

ABSTRACT

The advent of Internet of Things (IoT) technology has revolutionized the field of power system monitoring and management. We propose an IoT based solution for the detection and localization of faults in 3-phase transmission lines.

Now a day transmission line fault is a key problem in power transmission lines because 85 to 87 percentage of power system disturbances are occurring in transmission lines. Identification of fault source is tedious task , fast fault detection can help to protect the equipment before any significant damage of the equipment. The exact fault location can help service man to remove persistent of the faults and locate the areas where the faults occur regularly, thus reducing the occurrence of fault and minimize the time of power outages.

This project is intended to detect the location of fault in transmission line using an Arduino board and that is transmitted to control Centre using NodeMCU ESP8266 device. In this project if there is a short circuit, the current in the series resistors modifies accordingly to the resistance that modifies with the distance and the load which is connected through a relay to the Arduino is turned OFF when the resistance is below threshold value. An LCD display will indicate the status of the transmission lines and buzzer will sound when fault is detected. The alerts will be sent to the Cloud application.