



Certificate of Calibration

1000232194

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Customer Information

Accurate Calibration & Repair
1924 Pinnacle Drive
Aurora, IL 60504

PO #: 2207
Reference #: 2252628Rg17025
Account #: 00317
SO #: 52628

Instrument Identification

Instrument Id: **R051276**

Location: **R051276**

Noun: Handheld Calibrator

Model: Memocal 2000

Mfr: Barber-Colman Company

Serial #: 98.24.1614

Accuracy: See manufacturer's specifications

Certification Information

Reason For Service: Calibration with Data

Technician: Appealle Bullock

Type Of Calibration: Accredited 17025

Cal Date: 26 SEP 22

As Found Condition: In Tolerance

Cal Due: 26 DEC 22

As Left Condition: Left As Found

Temperature: 22.0 °C

Procedure: MFR Manual :

Humidity: 49.0 %

Technician Remarks: Datasheet reflects Customer specified calibration points. Unit calibrated per AMS 2750 F.

- No sampling plan or other procedure was used for this calibration. Measurements and information on this certificate are valid at time of calibration only and any number of factors may cause the calibrated item to drift out of tolerance before the assigned calibration interval.
- The calibration results published in this certificate were obtained using test equipment that has been calibrated by Certified Standards and are traceable through the National Institute of Standards and Technology (NIST), derived from natural physical constants, from ratio measurements, or compared to consensus standards to the International System of Units (SI).
- Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k=2$. J.H. Metrology Co., Inc. does not apply the reported calculated measurement uncertainty to manufacturer or other sources of tolerances/specifications to determine the instrument pass or fail status. (Uncertainties are listed separately for each test point.) It is the responsibility of the Customer to consider measurement uncertainty when determining the instrument suitability.
- (!) Designates that the expanded uncertainty of measurement does not meet the 95% confidence level.
- This certificate may contain data that is not covered by our 17025 Scope of Accreditation and are marked with an asterisk (*). Pass/Fail tests are not accredited. Calibration Standards listed on this Certificate of Calibration with a Due Date of 00 0000 are support items that do not require calibration (NPCR).
- J.H. Metrology Co., Inc.'s Calibration Control System complies with applicable requirements of ANSI Z540-1, ISO 9001:2015 (by DQS, Inc), ISO/IEC 17025:2017 (by A2LA), and when required contractually, 10CFR21.
- The results contained herein relate only to the item calibrated. This certificate shall not be reproduced except in full, without the written permission of J.H. Metrology Co., Inc.

Metrology Technician

Neil Willert, President

Quality Approval Date: Sep 27, 2022



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✓ In Tolerance ✗ Out of Tolerance

