Product Overview

The Measurement of Visible, Infrared, and Green Light Intensities System is designed to detect, measure, and analyze light intensity across different regions of the electromagnetic spectrum. The system uses a light sensor/photodiode in combination with visible, infrared, and green light sources to provide accurate and repeatable measurements for laboratory experiments, optical studies, and educational demonstrations.

System Components

1. Light Sensor / Photodiode
2. Infrared LED Source
3. Green LED Source
4. Visible Light Source
5. Power Supply
6. Digital Multimeter
7. Optical Prism

Technical Specifications

1. Light Sensor / Photodiode

- Type: Silicon Photodiode / Light Sensor

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.

- Spectral Response: 400 nm – 1100 nm
- Sensitivity: High sensitivity for visible and infrared regions
- Output: Analog voltage/current proportional to light intensity
- Operating Voltage: 5–12 V DC
- Response Time: Fast (microsecond range)

2. Infrared (IR) LED

- Wavelength Range: 850 – 940 nm
- Emission Type: Narrow band infrared
- Forward Voltage: 1.2 – 1.5 V
- Forward Current: 20 mA (typical)
- Application: Infrared light intensity measurement

3. Green LED

- Wavelength Range: 520 – 540 nm
- Emission Color: Green
- Forward Voltage: 2.8 – 3.4 V
- Forward Current: 20 mA (typical)
- Application: Green light intensity measurement

4. Visible Light Source

- Spectral Range: 400 – 700 nm
- Light Type: LED / Lamp (white or monochromatic)
- Intensity: Adjustable
- Application: Measurement of visible light intensity

5. Power Supply

- Input Voltage: AC mains
- Output Voltage: 5 – 12 V DC (adjustable)
- Current Rating: ≥ 1 A
- Protection: Over-voltage and short-circuit protection

6. Digital Multimeter

- Measurement Modes: Voltage, Current, Resistance
- Display: Digital LCD

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- Accuracy: ±0.5% (typical)
- Application: Measurement of photodiode output signal

7. Prism

- Material: Optical glass
- Function: Dispersion and separation of light wavelengths
- Application: Optical analysis and demonstration of spectral components

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