BJT Series and Shunt Voltage Regulator with Digital Meters

Model : SB-110DM

SINCOM SB-110DM BJT Series and Shunt Voltage Regulator with Digital meters is remarkable self contained simply designed trainer useful to study the operation, line and load regulation characteristics of BJT Series and Shunt Voltage Regulator with variable load in a simple experimental way. This has separate modules of BJT Series and BJT Shunt voltage regulator circuits. The trainer is equipped with on board Digital voltmeter & Digital Ammeter.

Features

- User friendly Design
- Two Separate modules of BJT Series and BJT Shunt Voltage Regulator circuits
- For BJT Series-Two Silicon NPN Transistors and One Zener diode are provided as a controlling elements
- For BJT Shunt-One Silicon NPN Transistors and Two Zener diode are provided as a controlling elements
- Variable Regulated DC Output voltage
- Low forward voltage drop
- High operating Temperature range
- Variable Resistive Load
- Facility to vary wide range of applied DC Input voltage
- Facility to vary regulated Output DC Voltage
- In-Built Variable regulated DC Power Supply
- Very Easy for Operation
- Multi color Circuit Diagram printed on the front panel of the white 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

- AC Mains Power Supply : 230V ±10%, 50Hz
- DC Power Supply : IC Regulated Variable 0V to +12V/500mA
- Load Resistor : 10KΩ Variable Resistive Load
- Regulation type : Line and Load Regulation
- **For BJT Series Circuit**
  - Unregulated DC Input Vin : 0 to 12V DC Input
  - Regulated DC Output Vo : Variable @ 6V to 11V
  - Output Voltage Control : By 10KΩ Potentiometer at sampling network
  - Transistors Used : Two No-BJT NPN Silicon- SL100 and BC548
  - Forward Voltage Drop : 1.2V at $T_A = 25^0c$
- **For BJT Shunt Circuit**
  - Unregulated DC Input Vin : 0 to 12V DC Input

- Regulated DC Output Vo : Two DC Outputs of 6.2V and 6.8V,±10%
- Output Voltage Control : By Two Zener Diodes at sampling network
- Transistors Used : One No-BJT NPN Silicon-BC548
- Zener Diodes Used : Two Zener diodes of 5.6V and 6.2V
- Forward Voltage Drop : 1.2V at T_A= 25^0c

- Total Digital Meters : 03 (2 Voltmeter and 1 Ammeter)
- Digital Voltmeter : 0-20V (2 No.)
- Digital Ammeter : 0-20mA (1No.)
- Meter Display : Red Color, $3^{1/2}$ Digit , LED Display
- Weight : 3.0 kg (approx)
- Dimensions (mm) : L 245 x W 320 x H 115
- Interconnections : 2mm Banana sockets
- Operating Temperature : 0-50^0C, 80% RH

Learning Scope

- To Study operation of Series Voltage Regulator using Transistor.
- To Study operation of Shunt Voltage Regulator using Transistor.
- 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 : Nil

Accessories Included : Set of Patch Cord and Details Instruction Manual

Subject to Change