Calibration Data

| Range | Nominal | As Found | | As Left | Min | Max | Uncertainty |
|-----------------------|---------|-----------|---|----------|---------|---------|-------------|
| mV Output | | | | | | | |
| -4 mV to 20 mV | -4.000 | -4.00033 | ✓ | As Found | -4.004 | -3.996 | 0.00060 mV |
| | 0.000 | -0.00016 | ✓ | As Found | -0.004 | 0.004 | 0.00059 mV |
| | 5.000 | 5.00077 | ✓ | As Found | 4.996 | 5.004 | 0.00060 mV |
| | 10.000 | 10.00072 | ✓ | As Found | 9.996 | 10.004 | 0.00061 mV |
| | 15.000 | 15.00034 | ✓ | As Found | 14.996 | 15.004 | 0.00062 mV |
| | 20.000 | 20.00003 | ✓ | As Found | 19.996 | 20.004 | 0.00063 mV |
| -40 mV to 200 mV | -40.00 | -40.00157 | ✓ | As Found | -40.04 | -39.96 | 0.0058 mV |
| | 0.00 | 0.00129 | ✓ | As Found | -0.04 | 0.04 | 0.0058 mV |
| | 50.00 | 50.00990 | ✓ | As Found | 49.96 | 50.04 | 0.0058 mV |
| | 100.00 | 100.00931 | ✓ | As Found | 99.96 | 100.04 | 0.0059 mV |
| | 150.00 | 150.00423 | ✓ | As Found | 149.96 | 150.04 | 0.0059 mV |
| | 200.00 | 200.0017 | ✓ | As Found | 199.96 | 200.04 | 0.0060 mV |
| -400 mV to 2000 mV | -400.0 | -400.0126 | ✓ | As Found | -400.4 | -399.4 | 0.058 mV |
| | 0.0 | -0.01377 | ✓ | As Found | -0.4 | 0.4 | 0.058 mV |
| | 500.0 | 500.0786 | ✓ | As Found | 499.6 | 500.4 | 0.058 mV |
| | 1000.0 | 1000.0903 | ✓ | As Found | 999.6 | 1000.4 | 0.058 mV |
| | 1500.0 | 1500.0254 | ✓ | As Found | 1499.6 | 1500.4 | 0.059 mV |
| | 2000.0 | 2000.029 | ✓ | As Found | 1999.6 | 2000.4 | 0.060 mV |
| -4000 mV to 20000 mV | -4000 | -4000.019 | ✓ | As Found | -4005 | -3995 | 0.58 mV |
| | 0 | 0.15991 | ✓ | As Found | -5 | 5 | 0.58 mV |
| | 5000 | 5000.834 | ✓ | As Found | 4995 | 5005 | 0.58 mV |
| | 10000 | 10000.109 | ✓ | As Found | 9995 | 10005 | 0.58 mV |
| | 15000 | 15001.141 | ✓ | As Found | 14995 | 15005 | 0.59 mV |
| | 20000 | 20000.39 | ✓ | As Found | 19995 | 20005 | 0.61 mV |
| mV Measurement | | | | | | | |
| -20 mV to 20 mV | -20.000 | -19.997 | ✓ | As Found | -20.006 | -19.994 | 0.00090 mV |
| | 0.000 | 0.000 | ✓ | As Found | -0.006 | 0.006 | 0.00077 mV |
| | 5.000 | 5.000 | ✓ | As Found | 4.994 | 5.006 | 0.00080 mV |
| | 10.000 | 9.999 | ✓ | As Found | 9.994 | 10.006 | 0.00083 mV |
| | 15.000 | 15.000 | ✓ | As Found | 14.994 | 15.006 | 0.00086 mV |
| | 20.000 | 19.999 | ✓ | As Found | 19.994 | 20.006 | 0.00090 mV |
| -200 mV to 200 mV | -200.00 | -199.97 | ✓ | As Found | -200.06 | -199.94 | 0.0063 mV |
| | 0.00 | 0.00 | ✓ | As Found | -0.06 | 0.06 | 0.0058 mV |
| | 50.00 | 50.00 | ✓ | As Found | 49.94 | 50.06 | 0.0059 mV |



