



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

PCI Midland

3400 South Saginaw, Midland, MI 48642

(Hereinafter called the Organization) and hereby declares that Organization 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 (as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Electrical, Mechanical, Thermodynamic and Time and Frequency Calibration
(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President

Initial Accreditation Date:

January 23, 2022

Issue Date:

January 24, 2024

Expiration Date:

January 31, 2026

Accreditation No.:

54363

Certificate No.:

L24-68-2

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjabs.com



Certificate of Accreditation: Supplement

PCI Midland

3400 South Saginaw, Midland, MI 48642
 Contact Name: Mark DeRoo Phone: 847-269-8795

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure AC Current at the listed frequencies ^F			Fluke 5500A CCA033, Calibration of Electronic Devices
10 Hz to 20 Hz	-0.029 mA to 0.329 99 mA	0.002 9 μ A/ μ A + 0.18 μ A	
20 Hz to 45 Hz	-0.029 mA to 0.329 99 mA	0.001 4 μ A/ μ A + 0.18 μ A	
45 Hz to 1 kHz	-0.029 mA to 0.329 99 mA	0.000 39 μ A/ μ A + 0.64 μ A	
1 kHz to 5 kHz	-0.029 mA to 0.329 99 mA	0.000 73 μ A/ μ A + 0.31 μ A	
5 kHz to 10 kHz	-0.029 mA to 0.329 99 mA	0.012 μ A/ μ A + 0.25 μ A	
Equipment to Measure AC Current at the listed frequencies ^F			
10 Hz to 20 Hz	0.33 mA to 3.299 99 mA	0.002 3 mA/mA + 0.000 45 mA	
20 Hz to 45 Hz	0.33 mA to 3.299 99 mA	0.002 3 mA/mA + 0.000 027 mA	
45 Hz to 1 kHz	0.33 mA to 3.299 99 mA	0.001 1 mA/mA + 0.000 41 mA	
1 kHz to 5 kHz	0.33 mA to 3.299 99 mA	0.002 3 mA/mA + 0.000 36 mA	
5 kHz to 10 kHz	0.33 mA to 3.299 99 mA	0.003 2 mA/mA + 0.001 7 mA	
Equipment to Measure AC Current at the listed frequencies ^F			
10 Hz to 20 Hz	3.3 mA to 32.999 9 mA	0.002 3 mA/mA + 0.003 5 mA	
20 Hz to 45 Hz	3.3 mA to 32.999 9 mA	0.001 03 mA/mA + 0.004 0 mA	
45 Hz to 1 kHz	3.3 mA to 32.999 9 mA	0.001 mA/mA + 0.003 5 mA	
1 kHz to 5 kHz	3.3 mA to 32.999 9 mA	0.002 31 mA/mA + 0.003 5 mA	
5 kHz to 10 kHz	3.3 mA to 32.999 9 mA	0.006 9 mA/mA + 0.003 6 mA	
Equipment to Measure AC Current at the listed frequencies ^F			
10 Hz to 20 Hz	33 mA to 329.999 mA	0.002 31 mA/mA + 0.035 mA	
20 Hz to 45 Hz	33 mA to 329.999 mA	0.001 mA/mA + 0.039 mA	
45 Hz to 1 kHz	33 mA to 329.999 mA	0.001 mA/mA + 0.035 mA	
1 kHz to 5 kHz	33 mA to 329.999 mA	0.002 3 mA/mA + 0.039 mA	
5 kHz to 10 kHz	33 mA to 329.999 mA	0.006 9 mA/mA + 0.036 mA	
Equipment to Measure AC Current at the listed frequencies ^F			
10 Hz to 45 Hz	0.33 A to 2.199 99 A	0.001 5 A/A + 0.005 3 A	
45 Hz to 1 kHz	0.33 A to 2.199 99 A	0.001 2 A/A + 0.000 34 A	
1 kHz to 5 kHz	0.33 A to 2.199 99 A	0.008 7 A/A + 0.000 32 A	
Equipment to Measure AC Current at the listed frequencies ^F			
45 Hz to 65 Hz	2.2 A to 11 A	0.000 72 A/A + 0.002 3 A	
65 Hz 500 Hz	2.2 A to 11 A	0.001 2 A/A + 0.002 3 A	
500 Hz to 1 kHz	2.2 A to 11 A	0.003 8 A/A + 0.002 3 A	



