Characteristics of Photo Devices with Digital Meters

(Photo Diode, Photo Transistor, LED & LDR)

Model : SB-905DM/SA-129DM

SINCOM SB-905DM/SA-129DM Characteristics of Photo Devices with Digital meters is comprehensive remarkable All-In-One trainer useful to study characteristics of Photo Diode, Photo Transistor, LED and LDR under different conditions. The Photo devices are the basic building elements of an Optical remote control and an Optical receiver circuits. The trainer is simply designed to study their characteristics and determine its various parameters in a simple experimental way. The trainer is equipped with on board Digital voltmeter & Digital Ammeter and variable light intensity source.

Features

- Plastic/Metal Package Photo Diode and Photo Transistor
- 5mm Diameter LED and 5mm ceramic LDR Package
- Photo Diode, Silicon NPN Photo Transistor, Red LED and LDR are provided
- LDR is having high dark resistance and Passive Resistance output
- Convex Front, Fast response time, High photo sensitivity
- Current controlling resistor in series
- Facility to vary wide range of applied DC input voltage
- In-Built Variable regulated DC Power Supply
- Multi color Circuit Diagram printed on the front 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
- On Board 60W Lamp load with variable light intensity
- User friendly Designed
- Very Easy for Operation
- 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
Photo Device	: Photo Diode, Photo Transistor, LED & LDR
Photo Diode	: 5mm Photo Diode
Photo Transistor	: Silicon NPN Photo Transistor
LED type	: Red color 5mm LED
LDR type	: 5mm, 10KΩ, CDs coated LDR
Front	: Convex
Viewing angle	: 70^0
Photo Device Dark Current	: 10-100µA @
Maximum Forward Current	: 30mA

- Maximum Operating Voltage : 12V
- Current Controlling Resistor : MFR 470Ω, ±5% in series
- Light Source : 60W Lamp load max-Variable Intensity control
- Total Digital Meters : 02 (1 Voltmeter and 1 Ammeter)
- Digital Voltmeter : 0-20V
- Digital Ammeter : 0-200mA
- 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 the characteristics of **Photo Diode** w.r.t. applied light intensity. To Determine the Dark Current of Photo Diode. To Observe & Note the Change in Photo Current & Voltage across Photo Diode w.r.t. change in the intensity of light & applied Reverse Voltage.
- To Study the characteristics of **Photo Transistor** w.r.t. light intensity. To Determine the Dark Current of Photo Transistor. To Observe & Note the Change in Photo Current & Voltage across Photo Transistor w.r.t. change in the intensity of light & applied Voltage.
- To Study Forward characteristics of Red color **Light Emitting Diodes (LED)**. To Observe & Note the Change in the Intensity & Voltage across LEDs w.r.t. applied forward Voltage.
- To Study operation of **Light Dependent Resistor (LDR).** To Study the characteristics of LDR of different values. To Observe & Note Change in LDR Resistance, Current & Voltage w.r.t. change in the intensity of light.

Other Instruments Required : Nil

Accessories Included

Set of Patch Cord, Lamp Load 60W with variable light intensity and Details Instruction Manual

Subject to Change