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Calibration Data

| Range | Nominal | As Found | | As Left | Min | Max | Uncertainty |
|-----------------------|---------|-------------|---|----------|---------|---------|-------------|
| mV Measurement | | | | | | | |
| | 100.00 | 100.00 | ✓ | As Found | 99.94 | 100.06 | 0.0060 mV |
| | 150.00 | 150.00 | ✓ | As Found | 149.94 | 150.06 | 0.0061 mV |
| | 200.00 | 200.00 | ✓ | As Found | 199.94 | 200.06 | 0.0063 mV |
| -2000 mV to 2000 mV | -2000.0 | -1999.8 | ✓ | As Found | -2000.6 | -1999.4 | 0.060 mV |
| | 0.0 | 0.0 | ✓ | As Found | -0.6 | 0.6 | 0.058 mV |
| | 500.0 | 500.0 | ✓ | As Found | 499.4 | 500.6 | 0.058 mV |
| | 1000.0 | 1000.0 | ✓ | As Found | 999.4 | 1000.6 | 0.059 mV |
| | 1500.0 | 1500.0 | ✓ | As Found | 1499.4 | 1500.6 | 0.059 mV |
| | 2000.0 | 2000.0 | ✓ | As Found | 1999.4 | 2000.6 | 0.060 mV |
| -20000 mV to 20000 mV | -20000 | -19999 | ✓ | As Found | -20008 | -19992 | 0.59 mV |
| | 0 | 0 | ✓ | As Found | -8 | 8 | 0.58 mV |
| | 5000 | 5000 | ✓ | As Found | 4992 | 5008 | 0.58 mV |
| | 10000 | 10000 | ✓ | As Found | 9992 | 10008 | 0.58 mV |
| | 15000 | 15000 | ✓ | As Found | 14992 | 15008 | 0.59 mV |
| | 20000 | 20001 | ✓ | As Found | 19992 | 20008 | 0.59 mV |
| mA Output | | | | | | | |
| 0 mA to 21 mA | 0.000 | -0.00000856 | ✓ | As Found | -0.003 | 0.003 | 0.00058 mA |
| | 1.000 | 1.0000179 | ✓ | As Found | 0.997 | 1.003 | 0.00058 mA |
| | 5.000 | 5.000628 | ✓ | As Found | 4.997 | 5.003 | 0.00060 mA |
| | 10.000 | 10.001291 | ✓ | As Found | 9.997 | 10.003 | 0.00062 mA |
| | 15.000 | 15.001267 | ✓ | As Found | 14.997 | 15.003 | 0.00066 mA |
| | 21.000 | 21.00062 | ✓ | As Found | 20.997 | 21.003 | 0.00072 mA |
| mA Measurement | | | | | | | |
| -20 mA to 20 mA | -20.000 | -19.998 | ✓ | As Found | -20.006 | -19.994 | 0.0011 mA |
| | 0.000 | 0.000 | ✓ | As Found | -0.006 | 0.006 | 0.00058 mA |
| | 5.000 | 5.000 | ✓ | As Found | 4.994 | 5.006 | 0.00063 mA |
| | 10.000 | 10.000 | ✓ | As Found | 9.994 | 10.006 | 0.00074 mA |
| | 15.000 | 15.000 | ✓ | As Found | 14.994 | 15.006 | 0.00087 mA |
| | 20.000 | 20.000 | ✓ | As Found | 19.994 | 20.006 | 0.0011 mA |
| -130 mA to 130 mA | -130.00 | -129.99 | ✓ | As Found | -130.05 | -129.95 | 0.0094 mA |
| | 0.00 | 0.00 | ✓ | As Found | -0.05 | 0.05 | 0.0058 mA |
| | 10.00 | 10.01 | ✓ | As Found | 9.95 | 10.05 | 0.0058 mA |
| | 50.00 | 50.00 | ✓ | As Found | 49.95 | 50.05 | 0.0067 mA |



