

Identify and Measuring Parameter of PV Module Test Bench with the Ammeter and Voltmeter

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Abstract: In recent years, solar power is utilized more in domestic, commercial, and industrial applications. Solar energy is renewable energy which is produced from sun heat. In 2020 India solar installed capacity was 34,627 MW. In this paper developed an experimental setup for solar panel power measurement. In this current, voltage and light intensity has been measured. Declination angle of sun to earth is $+23.5^\circ$ degrees, -23.5° degrees. The model of sun is represented by an incandescent bulb light and the angles set up manually. In this explained about solar power output at load side and see the variation between power and load resistance. Solar panel is generated power by light intensity applied by using incandescent light bulb. The light intensity changed by using a voltage regulator. The power is measured by using voltmeter and ammeter readings. Solar energy is to emulate the solar panel output power characteristics. The model of sun was taken as an incandescent bulb light and placed on the circular iron track to change east to the west. By changing the position of the bulb and changing the bulb light intensity with the help of the D.C speeds regulator. Solar panel is placed in such a way that it freely moves to certain angles. By taking voltmeter and ammeter readings calculate the power. The graph is drawn between resistance versus power, the unique source of energy. The main aim of the paper is. Ensure that the maximum power output occurs at load which is taken as a resistor bank. The increasing demand for clean and sustainable energy has positioned solar power as a major contributor to the global energy mix. Among various solar technologies, photovoltaic (PV) systems are widely used due to their ability to directly convert sunlight into electricity with minimal environmental impact. As the adoption of solar panels grows, ensuring the reliability and efficiency of PV modules becomes critically important

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