

Abstract

Electrical energy monitoring system on power house of Lentera Angin Nusantara uses electrical circuit its named Data Logger. Its function is recording DC (Direct Current) electrical current and voltage from storage battery of electrical energy that produce by wind turbine. Observer collect the current data and voltage data that stored on MMC (Multimedia Card) daily. Collecting data only at certain moments. Then, observer cultivate the data into graph. The current monitoring system operate manually, there is human interference. Problem is arise when observer pick the MMC for collecting data, monitoring proccess is suspended. Moreover, collecting the data at certain moment not real-time. Format data from of the MMC is CSV, cultivating process is needed in order to present the data into graph of voltage and current.

Machine to machine comunication monitoring system using MQTT (Message Queueing Telemetry Transport) for solution of the above problem. As MQTT Client Publisher is Arduino Uno Microcontroller that C++ program is embedded or another microcontroller software platform that using PubSubClient libraries. Current data and voltage data generated by current sensor and voltage sensor. Then the data is acquired by microcontroller, then it realtime published to the broker with current topic name "sensors/energymonitor". As MQTT Broker is HiveMQ/HiveMQ. At Broker, the electrical energy message data on current topic which is sent by microcontroller is store in log file.

Key words: Monitoring, battery, Machine to machine Communication, MQTT Protocol, MQTT Client Publisher, MQTT Broker, MQTT Client Subscriber