

model: **Electro Tech T&A-GTBD1500**

Modern Electro technology Training & Assessment Equipment

1. Feature

- 1) The electromechanical structure tester can be directly combined and disassembled to easily understand the structure and characteristics of various motors and generators.
- 2) Training on basic principles and structural features of electric machines.
- 3) Operation principle and characteristic experiment can be done by using various modules.
- 4) Built in function to protect the circuit during non operation.
- 5) Each module of the electromechanical structure tester is used as detachable.
- 6) Easy to understand basic principles and structural characteristics of electromechanical structure test equipment.
- 7) Easy experiment and understanding structure using graphic board.
- 8) Operation and load experiments use single phase and three phase structures.

2. System configuration



3. Spec

- 1) Field resistor module
 - (1) It is connected to the field winding of the DC motor and used as a regulating resistor. The generator can control the generated voltage, and the motor controls the speed.
 - (2) Variable resistance: 100W, 100
 - (3) Connection terminal (4mm insulated type)
- 2) Direct / AC load module
 - (1) Used as a single phase load in series / AC.
 - (2) The load uses lamps and bulbs of 3V, 6.3V, 12V depending on the capacity of the voltage.
 - Lamp socket (6.3T socket)
 - Lamp used: 3V, 6.3V, 12V
 - Connection terminal black, red (4mm insulated type)
 - Connection terminal yellow (4mm insulation type)
- 3) 3 phase load module
 - (1) Used as 3 phase load when experimenting with 3 phase power.
 - (2) Three phase loads are available in two types, Y and Δ .
 - Lamp socket (6.3T socket)
 - Lamp used: 3V, 6.3V, 12V
 - Connection terminal black (4mm insulated type)
 - Connector yellow (4mm insulation type)

4) R, L, C load module

- (1) Modules designed for use with R, L and C loads.
- (2) Each switch is equipped with a toggle switch so that loads of various values can be changed by simply operating the switch while the circuit is connected.
 - toggle switch
 - Resistance (20W 10 , 20W 30 , 20W 50)
 - Coil (0.2H, 0.4H, 0.8H)
 - Capacitor (220V 8.5uF)
 - Connection terminal black (4mm insulated type)

5) Power supply module

- (1) It receives external 220V power and passes through the internal transformer to get the desired AC voltage.
- (2) This voltage can be used to supply DC power via a bridge diode.
- (3) By using tap on the secondary side of transformer, various AC voltages such as 6.3V, 12V, 24V, 50V can be obtained.
- (4) Various DC voltages can be supplied and used for generator and motor experiments through diodes.
 - AC Voltmeter (0 ~ 80V)
 - DC voltmeter (0 ~ 80V)
 - Power switch: 1ea
 - Connection terminal black (4mm insulated type)
 - Connection terminal red (4mm insulated type)

6) AC voltage / ammeter module

- (1) Used to measure AC current and voltage.
- (2) AC voltage can be measured in units of 5V, 10V, 50V,
- (3) AC current can be measured in units of 0.1 A, 1 A, 2.5 A, 5 A.
 - AC voltmeter (5V, 10V, 50V)
 - AC ammeter (0.1 A, 1 A, 2.5 A, 5 A)
 - Connection terminal black (4mm insulated type)

7) DC voltage / ammeter module

- (1) Used to measure DC current and voltage.
- (2) DC voltage can be measured in units of 5V, 10V and 50V.
- (3) DC current can be measured in units of 0.1 A, 1 A, 2.5 A, 5 A
 - DC voltmeter (5V, 10V, 50V)
 - DC ammeter (0.1A, 1A, 2.5A, 5A)
 - Connection terminal black (4mm insulated type)
 - Connection terminal red (4mm insulated type)

8) DC galvanometer module

- (1) Used to detect minute DC currents.
- (2) Measures from -5mA to +5mA.
- (3) It is possible to measure from -500mA to +500mA by changing the range.
 - DC galvanometer (-5mA ~ +5mV / -500mA ~ +500mA)
 - Rotary switch (3 steps)
 - Connection terminal black (4mm insulated type)
 - Connection terminal red (4mm insulated type)

9) yoke frame module

- (1) Used to make the basic structure of generators and electric motors.
- (2) Produces generators and motors of various structures such as direct current generators, single and three phase alternators, direct current motors, direct current lottery motors, squirrel cage induction motors, rebound motors, phase motors, and shading coil motors.
 - yoke frame (190 x 18)
 - Board stand (12 x 68)
 - Connection terminal black (4mm insulated type)

10) Drive motor module

- (1) In the generator experiment, a device that rotates the rotor to generate power in place of energy sources of various generators,
- (2) The belt is engaged with the motor pulley and the rotor of the generator to generate power.
- (3) The direction of rotation can be changed by the operation of the cam switch, and the amount of power generated by controlling the rotation speed of the motor using the speed controller.
 - power switch
 - Cam switch (three steps of two)
 - Motor Pulley (20 x 30 x 85)
 - Motor (Single Phase 220V 6W)
 - Speed controller (analog type)
 - RPM meter

11) Polar Number Switcher Module

- (1) When operating with Y and , change the Y / with cam switch.
 - Cam switch (three steps of five)
 - Connection terminal black (4mm insulated type)