



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

Davis Calibration

2200 Michener St., Suite 23, Philadelphia, PA 19115
Joseph Taylor Phone: 215-673-5600

CALIBRATION

Valid to: January 18, 2012

Certificate Number: AC-1203

I. Electromagnetic – DC/Low Frequency

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
DC Voltage - Source	(0 to 220) mV 220 mV to 2.2 V (2.2 to 11) V (11 to 22) V (22 to 220) V (220 to 1 100) V	8 μ V/V + 600 nV 7 μ V/V + 1 μ V 7 μ V/V + 3.5 μ V 7 μ V/V + 6.5 μ V 8 μ V/V + 80 μ V 9 μ V/V + 500 μ V	Fluke 5700A/5725A	OEM and GIDEP Sourced Calibration Procedures
DC Voltage - Measure	(10 to 100) mV 100 mV to 1 V (1 to 10) V (10 to 100) V (100 to 1 000) V Up to 120 kV	11 μ V/V + 300 nV 10 μ V/V + 300 nV 10 μ V/V + 500 nV 12 μ V/V + 30 μ V 22 μ V/V + 100 μ V 1 mV/V	HP 3458A Ross VD120-6.2Y	
DC Current - Source	(0 to 220) μ A 220 μ A to 2.2 mA (2.2 to 22) mA (22 to 220) mA 220 mA to 2.2 A (2.2 to 11) A (11 to 20) A	50 μ A/A + 8 nA 50 μ A/A + 8 nA 50 μ A/A + 80 nA 60 μ A/A + 800 nA 80 μ A/A + 25 μ A 360 μ A/A + 480 μ A 1 mA/A + 750 μ A	Fluke 5700A/5725A Fluke 5520A	
DC Current - Measure	100 μ A to 1 mA (1 to 10) mA (10 to 100) mA 100 mA to 1 A	25 μ A/A + 5 nA 25 μ A/A + 50 nA 40 μ A/A + 500 nA 115 μ A/A + 10 μ A	HP 3458A	



PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Resistance – Source	1 Ω	95 μΩ	Fluke 5700A/5725A	OEM and GIDEP Sourced Calibration Procedures
	1.9 Ω	181 μΩ		
	10 Ω	280 μΩ		
	19 Ω	513 μΩ		
	100 Ω	1.7 mΩ		
	190 Ω	3.2 mΩ		
	1 kΩ	13 mΩ		
	1.9 kΩ	25 mΩ		
	10 kΩ	120 mΩ		
	19 kΩ	228 mΩ		
	100 kΩ	1.4 Ω		
	190 kΩ	2.7 Ω		
	1 MΩ	20 Ω		
	1.9 MΩ	40 Ω		
	10 MΩ	400 Ω		
	19 MΩ	893 Ω		
100 MΩ	11 kΩ			
Fixed Points	20 Ω	34.4 μΩ	MI 5420-20	
	100 Ω	103 μΩ	MI 5420-100	
	200 Ω	206 μΩ	MI 5420-200	
	400 Ω	402 μΩ	MI 5420-400	
Resistance - Measure	(0 to 10) Ω	18 μΩ/ Ω + 50 μΩ	HP 3458A	
	(10 to 100) Ω	13 μΩ/ Ω + 500 μΩ		
	100 Ω to 1 kΩ	11 μΩ/ Ω + 500 μΩ		
	(1 to 10) kΩ	11 μΩ/ Ω + 5 mΩ		
	(10 to 100) kΩ	11 μΩ/ Ω + 50 mΩ		
	100 kΩ to 1 MΩ	15 μΩ/ Ω + 2Ω		
	(1 to 10) MΩ	53 μΩ/ Ω + 100Ω		
	(10 to 100) MΩ	503 μΩ/ Ω + 1 kΩ		
100 MΩ to 1 GΩ	5 mΩ/ Ω + 10 kΩ			
AC Voltage – Source	(0 to 2.2) mV		Fluke 5700A/5725A	
	(10 to 20) Hz	550 μV/V + 4.5 μV		
	(20 to 40) Hz	210 μV/V + 4.5 μV		
	40 Hz to 20 kHz	105 μV/V + 4.5 μV		
	(20 to 50) kHz	370 μV/V + 4.5 μV		
	(50 to 100) kHz	850 μV/V + 7 μV		
	(100 to 300) kHz	1.1 mV/V + 13 μV		
	(300 to 500) kHz	1.7 mV/V + 25 μV		
500 kHz to 1 MHz	3.4 mV/V + 25 μV			

