

**4½ DIGIT TRUE RMS DIGITAL MULTIMETER 1085****Description**

APLAB 4½ Digit Digital Multimeter Model 1085 is a compact, high performance, easy to operate, desktop DMM. Five ranges have been provided for voltage measurement in AC/DC mode. Three ranges have been provided for current measurement in AC/DC mode. Ohms function has six ranges. Frequency measurement is provided in two ranges upto 200KHz. It carries true RMS AC measurements to for AC voltages & currents. Dual slope integration A/D converter system is used per measurement with sampling rate of approx. 3 reading per seconds.

All voltage ranges have a high input impedance so as to avoid circuit loading during measurements. Over range is indicated by MSD "1" displayed. 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.

**Features**

- 19999 Counts 4½ Digit 40mm High Characters Jumbo LCD Display
- Dual Slope Integration A/D Converter System
- Basic DC Voltage Accuracy of  $\pm 0.05\%$
- True RMS AC Measurement
- Capacitance Measurement
- All Ranges are Fully Overload Protected
- Frequency Measurement upto 200KHz
- Diode Testing
- Continuity Testing (Buzzer)
- Automatic Polarity Indication
- hfe Testing

## Technical Specifications

Accuracies are  $\pm$ (% reading + no. of digits), 23°C $\pm$ 5°C, <80% RH.

### DC VOLTAGE

Range	Accuracy	Resolution
200mV	$\pm(0.05\%+3d)$	10 $\mu$ V
2V		100 $\mu$ V
20V		1mV
200V		10mV
1000V	$\pm(0.1\%+5d)$	100mV

Input Impedance : 10M $\Omega$ , all ranges.

Overload Protection : 250V DC/AC PEAK on 200mV range;  
1000V DC or AC PEAK on other ranges.

### AC VOLTAGE (True RMS)

Range	Input Frequency	Accuracy (Input>10% of full scale)	Resolution
200mV	50Hz-50kHz	$\pm(0.8\%+80d)$	10 $\mu$ V
2V	50Hz-20kHz		100 $\mu$ V
20V			1mV
200V	50Hz-5kHz	$\pm(1.0\%+20d)$	10mV
750V	50Hz-400Hz		100mV

Input value more than 10% of full scale range.

Input Impedance : 2M $\Omega$  on all ranges.

Overload Protection : 1000V DC/AC PEAK, except AC 200mV range (250V DC/AC PEAK).

### DC CURRENT

Range	Accuracy	Resolution
20mA	$\pm(0.3\%+10d)$	1 $\mu$ A
200mA		10 $\mu$ A
2A		100 $\mu$ A
20A	$\pm(0.8\%+10d)$	1mA

Overload Protection : 0.2A/250V, 20A/250V fast-fuse.

Max. Input Current : 20A (up to 15 seconds).

Max. Measuring Voltage : 200mV.

### AC CURRENT (True RMS)

Range	Input frequency	Accuracy (Input>10% of full scale)	Resolution
200mA	50Hz-5kHz	$\pm(0.8\%+80d)$	10 $\mu$ A
2A			100 $\mu$ A
20A	50Hz-400Hz	$\pm(1.0\%+20d)$	1mA

Overload Protection : 0.2A/250V, 20A/250V fast-fuse.

Max. Input Current : 20A (upto 15 seconds).

Max. Measuring Voltage : 200mV.

### RESISTANCE

Range	Accuracy	Resolution
200 $\Omega$	$\pm(0.1\%+2d)$	0.01 $\Omega$
2k $\Omega$		0.1 $\Omega$
20k $\Omega$		1 $\Omega$
200k $\Omega$		10 $\Omega$
2M $\Omega$		100 $\Omega$
20M $\Omega$	$\pm(0.2\% +5d)$	1k $\Omega$



Overload Protection : 250V DC/AC PEAK on all ranges.

Open Circuit Voltage : Less than 3V.

## CAPACITANCE

Range	Accuracy	Resolution
20nF	±(1.0% +20d)	0.001nF
2µF		0.1nF
200µF		0.01µF

## DIODE TEST AND CONTINUITY TEST

Range	Description	Test Condition
	Display read approx. forward voltage of diode	Forward DC Current approx. 1mA. Reversed DC voltage approx. 3V.
	Buzzer sounds if resistance between terminals V/Ω and COM is less than about 70Ω.	Open circuit voltage 3V.

Overload Protection : 250VDC/AC PEAK.

## FREQUENCY

Range	Accuracy	Resolution
20kHz	±(1.5%+20d)	1Hz
200kHz		10Hz

Input sensitivity : 100mV RMS.

Overload Protection : 250V DC/AC PEAK (max. 15 seconds).

## GENERAL

**Power Supply** : 220-240V / 110-120V AC (selectable) ±10%, 50Hz or 60Hz.

**Temperature for Guaranteed Accuracy** : 23°C ±5°C.

**Temperature Range** : Operating 0°C to 40°C (32°F to 104°F), humidity <75% RH.  
Storage -10°C to 50°C (14°F to 122°F), humidity <75% RH.

**Size** : 260 (H) x 220 (W) x 105 (D) mm.

**Weight** : Approx. 1kg.

**Accessories** : Operating Manual  
Test Leads (Red & Black 1 Pair)  
Power Cord etc.

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.

**Aplab** Test & Measurement Instruments

### APLAB LIMITED

APLAB HOUSE, A-5, WAGLE ESTATE, THANE 400 604. INDIA. TEL : 25821861 FAX : 91-022-2582 3137  
EMAIL : tmisales@aplab.com WEBSITE : www.aplab.com

- BANGALORE Tel. : 080-23576001 to 07 Fax : 23576008 E-mail : aplabblr@aplab.com
- CHENNAI Tel. : 044-26680472, 26680477 Fax : 26680473 Email : aplabchn@aplab.com
- KOLKATA Tel. : 033-22455435, 22848834 Fax : 22454294 Email : aplabcal@aplab.com
- MUMBAI Tel. : 022-29201787, 29204642, 29203468 Fax : 29209066 Email : aplabwr@aplab.com
- NEW DELHI Tel. : 011-23515183/86, 23627467 Fax : 23634709 Email : aplabnd@aplab.com
- SECUNDERABAD Tel. : 040-27811012, 27843351, 27720339 Fax : 27897788 Email : aplabsec@aplab.com