



AC SPARKER MODEL AVS-300-10VE

FOR TESTING JACKET THICKNESS OF ELECTRICAL CABLES DURING PRODUCTION

| | |
|--------------------|--|
| INPUT | 120 V 60 Hz |
| OUTPUT | Adjustable 0-30 kV ac @ 10 mA |
| TRIP CURRENT | Adjustable 0.2-10 mA |
| METERING | One voltmeter 0-30 kV ac |
| SAFETY | Line-fault circuitry to ensure that sparker is grounded, one remote safety terminal (outlet & plug) and one 120 V terminal to light up a remote light to warn that high-voltage is on. |
| PLC CONNECTION | One remote terminal outlet to short 2 contacts at fault |
| SETTING CONTROLS | One switch for manual and automatic test, one timer adjustable 0.1-2 seconds to adjust automatic resetting after a fault occurs, one marked dial to adjust trip current from 0.2 to 10 mA and one dial to adjust output voltage from zero to 30 kV ac. |
| INDIDATORS | One fault light, one bell to go on for 2 seconds when fault occurs and one counter to indicate the number of faults that occurred. |
| OPERATING CONTROLS | One reset button, one high-voltage on button, one high-voltage off button, one fuse and one circuit-breaker. |
| LEADS | One high-voltage lead and one ground lead, both are 3 meters (9 ft.) long. |
| SIZE | 53W x 34D x 32H cm (21W x 13.5D x 12.5H inches). |
| WEIGHT | 20 kg (44 lb) |

This High-Voltage Test Set is ideal for testing control panels, small transformers, small electrical motors, Switchgear, Cables and similar products.



HIGH-VOLTAGE TEST SET

MODEL AV/DV-150VA-100/5V

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|---------------------|--|
| INPUT | 120 V 60 Hz |
| OUTPUT | Adjustable 0-15 kV ac & dc @ <u>100 mA</u> ac & 5 mA dc |
| TRANSFORMER | Rated 1kVA @ ac output. |
| VOLTMETER | One Voltmeter 0-5/15 kV ac and one Voltmeter 0-5/15 kV dc Accuracy: $\pm 2\%$ of full scale |
| AMMETER | One Ammeter 0-100 mA ac and one Ammeter 0-5 mA dc Accuracy: $\pm 2\%$ of full scale |
| TRIP CURRENT | Adjustable from 10 to 100 mA ac and 3 to 5 mA dc. |
| INDICATORS | 3 Lights (Power-on, high-voltage-on and fault) |
| CONTROL | One on/off switch, one fuse, two ac/dc meters-switches, one reset push-button, one high-voltage on push-button, one high-voltage off push-button, one high-voltage adjust knob, one safety interlock outlet c/w a plug to be connected to a limit switch if desired, one outlet c/w a plug to produce 120V for remote lamp to warn that high-voltage is on and a form C relay contacts to be used to turn warning lights or turn a machine on when high-voltage is on. |
| LEADS | One input line-cord, one ground lead and one high-voltage lead C/W clips. Each is 2 meters (6 ft) long. NOTE: There are two high-voltage outlets, one for testing with ac and one for testing with dc. Therefore, the high-voltage cable can be plugged to either ac output or dc output but not both outlets. |
| SIZE | 51W x 46D x 41H cm (20W x 18D x 16H inches) |
| WEIGHT | 55 kg (120 lb) |

ELECTROMETER



ELECTROMETER MODEL E-45244 is a portable battery-operated high-voltage voltmeter with very high input impedance for measuring high-voltage with very low current (Electrostatics)

| MODEL E-45244 | SPECIFICATIONS |
|-----------------|---|
| VOLTAGE RANGE | 2 Ranges: Low Range $\pm 0-600$ V dc and High Range $\pm 0-3000$ V dc |
| INPUT IMPEDANCE | ≥ 10 G Ω |
| OUTPUT DISPLAY | 4-digit DPM (LCD) |
| ACCURACY | $\pm 0.3\%$ of full scale |
| BATTERY TEST | Push-Button a lamp lights if batteries are OK |
| TEST LEADS | Two test leads each is 2 meters long (6ft) c/w a clip |
| BATTERY LIFE | Approximately 300 hours |
| SIZE | 22W x 23D x 9.5H cm (8.5W x 9D x 3.75H inches) |
| WEIGHT | 1.4 kg (3lb) |



