



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Precision Measurements Corporation

553-E Pylon Drive

Raleigh, NC 27606

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2005

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 January 2009):

Calibration of Electronic Test Equipment, Temperature and Humidity Indicators, Pressure and Vacuum Gauges, Force and Tension Gauges, Linear Measurement Equipment, Scales and Laboratory Balances, Torque Gauges, and Tachometers
(As detailed in the supplement)

Such testing and/or calibration services shall only be offered at or from the address given above. 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:

The validity of this certificate is mandated through ongoing surveillance.

Tracy Szerszen
President/Operations Manager

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
26555 Evergreen, Suite 1325
Southfield, Michigan 48076

Initial Accreditation Date:

July 28, 2003

Accreditation No.:

59283

Issue Date:

June 02, 2010

Certificate No.:

L10-2

Expiration Date:

June 01, 2012

Page No.:

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Precision Measurements Corporation

553-E Pylon Drive
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Accreditation is granted to this facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
DC Voltage - Source	0 mV to 329.999 9 mV	0.006 % of output + 3.0 μ V	Fluke 5500A/SC600
	0 V to 3.299 999 V	0.005 % of output + 5.0 μ V	
	0 V to 32.999 99 V	0.005 % of output + 50.0 μ V	
	30 V to 329.999 9 V	0.005 5 % of output + 500 μ V	
	100 V to 1 020.000 V	0.005 5 % of output + 1 500 μ V	
DC Voltage - Measure	0 mV to 100 mV	0.000 41 % of reading + 1.5 μ V	HP 3458A
	100 mV to 1 V	0.000 37 % of reading + 1.2 μ V	
	1 V to 10 V	0.000 35 % of reading + 2.5 μ V	
	1 kV to 10 kV	0.76 % of reading	EIS High Voltage Divider & HP 3458A
	10 kV to 100 kV	0.76 % of reading	
AC Voltage – Source At the listed frequencies			Fluke 5500A/SC600
10 Hz to 45 Hz	1.0 mV to 32.999 mV	0.35 % of output + 20 μ V	
45 Hz to 10 kHz	1.0 mV to 32.999 mV	0.15 % of output + 20 μ V	
10 kHz to 20 kHz	1.0 mV to 32.999 mV	0.20 % of output + 20 μ V	
20 kHz to 50 kHz	1.0 mV to 32.999 mV	0.25 % of output + 20 μ V	
50 kHz to 100 kHz	1.0 mV to 32.999 mV	0.35 % of output + 33 μ V	
100 kHz to 500 kHz	1.0 mV to 32.999 mV	1.00 % of output + 60 μ V	
AC Voltage – Source At the listed frequencies			
10 Hz to 45 Hz	33 mV to 329.999 mV	0.25 % of output + 50 μ V	
45 Hz to 10 kHz	33 mV to 329.999 mV	0.05 % of output + 20 μ V	
10 kHz to 20 kHz	33 mV to 329.999 mV	0.10 % of output + 20 μ V	
20 kHz to 50 kHz	33 mV to 329.999 mV	0.16 % of output + 40 μ V	
50 kHz to 100 kHz	33 mV to 329.999 mV	0.24 % of output + 170 μ V	
100 kHz to 500 kHz	33 mV to 329.999 mV	0.70 % of output + 330 μ V	



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AC Voltage – Source At the listed frequencies			Fluke 5500A/SC600
10 Hz to 45 Hz	0.33 V to 3.299 99 V	0.15 % of output + 250 μ V	
45 Hz to 10 kHz	0.33 V to 3.299 99 V	0.03 % of output + 60 μ V	
10 kHz to 20 kHz	0.33 V to 3.299 99 V	0.08 % of output + 60 μ V	
20 kHz to 50 kHz	0.33 V to 3.299 99 V	0.14 % of output + 300 μ V	
50 kHz to 100 kHz	0.33 V to 3.299 99 V	0.24 % of output + 1 700 μ V	
100 kHz to 500 kHz	0.33 V to 3.299 99 V	0.50 % of output + 3 300 μ V	
AC Voltage – Source At the listed frequencies			
10 Hz to 45 Hz	3.3 V to 32.999 9 V	0.15 % of output + 2 500 μ V	
45 Hz to 10 kHz	3.3 V to 32.999 9 V	0.04 % of output + 600 μ V	
10 kHz to 20 kHz	3.3 V to 32.999 9 V	0.08 % of output + 2 600 μ V	
20 kHz to 50 kHz	3.3 V to 32.999 9 V	0.19 % of output + 5 000 μ V	
50 kHz to 100 kHz	3.3 V to 32.999 9 V	0.24 % of output + 17 000 μ V	
AC Voltage – Source At the listed frequencies			
45 Hz to 1 kHz	33 V to 329.999 V	0.05 % of output + 6.6 mV	
1 kHz to 10 kHz	33 V to 329.999 V	0.08 % of output + 15 mV	
10 kHz to 20 kHz	33 V to 329.999 V	0.09 % of output + 33 mV	
AC Voltage – Source At the listed frequencies			
45 Hz to 1 kHz	330 V to 1 020 V	0.05 % of output + 80.0 mV	
1 kHz to 5 kHz	330 V to 1 020 V	0.20 % of output + 100.0 mV	
5 kHz to 10 kHz	330 V to 1 020 V	0.20 % of output + 500.0 mV	
AC Voltage – Source At the listed frequencies			Associated Research 473
@ 50/60 Hz	1kV to 7.5 kV	170 V	



