



Certificate No.: 475-1307140
Procedure No.: METCAL

Control No.: 569052
Page 1 of 3

UNIT UNDER TEST

Manufacturer: FLUKE
Model No.: 1524
Serial No.: 2485227
Cust. Ref. No.: N/A
Description: REFERENCE THERMOMETER
Date Rec'd: 1/28/2022
Condition Rec'd: GOOD

SUBMITTED BY

Customer: K&S TECHNICAL SERVICES, INC
941 NEW LONDON ROAD
NEWARK, DE 19711
P.O. #: 10366
Precal: IN SPEC Final: IN SPEC

CALIBRATION CERTIFICATE

All calibrations are performed by qualified personnel using instrumentation, procedures and methods which guarantee specifications claimed are reliable. When specified, all calibrations are performed in accordance with current ISO/IEC 17025, ANSI/NCSS Z-540.3, MIL-STD-45662A, and ENV/Pro-Lab Quality Manual - Rev 5. Standards used are traceable to The National Institute of Standards and Technology (NIST). Expanded uncertainties are calculated using methods described in the Guide to the Expression of Uncertainty of Measurement (GUM) utilizing a coverage factor of K=2 (95% confidence) and kept on file at Pro-Lab. At a minimum, standards are selected with an uncertainty of 25% or better, where possible. This certificate and/or data shall not be reproduced except in full, without the written permission of Pro-Lab Management.

Standards Used

Asset #	Description	Certificate Number	Date Due
0152	MULTIMETER	52-VEN-1040	7/30/2022
01117	DECADE BOX	4756-1177257	3/29/2022
1186	MULTIFUNCTION CALIBRATOR	52-VEN-14711	8/17/2022
01259	RESISTOR DECADE BOX	4753-1200636	6/18/2022

Temperature: 18.5 C
Humidity: 54.1% RH
Approved By: Jennifer Shelly
Calibration Lab Supvr.
E-Signed 01-Feb-2022 3:11 PM

Date Tested: 31-Jan-2022
Date Due: 31-Jan-2023
Calibrated By: Joseph Wickward
Reg Calibration Manager
E-Signed 31-Jan-2022 3:18 PM

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Note: Calibration results may drift from documented values prior to calibration due date attributable to various factors. Results obtained apply to the UUT only and are reflective of conditions at the time of test. Statements of conformity resulting from the calibration performed on the calibrated item(s) are based on the simple acceptance method unless otherwise specified. This is a shared risk decision rule which the customer also has responsibility for determining acceptance of the results.

Description	Standard	As Found	Final	Min.	Max.
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Root Difference Square guardbanding method used.

DUT IDENTIFICATION

Serial Number: 2485227

Firmware Level: 1.05

RESISTANCE

75 Ω Range: Channel T1

0.0000 Ohms	0.0000	-0.0001	-0.0001	-0.0020	0.0020
Standard Deviation: 0.00000 Ω, Limit 0.00050		PASS	PASS		
25.000 Ohm	25.011	25.011	25.011	25.008	25.014
Standard Deviation: 0.00004 Ω, Limit 0.00075		PASS	PASS		
75.000 Ohm	75.014	75.014	75.014	75.009	75.019
Standard Deviation: 0.00004 Ω, Limit 0.00125		PASS	PASS		

400 Ω Range: Channel T1

75.000 Ohm	75.013	75.014	75.014	75.009	75.019
Standard Deviation: 0.00007 Ω, Limit 0.00125		PASS	PASS		
100.000 Ohm	100.005	100.005	100.005	99.999	100.011
Standard Deviation: 0.0001 Ω, Limit 0.0015		PASS	PASS		
200.000 Ohm	200.000	200.003	200.003	199.990	200.010
Standard Deviation: 0.0001 Ω, Limit 0.0025		PASS	PASS		
400.00 Ohm	399.99	400.00	400.00	399.97	400.01
Standard Deviation: 0.0001 Ω, Limit 0.0045		PASS	PASS		

45 kΩ Range: Channel T1

200.0 Ohm	200.0	199.8	199.8	199.5	200.5
Standard Deviation: 0.008 Ω, Limit 0.130		PASS	PASS		
400.0 Ohm	400.0	399.7	399.7	399.5	400.5

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Description	Standard	As Found	Final	Min.	Max.
Standard Deviation: 0.010 Ω , Limit 0.135		PASS	PASS		
10000.0 Ohm	9999.7	9999.9	9999.9	9998.2	10001.2
Standard Deviation: 0.118 Ω , Limit 0.375		PASS	PASS		
40000.0 Ohm	39998.7	39998.5	39998.5	39994.2	40003.2
Standard Deviation: 0.548 Ω , Limit 1.125		PASS	PASS		
500 kΩ Range: Channel T1					
40.000 kOhm	39.999	39.995	39.995	39.986	40.010
Standard Deviation: 3.0 Ω , Limit 3.0		PASS	PASS		
100.000 kOhm	100.000	99.994	99.994	99.970	100.030
Standard Deviation: 8.1 Ω , Limit 7.5		PASS	PASS		
300.000 kOhm	299.992	299.993	299.993	299.902	300.082
Standard Deviation: 12677.1 Ω , Limit 22.5		PASS	PASS		
500.000 kOhm	499.984	499.946	499.946	499.834	500.134
Standard Deviation: 10.3 Ω , Limit 37.5		PASS	PASS		
400 Ω Range: Channel T2					