

Manual Supplement

Manual Title:	80 Series V Calibration	Supplement Issue:	9
Part Number:	2102915	Issue Date:	10/16
Print Date:	September 2004	Page Count:	3
Revision/Date:	1, 2/05		

This supplement contains information necessary to ensure the accuracy of the above manual. Enter the corrections in the manual if either one of the following conditions exist:

1. The revision letter stamped on the indicated PCA is equal to or higher than that given with each change.
2. No revision letter is indicated at the beginning of the change.

Change #1

On page 16, Table 13, add the following:

F8-Err	Invalid model. Have Meter serviced.
OPEn	Open thermocouple is detected.

Change #2, 39785

On page 8, Table 11, replace the Diode row with the following:

→	1000 V rms	< 7.9 V dc	3.000 V dc	1.0 mA typical
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Change #3, 41206, 48958

On page 5, replace Table 2 with the following:

Table 2. Model 87 AC Voltage Function Specifications

Function	Range	Resolution	Accuracy					
			45 – 65 Hz	30 – 200 Hz	200 – 440 Hz	440 Hz - 1 kHz	1 - 5 kHz	5 - 20 kHz ^[1]
\tilde{V} ^[2,4]	600.0 mV	0.1 mV	$\pm (0.7 \% + 4)$	$\pm (1.0 \% + 4)$	$\pm (1.0 \% + 4)$	440 Hz - 1 kHz	$\pm (2.0 \% + 4)$	$\pm (2.0 \% + 20)$
	6.000 V	0.001 V	$\pm (0.7 \% + 2)$					
	60.00 V	0.01 V						
	600.0 V	0.1 V						
	1000 V	1 V						
Low pass filter	Same as 45 - 65 Hz	$\pm (1.0 \% + 4)$	+1 % + 4 -6 % - 4 ^[5]	unspecified	unspecified	unspecified		

[1] Below 10 % of range, add 12 counts.
 [2] The Meter is a true rms responding meter. When the input leads are shorted together in the ac functions, the Meter may display a residual reading between 1 and 30 counts. A 30 count residual reading will cause only a 2-digit change for readings over 3 % of range. Using REL to offset this reading may produce a much larger constant error in later measurements.
 [3] Frequency range: 1 kHz to 2.5 kHz.
 [4] A residual reading of up to 13 digits with leads shorted, will not affect stated accuracy above 3 % of range.
 [5] Specification increases from -1% at 200 Hz to -6% at 440 Hz when filter is in use.

Change #4, 58804, 62912, 64090, 509, 167

On page 19, Table 14, combine steps 47 and 48 and add footnote 7:

Step	Test Function	Range	5500A output	Display Reading	
				83 and 88	87
47	$\overline{\overline{V}}$ (87 and 88 only) ⁷ Peak Min/Max	6 V dc	6 Vpp, 2 kHz Sq. Wave, DC offset 1 V	Max = 3.895 to 4.105	Max = 3.897 to 4.103
				Min = -1.897 to -2.103	Min = -1.898 to -2.102

7. The Fluke-83 V does not have a Peak Min/Max function.

On page 4, replace Table 1 with:

Table 1. Electrical Symbols

	AC (Alternating Current)		Earth ground
	DC (Direct Current)		Fuse
	Hazardous voltage. Risk of electric shock.		Conforms to European Union directives.
	Risk of Danger. Important information. See Manual.		Conforms to relevant North American Association directives.
	Battery. Low battery when displayed.		Double insulated
	Continuity test or continuity beeper tone.		Capacitance
	Conforms to relevant South Korean EMC Standards.		Inspected and licensed by TÜV Product Services.
	Consult user documentation.		Conforms to relevant Australian EMC standards.
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.		
CAT IV	Measurement Category IV is applicable to test and measuring circuits connected at the source of the building's low-voltage MAINS installation.		

Replace the **General Specifications**, with:

General Specifications

Maximum Voltage between any Terminal and Earth Ground: 1000 V rms

Fuse Protection for mA or µA inputs: 0.44 A, 1000 V, IR 10 kA

Fuse Protection for A input: 11 A, 1000 V, IR 17 kA

Display: Digital: 6000 counts updates 4/sec; (Model 87 also has 19,999 counts in high-resolution mode).

Analog Bargraph: 33 segments, updates 40/sec. Frequency: 19,999 counts, updates 3/sec at > 10 Hz

Temperature: Operating: -20 °C to +50 °C; Storage: -40 °C to +60 °C

Altitude: Operating: 2000 m; Storage: 10,000 m

Temperature Coefficient: 0.05 x (specified accuracy)/ °C (< 18 °C or > 28 °C)

Safety IEC 61010-1: Pollution Degree 2
 IEC 61010-2-033: CAT IV 600 V / CAT III 1000 V

Electromagnetic Compatibility (EMC)

International IEC 61326-1: Portable Electromagnetic Environment; IEC 61326-2-2
 CISPR 11: Group 1, Class A

Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself.

Class A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a low-voltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted and radiated disturbances.

Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

Emissions that exceed the levels required by CISPR 11 can occur when the equipment is connected to a test object.