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AC Voltage – Measure At the listed frequencies			HP 3458A
1 Hz to 40 Hz	0 mV to 10 mV	0.03 % of reading + 3.1 μ V	
40 Hz to 1 kHz	0 mV to 10 mV	0.02 % of reading + 1.2 μ V	
1 kHz to 20 kHz	0 mV to 10 mV	0.03 % of reading + 1.7 μ V	
20 kHz to 50 kHz	0 mV to 10 mV	0.1 % of reading + 1.6 μ V	
50 kHz to 100 kHz	0 mV to 10 mV	0.5 % of reading + 1.3 μ V	
100 kHz to 300 kHz	0 mV to 10 mV	4 % of reading + 2.1 μ V	
AC Voltage – Measure At the listed frequencies			
1 Hz to 40 Hz	10 mV to 100 mV	0.007 % of reading + 4.1 μ V	
40 Hz to 1 kHz	10 mV to 100 mV	0.007 % of reading + 2.1 μ V	
1 kHz to 20 kHz	10 mV to 100 mV	0.014 % of reading + 2.3 μ V	
20 kHz to 50 kHz	10 mV to 100 mV	0.03 % of reading + 2.6 μ V	
50 kHz to 100 kHz	10 mV to 100 mV	0.08 % of reading + 2.3 μ V	
100 kHz to 300 kHz	10 mV to 100 mV	0.3 % of reading + 15 μ V	
300 kHz to 1 MHz	10 mV to 100 mV	1 % of reading + 28 μ V	
1 MHz to 2 MHz	10 mV to 100 mV	1.5 % of reading + 20 μ V	
2 MHz to 8 MHz	10 mV to 100 mV	4 % of reading + 83 μ V	
AC Voltage – Measure At the listed frequencies			
1 Hz to 40 Hz	100 mV to 1 V	0.007 % of reading + 41 μ V	
40 Hz to 1 kHz	100 mV to 1 V	0.007 % of reading + 21 μ V	
1 kHz to 20 kHz	100 mV to 1 V	0.014 % of reading + 22 μ V	
20 kHz to 50 kHz	100 mV to 1 V	0.03 % of reading + 22 μ V	
50 kHz to 100 kHz	100 mV to 1 V	0.08 % of reading + 22 μ V	
100 kHz to 300 kHz	100 mV to 1 V	0.3 % of reading + 120 μ V	
300 kHz to 1 MHz	100 mV to 1 V	1 % of reading + 300 μ V	
1 MHz to 2 MHz	100 mV to 1 V	1.5 % of reading + 210 μ V	
2 MHz to 8 MHz	100 mV to 1 V	4 % of reading + 830 μ V	



