

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 3PH. SALIENT MOTOR TRAINER

Name of the Experiments :-

- | | |
|----------------|--|
| Experiment -1 | speed torque curve of DC shunt motor with 3 phase salient motor |
| Experiment -2 | speed torque curve of DC series motor with 3 phase salient motor |
| Experiment -3 | Speed torque curve of separately excited DC motor with 3 phase salient motor |
| Experiment -4 | Speed torque of DC compound motor with 3 phase salient motor |
| Experiment -5 | v-i efficiency curve of DC shunt generator with 3 phase salient motor |
| Experiment -6 | v-i efficiency curve of DC series generator with 3 phase salient motor |
| Experiment -7 | v-i efficiency curve of DC separately excited generator with 3 phase salient motor |
| Experiment -8 | v-i efficiency curve of DC compound generator with 3 phase salient motor |
| Experiment -9 | v-i efficiency curve of occ of shunt generator with 3 phase salient motor |
| Experiment -10 | Speed torque of 3ph. synchronous 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

- Experiment -11 Efficiency and input power factor measurement 3ph. synch. motor
- Experiment -12 Study of 'v' curve and inverted 'v' curve
- Experiment -13 output volt-amp characteristics of synchronous generator
- Experiment -14 Efficiency of synchronous generator
- Experiment -15 Performance of R, L, and C load

Panels Provided

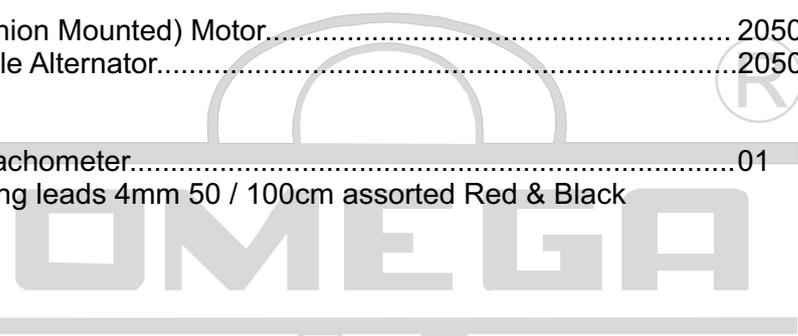
- 01 Aluminum Machine trainer Rack..... 20300 Qty.1
- 02 Input 3 phase DOL Starter panel.....20301 Qty.1
- 03 Multifunction Meter (Single Phase/Three Phase AC 50Hz)..... 20302 Qty.1
- 04 FWD/REV, Star-Delta starter panel..... 20303 Qty.1
- 05 DC voltmeter & Ammeter and Torque Measurement Meter..... 20306 Qty.1
- 06 Variable DC Power Supply.....20307 Qty.1
- 07 Input Single Phase DOL Starter Panel AC DC Fix / Variable Supply..... 20308 Qty.1
- 08 AC Load Resistor.....20309 Qty.1
- 09 DC Load Resistor.....20310 Qty.1
- 10 AC Load Inductor.....20311 Qty.1
- 11 Capacitive (C) Load.....20312 Qty.1
- 12 Extension Board.....20315 Qty.1

Motors Provided

- 01 DC Integrated (Trunion Mounted) Motor..... 20501 Qty.1
- 02 3 Phase Salient Pole Alternator.....20503 Qty.1

Accessories Provided

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





DC INTEGRATED (TRUNION MOUNTED) MOTOR - TYPE-20 501
Voltage : $V_{arm} = 180V$ $V_{field} = 180V$
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.
Torque characteristic: Provision of load cells 6 Kg. 2 No. assembly to measure the torque .



3 PHASE SALIENT POLE ALTERNATOR - TYPE-20 503
Voltage : 415VAC, 50Hz
Capacity - 300W/4 Pole m/c, **RPM - 1500, Shrouded Socket - 12**
Rotor Construction : Star connected, four terminals including star point brought out on 4 slip rings mounted on shaft.
Stator construction : Separately excited field winding with laminated solid yoke, 4 pole brought out on 2 terminals

Continues-2/3

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

OMEGA ELECTRONICS

Works:
28E & F, Malviya Industrial Area,
Jaipur-302 017 (INDIA)
Phone: 0141-2751559

E-mail : info@omegaelectronics.net
: omegajaipur62@gmail.com

www.omegaelectronics.net

Marketing Division:
B-28, Fateh Singh Scheme, Opp. Rajputana
Palace Sheraton, Jaipur-302006 (INDIA)
Phone : 091-141-2375647, 2379223

DC MOTOR COUPLED 3PH. SALIENT MOTOR TRAINER

OMEGA TYPE-20 602

Technical Specification of Panels



**INPUT 3 PHASE DOL STARTER PANEL
TYPE-20 301**

- 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



**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 Contactor 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.



**MULTIFUNCTION METER (Single Phase/ Three Phase AC 50Hz)
TYPE-20 302**

- 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.

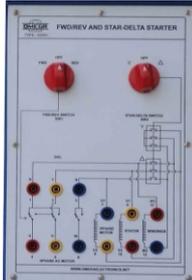


**AC LOAD RESISTOR
TYPE-20 309**

- 1 AC Resistors 10K/5K/3.5K/2.5K/2K/1.5K/OFF

200W x 3 phases/ 6 taps

- 2 Load Resistance switch 3 POL 7 Way/10Amp.
- 3 Cooling Fan size 4" 230V Operated
- 4 Shrouded socket 12Nos.



**FWD/REV AND STAR-DELTA STARTER PANEL
TYPE-20 303**

- 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.



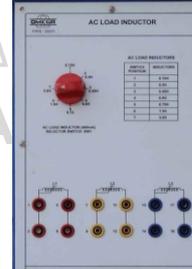
**DC LOAD RESISTOR
TYPE-20 310**

- 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.



**AC LOAD INDUCTOR
TYPE-20 311**

- 1 Inductive load =0.15H/0.3H/0.45H/0.6H/0.75H/1.5H/3H/ 400mA X 3Nos.
- 2 Load inductor switch 3 Pole 7 Way/10Amp.
- 3 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.



**CAPACITIVE (C) LOAD
TYPE-20 312**

- 1 Capacitive load =1.25μF /2.5mF/5mF/440VX 3Nos
- 2 Shrouded socket 18Nos.



**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

Continues-3/3

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

OMEGA ELECTRONICS

Works:
28E & F, Malviya Industrial Area,
Jaipur-302 017 (INDIA)
Phone: 0141-2751559

E-mail : info@omegaelectronics.net
: omegajaipur62@gmail.com

Marketing Division:
B-28, Fateh Singh Scheme, Opp. Rajputana
Palace Sheraton, Jaipur-302006 (INDIA)
Phone : 091-141-2375647, 2379223

www.omegaelectronics.net