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| Range | Nominal | As Found | | As Left | | Min | Max | Uncertainty |
|-----------------------------------------------------|---------|----------|---|----------|--|--------|--------|-------------|
| mA Measurement | | | | | | | | |
| | 100.00 | 100.00 | ✓ | As Found | | 99.95 | 100.05 | 0.0082 mA |
| | 130.00 | 130.00 | ✓ | As Found | | 129.95 | 130.05 | 0.0094 mA |
| RTD Pt. 100 Ohm Measurement (-200° to 850°C) | | | | | | | | |
| 20.68 Ohms | -195.0 | -195.0 | ✓ | As Found | | -195.6 | -194.4 | 0.058 °C |
| 60.26 Ohms | -100.0 | -100.0 | ✓ | As Found | | -100.6 | -99.4 | 0.058 °C |
| 100.00 Ohms | 0.0 | 0.0 | ✓ | As Found | | -0.6 | 0.6 | 0.058 °C |
| 138.51 Ohms | 100.0 | 100.0 | ✓ | As Found | | 99.4 | 100.6 | 0.058 °C |
| 280.98 Ohms | 500.0 | 500.1 | ✓ | As Found | | 499.4 | 500.6 | 0.059 °C |
| 389.02 Ohms | 845.0 | 845.1 | ✓ | As Found | | 844.1 | 845.9 | 0.060 °C |
| Ohms Measurement | | | | | | | | |
| 0 to 800 Ohms | 0.0 | 0.0 | ✓ | As Found | | -0.2 | 0.2 | 0.058 Ohms |
| | 10.0 | 10.0 | ✓ | As Found | | 9.8 | 10.2 | 0.058 Ohms |
| | 100.0 | 100.0 | ✓ | As Found | | 99.8 | 100.2 | 0.058 Ohms |
| | 300.0 | 300.0 | ✓ | As Found | | 299.8 | 300.2 | 0.058 Ohms |
| | 500.0 | 500.0 | ✓ | As Found | | 499.8 | 500.2 | 0.058 Ohms |
| | 790.0 | 790.0 | ✓ | As Found | | 789.8 | 790.2 | 0.059 Ohms |
| Thermocouple Measurement | | | | | | | | |
| Type E -328° to 1832°F | -328.0 | -328.0 | ✓ | As Found | | -329.0 | -327.0 | 0.061 °F |
| | -200.0 | -200.0 | ✓ | As Found | | -201.0 | -199.0 | 0.058 °F |
| | 0.0 | 0.0 | ✓ | As Found | | -1.0 | 1.0 | 0.058 °F |
| | 32.0 | 32.0 | ✓ | As Found | | 31.0 | 33.0 | 0.058 °F |
| | 200.0 | 199.9 | ✓ | As Found | | 199.0 | 201.0 | 0.058 °F |
| | 400.0 | 399.9 | ✓ | As Found | | 399.0 | 401.0 | 0.058 °F |
| | 600.0 | 599.9 | ✓ | As Found | | 599.0 | 601.0 | 0.058 °F |
| | 800.0 | 799.9 | ✓ | As Found | | 799.0 | 801.0 | 0.058 °F |
| | 1000.0 | 999.9 | ✓ | As Found | | 999.0 | 1001.0 | 0.058 °F |
| | 1200.0 | 1200.0 | ✓ | As Found | | 1198.8 | 1201.2 | 0.058 °F |
| | 1400.0 | 1399.8 | ✓ | As Found | | 1398.6 | 1401.4 | 0.059 °F |
| | 1600.0 | 1599.8 | ✓ | As Found | | 1598.4 | 1601.6 | 0.059 °F |
| | 1832.0 | 1832.0 | ✓ | As Found | | 1830.2 | 1833.8 | 0.059 °F |
| Type J -328° to 2192°F | -328.0 | -328.0 | ✓ | As Found | | -329.0 | -327.0 | 0.058 °F |
| | -200.0 | -200.0 | ✓ | As Found | | -201.0 | -199.0 | 0.058 °F |
| | 0.0 | 0.0 | ✓ | As Found | | -1.0 | 1.0 | 0.058 °F |



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| Range | Nominal | As Found | | As Left | Min | Max | Uncertainty |
|---------------------------------|---------|----------|---|----------|--------|--------|-------------|
| Thermocouple Measurement | | | | | | | |
| | 32.0 | 32.0 | ✓ | As Found | 31.0 | 33.0 | 0.058 °F |
| | 200.0 | 199.9 | ✓ | As Found | 199.0 | 201.0 | 0.058 °F |
| | 400.0 | 399.9 | ✓ | As Found | 399.0 | 401.0 | 0.058 °F |
| | 600.0 | 599.9 | ✓ | As Found | 599.0 | 601.0 | 0.058 °F |
| | 800.0 | 799.9 | ✓ | As Found | 799.0 | 801.0 | 0.058 °F |
| | 1000.0 | 999.9 | ✓ | As Found | 999.0 | 1001.0 | 0.059 °F |
| | 1200.0 | 1199.8 | ✓ | As Found | 1198.8 | 1201.2 | 0.059 °F |
| | 1600.0 | 1600.0 | ✓ | As Found | 1598.4 | 1601.6 | 0.059 °F |
| | 1800.0 | 1799.8 | ✓ | As Found | 1798.2 | 1801.8 | 0.059 °F |
| | 2192.0 | 2191.8 | ✓ | As Found | 2189.8 | 2194.2 | 0.060 °F |
| Type K -328° to 2498°F | -328.0 | -327.8 | ✓ | As Found | -329.0 | -327.0 | 0.079 °F |
| | -200.0 | -200.0 | ✓ | As Found | -201.0 | -199.0 | 0.058 °F |
| | 0.0 | 0.0 | ✓ | As Found | -1.0 | 1.0 | 0.058 °F |
| | 32.0 | 32.0 | ✓ | As Found | 31.0 | 33.0 | 0.058 °F |
| | 200.0 | 199.9 | ✓ | As Found | 199.0 | 201.0 | 0.058 °F |
| | 400.0 | 399.9 | ✓ | As Found | 399.0 | 401.0 | 0.058 °F |
| | 600.0 | 599.9 | ✓ | As Found | 599.0 | 601.0 | 0.058 °F |
| | 800.0 | 799.9 | ✓ | As Found | 799.0 | 801.0 | 0.058 °F |
| | 1000.0 | 999.9 | ✓ | As Found | 999.0 | 1001.0 | 0.059 °F |
| | 1200.0 | 1199.8 | ✓ | As Found | 1198.8 | 1201.2 | 0.059 °F |
| | 1400.0 | 1399.8 | ✓ | As Found | 1398.6 | 1401.4 | 0.059 °F |
| | 1600.0 | 1599.8 | ✓ | As Found | 1598.4 | 1601.6 | 0.059 °F |
| | 1800.0 | 1799.8 | ✓ | As Found | 1798.2 | 1801.8 | 0.059 °F |
| | 2000.0 | 1999.8 | ✓ | As Found | 1998.0 | 2002.0 | 0.059 °F |
| | 2200.0 | 2199.6 | ✓ | As Found | 2197.8 | 2202.2 | 0.062 °F |
| | 2498.0 | 2497.6 | ✓ | As Found | 2495.5 | 2500.5 | 0.062 °F |
| Type T -328° to 752°F | -328.0 | -328.0 | ✓ | As Found | -329.0 | -327.0 | 0.066 °F |
| | -200.0 | -200.0 | ✓ | As Found | -201.0 | -199.0 | 0.059 °F |
| | 0.0 | 0.0 | ✓ | As Found | -1.0 | 1.0 | 0.058 °F |
| | 32.0 | 31.8 | ✓ | As Found | 31.0 | 33.0 | 0.058 °F |
| | 200.0 | 199.9 | ✓ | As Found | 199.0 | 201.0 | 0.058 °F |
| | 400.0 | 399.9 | ✓ | As Found | 399.0 | 401.0 | 0.058 °F |
| | 600.0 | 599.9 | ✓ | As Found | 599.0 | 601.0 | 0.058 °F |
| | 752.0 | 752.0 | ✓ | As Found | 751.0 | 753.0 | 0.058 °F |