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
AC Voltage – Source (cont.)	<p>(2.2 to 22) mV (10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz (300 to 500) kHz 500 kHz to 1 MHz</p> <p>(22 to 220) mV (10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz (300 to 500) kHz 500 kHz to 1 MHz</p> <p>220 mV to 2.2 V (10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz (300 to 500) kHz 500 kHz to 1 MHz</p> <p>(2.2 to 22) V (10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz (300 to 500) kHz 500 kHz to 1 MHz</p>	<p>550 $\mu\text{V}/\text{V} + 5 \mu\text{V}$ 210 $\mu\text{V}/\text{V} + 5 \mu\text{V}$ 105 $\mu\text{V}/\text{V} + 5 \mu\text{V}$ 370 $\mu\text{V}/\text{V} + 5 \mu\text{V}$ 850 $\mu\text{V}/\text{V} + 7 \mu\text{V}$ 1.1 $\text{mV}/\text{V} + 12 \mu\text{V}$ 1.7 $\text{mV}/\text{V} + 25 \mu\text{V}$ 3.4 $\text{mV}/\text{V} + 25 \mu\text{V}$</p> <p>550 $\mu\text{V}/\text{V} + 13 \mu\text{V}$ 210 $\mu\text{V}/\text{V} + 8 \mu\text{V}$ 105 $\mu\text{V}/\text{V} + 8 \mu\text{V}$ 320 $\mu\text{V}/\text{V} + 8 \mu\text{V}$ 850 $\mu\text{V}/\text{V} + 25 \mu\text{V}$ 1.1 $\text{mV}/\text{V} + 25 \mu\text{V}$ 1.7 $\text{mV}/\text{V} + 35 \mu\text{V}$ 3.4 $\text{mV}/\text{V} + 80 \mu\text{V}$</p> <p>500 $\mu\text{V}/\text{V} + 80 \mu\text{V}$ 160 $\mu\text{V}/\text{V} + 25 \mu\text{V}$ 75 $\mu\text{V}/\text{V} + 6 \mu\text{V}$ 120 $\mu\text{V}/\text{V} + 16 \mu\text{V}$ 250 $\mu\text{V}/\text{V} + 70 \mu\text{V}$ 430 $\mu\text{V}/\text{V} + 130 \mu\text{V}$ 1.1 $\text{mV}/\text{V} + 350 \mu\text{V}$ 2.2 $\text{mV}/\text{V} + 850 \mu\text{V}$</p> <p>500 $\mu\text{V}/\text{V} + 800 \mu\text{V}$ 160 $\mu\text{V}/\text{V} + 250 \mu\text{V}$ 75 $\mu\text{V}/\text{V} + 60 \mu\text{V}$ 120 $\mu\text{V}/\text{V} + 160 \mu\text{V}$ 250 $\mu\text{V}/\text{V} + 350 \mu\text{V}$ 500 $\mu\text{V}/\text{V} + 1.5 \text{mV}$ 1.3 $\text{mV}/\text{V} + 4.3 \text{mV}$ 2.7 $\text{mV}/\text{V} + 8.5 \text{mV}$</p>	Fluke 5700A/5725A	OEM and GIDEP Sourced Calibration Procedures



PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
AC Voltage – Source (cont.)	(22 to 220) V (10 to 20) Hz (20 to 40) Hz 40 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz (300 to 500) kHz 500 kHz to 1 MHz (220 to 1 100) V (15 to 50) Hz 50 Hz to 1 kHz	500 $\mu\text{V/V} + 8 \text{ mV}$ 160 $\mu\text{V/V} + 2.5 \text{ mV}$ 80 $\mu\text{V/V} + 800 \mu\text{V}$ 220 $\mu\text{V/V} + 3.5 \text{ mV}$ 500 $\mu\text{V/V} + 8 \text{ mV}$ 1.5 $\text{mV/V} + 90 \text{ mV}$ 4.7 $\text{mV/V} + 90 \text{ mV}$ 115 $\text{mV/V} + 190 \text{ mV}$ 400 $\mu\text{V/V} + 16 \text{ mV}$ 80 $\mu\text{V/V} + 3.5 \text{ mV}$	Fluke 5700A/5725A	OEM and GIDEP Sourced Calibration Procedures
AC Voltage – Measure	(1 to 10) mV (1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz 300 kHz to 1MHz (1 to 4) MHz (4 to 8) MHz (10 to 100) mV (1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz 300 kHz to 1 MHz (1 to 4) MHz (4 to 8) MHz (8 to 10) MHz 100 mV to 1 V (1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz	300 $\mu\text{V/V} + 3 \mu\text{V}$ 200 $\mu\text{V/V} + 1.1 \mu\text{V}$ 300 $\mu\text{V/V} + 1.1 \mu\text{V}$ 1 $\text{mV/V} + 1.1 \mu\text{V}$ 5 $\text{mV/V} + 1.1 \mu\text{V}$ 40 $\text{mV/V} + 2 \mu\text{V}$ 12 $\text{mV/V} + 5 \mu\text{V}$ 70 $\text{mV/V} + 7 \mu\text{V}$ 200 $\text{mV/V} + 8 \mu\text{V}$ 72 $\mu\text{V/V} + 4 \mu\text{V}$ 72 $\mu\text{V/V} + 2 \mu\text{V}$ 142 $\mu\text{V/V} + 2 \mu\text{V}$ 302 $\mu\text{V/V} + 2 \mu\text{V}$ 802 $\mu\text{V/V} + 2 \mu\text{V}$ 30 $\text{mV/V} + 10 \mu\text{V}$ 10 $\text{mV/V} + 10 \mu\text{V}$ 15 $\text{mV/V} + 10 \mu\text{V}$ 40 $\text{mV/V} + 8 \mu\text{V}$ 150 $\text{mV/V} + 100 \mu\text{V}$ 72 $\mu\text{V/V} + 40 \mu\text{V}$ 72 $\mu\text{V/V} + 20 \mu\text{V}$ 142 $\mu\text{V/V} + 20 \mu\text{V}$ 302 $\mu\text{V/V} + 20 \mu\text{V}$	HP 3458A	OEM and GIDEP Sourced Calibration Procedures



PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
AC Current – Source (cont.)	<p>220 uA to 2.2 mA</p> <p>(10 to 20) Hz (20 to 40) Hz 40 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz</p> <p>(2.2 to 22) mA</p> <p>(10 to 20) Hz (20 to 40) Hz 40 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz</p> <p>(22 to 220) mA</p> <p>(10 to 20) Hz (20 to 40) Hz 40 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz</p> <p>220 mA to 2.2 A</p> <p>20 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz</p> <p>(2.2 to 11) A</p> <p>40 Hz to 1kHz (1 to 5) kHz (5 to 10) kHz</p> <p>(11 to 20) A</p> <p>(40 to 100) Hz 100 Hz to 1 kHz (1 to 5) kHz</p>	<p>700 μA/A + 40 nA 350 μA/A + 35 nA 140 μA/A + 35 nA 600 μA/A + 400 nA 1.6 mA/A + 800 nA</p> <p>700 μA/A + 400 nA 350 μA/A + 350 nA 140 μA/A + 350 nA 600 μA/A + 4 μA 1.6 mA/A + 8 μA</p> <p>700 μA/A + 4 μA 350 μA/A + 3.5 μA 140 μA/A + 3.5 μA 600 μA/A + 40 μA 1600 μA/A + 80 μA</p> <p>650 μA/A + 35 μA 750 μA/A + 80 μA 8.5 mA/A + 160 μA</p> <p>460 μA/A + 170 μA 950 μA/A + 380 μA 3.6 mA/A + 750 μA</p> <p>1.2 mA/A + 5 mA 1.5 mA/A + 5 mA 30 mA/A + 5 mA</p>	<p>Fluke 5700A/5725A</p> <p>Fluke 5520A</p>	<p>OEM and GIDEP Sourced Calibration Procedures</p>
AC Current – Measure	<p>(5 to 100) μA</p> <p>(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 1 kHz</p>	<p>4 mA/A + 30 nA 1.5 mA/A + 30 nA 600 μA/A + 30 nA 600 μA/A + 30 nA</p>	<p>HP 3458A</p>	



PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
AC Current – Measure (cont.)	<p>100 μA to 1 mA</p> <p>(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz (5 to 20) kHz (20 to 50) kHz (50 to 100) kHz</p> <p>(1 to 10) mA</p> <p>(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz (5 to 20) kHz (20 to 50) kHz (50 to 100) kHz</p> <p>(10 to 100) mA</p> <p>(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz (5 to 20) kHz (20 to 50) kHz (50 to 100) kHz</p> <p>100 mA to 1 A</p> <p>(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz (5 to 20) kHz (20 to 50) kHz</p>	<p>4 mA/A + 200 nA 1.5 mA/A + 200 nA 600 μA/A + 200 nA 300 μA/A + 200 nA 600 μA/A + 200 nA 4 mA/A + 400 nA 5.5 mA/A + 1.5 μA</p> <p>4 mA/A + 2 μA 1.5 mA/A + 2 μA 600 μA/A + 2 μA 300 μA/A + 2 μA 600 μA/A + 2 μA 4 mA/A + 4 μA 5.5 mA/A + 15 μA</p> <p>4 mA/A + 20 μA 1.5 mA/A + 20 μA 600 μA/A + 20 μA 300 μA/A + 20 μA 600 μA/A + 20 μA 4 mA/A + 40 μA 5.5 mA/A + 150 μA</p> <p>4 mA/A + 200 μA 1.6 mA/A + 200 μA 800 μA/A + 200 μA 1 mA/A + 200 μA 3 mA/A + 200 μA 10 mA/A + 400 μA</p>	HP 3458A	OEM and GIDEP Sourced Calibration Procedures



PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Electrical Simulation of Thermocouple Indicators				
Type "B"	(600 to 800) °C (800 to 1 000) °C (1 000 to 1 550) °C (1 550 to 1 820) °C	0.51 °C 0.39 °C 0.35 °C 0.38 °C	Fluke 5500A-SC600	OEM and GIDEP Sourced Calibration Procedures
Type "C"	(0°C to 150) °C (150 to 650) °C (650 to 1 000) °C (1 000 to 1 800) °C (1 800 to 2 316) °C	0.35 °C 0.3 °C 0.36 °C 0.58 °C 0.97 °C		
Type "E"	(-250 to -100) °C (-100 to -25) °C (-25 to 350) °C (350 to 650) °C (650 to 1 000) °C	0.58 °C 0.19 °C 0.16 °C 0.19 °C 0.24 °C		
Type "J"	(-210 to -100) °C (-100 to -30) °C (-30 to 150) °C (150 to 760) °C (760 to 1 200) °C	0.32 °C 0.19 °C 0.17 °C 0.2 °C 0.27 °C		
Type "K"-	(-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 1 000) °C (1 000 to 1 372) °C	0.38 °C 0.21 °C 0.19 °C 0.3 °C 0.46 °C		
Type "L"-	(-200 to -100) °C (-100 to 800) °C (800 to 900) °C	0.43 °C 0.3 °C 0.2 °C		
Type "N"-	(-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 410) °C (410 to 1 300) °C	0.46 °C 0.25 °C 0.22 °C 0.21 °C 0.31 °C		

