



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

Wintronics, Inc.
50 Division Ave
Millington, NJ 07946

has been assessed by ANAB
and meets the requirements of international standard

ISO/IEC 17025:2005

while demonstrating technical competence in the field of

CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of calibrations to which this accreditation applies.

AC-1656

Certificate Number


ANAB Approval

Certificate Valid: 04/22/2016-04/26/2018
Version No. 002 Issued: 04/22/2016



This laboratory 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 (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).



ANSI-ASQ National Accreditation Board

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Wintronics, Inc.

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CALIBRATION

Valid to: 04/26/2018

Certificate Number: AC- 1656

I. Electromagnetic - DC/Low Frequency

PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
DC Voltage - Source	Up to 220 mV 220 mV to 2.2 V (2 to 11) V (11 to 22) V (22 to 220) V 220 V to 1.1 kV	9.1 $\mu\text{V/V} + 0.4 \mu\text{V}$ 5.9 $\mu\text{V/V} + 0.7 \mu\text{V}$ 4.1 $\mu\text{V/V} + 2.5 \mu\text{V}$ 4.1 $\mu\text{V/V} + 4 \mu\text{V}$ 5.9 $\mu\text{V/V} + 40 \mu\text{V}$ 8.5 $\mu\text{V/V} + 0.4 \text{mV}$	Fluke 5720A
DC Voltage - Measure	Up to 100 mV 100 mV to 1 V (1 to 10) V (10 to 100) V 100 V to 1.1 kV	6.2 $\mu\text{V/V} + 1 \mu\text{V}$ 4.6 $\mu\text{V/V} + 1 \mu\text{V}$ 4.6 $\mu\text{V/V} + 2 \mu\text{V}$ 7.2 $\mu\text{V/V} + 30 \mu\text{V}$ 19 $\mu\text{V/V} + 0.1 \text{mV}$	Agilent 3458A Opt 002
DC Current - Source	Up to 220 μA 220 μA to 2.2 mA (2.2 to 22) mA (22 to 100) mA (100 to 220) mA 220 mA to 1A (1 to 2.2) A (2.2 to 11) A	48 $\mu\text{A/A} + 6 \text{nA}$ 42 $\mu\text{A/A} + 7 \text{nA}$ 42 $\mu\text{A/A} + 40 \text{nA}$ 55 $\mu\text{A/A} + 0.7 \mu\text{A}$ 65 $\mu\text{A/A} + 0.7 \mu\text{A}$ 0.14 mA/A + 1.2 μA 0.15 mA/A + 1.2 μA 7 mA/A + 0.33 mA	Fluke 5720A
Clamp-on Ammeters	(10 to 500) A	18 mA/A + 0.52 A	Fluke 5500A Fluke 5500A with Coil
DC Current - Measure	Up to 100 μA 100 μA to 1 mA (1 to 10) mA (10 to 100) mA 100 mA to 1 A (1 to 10) A	23 $\mu\text{A/A} + 0.8 \text{nA}$ 23 $\mu\text{A/A} + 5 \text{nA}$ 23 $\mu\text{A/A} + 50 \text{nA}$ 41 $\mu\text{A/A} + 0.5 \mu\text{A}$ 0.13 mA/A + 10 μA 0.15 mA/A	Agilent 3458A Agilent 3458A, Fluke Y5020



PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
AC Voltage - Source	Up to 2.2 mV		
	(10 to 20) Hz	1.1 mV/V + 4 μV	
	(20 to 40) Hz	0.89 mV/V + 4 μV	
	40 Hz to 20 kHz	0.91 mV/V + 4 μV	
	(20 to 50) kHz	0.94 mV/V + 4 μV	
	(50 to 100) kHz	1.6 mV/V + 5 μV	
	(100 to 300) kHz	2.5 mV/V + 10 μV	
	(300 to 500) kHz	3.6 mV/V + 20 μV	
	500 kHz to 1MHz	6.3 mV/V + 20 μV	
	(2.2 to 22) mV		
	(10 to 20) Hz	0.33 mV/V + 4 μV	
	(20 to 40) Hz	0.21 mV/V + 4 μV	
	40 Hz to 20 kHz	0.21 mV/V + 4 μV	
	(20 to 50) kHz	0.27 mV/V + 4 μV	
	(50 to 100) kHz	0.55 mV/V + 5 μV	
	(100 to 300) kHz	1.3 mV/V + 10 μV	
	(300 to 500) kHz	1.7 mV/V + 20 μV	
	500 kHz to 1MHz	3.2 mV/V + 20 μV	
	(22 to 220) mV		
	(10 to 20) Hz	0.28 mV/V + 12 μV	
	(20 to 40) Hz	0.12 mV/V + 7 μV	
40 Hz to 20 kHz	99 μV/V + 7 μV		
(20 to 50) kHz	0.24 mV/V + 7 μV		
(50 to 100) kHz	0.54 mV/V + 17 μV		
(100 to 300) kHz	0.95 mV/V + 20 μV		
(300 to 500) kHz	1.6 mV/V + 25 μV		
500 kHz to 1MHz	3.2 mV/V + 45 μV		
220 mV to 2.2 V			
(10 to 20) Hz	0.28 mV/V + 40 μV		
(20 to 40) Hz	0.11 mV/V + 15 μV		
40 Hz to 20 kHz	59 μV/V + 8 μV		
(20 to 50) kHz	91 μV/V + 10 μV		
(50 to 100) kHz	0.13 mV/V + 30 μV		
(100 to 300) kHz	0.49 mV/V + 80 μV		
(300 to 500) kHz	1.2 mV/V + 0.2 mV		
500 kHz to 1MHz	2 mV/V + 0.3 mV		
Fluke 5720A			



PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
AC Voltage - Source (cont.)	(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 1MHz (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 1MHz (220 to 250) V (15 to 50) Hz 50 Hz to 1 kHz 250 V to 1.1 kV 50 Hz to 1 kHz	0.28 mV/V + 0.4 mV 0.11 mV/V + 0.15 mV 59 μV/V + 50 μV 92 μV/V + 0.1 mV 0.12 mV/V + 0.2 mV 0.32 mV/V + 0.6 mV 1.2 mV/V + 2 mV 1.7 mV/V + 3.2 mV 0.28 mV/V + 4 mV 0.11 mV/V + 1.5 mV 67 μV/V + 0.6 mV 96 μV/V + 1 mV 0.18 mV/V + 2.5 mV 1 mV/V + 16 mV 5.1 mV/V + 40 mV 8.4 mV/V + 80 mV 0.37 mV/V + 16 mV 96 μV/V + 3.5 mV 96 μV/V + 3.5 mV	Fluke 5720A
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 (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 1MHz-2MHz	0.35 mV/V + 3 μV 0.25 mV/V + 1.1 μV 0.4 mV/V + 1.1 μV 1.2 mV/V + 1.1 μV 6.3 mV/V + 1.1 μV 50 mV/V + 2 μV 0.1 mV/V + 4 μV 0.1 mV/V + 2 μV 0.17 mV/V + 2 μV 0.35 mV/V + 2 μV 1.1 mV/V + 2 μV 4.6 mV/V + 10 μV 13 mV/V + 10 μV 18 mV/V + 10 μV	Agilent 3458A



PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
AC Voltage - Measure (cont.)	100 mV to 1 V (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 2) MHz (1 to 10) V (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 2) MHz (10 to 100) V (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 (100 to 700) V (1 to 40) Hz 40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz	95 µV/V + 40 µV 94 µV/V + 20 µV 0.17 mV/V + 20 µV 0.35 mV/V + 20 µV 0.93 mV/V + 20 µV 3.6 mV/V + 0.1 mV 12 mV/V + 0.1 mV 18 mV/V + 0.1 mV 95 µV/V + 0.4 mV 95 µV/V + 0.2 mV 0.17 mV/V + 0.2 mV 0.35 mV/V + 0.2 mV 1 mV/V + 0.2 mV 4 mV/V + 1 mV 12 mV/V + 1 mV 18 mV/V + 1 mV 0.24 mV/V + 4 mV 0.24 mV/V + 2 mV 0.23 mV/V + 2 mV 0.41 mV/V + 2 mV 1.4 mV/V + 2 mV 4.6 mV/V + 10 mV 17 mV/V + 10 mV 0.47 mV/V + 40 mV 0.47 mV/V + 20 mV 0.7 mV/V + 20 mV 0.14 mV/V + 20 mV 0.35 mV/V + 20 mV	Agilent 3458A
Electrical Simulation of Thermocouple Indicators	Type J (-210 to -100) °C (-100 to -30) °C (-30 to 150) °C (150 to 760) °C (760 to 1 200) °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	0.32 °C 0.19 °C 0.2 °C 0.23 °C 0.27 °C 0.39 °C 0.22 °C 0.22 °C 0.31 °C 0.47 °C	

PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
Electrical Simulation of Thermocouple Indicators	Type T		
	(-250 to -150) °C	0.73 °C	
	(-150 to 0) °C	0.28 °C	
	(0 to 120) °C	0.19 °C	
	(120 to 400) °C	0.18 °C	
	Type R		
	(0 to 250) °C	0.88 °C	
	(250 to 400) °C	0.71 °C	Fluke 5500A-SC600
	(400 to 1 000) °C	0.69 °C	
	(1 000 to 1 767) °C	0.74 °C	
	Type S		
	(0 to 250) °C	0.79 °C	
(250 to 1 000) °C	0.71 °C		
(1 000 to 1 400) °C	0.7 °C		
(1 400 to 1 767) °C	0.79 °C		
AC Current - Source	(22 to 220) µA		
	(10 to 20) Hz	0.3 mA/A + 16 nA	
	(20 to 40) Hz	0.19 mA/A + 10 nA	
	40 Hz to 1 kHz	0.15 mA/A + 8 nA	
	(1 to 5) kHz	0.38 mA/A + 12 nA	
	(5 to 10) kHz	1.4 mA/A + 65 nA	
	220 µA to 2.2 mA		
	(10 to 20) Hz	0.35 mA/A + 50 nA	
	(20 to 40) Hz	0.24 mA/A + 40 nA	
	40 Hz to 1 kHz	0.17 mA/A + 40 nA	
	(1 to 5) kHz	0.29 mA/A + 0.13 µA	
	(5 to 10) kHz	1.5 mA/A + 0.8 µA	
	(2.2 to 22) mA		
	(10 to 20) Hz	0.35 mA/A + 0.5 µA	
	(20 to 40) Hz	0.24 mA/A + 0.4 µA	
	40 Hz to 1 kHz	0.17 mA/A + 0.4 µA	
	(1 to 5) kHz	0.29 mA/A + 0.7 µA	
	(5 to 10) kHz	1.5 mA/A + 6 µA	
	(22 to 220) mA		
	(10 to 20) Hz	0.35 mA/A + 5 µA	
	(20 to 40) Hz	0.24 mA/A + 4 µA	
	40 Hz to 1 kHz	0.17 mA/A + 3 µA	
	(1 to 5) kHz	0.28 mA/A + 4 µA	
	(5 to 10) kHz	1.5 mA/A + 12 µA	
220 mA to 2.2 A			
20 Hz to 1 kHz	0.31 mA/A + 35 µA		
(1 to 5) kHz	0.6 mA/A + 0.1 mA		
(5 to 10) kHz	8.5 mA/A + 0.2 mA		

PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
AC Current - Source (cont.)	(2.2 to 11) A (45 to 65) Hz (65 to 500) Hz 500Hz-1kHz	0.72 mA/A + 2 mA 1.2 mA/A + 2 mA 3.8 mA/A + 2 mA	Fluke 5500A
Clamp-on Ammeters	(11 to 500) A (45 to 65) Hz	14 mA/A + 0.8 A	Fluke 5500A with Coil
AC Current - Measure	(10 to 100) µA (10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz 100 µA to 1 mA (10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz (5 to 20) kHz (1 to 10) mA (10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz (5 to 20) kHz (10 to 100) mA (10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz (5 to 20) kHz 100 mA to 1 A (10 to 20) Hz (20 to 45) Hz (45 to 100) Hz 100 Hz to 5 kHz (5 to 20) kHz	4.6 mA/A + 20 nA 1.8 mA/A + 20 nA 0.74 mA/A + 20 nA 4.6 mA/A + 0.2 µA 1.7 mA/A + 0.2 µA 0.72 mA/A + 0.2 µA 0.41 mA/A + 0.2 µA 0.72 mA/A + 0.2 µA 4.6 mA/A + 2 µA 1.7 mA/A + 2 µA 0.72 mA/A + 2 µA 0.4 mA/A + 2 µA 0.72 mA/A + 2 µA 4.6 mA/A + 20 µA 1.7 mA/A + 20 µA 0.74 mA/A + 20 µA 0.43 mA/A + 20 µA 0.74 mA/A + 20 µA 4.6 mA/A + 0.2 mA 1.9 mA/A + 0.2 mA 0.94 mA/A + 0.2 mA 1.2 mA/A + 0.2 mA 3.5 mA/A + 0.2 mA	Agilent 3458A

PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
Resistance - Source Fixed Values	1Ω	0.12 mΩ/Ω	Fluke 5720A
	1.9Ω	0.14 mΩ/Ω	
	10Ω	31 μΩ/Ω	
	19Ω	33 μΩ/Ω	
	100Ω	13 μΩ/Ω	
	190Ω	12 μΩ/Ω	
	1kΩ	9.9 μΩ/Ω	
	1.9kΩ	10 μΩ/Ω	
	10kΩ	9.9 μΩ/Ω	
	19kΩ	10 μΩ/Ω	
	100kΩ	13 μΩ/Ω	
	190kΩ	13 μΩ/Ω	
	1MΩ	23 μΩ/Ω	
	1.9MΩ	25 μΩ/Ω	
10MΩ	49 μΩ/Ω		
19MΩ	0.11 mΩ/Ω		
100MΩ	0.13 mΩ/Ω		
Resistance - Source	Up to 11Ω	0.18 mΩ/Ω + 8 mΩ	Fluke 5500A
	(11 to 33) Ω	0.14 mΩ/Ω + 15 mΩ	
	(33 to 110) Ω	0.11 mΩ/Ω + 15 mΩ	
	(110 to 330) Ω	0.1 mΩ/Ω + 15 mΩ	
	330 to 1.1) kΩ	0.1 mΩ/Ω + 60 mΩ	
	(1.1 to 3.3) kΩ	0.11 mΩ/Ω + 60 mΩ	
	(3.3 to 11) kΩ	0.11 mΩ/Ω + 0.6 Ω	
	(11 to 33) kΩ	0.11 mΩ/Ω + 0.6 Ω	
	(33 to 110) kΩ	0.13 mΩ/Ω + 6 Ω	
	(110 to 330) kΩ	0.14 mΩ/Ω + 6 Ω	
	330 to 1.1) MΩ	0.17 mΩ/Ω + 55 Ω	
	(1.1 to 3.3) MΩ	0.17 mΩ/Ω + 55 Ω	
	(3.3 to 11) MΩ	0.69 mΩ/Ω + 0.55 kΩ	
	(11 to 33) MΩ	1.2 mΩ/Ω + 0.55 kΩ	
(33 to 110) MΩ	5.8 mΩ/Ω + 5.5 kΩ		
(110 to 330) MΩ	5.8 mΩ/Ω + 17 kΩ		
Resistance - Measure	100 mΩ to 10 Ω	17 μΩ/Ω + 50 μΩ	Agilent 3458A
	(10 to 100) Ω	14 μΩ/Ω + 0.5 mΩ	
	100 Ω to 1 kΩ	12 μΩ/Ω + 0.5 mΩ	
	(1 to 10) kΩ	12 μΩ/Ω + 5 mΩ	
	(10 to 100) kΩ	12 μΩ/Ω + 50 mΩ	
	100 kΩ to 1MΩ	17 μΩ/Ω + 2 Ω	
	(1 to 10) MΩ	59 μΩ/Ω + 0.1 kΩ	
	(10 to 100) MΩ	0.59 mΩ/Ω + 1 kΩ	

PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
Electrical Simulation of RTD Indicators	Pt 385, 100 Ω		Fluke 5500A-SC600
	(-200 to -80) °C	0.08 °C	
	(-80 to 0) °C	0.08 °C	
	(0 to 100) °C	0.1 °C	
	(100 to 300) °C	0.12 °C	
	(300 to 400) °C	0.13 °C	
	(400 to 630) °C	0.15 °C	
	(630 to 800) °C	0.27 °C	
	Pt 3926, 100 Ω		
	(-200 to -80) °C	0.08 °C	
	(-80 to 0) °C	0.08 °C	
	(0 to 100) °C	0.1 °C	
	(100 to 300) °C	0.12 °C	
	(300 to 400) °C	0.12 °C	
(400 to 630) °C	0.15 °C		
Capacitance - Source	(330 to 500) pF	11 mF/F + 10 pF	Fluke 5500A
	500 pF to 1.1 nF	6.5 mF/F + 10 pF	
	(1.1 to 3.3) nF	6.2 mF/F + 10 pF	
	(3.3 to 11) nF	5.9 mF/F + 10 pF	
	(11 to 33) nF	9.7 mF/F + 0.1 nF	
	(33 to 110) nF	3 mF/F + 0.1 nF	
	(110 to 330) nF	3.5 mF/F + 0.3 nF	
	330 nF to 1.1 μF	3 mF/F + 1 nF	
	(1.1 to 3.3) μF	4.5 mF/F + 3 nF	
	(3.3 to 11) μF	4.2 mF/F + 10 nF	
	(11 to 33) μF	5.1 mF/F + 10 nF	
	(33 to 110) μF	5.9 mF/F + 0.1 μF	
	(110 to 330) μF	8.6 mF/F + 0.3 μF	
	330 μF to 1.1 mF	13 mF/F + 0.3 μF	
AC Watts - Source PF=1, (45 to 65) Hz 330 mV to 1.02 kV	(33 to 90) mA	3.1 mW/W	Fluke 5500A
	(90 to 330) mA	1.8 mW/W	
	(330 to 900) mA	2.9 mW/W	
	900 mA to 3 A	1.7 mW/W	
	(3 to 4.5) A	2.3 mW/W	
	(4.5 to 11) A	1.7 mW/W	

PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
Oscilloscopes DC Signal, 50 Ω DC Signal, 1MΩ	0 to ± 6.6 V 0 to ± 130 V	3.1 mV/V + 40 μV 1.3 mV/V + 40 μV	Fluke 5500A-SC600
Square Wave 50 ohm, 10Hz to 10kHz 1Mohm, 10 Hz to 1kHz 1Mohm, 1 kHz to 10kHz	± (1 mV to 6.6 V) p-p ± (1 mV to 130 V) p-p ± (1 mV to 130 V) p-p	4.2 mV/V + 40 μV 1.6 mV/V + 40 μV 3 mV/V + 40 μV	
Time Marker	2 ns to 20 ms (cardinal points)	12 μs/s	
Rise Time	50 ms to 5 s (cardinal points)	90 + 1 367 (t-0.05) μs/s	
	300 ps, 10 kHz to 2 MHz	0.12 ns	
	350 ps 2 MHz to 10 MHz	0.12 ns	
Leveled Sine Wave 50kHz Reference	(5 mV to 5.5 V) p-p	24 mV/V + 0.3 mV	
Flatness Amplitude (5 mV to 5.5 V) p-p, relative to 50kHz	50 kHz to 100 MHz (100 to 300) MHz (300 to 600) MHz	20 mV/V + 0.1 mV 25 mV/V + 0.1 mV 47 mV/V + 0.1 mV	

II. Time & Frequency

PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
Frequency - Measure	Up to 100 MHz	1.6 x e ⁻⁰⁹ Hz	HP 5335A, Fluke 910R
Frequency - Source	10 MHz	2.8 x e ⁻¹² Hz	
Timers and Stop Watches	Up to 24 hrs	0.03 sec	HP 5335A, Fluke 910R HP 3325A

III. Thermodynamic

PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
Temperature - Source & Measure	(0 to 100) °C	0.01 °C	Hart 7040 Bath, 5610 Probe, 2563 Display
	(100 to 300) °C	0.038 °C	Hart 6330 Bath, 5626 Probe, 2560 Display
Infrared Temperature - Source & Measure	(0 to 100) °C	0.25 °C	Heitronics TRT3.82 TRT & Mester ME20.02 BB
	(100 to 600) °C	1.1 °C	Heitronics TRT3.82 TRT & SW10B BB
	(600 to 1 000) °C	1.2 °C	Heitronics TRT3.82 & SW11B BB

IV. Mechanical

PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
Pressure	Up to 9 psia/psig (9 to 1 000) psia/psig	0.008 psi 0.009 % of rdg	DHI PPC3/A700K & DHI PPC3/A7M
Torque Drivers	(10 to 100) ozf·in (40 to 380) ozf·in (20to 200) lbf·in	1.7 % of rdg 2.6 % of rdg 1.2 % of rdg	CDI 1001-O-TTP CDI T-400-0 CDI 2002-1-TTP
Torque - Click Style	(10 to 100) ozf·in (40 to 380) ozf·in (20to 200) lbf·in (20 to 250) lbf·ft	2.1 % of rdg 4.9 % of rdg 0.91 % of rdg 0.98 % of rdg	CDI 1001-O-TTP CDI T-400-0 CDI 2002-1-TTP CDI ASGT-250-F
Torque Tools – Dial and Digital	(20 to 200) lbf·in (20 to 250) lbf·ft	0.66 % of rdg 1.2 % of rdg	CDI 2002-1-TTP CDI ASGT-250-F

V. Dimensional

PARAMETER / EQUIPMENT	RANGE	CALIBRATION & MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]	REFERENCE STANDARD OR EQUIPMENT
Micrometers	Up to 1 in	(60 + 4L) μin	Grade 2 Gage Blocks
Calipers	Up to 6 in	(530 + 8.1L) μin	

Notes:

1. Calibration and Measurement Capabilities (CMC) (Expanded Uncertainties) are based on approximately a 95% confidence interval, using a coverage of k=2.
2. The use of (t) represents Time in seconds.
3. The use of (L) signifies Length in inches.
4. In the statement of CMC, "% of rdg" = % of reading
5. This scope is formatted as part of a single document including the Certificate of Accreditation No. AC-1656.



Vice President

