.51 °C 0.51 °C	Process calibrator
Pt 385, 200 Ω	(-200 to 100) °C (100 to 300) °C (300 to 630) °C	1.0 °C 1.1 °C 1.3 °C	
Pt 385, 500 Ω	(-200 to 100) °C (100 to 300) °C (300 to 630) °C	0.50 °C 0.63 °C 0.76 °C	
Pt 385, 1000 Ω	(-200 to 100) °C (100 to 300) °C (300 to 630) °C	0.25 °C 0.38 °C 0.51 °C	
Pt 3926, 100 Ω	(-200 to 100) °C (100 to 300) °C (300 to 630) °C	0.25 °C 0.38 °C 0.50 °C	
Pt 3916, 100 Ω	(-200 to 100) °C (100 to 300) °C (300 to 630) °C	0.25 °C 0.38 °C 0.50 °C	

II. Thermodynamics

Parameter	Range	CMC[2, 4] (±)	Comments
Temperature – Measuring Equipment[3]			
Temperature Uniformity Surveys	(0 to 1372) °C	1.6 °C	Process calibrator, Type K reference thermocouples, AMS 2750
System Accuracy Tests	(0 to 1372) °C	1.6 °C	Process calibrator, Type N, S, R, T reference thermocouples, AMS 2750
Temperature – Measure[3]	(50 to 1200) °C	2.6 °C + 0.14 %	Process calibrator, type S TC
	(0 to 750) °C	2.7 °C + 0.43 %	Process calibrator, type J TC
	(50 to 1200) °C	4.8 °C + 0.43 %	Process calibrator, type N TC
	(0 to 350) °C	1.4 °C + 0.43 %	Process calibrator, type T TC
IR Thermometers[3]	(50 to 500) °C	3.5 °C + 0.0092 °C/°C	Blackbody calibrator $\varepsilon = 0.95$ $\lambda = (8 \text{ to } 14)$ µm
	(500 to 1200) °C	8.5 °C + 0.0092 °C/°C	Blackbody calibrator $\varepsilon = 0.98$ $\lambda = (0.9 \text{ to } 1.1)$ µm

[1] This laboratory offers commercial and field 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] Field calibration service is available for this calibration and this laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. 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 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] 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. CMC's 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.

Accredited Laboratory

A2LA has accredited

RMH ENTERPRISES INC. DBA SCHLEMMER ASSOCIATES

Cincinnati, OH

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 11th day of September 2018.

President and CEO
For the Accreditation Council
Certificate Number 4924.01
Valid to August 31, 2020

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