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Equipment to Measure AC Voltage at the listed frequencies ^F			Fluke 5500A CCA033, Calibration of Electronic Devices
10 Hz to 45 Hz	1 mV to 32.999 mV	0.004 mV/mV + 0.023 mV	
45 Hz to 10 kHz	1 mV to 32.999 mV	0.001 7 mV/mV + 0.023 mV	
10 kHz to 20 kHz	1 mV to 32.999 mV	0.002 3 mV/mV + 0.023 mV	
20 kHz to 50 kHz	1 mV to 32.999 mV	0.002 9 mV/mV + 0.023 mV	
50 kHz to 100 kHz	1 mV to 32.999 mV	0.004 mV/mV + 0.038 mV	
100 kHz to 500 kHz	1 mV to 32.999 mV	0.012 mV/mV + 0.07 mV	
Equipment to Measure AC Voltage at the listed frequencies ^F			
10 Hz to 45 Hz	33 mV to 329.999 mV	0.002 9 mV/mV + 0.058 mV	
45 Hz to 10 kHz	33 mV to 329.999 mV	0.000 58 mV/mV + 0.023 mV	
10 kHz to 20 kHz	33 mV to 329.999 mV	0.001 2 mV/mV + 0.023 mV	
20 kHz to 50 kHz	33 mV to 329.999 mV	0.001 8 mV/mV + 0.046 mV	
50 kHz to 100 kHz	33 mV to 329.999 mV	0.002 8 mV/mV + 0.2 mV	
100 kHz to 500 kHz	33 mV to 329.999 mV	0.008 1 mV/mV + 0.38 mV	
Equipment to Measure AC Voltage at the listed frequencies ^F			
10 Hz to 45 Hz	0.33 V to 3.299 99 V	0.000 35 V/V + 0.000 069 V	
45 Hz to 10 kHz	0.33 V to 3.299 99 V	0.000 348 V/V + 0.000 069 2 V	
10 kHz to 20 kHz	0.33 V to 3.299 99 V	0.000 92 V/V + 0.000 072 V	
20 kHz to 50 kHz	0.33 V to 3.299 99 V	0.001 6 V/V + 0.000 35 V	
50 kHz to 100 kHz	0.33 V to 3.299 99 V	0.002 8 V/V + 0.002 V	
100 kHz to 500 kHz	0.33 V to 3.299 99 V	0.005 8 V/V + 0.003 8 V	
Equipment to Measure AC Voltage at the listed frequencies ^F			
10 Hz to 45 Hz	3.3 V to 3.299 99 V	0.001 73 V/V + 0.002 9 V	
45 Hz to 10 kHz	3.3 V to 3.299 99 V	0.000 46 V/V + 0.000 69 V	
10 kHz to 20 kHz	3.3 V to 3.299 99 V	0.000 92 V/V + 0.003 1 V	
20 kHz to 50 kHz	3.3 V to 3.299 99 V	0.002 2 V/V + 0.005 8 V	
50 kHz to 100 kHz	3.3 V to 3.299 99 V	0.002 8 V/V + 0.02 V	
Equipment to Measure AC Voltage at the listed frequencies ^F			
45 Hz to 1 kHz	33 V to 329.999 V	0.000 58 V/V + 0.007 6 V	
1 kHz to 10 kHz	33 V to 329.999 V	0.000 92 V/V + 0.018 V	
10 kHz to 20 kHz	33 V to 329.999 V	0.000 89 V/V + 0.082 V	
Equipment to Measure AC Voltage at the listed frequencies ^F			
45 Hz to 1 kHz	330 V to 102 0 V	0.000 58 V/V + 0.093 V	
1 kHz to 5 kHz	330 V to 102 0 V	0.002 3 V/V + 0.12 V	
5 kHz to 10 kHz	330 V to 102 0 V	0.002 3 V/V + 0.58 V	



