

4 1/2 DIGIT MULTIMETER-COUNTER



Features

- ★ Basic Accuracy of 0.05%
- ★ Continuity Testing (Buzzer)
- ★ Auto & Manual Ranging
- ★ LED Annunciation for Function & Unit
- ★ Frequency Measurement upto 10MHz
- ★ True RMS AC Measurement
- ★ dB Measurement

Description

APLAB 4 1/2 Digit Multimeter-Counter Model 1087 is a compact, high performance, easy to operate, autoranging DMM. Five ranges have been provided for voltage measurement in AC/DC mode. Five ranges have been provided for current measurement in AC/DC mode. Ohms function has six ranges. The dB range of -50 to +10dB is calibrated for 600 ohms impedance. Frequency measurement is provided in two ranges upto 10MHz. All voltage ranges have a high input impedance so as to avoid circuit loading during measurements. Over range is indicated by blinking all digits. Polarity of DC voltage and current is automatically displayed, and the decimal point is placed at the appropriate position when a range is selected. Protection against improper input is provided on all functions and all ranges and the AC power line.

Specifications

DC VOLTAGE : Basic Accuracy 0.05%

Range	Resolution	Accuracy	Input Impedance	Max. Input Voltage
200mV to 2V	10μV, 100μV	±(0.03% rdg. +0.01% rng +1 digit)	>100M ohms	±300V
20V to 200V	1mV, 10mV	±(0.03% rdg. +0.01% rng +1 digit)	>10M ohms	±1100V
1000V	100mV	±(0.03% rdg. +0.02% rng +1 digit)	>10M ohms	±1100V

Temp. coeff. : ≤300 ppm.

Settling Time : Without ranging -- 1 sec } Within claimed
 With ranging -- 3 secs } accuracy.

AC VOLTAGE

Range	Resolution	Frequency	Accuracy	Input Impedance	Max. Input
200mV	10μV	40Hz to 500Hz	±(0.3% rdg. +0.15% rng +1 digit)	>10M ohms	600V rms
2V	100μV	500Hz to 20KHz	±(1.0% rdg. +0.15% rng +1 digit)		
20V	1mV	20KHz to 100KHz	±(5.0% rdg. +1.0% rng +1 digit)		
200V	10mV				
1000V	100mV	40Hz to 60Hz	±(0.3% rdg. +0.3% rng +1 digit)		

Temp. Coeff. : ≤300 ppm.

Settling Time : Without ranging -- 2 secs } Within claimed
 With ranging -- 4 secs } accuracy.

DC CURRENT

Range	Resolution	Accuracy	Overload Protection
200µA to 1A	0.01µA, 0.1µA, 1.0µA, 0.01mA, 0.1mA	±(0.2% rdg. +0.05% rng +1 digit)	2 Amp 250V Fuse
10A	1mA	±(0.2% rdg. +0.1% rng +1 digit)	No Protection

Temp. coeff. : ≤500 ppm.

Settling Time : Without ranging -- 1 sec } Within claimed
With ranging -- 3 secs } accuracy.

RESISTANCE

Range	Resolution	Accuracy	Settling Time	Overload Protection
200Ω to 200KΩ	0.01Ω, 0.1Ω, 1Ω, 10Ω	±(0.2% rdg. +0.1% rng +1 digit)	2 Sec.	250V AC/DC
2MΩ to 20MΩ	100Ω, 1KΩ	±(1.0% rdg. +0.1% rng +1 digit)	10 Sec.	

Temp. coeff. : ≤500 ppm.

Continuity Testing : A continuous audible tone is generated for resistance of path <20 ohms.

AC CURRENT

Range	Resolution	Frequency	Accuracy	Overload Protection
200µA to 1A	0.01µA, 0.1µA, 1.0µA, 0.01mA, 0.1mA	40Hz to 5KHz	±(0.5% rdg. +0.1% rng +1 digit)	2 Amp 250V Fuse
10A	1mA	40Hz to 60Hz	±(0.5% rdg. +0.2% rng +1 digit)	No Protection

Temp. coeff. : ≤500 ppm.

Settling Time : Without ranging -- 2 secs } Within claimed
With ranging -- 4 secs } accuracy.

dB MEASUREMENT

dB Reference - 1mW in 600 ohms i.e. 775mV in 600 ohms.

Range	Accuracy			Resolution	Overload Protection
	40Hz to 4KHz	4KHz to 40KHz	40KHz to 100KHz		
+10dB to -20dB	±0.5dB	±1.0dB	±1.5dB	0.1dB	250V AC/DC
-20dB to -40dB	±1.0dB	±1.5dB	±3.0dB	0.1dB	250V AC/DC
-40dB to -50dB	±2.0dB	±3.0dB	—	0.1dB	250V AC/DC

Note : All units shall be calibrated to 600 ohms reference. However, on special request the unit will be calibrated to required reference 50 ohms to 1K ohms.

FREQUENCY MEASUREMENT (10Hz to 10MHz)

Range	Resolution	Accuracy	Sensitivity	Maximum Input
< 10KHz	1Hz	(±1% rdg. + 10 counts)	2V p-p	20V p-p
> 10KHz	1KHz		5V p-p	20V p-p

GENERAL

Display	: 4½ digit bright LED display reading upto 19999.	Reference Condition	: 23°C ± 1°C, Rh 20% to 80%.
Range Selection	: Automatic and manual.	Warm up Time	: 10 minutes.
Polarity Indication	: Automatic.	Dimensions	: 260 (W) x 85 (H) x 300 (D) mm approx.
Function Indication	: The selected function is indicated by LEDs.	Weight	: 3 Kg. approx.
Over Range Indication	: Display blinks.	Standard Accessories	: Instruction Manual - 1 No. SP1 to Alligator Clip (Red & Black) - 1 Each. Ext. Battery Jack Cable - 1 No.
Power	: 230V AC ±10%, 47-53Hz. Optional 115V AC ±10%, 57-63Hz.		

WE PURSUE A POLICY OF CONTINUOUS DEVELOPMENT AND PRODUCT IMPROVEMENT. THUS THE SPECIFICATIONS IN THIS DOCUMENT AND THE LOCATION OF CONTROLS ON THE FRONT PANEL MAY BE CHANGED WITHOUT NOTICE.

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