

## American Association for Laboratory Accreditation

# Accredited Laboratory

A2LA has accredited

## INTERFACE, INC.

Scottsdale, AZ

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 the requirements of ANSI/NCSL Z540-1-1994 and any additional program requirements in the field of calibration. 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 31<sup>st</sup> day of October 2014.

FOR LABORATOR VISION LA DISTRICTO OF LABORATOR VISION LA CONTRACTOR VISI

President & CEO

For the Accreditation Council Certificate Number 1991.01

Valid to November 30, 2016

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



#### SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005 & ANSI/NCSL Z540-1-1994

#### INTERFACE, INC. 7401 E. Butherus Drive Scottsdale, AZ 85260

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#### **CALIBRATION**

Valid To: November 30, 2016 Certificate Number: 1991.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1</sup>:

#### I. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC <sup>2, 3</sup> (±)	Comments
DC Voltage – Measure	(0 to 0.14) V (0.14 to 1.4) V (1.4 to 14) V (14 to 140) V	$\begin{array}{c} 26 \; \mu V/V + 0.2 \; \mu V \\ 24 \; \mu V/V + 2 \; \mu V \\ 22 \; \mu V/V + 20 \; \mu V \\ 22 \; \mu V/V + 200 \; \mu V \end{array}$	Solartron 7071
DC Voltage Ratio	(0 to 0.1)	$0.0007 \% + 0.1 \ \mu V/V_{ref}$	Kelvin-Varley divider
Resistance – Measure	$\begin{array}{c} (0 \text{ to } 1.4) \text{ k}\Omega \\ (0.14 \text{ to } 1.4) \text{ k}\Omega \\ (1.4 \text{ to } 14) \text{ k}\Omega \\ (14 \text{ to } 140) \text{ k}\Omega \\ (140 \text{ to } 1400) \text{ k}\Omega \end{array}$	$\begin{array}{c} 26 \; \mu\Omega/\Omega + 0.2 \; m\Omega \\ 26 \; \mu\Omega/\Omega + 2 \; m\Omega \\ 26 \; \mu\Omega/\Omega + 20 \; m\Omega \\ 28 \; \mu\Omega/\Omega + 0.2 \; \Omega \\ 36 \; \mu\Omega/\Omega + 2 \; \Omega \end{array}$	Solartron 7071

Peter Mbryer

#### II. Mechanical

Parameter/Equipment	Range	CMC <sup>2, 3</sup> (±)	Comments
Force – Load Cells, Force Transducers	(200 to 240 000) lbf (100 to 1100) lbf (240 000 to 1 000 000) lbf	0.035 % 0.05 % 0.041 %	Load cells
	(1 to 500) lbf	0.04 %	Free weights
	(25 to 1100) lbf	0.03 %	Actuated weights
	(10 to 550) lbf	0.021 %	Actuated weights (stainless steel)
	(2 to 50) gf (25 to 2000) gf	0.04 % 0.03 %	Free weights
Torque – Torque Transducers	(0.022 to 0.11) in·lbf (0.09 to 0.18) in·lbf (0.20 to 100) in·lbf (2.2 to 250) in·lbf (8.8 to 177) in·lbf (40 to 2200) in·lbf (1700 to 10 000) in·lbf (4400 to 50 000) in·lbf	0.37 % 0.1 % 0.055 % 0.042 % 0.05 % 0.04 % 0.11 % 0.07 %	Torque arm and weights  Transducer comparison
	(2000 to 100 000) in·lbf	0.14 %	comparison

<sup>&</sup>lt;sup>1</sup> This laboratory offers commercial calibration service.

Peter Mhyer

<sup>&</sup>lt;sup>2</sup> 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.

<sup>&</sup>lt;sup>3</sup> In the statement of CMC a % denotes a percent of reading unless otherwise noted.