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Equipment to Measure DC Current ^F	0 mA to 3.299 9 mA	0.000 14 mA/mA + 0.000 083 mA	Fluke 5500A CCA033, Calibration of Electronic Devices
	3.3 mA to 32.999 mA	0.000 12 mA/mA + 0.000 31 mA	
	33 mA to 329.99 mA	0.000 12 mA/mA + 0.003 9 mA	
	0 A to 2.199 9 A	0.000 34 A/A + 0.000 077 A	
	2.2 A to 11 A	0.000 69 A/A + 0.000 39 A	
Equipment to Measure DC Voltage ^F	0 mV to 329.99 mV	0.000 069 mV/mV + 0.003 5 mV	
	0.330 V to 3.299 9 V	0.000 057 V/V + 0.000 008 2 V	
	330 mV to 3 299.9 mV	0.000 057 mV/mV + 0.008 2 mV	
	3.30 V to 32.999 V	0.000 057 V/V + 0.000 082 V	
	33.0 V to 329.99 V	0.000 063 V/V + 0.000 63 V	
	330 V to 100 0 V	0.000 063 V/V + 0.002 8 V	
Equipment to Measure Capacitance ^F	0.33 nF to 0.499 9 nF	0.005 3 nF/nF + 0.012 nF	
	0.5 nF to 1.099 9 nF	0.005 6 nF/nF + 0.012 nF	
	1.1 nF to 10.999 nF	0.005 8 nF/nF + 0.012 nF	
	11 nF to 32.999 nF	0.002 9 nF/nF + 0.12 nF	
	33 nF to 109.99 nF	0.002 8 nF/nF + 0.13 nF	
	110 nF to 329.99 nF	0.003 nF/nF + 0.34 nF	
	0.33 μ F to 1.099 9 μ F	0.002 9 μ F/ μ F + 0.001 2 μ F	
	1.1 μ F to 3.299 9 μ F	0.000 26 μ F/ μ F + 0.008 1 μ F	
	3.3 μ F to 10.999 μ F	0.004 1 μ F/ μ F + 0.012 μ F	
	11 μ F to 32.999 μ F	0.004 7 μ F/ μ F + 0.034 μ F	
	33 μ F to 109.99 μ F	0.005 8 μ F/ μ F + 0.12 μ F	
	110 μ F to 329.99 μ F	0.008 1 μ F/ μ F + 0.36 μ F	
	330 μ F to 1.1 mF	0.012 mF/mF + 0.000 34 mF	