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Electrical Simulation of Thermocouple Indicators (cont.) Type "R"	(0 to 250) °C (250 to 400) °C (400 to 1 000) °C (1 000 to 1 767) °C	0.66 °C 0.4 °C 0.38 °C 0.46 °C	Fluke 5500A-SC600	OEM and GIDEP Sourced Calibration Procedures		
Type "S"	(0 to 250) °C (250 to 1 000) °C (1 000 to 1 400) °C (1 400 to 1 767) °C	0.54 °C 0.42 °C 0.43 °C 0.53 °C				
Type "T"	(-250 to -150) °C (-150 to 0) °C (0 to 120) °C (120 to 400) °C	0.73 °C 0.28 °C 0.19 °C 0.17 °C				
Type "U"	(-200 to 0) °C (0 to 600) °C	0.65 °C 0.31 °C				
Electrical Simulation of RTDs Pt 385 (100 Ω)	(-200 to 0) °C (0 to 100) °C (100 to 300) °C (300 to 400) °C (400 to 630) °C (630 to 800) °C	0.06 °C 0.08 °C 0.1 °C 0.12 °C 0.14 °C 0.27 °C				
Pt 3926 (100 Ω)	(-200 to 0) °C (0 to 100) °C (100 to 300) °C (300 to 400) °C (400 to 630) °C	0.06 °C 0.08 °C 0.1 °C 0.12 °C 0.14 °C				
Pt 3916 (100 Ω)	(-200 to -190) °C (-190 to -80) °C (-80 to 0) °C (0 to 100) °C (100 to 260) °C (260 to 300) °C (300 to 400) °C	0.29 °C 0.05 °C 0.06 °C 0.07 °C 0.08 °C 0.09 °C 0.1 °C				



PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Pt 3916 (100 Ω) (cont.)	(400 to 600) °C (600 to 630) °C	0.12 °C 0.27 °C	Fluke 5500A-SC600	OEM and GIDEP Sourced Calibration Procedures
Pt 385 (200 Ω)	(-200 to 100) °C	0.05 °C		
	(100 to 260) °C	0.06 °C		
	(260 to 300) °C	0.14 °C		
	(300 to 400) °C	0.15 °C		
	(400 to 600) °C	0.16 °C		
	(600 to 630) °C	0.18 °C		
Pt 385 (500 Ω)	(-200 to -80) °C	0.05 °C		
	(-80 to 100) °C	0.06 °C		
	(100 to 260) °C	0.07 °C		
	(260 to 400) °C	0.09 °C		
	(400 to 600) °C	0.1 °C		
	(600 to 630) °C	0.13 °C		
Pt 385 (1000 Ω)	(-200 to 0) °C	0.03 °C		
	(0 to 100) °C	0.05 °C		
	(100 to 260) °C	0.06 °C		
	(260 to 300) °C	0.07 °C		
	(300 to 600) °C	0.08 °C		
	(600 to 630) °C	0.27 °C		
PtNi 385 (120 Ω)	(-80 to 1 000) °C	0.09 °C		
	(100 to 260) °C	0.16 °C		
Capacitance – Source				
10 Hz to 10 kHz	(190 to 400) pF	5 mF/F + 10 pF		
10 Hz to 10 kHz	400 pF to 1.1 nF	5 mF/F + 10 pF		
10 Hz to 3 kHz	(1.1 to 3.3) nF	5 mF/F + 10 pF		
10 Hz to 1 kHz	(3.3 to 11) nF	5 mF/F + 10 pF		
10 Hz to 1 kHz	(11 to 33) nF	2.5 mF/F + 100 pF		
10 Hz to 1 kHz	(33 to 110) nF	2.5 mF/F + 100 pF		
10 Hz to 1 kHz	(110 to 330) nF	2.5 mF/F + 300 pF		
(10 to 600) Hz	330 nF to 1.1 μF	2.5 mF/F + 1 nF		
(10 to 300) Hz	(1.1 to 3.3) μF	3.5 mF/F + 3 nF		
(10 to 150) Hz	(3.3 to 11) μF	3.5 mF/F + 10 nF		
(10 to 120) Hz	(11 to 33) μF	4 mF/F + 30 nF		
(10 to 80) Hz	(33 to 110) μF	5 mF/F + 100 nF		
(0 to 50) Hz	(110 to 330) μF	7 mF/F + 300 nF		
(0 to 20) Hz	330 μF to 1.1 mF	10 mF/F + 300 nF		

