



SALIENT FEATURES

- ◆ Facilitates over current, under/over voltage, under/over frequency, earth fault, negative sequence protections & LBB function protections. differential protection of transformer or using differential relay & characterization of different relay.
- ◆ Above trainer has built in requisite relay testing kit typically consisting of voltage injector, current injector, elapsed time counter (1msec. resolution), trip relay logic etc.
- ◆ The Trainer needs a few set of associated relay testing panels (Approx. 5-15 nos. typically) which are mounted in a light weight sturdy

Technical Specifications

- ◆ **Input 3 phase DOL Starter panel (EMT1)**
 - 4 pole MCB of 415 V/2A.
 - DOL 9A Contactor with 230V / 50 Hz / 11VA Coil.
 - Bimetallic thermal O/L relay with range 1.4A - 2.3A, also work as circuit breaker.
 - R-Y-B Input Indicators.
 - Green SBS5 socket is provided for extend earth.
- ◆ **1 phase AC Input supply panel (EMT16A)**
 - 1ph. MCBs of 4A/1.6A - 1no each..
 - Bulb Load.
- ◆ **Variable voltage & current injector panel (EMT23A) x 3 Nos.**
 - Consist of 1 phase dimmer 230VAC/1A
 - Short circuit transformer with primary 230VAC/1A, secondary 0-2-8V/12A taps.
- ◆ **3 Phase Power cum Energy meter panel (EMT 34)**
 - Multifunction
 - 3 phase 3/4 wire, 415VAC, CT Input 5A
 - LCD/LED display, Aux. supply 230V, 45-65Hz, 5W,
 - V, I, Hz, Pf, KVA, KW, KWH.
 - Modbus RTU RS 485 (optional)
 - Green SBS5 socket is provided for extend earth.
- ◆ **Over current & elapsed time measurement panel (EMT 39) x 3 Nos.**
 - Consists of AC ammeter of 20A
 - Elapsed time counter range 999.001 sec, resolution 1 msec.
- ◆ **FWD-OFF-REV, Switch Panel (EMT 4A)**
 - FWD/REV, 3 pole 3 way switch with center OFF, 6A/440V.
- ◆ **Variable voltage panel (EMT23B) x 3 Nos.**
 - Consist of 1 phase dimmer Input 230VAC/1A, Output 270VAC/1A.
- ◆ **CT panel (EMT48)**
 - Consist of 5/5Amp. CT 6 Nos.
 - Primary side of CTs are brought on 3 x 2 x 2 SBS-5 sockets.

Note: Specifications are subject to change.

aluminum profile flat demo panel system. Do not need any separate testing kit.

- ◆ 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 has ABS molded plastic sturdy enclosure, and colorful screwless overlays showing circuit diagrams & its connection tag numbers for easy understanding and connection.
 - ◆ LBB function of feeder relay is demonstrated.
 - ◆ Useful for Post Graduate projects and research purpose.
 - ◆ Set of Instructor Guide & Student Workbook
 - Secondary side of CTs are Star connectd in group of 3 & brought out on 4 x 2 SBS-5 sockets.
 - ◆ **415/110VAC, Star/Star Step Down Transformer Panel (EMT54)**
 - This panel consisting of 415/110VAC, 50VA, Star/Star Step Down Transformer Panel
 - All the connections of transformer primary and secondary are brought on SBS5 on the top of panel.
 - ◆ **Feeder Manager Relay Panel (EMT55)**
- Consists of:**
- Numerical Type Feeder Protection Relay, current rating 1A/5A for protection of feeder.
 - USB port for PC communication, relay setting with software on CD.

List of Experiments:

- 1) To perform experiment on IDMT over current protection.
- 2) To perform experiment on under/over voltage protection.
- 3) To perform experiment on under/over frequency protection.
- 4) To perform experiment on earth fault protection.
- 5) To perform experiment on negative sequence over current protection.
- 6) To perform experiment on zero sequence over voltage protection.
- 7) To perform experiment on negative sequence over voltage protection.
- 8) To perform experiment local breaker backup (LBB) function protection

- ◆ **Mechanical Dimension (mm) / Weight of Trainer :**
1165(L) x 300 (W) x 990 (H)
- **Net Wt.: 40 kg. Gross Wt.: 51 kg.**