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Equipment to Measure Resistance ^F	0 Ω to 10.999 Ω	0.000 14 Ω/Ω + 0.006 9 Ω	Fluke 5500A CCA033, Calibration of Electronic Devices
	11 Ω to 32.999 Ω	0.000 14 Ω/Ω + 0.012 Ω	
	33 Ω to 109.999 Ω	0.000 11 Ω/Ω + 0.012 Ω	
	110 Ω to 329.999 Ω	0.000 11 Ω/Ω + 0.012 Ω	
	0.330 k Ω to 1.099 99 k Ω	0.000 11 k $\Omega/k\Omega$ + 0.000 069 k Ω	
	330 Ω to 1 099.99 Ω	0.000 11 Ω/Ω + 0.069 Ω	
	1.1 k Ω to 3.299 99 k Ω	0.000 11k $\Omega/k\Omega$ + 0.000 069 k Ω	
	3.3 k Ω to 10.999 9 k Ω	0.000 11 k $\Omega/k\Omega$ + 0.000 69 k Ω	
	11 k Ω to 32.999 9 k Ω	0.000 11 k $\Omega/k\Omega$ + 0.000 69 k Ω	
	33 Ω to 109.999 k Ω	0.000 13 k $\Omega/k\Omega$ + 0.006 93 k Ω	
	110 k Ω to 329.999 k Ω	0.000 14 k $\Omega/k\Omega$ + 0.006 97 k Ω	
	0.33 M Ω to 1.099 99 M Ω	0.000 17 M $\Omega/M\Omega$ + 0.000 064 M Ω	
	1.10 M Ω to 3.299 99 M Ω	0.000 18 M $\Omega/M\Omega$ + 0.000 061 M Ω	
	3.3 M Ω to 10.999 9 M Ω	0.000 69 M $\Omega/M\Omega$ + 0.000 64 M Ω	
	11 M Ω to 32.999 9 M Ω	0.001 2 M $\Omega/M\Omega$ + 0.000 56 M Ω	
33 M Ω to 109.999 M Ω	0.005 8 M $\Omega/M\Omega$ + 0.006 7 M Ω		
110 M Ω to 330 M Ω	0.005 8 M $\Omega/M\Omega$ + 0.019 M Ω		
Temperature Calibration, Indication, and Control Equipment used with RTD (Pt 385) 100 Ω^F	-200 $^{\circ}\text{C}$ to 0 $^{\circ}\text{C}$	0.000 000 088 $^{\circ}\text{C}/^{\circ}\text{C}$ + 0.058 $^{\circ}\text{C}$	Electrical Simulation of Thermocouple Output Fluke 5500A-SC300 Calibrator CCA-033
	Up to 100 $^{\circ}\text{C}$	0.000 000 28 $^{\circ}\text{C}/^{\circ}\text{C}$ + 0.081 $^{\circ}\text{C}$	
	100 $^{\circ}\text{C}$ to 300 $^{\circ}\text{C}$	0.000 000 29 $^{\circ}\text{C}/^{\circ}\text{C}$ + 0.11 $^{\circ}\text{C}$	
	300 $^{\circ}\text{C}$ to 400 $^{\circ}\text{C}$	0.000 000 14 $^{\circ}\text{C}/^{\circ}\text{C}$ + 0.12 $^{\circ}\text{C}$	
	400 $^{\circ}\text{C}$ to 630 $^{\circ}\text{C}$	0.000 000 071 $^{\circ}\text{C}/^{\circ}\text{C}$ + 0.14 $^{\circ}\text{C}$	
	630 $^{\circ}\text{C}$ to 800 $^{\circ}\text{C}$	0.000 000 056 $^{\circ}\text{C}/^{\circ}\text{C}$ + 0.27 $^{\circ}\text{C}$	
Equipment to Measure AC Current at the listed frequencies ^F			Fluke 8508A CCA033, Calibration of Electronic Devices
10 Hz to 10 kHz	20 μA to 199.99 μA	0.000 37 $\mu\text{A}/\mu\text{A}$ + 0.059 μA	
10 Hz to 10 kHz	0.2 mA to 1.999 9 mA	0.000 21 mA/mA + 0.000 46 mA	
10 Hz to 10 kHz	2 mA to 19.999 mA	0.000 21 mA/mA + 0.004 6 mA	
10 Hz to 10 kHz	20 mA to 199.99 mA	0.000 19 mA/mA + 0.045 3mA	
Equipment to Measure AC Voltage at the listed frequencies ^F			
10 Hz to 40 Hz	Up to 199.99 mV	0.000 13 mV/mV + 0.011 mV	
40 Hz to 100 Hz	Up to 199.99 mV	0.000 1 mV/mV + 0.011 mV	
100 Hz to 2 kHz	Up to 199.99 mV	0.000 097 mV/mV + 0.008 3 mV	
2 kHz to 10 kHz	Up to 199.99 mV	0.000 089 mV/mV + 0.012 mV	
10 kHz to 30 kHz	Up to 199.99 mV	0.000 73 mV/mV - 0.052 mV	
30kHz to 100 kHz	Up to 199.99 mV	0.000 86 mV/mV + 0.03 mV	



