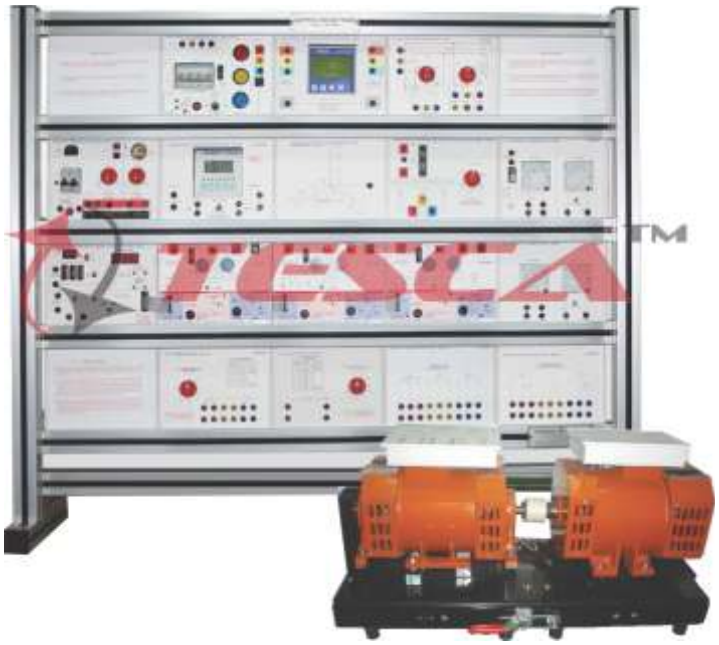
Order Code - 46803
DC Motor Coupled 1ph. AC Motor Trainer



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 Trunnion 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

DC MOTOR COUPLED 1PH. AC MOTOR TRAINER

Name of the Experiments

Experiment-1 speed torque curve of DC shunt motor with 1 phase AC integrated motor
Experiment-2 speed torque curve of DC series motor with 1 phase AC integrated motor
Experiment-3 Speed torque curve of separately excited DC motor with 1 phase AC integrated motor
Experiment-4 Speed torque of DC compound motor with 1 phase AC integrated motor
Experiment-5 v-i efficiency curve of DC shunt generator with 1 phase AC integrated motor
Experiment-6 v-i efficiency curve of DC series generator with 1 phase AC integrated motor
Experiment-7 v-i efficiency curve of DC separately excited generator with 1 phase AC integrated motor
Experiment-8 v-i efficiency curve of DC compound generator with 1 phase AC integrated motor
Experiment-9 v-i efficiency curve of occ of shunt generator with 1 phase AC integrated motor
Experiment-10 speed torque curve of split phase induction motor
Experiment-11 speed torque curve for CSIR
Experiment-12 Speed torque curve of CSCR

Panels Provided

01 Aluminum Machine trainer Rack
02 Multifunction Meter (Single Phase/Three Phase AC 50Hz)
03 1 Phase Motor, Alternator & Sync. Motor
04 DC voltmeter & Ammeter and Torque Measurement Meter
05 Variable DC Power Supply
06 Input Single Phase DOL Starter Panel AC DC Fix / Variable Supply
07 Lamp Load

Note: Specifications are subject to change.

Tesca Technologies Pvt. Ltd.
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08 Extension Board

Motors Provided

01 DC Integrated (Trunion Mounted) Motor
02 1 Phase AC Integrated Motor

Accessories Provided

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

Technical Specification of Motors

DC INTEGRATED (TRUNION MOUNTED) MOTOR
Voltage : Varm= 180V Vfield = 180V
Capacity -300W/2 Pole m/c, **RPM -** 1500, **Shrouded Socket -** 12
Rotor Construction: Standard commutator / brush arrangement with laminated stack, brought out on 2 terminals
Stator construction : Separately excited field winding with laminated solid yoke 2 pole and series winding brought out on 4 terminals.
Toque characteristic: Provision of load cells 6 Kg. 2 No. assembly to measure the torque .

1 PHASE AC INTEGRATED MOTOR
Voltage : 230 VAC, 50Hz
Capacity -300W/4 Pole m/c, **RPM -** 1500 **Shrouded Socket -** 18
Rotor Construction : Diecast Squirrel cage motor
Stator construction : Two windings brought out on 4 terminals for main and auxilliary. These will be used to configure different motors Split phase, CSCR, CSIR.

Note: Specifications are subject to change.

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Technical Specification of Panels

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.

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.

Fix/Variable DC Supply (0-200V)
1 Shrouded socket 4Nos.

1 PH. MOTOR, ALTERNATOR & SYNC. MOTOR

1 1 ph. MCBs of 4A/1.6A 1 each.
2 2 no. 2P2W selector switches to run as 1ph. Alternator then as synchronous motor.
3 2A push button switch to simulate as centrifugal switch.
4 1 Lamp load holder with lamp
5 Shrouded socket 14Nos.

LAMP LOAD

1 3 Nos. Lamp 100W with Holder & switch
2 Shrouded socket 12Nos.

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.

EXTENSION BOARD

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

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.

ALUMINUM FRAME - MODULAR

Aluminium Trainer Rack madeup aluminium profile size 40×40mm, foldable and light in weight 10 panel setup can be interchange convidently to perform experiments. Dimention Length1100×Hieght 1000×Depth 350mm.

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