



An ISO 9001:2015 Co.

Switching Mode Power Supply (SMPS) with Digital Meters

Model : SB-121DM

SINCOM SB-121DM Switching Mode Power Supply (SMPS) Trainer with Digital meters is a remarkable self contained simply designed trainer useful to study the operation, line and load regulation characteristics of a Switching Mode Power supply (SMPS) in a simple experimental way. The trainer is equipped with on board Digital voltmeter & Digital Ammeter.

Features

- ❖ User friendly Design
- ❖ +12V SMPS Regulated DC Output voltage
- ❖ Wide AC Input Voltage range
- ❖ PWM based HF Power Switching circuit
- ❖ SMPS based on SMT Transformer, Full Wave bridge Rectifier, Power Transistor Control Switching, High Frequency rectifier and Capacitor Filter circuit
- ❖ Variable Resistive Load
- ❖ Low Output voltage Ripples
- ❖ High operating Temperature range
- ❖ Facility to apply variable single phase AC Input voltage from Dimmerstat
- ❖ Very Easy for Operation
- ❖ Multi color Circuit Diagram is screen printed on the front of the white color acrylic board
- ❖ Enclosed in an attractive, light weight, High Quality, Poly Coated Imported Pine Wooden cabinet
- ❖ On Board 3^{1/2} Digit Digital Voltmeter and Ammeter
- ❖ Interconnections by 2mm high quality banana sockets and pins
- ❖ Maximum Test points to explore all the corners of experiment
- ❖ 1 Year Warranty

Technical Specifications

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|-----------------------------------|--|
| ▪ AC Mains Power Supply | : 230V \pm 10%, 50Hz |
| ▪ AC Input Voltage Range V_{in} | : Single Phase AC 50V-280V, 50Hz |
| ▪ Regulated DC Outputs V_o | : +12V |
| ▪ Output Load Current | : 1A Max |
| ▪ Transformer type | : Switching Mode Transformer (SMT) |
| ▪ Rectifier and Filter | : Full Wave bridge Rectifier with Capacitor filter |
| ▪ Switching | : Power Transistor PWM based |
| ▪ Load Resistor | : Variable Resistive Load of 10K Ω |
| ▪ Regulation type | : Line and Load Regulation |
| ▪ Total Digital Meters | : 03 (2 Voltmeter and 1 Ammeter) |
| ▪ Digital Voltmeter | : 0-20V (2 No.) |
| ▪ Digital Ammeter | : 0-200mA (1No.) |
| ▪ Meter Display | : Red Color, 3 ^{1/2} Digit , LED Display |
| ▪ Weight | : 3.0 kg (approx) |



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- Dimensions (mm) : L 220 x W 270 x H 110
- Interconnections : 2mm Banana sockets
- Operating Temperature : 0-50⁰C, 80% RH

Learning Scope

- To Study the operation of Switching Mode Power Supply (SMPS) Circuit.
- To Observe & Note the regulated DC O/P.
- To observe & Note the time period/frequency of Switching.
- To Study Change in O/P Voltage w.r.t. change in I/P Voltage with Load RL constant (Line Regulation)
- To Study Change in O/P Voltage w.r.t change in Load RL with I/P voltage constant (Load Regulation)

Other Instruments Required : Digital Multimeter, Dimmerstat

Accessories Included : Set of Patch Cord and Details Instruction Manual