

#### 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

#### 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.                                       |

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 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 Rotor Resistor Cum 3Phase Synchronous Motor Control.....	20304 Qty.1
06 DC voltmeter & Ammeter and Torque Measurement Meter.....	20306 Qty.1
07 Variable DC Power Supply.....	20307 Qty.1
08 Input Single Phase DOL Starter Panel AC DC Fix / Variable Supply.....	20308 Qty.1
09 Extension Board.....	20315 Qty.1

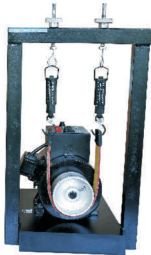
**Motors Provided**

01 3 Phase AC Integrated Motor (20502) with loading arrangement .....	20511 Qty.1
---	-------------

**Accessories Provided**

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

**Technical Specification of Motor**



3 PHASE AC INTEGRATED MOTOR (20502) with loading arrangement..... TYPE-20511

A SIGN OF QUALITY PRODUCT

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

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

[www.omegaelectronics.net](http://www.omegaelectronics.net)

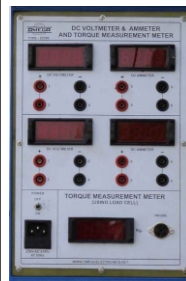
**Technical Specification of Panels**



**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



**DC VOLTMETER & AMMETER WITH TORQUE MEASUREMENT METER**

**TYPE-20 306**

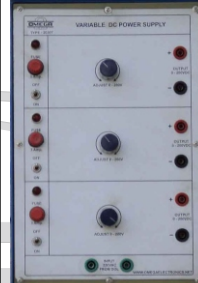
- 1 TWO DPM DC voltmeter (0-1000V)
- 2 TWO DPM DC Ammeter (0-20A)
- 3 Torque Measurement Meter
- 4 Shrouded socket 16Nos.



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

**TYPE-20 302**

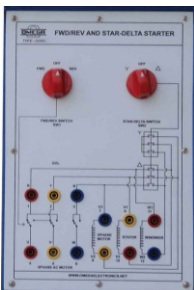
- 1 Bidirectional Multifunction Meter
- 2 3 Phase 4 wire, 440V, Current 5A
- 3 LED display,
- 4 Aux supply 230V, 45-65Hz, 5W
- 5 To measure parameters ie Voltage Current., KVA, Frequency, Power factor, Active Power (W), Reactive Power (vary) etc.
- 6 Shrouded socket 08Nos. etc.



**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.



**FWD/REV AND STAR-DELTA STARTER PANEL**

**TYPE-20 303**

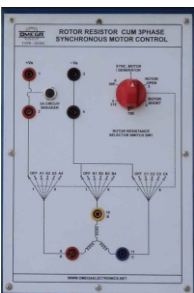
- 1 FWD/REV, 3 pole 3 way Switch with centre OFF, 10A/ 440V.
- 2 Star/Delta switch 3 pole, 3 way with centre OFF, 10A/ 440V.
- 3 Shrouded socket 12Nos.



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

**TYPE-20 308**

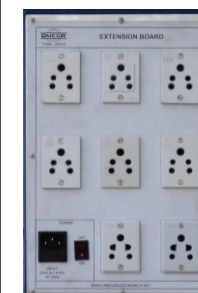
- 1 MCB 2 pole 10A with indicator
  - 2 Emergency Switch
  - 3 Push button switch for Stop/Start
  - 4 DOL 9A Contractor with 230V / 50 Hz / 11VA Coil .
  - 5 Shrouded socket 4Nos.
- Variable AC Supply (0-200V)**
- 1 Shrouded socket 6Nos.



**ROTOR RESISTOR CUM 3PHASE SYNCHRONOUS MOTOR CONTROL**

**TYPE-20 304**

- 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**

**TYPE-20 315.**

- 1 Operating Voltage 230VAC  $\pm 10\%$  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.