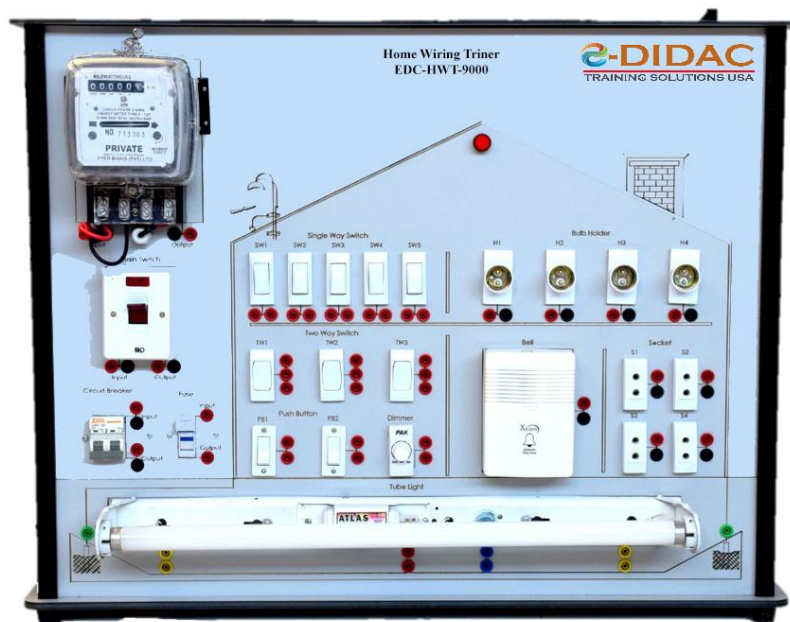


Home Wiring Trainer (EDC-HWT-9000)

EXPERIMENTAL DATA:

- Understand the purpose and connection of switches, sockets, pilot lights, and circuit breakers.
- Wiring and testing of a basic lighting circuit using a single-pole switch and one lamp holder.
- Control of one lamp from two different locations simulating hallway or staircase lighting.
- Simulation of a doorbell circuit using a 24V bell and pushbutton; understanding low-voltage applications.
- Practice in connecting and testing standard outlets for powering appliances.
- Demonstrate the working and safety benefits of GFCI in case of ground faults or leakage current.
- Installation and testing of pilot lamps for both 24V and 220V circuits as visual indicators of system status.
- Wiring of circuits through a 4-circuit breaker panel and testing protection under overload conditions.
- Demonstration of safe grounding practices using a 3-wire 220VAC power cord.
- Connection and testing of different load conditions using the provided lamp sockets.
- Simulation of common wiring faults and developing fault diagnosis and repair skills.
- Use of multimeters to analyze voltage drops, current flow, and continuity in various parts of the trainer.
- Basic assessment of power usage using connected lamps and sockets to simulate real-time load conditions.



DESCRIPTION:

The Home Wiring Trainer (EDC-HWT-9000) is an advanced educational platform designed to provide hands-on training in residential and commercial electrical wiring systems. This system replicates real-world home electrical environments, enabling learners to safely explore circuit installation, switching systems, socket wiring, and protection mechanisms. It is ideal for vocational institutes, polytechnics, technical schools, and industrial training centers focused on basic and intermediate electrical technology. The system supports practice in energy distribution, lighting, safety systems, and control circuits using industry-standard components.

SPECIFICATIONS:

- Operates on 220VAC mains supply
- Equipped with a low-voltage pushbutton switch for doorbell circuit practice
- Includes pilot lamps to indicate active low-voltage (24V) and high-voltage (220V) status
- Built-in low-voltage doorbell for signal transmission experiments
- Two standard duplex sockets for wiring and testing outlet connections
- One GFCI (Ground Fault Circuit Interrupter) duplex socket for safety training
- Two lamp holders provided for lighting circuit experiments
- Two three-way toggle switches to demonstrate two-point lighting control systems
- Integrated 4-circuit residential-style breaker panel for distribution and protection practice
- Includes a grounded 220VAC power cord with three-wire connection
- Compact tabletop trainer suitable for classroom and lab-based applications.

DIMENSIONS AND WEIGHT:

- Overall Dimensions: 700 mm (W) x 450 mm (H) x 300 mm (D)
- Weight: Approximately 12–14 kg

SCOPE OF DELIVERY:

- 1 x Home Wiring Trainer panel unit (EDC-HWT-9000)
- 1 x Power cord (3-wire, grounded)
- 1 x Set of patch cords for secure interconnections
- 1 x Integrated pilot lights, switches, sockets, bell, and breaker panel
- 1 x Detailed user manual with connection diagrams and training experiments

TECHNICAL DATA:

- Power Input: 220VAC $\pm 10\%$, compatible with standard power sources in most regions
- Doorbell System: Low-voltage pushbutton and bell provide real-world simulation of signaling systems
- Pilot Indicators: Separate 24V and 220V pilot lights to monitor power presence and status
- Socket Modules: Two standard and one GFCI duplex outlet to understand everyday plug-and-socket use and safety features
- Lighting Components: Two lamp sockets to connect and test different light circuit configurations
- Switching Mechanism: Three-way toggle switches enable practical exercises in hallway or stairwell lighting circuits
- Circuit Protection: Residential 4-circuit breaker panel helps learners understand electrical safety and circuit isolation
- Grounding Setup: Comes with a grounded power cord to ensure safe operation and compliance with electrical standards
- Panel Construction: Built with a durable aluminum frame and Bakelite front panel for long-term use
- Connection Interface: Fitted with 4mm shock-proof banana sockets for easy and safe wiring using patch cords

