

Fault Analysis of Three Phase Transmission Line and Its Detection Using IoT and Arduino

The main aim of this project is to design a three phase fault detection using an Arduino UNO and display the fault type on LCD module.

This system detects three types of faults line-line fault, open circuit fault, line to line-line.

This proposed model uses the concept of Ohms law to detect the open circuit fault, line-line fault and line to line line, line –mine ground which is quick, reliable and cost effective. This system consists of smoke sensor which detects the combustible smokes .This system consists of ESP8266 WI-FI module to send the data into the thingspeak cloud. If any abnormal condition in system it will alerts the user through buzzer.

This system uses an Arduino microcontroller and a rectified power supply.

Here the current sensing circuits made with a switches combination of resistors are interfaced to Arduino micro controller at ADC port for providing digital data to the microcontroller representing the cable length in kilometers. At every known kilometer fault switches are placed to create faults manually, hence the fault is detects and display on LCD module and activate buzzer for alerts. The fault creation is made by the set of switches. Whenever a fault occurs in a cable then it will trip the circuit through Relay.

The main blocks of this project are:

- Adapter power supply.
- Arduino UNO Microcontroller.
- Fault switches.
- Resistor.
- Relay.
- LCD with driver.
- Smoke sensor.
- Esp8266 Wi-Fi module.
- Buzzer

- Three phase supply.
- Two poles.

Block diagram:

BLOCK DIAGRAM