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Calibration Data

| Range | Nominal | As Found | | As Left | Min | Max | Uncertainty |
|---------------------------------|---------|----------|---|----------|--------|--------|-------------|
| Thermocouple Measurement | | | | | | | |
| Type R -58° to 3214°F | -50.0 | -50.3 | ✓ | As Found | -52.6 | -47.4 | 0.065 °F |
| | 0.0 | -0.8 | ✓ | As Found | -2.6 | 2.6 | 0.065 °F |
| | 32.0 | 31.6 | ✓ | As Found | 29.4 | 34.6 | 0.065 °F |
| | 200.0 | 199.9 | ✓ | As Found | 198.4 | 201.6 | 0.061 °F |
| | 400.0 | 399.7 | ✓ | As Found | 398.8 | 401.2 | 0.060 °F |
| | 600.0 | 599.7 | ✓ | As Found | 599.0 | 601.0 | 0.060 °F |
| | 800.0 | 799.9 | ✓ | As Found | 799.0 | 801.0 | 0.060 °F |
| | 1000.0 | 999.7 | ✓ | As Found | 999.0 | 1001.0 | 0.060 °F |
| | 1200.0 | 1199.7 | ✓ | As Found | 1198.8 | 1201.2 | 0.060 °F |
| | 1400.0 | 1399.6 | ✓ | As Found | 1398.6 | 1401.4 | 0.060 °F |
| | 1600.0 | 1599.5 | ✓ | As Found | 1598.4 | 1601.6 | 0.060 °F |
| | 1800.0 | 1799.8 | ✓ | As Found | 1798.2 | 1801.8 | 0.060 °F |
| | 2000.0 | 1999.6 | ✓ | As Found | 1998.0 | 2002.0 | 0.060 °F |
| | 2200.0 | 2199.6 | ✓ | As Found | 2197.8 | 2202.2 | 0.060 °F |
| | 2800.0 | 2799.7 | ✓ | As Found | 2797.2 | 2802.8 | 0.063 °F |
| | 3200.0 | 3199.5 | ✓ | As Found | 3196.8 | 3203.2 | 0.063 °F |
| Type S -58° to 3214°F | -50.0 | -50.6 | ✓ | As Found | -52.0 | -48.0 | 0.065 °F |
| | 0.0 | -0.4 | ✓ | As Found | -2.0 | 2.0 | 0.065 °F |
| | 32.0 | 31.3 | ✓ | As Found | 30.0 | 34.0 | 0.065 °F |
| | 200.0 | 199.8 | ✓ | As Found | 198.8 | 201.2 | 0.061 °F |
| | 400.0 | 399.6 | ✓ | As Found | 398.8 | 401.2 | 0.060 °F |
| | 600.0 | 599.9 | ✓ | As Found | 599.0 | 601.0 | 0.060 °F |
| | 800.0 | 799.7 | ✓ | As Found | 799.0 | 801.0 | 0.060 °F |
| | 1000.0 | 999.9 | ✓ | As Found | 999.0 | 1001.0 | 0.061 °F |
| | 1200.0 | 1199.7 | ✓ | As Found | 1198.8 | 1201.2 | 0.061 °F |
| | 1400.0 | 1399.6 | ✓ | As Found | 1398.6 | 1401.4 | 0.061 °F |
| | 1600.0 | 1599.6 | ✓ | As Found | 1598.4 | 1601.6 | 0.061 °F |
| | 1800.0 | 1799.5 | ✓ | As Found | 1798.2 | 1801.8 | 0.061 °F |
| | 2000.0 | 1999.7 | ✓ | As Found | 1998.0 | 2002.0 | 0.061 °F |
| | 2200.0 | 2199.6 | ✓ | As Found | 2197.8 | 2202.2 | 0.061 °F |
| | 2800.0 | 2799.7 | ✓ | As Found | 2797.2 | 2802.8 | 0.064 °F |
| | 3200.0 | 3199.6 | ✓ | As Found | 3196.8 | 3203.2 | 0.064 °F |
| Type N 32° to 2570°F | 32.0 | 31.8 | ✓ | As Found | 31.0 | 33.0 | 0.058 °F |
| | 200.0 | 199.8 | ✓ | As Found | 199.0 | 201.0 | 0.058 °F |



