

# To Study Transmission Line Falling Detection By Using Iot

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## ABSTRACT

*The fault occurred in transmission line is very much dangerous for the locality. In the transmission line there we design a model which is to be detect the fault in transmission line by using iot. Quick fault detection can help protect the equipment by allowing the disconnection of faulted line before any significant damage of the equipment . The accurate fault location can help utility persistent of faults and locate the area where the fault regularly occur. Basically ,fault analysis may be a terribly focusing issue in power grid to clear fault briefly time and re establish power grid as a quickly as attainable on minimum interruption . However when high voltage passes through this transmission line there are many places where manpower cannot go ,because of unsafety. In this paper , by using sensors and Iot we detect the fault detection in the are less fault occurrence but in locality but fault occurrence is more composed to outer transmission line. In our prototype transmission line. This paper represent the fault detection in transmission line due to various falling that can be overcome .*

**Keyword:** *transmission line , fault detection, internet of things ,transmitter ,receiver*

## 1.INTRODUCTION :-

It is known that when a fault occurs in the overhead transmission line system then instantaneous changes in voltage and current at a point of fault generate high frequency .Electromagnetic impulses called as travelling wave which propagate along the transmission line in both direction away from the fault point. Electric power infrastructure is highly vulnerable against many forms of natural and malicious physical events which can adversely affect the overall performance and stability of it. Additionally the impending need to equip the old transmission line infrastructure with a high performance data communication network that support future operational requirement like real time monitoring and control necessary for many electrical power transmission companies have primarily relied on circuit indicator to detect faulty section of their transmission line . However there are still challenge in detecting the exact location of these faults .Although fault indicator technology have provided a reliable means to locate permanent faults the technique crew and patrol teams still has to physically patrol and inspect the device for longer hour to detect faulty section of other transmission line. The transmission line getting damaged due to various reasons , at that place or point human cannot go there where damage or fault happened[4] .At that place by using IOT , sensors, microcontroller, arduino etc. we can detect the fault and arranged in manner . At this place the IOT plays inevitable role for falling detection and find out .

**1.1 Proposed system:** When there are transmitting voltage from three phase then there is falling the voltage but where falling occurs we cannot be detect by using arduino we can detect .The proposed system IOT based transmission line stand fall detecting and line detection. Compared to the existing system for fault monitoring, the proposed system fault system is easier to maintain the transmission line. The proposed system has some

functionalities which makes it a bit more efficient than the previous existing system such as it has real time monitoring of transmission line for any fault .[7] It also has the capability to inform the nearest power centre. Different approaches could be adopted for dealing with the transmission line failure .



Figure 1. transmission line

## 2.INTERNET OF THINGS (IOT) :

The internet of things or IOT ,is a system which is connected between the devices, analog, mechanical and digital machine ,objects ,animals or people that are provided with unique identifiers and ability to sending data over a network without requiring human to human or human to computer interaction. The internet of things is simply defines as a network of internet connected object able to collect and transfer data .Iot is the concept of connecting any device with an ON and OFF switch to the internet and then give a appropriate output.[1]

### 2.1 IOT Based approach

The aim is to detect the fault in the transmission line and warn the server about the fault and its location. To detect the accurate fault in the transmission lines , the sensors such as voltage sensors for fall detection is used .The system uses arduino and sensors linked to the it and sends analog signal to them and controllers display the current situation of the transmission line and post using the lcd display.[6]

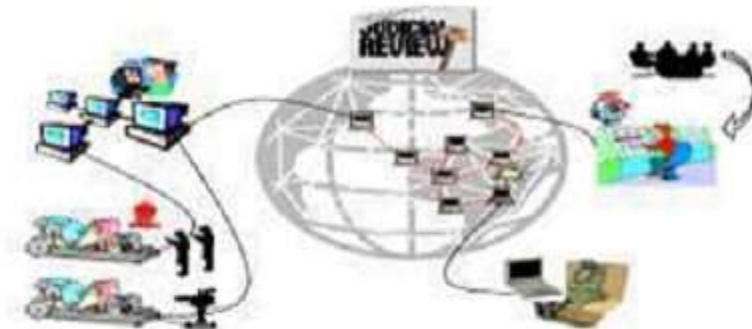


Figure 2. Internet of things

2.2 The three terminal is connected to the switch when one switch is one and remaining two switches are closed then the output shown is display is terminal and b has been faulted ( supposed terminal is r, y,b, and terminal r is connected to supply i.e. switch is on and other switch which is connected between terminal y and b off hence its shown the fault.)[7]

For the future scope it is used in the underground line fault detection

Data logging

## **CONCLUSION:**

The model design in such a way to solve the problem faced by consumer .By using such method, we can easily detect the fault and resolve it. It is highly reliable and locate the fault in three phase transmission line and also supposed to data storage . It works on real time so we maintain all data sheet and avoid the future problem in transmission line.

The design of the system is in such a way to solve problems of the consumer. This paper contains an approach to detect the failure of the transmission line network . In this paper sensors ,iot are used for identifying the symptoms that leads to network failure. The detected issues area communicated through the concerned authorities. The communication technique used in the proposed system can be more widely used in the future when the infrastructure of the country gets more developed.

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