Manual Supplement

Manual Title:	8845A/8846A Calibration	Supplement Issue:	**11**
Print Date:	January 2007	Issue Date:	10/13
Revision/Date:	1, 11/07	Page Count:	9

This supplement contains information necessary to ensure the accuracy of the above manual. This manual is distributed as an electronic manual on the following CD-ROM:

CD Title:	8845A/8846A
CD Rev. & Date:	6, 4/2011
CD PN:	2453193

© 2008-2013 Fluke Corporation. All rights reserved.

FLUKE®

Change #1, 45124

On pages 1-12 and 1-17, add the following prior to Maximum Crest Factor:

Crest Factor Error (applies to non sinusoid waveforms only)

Change #2

On page 3-30, add the following note below the text:

Note

Calibration steps dealing with 50/60 Hz Correction, Ratio, and 400 mA current range are only available in Meters with Outguard version 2.0 and later.

On pages 3-31 through 3-35, replace the entire Table with the following:

Table 3-20. 8845A/8846A Adjustment Steps

Step	Modes	Value Range	Input Signal	Description	Series
Open					
0	ORES	100000000	open	OHM 100 M open terminals	Y
1	ORES	1000000000	open	OHM 1 G open terminals (8846A only)	Y
2	ZCAP	1.00E-09	open	CAP 1 nF open terminals (8846A only)	N
ACV Short					
3	ZVAC	100.0E-3	4-wire lo-thermal short	AC 100 mV	Y
4	ZVACS	100.0E-3	4-wire lo-thermal short	AC 100 mV	Y
5	ZVAC	1	4-wire lo-thermal short	AC 1 V	Y
6	ZVACS	1	4-wire lo-thermal short	AC 1 V	Y
7	ZVAC	10	4-wire lo-thermal short	AC 10 V	Y
8	ZVACS	10	4-wire lo-thermal short	AC 10 V	Y
9	ZVAC	100	4-wire lo-thermal short	AC 100 V	Y
10	ZVACS	100	4-wire lo-thermal short	AC 100 V	Y
11	ZVAC	1000	4-wire lo-thermal short	AC 1000 V	Y
12	ZVACS	1000	4-wire lo-thermal short	AC 1000 V	N
DCV Short					
13	ZVDC	1000	4-wire lo-thermal short	DC 1000 V	Y
14	ZVDC	100	4-wire lo-thermal short	DC 100 V	Y
15	ZVDC	10	4-wire lo-thermal short	DC 10 V	Y
16	ZVDC	1	4-wire lo-thermal short	DC 1 V	Y
17	ZVDC	0.1	4-wire lo-thermal short	DC 100 mV	N

50/60 Hz Correction Short					
18	DFVDC60	100.0E-3	Vdc to Lo short	DC 100 mV	Y
19	DFVDC60_1	100.0E-3	Vdc to Lo short	DC 100 mV	Y
20	DFVDC50	100.0E-3	Vdc to Lo short	DC 100 mV	Y
21	DFVDC50_1	100.0E-3	Vdc to Lo short	DC 100 mV	N
4-W Ohm Short					
22	ZRES	10000000	4-wire lo-thermal short	4W 10 MΩ	Y
23	ZRES	1000000	4-wire lo-thermal short	4W 1 MΩ	Y
24	ZRES	100000	4-wire lo-thermal short	4W 100 kΩ	Y
25	ZRES	10000	4-wire lo-thermal short	4W 10 kΩ	Y
26	ZRES	1000	4-wire lo-thermal short	4W 1 kΩ	Y
27	ZRES	100	4-wire lo-thermal short	4W 100 Ω	Y
28	ZRES	10	4-wire lo-thermal short	4W 10 Ω (8846A only)	N
Ratio Short					
29	ZVDCREF	10	Vdc to Lo short	Ratio	Y
30	ZVDCREF	1	Vdc to Lo short	Ratio	Y
31	ZVDCREF	100.0E-3	Vdc to Lo short	Ratio	N
Rear Ω Short					
32	ZRESR	100000	4-wire lo-thermal short	4W 100 kΩ Rear Input	Y
33	ZRESR	10000	4-wire lo-thermal short	4W 10 kΩ Rear Input	Y
34	ZRESR	1000	4-wire lo-thermal short	4W 1 kΩ Rear Input	Y
35	ZRESR	100	4-wire lo-thermal short	4W 100 Ω Rear Input	Y
36	ZRESR	10	4-wire lo-thermal short	4W 10 Ω Rear Input (8846A only)	N
Rear DCV Short					
37	ZVDCR	1	Vdc to Lo short	DC 1 V Rear Input	Y
38	ZVDCR	0.1	Vdc to Lo short	DC 100 mV Rear Input	N
Rear Ratio Short					
39	ZVDCRREF	1	Vdc to Lo short	Rear Ratio	Y
40	ZVDCRREF	0.1	Vdc to Lo short	Rear Ratio	N
Current Short					
41	ZIDC	400.0E-3	400mA to Lo short	DC 400 mA	Y
42	ZIDC	100.0E-3	400mA to Lo short	DC 100 mA	Y
43	ZIDC	1.0E-3	400mA to Lo short	DC 1 mA	Y
44	ZIDC	10.0E-3	400mA to Lo short	DC 10 mA	Y
45	ZIDC	100.0E-6	400mA to Lo short	DC 100 µA	Y