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Calibration Data

| Range | Nominal | As Found | | As Left | Min | Max | Uncertainty |
|---------------------------------|---------|----------|---|----------|--------|--------|-------------|
| Thermocouple Measurement | | | | | | | |
| | 400.0 | 399.7 | ✓ | As Found | 399.0 | 401.0 | 0.058 °F |
| | 600.0 | 599.7 | ✓ | As Found | 599.0 | 601.0 | 0.058 °F |
| | 800.0 | 799.7 | ✓ | As Found | 799.0 | 801.0 | 0.058 °F |
| | 1000.0 | 999.7 | ✓ | As Found | 999.0 | 1001.0 | 0.059 °F |
| | 1200.0 | 1199.8 | ✓ | As Found | 1198.8 | 1201.2 | 0.059 °F |
| | 1400.0 | 1399.8 | ✓ | As Found | 1398.6 | 1401.4 | 0.059 °F |
| | 1600.0 | 1599.8 | ✓ | As Found | 1598.4 | 1601.6 | 0.059 °F |
| | 1800.0 | 1799.8 | ✓ | As Found | 1798.2 | 1801.8 | 0.059 °F |
| | 2000.0 | 1999.8 | ✓ | As Found | 1998.0 | 2002.0 | 0.059 °F |
| | 2200.0 | 2199.7 | ✓ | As Found | 2197.8 | 2202.2 | 0.060 °F |
| | 2370.0 | 2369.7 | ✓ | As Found | 2367.6 | 2372.4 | 0.060 °F |
| Type B 122° to 3276°F | 150.0 | 147.7 | ✓ | As Found | 126.3 | 173.7 | 0.15 °F |
| | 200.0 | 196.3 | ✓ | As Found | 176.3 | 223.7 | 0.15 °F |
| | 400.0 | 398.3 | ✓ | As Found | 396.2 | 403.8 | 0.074 °F |
| | 600.0 | 599.0 | ✓ | As Found | 596.2 | 603.8 | 0.064 °F |
| | 800.0 | 799.0 | ✓ | As Found | 798.0 | 802.0 | 0.064 °F |
| | 1000.0 | 999.0 | ✓ | As Found | 998.0 | 1002.0 | 0.062 °F |
| | 1200.0 | 1199.8 | ✓ | As Found | 1198.0 | 1202.0 | 0.062 °F |
| | 1400.0 | 1399.5 | ✓ | As Found | 1398.6 | 1401.4 | 0.060 °F |
| | 1600.0 | 1599.6 | ✓ | As Found | 1598.4 | 1601.6 | 0.060 °F |
| | 1800.0 | 1799.6 | ✓ | As Found | 1798.2 | 1801.8 | 0.060 °F |
| | 2000.0 | 1999.8 | ✓ | As Found | 1998.0 | 2002.0 | 0.060 °F |
| | 2200.0 | 2199.9 | ✓ | As Found | 2197.8 | 2202.2 | 0.060 °F |
| | 2600.0 | 2599.6 | ✓ | As Found | 2597.4 | 2602.6 | 0.060 °F |
| | 3000.0 | 2999.7 | ✓ | As Found | 2997.0 | 3003.0 | 0.061 °F |
| | 3272.0 | 3271.6 | ✓ | As Found | 3268.7 | 3275.3 | 0.061 °F |
| Thermocouple Output | | | | | | | |
| Type E -328° to 1832°F | -328.0 | -327.731 | ✓ | As Found | -329.0 | -327.0 | 0.061 °F |
| | -200.0 | -199.740 | ✓ | As Found | -201.0 | -199.0 | 0.058 °F |
| | 32.0 | 31.996 | ✓ | As Found | 31.0 | 33.0 | 0.058 °F |
| | 600.0 | 600.078 | ✓ | As Found | 599.0 | 601.0 | 0.058 °F |
| | 1000.0 | 1000.093 | ✓ | As Found | 999.0 | 1001.0 | 0.058 °F |
| | 1832.0 | 1831.746 | ✓ | As Found | 1830.2 | 1833.8 | 0.059 °F |
| Type J -328° to 2192°F | -328.0 | -327.668 | ✓ | As Found | -329.0 | -327.0 | 0.058 °F |