CIRCUIT-BREAKER TEST SET

| MODEL CBTS-5-2000-V3 | SPECIFICATIONS |
|-------------------------|--|
| INPUT | 240 V 60 Hz single-phase |
| OUTPUT | 0-2000A @ 5V ac Compliance |
| DUTY CYCLE | 0-1500A 30 minutes ON & 30 minutes OFF, 1500-2000A 1 minute ON & 2 minutes OFF, 2000-2500A 5 seconds ON & 5 minutes OFF. |
| VOLTMETER | 0.5V ac Accuracy: $\pm 2\%$ of full scale |
| AMMETER | 0-2500A ac Accuracy: $\pm 2\%$ of full scale |
| CHRONOMETER | One digital timer to measure elapsed time of test from 0.02-9999.99 seconds. |
| CONTROLS | One main input circuit-breaker, one overload circuit-breaker, test on push-button, test off push-button, timer reset push-button and output current adjust knob. |
| INDICATORS | Main power-on light, control power-on light and test-on light. |
| COOLING | One small cooling fan. |
| CONNECTION | One input line-cord c/w a plug 3 meters (10 ft) long and two large output copper bars. |
| SIZE | 66W x 71D x 144H cm (26W x 28D x 57H inches) Mounted on casters for easy mobility. |
| WEIGHT | 205 kg (450 lb) |



AUTOMATIC SEQUENCING HEATER TEST SET MODEL HTS-5

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|-------------------------|--|
| INPUT VOLTAGE | 120 V 60 Hz @ 3 A |
| TEST No. 1 | Dielectric Strength Test Adjustable 0-3000 V ac. |
| TEST DURATION | One second |
| TRIP CURRENT | Adjustable 3 – 95 mA |
| TEST No. 2 | Insulation Resistance Measurement 0 – 99 MΩ @ 500 V dc |
| RESISTANCE LIMIT | Resistance limit is set by a Thumbwheel switch 1 – 99 MΩ |
| TEST No. 3 | Element resistance test set by a Thumbwheel switch 1 – 999.9Ω with Accuracy of ± 1% and Percent deviation setting of ± 15% |
| SEQUENCING | Test No. 1, Test No.2 and Test No. 3 are done automatically |
| SEQUENCE TIME | Total Time of a Sequence is approx. 3.5 seconds |
| INDICATORS | Ready light shows when Test Sequence can be started |
| INDICATORS | Lights indicate which Test is being done and fault on each test |
| INDICATORS | Accept and reject lights for complete test |
| METERS | H. V. Meter, Insulation resistance Meter and Element resistance Meter |
| CONTROL | Push-Button to start test, 3 switches (one for each test), power-on switch, fuse and High-Voltage adjust knob. |
| COUNTER | One counter, counts total number of tests |
| PROVISIONS | Remote start, remote reset and testing two elements alternately |
| SIZE | 50 W x 46 D x 38 H cm (20 W x 18 D x 15 H inches) |
| WEIGHT | 29 kg (64 lb) |

INSULATION-SHEET TESTER MODEL AV-200V-40-03



Model AV-200V-40-03 is a high-voltage test set designed especially for measuring dielectric strength on insulation sheets according to ASTM standard # D 149. The test set includes a test cage and all necessary equipment to run the test. The test cage is equipped with a Plexiglas door so that the operation of the test may be observed.

SPECIFICATIONS

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|--------------|--|
| INPUT | 120 V 60 Hz |
| OUTPUT | 0-20 kV ac @ 40 mA Peak |
| RATE OF RISE | Adjustable by a front-panel control: 100, 200, 500, & 1000 Volts per second |
| TRIP CURRENT | 2 ranges: 3.3 mA for output 0-2 kV and 10 mA for output 2-20 kV |
| METER | Digital voltmeter (memory type), reads to 19.9 kV ac. Accuracy: $\pm 2\%$ of full scale ± 2 digits |
| SAFETY | Safety interlock switch on the cage's door |
| SIZE | 53W x 44D x 76H cm (21W x 17,5D x 30H in) |
| WEIGHT | 50 kg (110 lb) |

This HIGH VOLTAGE TEST SET is designed as a cable fault locator for underground cables. It is c/w a receiver which locates the faulty area of the cable.



RECEIVER



HIGH VOLTAGE TEST SET
MODEL DV-50-OHEPC
CABLE FAULT LOCATOR

| | |
|-------------------------|---|
| INPUT | 120 V 60 Hz |
| OUTPUT | Adjustable: 0-5000 V dc @ 115 mA with shorted output leads. In continuous mode. |
| PULSED MODE | Approx. one second on and one second off |
| VOLTMETER | 0-5000 V dc Accuracy: $\pm 5\%$ of full scale |
| AMMETER | 0-120 mA dc Accuracy: $\pm 5\%$ of full scale |
| INDICATORS LAMPS | Power-on, Continuous output, Pulsed output and a buzzer c/w a lamp to go on when ground rod is not dug in the ground to make ground contact |
| CONTROL | One input fuse, one input circuit-breaker, one voltage adjust knob and one switch for continuous or pulsed output |
| LEADS | One input line-cord, one ground lead and one high-voltage lead c/w clips |
| SIZE | 58W x 48D x 33H cm (23W x 19D x 13H inches) |
| WEIGHT | 25 kg (50 lb) |