46	ZIAC	0.0	400mA to Lo short	AC 100 µA	Y
47	ZIACS	0.0	400mA to Lo short	AC 100 µA	Y
48	ZIAC	1.0E-3	400mA to Lo short	AC 1 mA	Y
49	ZIACS	1.0E-3	400mA to Lo short	AC 1 mA	Y
50	ZIAC	10.0E-3	400mA to Lo short	AC 10 A	Y
51	ZIACS	10.0E-3	400mA to Lo short	AC 10 mA	Y
52	ZIAC	100.0E-3	400mA to Lo short	AC 100 mA	Y
53	ZIACS	100.0E-3	400mA to Lo short	AC 100 mA	Y
54	ZIAC	400.0E-3	400mA to Lo short	AC 400 mA	Y
55	ZIACS	400.0E-3	400mA to Lo short	AC 400 mA	N
Hi I Short					
56	ZIDC	10	10 A to Lo short	DC 10 A	Y
57	ZIDC	1	10 A to Lo short	DC 1 A	Y
58	ZIAC	1	10 A to Lo short	AC 1 A	Y
59	ZIACS	1	10 A to Lo short	AC 1 A	Y
60	ZIAC	10	10 A to Lo short	AC 10 A	Y
61	ZIACS	10	10 A to Lo short	AC 10 A	N
AC Linearity					
62	ACLIN	1.19	1.19 @1200 Hz	AC 1 V	N
63	ACLIN	0.8	0.8 @1200 Hz	AC 1 V	N
64	ACLIN	0.4	0.4 @1200 Hz	AC 1 V	N
65	ACLIN	0.005	0.05 @1200 Hz	AC 1 V	N
ACV Gain					
66	GVAC	0.1	0.1 @1200 Hz	AC 100 mV	Y
67	GVACS	0.1	0.1 @1200 Hz	AC 100 mV	N
68	ACPOLE	0.1	0.1 @50000 Hz	AC 100 mV	N
69	GVAC	1	1 @1200 Hz	AC 1 V	Y
70	GVACS	1	1 @1000 Hz	AC 1 V	N
71	FVAC	1	1 @10 Hz	AC 1 V	N
72	ACPOLE	1	1 @50000 Hz	AC 1 V	N
73	GVAC	10	10 @1200 Hz	AC 10 V	Y
74	GVACS	10	10 @1200 Hz	AC 10 V	N
75	ACPOLE	10	10 @50000 Hz	AC 10 V	N
76	GVAC	100	100 @1200 Hz	AC 100 V	Y
77	GVACS	100	100 @1200 Hz	AC 100 V	N

78	ACPOLE	100	100 @50000 Hz	AC 100 V	N
79	GVAC	1000	1000 @1200 Hz	AC 1000 V (750 V range 8845A)	Y
80	GVACS	1000	1000 @1200 Hz	AC 1000 V (750 V range 8845A)	N
81	ACPOLE	1000	750 @50000 Hz	AC 1000 V (750 V range 8845A)	N
VDC Gain					
82	GVDC	1000	1000	DC 1000 V	N
83	GVDC	-1000	-1000	DC 1000 V	N
84	GVDC	100	100	DC 100 V	N
85	GVDC	-100	-100	DC 100 V	N
86	GVDC	10	10	DC 10 V	N
87	GVDC	-10	-10	DC 10 V	N
88	GVDC	1	1	DC 1 V	N
89	GVDC	-1	-1	DC 1 V	N
90	GVDC	0.1	0.1	DC 100 mV	N
91	GVDC	-0.1	-0.1	DC 100 mV	N
Hi IDC Gain					
92	GIDC	1	1	DC 1 A	N
93	GIDC	-1	-1	DC 1 A	N
94	GIDC	10	10	DC 10 A	N
95	GIDC	-10	-10	DC 10 A	N
Hi IAC Gain					
96	GIAC	10	10 A @ 1200 Hz	AC 10 A	Y
97	GIACS	10	10 A @ 1200 Hz	AC 10 A	N
98	GIAC	1	1 A @ 1200 Hz	AC 1 A	Y
99	GIACS	1	1 A @ 1200 Hz	AC 1 A	N
Lo IAC Gain					
100	GIAC	400.0E-3	0.329 A @ 1200 Hz	AC 400 mA	Y
101	GIACS	400.0E-3	0.329 A @ 1200 Hz	AC 400 mA	N
102	GIAC	100.0E-3	0.1 A @ 1200 Hz	AC 100 mA	Y
103	GIACS	100.0E-3	0.1 A @ 1200 Hz	AC 100 mA	N
104	GIAC	10.0E-3	0.01 A @ 1200 Hz	AC 10 mA	Y
105	GIACS	10.0E-3	0.01 A @ 1200 Hz	AC 10 mA	N
106	GIAC	1.0E-3	0.001 A @ 1200 Hz	AC 1 mA	Y
107	GIACS	1.0E-3	0.001 A @ 1200 Hz	AC 1 mA	N
108	GIAC	100.0E-6	0.0001 A @ 1200 Hz	AC 100 µA	N