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AC Voltage – Measure At the listed frequencies			HP 3458A
1 Hz to 40 Hz	1 V to 10 V	0.007 % of reading + 420 μ V	
40 Hz to 1 kHz	1 V to 10 V	0.007 % of reading + 220 μ V	
1 kHz to 20 kHz	1 V to 10 V	0.014 % of reading + 240 μ V	
20 kHz to 50 kHz	1 V to 10 V	0.03 % of reading + 250 μ V	
50 kHz to 100 kHz	1 V to 10 V	0.08 % of reading + 220 μ V	
100 kHz to 300 kHz	1 V to 10 V	0.3 % of reading + 1.1 mV	
300 kHz to 1 MHz	1 V to 10 V	1 % of reading + 1.1 mV	
1 MHz to 2 MHz	1 V to 10 V	1.5 % of reading + 1.1 mV	
2 MHz to 8 MHz	1 V to 10 V	4 % of reading + 8.1 mV	
AC Voltage – Measure At the listed frequencies			
1 Hz to 40 Hz	10 V to 100 V	0.02 % of reading + 4.1 mV	
40 Hz to 20 kHz	10 V to 100 V	0.02 % of reading + 2.6 mV	
20 kHz to 50 kHz	10 V to 100 V	0.035 % of reading + 2.4 mV	
50 kHz to 100 kHz	10 V to 100 V	0.12 % of reading + 2.1 mV	
100 kHz to 300 kHz	10 V to 100 V	0.4 % of reading + 11 mV	
300 kHz to 1 MHz	10 V to 100 V	1.5 % of reading + 40 mV	
AC Voltage – Measure At the listed frequencies			
1 Hz to 40 Hz	100 V to 700 V	0.04 % of reading + 31 mV	
40 Hz to 1 kHz	100 V to 700 V	0.04 % of reading + 16 mV	
1 kHz to 20 kHz	100 V to 700 V	0.06 % of reading + 16 mV	
20 kHz to 50 kHz	100 V to 700 V	0.12 % of reading + 16 mV	
50 kHz to 100 kHz	100 V to 700 V	0.3 % of reading + 15 mV	
AC Voltage – Measure At the listed frequencies			EIS High Voltage Divider & HP 3458A
60 Hz	700 V to 50 kV	0.69 % of reading	



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DC Current – Source	0 mA to 3.299 99 mA	0.013 % of output + 0.05 μ A	Fluke 5500A/SC600
	0 mA to 32.999 9 mA	0.01 % of output + 0.25 μ A	
	0 mA to 329.999 mA	0.01 % of output + 3.3 μ A	
	0 A to 2.199 99 A	0.03 % of output + 44.0 μ A	
	0 A to 11.0 A	0.06 % of output + 330 μ A	
	11.0 A to 40 A	0.65 % of output + 0.09 A	Fluke 5500A/SC600 & 5220A with Turn Coils
DC Current - Measure	3 A to 20 A	1.5 % of reading + 30 mA	GW Instek GDM-8034
	20 A to 200 A	1.75 % of reading + 200 mA	A.W. Sperry DSA-2003
	200 A to 2 000 A	1.85 % of reading + 2 000 mA	
AC Current – Source At the listed frequencies			Fluke 5500A/SC600
10 Hz to 20 Hz	0.029 mA to 0.329 99 mA	0.25 % of output + 0.15 μ A	
20 Hz to 45 Hz	0.029 mA to 0.329 99 mA	0.13 % of output + 0.15 μ A	
45 Hz to 1 kHz	0.029 mA to 0.329 99 mA	0.13 % of output + 0.25 μ A	
1 kHz to 5 kHz	0.029 mA to 0.329 99 mA	0.4 % of output + 0.15 μ A	
5 kHz to 10 kHz	0.029 mA to 0.329 99 mA	1.25 % of output + 0.15 μ A	
AC Current – Source At the listed frequencies			
10 Hz to 20 Hz	0.33 mA to 3.299 9 mA	0.2 % of output + 0.3 μ A	
20 Hz to 45 Hz	0.33 mA to 3.299 9 mA	0.1 % of output + 0.3 μ A	
45 Hz to 1 kHz	0.33 mA to 3.299 9 mA	0.1 % of output + 0.3 μ A	
1 kHz to 5 kHz	0.33 mA to 3.299 9 mA	0.2 % of output + 0.3 μ A	
5 kHz to 10 kHz	0.33 mA to 3.299 9 mA	0.6 % of output + 0.3 μ A	
AC Current – Source At the listed frequencies			
10 Hz to 20 Hz	3.3 mA to 32.999 mA	0.2 % of output + 3 μ A	
20 Hz to 45 Hz	3.3 mA to 32.999 mA	0.1 % of output + 3 μ A	
45 Hz to 1 kHz	3.3 mA to 32.999 mA	0.09 % of output + 3 μ A	
1 kHz to 5 kHz	3.3 mA to 32.999 mA	0.2 % of output + 3 μ A	
5 kHz to 10 kHz	3.3 mA to 32.999 mA	0.6 % of output + 3 μ A	



