



REPORT OF CALIBRATION

This instrument is calibrated and tested to verify compliance with Martel's test specifications for all ranges and parameters required to meet 1 year performance specifications. The calibration uses measurement standards traceable to the National Institute of Standards and Technology (NIST). This calibration complies with the requirements of ANSI/NCSL Z540-1-1994 part 2. Calibration and verification are performed at an ambient temperature of $23 \pm 5^{\circ}\text{C}$ and relative humidity of $> 20\%$ to $< 70\%$.

Any test uncertainty (TUR) less than 4:1 appears under the TUR heading on the data record. Where the TUR meets or exceeds 4:1, the TUR field is blank.

Tom Fatur

Tom Fatur
President

Nancy Fligg

Calibrated By
Nancy Fligg

Manufacturer: Martel Corporation
Model: MC-1210
Serial Number: 1867055

Cal Date: January 7, 2014
Report Date: January 7, 2014
Temperature: 20.8°C
Relative Humidity: 31 %



Calibration Procedure: Martel MC1210: (1 year) CAL/FINAL RS-232/5520,3458 SF
Procedure Revision: 1.0

Standards Used

Asset	Manufacturer	Model Number	Description	Cal. Date	Due Date
2823A15661	Hewlett Packard	3458A	Multimeter	6-Sep-13	5-Sep-14
7640030	Fluke Corporation	5520A	Calibrator	3-Apr-13	3-Apr-14

Test Data

PARAMETER	RESULT	ACCEPTANCE LIMITS		TUR
		LOW	HIGH	
RTD/OHM SOURCE VERIFICATION				
15.000 Ohm	14.991	14.943	15.057	PASS
350.000 Ohm	350.005	349.862	350.138	PASS
500.000 Ohm	500.103	499.375	500.625	PASS
1000.00 Ohm	1000.16	999.25	1000.75	PASS
3200.00 Ohm	3200.37	3198.70	3201.30	PASS
VOLTAGE READ VERIFICATION				
0.000V	0.000	-0.002	0.002	PASS
10.000V	10.000	9.996	10.004	PASS
20.000V	20.000	19.995	20.005	PASS
(KHz) FREQUENCY READ VERIFICATION				
9.00KHz	9.00	8.98	9.02	PASS
ISOLATED V VERIFICATION				
0.000V	0.000	-0.002	0.002	PASS
15.000V	15.000	14.996	15.004	PASS
30.000V	30.000	29.993	30.007	PASS
VOLTAGE SOURCE VERIFICATION				
0.0000V	0.0001	-0.0020	0.0020	PASS
10.0000V	9.9999	9.9965	10.0035	PASS
20.0000V	20.0003	19.9950	20.0050	PASS
(KHz) FREQUENCY SOURCE VERIFICATION				
10000Hz @ 5V	10000	9975	10025	PASS

MET/CAL RunTime Report: Calibration Results

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PARAMETER	RESULT	ACCEPTANCE LIMITS		TUR	
		LOW	HIGH		
LOOP POWER VERIFICATION					
27.5000V	25.9730	25.0000	30.0000	PASS	
mA READ VERIFICATION					
4.000mA	4.000	3.997	4.003	PASS	
12.000mA	12.000	11.996	12.004	PASS	
24.000mA	24.000	23.994	24.006	PASS	
ISOLATED mA VERIFICATION					
4.000mA	4.000	3.997	4.003	PASS	
12.000mA	12.000	11.996	12.004	PASS	
24.000mA	24.000	23.994	24.006	PASS	
mA SOURCE VERIFICATION					
4.000mA	4.000	3.997	4.003	PASS	
12.000mA	12.000	11.996	12.004	PASS	
24.000mA	24.000	23.994	24.006	PASS	
RTD/OHM 4W READ VERIFICATION					
15.00 Ohm	15.00	14.94	15.06	PASS	
350.00 Ohm	350.00	349.86	350.14	PASS	
500.0 Ohm	500.0	499.4	500.6	PASS	
1000.0 Ohm	1000.0	999.2	1000.8	PASS	
3200.0 Ohm	3200.0	3198.7	3201.3	PASS	
RTD/OHM 3W READ VERIFICATION					
350.00 Ohm	350.01	349.80	350.20	PASS	
THERMOCOUPLE READ VERIFICATION - mV					
-10.000mV	-10.000	-10.012	-9.988	PASS	
35.000mV	35.000	34.983	35.017	PASS	
75.000mV	74.999	74.975	75.025	PASS	
THERMOCOUPLE SOURCE VERIFICATION - mV					
-10.000mV	-10.001	-10.012	-9.988	PASS	
35.000mV	34.998	34.983	35.017	PASS	
75.000mV	75.000	74.975	75.025	PASS	
THERMOCOUPLE READ VERIFICATION					
-180.0degC	-180.0	-180.6	-179.4	PASS	2.2
0.0degC	0.0	-0.4	0.4	PASS	2.9
1200.0degC	1200.0	1199.6	1200.4	PASS	1.7
THERMOCOUPLE SOURCE VERIFICATION					
-180.00degC	-179.98	-180.60	-179.40	PASS	2.2
0.00degC	-0.02	-0.40	0.40	PASS	2.9
1200.00degC	1199.98	1199.60	1200.40	PASS	1.7

End of Test Data