



DIGITAL MICRO-OHM METER

(Contact Resistance Meter)

MODEL: MR-253A



“CIE” Make “MR-253A” is a compact, light weight, precision, 3½ digits resistance meter suitable for measurement of low value of Resistance. It is suitable for measurement of resistance of Cables, Wires, Transformers, Motor winding, Coils and Contact resistance of switches, relays, track resistance of PCBs, Calibration of ammeter shunt wires etc. It is very important instrument for electrical and electronic industry / project etc.

The usage of latest MOS LSI technology has helped in increasing the reliability, ease of servicing and making the instrument light weight and compact.

The instrument uses state of art technology for measurement of low values the measuring technique eliminates errors caused due to resistance in the connection leads.

The instrument uses precision low drift integrated circuits to ensure stability of measurement over widely changing conditions. The value of Resistance is displayed on 7 segment LED display. Four terminal measurement system provides measurements free from error due to contact resistance and test lead resistances.

Technical Specifications :

Display : 3½ digits, 1999 counts, seven segment LED Display
Range : 0-1999μΩ/19.99mΩ/199.9mΩ /1999mΩ/19.99Ω/199.9Ω/1999Ω/19.99kΩ
Accuracy : ±0.5% ±2 digits

Measuring Range	Resolution	Test Current (DC Current)
1999 micro ohm	1 μΩ	1 A
19.99 milli ohm	0.01 mΩ	1 A
199.9 milli ohm	0.1 mΩ	1 A
1999 milli ohm	1 mΩ	0.1A (i.e. 100mA)
19.99 ohm	0.01 Ω	0.01A (i.e. 10mA)
199.9 ohm	0.1 Ω	0.001A (i.e. 1mA)
1999 ohm	1 Ω	0.0001A (i.e. 0.1mA)
19.99 kilo ohm	0.01 kΩ	0.00001A (i.e. 0.01mA)

Measurement Technique : 4 Terminals
Power : 230V, 50Hz, single phase
Size : 192mm (W) × 96mm (H) × 230mm (D) (approx)
Weight : 2.25 Kg (approx)
Accessories : 2 Pairs of Testing leads (Red & Black)

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CAMBRIDGE INSTRUMENTS & ENGG. Co.



A.C. HIGH VOLTAGE BREAKDOWN TEST SET

MODEL : CIE /5050A



SPECIAL FEATURES

- Robust Powder Coated Sheet Metal Case
- Elegant Look
- KV Meter to Read The Output Voltage
- Milliammeter to Show Leakage Current
- Speedy and Accurate Testing of Breakdown/Withstand Test of Electrical & Electronic Components, Materials, Equipments, Panel Board Etc.

INSTRUMENTS FOR ACCURACY & RELIABILITY



AC HIGH VOLTAGE BREAKDOWN TEST SET

MODEL : CIE/5050A

APPLICATION :

'CIE' A.C. High Voltage Breakdown Test Set is ideal for fast accurate & reliable testing of withstand/Breakdown test of electrical & electronic materials, components, equipments, panel boards, etc.

DESCRIPTION :

The test set is housed in a robust, sturdy and elegant looking powder coated M.S. Cabinet provided with handles. Attractive & Informative front Panel Consists of ● Mains 'ON'/'OFF' switch ● FUSE ● Mains 'ON' LED (Green) indicating Lamp ● H. T. 'ON' Green push button switch ● H. T. 'ON' LED (Red) indicating Lamp ● H. T. 'OFF' Red push button switch ● Variac to set κ V (with zero start inter locking) ● KV meter to read the output voltage ● Milliammeter to show leakage current ● Toggle switch to select mA range (Tripping range) ● One pair of H.V. probe along with cable ● Yellow push button switch for memory.

The H.V. Test set mainly consists of one H.V. Transformer and control circuit.

The H.V. Transformer used in the test is of cast resin type. The H.V. winding of the high voltage testing transformer is of graded insulation. This testing transformer is specially designed to withstand frequent sparkover or momentary short circuit conditions under which such testing transformers are supposed to operate.

CONTROL CIRCUIT :

The control circuit consists of the following :

- * One continuously variable auto transformer for smooth variation of output voltage.
- * Zero start interlocking is provided to ensure that the H.V. circuit cannot be energised unless the regulating transformer is at zero position or brought back to zero position.
- * Lamp to indicate L.T. on. * Lamp to indicate H.T. on
- * Memory device along with push button switch enables the test set meter to show the breakdown voltage by pressing the memory switch even after the high voltage circuit is tripped off.