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Calibration Data

| Range | Nominal | As Found | As Left | Min | Max | Uncertainty | |
|----------------------------|---------|----------|---------|----------|--------|-------------|----------|
| Thermocouple Output | | | | | | | |
| | -200.0 | -199.914 | ✓ | As Found | -201.0 | -199.0 | 0.058 °F |
| | 32.0 | 31.997 | ✓ | As Found | 31.0 | 33.0 | 0.058 °F |
| | 800.0 | 800.090 | ✓ | As Found | 799.0 | 801.0 | 0.058 °F |
| | 1600.0 | 1599.992 | ✓ | As Found | 1598.4 | 1601.6 | 0.059 °F |
| | 2192.0 | 2190.052 | ✓ | As Found | 2189.8 | 2194.2 | 0.060 °F |
| Type K -328° to 2498°F | -328.0 | -327.405 | ✓ | As Found | -329.0 | -327.0 | 0.079 °F |
| | -200.0 | -199.793 | ✓ | As Found | -201.0 | -199.0 | 0.058 °F |
| | 32.0 | 31.994 | ✓ | As Found | 31.0 | 33.0 | 0.058 °F |
| | 600.0 | 600.149 | ✓ | As Found | 599.0 | 601.0 | 0.058 °F |
| | 1600.0 | 1600.009 | ✓ | As Found | 1598.4 | 1601.6 | 0.059 °F |
| | 2498.0 | 2498.187 | ✓ | As Found | 2495.5 | 2500.5 | 0.062 °F |
| Type T -328° to 752°F | -328.0 | -327.513 | ✓ | As Found | -329.0 | -327.0 | 0.066 °F |
| | -200.0 | -199.818 | ✓ | As Found | -201.0 | -199.0 | 0.059 °F |
| | 32.0 | 31.994 | ✓ | As Found | 31.0 | 33.0 | 0.058 °F |
| | 200.0 | 199.961 | ✓ | As Found | 199.0 | 201.0 | 0.058 °F |
| | 400.0 | 399.921 | ✓ | As Found | 399.0 | 401.0 | 0.058 °F |
| | 752.0 | 751.991 | ✓ | As Found | 751.0 | 753.0 | 0.058 °F |
| Type R -58° to 3214°F | -50.0 | -49.460 | ✓ | As Found | -52.6 | -47.4 | 0.065 °F |
| | 32.0 | 31.963 | ✓ | As Found | 29.4 | 34.6 | 0.065 °F |
| | 600.0 | 600.082 | ✓ | As Found | 599.0 | 601.0 | 0.060 °F |
| | 1600.0 | 1600.089 | ✓ | As Found | 1598.4 | 1601.6 | 0.060 °F |
| | 2200.0 | 2200.084 | ✓ | As Found | 2197.8 | 2202.2 | 0.060 °F |
| | 3200.0 | 3200.060 | ✓ | As Found | 3196.8 | 3203.2 | 0.063 °F |
| Type S -58° to 3214°F | -50.0 | -49.743 | ✓ | As Found | -52.0 | -48.0 | 0.065 °F |
| | 32.0 | 31.943 | ✓ | As Found | 30.0 | 34.0 | 0.065 °F |
| | 600.0 | 600.114 | ✓ | As Found | 599.0 | 601.0 | 0.060 °F |
| | 1600.0 | 1599.992 | ✓ | As Found | 1598.4 | 1601.6 | 0.061 °F |
| | 2200.0 | 2199.994 | ✓ | As Found | 2197.8 | 2202.2 | 0.061 °F |
| | 3200.0 | 3199.877 | ✓ | As Found | 3196.8 | 3203.2 | 0.064 °F |
| Type N 32° to 2570°F | 32.0 | 31.989 | ✓ | As Found | 31.0 | 33.0 | 0.058 °F |
| | 600.0 | 600.207 | ✓ | As Found | 599.0 | 601.0 | 0.058 °F |
| | 1400.0 | 1400.043 | ✓ | As Found | 1398.6 | 1401.4 | 0.059 °F |
| | 1600.0 | 1600.108 | ✓ | As Found | 1598.4 | 1601.6 | 0.059 °F |
| | 2000.0 | 1999.985 | ✓ | As Found | 1998.0 | 2002.0 | 0.059 °F |



