

# Large-capacity mobile energy storage container for agricultural irrigation





## Overview

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Is a smart irrigation system a cost-effective solar-powered water pump with IoT integration?

The smart irrigation system includes a NodeMCU microcontroller, moisture and temperature/humidity sensors, and a relay board. The main contribution of this study is to design and fabricate a cost-effective solar-powered water pump with IoT integration for the smart irrigation system.

What are irrigation technologies?

Irrigation technologies change rapidly from traditional irrigation activities that mainly depend on farmers to modern farm machinery that utilizes various machines and systems for water pumping and plantation process . The water pump is primarily used for irrigation and livestock watering.

Can a solar-powered portable water pump control IoT-enabled smart irrigation system?

An IoT smart irrigation system (IoT-SIS) is developed to monitor the surroundings and control the pump over the Internet. The IoT-SIS-SPWP system is implemented in a real environment for practical analysis and functionality testing. This paper proposes a solar-powered portable water pump (SPWP) for IoT-enabled smart irrigation system (IoT-SIS).

How does a smart irrigation system work?

An IoT-based control system is attached to the developed solar-powered water pump to form a smart irrigation system for real-time monitoring and remote control. The smart irrigation system includes a NodeMCU microcontroller, moisture and temperature/humidity sensors, and a relay board.



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