109	GIACS	100.0E-6	0.0001 A @ 1200 Hz	AC 100 µA	N
Lo IDC Gain					
110	GIDC	100.0E-6	100.0E-6	DC 100 µA	N
111	GIDC	-100.0E-6	-100.0E-6	DC 100 µA	N
112	GIDC	1.0E-3	1.0E-3	DC 1 mA	N
113	GIDC	-1.0E-3	-1.0E-3	DC 1 mA	N
114	GIDC	10.0E-3	10.0E-3	DC 10 mA	N
115	GIDC	-10.0E-3	-10.0E-3	DC 10 mA	N
116	GIDC	100.0E-3	100.0E-3	DC 100 mA	N
117	GIDC	-100.0E-3	-100.0E-3	DC 100 mA	N
118	GIDC	400.0E-3	329.0E-3	DC 400 mA	N
119	GIDC	400.0E-3	329.0E-3	DC 400 mA	N
Ω Gain					
120	GRES	100000000	100000000	R 100 MΩ	N
121	GRES	10000000	10000000	4W 10 MΩ	N
122	GRES	1000000	1000000	4W 1 MΩ	N
123	GRES	100000	100000	4W 100 kΩ	N
124	GRES	10000	10000	4W 10 kΩ	N
125	GRES	1000	1000	4W 1 kΩ	N
126	GRES	100	100	4W 100 Ω	N
127	GRES	10	10	4W 10 Ω (8846A only)	N
Misc Gain					
128	GRES	1000000000	1000000000	R1 GΩ (8846A only)	N
129	GCAP1	10.0E-9	10.0E-9	C10NF (8846A only)	Y
130	GCAP2	10.0E-9	10.0E-9	C10NF (8846A only)	N

Change #3, 53736

Under the **LIMITED WARRANTY AND LIMITATION OF LIABILITY** replace the second sentence with the following:

The warranty period is three years limited and begins on the date of shipment.

On page 1-8, Table 1-3**,**

Change:

884x-USB	USB to RS-232 Cable Adapter

To:

884x-USB	USB to RS-232 Cable Adapter (included)

On page 1-10, change the *Warranty*,

From: One year

To: Three years limited

On page 4-5, Table 4-1, add the following:

W3	CABLE, ADAPTER, USB STANDARD A to RS232 DB-9 FEMALE, 1.65M LENGTH	2683906	1

Change #4

On page 3-11, change the **1-year Test Limits** for 1000 V:

From:

High	Low
1.0009 kV	999.1 V
1.0009 kV	999.1 V
1.0009 kV	999.1 V

To:

High	Low
1000.825 V	999.175 V
1000.825 V	999.175 V
1000.825 V	999.175 V

Change #5, 57076, 57175

On page 1-10, following the *Warranty* add:

