SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

NEW JERSEY INDUSTRIAL CONTROLS, LLC
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CALIBRATION

Valid To: December 31, 2024 Certificate Number: 2250.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1, 7]:

I. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC[2, 8] (±)	Comments
DC Voltage[3, 4] – Measure	1 VDC	0.057 mV	Keysight 34465a

Parameter/Range	Frequency	CMC[2, 8] (±)	Comments
AC Voltage[3, 4] – Measure			
(0.01 to 0.1) V	(3 to 10) Hz	5.4 mV/V + 0.0062 mV	Keysight 34465a
(0.01 to 0.1) V	(> 10 to 12 805) Hz	1.4 mV/V + 0.069 mV	
(> 0.1 to 10) V	(3 to 10) Hz	6.1 mVAC/VAC + 0.0055 mVAC	
(> 0.1 to 10) V	(> 10 to 12 805) Hz	1.6 mVAC/VAC + 0.065 mVAC	
(10 to 240) V	(50 to 60) Hz	0.0079 VAC/VAC + 0.48 VAC	Comparison method with Hioki CM3286, clamp-on power meter

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Parameter/Range	Frequency	CMC[2, 8] (±)	Comments
AC Current[3, 4] – Measure			
(10 to 60) A	(50 to 60) Hz	0.018 AC Amps/AC Amps – 0.036 AC Amps	Comparison method with Hioki CM3286, clamp-on power meter
AC Power[3] – Measure			
(2 to 6) kW (> 6 to 12) kW	(50 to 60) Hz	0.046 kW 0.062 kW	Comparison method with Hioki CM3286, clamp-on power meter
Frequency[3] – Measure			
(0.01 to 10) V	(3 to 10) Hz (> 10 to 100) Hz (> 100 to 12 805) Hz	0.000 81 Hz/Hz + 0.000 000 9 Hz 0.000 35 Hz/Hz + 0.000 046 Hz 0.000 088 Hz/Hz – 0.000 39 Hz	Keysight 34465a

II. Optical Quantities

Parameter/Equipment	Range	CMC[2] (±)	Comments
Weathering Instruments[3, 4] – Irradiance			
Ci3000			
@ 340 nm	(0.25 to 1.61) W/m^2	(0.0072 + 0.078x) W/m^2	Reference lamps[6]
@ 420 nm	(0.59 to 2.22) W/m^2	(0.019 + 0.065x) W/m^2	*x is the irradiation applied in W/m^2
@ (300 to 400) nm	(30 to 182) W/m^2	(0.96 + 0.076x) W/m^2	
Ci4000/Ci35			
@ 340 nm	(0.25 to 1.57) W/m^2	(0.0033 + 0.08x) W/m^2	
@ 420 nm	(0.59 to 3.20) W/m^2	(0.0046 + 0.071x) W/m^2	
@ (300 to 400) nm	(30 to 182) W/m^2	(0.36 + 0.079x) W/m^2	
Ci5000/Ci65			
@ 340 nm	(0.3 to 1.30) W/m^2	(0.0015 + 0.081x) W/m^2	
@ 420 nm	(0.67 to 3.11) W/m^2	(0.0012 + 0.08x) W/m^2	
@ (300 to 400) nm	(26 to 166) W/m^2	(0.099 + 0.08x) W/m^2	
QUV-SE			
@ (310 or 340) nm	(0.40 to 1.60) W/m^2	(0.0017 + 0.079x) W/m^2	UC1 with UC10 sensor
XE-1/XE-3			UC1 with UC20 sensors
@ 340 nm	(0.30 to 1.35) W/m^2	(0.0025 + 0.078x) W/m^2	
@ 420 nm	(0.50 to 2.30) W/m^2	(0.0041 + 0.079x) W/m^2	
@ (300 to 400) nm	(35 to 125) W/m^2	(0.44 + 0.078x) W/m^2	
All Atlas Xenons			
@ 340 nm	(0.29 to 1.60) W/m^2	(0.000 51 + 0.094x) W/m^2	XenoCal 340
@ 420 nm	(0.55 to 2.50) W/m^2	(0.002 + 0.089x) W/m^2	XenoCal 420
@ (300 to 400) nm	(26 to 200) W/m^2	(-0.095 + 0.089x) W/m^2	XenoCal TUV
@ (300 to 800) nm	(245 to 1200) W/m^2	(0.061 + 0.082x) W/m^2	XenoCal BB

III. Mechanical

Parameter/Equipment	Range	CMC[2] (±)	Comments
Air Velocity – Anemometers, Vane, Thermal[3]	(0.5 to 10) m/sec	(0.14 + 0.052*v*) m/sec	Testo 425, *v* is the numerical value of the air velocity in m/s

IV. Thermodynamics

Parameter/Equipment	Range	CMC[2, 9] (±)	Comments
Temperature[3] – Measure			
Fluorescent Devices, Weathering Instruments[5], Ovens, Freezers, Environmental Chambers	(-80 to 0) °C (0 to 100) °C (100 to 350) °C	-0.0019 °C/°C + 0.32 °C 0.12 °C 0.000 26 °C/°C + 0.10 °C	Comparison method RTD with display
Relative Humidity[3] – Measure Equipment			
Weathering Instruments[5]	(10 to 90) % RH	2.2 % RH	Comparison method
Environmental Chambers	(90 to 97.3) % RH	2.7 % RH	Vaisala HMI41
Relative Humidity[3] – Measuring Equipment			
Weathering Instruments[5], Environmental Chambers Transmitters	11.3 % RH (LiCl) 32.8 % RH ($MgCl_2$) 75.3 % RH (NaCl) 97.3 % RH (K_2SO_4)	1.7 % RH 1.5 % RH 1.8 % RH 2.4 % RH	Comparison method Vaisala HMK15 with OEM supplied saturated salt solutions from (20 to 25) °C

V. Time & Frequency

Parameter/Equipment	Range	CMC[2] (±)	Comments
Timing Devices	(5 to 1799) sec (1800 to 86 400) sec	0.000 054 sec/sec + 0.17 sec 0.000 027 sec/sec + 21 sec	Hand stopwatch

[1] This laboratory offers commercial 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 Calibration and Measurement Capability Uncertainty (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 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] Calibration of Weather-Ometer® and Fade-Ometer® instruments which are registered trademarks of Atlas Material Testing Technology, LLC, Chicago, IL.

[5] This includes All Atlas Weather-Ometer® and Fade-Ometer® instruments which are registered trademarks of Atlas Material Testing Technology, LLC, Chicago, Il.

[6] Client's reference lamp utilized in irradiance calibration. Client agreement to specified conditions for maintaining reference lamp traceability and reliability required.

[7] This scope meets A2LA's *P112 Flexible Scope Policy.*

[8] 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.

[9] 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.

Accredited Laboratory

A2LA has accredited

NEW JERSEY INDUSTRIAL CONTROLS, LLC

Dover, NJ

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 7th day of March 2023.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2250.01
Valid to December 31, 2024

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