

# model: **Electrical Installation & Maintenance-GTBD1600**

## **Electrical Installation and Maintenance Training Evaluation Equipment**

### **1. Feature**

- 1) This equipment is able to perform the electric installation and maintenance related training smoothly and is compatible to practice applied control.
- 2) The material used in this equipment is made of corrosion resistant material. Electric controllers and modules use thorough insulation and insulation box for electrical safety.
- 3) All components or modules of the equipment are equipped with clamping devices on the training board and panel that can be easily attached and detached in the same direction as the circuit diagram (vertical and horizontal).
- 4) The storage of parts is separately configured by slide type to effectively store various electric modules.
- 5) The operating voltage of the module should be AC220V, DC 24V, and the DC circuit AC circuit is designed to ensure that all design and practice can be done safely.
- 6) The working table has separate wheels for horizontal movement and fixing, and the horizontal support device is separate, and the module storage drawer is detachable.
- 7) Possible to drive various modules using input / output contacts.
- 8) All conduits and modules are made of transparent PVC.

### **2. System configuration**



### **3. Spec**

- 1) Training Table (Double Sided)
  - (1) Material: Aluminum
  - (2) Firmly fixed table design
  - (3) Short circuit protection and grounding configuration for external power
  - (4) With movable wheel (Lockable)
  - (5) 1 part locker
  - (6) Profile working board\_1
  - (7) Slot thickness: 25mm
  - (8) Profile Size: 800 (L) \* 750 (W) mm
- 2) One touch piping PVC (I type)
  - (1) Size: 200mm (inside and outside)
  - (2) Material: Transparent PVC
  - (3) Nominal: 18 (1/2 ) or more
  - (4) Plate fixing clamp
  - (5) PVC Type I Fixed Bracket

- 3) One touch PVC (L type) 1)
  - (1) Size: 1/2
  - (2) Material: Transparent PVC
  - (3) Title: 18 and above
- 4) One touch PVC (I type) 1)
  - (1) Size: 1/2
  - (2) Material: Transparent PVC
  - (3) Title: 18 and above
- 5) One touch PVC (T type) 1)
  - (1) Size: 1/2
  - (2) Material: Transparent PVC
  - (3) Title: 18 and above
- 6) Earth leakage breaker module
  - (1) Rated Current: 10A
  - (2) Overcurrent trip method: Thermal
  - (3) Rated voltage: AC220V / 60Hz
  - (4) Plate fixing clamp
- 7) Sensor light
  - (1) LED 15W High Brightness
  - (2) Day and night, always
  - (3) Only used if motion is continuously detected within the sensing distance
  - (4) Plate fixing clamp
  - (5) Material: Special Acrylic
- 8) Purchase
  - (1) LED 15W High Brightness
  - (2) Day and night, always
  - (3) Material: Special Acrylic
  - (4) Plate fixing clamp
- 9) Exposure lights
  - (1) LED 5W high brightness
  - (2) Day and night, always
  - (3) Material: Special Acrylic
  - (4) Plate fixing clamp
- 10) Flush type switch module\_2 set / set
  - (1) Type: with 3
  - (2) Rating: AC250V / 15A
  - (3) Material: PBT / P.C
  - (4) Plate fixing clamp
  - (5) Front: Transparent Case
  - (6) Two stage hinge
  - (7) With PVC Notch Switch Box
- 11) Outlet module
  - (1) Front: Transparent Case
  - (2) Two stage hinge
  - (3) Power source: 220V, 5W
  - (4) With socket
  - (5) Plate fixing clamp
- 12) Outlet Box
  - (1) Material: Octagonal Iron
  - (2) Plate fixing clamp
- 13) Control panel: front open / close type, symbol and name printing
  - (1) Toggle switch
    - Contact capacity: AC250V / 6A
    - Contacts: 1a1b
  - (2) Pushbutton switch
    - Color: Green, Yellow, Red, Blue
    - Contacts: 1a1b
  - (3) Select switch
    - Type: 2 speed manual single lever
  - (4) Select switch
    - Type: 3 speed manual single lever
  - (5) AC lamp
    - Color: Green, Yellow, Red, Blue
    - Drive voltage: AC220V
  - (6) Fuse holder module