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AC Current – Source At the listed frequencies			Fluke 5500A/SC600
10 Hz to 20 Hz	33 mA to 329.99 mA	0.2 % of output + 30 μ A	
20 Hz to 45 Hz	33 mA to 329.99 mA	0.1 % of output + 30 μ A	
45 Hz to 1 kHz	33 mA to 329.99 mA	0.09 % of output + 30 μ A	
1 kHz to 5 kHz	33 mA to 329.99 mA	0.2 % of output + 30 μ A	
5 kHz to 10 kHz	33 mA to 329.99 mA	0.6 % of output + 30 μ A	
AC Current – Source At the listed frequencies			
10 Hz to 45 Hz	0.33 A to 2.199 99 A	0.2 % of output + 300 μ A	
45 Hz to 1 kHz	0.33 A to 2.199 99 A	0.1 % of output + 300 μ A	
1 kHz to 5 kHz	0.33 A to 2.199 99 A	0.75 % of output + 300 μ A	
AC Current – Source At the listed frequencies			Fluke 5500A/SC600 & 5220A with Turn Coils
45 Hz to 65 Hz	2.2 A to 11 A	0.06 % of output + 2 000 μ A	
65 Hz to 500 Hz	2.2 A to 11 A	0.1 % of output + 2 000 μ A	
500 Hz to 1 kHz	2.2 A to 11 A	0.33 % of output + 2 000 μ A	
AC Current – Source At the listed frequencies			HP 3458A
30 Hz to 440 Hz	11 A to 40 A	0.72 % of output + 0.09 A	
30 Hz to 440 Hz	40 A to 200 A	0.82 % of output + 0.13 A	
30 Hz to 440 Hz	200 A to 1 000 A	0.69 % of output + 0.44 A	
AC Current – Measure At the listed frequencies			HP 3458A
10 Hz to 20 Hz	0 μ A to 100 μ A	0.4 % of reading + 31 nA	
20 Hz to 45 Hz	0 μ A to 100 μ A	0.15 % of reading + 31 nA	
45 Hz to 1 kHz	0 μ A to 100 μ A	0.06 % of reading + 31 nA	
AC Current – Measure At the listed frequencies			
10 Hz to 20 Hz	0.1 mA to 1 mA	0.4 % of reading + 310 nA	
20 Hz to 45 Hz	0.1 mA to 1 mA	0.15 % of reading + 210 nA	
45 Hz to 1 kHz	0.1 mA to 1 mA	0.06 % of reading + 210 nA	



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AC Current – Measure At the listed frequencies			HP 3458A
10 Hz to 20 Hz	1 mA to 10 mA	0.4 % of reading + 3.1 μ A	
20 Hz to 45 Hz	1 mA to 10 mA	0.15 % of reading + 2.1 μ A	
45 Hz to 1 kHz	1 mA to 10 mA	0.06 % of reading + 2.1 μ A	
AC Current – Measure At the listed frequencies			
10 Hz to 20 Hz	10 mA to 100 mA	0.4 % of reading + 31 μ A	
20 Hz to 45 Hz	10 mA to 100 mA	0.15 % of reading + 21 μ A	
45 Hz to 1 kHz	10 mA to 100 mA	0.06 % of reading + 21 μ A	
AC Current – Measure At the listed frequencies			
10 Hz to 20 Hz	100 mA to 1.05 A	0.4 % of reading + 220 μ A	
20 Hz to 45 Hz	100 mA to 1.05 A	0.16 % of reading + 220 μ A	
45 Hz to 100 Hz	100 mA to 1.05 A	0.08 % of reading + 220 μ A	
100 Hz to 5 kHz	100 mA to 1.05 A	0.1 % of reading + 220 μ A	
AC Current – Measure At the listed frequencies			Keithly 2000
10 Hz to 5 kHz	1.05 A to 3 A	0.154 5 % of reading + 220 μ A	
40 Hz to 500 Hz	3 A to 20 A	2.0 % of reading + 20 mA	
@ 50/60 Hz	20 A to 200 A	2.0 % of reading + 200 mA	
@ 50/60 Hz	200 A to 2 000 A	2.5 % of reading + 2 000 mA	A.W. Sperry DSA-2003
Capacitance Sourcing 50 Hz to 1000 Hz	0.33 nF to 0.499 9 nF	0.5 % of output + 0.01 nF	Fluke 5500A/SC600
	0.5 nF to 1.099 9 nF	0.5 % of output + 0.01 nF	
	1.1 nF to 3.299 9 nF	0.5 % of output + 0.01 nF	
	3.3 nF to 10.999 nF	0.5 % of output + 0.01 nF	
	11 nF to 32.999 nF	0.25 % of output + 0.1 nF	
	33 nF to 109.99 nF	0.25 % of output + 0.1 nF	
Capacitance Sourcing 50 Hz to 1000 Hz	0.33 μ F to 1.099 9 μ F	0.25 % of output + 1 nF	Fluke 5500A/SC600
	1.1 μ F to 3.299 9 μ F	0.35 % of output + 3 nF	
Capacitance Sourcing 50 to 400 Hz	3.3 μ F to 10.999 μ F	0.35 % of output + 10 nF	
	11 μ F to 32.999 μ F	0.40 % of output + 30 nF	