Specification Confidence Interval

99 %

Change #6

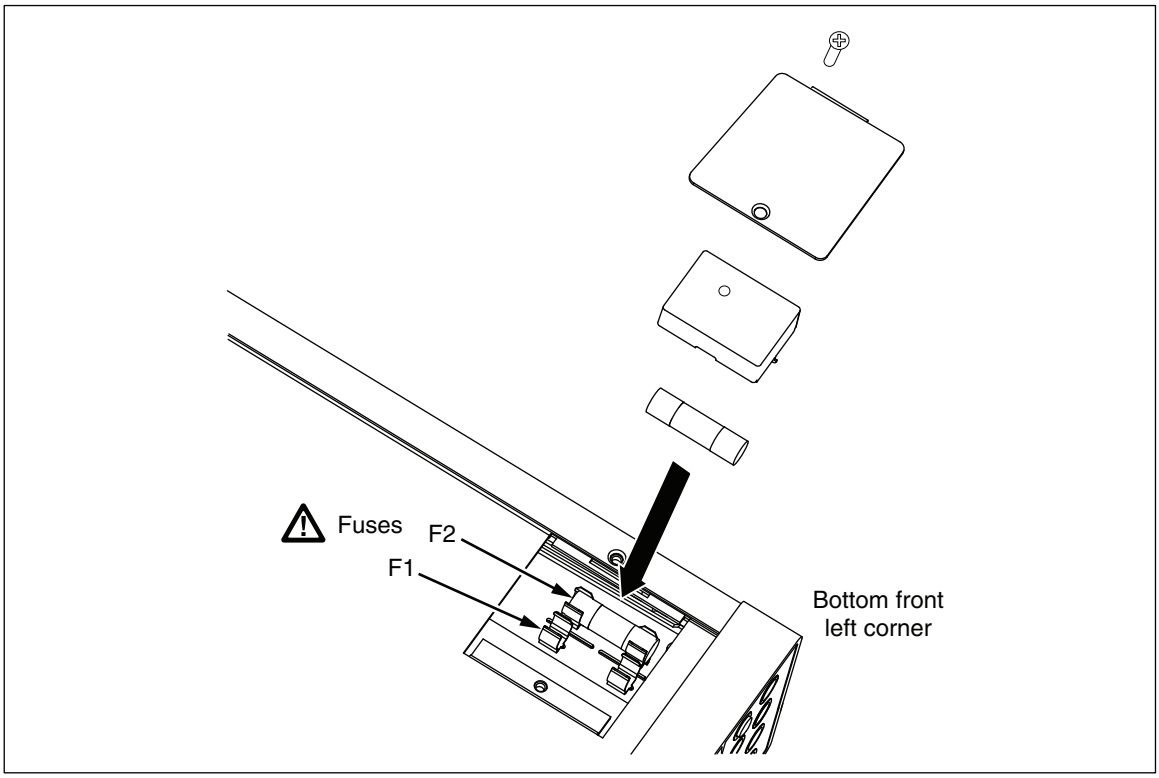
On page 2-5, under the ***Current-Input Fuses*** section add the following Table:

Current Input Fuse Table

F1	F1 - Fuse, 11 A, 1000 V, Fast blow or equivalent	803293
F2	F2 - Fuse, 440 mA, 1000 V, Fast blow or equivalent	943121

On page 2-6, replace step 5 and Figure 2-2 with:

5. Remove the defective fuse and replace it with a fuse of an appropriate rating. See the Current Input Fuse Table.



Caw020f.eps

Figure 2-2. Replacing the Current Input Fuses

Change #7

On page 3-23, change the **1-year Test Limits** for 100.0 μA[1] ,-100.0 μA[1], 1 A[1] and -1 A[1]:

From:

Nominal Input	High	Low
100.0 μA[1]	100.075	99.935 μA
-100.0 μA[1]	-99.925	-100.065 μA
1 A[1]	1.0007 A	999.3 mA
-1 A[1]	-999.3 mA	-1.0007 A

To:

Nominal Input	High	Low
100.0 μA[1]	100.075	99.925 μA
-100.0 μA[1]	-99.925	-100.075 μA
1 A[1]	1.0007 A	0.9993 A
-1 A[1]	-0.9993 A	-1.0007 A

Change #8, 64487

On page 1-4, in the **Symbols** table delete the CAT II and add:

ℂ	Conforms to CAN/CSA-C22.2 No. 61010-1, second edition, including Amendment 1.
㎏	Conforms to relevant South Korean EMC Standards.
CAT I	Meter may be connected to voltage sources not associated with MAINS.
CAT II	Measurement Category II is applicable to test and measuring circuits connected directly to utilization points (socket outlets and similar points) of the low-voltage MAINS installation.
CAT III	Measurement Category III is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.

Change #9, 65417, 65494

On page 1-4, under ***General Safety Summary*** delete the first paragraph and replace the CAT I and CAT II with:

CAT I Meter may be connected to voltage sources not associated with MAINS.

CAT II Measurement Category II is applicable to test and measuring circuits connected directly to utilization points (socket outlets and similar points) of the low-voltage MAINS installation.

CAT III Measurement Category III is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.

On page 1-5, replace the second bullet with the following and add

- **Do not use the Product around explosive gas, vapor, or in damp or wet environments.**
- **Replace the Mains power cord if the insulation is damaged or if the insulation shows signs of wear.**

On page 1-9, remove the ***Safety*** and ***EMC*** and add:

Safety	IEC 61010-1: Overvoltage 300 V CAT II, Measurement: 600 V CAT II/ 1000 V Cat I, Pollution Degree 2
Electromagnetic Environment	IEC 61326-1: Controlled
Electromagnetic Compatibility	This meter has shown susceptibilities to radiated frequencies > 1 V from 1.8 – 1.9 GHz. Applies to use in Korea only Class A Equipment (Industrial Broadcasting & Communication Equipment) [1] [1] This product meets requirements for industrial (Class A) electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and is not to be used in homes.