



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NEW JERSEY INDUSTRIAL CONTROLS, LLC
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CALIBRATION

Valid To: December 31, 2018

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 calibrations¹:

I. Electrical – DC/Low Frequency

Parameter	Range	CMC ² (±)	Comments
DC Voltage ^{3,4} – Measure	1 VDC	0.055 mV	Agilent 34401A

Parameter/ Range	Frequency	CMC ² (±)	Comments
AC Voltage ^{3,4} – Measure			
(0 to 0.1) V	(5 to 10) Hz	0.072 mV + 3.3 mV/V	Agilent 34401A
(0 to 0.1) V	10 Hz to 20 kHz	0.085 mV + 0.26 mV/V	
(0 to 1) V	(5 to 10) Hz	0.41 mV + 3.5 mV/V	
(0 to 1) V	10 Hz to 20 kHz	0.37 mV + 0.57 mV/V	
(0 to 10) V	(5 to 10) Hz	3.5 mV + 3.5 mV/V	
(0 to 10) V	10 Hz to 20 kHz	8.6 mV + 0.37 mV/V	
(10 to 200) V	60 Hz	1.0 V + 0.013 V/V	Comparison method with Yokogawa 2433-11, clamp-on power meter (@ 60 Hz only)
(200 to 500) V	60 Hz	1.5 V + 0.0011 V/V	

Parameter/ Range	Frequency	CMC ² (±)	Comments
AC Current ^{3,4} – Measure (10 to 100) A	(50 to 60) Hz	0.25 A	Comparison method with Yokogawa 2433-11, clamp-on power meter
AC Power ^{2,3} – Measure (2 to 6) kW (>6 to 12) kW	(50 to 60) Hz	0.062 kW 0.090 kW	Comparison method with Yokogawa 2433-11, clamp-on power meter
Frequency ^{2,3} – Measure Above 100 mV Below 100 mV	(5 to 10) Hz (10 to 40) Hz 40 Hz to 300 kHz (5 to 10) Hz (10 to 40) Hz 40 Hz to 300 kHz	0.002 Hz + 0.0004 Hz/Hz 0.00004 Hz + 0.00031 Hz/Hz 0.0085 Hz + 0.0001 Hz/Hz 0.000026 Hz + 0.0010 Hz/Hz 0.000020 Hz + 0.0061 Hz/Hz 0.016 Hz + 0.00020 Hz/Hz	Agilent 34401A Uncertainties valid only for measurements above 10 mV

II. Optical Quantities

Parameter/Equipment	Range	CMC ² (±)	Comments
Weathering Instruments ^{3,4} – Irradiance Ci3000 @ 340 nm @ 420 nm @ (300 to 400) nm Ci4000 / Ci35 @ 340 nm @ 420 nm @ (300 to 400) nm	(0.25 to 1.61) W/m ² (0.70 to 3.09) W/m ² (30 to 181) W/m ² (0.25 to 1.57) W/m ² (0.59 to 3.0) W/m ² (30 to 183) W/m ²	0.013 W/m ² + 0.057 W/m ² / W/m ² 0.028 W/m ² + 0.037 W/m ² / W/m ² 2 W/m ² + 0.044 W/m ² / W/m ² 0.006 W/m ² + 0.060 W/m ² / W/m ² 0.001 W/m ² + 0.050 W/m ² / W/m ² 0.89 W/m ² + 0.048 W/m ² / W/m ²	Reference lamps ⁶

Parameter/Equipment	Range	CMC ² (±)	Comments
Weathering Instruments ^{3,4} – Irradiance (cont)			
Ci5000 / Ci65 @ 340 nm	(0.2 to 1.38) W/m ²	0.0024 W/m ² + 0.062 W/m ² / W/m ²	Reference lamps ⁶
@ 420 nm	(0.67 to 3.11) W/m ²	0.0033 W/m ² + 0.043 W/m ² / W/m ²	
@ (300 to 400) nm	(26 to 166) W/m ²	0.41 W/m ² + 0.050 W/m ² / W/m ²	

III. Thermodynamics

Parameter/Equipment	Range	CMC ² (±)	Comments
Temperature ³ – Measure Fluorescent Devices Weathering Instruments ⁵ Ovens & Launder-Ometers Environmental Chambers	(-50 to 150) °C (0 to 350) °C	0.12 °C 0.65 °C	Comparison method RTD with display
Relative Humidity ³ – Measure Equipment Weathering Instruments ⁵ Environmental Chambers	(10 to 95) % RH	2.5 % RH	Comparison method 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 ₂ SO ₄)	1.6 % RH 1.4 % RH 1.6 % RH 1.8 % RH	Comparison method Vaisala HMK15 with OEM supplied saturated salt solutions from 20 °C to 25 °C

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 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 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.



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 17025:2005 *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 8 January 2009*).



Presented this 15th day of June 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 2250.01
Valid to December 31, 2018

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