

## **GSM BASED TRANSFORMER HEALTH MONITORING SYSTEM**

### **AIM:**

Design and Development of GSM based transformer health monitoring system.

### **PURPOSE:**

Transformers are very important for power transmission. There are so many step down transformers and step up transformers involved in power transmission. These transformers are very reliable and rugged. But so times due to over load transformer get heated than desired level. Shut down of transformer before getting high heat is preventing from damage. Here we propose GSM based transformer health monitoring system.

### **DESCRIPTION:**

This project includes GSM (Sim800C) module, which is connected to Arduino through UART. Temperature sensor (LM35) connected to Arduino analog pin. Buzzer interfaced with Arduino digital pin. Relay connected to Arduino digital pin to control transformer input power.

### **WORKING:**

Here temperature sensor (LM35) reads transformer temperature. This temperature value displaying on LCD. Whenever it crosses more than desired range relay will be OFF. Incoming power supply OFF by switch OFF relay. We can set desired range from 10K potentiometer. When temperature more than desired range buzzer sound will come and SMS will send to registered mobile number.

## TECHNICAL SPECIFICATIONS

### HARDWARE:

|                    |   |                        |
|--------------------|---|------------------------|
| Microcontroller    | : | Arduino Uno            |
| Crystal            | : | 16 MHz                 |
| LCD                | : | 16X2 LCD               |
| GSM                | : | SIM800C                |
| Temperature sensor | : | LM35                   |
| Buzzer             | : | 5V/12V DC              |
| Relay              | : | 12V DC electromagnetic |
| Power Source       | : | 12v 2 amp Adaptor      |

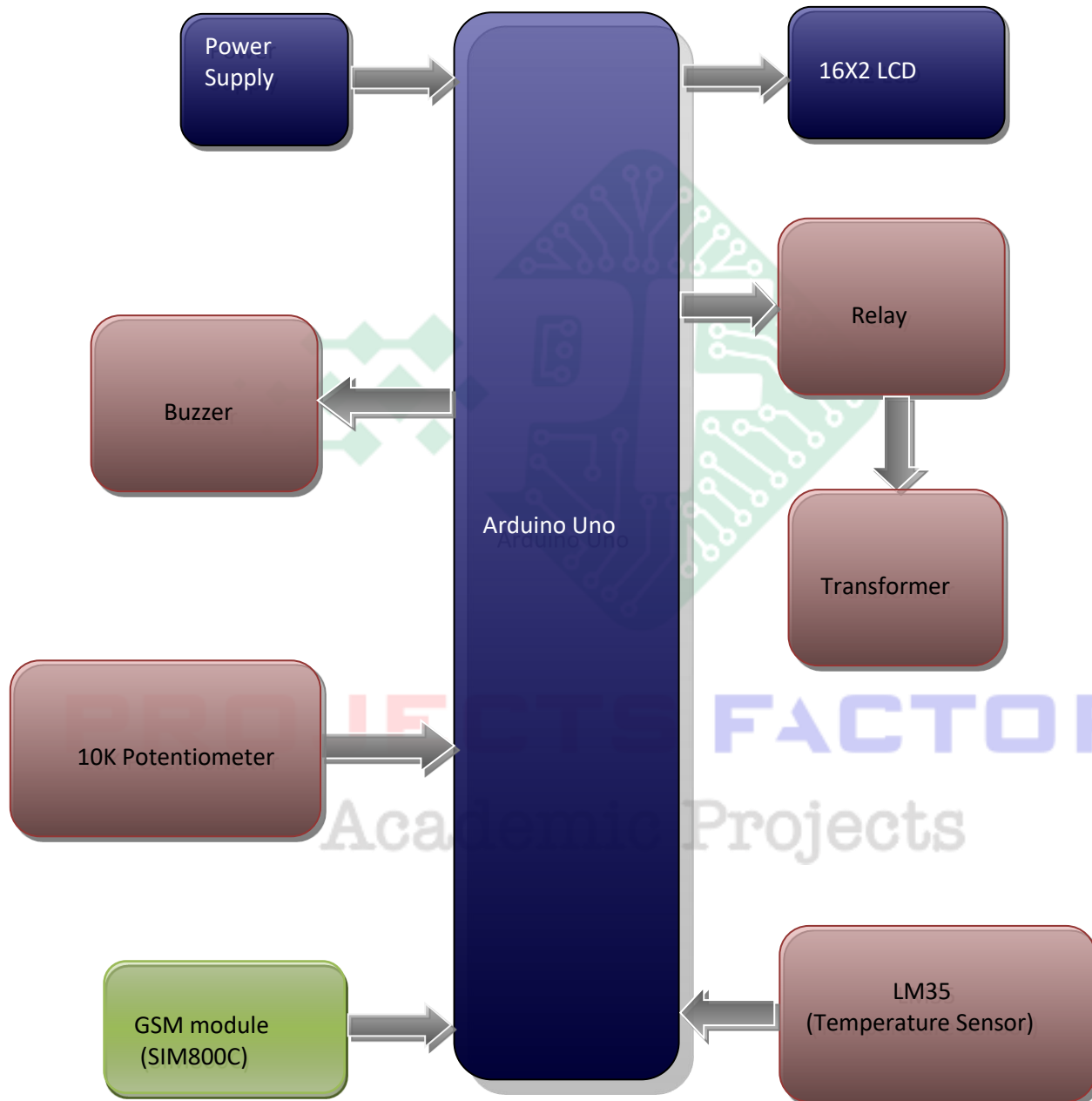
### SOFTWARE:

Arduino IDE  
Proteus based circuit diagram

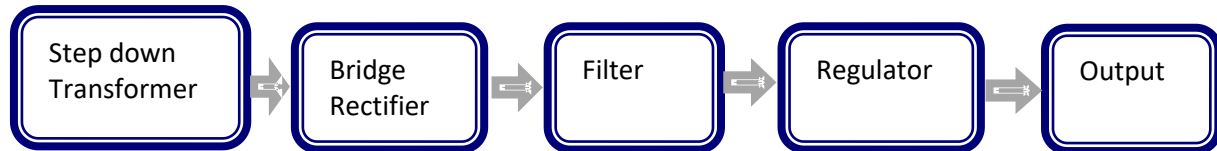
### APPLICATIONS:

- Power Distribution Sector
- Electricity Department

**BLOCK DIAGRAM:**



## POWER SUPPLY BLOCKDIAGRAM:



## INTERFACES COVERED:

- We have covered GSM (SIM800C) module interfacing
- LM35 and Relay interface

**PROJECTS FACTORY**  
Academic Projects