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Capacitance Sourcing 50 to 200 Hz	33 μ F to 109.99 μ F	0.50 % of output + 100 nF	Fluke 5500A/SC600
Capacitance Sourcing 50 to 100 Hz	110 μ F to 329.99 μ F	0.70 % of output + 300 nF	
	330 μ F to 1.1 mF	1.0 % of output + 300 nF	
Oscilloscopes - Squarewave Signal 50 Ω @ 1 kHz	1 mV to 6.6 Vp-p	0.25 % of output + 40 μ V	
Oscilloscopes - Squarewave Signal 1 M Ω @ 1 kHz	1 mV to 130 Vp-p	0.1 % of output + 40 μ V	
Leveled Sine Wave Amplitude (50 kHz ref)	50 kHz reference	2 % of output + 300 μ V	
	50 kHz to 100 MHz	3.5 % of output + 300 μ V	
	100 MHz to 300 MHz	4 % of output + 300 μ V	
	300 MHz to 600 MHz	6 % of output + 300 μ V	
Leveled Sine Wave Flatness (50 kHz ref)	50 kHz to 100 MHz	1.5 % of output + 100 μ V	
	100 MHz to 300 MHz	2 % of output + 100 μ V	
	300 MHz to 600 MHz	4 % of output + 100 μ V	
Time Marker – Source & Period @ 50 Ω	5 s to 50 ms	(25 + 1 000t) parts in 10 ⁶	
	20 ms to 2 ns	2.5 parts in 10 ⁶	
Rise Time	\leq 300 ps	100 ps	
Resistance Source	0 Ω to 10.99 Ω	0.012 % of output + 0.008 Ω	
	11 Ω to 32.999 Ω	0.012 % of output + 0.015 Ω	
	33 Ω to 109.999 Ω	0.009 % of output + 0.015 Ω	
	110 Ω to 329.999 Ω	0.009 % of output + 0.015 Ω	
	330 Ω to 1.099 99 k Ω	0.009 % of output + 0.06 Ω	
	1.1 k Ω to 3.299 99 k Ω	0.009 % of output + 0.06 Ω	
	3.3 k Ω to 10.999 9 k Ω	0.009 % of output + 0.6 Ω	
	11 k Ω to 32.999 k Ω	0.009 % of output + 0.6 Ω	
	33 k Ω to 109.999 k Ω	0.011 % of output + 6 Ω	
	110 k Ω to 329.999 k Ω	0.012 % of output + 6 Ω	
	330 k Ω to 1.099 99 M Ω	0.015 % of output + 55 Ω	
	1.1 M Ω to 3.299 99 M Ω	0.015 % of output + 55 Ω	
	3.3 M Ω to 10.999 9 M Ω	0.06 % of output + 550 Ω	



