



Application

The setup is designed to determine:

- Armature resistance of DC machine
- Field resistance of DC machine
- Open Circuit Characteristics (OCC) of DC generator

The system enables controlled excitation, measurement, loading, and performance evaluation of DC motor-generator sets under laboratory conditions.

System Configuration

Each test setup consists of the following modules:

Power Input & Indication

- 230V AC input supply
- 22mm Red Power ON Indicator
- Digital Tachometer for speed measurement

SCR-Based DC Variable Power Supply (2 Nos.)

- Input: 230V AC
- Output: 0–195V DC
- Current Rating: 5A
- Configuration: Full-bridge SCR based
- Firing Method: Cosine firing with linear characteristics
- Suitable for:
 - Armature supply
 - Motor field excitation

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



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- Alternator/Generator field excitation

DC Measurement Panel

- **DC Voltmeters:**
 - Range: 0–300V DC
 - Size: 72 × 72 mm
 - Quantity: 2 Nos.
- **DC Ammeters:**
 - Range 1: 0–1A (72 × 72 mm)
 - Range 2: 0–5A
 - One each
- Polarity protection diode
- Circuit breaker for overload protection
- Field failure relay for armature protection

Single Phase Power Supply Panel

- Supply: 230V AC, 50Hz
- MCB Configuration:
 - 1 Pole / 6A – 3 Nos.
 - 1 Pole / 10A – 1 No.
- Output Terminals:
 - 230V, 6A – 3 Nos.
 - 230V, 10A – 1 No.
- 22mm Red Power Indicator
- Lamp Holder

Single Phase AC/DC Resistive Load Panel

- Selector Switch: 2 Pole, 7 Way
- Rating: 10A / 440V
- Load Steps: 7 Steps

Resistor Bank Configuration (400W each):

750Ω – 600Ω – 300Ω – 212Ω – 162Ω – 100Ω – OFF

Motor–Generator Set**DC Motor**

- Rated Voltage: 230V (Armature & Field)
- Power: 0.5 HP

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- Poles: 2
- Speed: 1500 RPM
- Terminals: 4

Construction:

- Rotor: Laminated stack with standard commutator and brush arrangement, brought out on 2 terminals
- Stator: Separately excited field winding with laminated solid yoke, 2-pole configuration

DC Generator

- Type: DC Shunt / Separately Excited Generator
- Rated Voltage: 230V (Armature & Field)
- Power: 0.5 HP
- Poles: 2
- Speed: 1500 RPM
- Terminals: 4

Construction:

- Rotor: Laminated stack with standard commutator and brush arrangement, brought out on 2 terminals
- Stator: Separately excited field winding with laminated solid yoke, 2-pole configuration

Coupling Arrangement

- Motor and Generator mechanically coupled (G-M Coupling)
- Suitable for performance evaluation and OCC testing

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