ELECTROLAB

THE BACK TO BASICS TRAINER

Features

At the inception of the training program, electricity is regarded as a magical science where nothing moves and yet everything happens. At this stage the student is more concerned with the components making up the circuit rather than the circuit itself

Components are large and easily identified; everyday items are used when possible, a resistor has substance not like a little tube with thousands of ohms of resistance, a pushbutton looks like it says.

Expense has not been spared: five meters have been provided instead of single multimeter, a galvanometer shows what happens when a magnet moves inside a coil and if you heat the thermocouple current flow can be noted.

The cost to performance ratio has been enhanced by the multifunctional choice of components: E.g. The electromagnet can be used to demonstrate Electromagnetism, Transformer action, Lenz's Law, Motor action etc.

Specifications:

Power Supply
AC 3-6-12Volts 10A 0-1A DC
DC 3-6-12Volts 10A
AC 30V 3A
Input & output protection
Input 220/230V 50Hz

Meters
0-1A DC
0-5A DC
0-15VAC
0-15V DC
250-0-250uADC

Components

1 Helix
1 AL Ring
1 Capacitor board
1 NO push-button
1 NC push-button
1 DC Relay
1 Armature
1 Rotor
4 Brushes
1 Motor support
1 Iron Filings
3 Globe holders
3 globes
1 set hook up leads
2 Diodes
2 Battery holders
1 Thermocouple
1 Switch dpdt
1 Switch spst
1 Knife switch
1 Resistor 6 Ω
1 Resistor 9Ω
1 Resistor 12 Ω tapped 6-6Ω
2 Bar Magnets
1 Horseshoe magnet
1 Plastic Former
1 Multitap transformer
1 AC/DC Buzzer
1 set magnetic materials
1 set non magnetic materials
1 Base support
1 Iron Rod
1 Fuse holder
1 Demountable Transformer
1 coil 100 turns
1 coil 200 turns
2 Crocodile clips
1 Compass
1 LH Rule demonstrator
1 Demonstration meter
1 Experiment manual

Educational Content

1. Electricity through heat
2. Electricity by magnets
3. Cells
4. AC and DC Power
5. Loads in series and parallel
6. Voltage
7. Current
8. Ohms law
9. Power
10. Heating effect & the fuse
11. Magnetism
12. Magnetic field
13. Magnetic properties
14. Magnetic Strength
15. Field around a conductor
16. Magnetic field about an helix
17. Electromagnetic strength
18. Electromagnetic effect and the coil
19. The relay
20. Meter Movement
21. Voltmeters & Ammeters
22. Meters in circuit
23. Short circuits
24. Resistors in Parallel
25. Kirchoff's law
26.
27. Applying Ohms law
28. Lenz's Law
29. Self Inductance
30. Mutual Inductance
31. Transformer Action
32. Voltage/turns ratios
33. Reluctance
34. Capacitors in series
35. Capacitors in Parallel
36. Charging of Capacitors in series
37. Charging of capacitors in Parallel
38. Discharging of capacitors
39. RC Circuits
40. The diode
41. The diode rectifier
42. The AND and OR truth table
43. The exclusive OR
44. Motor Action
45. Motors and Generators
46. The DC Generator
47. The Series Motor
48. The Shunt Motor
49. Reversal of Rotation
50. The AC Generator
51. The universal Motor.