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Resistance Source (Continued)	11 M Ω to 32.999 9 M Ω	0.1 % of output + 550 Ω	Fluke 5500A/SC600
	33 M Ω to 109.999 M Ω	0.5 % of output + 5.5 k Ω	
	110 M Ω to 330 M Ω	0.5 % of output + 16.5 k Ω	
Resistance Measure	0 Ω to 100 Ω	0.000 69 % of reading + 740 $\mu\Omega$	HP 3458A
	100 Ω to 1 k Ω	0.000 92 % of reading + 7.6 m Ω	
	1 k Ω to 10 k Ω	0.000 58 % of reading + 74 m Ω	
	10 k Ω to 100 k Ω	0.001 1 % of reading + 740 m Ω	
	100 k Ω to 1 M Ω	0.001 3 % of reading + 2.4 Ω	
	1 M Ω to 10 M Ω	0.002 1 % of reading + 110 Ω	
	10 M Ω to 100 M Ω	0.002 6 % of reading + 4.3 k Ω	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	-250 $^{\circ}\text{C}$ to -100 $^{\circ}\text{C}$	0.50 $^{\circ}\text{C}$	Electrical Simulation of Thermocouple Output Fluke 5500A/SC600
	-100 $^{\circ}\text{C}$ to -25 $^{\circ}\text{C}$	0.16 $^{\circ}\text{C}$	
	-25 $^{\circ}\text{C}$ to 350 $^{\circ}\text{C}$	0.14 $^{\circ}\text{C}$	
	350 $^{\circ}\text{C}$ to 650 $^{\circ}\text{C}$	0.16 $^{\circ}\text{C}$	
	650 $^{\circ}\text{C}$ to 1 000 $^{\circ}\text{C}$	0.21 $^{\circ}\text{C}$	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	-210 $^{\circ}\text{C}$ to -100 $^{\circ}\text{C}$	0.27 $^{\circ}\text{C}$	
	-100 $^{\circ}\text{C}$ to -30 $^{\circ}\text{C}$	0.16 $^{\circ}\text{C}$	
	-30 $^{\circ}\text{C}$ to 150 $^{\circ}\text{C}$	0.14 $^{\circ}\text{C}$	
	150 $^{\circ}\text{C}$ to 760 $^{\circ}\text{C}$	0.17 $^{\circ}\text{C}$	
	760 $^{\circ}\text{C}$ to 1 200 $^{\circ}\text{C}$	0.23 $^{\circ}\text{C}$	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	-200 $^{\circ}\text{C}$ to -100 $^{\circ}\text{C}$	0.33 $^{\circ}\text{C}$	
	-100 $^{\circ}\text{C}$ to -25 $^{\circ}\text{C}$	0.18 $^{\circ}\text{C}$	
	-25 $^{\circ}\text{C}$ to 120 $^{\circ}\text{C}$	0.16 $^{\circ}\text{C}$	
	120 $^{\circ}\text{C}$ to 1 000 $^{\circ}\text{C}$	0.26 $^{\circ}\text{C}$	
	1 000 $^{\circ}\text{C}$ to 1 372 $^{\circ}\text{C}$	0.40 $^{\circ}\text{C}$	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R	0 $^{\circ}\text{C}$ to 250 $^{\circ}\text{C}$	0.57 $^{\circ}\text{C}$	
	250 $^{\circ}\text{C}$ to 400 $^{\circ}\text{C}$	0.35 $^{\circ}\text{C}$	
	400 $^{\circ}\text{C}$ to 1 000 $^{\circ}\text{C}$	0.33 $^{\circ}\text{C}$	
	1 000 $^{\circ}\text{C}$ to 1 767 $^{\circ}\text{C}$	0.40 $^{\circ}\text{C}$	



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Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S	0 °C to 250 °C	0.47 °C	Electrical Simulation of Thermocouple Output Fluke 5500A/SC600
	250 °C to 1 000 °C	0.36 °C	
	1 000 °C to 1 400 °C	0.37 °C	
	1 400 °C to 1 767 °C	0.46 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T	-250 °C to -150 °C	0.63 °C	
	-150 °C to 0 °C	0.24 °C	
	0 °C to 120 °C	0.16 °C	
	120 °C to 400 °C	0.14 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Indicators / Detectors Type Pt 385, 100 Ω	-200 °C to -80 °C	0.05 °C	Electrical Simulation of RTD Output Fluke 5500A/SC600
	-80 °C to 0 °C	0.05 °C	
	0 °C to 100 °C	0.07 °C	
	100 °C to 300 °C	0.09 °C	
	300 °C to 400 °C	0.10 °C	
	400 °C to 630 °C	0.12 °C	
	630 °C to 800 °C	0.23 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Indicators / Detectors Type Pt 3926, 100 Ω	-200 °C to -80 °C	0.05 °C	
	-80 °C to 0 °C	0.05 °C	
	0 °C to 100 °C	0.07 °C	
	100 °C to 300 °C	0.09 °C	
	300 °C to 400 °C	0.10 °C	
	400 °C to 630 °C	0.12 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Indicators / Detectors Type Pt 3916, 100 Ω	-200 °C to -190 °C	0.25 °C	
	-190 °C to -80 °C	0.04 °C	
	-80 °C to 0 °C	0.05 °C	
	0 °C to 100 °C	0.06 °C	
	100 °C to 260 °C	0.07 °C	
	260 °C to 300 °C	0.08 °C	
	300 °C to 400 °C	0.09 °C	
	400 °C to 600 °C	0.10 °C	
600 °C to 630 °C	0.23 °C		



