National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Marlin Manufacturing Corporation
12800 Corporate Drive
Cleveland, OH 44130
Ms. Terry L. Halfacre
Phone: 216-676-1383 Fax: 216-676-1344
E-mail: calibration@marlinmfg.com
URL: http://marlinmfg.com

CALIBRATION LABORATORIES **NVLAP LAB CODE 200512-0**

NVLAP Code: 20/A01 ANSI/NCSL Z540-1-1994; Part 1 Compliant

DC/LOW FREQUENCY

NVLAP Code: 20/E05
DC Resistance – Fixed Values

Range in Ω	***Best Uncertainty (±) [note 1] in μΩ***	***Remarks***
1	53	Comparison to Fluke 742A-1
10 K	97	Comparison to Fluke 742A-10

DC Resistance – Generate

Range in Ω	***Best Uncertainty (±) [note 1] in ppm***	***Remarks***
1	28	Comparison to Fluke 5700A
1.9	19	Comparison to Fluke 5700A
10	7	Comparison to Fluke 5700A
19	7	Comparison to Fluke 5700A
100	5	Comparison to Fluke 5700A
190	5	Comparison to Fluke 5700A
1 k	5	Comparison to Fluke 5700A
1.9 k	5	Comparison to Fluke 5700A
10 k	6	Comparison to Fluke 5700A
19 k	6	Comparison to Fluke 5700A
100 k	7	Comparison to Fluke 5700A

2009-01-01 through 2009-12-31

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology

CALIBRATION LABORATORIES **NVLAP LAB CODE 200512-0**

190 k	7	Comparison to Fluke 5700A
1 M	10	Comparison to Fluke 5700A
1.9 M	10	Comparison to Fluke 5700A
10 M	28	Comparison to Fluke 5700A
100 M	28	Comparison to Fluke 5700A

DC Resistance – Measure

Range	***Best Uncertainty (±)*** [note 1]	***Remarks***
(0 to 2) Ω	24 μΩ/Ω + 5.2 μΩ	Comparison to Fluke 8508A
(2 to 20) Ω	14 μΩ/Ω + 20 μΩ	Comparison to Fluke 8508A
(20 to 200) Ω	10 μΩ/Ω + 80 μΩ	Comparison to Fluke 8508A
200 to 2 kΩ	10 μΩ/Ω + 800 μΩ	Comparison to Fluke 8508A
(2 to 20) kΩ	10 μΩ/Ω + 8 mΩ	Comparison to Fluke 8508A
(20 to 200) kΩ	10 μΩ/Ω + 80 mΩ	Comparison to Fluke 8508A
200 kΩ to 2 MΩ	12 μΩ/Ω + 1.4 Ω	Comparison to Fluke 8508A
(2 to 20) MΩ	32 μΩ/Ω + 122 Ω	Comparison to Fluke 8508A
(20 to 200) MΩ	197 μΩ/Ω + 12 kΩ	Comparison to Fluke 8508A
200 MΩ to 2 GΩ	1877 μΩ/Ω + 120 kΩ	Comparison to Fluke 8507A

NVLAP Code: 20/E06
DC Voltage - Generate

Range	***Best Uncertainty (±)*** [note 1]	***Remarks***
(0 to 220) mV	1.4 μV/V + 50 nV	Comparison to Fluke 5700A
(0.2 to 2.2) V	3.3 μV/V + 0.1 μV	Comparison to Fluke 5700A
(2.2 to 11) V	3.3 μV/V + 1 μV	Comparison to Fluke 5700A
(11 to 22) V	3.3 μV/V + 1 μV	Comparison to Fluke 5700A
(22 to 220) V	4.2 μV/V + 10 μV	Comparison to Fluke 5700A

DC Voltage – Fixed Points

Range	***Best Uncertainty (±)*** [note 1]	***Remarks***
10 V	34 μV	Comparison to Fluke 732A
1.018 V	34 μV	Comparison to Fluke 732A

2009-01-01 through 2009-12-31

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology

CALIBRATION LABORATORIES **NVLAP LAB CODE 200512-0**

DC Voltage - Measure

Range	*Best Uncertainty (±)* [note 1]	*Remarks*
to 200 mV	7.4 µV/V + 0.14 µV	Comparison to Fluke 8508A
200 mV to 2 V	4.7 µV/V + 0.7 µV	Comparison to Fluke 8508A
(2 to 20) V	4.7 µV/V + 7 µV	Comparison to Fluke 8508A
(20 to 200) V	6.7 µV/V + 70 µV	Comparison to Fluke 8508A
(200 to 1000) V	6.8 µV/V + 700 µV	Comparison to Fluke 8508A

THERMODYNAMICS

NVLAP Code: 20/T08
Thermocouples – Type B

Range in °C	*Best Uncertainty (±) °C* [note 1]	*Remarks*
800 to 1100	0.8	Comparison to Type B Platinum reference thermocouple
1100 to 1750	1.7	Comparison to Type B Platinum reference thermocouple
Thermocouples – Type E		
-100 to 300	0.4	Comparison to Type T reference thermocouple
0 to 900	0.8	Comparison to Type S reference thermocouple
Thermocouples – Type J		
-100 to 300	0.4	Comparison to Type T reference thermocouple
0 to 750	0.8	Comparison to Type S Platinum reference thermocouple
Thermocouples – Type K and Type N		
-100 to 300	0.4	Comparison to Type T reference thermocouple
0 to 800	0. 8	Comparison to Type S Platinum reference thermocouple
800 to 1100	1.3	Comparison to Type S Platinum reference thermocouple

2009-01-01 through 2009-12-31

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology

CALIBRATION LABORATORIES **NVLAP LAB CODE 200512-0**

1100 to 1250	1.6	Comparison to Type S Platinum reference thermocouple
Thermocouples – Type R and Type S		
0 to 1100	0.5	Comparison to Type S Platinum reference thermocouple
1100 to 1450	1.6	Comparison to Type S Platinum reference thermocouple
Thermocouples – Type T		
-100 to 300	0.4	Comparison to Type T reference thermocouple

1. Represents an expanded uncertainty using a coverage factor, k = 2, at an approximate level of confidence of 95 %.

2009-01-01 through 2009-12-31

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology