Custom-Cal℠
Custom Calibration Solutions, LLC
Phone: (609) 530-9000

Certificate of Calibration

Certificate Number: EW24105647
Date of Issue: 5/3/2024
PO Number: 32479

Customer Information:

Reclaim Filters & Systems
1129 Hidden Hills Dr
Wake Forest, North Carolina 27587

9192352562

Equipment Information:

Manufacturer:	AGILENT
Model:	3458A
Serial Number:	MY45042794
Asset Number:	
ccID:	158766
Description:	8 1/2 Digit Digital Multimeter

Calibration Statistics:

Cal Type:	Standard Cal with Data	Recommended Interval:	12 Months
Cal Date:	5/3/2024	Temperature:	23 ± 5 C
Recommended Due:	5/3/2025	Humidity:	20 to 80% RH
Received Condition:	No Problem Found	Cal. Procedure:	OEM Performance Procedure
Calibration Result:	Passed	Applied Specification:	Manufacturer's Specifications

Memo:

Measurement Assurance

This instrument has been processed and calibrated in accordance with the Custom Calibration Solutions, LLC Quality Assurance Policies and is traceable to the National Institute of Standards and Technology (NIST). The Custom Calibration Solutions Quality Policies are in conformance with ISO 9001:2015 and ISO 17025:2017 and compliant with ISO 10012-1 and MIL-STD-45662A. This report may not be reproduced, except in full, without written approval of Custom Calibration Solutions. Unless stated otherwise; the expanded measurement uncertainty of the measurement process does not exceed 25% of the tolerance allowed for the individual characteristics measured, uncertainties of measurements for this calibration are based upon 95% (2-sigma) confidence limits, no sampling plan or other process was used for this calibration, the results reported herein apply only to the calibration of the item described above, and no limitations of use apply to the calibrated item. Although the item calibrated meets the specifications and performance at the time of calibration, due to any number of factors, the recommended due date of the item calibrated does not imply continuing conformance to specifications during the recommended interval.

Standards Used to Calibrate Equipment:

Trace ID	Manufacturer:	Model:	Last Cal.	Cal. Due Date	Traceability Number
147263	WAVETEK	4950	6/1/2021	6/1/2024	42964
126280	WAVETEK	4808	1/10/2022	1/10/2025	EW2286414

Approved: RJ

Performed By: Randy Yousey

535 US 130
Hamilton NJ 08620

url: www.custom-cal.com
email: service@custom-cal.com

3458A Verification

Barcode: 158766 post
Serial Number: MY45042794
Technician:
Customer:

Function Offset

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Input	Range	Function	NPLC	Tcal 59 & 60	RunTime Temp.	Accuracy Low	Accuracy High	Result
Open	100 uA	DC Current	100 Nplc	37.57	37.7	-0.00095	0.00095	0.00000
Open	1 mA	DC Current	100 Nplc	37.57	37.7	-0.0000065	0.0000065	-0.0000004
Open	10 mA	DC Current	100 Nplc	37.57	37.7	-0.000065	0.000065	-0.000013
Open	100 mA	DC Current	100 Nplc	37.57	37.7	-0.00065	0.00065	0.00007
Open	1 A	DC Current	100 Nplc	37.57	37.7	-0.0000115	0.0000115	-0.0000007
Short	100 mV	DC Volts	100 Nplc	37.47	37.7	-0.00106	0.00106	0.00033
Short	1 V	DC Volts	100 Nplc	37.47	37.7	-0.00000106	0.00000106	0.00000034
Short	10 V	DC Volts	100 Nplc	37.47	37.7	-0.0000023	0.0000023	0.0000008
Short	100 V	DC Volts	100 Nplc	37.47	37.7	-0.000036	0.000036	-0.000011
Short	1000 V	DC Volts	100 Nplc	37.47	37.7	-0.00010	0.00010	0.00002
Short	10 Ω	Resistance 2-Wire	100 Nplc	37.57	37.7	-0.25007	0.25007	0.00951
Short	10 Ω	Resistance 4-Wire	100 Nplc	37.57	37.7	-0.00007	0.00007	0.00000

DC Volts

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Volts	Range	NPLC	Tcal 59	RunTime Temp.	Transfer Reference	UUT Reading	Accuracy Low	Accuracy High	Result
100 mV	100 mV	100 Nplc	37.47	37.6	100.00098	100.00048	-0.00130	0.00130	-0.00050
-100 mV	100 mV	100 Nplc	37.47	37.6	-100.00022	-100.00050	-0.00130	0.00130	-0.00028
1 V	1 V	100 Nplc	37.47	37.6	1.00000108	1.00000213	-0.00000870	0.00000870	0.00000105
-1 V	1 V	100 Nplc	37.47	37.6	-0.99999864	-0.99999956	-0.00000870	0.00000870	-0.00000092
1 V	10 V	100 Nplc	37.47	37.6	1.0000001	1.0000024	-0.0000091	0.0000091	0.0000023
-1 V	10 V	100 Nplc	37.47	37.6	-0.9999985	-0.9999991	-0.0000091	0.0000091	-0.0000006
10 V	10 V	100 Nplc	37.47	37.6	9.9999984	10.0000031	-0.0000815	0.0000815	0.0000047
-10 V	10 V	100 Nplc	37.47	37.7	-9.9999918	-10.0000033	-0.0000815	0.0000815	-0.0000115
100 V	100 V	100 Nplc	37.47	37.6	100.000322	100.000295	-0.001090	0.001090	-0.000027
-100 V	100 V	100 Nplc	37.47	37.7	-100.000272	-100.000304	-0.001090	0.001090	-0.000032
1000 V	1000 V	100 Nplc	37.47	37.6	1000.00440	1000.00438	-0.01166	0.01166	-0.00002
-1000 V	1000 V	100 Nplc	37.47	38.3	-1000.00424	-1000.00456	-0.01166	0.01166	-0.00032

AC Volts PASS 4/26/2024 5:39:21 PM

Volts	Range	Frequency	RMS Sample	Acal AC	RunTime Temp.	Transfer Reference	UUT Reading	Accuracy Low	Accuracy High	Result
10 mV	10 mV	1 kHz	Synchronous	36.91	37.6	10.00014	9.99913	-0.00340	0.00340	-0.00101
100 mV	100 mV	1 kHz	Synchronous	36.91	37.7	100.00114	99.99652	-0.01200	0.01200	-0.00462
100 mV	100 mV	20 kHz	Synchronous	36.91	37.7	100.00186	99.98982	-0.01900	0.01900	-0.01204
1 V	1 V	1 kHz	Synchronous	36.91	37.7	1.0000076	1.0000402	-0.0001200	0.0001200	0.0000326
10 V	10 V	20 Hz	Synchronous	36.91	37.7	9.999980	10.000179	-0.001100	0.001100	0.000199
10 V	10 V	1 kHz	Synchronous	36.91	37.5	9.99999	10.00055	-0.00120	0.00120	0.00056
10 V	10 V	20 kHz	Synchronous	36.91	37.8	10.00011	9.99994	-0.00190	0.00190	-0.00017
10 V	10 V	100 kHz	Synchronous	36.91	37.6	9.99982	9.99819	-0.00820	0.00820	-0.00163
100 V	100 V	1 kHz	Synchronous	36.91	37.7	100.0003	100.0067	-0.0250	0.0250	0.0064
700 V	1000 V	1 kHz	Synchronous	36.91	37.4	700.0000	699.9754	-0.3000	0.3000	-0.0246

Resistance 4-Wire PASS 4/26/2024 5:44:25 PM

Resistance 4-Wire	Range	NPLC	Meter Calibrator Va	Tcal 60	RunTime Temp.	Transfer Reference	UUT Reading	Accuracy Low	Accuracy High	Result
10 Ω	10 Ω	100 Nplc	10.000478	37.57	37.7	10.00068	10.00058	-0.00020	0.00020	-0.00010
100 Ω	100 Ω	100 Nplc	100.00355	37.57	37.7	100.0034	100.00313	-0.00170	0.00170	-0.00027
1 kΩ	1 kΩ	100 Nplc	1000.0226	37.57	37.7	1.00002692	1.0000233	-0.0000105	0.0000105	-0.0000036
10 kΩ	10 kΩ	100 Nplc	10000.012	37.57	37.7	10.0000582	10.000037	-0.000105	0.000105	-0.000021
100 kΩ	100 kΩ	100 Nplc	100001.51	37.57	37.7	100.002054	100.00106	-0.00105	0.00105	-0.00100
1 MΩ	1 MΩ	100 Nplc	1000043.3	37.57	37.7	1.0000481	1.0000433	-0.0000170	0.0000170	-0.0000048
10 MΩ	10 MΩ	100 Nplc	10000538	37.57	37.7	10.000518	10.000552	-0.000600	0.000600	+.000034

DC Current PASS 4/26/2024 5:53:17 PM

DC Current	Range	NPLC	Cal 60	RunTime Temp.	Transfer Reference	UUT Reading	Accuracy Low	Accuracy High	Result
100 uA	100 uA	100 Nplc	37.57	37.7	100.00200	100.00274	-0.00280	0.00280	0.00074
-100 uA	100 uA	100 Nplc	37.57	37.7	-100.00400	-100.00371	-0.00280	0.00280	0.00029
1 mA	1 mA	100 Nplc	37.57	37.7	1.0000120	1.0000145	-0.0000250	0.0000250	0.0000025
-1 mA	1 mA	100 Nplc	37.57	37.7	-1.0000240	-1.0000182	-0.0000250	0.0000250	0.0000058
10 mA	10 mA	100 Nplc	37.57	37.7	9.999950	10.000094	-0.000250	0.000250	0.000144
-10 mA	10 mA	100 Nplc	37.57	37.7	-10.000096	-10.000111	-0.000250	0.000250	-0.000015
100 mA	100 mA	100 Nplc	37.57	37.7	100.00064	100.00122	-0.00400	0.00400	0.00058
-100 mA	100 mA	100 Nplc	37.57	37.7	-100.00204	-100.00112	-0.00400	0.00400	0.00092
1 A	1 A	100 Nplc	37.57	37.7	0.9999974	0.9999991	-0.0001200	0.0001200	0.0000017

-1 A	1 A	100 Nplc	37.57	37.7	-1.0000202	-1.0000101	-0.0001200	0.0001200	0.0000101

AC Current PASS 4/26/2024 5:55:24 PM

AC Current	Range	Frequency	Acal AC	RunTime Temp.	Transfer Reference	UUT Reading	Accuracy Low	Accuracy High	Result
10 uA	100 uA	1 kHz	36.91	37.7	10.0000	10.0186	-0.0360	0.0360	0.0186
100 uA	100 uA	1 kHz	36.91	37.7	99.9910	99.9745	-0.0900	0.0900	-0.0165
1 mA	1 mA	1 kHz	36.91	37.7	1.000062	1.000157	-0.000500	0.000500	0.000095
10 mA	10 mA	1 kHz	36.91	37.7	10.00028	10.00132	-0.00500	0.00500	0.00104
100 mA	100 mA	1 kHz	36.91	37.7	100.0029	100.0169	-0.0500	0.0500	0.0140
1 A	1 A	1 kHz	36.91	37.7	0.999953	1.000126	-0.010200	0.010200	0.000173

Frequency PASS 4/26/2024 5:57:12 PM

Amplitude (pk-pk)	Frequency	Function	Accuracy Low	Accuracy High	Result
1 V	1 kHz	Sinewave	0.9999000	1.000100	0.9999999
1 V	50 kHz	Sinewave	49.99500	50.00500	50.00000