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Equipment to Measure AC Voltage at the listed frequencies ^F			Fluke 8508A CCA033, Calibration of Electronic Devices
10 Hz to 40 Hz	0.2 V to 1.999 9 V	0.000 1 V/V + 0.000 07 V	
40 Hz to 100 Hz	0.2 V to 1.999 9 V	0.000 088 V/V + 0.000 058 V	
100 Hz to 2 kHz	0.2 V to 1.999 9 V	0.000 06 V/V + 0.000 058 V	
2 kHz to 10 kHz	0.2 V to 1.999 9 V	0.000 083 V/V + 0.000 057 V	
10 kHz to 30 kHz	0.2 V to 1.999 9 V	0.000 18 V/V + 0.000 16 V	
30kHz to 100 kHz	0.2 V to 1.999 9 V	0.000 48 V/V + 0.004 4 V	
Equipment to Measure AC Voltage at the listed frequencies ^F			
10 Hz to 40 Hz	2 V to 19.999 V	0.000 1 V/V + 0.000 7 V	
40 Hz to 100 Hz	2 V to 19.999 V	0.000 088 V/V + 0.000 59 V	
100 Hz to 2 kHz	2 V to 19.999 V	0.000 061 V/V + 0.000 57 V	
2 kHz to 10 kHz	2 V to 19.999 V	0.000 084 V/V + 0.000 56 V	
10 kHz to 30 kHz	2 V to 19.999 V	0.000 18 V/V + 0.001 6 V	
30kHz to 100 kHz	2 V to 19.999 V	0.000 48 V/V + 0.004 4 V	
Equipment to Measure AC Voltage at the listed frequencies ^F			
10 Hz to 40 Hz	20 V to 199.99 V	0.000 11 V/V + 0.007 0 V	
40 Hz to 100 Hz	20 V to 199.99 V	0.000 086 V/V + 0.005 9 V	
100 Hz to 2 kHz	20 V to 199.99 V	0.000 062 V/V + 0.005 8 V	
2 kHz to 10 kHz	20 V to 199.99 V	0.000 086 V/V + 0.005 7 V	
10 kHz to 30 kHz	20 V to 199.99 V	0.000 18 V/V + 0.016 V	
30kHz to 100 kHz	20 V to 199.99 V	0.000 48 V/V + 0.044 V	
Equipment to Measure AC Voltage at the listed frequencies ^F			
40 Hz to 10 kHz	200 V to 1 050 V	0.000 421V/V to 0.037 V	
10 kHz to 30 kHz	200 V to 1 050 V	0.002 1 V/V to 0.31 V	
Equipment to Measure DC Current	20 μ A to 199.99 μ A	0.000 018 uA/uA + 0.000 49 uA	
	0.20 mA to 1.999 9 mA	0.000 018 mA/mA + 0.000 005 mA	
	2 mA to 19.999 mA	0.000 018 6 mA/mA + 0.000 049 mA	
	20 mA to 199.99 mA	0.000 053 mA/mA + 0.000 971 mA	
	0.20 A to 1.999 9 A	0.000 24 A/A + 0.000 02 A	
	2 A to 19.999 A	0.000 54 A/A + 0.000 47 A	
Equipment to Measure DC Voltage ^F	0 mV to 199.99 mV	0.000 007 5 mV/mV + 0.000 14 mV	
	0.2 V to 1.999 9 V	0.000 004 6 V/V + 0.000 000 76 V	
	2 V to 19.999 V	0.000 004 6 V/V + 0.000 007 8 V	
	20 V to 199.99 V	0.000 006 8 V/V + 0.000 079 V	
	200 V to 105 0 V	0.000 006 8 V/V + 0.000 89 V	



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Equipment to Measure Resistance ^F	0.001 Ω to 1.999 9 Ω	0.000 025 Ω/Ω + 0.000 004 6 Ω	Fluke 8508A CCA033, Calibration of Electronic Devices
	0.01 Ω to 19.999 Ω	0.000 014 Ω/Ω + 0.000 016 Ω	
	0.1 Ω to 199.999 Ω	0.000 01 Ω/Ω + 0.000 16 Ω	
	Up to 1.999 k Ω	0.000 011 k $\Omega/k\Omega$ + 0.000 000 70 k Ω	
	Up to 19.999 k Ω	0.000 011 k $\Omega/k\Omega$ + 0.000 005 9 k Ω	
	Up to 199.99 k Ω	0.000 012 k $\Omega/k\Omega$ + 0.000 005 9 k Ω	
	Up to 1.999 9 M Ω	0.000 013 M $\Omega/M\Omega$ + 0.000 001 2 M Ω	
	Up to 19.999 M Ω	0.000 025 M $\Omega/M\Omega$ + 0.000 12 M Ω	
	Up to 199.999 M Ω	0.000 087 M $\Omega/M\Omega$ + 0.014M Ω	
Temperature Calibration, Indication, and Control Equipment used with RTD ^F	-200 $^{\circ}\text{C}$ to 0 $^{\circ}\text{C}$	-0.000 005 7 $^{\circ}\text{C}/^{\circ}\text{C}$ + 0.003 $^{\circ}\text{C}$	Electrical Simulation of RTD, Output Fluke 8508A Calibrator, CCA033, Calibration of Electronic Devices
	Up to 232 $^{\circ}\text{C}$	-0.000 002 5 $^{\circ}\text{C}/^{\circ}\text{C}$ + 0.003 0 $^{\circ}\text{C}$	
	232 $^{\circ}\text{C}$ to 400 $^{\circ}\text{C}$	0.000 003 4 $^{\circ}\text{C}/^{\circ}\text{C}$ + 0.001 6 $^{\circ}\text{C}$	

