

Under Ground Cable Fault Detection System.

About This Project:

The objective of this project is to determine the distance of underground cable fault from the base station in kilometers. An underground cable system is quite common in many urban areas wherein it becomes very difficult to repair in case of any faults because finding the exact location of the fault in such cable system is quite difficult. With the proposed system, finding the exact location of the fault is possible. This project uses a standard concept of Ohms law, i.e., when a low DC voltage is applied at the feeder end through series resistor (assuming them as cable lines), then the current would vary depending upon the location of the fault in the cable. In case of a short circuit (line to ground), the voltage across the series resistors changes which is then fed to an ADC, to develop a precise digital data that gets displayed on the LCD. The project is assembled with a set of resistors representing cable length in km and fault creation is made by a set of switches at every known km to cross check the accuracy of the same. The fault that occurs at a particular distance of a particular phase is displayed on the LCD interfaced to the microcontroller.

Block Diagram:

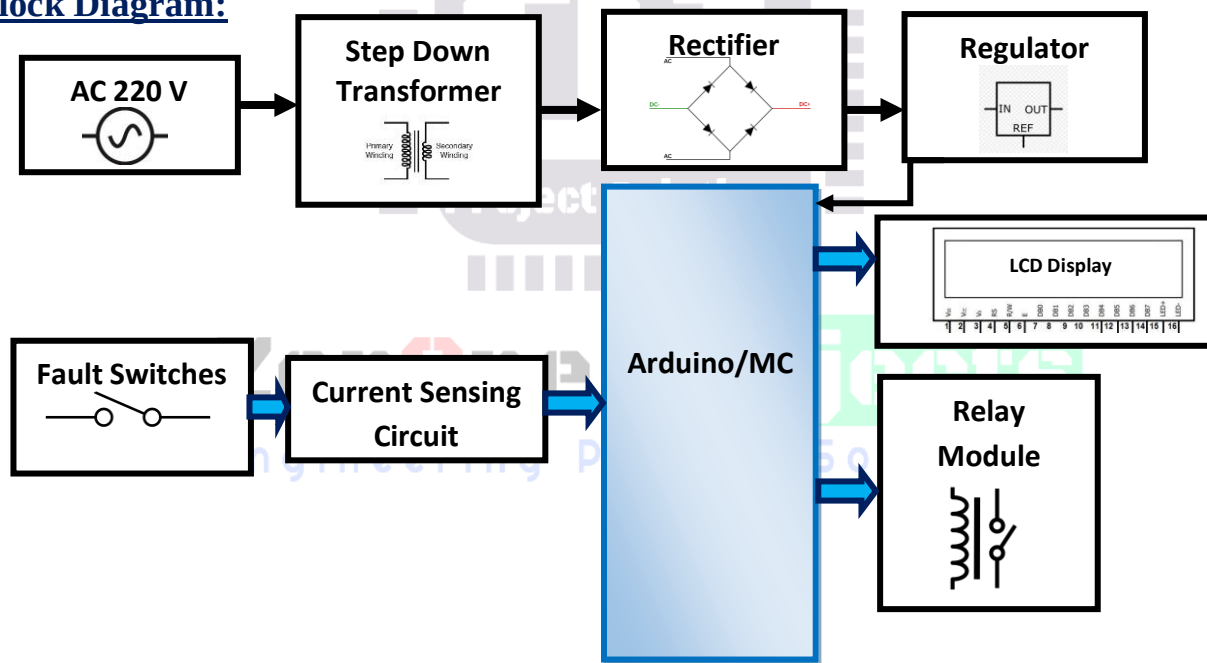


Figure: Block Diagram of Under Ground Cable Fault Detection System.

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Required Instrument:

- Arduino Nano.
- Relay.
- Transistor BC547.
- Transformer.
- Full Wave Bridge Rectifier.
- LCD Display.
- Voltage Regulator.
- Switch.
- Resistor.

Advantages:

- The main advantages this project is cable fault detecting under grounds.
- Low cost.
- Less complexity.
- Long distance applications.

Applications:

The project has a major application in the

- Industrial applications.
- Underground cable fault detection applications.
- Electrical cable fault detection applications.



N.B: Any modification of this project can be done as per your requirement. We will make the project according to your needs. Contact us with your any innovative engineering projects idea. We will help you to implement your project.

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