Korea (KCC)..... Class A Equipment (Industrial Broadcasting & Communication Equipment)

Class A: Equipment meets requirements for industrial electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and not to be used in homes.

USA (FCC)..... 47 CFR 15 subpart B. This product is considered an exempt device per clause 15.103.

Relative Humidity: 0 % to 90 % (0 °C to 35 °C); 0 % to 70 % (35 °C to 55 °C)

Battery Type: 9 V, NEDA 1604 or IEC 6F22

Battery Life: 400 hrs typical with alkaline (with backlight off)

Size (HxWxL): 1.25 in x 3.41 in x 7.35 in (3.1 cm x 8.6 cm x 18.6 cm)

Size with Holster and Flex-Stand: 2.06 in x 3.86 in x 7.93 in (5.2 cm x 9.8 cm x 20.1 cm)

Weight: 12.5 oz (355 g)

Weight with Holster and Flex-Stand: 22.0 oz (624 g)

On page 5, under **Detailed Specifications**, prior to Table 2 add:

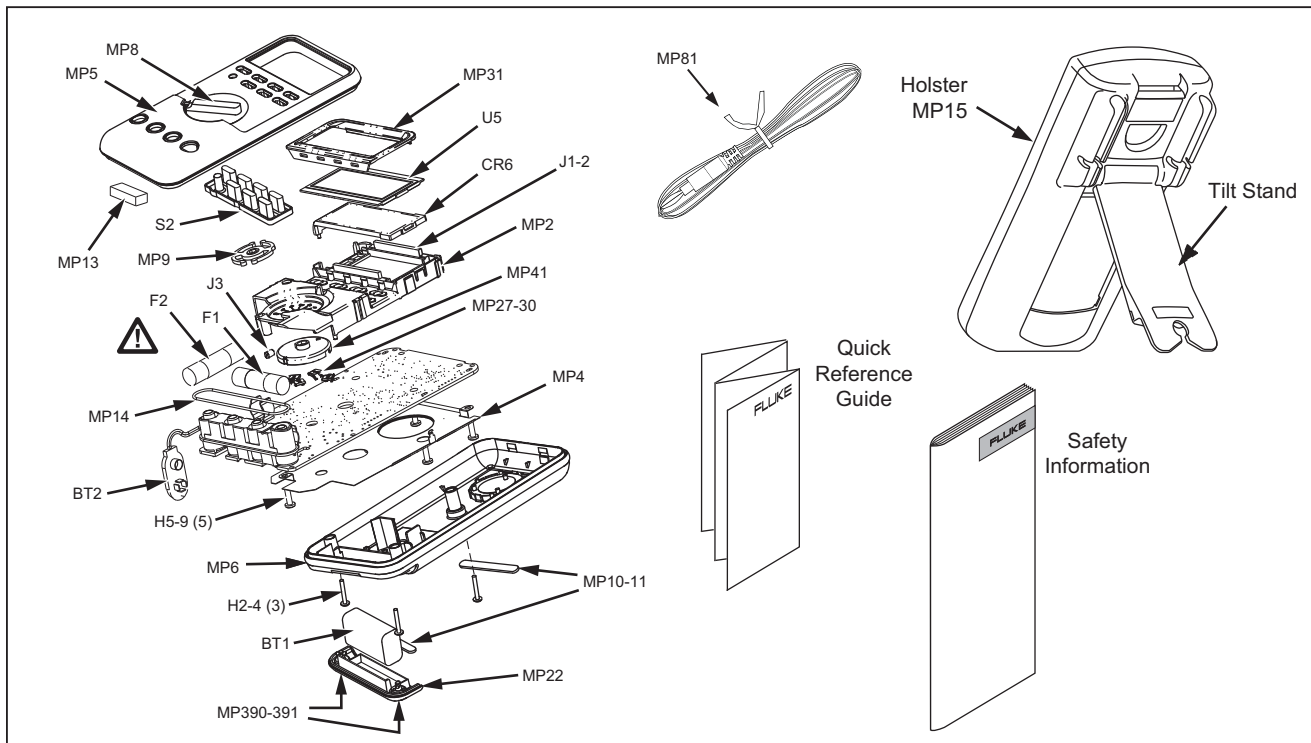
All ranges unless otherwise noted: In an RF field of 3 V/m total accuracy = specified accuracy + 20 counts, except 600 µA dc range total accuracy = specified accuracy + 60 counts. Temperature not specified.

Some mobile devices that transmit RF energy may transmit levels that far exceed 3 V/m and may damage sensitive electronic circuits. To insure the best performance, do not allow a device that is transmitting RF energy in excess of 3 V/m to be within 30 cm of the meter while in use.

On page 27, Table 17, replace the TM1 with the following, and delete both TM3s:

TM1	80 Series V Safety Information (Multi-language)	4271753	1
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On page 28, replace Figure 8 with:



amo015c.eps

Figure 8. 80 Series V Final Assembly

Change #5, 573

On page 6, Table 6, replace note 4 with:

4. $\Delta > 10$ A accuracy is unspecified. Duty cycle: 10 A continuous up to 35 °C, 20 minutes on, 5 minutes off 35 °C to 55 °C; >10 A to 20 A, 30 seconds on, 5 minutes off.