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Calibration of Oscilloscopes Amplitude DC Signal into 50 Ω Load into 1 MΩ Load	(-6.6 to 6.6) V (-130 to 130) V	2.5 mV/V + 40 μV 500 μV/V + 40 μV	Fluke 5500A-SC600	OEM and GIDEP Sourced Calibration Procedures
Amplitude Squarewave 50 Ω Load 1 MΩ Load	1 mV to 6.6 V p-p 10 Hz to 10 kHz 1 mV to 130 V p-p 10 Hz to 10 kHz	2.5 mV/V + 40 μV 1 mV/V + 40 μV		
Leveled Sine Wave - Flatness Relative to 50 kHz [5 mV to 5.5 V]	50 kHz to 100 MHz (100 to 300) MHz (300 to 600) MHz	35 mV/V + 300 μV 40 mV/V + 300 μV 60 mV/V + 300 μV		
Time Marker into 50 Ω Load-Source Edge Specs into 50Ω Load-Source Rise Time Amplitude Frequency	5 s to 50 ms 20 ms to 100 ns (50 to 20) ns 10 ns (5 to 2) ns ≤ 300 ps 5 mV to 2.5V 1 kHz to 2 MHz	(25 + 1 000t) parts in 10 ⁶ 2.5 parts in 10 ⁶ 2.5 parts in 10 ⁶ 2.5 parts in 10 ⁶ 2.5 parts in 10 ⁶ 0ps +/-100ps 20 mV/V + 200 μV 2.5 parts in 10 ⁶ of setting		
Wave Generator - Source Amplitude (10 Hz to 10 kHz) Square, Sine, Triangle into 1 MΩ Square, Sine, Triangle into 50 Ω Frequency	1.8 mV to 55 Vp-p 1.8 mV to 2.5 Vp-p 10 Hz to 100 kHz	30 mV/V + 100 μV 30 mV/V + 100 μV 25 parts in 10 ⁶ + 15 mHz		

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Power Measuring Equipment DC Power - Source	33 mV to 1 000 V (3.3 to 9) mA (9 to 33) mA (33 to 90) mA (90 to 330) mA (330 to 900) mA 900 mA to 2.2 A (2.2 to 4.5) A (4.5 to 11) A	300 μ V/V of Watts Output 400 μ V/V of Watts Output 300 μ V/V of Watts Output 800 μ V/V of Watts Output 600 μ V/V of Watts Output 1.2 mV/V of Watts Output 900 μ V/V of Watts Output 300 μ V/V of Watts Output	Fluke 5500A-SC600	OEM and GIDEP Sourced Calibration Procedures
AC Power (45 to 65) Hz PF=1 Source	(33 to 330) mV (3.3 to 9) mA (9 to 33) mA (33 to 90) mA (90 to 330) mA (330 to 900) mA 900 mA to 2.2 A (2.2 to 4.5) A (4.5 to 11) A (0.33 V to 1 000) V (3.3 to 9) mA (9 to 33) mA (33 to 90) mA (90 to 330) mA (330 to 900) mA 900 mA to 2.2 A (2.2 to 4.5) A (4.5 to 11) A	4 mV/V of Watts Output 2.5 mV/V of Watts Output 3.5 mV/V of Watts Output 2.5 mV/V of Watts Output 3.5 mV/V of Watts Output 2.5 mV/V of Watts Output 3.5 mV/V of Watts Output 2.5 mV/V of Watts Output 2.5 mV/V of Watts Output 1.5 mV/V of Watts Output 2.5 mV/V of Watts Output 1.5 mV/V of Watts Output 2.5 mV/V of Watts Output 1.5 mV/V of Watts Output 2 mV/V of Watts Output 1.5 mV/V of Watts Output		

