



**46638 Over / Under Voltage Relay Trainer** explores the fundamental concepts of AC electrical systems and protection relays. Learners will see why transformer protection is needed and how protective devices are used for protection in industrial, commercial, agricultural, and residential applications.

**Over / Under Voltage Relay** includes a bench top-mount workstation, DOL Starter, Multifunction meters, Current and elapsed counter panel, Protective relay and much more! Learners will use these components to study topics such as DOL Starter Voltage measurement, transformer protection, loads voltage and current measurement and troubleshooting. This system uses industrial quality components for durability to stand up to frequent use and to help learners become better prepared for what they will encounter on the job.

### Experiments

01. To study the working of DOL starter
02. To study the working of variac
03. To study the working of under voltage protection relay in definite time mode
04. To study the working of under voltage protection relay in inverse definite minimum time (IDMT) mode
05. To study the working of over voltage protection relay in definite time mode
06. To study the working of over voltage protection relay in inverse definite minimum time (IDMT) mode

### Salient Features

- Facilitates easy and safe wiring by students due to use of 4mm sturdy Shrouded banana patch cords and shrouded socket arrangements for high voltage circuits
- Each panel is made of non-breakable tough acrylic plate and colorful screw-less overlays showing circuits diagrams & its connection tag numbers for easy understanding and connection
- Numerous possibilities of testing of electrical circuits.

### Provide Panels

01. Aluminum Trainer Rack
02. Input 3 Phase DOL Starter Panel
03. Multifunction Meter (Single & Three Phase AC)
04. Over Current & Elapsed Time measurement Panel
05. Over / Under Voltage Relay Panel
06. Protection Relay Panel
07. Three Phase Variac input 415V, Output 0-470V at 10Amp

Note: Specifications are subject to change.

### **Tesca Technologies Pvt. Ltd.**

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### **ALUMINUM TRAINER RACK**

Aluminum trainer rack made up aluminium profile size 40×40mm, foldable and light in weight 10 panel setup can be interchange conveniently to perform experiments. Dimension Length 1100 × Height 1000×Depth 350mm.

### **INPUT 3 PHASE DOL STARTER PANEL**

1. MCB 4 Pole 4Amp.
2. Pilot lamps for indication R, Y, B phases
3. Contractor 9Amp, 230 VAC
4. Push button start, stop & emergency switch
5. Shrouded safety socket 4mm for double output

### **MULTIFUNCTION METER PANEL**

1. Bidirectional Multifunction Meter
2. 3 Phase 4 wire, 440V, Current 5A
3. LED display
4. Aux supply 230V, 45-65Hz, 5W
5. To measure parameters ie Voltage Current., KVA, Frequency, Power factor, Active Power (W), Reactive Power (vary) etc.
6. Shrouded socket 08Nos. etc.

### **OVER CURRENT & ELAPSED TIMER PANEL**

1. Ac ammeter, 0-20amp
2. Elapsed time counter (range 999.9 sec)
3. Relay , 2 pole, 230vac coil

### **OVER / UNDER VOLTAGE RELAY PANEL**

1. All connection of relay are brought out on this panel
2. NO & 2 NC & 2 common terminals,
3. 3 Phase supply input terminal for protection relay

### **PROTECTION RELAY PANEL**

1. All connection of relay are brought out on this panel
2. NO & 2 NC & 2 common terminals,
3. 3 Phase supply input terminal for protection relay

### **THREE PHASE VARIAC**

1. Input voltage-0-415 VAC/ 10Amp
2. Output voltage- 0-415 VAC/ 10Amp & 0-470 VAC/10Amp

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