

# Development of Microcontroller based Portable Solar Irradiance Meter using Mini Solar Cell

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## **Abstract:**

The aim of this paper is to design and develop a portable solar irradiance meter which allows the users to measure the real time solar irradiance. The measuring device used a solar cell as the main sensor in order to convert solar energy into electrical energy. The actual solar irradiance will be measured and displayed on the LCD. The project used a microcontroller to obtain and process the output parameters from the solar cell. In addition, the developed devices also provide the ambient temperature in real time. Based on experiment, the developed system showed the accuracy more than 90% which is the overall error less than 10%.

**Keywords:** Solar Irradiance; Irradiation; Solar Energy.

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