PROTECTION :

Beside main switch and fuse in the input side, tripping mechanism is provided to protect the set from over currents rush while the sample under test fails the H.V. Test.

METER AS PER IS 1248 : 1983

- * AC moving iron type voltmeter, generally connected to the L.T. side and scaled in K.V.
- * AC moving iron type milliammeter to show the leakage current.

TECHNICAL SPECIFICATIONS :

Input Voltage	:	230V, $\pm 10\%$, 50Hz, 1 phase A.C.
Output Voltage	:	Continuously variable from (i) 0 to 3 KV AC for 3 KV Test Set (ii) 0 to 5 KV AC for 5 KV Test Set
Capacity	:	50 m A maximum in the H.V. Side
Tripping Current	:	25mA & 50mA (Toggle switch provided)
Duty Cycle	:	Intermittent i.e., 5 minutes 'ON' & 10 minutes 'OFF'.
MODE OF OPERATION	:	Manual

* Tripping current set point other than standard setting can be provided at extra cost.

Manufactured & Designed by :

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RELAY TEST SET

MODEL : RTS-5

Introduction :

This is a portable Testing Kit in one unit, suitable for testing protective relay, over current relay, earth fault relay, protective device, circuit breaker, tripping coils etc. The set is designed for both laboratory and field use.



TECHNICAL FEATURES :

Input : 230V, Single phase 50Hz AC.

Output : 1) Current Output (MAX. 400VA)

- a) 0-1 Amp. At 4 Volts/14 Volts
- b) 0-2 Amp. At 4 Volts/14 Volts
- c) 0-5 Amp. At 4 Volts/14 Volts
- d) 0-10 Amp. At 4 Volts/14 Volts
- e) 0-20 Amp. At 4 Volts/14 Volts
- f) 0-50 Amp. At 4 Volts
- g) 0-100 Amp. At 4 Volts
- h) 0-200 Amp. At 4 Volts (for 10 sec.)

Current output is continuously variable and the output is taken out through a multi-range C.T. The secondary is connected to an ammeter scaled in 0 to 100%.

OR

2) AC Voltage Output :
Continuously Variable 0-230V AC.
Capacity – 460VA (Max)

3) fixed AC Voltage Output :50V & 110V at 1A

4) Time Measurement :
0 – 9.999 sec. & 0 – 99.99 sec. in two ranges
Accuracy : 1%

CURRENT CIRCUIT

Loading Transformer ;

Double winding loading transformer of suitable burden to provide corresponding current output specified before.

Measuring CT :

Multi ratio wound primary current transformer

Ratio : 1A-5A-10A-20A-50A-100A-200A/5A

Variable Auto Transformer :

For smooth variation of current output at various ranges selected.

Tripping Circuit :

The current output will be cutoff in case of any overload or even if the relay under test is actuated.

Metering :

Digital Meter. Basic Range : 0 to 5A AC.

Scaled in 0 to 100% for all selected range. Accuracy : 1.5% of full range.

VOLTAGE CIRCUIT :

One rectangular pattern AC. Volt meter having range 0-300V AC.

Variable Auto Transformer :

For smooth variation of Voltage output AC 0-230V AC

Isolation transformer of suitable burden is provided for AC output.

NOTE : 0-230V AC & output current can't get simultaneously i.e. output available 0-230V AC or current which is selectable by "Volt/Current" selection switch.

Metering :

Digital Meter. Basic Range : 0 to 300V AC. Accuracy: 1.5% of full range.

Timer Circuit :

Dual range digital time interval meter

Ranges : i) **0-9.999 Sec.**

ii) **0-99.99 Sec.** in two switching range.

Selector for NO & NC contacts. Reset push button.

"Start" timer signal is potential free closing or opening of auxiliary contacts of the set contactors.

GENERAL ARRANGEMENT

The test kit will be in one unit. Meters, terminals, indicators, regulator knobs, timer display etc. will be fitted on the horizontal panel of the set which can be approached by opening the top lid. An input chord of 2 meters length with 3 pin plug will be provided. Loading transformer, measuring CT & protection circuit will be housed within the same unit.

Operation manual, work test report, guarantee certificate will be supplied along with the set.

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