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Precision Measurements Corporation

553-E Pylon Drive
Raleigh, NC 27606

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
Temperature Calibration, Indication and Control Equipment used with RTD Indicators / Detectors Type Pt 385, 200 Ω	-200 $^{\circ}\text{C}$ to -80 $^{\circ}\text{C}$	0.04 $^{\circ}\text{C}$	Electrical Simulation of RTD Output Fluke 5500A/SC600
	-80 $^{\circ}\text{C}$ to 0 $^{\circ}\text{C}$	0.04 $^{\circ}\text{C}$	
	0 $^{\circ}\text{C}$ to 100 $^{\circ}\text{C}$	0.04 $^{\circ}\text{C}$	
	100 $^{\circ}\text{C}$ to 260 $^{\circ}\text{C}$	0.05 $^{\circ}\text{C}$	
	260 $^{\circ}\text{C}$ to 300 $^{\circ}\text{C}$	0.12 $^{\circ}\text{C}$	
	300 $^{\circ}\text{C}$ to 400 $^{\circ}\text{C}$	0.13 $^{\circ}\text{C}$	
	400 $^{\circ}\text{C}$ to 600 $^{\circ}\text{C}$	0.14 $^{\circ}\text{C}$	
	600 $^{\circ}\text{C}$ to 630 $^{\circ}\text{C}$	0.16 $^{\circ}\text{C}$	
Temperature Calibration, Indication and Control Equipment used with RTD Indicators / Detectors Type Pt 385, 500 Ω	-200 $^{\circ}\text{C}$ to -80 $^{\circ}\text{C}$	0.04 $^{\circ}\text{C}$	
	-80 $^{\circ}\text{C}$ to 0 $^{\circ}\text{C}$	0.05 $^{\circ}\text{C}$	
	0 $^{\circ}\text{C}$ to 100 $^{\circ}\text{C}$	0.05 $^{\circ}\text{C}$	
	100 $^{\circ}\text{C}$ to 260 $^{\circ}\text{C}$	0.06 $^{\circ}\text{C}$	
	260 $^{\circ}\text{C}$ to 300 $^{\circ}\text{C}$	0.08 $^{\circ}\text{C}$	
	300 $^{\circ}\text{C}$ to 400 $^{\circ}\text{C}$	0.08 $^{\circ}\text{C}$	
	400 $^{\circ}\text{C}$ to 600 $^{\circ}\text{C}$	0.09 $^{\circ}\text{C}$	
	600 $^{\circ}\text{C}$ to 630 $^{\circ}\text{C}$	0.11 $^{\circ}\text{C}$	
Temperature Calibration, Indication and Control Equipment used with RTD Indicators / Detectors Type Pt 385, 1 000 Ω	-200 $^{\circ}\text{C}$ to -80 $^{\circ}\text{C}$	0.03 $^{\circ}\text{C}$	
	-80 $^{\circ}\text{C}$ to 0 $^{\circ}\text{C}$	0.03 $^{\circ}\text{C}$	
	0 $^{\circ}\text{C}$ to 100 $^{\circ}\text{C}$	0.04 $^{\circ}\text{C}$	
	100 $^{\circ}\text{C}$ to 260 $^{\circ}\text{C}$	0.05 $^{\circ}\text{C}$	
	260 $^{\circ}\text{C}$ to 300 $^{\circ}\text{C}$	0.06 $^{\circ}\text{C}$	
	300 $^{\circ}\text{C}$ to 400 $^{\circ}\text{C}$	0.07 $^{\circ}\text{C}$	
	400 $^{\circ}\text{C}$ to 600 $^{\circ}\text{C}$	0.07 $^{\circ}\text{C}$	
	600 $^{\circ}\text{C}$ to 630 $^{\circ}\text{C}$	0.23 $^{\circ}\text{C}$	
Temperature Calibration, Indication and Control Equipment used with RTD Indicators / Detectors Type PtNi 385, 120 Ω (Ni 120)	-80 $^{\circ}\text{C}$ to 0 $^{\circ}\text{C}$	0.08 $^{\circ}\text{C}$	
	0 $^{\circ}\text{C}$ to 100 $^{\circ}\text{C}$	0.08 $^{\circ}\text{C}$	
	100 $^{\circ}\text{C}$ to 260 $^{\circ}\text{C}$	0.14 $^{\circ}\text{C}$	



