

BT-1001/BE

BASIC ELECTRICITY

CONFIGURATION

The unit is composed of no. 9 MODULAR BLOCKS dedicated to:

- **BE-01:** Electric circuits
- **BE-02:** Resistors
- **BE-03:** Wheatstone bridge
- **BE-04:** Variable resistors
- **BE-05:** Capacitors, inductors and transformers
- **BE-06:** Diodes and filters
- **BE-07:** Motors and Generators
- **BE-08:** Variable frequency and voltage AC P.S.
- **BE-09:** Dc power supply (batteries)
- N. 1 Ledger-shaped support suited to hold 4 blocks (2 ranks)
- N. 1 Set of cables with multi-pins standard plugs ($\varnothing 2$ mm)
- N. 1 multi range AC-DC tester
- Accessories
- Student manual with 48 proposed exercises
- Case container
- Volume: 55 x 55 x 20 h cm
- Weight: approx. 25 Kg

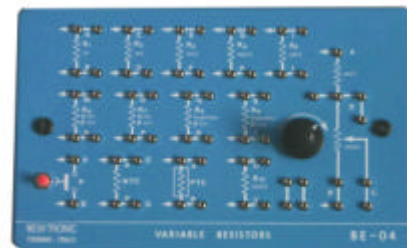
FEATURES

The common features of the modular blocks are the following:

- components mounted on printed circuit board (shielded)
- standard socket terminals ($\varnothing 2$ mm) for measurements and connections
- silk-screened synoptical panel
- unbreakable plastic case
- magnetic fastening device to the circuit former

TOPIC COVERAGE

1. The electric circuit
2. Current magnitude and its measurement
3. Voltage and its measurement
4. Electric resistance
5. Series and parallel loads
6. Switching
7. Lamp control from several points
8. OHM's law - The characteristics $I = f(V)$
9. Measurements of resistance (volt-ampereometric method)
10. The Wheatstone Bridge
11. The resistance of a conductor - The resistivity -
12. The variation of a conductor resistance with the temperature



13. N.T.C. and P.T.C. characteristics
14. Resistances in series
15. Resistances in parallel
16. Electrical networks
17. Internal resistance of an ammeter
18. Determination of the internal resistance of a voltmeter
19. Variable resistors and potentiometer
20. Ohm's law for a generator
21. Voltage generator and current generator
22. Electric power and its measurement
23. Charge and discharge of a capacitor
24. Magnetic effect of the electric current
25. Magnetic field produced by the current passing in a coil
26. The induced E.M.F.
27. The alternating current
28. The instantaneous values of the alternating current
29. The effective (R.M.S.) values
30. The resistive bipole
31. The resistive-inductive bipole
32. The impedance variation according to the frequency variation
33. Determination of "R" and "L" in a resistive inductive bipole
34. The capacitive bipole
35. The capacitive reactance variation
36. The resonance curve for a RLC series circuit
37. The capacitor in parallel to a RL bipole
38. The transformer
39. The characteristics of a diode
40. The Zener diode
41. The controlled diode
42. Half-wave rectification
43. The Graetz bridge
44. Capacitive smoothing filter -
45. The DC electric motor (no load operation)
46. The DC electric motor (load operation)
47. Dynamo under no load operation
48. Dynamo under load - operation