- 14) AC relay
  - (1) Power source: AC220V
  - (2) Contact: 4C
  - (3) Operating time: 25ms or less
  - (4) Insulation Resistance: 100m
  - (5) Life span: 500,000 times or more (220VAC, 10A), mechanical: more than 50 million times
- 15) SMPS
  - (1) DIN Rail Mounting Adapter Unit
  - (2) Input: AC220V
  - (3) Output: DC24V, 1.25A or more
  - (4) Fixed type: Chanel fixed type
  - (5) Provides separate terminal block to prevent damage to own terminal block
- 16) 3-Phase Motor
  - (1) Operating Power: 3 AC 220V / 25W
  - (2) Y- Starting
  - (3) Diagram of motor wiring (Y- ) on the front panel
  - (4) Separately manufactured with a Beck type base for educational safety.
  - (5) Rubber Foot Attachment Type
- 17) Programmable Logic Controller Module
  - (1) In order to prevent damage to the terminal block of the PLC main body, it is composed of a separate terminal terminal block.
  - (2) Manufactured as a clamp type module to attach and detach the working board.
  - (3) Operation method: Repeat, fixed cycle, interrupt operation, fixed cycle scan
  - (4) I / O control method: Scan synchronous batch processing method (refresh method), immediate input and output by command (direct method)
  - (5) Program language: ladder diagram (LD), instruction list (IL)
  - (6) Operation Processing: 83us / Step
  - (7) Program capacity: 15k Steps
  - (8) RUN mode: RUN, STOP, DEBUG
  - (9) Program port: RS 232C (1CH), USB (1CH)
  - (10) Input unit
    - Input score: 16 points
    - Insulation method: photo coupler insulation
  - (11) Output unit
    - Output score: 16 points
    - Insulation method: relay insulation
    - Rated Load Voltage / Current: DC24V 2A (Resistance Load) / AC220V 2A (COS = 1), 5A / COM
    - Rated Input Power: AC100 ~ 240V
- 18) Circuit breaker: 1 piece / set
  - (1) Rated voltage: 3 phase AC250V (50 / 60Hz)
  - (2) Standard rated current (A): 15A
  - (3) Rated Intensity Current: 30mA
  - (4) Opening and closing life: more than 10,000 times
  - (5) Ambient temperature: 10 ~ 60
- 19) Electronic Over Current Relay (EOCR): 1 piece / set
  - (1) Built in CT: 3CT (Tunnel Type)
  - (2) Current adjustment range: 0.3 ~ 1.5A
  - (3) Time setting: 0 ~ 30sec
  - (4) Operating power: AC 100 ~ 260V / 60Hz
- 20) Magnet switch (MC): 2 / set
  - (1) Contact structure: 5a2b
  - (2) Coil Voltage / Current: AC 220V 60Hz / 41mA
  - (3) Rated contact capacity: AC 240V / 4.5kW / 18A
  - (4) Auxiliary contact rating: AC 240V / 3A
- 21) AC Timer Module: 1 pc / set
  - (1) TIME: On Delay
  - (2) Voltage: AC110 / 220 (50 / 60Hz)
  - (3) Output contact capacity: AC 220V / 1.5A
  - (4) Power contact, instantaneous contact, temporary contact
  - (5) With dedicated socket
- 22) DC relay: 1 / set
  - (1) Power supply: DC24V / 60mA
  - (2) Contact: 4C
  - (3) Rated contact capacity: DC24V, 7A
  - (4) Life span: 500,000 times or more (220VAC, 10A), mechanical: more than 50 million times
- 23) Terminal Block Module: 2pcs / set
  - (1) Clamp type module should be manufactured to be detachable from working board.
    - Structure: 1 stage 10P (15A)