

To Study and Analysis of Transformer Fault by Using GSM System

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Abstract- In an electrical gadget control unit framework, the transformer capacity to control high voltage to low voltage clients. For utilizing research amid of transformer, its working condition to satellite correspondence system(GPS) utilize find a checked and kept up. Transformer control unit misfortune, the Xmr framework dealing with 1-time by 2-time of the electrical gear unit on the Compute a framework. Since it is so High appraising "Xmr" to repair or trade a solitary transformer, Implemented Transformer blame screen and track area framework in transformer line-1, line-2 and line-3 and warming oil based. The Transformer blame following a screen show has been usage for stage in line control unit framework.

A GPS route framework have structuring of Transformer blame screen to track blame and recognitions in power hardware unit framework and furthermore actualized implanted framework utilizing microcontroller.

Index Terms- GSM technology, fault detection, data logging, electric transmission and distribution system.

I. INTRODUCTION

In this proposal is speaking to Transformer blame Cloud observing framework .Transformer unit its static electric gadget which gadget perform changes electrical unit stack control unit gadget from line circuit capacity then onto the next heap with no flow coordinate electrical association with the effortlessly aides of common power acceptance coupling between essential 1 and auxiliary 2 windings it transformer control unit starting with one circuit load to another with no 1 changing over flow its recurrence however might be in voltage level a down to earth model framework can A useful model framework configuration can work be line use at for any line-1,2,3 blame identification. Overload

control issue and incapable warmth of cooling temperature in Xmr is the real types of gear line reasons for disappointment in circulation transformers [2]-[4]. This framework will be help in discover the power unit in this power framework. Xmr will likewise giving to least the deficiency of the power. Xmr-1 ace i.82xx slave correspondence with the mod transport "IOT" convention is actualized. Likewise applying Wi-Fi innovation GSM and GPS, sms is send to a security individual on portable. GSM sim-800 nd GPS st-20 module has plan a normal discretionary for remote correspondence applications. The GSM Sim-800 modem line organize gives adaptable gadget craft of correspondence "USART" quality-factor with country broadly inclusion. A "Short message benefit" (SMS-1) has now god framework move toward becoming to the a large portion of cost wide utilized specialist co-op constructed work upon GSM standard. At the functioning as kvl same cloud information time the diminishing expense of GSM gadgets sim 4G LTE, for example, keen android telephones and the GSM sms gives a one of a kind location (SIM 4G card number) to the remote screen at cloud information and directions can be transmitted UART in the remote correspondence organize.

II. HARDWARE DESIGN

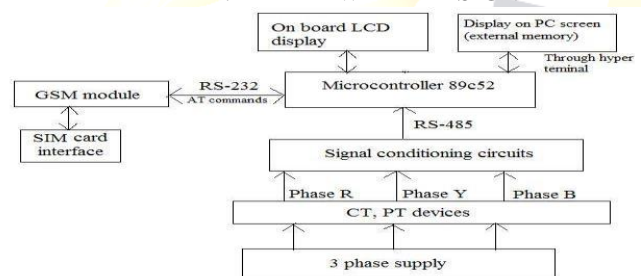


Figure. 1 Functional block diagram of the circuit

A. WORKING PRINCIPLE OF THE BLOCK DIAGRAM

This framework configuration is fundamentally executed for the dissemination control framework. The usage of framework will spare substantial measure of power and subsequently power will be accessible for more number of shoppers in very populated zone. First we plan at give 230v AC control supply to the transformer.

the data will be logged. The main system will be installed from where the total distribution is done.

Also, separate microcontrollers are used for every individual station. This microcontroller will separately monitor available at the individual area. The power consumption units will be available on the local display. These units will be sent to the master microcontroller with modbus communication.

B. MASTER STATION BLOCK DIAGRAM

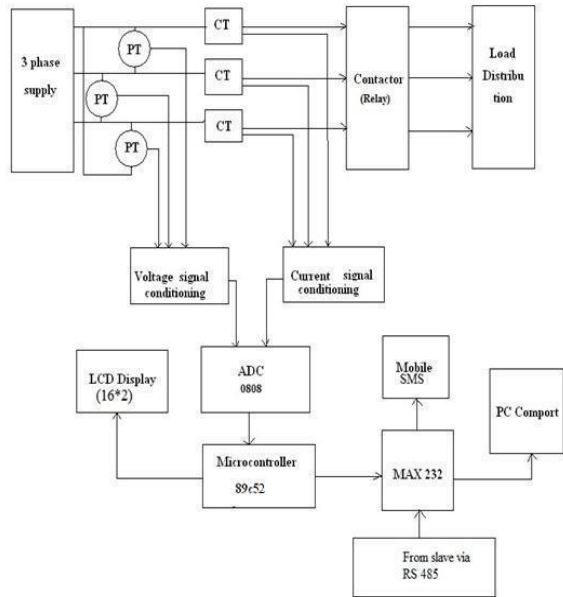


Figure 2. Functional block diagram of master station

C. MASTER – SLAVE COMMUNICATION

Implanted Units is discovered, simple remote innovation GSM and GPS Technology are utilized to send SMS to a screen control unit area. This area capacities just its relies upon symbol GPS module as following utilizing for transformer blame screen discovery when variation from the norm or crisis occurs and remote versatile telecom correspondence innovation. SIM-800 GSM modem module is utilized inbuilt versatile number to send message with facilitate track area utilizing GPS to dependable individual.