**VOLTMETER & AMMETER
MODEL MASTER**

VOLTAGE: Single-Range 0-3 kV ac
CURRENT: Dual-Range 0-10/100 mA ac
Accuracy: $\pm 1\%$ of full scale

RELAY TEST SET



Relay Test Set Model RT-2.4-A-B is used for testing relays and small circuit-breakers.

| MODEL RT-2.4-A-B | SPECIFICATIONS |
|------------------|--|
| INPUT | 240V 60 Hz |
| OUTPUT No. 1 | Adjustable 0-10V ac @ 200A and 0-22V ac @ 100A (one output at a time) c/w one ammeter dual-range 0-20/200A |
| OUTPUT No. 2 | 0-120V ac @ 10A and 0-240V ac @ 5A (one output at a time) c/w one voltmeter and one ammeter |
| OUTPUT No. 3 | 0-150V dc @ 0.5A and 0-300V dc @ 0.25A (one output at a time) c/w one voltmeter and one ammeter |
| TIMER | One digital timer to measure elapsed time of test from 0.02 seconds to 9999.99 seconds |
| LEADS | Input and output leads 2 meters long are included |
| SIZE | Approximately 48D x 55W x 45H cm |
| WEIGHT | 90 kg |

CAPACITANCE BRIDGE



Model TCB-108 Capacitance Bridge is a general-purpose bridge for measurement of capacitors, capacitance of transformers and dielectric material. It comprises a transformer-type bridge operating from an internal 108 Hz generator (for accurate measurement at 60 Hz) with digital readout of capacitance from 1 pF to 99.999 μ F over four ranges, and digital readout of D (dissipation factor) in percentage from 0-50%. A shield terminal is provided to which a guard can be connected. A metered null detector is used consisting of solid-state amplifier, with a semi-logarithmic response for ease of setting and a readout on a panel meter. Two & three terminal measurements can be made, guard circuit provided.

SPECIFICATIONS

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|----------------------------|--|
| INPUT | 120 V 60 Hz |
| TEST FREQUENCY | 108 Hz |
| CAPACITANCE RANGE | 1 pF to 99.999 μ F (in four ranges) |
| ACCURACY | ≤ 100 pF ± 1 digit, 100-500 pF $\pm 1\%$, 500 pF to 1 μ F $\pm 0.5\%$ and ≥ 1 μ F $\pm 1\%$. |
| DISSIPATION FACTOR (D) | 0-50% (at 108 Hz) (in 6 ranges) |
| NULL DETECTOR | Tuned; semi-logarithmic response |
| INTERNAL STANDARD | 2 μ F |
| VOLTAGE APPLIED TO UNKNOWN | 35 V to range X1, 3.5 V to range X10, 350 mV to range X100 and 35 mV to range X1000 |
| PORTABILITY | C/W a carrying handle and a slip-hinge cover |
| SIZE | 43W x 30D x 18H cm (17W x 12D x 7H in) |
| WEIGHT | 10.5 kg (23 lb) |

TRANSFORMER RATIOMETER MODEL TR-1C-01



Model TR-1C-01 Transformer Ratiometer is a precision test set with an easy-to-read in-line digital readout from 0.00001 to 1.00000, Suitable for testing all types of single and three-phase power distribution, potential and current transformers. Accuracy is $\pm 0.005\%$ and reproducibility is $\pm 0.002\%$, or better. Ideal for testing large oil filled transformers on monthly basis to determine whether there are any short winding-turns or some changes in the insulation due to deterioration in the oil inside the transformer. Also useful for transformer manufacturers because it can find an error of one turn in 10,000.

SPECIFICATIONS

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|---|---|
| INPUT | 120 V 60 Hz |
| URNS RATIO FORMULA | $\% \text{ ratio} = (\text{low voltage} / \text{high voltage}) \times 100$ |
| RATIO MEASURING RANGE | 00.001% to 100.000% |
| TEST POTENTIALS | Ratio test-voltage is adjustable from zero to 120V ac up to 2A. Current Transformer ratio test is adjustable 0-36V ac up to 8A. for checking ratio and core-saturation. |
| ACCURACY OF RATIO | Ratio-measurement is $\pm 0.005\%$ of full scale |
| RESOLUTION | 0.001% |
| REPRODUCIBILITY | $\pm 0.002\%$ |
| TRANSFORMER POLARITY INDICATION | Forward or reversed – direct reading |
| PHASE-ANGLE REFERENCE Number (PARN) RANGE | 2.5 lead to 2.5 lag |
| RESOLUTION OF PARN | 0.05 |
| METERS | One analog voltmeter 0-120 V ac, one analog ammeter 0-2/10 A ac Accuracy: $\pm 2\%$ of full scale and Null – bipolar DPM |
| SIZE | 44W x 31D x 24H cm (17W x 12D x 9.5 in) |
| WEIGHT | 18 kg (40 lb) |