



SCOPE OF LEARNING:

- Study of Parallel Operations of Two Ac Alternator (Synchronizing the 2 Alternator)
- Study of Dark Lamp Method using Parallel Operations of Two Ac Alternator
- Study of Bright Method using Parallel Operations of Two Ac Alternator
- Study of Operation of DC Shunt Motor
- Study of Operation of 3Phase Synchronous Generation.



Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



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TECHNICAL SPECIFICATIONS:
SYNCHRONIZING OF TWO ALTERNATORS CONTROL PANEL
Power Supplies:

- Operated on Mains power 230V, 50Hz +10%
- Operated on Mains power 415V, 50Hz +10%

Power Supply Module (Single Phase Input)

Module: EMT-1

- 2Pole MCB of 230V, 16A
- Power Indication with Indicator
- Inbuilt Contactor 230V,50Hz/11VA Coil
- Emergency Stop for Emergency Conditions

Module-2:

- Input Line From Gen-1 Through MCB
- With Power Indication

Module-3:

- Input Line From Gen-2 Through MCB
- With Power Indication

Module-4:

- Digital Frequency Meter For Gen-1
- Digital Frequency Meter For Gen-2

Module-5:

- Digital Voltmeter Meter For Gen-1
- Digital Ammeter Meter For Gen-1

Module-6:

- Digital Voltmeter Meter For Gen-2
- Digital Ammeter Meter For Gen-2

Module-7:

- Synchroscope Operated on through PT 440/110V

Module-8:

- Lines for Gen-1
- Lines for Gen-2
- Paralleling Line-1 and Line-2

Module-9

- 3Phase Resistive Lamp Load Star Connected (6 Lamp)
- Control Through ON/OFF Switches
- 3Phase Output Terminations for Load

SALIENT FEATURES:

- Voltage regulation within limit as per ISS.
- Front panel built with high class insulated Bakelite sheet with Sticker well printed circuits and symbols.
- Instruction manual.
- Patch Cords 4mm (Heavy Duty) 1Meter Length.
- High Voltage Test Points are Provided With 4mm Safety Sockets
- The trainer is housed in Metal cabinet.
- Short Circuit protection with the MCB.
- Size of the trainer set 30"x24"

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SCOPE OF SUPPLY:

- AL-E476A Synchronizing of Two Alternators Control Panel (1Nos.)
- AL-E314 DC Motor 5HP, 230V and AC Synchronous Alternator (3KVA). (2Nos.)
- AL-E314B DC Motor and AC Synchronous Alternator Control Panel Trainer (2Nos.)
- AL-E277 3PHASE RESISTIVE LOAD (3KW)

DC SHUNT MOTOR COUPLED WITH AC SYNCHRONOUS ALTERNATOR**(Side panel)****TECHNICAL SPECIFICATIONS:****Power Supplies:**

- Operated on Mains power 230V, 50Hz +10%

Module-1

- 2 Pole MCB of 230V, 5A
- 1Phase Power Indication with Red Indicator
- Inbuilt Contactor 230V,50Hz/11VA Coil
- Emergency Stop to Emergency Break

Module-2

- Digital Voltmeter (DC For Shunt Motor)
- Digital Ammeter (DC For Shunt Motor)

Module-3**SCR ACTUATOR (Variable DC Drive) MODULE**

- Full Bridge SCR Based 0-195V, 3A Cosine firing with Linear Characteristics
- Support Signal Conditioning Circuit for Speed, Torque in Kg. weight to output 0-2.5VDC.
- 2Nos. of these supplies required for DC Armature and DC Motor field.
- Digital Ammeter (DC For Shunt Motor for Field Current)

Module-4

- Digital Voltmeter (AC For Alternator)
- Digital Ammeter (AC For Alternator)
- Module-5
- DC Power Supply 0-230V, 2A For Field (Switch Controlled)
- Digital Ammeter (DC For Alternator for Field Current)
- Module-6
- Schematic Diagram For Prime Mover with Test Points
- Module-7

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- Schematic Diagram For Generator with Test Points
- 3Phase Output Taken Out through 4Pole MCB 415V,5A
- 3Phase Power Indication with R-Y-B Indicator
- Module-8
- Digital Voltmeter (AC For Alternator)
- Digital RPM Indicator (With Probe)

SALIENT FEATURES:

- Front panel built with high class insulated Bakelite sheet with Sticker well printed circuits and symbols.
- The trainer is housed in Modular Based Rack Type Aluminum Extruded Metal cabinet.
- Instruction manual.
- 3 Phase Power Indication With 25mm Colored Indicators
- Patch Cords 4mm (Heavy Duty)
- High Voltage Test Points are Provided With 4mm Safety Sockets
- Protection with Emergency Stop.
- Short Circuit protection with the MCB.
- Size of the trainer set 48"x16"

DC SHUNT MOTOR COUPLED WITH AC ALTERNATOR

MOTOR RATING:

- Dc Shunt Motor 5Hp Coupled With Ac Alternator 3KVA



MOTOR SPECIFICATIONS:

- DC Shunt Motor 5HP
- Operating Voltage:230V
- Type: DC
- RPM: 1440 RPM.
- Wattage: 3.75KW
- Terminations: 4 BTI 15 Terminals
- Shaft: Single
- Frame:132
- B3
- SPDP
- 1P23
- 1C01
- Solid Yoke Extension
- Fitted on Metal Base.
- GENERATOR SPECIFICATIONS:

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- AC Alternator 3KVA
- Operating Voltage:415V
- Type: AC
- RPM: 1440 RPM.
- Wattage: 3KVA
- Terminations: 5 BTI 15 Terminals
- Shaft: Single
- Frame:132
- B3
- SPDP
- 1P23
- 1C01
- Solid Yoke Extension
- Fitted on Metal Base.

3PHASE RESISTIVE LOAD (3KW)

TECHNICAL SPECIFICATIONS:

- 3 Control switches given board for current control for Each Phase
- Each switch controls 1A current.
- 9 Nos of Rheostats are mounted inside the cabinet having value of 1A.
- Rating of Rheostats are 440Ohm,1A at 415V
- Current Meter is provided for Load Measurement
- Operating Voltage 415V, 50Hz AC (3Phase)

SALIENT FEATURES:

- Front panel built with high class insulated Bakelite sheet with Sticker well printed circuits and symbols.
- Instruction manual.
- 3 Phase Indications with 25mm Multi Colored Indicators.
- Patch Cords 4mm (Heavy Duty)
- High Voltage Test Points are Provided With 4mm Safety Sockets
- The trainer is housed in Metal cabinet.
- Short Circuit protection with 4Pole MCB.
- Size of the trainer set 18"x24"
- Easy to move as wheels are given

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