

SALIENT FEATURES :

- 01 Facilitates easy and safe wiring by students due to use of 4mm sturdy Shrouded banana patch cords & shrouded socket arrangements.
- 02 All machines are mounted on finely painted sturdy base frame with easy machine interchangeability. Use of gear coupling facilitates screwless coupling. interchangeability. Use of gear coupling facilitates screwless coupling.
- 03 With due emphasis on student safety machines operate upto 300W power levels and upto 1500 RPM, without compromising on didactic use. Able to draw all graphs.
- 04 Trunion mounted DC Integrated machine is used as Dynamometer for loading other machines (Motors / generators both); unlike magnetic powder brake or eddy current brake which can load only coupled Motors and not generators, with facility to measure shaft power using electronic torque / speed Measurement

3 PHASE AC SLIP RING INDUCTION MOTOR TRAINER

NAME OF THE EXPERIMENTS :-

- | | |
|----------------|---|
| Experiment-1 | Speed torque characteristics of 3 ph. wound rotor induction motor with variable rotor Resistance. |
| Experiment -2 | Efficiency of input power factor measurement of 3 ph. wound rotor induction motor. |
| Experiment -3 | Speed torque characteristics of 3 ph. short-circuited rotor induction motor. |
| Experiment -4 | Efficiency of input power factor measurement of 3 ph. short-circuited rotor Inductions motor. |
| Experiment -5 | Speed torque charACteristics of 3 ph. Synchronous motor. |
| Experiment -6 | Efficiency of input power factor measurement of 3 ph. synchronous motor. |
| Experiment -7 | Use of synchronous motor as power factor improvement device. study of 'v' curves |
| Experiment -8 | Study of Direct On Line (DOL) starter for three phase induction motor. |
| Experiment -9 | Study of star delta-starter for 3 ph. induction motor. |
| Experiment -10 | Study of rotor resistance starter for three phase wound rotor induction motor. |
| Experiment -11 | Study of direction of reversal for 3 phase induction motor. |

Panels Provided

- 01 Aluminum Machine trainer Rack
- 02 Input 3 phase DOL Starter panel
- 03 Multifunction Meter (Single Phase/Three Phase AC 50Hz)
- 04 FWD/REV, Star-Delta starter panel
- 05 Rotor Resistor Cum 3Phase Synchronous Motor Control
- 06 DC voltmeter & Ammeter and Torque Measurement Meter
- 07 Variable DC Power Supply

Note: Specifications are subject to change.

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- 08 Input Single Phase DOL Starter Panel AC DC Fix / Variable Supply
- 09 Extension Board

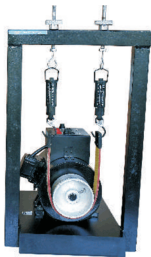
Motors Provided

- 01 3 Phase AC Integrated Motor with loading arrangement

Accessories Provided

- 01 Hand held digital Tachometer
- 02 Shrouded connecting leads 4mm 50 / 100cm assorted Red & Black

Technical Specification of Motor



3 PHASE AC INTEGRATED MOTOR WITH LOADING ARRANGEMENT

Voltage : 415VAC, 50Hz

Capacity - 300W/4 Pole m/c, **RPM -** 1500, **Shrouded Socket -** 18

Rotor Construction : Star connected, four terminals including star point brought out on 4 slip rings mounted on shaft.

Stator construction : Six terminals to be brought out to start the motor using STAR-DELTA starter.



ALUMINUM FRAME - MODULAR PANELS


Electrical motor 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.

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Technical Specification of Panels




INPUT 3 PHASE DOL STARTER PANEL

- 1 MCB 4 pole 4Amp.
- 2 DOL 9A Contactor with 415V / 50 Hz / 11VA COIL .
- 3 RYB Indicator
- 4 Emergency Switch
- 5 Shrouded socket 8Nos.
- 6 Push button switch for Stop/Start




DC VOLTMETER & AMMETER WITH TORQUE MEASUREMENT METER

- 1 TWO DPM DC voltmeter (0-1000V)
- 2 TWO DPM DC Ammeter (0-20A)
- 3 Torque Measurement Meter
- 4 Shrouded socket 16Nos.



MULTIFUNCTION METER (Single Phase/ Three Phase AC 50Hz)

- 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.




VARIABLE DC POWER SUPPLY

- 1 Half bridge SCR based 0V-200V / 3 Amp cosine firing with linear characteristics, 3 Nos. Switch SPDT to On/Off with indication
- 2 Three Nos. of these supplies required for DC Armature, DC motor field and AC generator field.
- 3 Shrouded socket 8Nos.



FWD/REV AND STAR-DELTA STARTER PANEL

- 1 FWD/REV, 3 pole 3 way Switch with centre OFF, 10A/ 440V.
- 2 Star/Delta switch 3 pole, 3 way with centre OFF, 10A/ 440V.
- 3 Shrouded socket 12Nos.




INPUT SINGLE PHASE DOL STARTER PANEL AC DC FIX / VARIABLE SUPPLY

- 1 MCB 2 pole 10A with indicator
- 2 Emergency Switch
- 3 Push button switch for Stop/Start
- 4 DOL 9A Contractor with 230V / 50 Hz / 11VA Coil .
- 5 Shrouded socket 4Nos.

Variable AC Supply (0-200V)

- 1 Shrouded socket 6Nos.



ROTOR RESISTOR CUM 3PHASE SYNCHRONOUS MOTOR CONTROL

- 1 Rotor resistors of 30E/5A with 3 taps of 15E, 21E, 30E each 3 Nos.
- 2 Rotor resistor selector switch, 3 pole. 6 Way 10A/440V.
- 3 DC Rotor excitation with circuit breaker (3Amp)
- 4 Shrouded socket 7Nos.

EXTENSION BOARD

- 1 Operating Voltage 230VAC \pm 10% at 50Hz
- 2 ON OFF Switch with indicator
- 3 Eight Nos. five pin 5 Amp Electrical Sockets

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