



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. 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 WITH DC MOTOR TRAINER

NAME OF EXPERIMENTS

- | | |
|----------------|---|
| Experiment – 1 | Speed torque curve and efficiency of DC shunt motor with DC motor. |
| Experiment – 2 | Speed torque curve and efficiency of DC series motor with DC motor. |
| Experiment – 3 | Speed torque curve and efficiency of separately excited DC motor with DC motor. |
| Experiment – 4 | Speed torque curve and efficiency of DC compound motor with DC motor. |
| Experiment – 5 | Output volt-amp characteristics of DC shunt generator with DC motor. |
| Experiment – 6 | Efficiency of DC shunt generator with DC motor. |
| Experiment – 7 | Output volt-amp characteristics of DC separately excited generator with DC motor. |
| Experiment – 8 | Efficiency of DC separately excited generator with DC motor. |
| Experiment – 9 | Output volt-amp characteristics of DC series generator with DC motor. |

Continues-1/3

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

OMEGA ELECTRONICS

Panels Provided

01 Aluminum Machine trainer Rack.....	20300 Qty.1
02 DC voltmeter & Ammeter and Torque Measurement Meter.....	20306 Qty.1
03 Variable DC Power Supply.....	20307 Qty.1
04 Input Single Phase DOL Starter Panel AC DC Fix / Variable Supply.....	20308 Qty.1
05 DC Load Resistor.....	20310 Qty.1
06 Lamp Load.....	20313 Qty.1
07 Extension Board.....	20315 Qty.1

Motors Provided

01 DC Integrated (Trunion Mounted) Motor.....	20501 Qty.1
02 DC Integrated (Foot mounted) Motor.....	20509 Qty.1

Accessories Provided

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

Technical Specification of Motors



DC INTEGRATED (TRUNION MOUNTED) MOTOR - TYPE-20 501

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 .



DC INTEGRATED (FOOT MOUNTED) MACHINE - TYPE-20 509

Voltage : Varm= 180V Vfield = 180V

Capacity -300W/4 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 2 terminals.

Continues-2/3

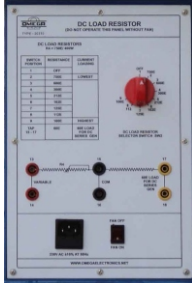
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OMEGA ELECTRONICS

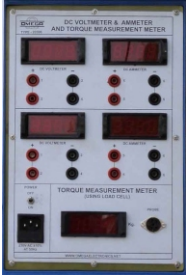
Technical Specification of Panels



ALUMINUM FRAME - MODULAR PANELS TYPE-20 300.
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.




DC LOAD RESISTOR TYPE-20 310
1 750E/600E/300E/212E/162E/125E/112E/100E/400W /8 taps + OFF + separate 60E tap For DC series Gen.
2 Load Resistance switch 3 POL 7 Way/10Amp.
3 Cooling Fan size 4" 230V Operated
4 Shrouded socket 6Nos.



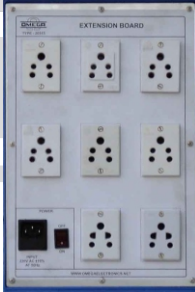
DC VOLTMETER & AMMETER WITH TORQUE MEASUREMENT METER TYPE-20 306
1 TWO DPM DC voltmeter (0-1000V)
2 TWO DPM DC Ammeter (0-20A)
3 Torque Measurement Meter
4 Shrouded socket 16Nos.




LAMP LOAD TYPE-20 313
1 3 Nos. Lamp 100W with Holder & switch
2 Shrouded socket 12Nos.



VARIABLE DC POWER SUPPLY TYPE-20 307
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.



EXTENSION BOARD TYPE-20 315.
1 Operating Voltage 230VAC ± 10% at 50Hz
2 ON OFF Switch with indicator
3 Eight Nos. five pin 5 Amp Electrical Sockets



INPUT SINGLE PHASE DOL STARTER PANEL AC DC FIX / VARIABLE SUPPLY TYPE-20 308
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.

Blank panel area.

Continues-3/3

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