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Temperature Calibration, Indication and Control Equipment used with RTD Indicators / Detectors Type Cu 427, 10 Ω	-100 $^{\circ}\text{C}$ to 260 $^{\circ}\text{C}$	0.30 $^{\circ}\text{C}$	Electrical Simulation of RTD Output Fluke 5500A/SC600
RF Power At the listed frequencies			
10 MHz to 18 GHz	-30 dBm to 20 dBm	0.35 dB	Agilent EPM-441A 8481A
50 MHz to 18 GHz	-20 dBm to -70 dBm	0.35 dB	Agilent EPM-441A 8484A
50 MHz to 26.5 GHz	-30 dBm to 20 dBm	0.24 dB	Agilent EPM-441A 8485A
50 MHz to 50 GHz	-30 dBm to 20 dBm	0.75 dB	Agilent EPM-441A 8487A

Time and Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
Frequency Source	1 Hz to 50 GHz	1×10^{-11}	HP 83650B Opt. 001, 002, 006, 008
Frequency Measure	10 Hz to 600 MHz	4.5×10^{-9}	Anritsu MF2414B
	600 MHz to 40 GHz	3×10^{-8}	

Acoustic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
Sound Level	0 dB to 120 dB @ 125 Hz to 4 kHz	1.5 dB	Extech 407736



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Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
Relative Humidity Source @ 25 °C	11.30 %	1 %	Saturated Aqueous Salt Solutions
	22.51 %	1 %	
	32.78 %	1 %	
	43.16 %	1 %	
	75.29 %	1 %	
	93.58 %	1 %	
	97.30 %	1 %	
Relative Humidity Measure	0 % to 95 %	1 %	Oakton 35612-00
	95 % to 100 %	2 %	

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
Tachometers/RPM – Non Contact	0.524 rad/s to 1.047 rad/s (5.000 RPM to 9.999 9 RPM)	0.000 010 5 rad/s (0.000 1 RPM)	Monarch Instrument TACH-4A
	1.047 rad/s to 10.472 rad/s (10.000 RPM to 99.999 RPM)	0.000 105 rad/s (0.001 RPM)	
	10.472 rad/s to 104.72 rad/s (100.00 RPM to 999.99 RPM)	0.001 05 rad/s (0.01 RPM)	
	104.72 rad/s to 1 047.2 rad/s (1 000.0 RPM to 9 999.9 RPM)	0.010 5 rad/s (0.1 RPM)	
	1 047.2 rad/s to 10 472 rad/s (10 000 RPM to 99 999 RPM)	0.105 rad/s (1 RPM)	
	10 472 rad/s to 52 360 rad/s (100 000 RPM to 500 000 RPM)	0.001 %	
Pressure Source/ Measure	2.068 MPa to 4.137 MPa (300 PSI to 600 PSI)	11 kPa (1.5 PSI)	3D Instruments 2544-28B52
	4.137 MPa to 20.684 MPa (600 PSI to 3000 PSI)	52 kPa (7.5 PSI)	3D Instruments 25544-33B11
	20.684 MPa to 68.948 MPa (3 000 PSI to 10 000 PSI)	180 kPa (25 PSI)	3D Instruments 25545-38B51
Vacuum Source / Measure	0 Pa to 101.592 kPa (0 in/Hg to 30 in/Hg)	170 Pa (0.05 in/Hg)	Fisher Scientific in/Hg Absolute Manometer



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Mechanical

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Force Source/ Measure	444.822 N to 2.224 kN (100 lb to 500 lb)	5.75 N 1.25 lb	Chatillon DFIS-500
	2.224 kN to 44.482 kN (500 lb to 10 000 lb)	7.5 lb	Omega LCCA-10K
Tension Source/ Measure	444.822 N to 2.224 kN (100 lb to 500 lb)	5.75 N 1.25 lb	Chatillon DFIS-500
	2.224 kN to 44.482 kN (500 lb to 10 000 lb)	7.5 lb	Omega LCCA-10K

1. Remarks: This column shall include pertinent information about the calibration of the Measured Instrument or parameter. The information should include the type of standards used and any pertinent information about the measurement method. This column is not to be used for commercial advertisement of laboratory services.
2. Best Measurement Capability (BMC) represents an expanded uncertainty with a confidence level of approximately 95% using a coverage factor “k” = 2.