II. Time & Frequency

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Frequency - Source	(10 to 120) Hz 120 Hz to 1.2 kHz (1.2 to 12) kHz (12 to 120) kHz 120 kHz to 1.2 MHz (1.2 to 2) MHz (10 to 120) Hz	25 parts in $10^6 + 1$ mHz 26 parts in $10^6 + 1$ mHz 27 parts in $10^6 + 1$ mHz 28 parts in $10^6 + 15$ mHz 29 parts in $10^6 + 15$ mHz 30 parts in $10^6 + 15$ mHz 25 parts in $10^6 + 1$ mHz	Fluke 5500A-SC600	OEM and GIDEP Sourced Calibration Procedures
Frequency – Measure	0.03 Hz to 2.7 GHz	2.5 parts in 10^8	Fluke PM6681/ PM9692	
Frequency 10 MHz Reference*	10 MHz	5.8 parts in 10^{12}	Kinometrics 60-TF	WWVB

III. Thermodynamic

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Temperature	(-196 to -39) °C (-39 to 0) °C (0 to 232) °C (232 to 420) °C (420 to 660) °C	0.004 °C 0.004 °C 0.006 °C 0.007 °C 0.015 °C	Hart 5680 w/ 1575 Hart 5680 w/ 1575 Hart 5680 w/ 1575 Hart 5680 w/ 1575 Hart 5626 w/ 1575	OEM and GIDEP Sourced Calibration Procedures
Relative Humidity	(0 to 100) % RH	1.4 %RH	Vaisala HMI 41/HMP 46 Indicator & Probe	

IV. Mechanical

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Calibration of Pressure Measuring Instruments	(0 to 30) psi (30 to 500) psi	0.022 psi 0.3 psi	Fluke 700p Pressure Modules	OEM and GIDEP Sourced Calibration Procedures

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Pressure (cont.)*	(0 to 19) psia (-14.9 to 0) psi (0 to 2 500) psi	0.009 % of rdg 0.009 % of rdg 0.009 % of rdg	Ruska 7250xi	OEM and GIDEP Sourced Calibration Procedures
	(0 to 150) psi	0.0024 % of span	DHI RPM4	
Torque	4 in-lb to 600 ft-lb	0.4 % of rdg	CDI Suretest w/ Cells	
Force	1 mg	0.029 mg	Class 3 weights	
	2 mg	0.029 mg		
	5 mg	0.033 mg		
	10 mg	0.035 mg		
	20 mg	0.042 mg		
	50 mg	0.049 mg		
	100 mg	0.058 mg		
	200 mg	0.070 mg		
	500 mg	0.093 mg		
	1 g	0.116 mg		
	2 g	0.151 mg		
	5 g	0.209 mg		
	10 g	0.291 mg		
	20 g	0.406 mg		
Up to 630 lb	0.023 % of reading	Class F weights		
Non-Contact Tachometers	(30 to 100 000) rpm	0.6 rpm	SRS DS345 Function Generator	



V. Dimensional

PARAMETER / EQUIPMENT	RANGE	BEST MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
Micrometers	(0 to 4) in (4 to 40) in	87.4 μin 165 μin	Grade 2 Gage Blocks With Optical Flats	OEM and GIDEP Sourced Calibration Procedures
Calipers	(0 to 6) in (6 to 40) in	737 μin 739 μin	Grade 2 Gage Blocks	
Height Gages	(0 to 24) in	163 μin		
Indicators	(0 to 4) in	87.4 μin		

Notes:

1. Best Measurement Uncertainties (Expanded Uncertainties) are based on approximately a 95% confidence interval, using a coverage of k=2.
2. This laboratory's capabilities include in-laboratory and field (on-site) calibration services. Since field (on-site) conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected in the field (on-site) than what is reported on the accredited scope.
3. Capabilities denoted by an asterisk (*) are depot-only, not available for field (on-site) calibration activity.
4. The use of (t) signifies an expression of Time in seconds.
5. This scope is part of and must be included with the Certificate of Accreditation No. AC-1203



Vice President

