

3HP DC MOTOR SPEED CONTROL TRAINER (Model : TMS-DMSC-3HP/SHUNT)

Trinity



3HP/3 phase slipring induction motor with brake pulley loading arrangement

SALIENT FEATURES

- ◆ Each of following independent Applied PE trainer may need a few set of associated panels (4 nos. typically) which are mounted in a light weight sturdy aluminum flat demo panel system.
- ◆ Facilitates easy and safe wiring by students due to 4mm sturdy shrouded banana patch cords and shrouded socket arrangement for high voltage circuits.
- ◆ Each panel has ABS molded plastic sturdy enclosure, and colorful screwless overlays showing circuit diagram & its connection tag numbers for easy understanding and connections.
- ◆ Set of Instructor Guide & Student Workbook.

Technical Specifications

1] Instrumentation Power supply cum Multi- channel DPM panel (EMT 8]

[10 Shrouded Banana]

- DC Multi Output power supply
- Supplies DC power to neighbouring signal conditioning circuit panels like EMT9, CIP1, 2, MIT12, CE7 etc. through 20 pin FRC cable.
- Provides 1 Ph. AC supply through 3 MCB's, 4A each to power up other panels in the rack.
- Optionally Multi channel 4 position DPM for Speed, Torque etc.
- Green SBS5 socket is provided for extend earth.

2] SCR Actuator (variable DC) cum sensor signal conditioning panel (EMT9) x 2 Nos.

[4 Shrouded Banana]

- Full bridge SCR based 0V-195V / 12 Amp cosine firing with linear characteristics.
- Supports signal conditioning circuit for speed to give output 0-2.5Vdc (FS).
- 2 Nos. of these supplies required for DC Armature & DC motor field.

3] DC voltmeter and DC ammeter panel (EMT 6A/6B)

[14 Shrouded Banana]

- DC voltmeter (0-300V)
- DC Ammeter (0-5A) with polarity protection diode with circuit breaker
- Field failure relay to control Armature supply. Both 6A/6B needed simultaneously

4] DC voltmeter and DC ammeter panel (EMT 6A/6B)

[14 Shrouded Banana]

- DC voltmeter (0-300V)
- DC Ammeter (0-20A) with polarity protection diode

- 12A Circuit Breaker

5] 1 Phase AC input Panel (EMT16A)

[14 Shrouded Banana]

- 1 phase MCBs of 20A/4A 1 each
- Lamp Load

Motor Specifications

220V/2.5KW/1500 rpm with Series, Shunt & Compound windings, spring balance Loading Arrangement [25 Kg.] & Electronics Tacho : 1V/1000rpm.

Motor Net Wt : 70 Kg., **Gross Wt :** 85 Kg.

List of Experiments

1. Open loop torque speed characteristics.
2. Closed loop speed control using Armature voltage / speed feedback using **P/PI mode**.

◆ Mechanical Dimensions Rack :

960(L) x 300(W) x 545(H)

Note: Similarly we can supply following trainers:

1] 3HP DC Series Motor Speed Control Trainer

(Model : TMS-DMSC-3HP/Series)

2] 3HP DC Compound Motor Speed Control Trainer

(Model : TMS-DMSC-3HP/Compound)