



# Report of Calibration



beyond measure  
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Report Number: 99269

Submitted By: Iliana Instrumentation Service Schererville, IN 46375

PO Number: 4279

Type S Thermocouple  
S24R-18-3

Calibration Date: 03/31/2022  
Calibration Due: 03/31/2024  
SO Number: 1420232

Tolerance: ASTM E230/E230M-17 Standard Tolerance

Item	Serial / Reference	Target (°F)	Actual (°F)	Reading (°F)	Reading (mV)	Correction (°F)	Tolerance (± °F)	U <sub>c</sub> (k = 2) (± °F)	TUR	Acceptance (± °F)	Status (in/out)
1	Ref REF 1206	0	-0.1	-0.3	-0.093	0.2	N/A	1.0	N:1	N/A	in
		200	199.9	199.9	0.597	0.0	2.7	1.0	3	2.7	in
		400	399.9	399.7	1.477	0.2	2.7	1.0	3	2.7	in
		600	600.0	599.6	2.464	0.4	2.7	1.0	3	2.7	in
		800	800.3	797.8	3.504	2.5	2.7	1.4	2	2.7	in
		1000	999.6	996.9	4.592	2.7	2.7	1.4	2	2.7	in
		1200	1199.8	1196.7	5.723	3.1	2.9	1.4	2	2.9	out
		1400	1400.2	1397.3	6.897	2.9	3.4	1.4	2	3.4	in
		1600	1600.2	1596.4	8.104	3.8	4.0	1.4	3	4.0	in
		1800	1800.8	1797.4	9.365	3.4	4.5	1.4	3	4.5	in
		2000	2000.0	1998.0	10.664	2.0	4.9	1.4	4	4.9	in

Remarks: REF: 1206, No published tolerance for Type S below 32°F.  
The correction must be added algebraically to the UUT reading to obtain the correct value.

ID Number	Manufacturer	Model	Description	Calibration Due
03-2021	Agilent	3459A	8 1/2 Digit Digital Multimeter	07/16/2022
03-2400	Hart Scientific	5626	SSPRT Working Standard	01/20/2023
03-3757	Pyromation	SPEC 621-400	Type S Reference Standard	06/12/2022

Environmental Conditions at time of Calibration: Temperature: 23 °C [73 °F] Relative Humidity: 27%  
Procedure Used: WI-525-37 Rev 5 which is based on ASTM E220-19

DUT Condition: Recalibration

Metrology Technician

Authorized by

*Rick B* *Stacy*

The temperatures written in this report are those defined by the International Temperature Scale of 1990 (ITS-90).  
The combined standard uncertainty in this report includes the standard uncertainty reported for the standard, and the measurement process. The combined standard uncertainty is multiplied by a coverage factor of 2 to give an expanded uncertainty, which defines an interval having a level of confidence of approximately 95 percent. The expanded uncertainty presented in this report is consistent with the JCGM100:2008 Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is not to be confused with a tolerance limit for the user during application.  
The DUT Acceptance tolerance = the DUT manufacturer's tolerance with no further consideration of the level of risk based on the customer option to prescribe the decision rule of simple acceptance. Refer to NCSLI Z540.3 or Pyromation SD-525-15 for additional information.

For purposes of determining conformance with these specifications, an observed value or a calculated value shall be rounded in accordance with the rounding method of ASTM Practice E29-19  
The standards of Pyromation Laboratory are traceable to the International System of Units (SI) through NIST or other National Metrology Institute, and are part of a comprehensive measurement assurance program for ensuring continued accuracy and measurement traceability within the level of uncertainty reported by this laboratory. The laboratory report number identified above is the unique report number to be used in referencing measurement traceability for the items identified in this report only.

This calibration is compliant to ISO/IEC 17025:2017. This calibration report applies only to the items described. It must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government. This report shall not be reproduced except in full without written approval of Pyromation, Inc.