

ABSTRAK

Pasokan listrik yang stabil sangat penting dalam pemeliharaan kolam ikan koi, terutama untuk mengoperasikan pompa dan sistem filtrasi. Penelitian ini merancang sistem monitoring baterai dan Automatic Transfer Switch (ATS) berbasis IoT guna memastikan suplai listrik cadangan saat terjadi pemadaman. Sistem menggunakan Esp32, Ina219, dan baterai 12V 65Ah, serta dapat menampilkan data tegangan dan arus secara real-time melalui platform IoT. Pengujian menunjukkan sistem mampu beralih ke baterai dengan cepat dan efisiensi pengisian mencapai 90.9%. Sistem juga mengirim notifikasi saat baterai dalam kondisi kritis. Hasilnya, sistem ini efektif menjaga pasokan listrik dan mendukung kelangsungan hidup ikan koi.

Kata kunci: ATS, IoT, Baterai, Kolam Koi, ESP32

ABSTRACT

A stable power supply is crucial in maintaining koi fish ponds, especially for operating water pumps and filtration systems. This study designs an IoT-based Battery Monitoring and Automatic transfer Switch (ATS) system to ensure backup power during outages. The system utilizes an Esp32, Ina219, and a 12V 65Ah battery, and is capable of displaying real-time voltage and current data via an IoT platform. Testing shows that the system can switch to battery power quickly, with a charging efficiency of 90.9%. It also sends notifications when the battery reaches a critical condition. Overall, the system effectively maintains power supply and supports the survival of koi fish.

Keywords: Ats, IoT, Battery, Koi Pond, Esp32