

Power Electronics Lab

JMD 1227

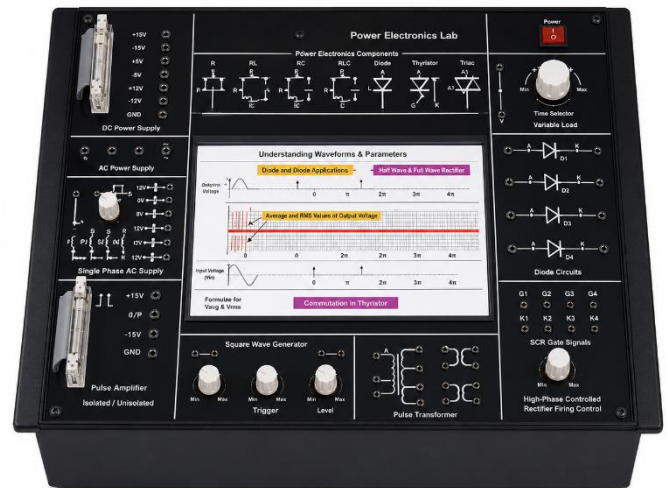
JMD 1227 Power Electronics Lab is an universal learning platform which is very useful to understand various concepts of power electronics like VI characteristics of the power electronic devices, single phase controlled rectifiers, DC to DC choppers etc. This Lab is provided with a bread board for testing their own circuits, built in AC & DC power supplies and exhaustive learning material.

Features

- Self contained & easy to operate
- Functional blocks indicated on board mimic
- Breadboard provided for own circuit development
- In built DC Power Supplies
- In built AC Power Supplies
- Onboard pulse generator with frequency and duty cycle control.
- On board single phase controlled rectifier firing circuit
- On board thyristor devices
- On board pulse amplifier and isolation transformer
- On board variable load and circuit components

Scope of Learning

- VI characteristics of power devices
- Study of Single Phase Thyristor Firing Scheme
- Single Phase Controlled Rectifiers
- DC to DC Chopper
- Single Phase Inverter
- Own circuit Development
- Optional circuit components for breadboard related experiments



J.M.D. SALES CORP.

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Technical Specification

- **Size of Breadboard** : 172.5 mm × 128.5 mm
- **DC Power Supply** : +5 V, -5 V 500 mA,
+12V, -12 V 500 mA
+15 V, 250 mA
+35V, -35V, 250 mA
- **AC Power Supply** : 18V-0V-18V, 0V-15V On board Firing Circuits
- **Frequency range** : 30Hz to 900Hz variable
- **Amplitude** : 12V
PWM control of G1, G2, G3 and G4
Duty cycle control of "Gate"
Signal is 0 to 100%
- **SCR Assembly** : 4 SCRs 2P4M, 400V/2A
- **Power Devices** : IGBT-G4BC20S, MOSFET IRFZ44N,
UJT-2N2646, DIAC DB3,
TRIAC-BT136, PUT 2N6027
- **Pulse transformer on board** : 2 nos. PT4502 1:1 and one is PT4503 1:1:1
- **Circuit Components on board** : Electrolytic Capacitor 1uF, 63V Metalized
Capacitor 0.1uF, 63V Metalized Capacitor
0.33uF, 63V Diode 1N4007, Inductor 68mH,
Inductor 68mH, Inductor 10mH
- **Load selector** : 6 load resistances- 47E/7W, 120E/5W,
270E/5W, 2K2/2W, 1K/1W, 1K/10W
- **Test points** : 10 nos
- **Power Supply (Mains)** : 220V/110V, 50Hz/60Hz

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• **Included Accessories :**

- Bread boards : 2 nos.
- Connecting wires : 20 nos.
- 2mm to 1mm Patch cords : 15 nos.
- 2mm Patch cords (Red) 16” : 4 nos.
- 2mm Patch cords (Black)16” : 4 nos.
- 2mm Patch cords (Blue) 16” : 12 nos.
- Mains cord : 1 no.

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