

## ELECTRICAL METERS

**“Globe” Brand, Grade A**, Student Meters with good quality, moving coil. Each meter features a zero-adjust calibration and overload protection combine with a large 75 mm scale, easy to read with an accuracy of  $\pm 2\%$  at f.s.d. Size : 100 x 135 x 85 mm high. Plastic bases are colour coded. Ammeters, Milliammeters and Microammeters are red. Voltmeters are blue and Galvanometers have grey plastic cases.

### Voltmeters (Grade A)

- PA-1C Voltmeter, triple range : 0-3V/15V/300V DC, in 0.1V/0.5V/10V.
- PA-1-1C Voltmeter, triple range : 0-3V/10V/15V. DC, in 0.1V/0.2V/0.5V
- PA-1-1-1C Voltmeter, triple range : 0-3V/15V/30V DC, in 0.1V/1V/1V
- PA-2C Voltmeter, range : 0-3V. in 0.1V. DC.
- PA-3C Voltmeter, range : 0-5V. in 0.1V. DC.
- PA-3-1C Voltmeter, range : 0-10V. in 0.2V. DC.
- PA-4C Voltmeter, double range: 0.5V/0-15V. DC. in 0.1V/0.3V.
- PA-4-1C Voltmeter, range : 0-15V DC in 0.3V



“Grade A” Voltmeter (Blue color case)



“Grade A” Ammeter (Red color case)

### Ammeters (Grade A)

- PA-5C Ammeter, triple range : 0-50mA/500mA/5A, in 1mA/10mA/100mA, DC.
- PA-6C Ammeter, double range : 0-1A/0-5A in 20 mA/100mA, DC.
- PA-7C Ammeter, 0-1A. in 20mA. DC.
- PA-8C Ammeter, 0-3A. in 100mA. DC
- PA-9C Ammeter, 0-5A. in 100mA. DC
- PA-10C Ammeter, 0-10A. in 200mA. DC
- PA-11C Milliammeter, 0-100mA in 2 mA. DC
- PA-11-1C Milliammeter, 0-1 MA in 0.02mA. DC
- PA-11-2C Milliammeter, 0-200mA in 4mA. DC.
- PA-11-3C Milliammeter, 0-500 mA. in 10mA, DC.
- PA-11-4C Milliammeter, 0-10 mA. in 0.2mA, DC.
- PA-12C Microammeter, -20 to 100uA. in 2uA. DC
- PA-13C Microammeter, 0-500uA in 10uA. DC

### Galvanometers (Grade A)

- PA-14C Sensitive Galvanometer, -35mV/+35mV, in 1 mV. DC.
- PA-14-1C Sensitive Galvanometer, -500uA/0/+500uA  $\pm$  20uA
- PA-14-2C Sensitive Galvanometer, -50uA/0/+50uA.  $\pm$  2uA



“Grade A” Galvanometer (Grey color case)

**“Globe” Brand, Grade B**, Economy Meter, These full size meters offer quality and value. Each meter delivers accuracy of  $\pm 2.5\%$ . Features such as external zero-adjust calibration and overload protection combine with a large 7.5 cm scale. Easy to read inclined meter face, and a fully enclosed plastic case to make them excellent for student use. All meters are in black plastic cases. DC are in moving coil type and DC/AC are in moving iron type.



“Grade B” Voltmeter (Black color case)

### Voltmeters (Grade B)

- PA-1 Voltmeter, triple range : 0-3V/15V/300V DC, in 0.1V/0.5V/10V.
- PA-1-1 Voltmeter, triple range : 0-3V/10V/15V. DC, in 0.1V/0.2V/0.5V
- PA-1-1-1 Voltmeter, triple range : 0-3V/15V/30V DC in 0.1V/1V/1V
- PA-2 Voltmeter, range : 0-3V. in 0.1V. DC.
- PA-3 Voltmeter, range : 0-5V. in 0.1V. DC.
- PA-3-1 Voltmeter, range : 0-10V. in 0.2V. DC.
- PA-4 Voltmeter, double range: 0-5V/0-15V. DC. in 0.1V/0.3V.
- PA-4-1 Voltmeter, range : 0-15V DC in 0.3V

### Ammeters (Grade B)

- PA-5 Ammeter, triple range : 0-50mA/500mA/5A, in 1mA/10mA/100mA, DC.
- PA-6 Ammeter, double range : 0-1A/0-5A in 20 mA/100mA, DC.
- PA-7 Ammeter, 0-1A. in 20 mA. DC.
- PA-8 Ammeter, 0-3A. in 100 mA. DC
- PA-9 Ammeter, 0-5A. in 100 mA. DC
- PA-10 Ammeter, 0-10A. in 200 mA. DC
- PA-10A Ammeter, but moving iron type, 0-3A in 0.1A. DC/AC.
- PA-10B Ammeter, moving iron type, 0-10A in 200 mA. DC/AC.
- PA-11 Milliammeter, 0-100 mA in 2 mA. DC
- PA-11-1 Milliammeter, 0-1 mA in 0.02mA. DC
- PA-11-2 Milliammeter, 0-200 mA in 4mA. DC.
- PA-11-3 Milliammeter, 0-500 mA. in 10mA, DC.
- PA-11-4 Milliammeter, 0-10 mA. in 0.2mA, DC.
- PA-12 Microammeter, -20 to 100  $\mu$ A. in 2 $\mu$ A. DC
- PA-13 Microammeter, 0-500  $\mu$ A in 10 $\mu$ A. DC



“Grade B” Ammeter (Black color case)



“Grade B” Galvanometer (Black color case)

### Galvanometers (Grade B)

- PA-14 Sensitive Galvanometer, -35mV/+35mV, in 1mV. DC.
- PA-14-1 Sensitive Galvanometer, -500 $\mu$ A/0/+500  $\mu$ A  $\pm$  20  $\mu$ A
- PA-14-2 Sensitive Galvanometer, -50 $\mu$ A/0/+50  $\mu$ A.  $\pm$  2  $\mu$ A

**Model PA-221 Student Dual Amp/Volt Meter.**

This dual purpose student bench meter offers an analogue quadruple range, making it very versatile. A slide selector for amps/volts automatically selects internal shunting, indicating whether on amps or volts reading and secures the input sockets from the possibility of incorrect connection. Input is made via a dual 4mm or terminal type connection and zeroing is achieved by the screw adjustment on the front of the meter.



**Student Dual Amp/Volt Meter**

PA-221

Dimensions	160 x 100 x 55 mm
Display	-5 to 0, 0 to 50, -10 to 0, 0 to 100
Display size	80 x 80 mm
Volts input sockets	4mm/screw terminal connectors, 100mV, 1V, 10V, 50V
Amps input sockets	4mm/screw terminal connectors, 100uA, 100mA, 1A, 5A
Shunting mechanism	Mechanical



**Model OP-M1, Economy Digital Multimeter.** a pocket size meter offering all the usual functions, including transistor and diode tests, and incorporates a large, clear liquid crystal 3-1/2" LCD display, overload protected. Complete with test leads and instruction, 9V battery included, CE approved.

OP-M1

DC Volts :	0-200mV / 2V / 20V / 200V / 1000V
DC Current :	0-200uA / 2mA / 20mA / 200mA / 10A
AC Volts :	0-200V / 750V
Resistance :	0-200 ohm / 2 k ohm / 20 k ohm / 200 k ohm / 2000 k ohm
Size :	150 x 70 x 25 mm.