BJT Biasing Trainer (All types) with Digital Meters

Model : SC-105DM

SINCOM SC-105DM BJT Biasing Trainer with Digital Meter is a self contained **All-In-One** simply designed trainer for the purpose to study BJT Fixed Bias and Self Base/Voltage Divide Bias method with & without Emitter Resistor, Collector to Base Biasing methods and determine the various operational parameters with a wide range of components bank in a simple experimental way. The Trainer is equipped with on board Digital voltmeter & Digital Ammeter.

Features

- User friendly Design
- All-In-One base bias module
- Easy selection of Fixed Bias, Collector to Base and Self Bias circuits with and without Emitter resistors
- One Silicon NPN BJT of TO-92 package on board
- NPN BJT with higher β
- Combinational Resistor Bank at Base
- Resistor Bank at Collector to Base
- Resistor Bank at Emitter
- Resistive Collector Load
- In-Built Fixed regulated DC Power Supply
- Easy to select the different biasing resistors
- Facility to plot DC Load Line
- Very Easy for Operation
- Multi color Circuit Diagram is printed on the front panel of the 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 Fixed +12V/500mA
Biasing Method	: Fixed Bias, Self Bias with & without Emitter Feedback, Collector to Base Bias
Transistor Type and Package	: BJT-Silicon-NPN, TO-92 Package
Transistor Used	: One SL/CL100
Transistor β	: @170-180
Transistor Configuration	: CE mode
BJT Junction Voltage	: 0.7V
Max. Collector Emitter Voltage	: 12 VDC
Combinational Base Resistor Bank	: Four- MFR 100KΩ, 180KΩ, 10KΩ and 100KΩ, ±5%

- Collector to Base Resistor Bank : Two Fixed-MFR 10KΩ & 22KΩ, ±5% and One Variable 1MΩ Potentiometer
- Emitter Resistor Bank : Two- MFR 180Ω and 0Ω, ±5%
- Resistive Collector Load : 470Ω for Fixed & Self bias, 2.2KΩ Collector to Base Bias
- Total Digital Meters : 02 with Range selector
- Digital Voltmeter : 0-2V / 0-20V with Range selector switch
- Digital Ammeter : 0-20 mA / 0-200mA with Range selector switch
- Meter Display : Red Color, $3^{1/2}$ Digit , LED Display
- Weight : 2.0 kg (approx)
- Dimensions (mm) : L 220 x W 270 x H 110
- Interconnections : 2mm Banana sockets
- Operating Temperature : 0-50^{0}C, 80% RH

Learning Scope

- To study BJT Fixed Bias circuit with & without Emitter feedback Resistor.
- To study BJT Collector to Base Biasing circuit.
- To study BJT Self Bias/Voltage Divider biasing circuit. To observe & Note the change in Collector Current & Voltage w.r.t. change in biasing resistors.
- To Determine the various currents & voltages, I_B,I_C,V_B,V_C,V_{CE},V_E and Stability factor
- To Plot DC load line & observe the change w.r.t. change in base resistor & emitter feedback resistor bank.

Other Instruments Required : **Nil**

Accessories Included : Set of Patch Cord and Details Instruction Manual

Subject to Change