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure Pressure ^F	Up to 15 psia	0.000 103 psia/psia + 0.000 027 psia	Fluke BRM600-BA100K, CCA222, Calibration of Pressure Devices
Equipment to Measure Pressure ^F	50 psia to 90 psia	0.000 001 8 psia/psia + 0.008 7 psia	Fluke PM500-BG1M, CCA222, Calibration of Pressure Devices
	90 psia to 165 psia	0.000 11 psia/psia - 0.001 1 psia	
	-14.7 psig to 0 psig	-0.000 000 19 psig/psig + 0.00 85 psig	
Equipment to Measure Pressure ^F	Up to 75 psig	0.000 001 8 psig/psig + 0.008 5 psig	Fluke PM600-A2M, CCA222, Calibration of Pressure Devices
	75 psig to 150 psig	0.000 12 psig/psig + 0.000 24 psig	
Equipment to Measure Pressure ^F	165 psia to 315 psia	0.000 10 psia/psia - 0.001 3 psia	Fluke PM600-A7M, CCA222, Calibration of Pressure Devices
	150 psig to 300 psig	0.000 10 psig/psig + 0.000 086 psig	
Equipment to Measure Pressure ^F	315 psia to 1 015 psia	0.000 098 psia/psia + 0.005 7 psia	Fluke PM600-A14M, CCA222, CCA014, Calibration of Pressure Devices
	300 psig to 1 000 psig	0.000 098 psig/psig + 0.007 1 psig	
Equipment to Measure Pressure ^F	1 015 psia to 2 015 psia	0.000 11 psia/psia - 0.002 8 psia	Fluke PM600-A14M, CCA222, CCA014, Calibration of Pressure Devices
	1 000 psig to 2 000 psig	0.000 11 psig/psig - 0.001 1 psig	



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Equipment to Measure Pressure ^F	Up to 10 000 psig	0.000 013 psig/psig + 5.8 psig	Honeywell AKW10KGZ, CCA222, CCA014, Calibration of Pressure Devices
Equipment to Measure Pressure ^F	Up to 15 psia	0.000 002 5 psia/psia + 0.001 8 psia	Mensor PCS400, CCA222, Calibration of Pressure Devices
	15 psia to 20 psia	0.000 004 3 psia/psia + 0.002 4 psia	
	20 psia to 50 psia	0.000 001 5 psia/psia + 0.005 8 psia	

Thermodynamic

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Equipment to Measure Temperature ^F	-200 °C to 0 °C	0.000 065 °C/°C + 0.017 °C	Hart Scientific 5615 PRT and Fluke 1502A Thermometer CCA-223
	Up to 420 °C	0.000 079 °C/°C + 0.017 °C	

Time and Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure Frequency ^F	20 MHz to 300 MHz	5 parts in 10^{-8}	Fluke 5500A monitored with GPS disciplined Fluke PM 6666 CCA033
Equipment to Measure RPM Tachometer ^F	1 RPM to 199 999 RPM	0.000 000 031 RPM/RPM + 0.000 058 RPM	Fluke 5500A monitored with GPS disciplined Fluke PM 6666 CCA004

- The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor k (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.



Certificate of Accreditation: Supplement

PCI Midland

3400 South Saginaw, Midland, MI 48642
Contact Name: Mark DeRoo Phone: 847-269-8795

Accreditation is granted to the facility to perform the following calibrations:

2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location.
4. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratories fixed location for similar calibrations. This is due to the effects of transportation of the standards and equipment and upon environmental conditions at the customer site which are typically not controlled as closely as at the laboratories fixed location.
5. The term T represents temperature in °C or °F as appropriate to the uncertainty statement.

Note that temperature and torque both use the same designation "T". This is not a problem unless a laboratory is accredited for both however the usage is common and should be retained when possible and modified in the few cases where a laboratory is accredited for both. In those cases continue to use T for temperature and use Tr for torque. This note is intended for internal office use only and is to be removed during preparation of draft documents.

6. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.
7. This location is linked to 8100 Brownleigh Dr., # 100A, Raleigh, NC 27617 due to a share quality management system.