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Control and monitor the operation of PVWPS using the OVH SCADA-based system

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The water pumping system in the agricultural sector is one of the major users of photovoltaic solar energy particularly in off-grid locations. For an optimal functioning of the system to be achieved, a real-life monitoring tool can provide the farmer or operator to be in-charge and be able to control the system remotely. In the current study, a monitoring the influence of meteorological parameters on the PV power generation, soil temperature and water-loss due to evaporation and absorption. A proposed open-source Supervisory Control and Data Acquisition (SCADA), the OVH SCADA 4.0 application for a photovoltaic water pumping system is discussed in this paper. The activities of logging of parameters such as environmental parameters like temperature; humidity; light intensity; soil moisture, hydro parameters like water level; water flow rate into and out of the tank, and electrical or solar parameters such as solar panel voltage; battery voltage capacity; and load current were discussed comprehensively. The purpose of the monitoring system is to provide a useful tool for the operation and management of the PVWPS using the RTU-1600AP where data was pushed using GSM second generation communication to an open source OVH SCADA 4.0 cloud system upon which data was able to be visualized and interpreted.

Apply to be considered for a student ; award (Yes / No)?

yes

Level for award;(Hons, MSc, PhD, N/A)?

PhD

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