Certificate of Calibration

1000232194

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✓ In Tolerance ✗ Out of Tolerance

Calibration Data

| Range | Nominal | As Found | As Left | Min | Max | Uncertainty | |
|----------------------------|---------|----------|---------|----------|--------|-------------|----------|
| Thermocouple Output | | | | | | | |
| | 2370.0 | 2370.203 | ✓ | As Found | 2367.6 | 2372.4 | 0.060 °F |
| Type B 122° to 3276°F | 150.0 | 146.2 | ✓ | As Found | 126.3 | 173.7 | 0.15 °F |
| | 1200.0 | 1199.915 | ✓ | As Found | 1198.0 | 1202.0 | 0.062 °F |
| | 1600.0 | 1600.158 | ✓ | As Found | 1598.4 | 1601.6 | 0.060 °F |
| | 2000.0 | 2000.086 | ✓ | As Found | 1998.0 | 2002.0 | 0.060 °F |
| | 2600.0 | 2600.102 | ✓ | As Found | 2597.4 | 2602.6 | 0.060 °F |
| | 3272.0 | 3272.061 | ✓ | As Found | 3268.7 | 3275.3 | 0.061 °F |

End of Datasheet

Calibration Standards

| <u>NIST Traceable #</u> | <u>Instrument ID#</u> | <u>Description</u> | <u>Model</u> | <u>Calibration Date</u> | <u>Date Due</u> |
|-------------------------|-----------------------|---------------------------------|--------------|-------------------------|-----------------|
| 1000226061 | 00826 | Thermometer | 1560 w/2560 | 05 NOV 2021 | 28 FEB 2023 |
| 1000226988 | 00888 | Calibrator | 5720A | 11 JAN 2022 | 31 JAN 2023 |
| 1000229225 | 00522 | Resistance Standard | RS925A | 02 MAY 2022 | 30 APR 2023 |
| 1000229248 | 01196 | RH/Temperature Data Logger | EL-USB-2-LCD | 31 MAY 2022 | 30 APR 2023 |
| 1000229782 | 00890 | Multimeter, 8.5 Digit Reference | 8508A-01 | 26 MAY 2022 | 31 MAY 2023 |