D. SLAVE STATION BLOCK DIAGRAM

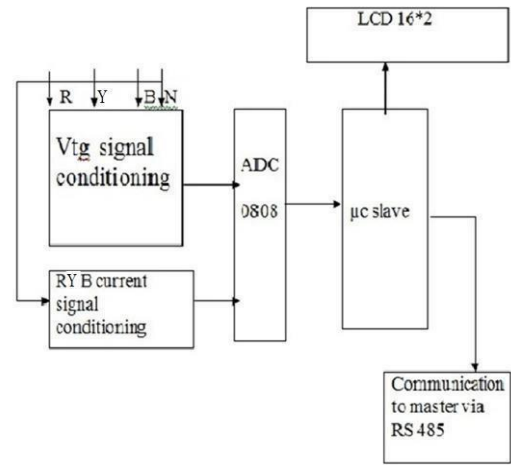


Figure 3 Functional block diagram of slave station

At the slave and energies units expended is constantly shown on the 16x2 LCD show. The slave sends its data to the ace by means of modbus RS 485. The ace contrasts its information and the slave and acts as needs be i.e. in the event that there is frightful distinction in the vitality units between the ace and the slave, a message will be send to a capable individual by means of remote correspondence mode GSM simcon.

IMPLEMENTED SOFTWARE TOOL A. MASTER STATION FLOWCHART

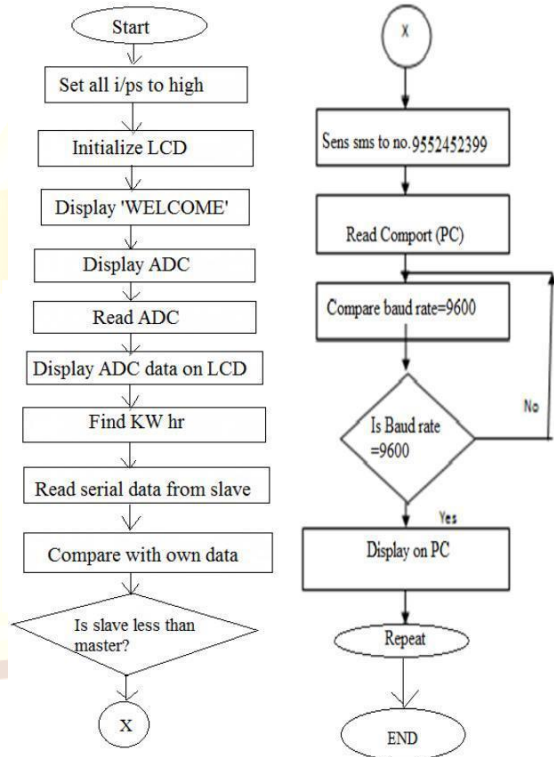


Figure 4. Master station flowchart

- a) MASTER ALGORITHM
 - 1) ADC displayed on LCD
 - 2) Receive of serial data via serial port RS485
 - 3) Comparison between master & slave reading.
 - 4) If drastic difference between master & slave occur, transfer SMS data serial buffer i.e. SBUF
 - 5) Send SMS to specific no. 9552452399
 - 6) Sharing of serial port
 - 7) Calculation of energy units,1kwhr
 - 8) Indicate data on PC

B. SLAVE STATION FLOWCHART

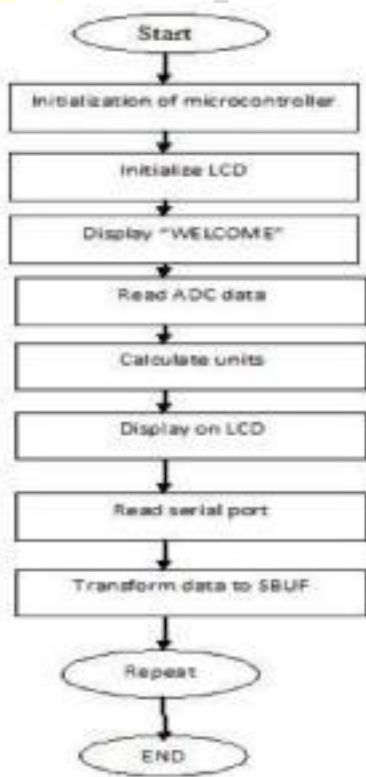


Figure 5. Slave station flowchart

1. SLAVE ALGORITHM
2. Read ADC, initialize LCD
3. Display on LCD
4. Initialize serial port
5. Transfer serial data to serial port
6. Repeat
7. End

IV. PERFORMANCE EVALUATION

The trial aftereffect of real parameters voltage and current are ceaselessly blame screen and distinguish the blame situate at the power control unit .R,Y,B Phase line 1,line2,line3 is done at by the ace found the blame screen arrange at the control end. GSM modem is use to message to at the season of the blame of an and mandatory to utilize PC hyper terminal interface with modem set AT order .

Readings taken at different cases are demonstrated as follows:-

CASES –I

Phase	Master energy units (mWhr)	Slave energy units (mWhr)	SMS status on SIM
Phase R	20	18	YES
Phase Y	21	21	
Phase B	22	22	

Table 1

CASES-II

Phase	Master energy units (mWhr)	Slave energy units (mWhr)	SMS status on SIM
Phase R	22	22	YES
Phase Y	23	22	
Phase B	24	24	

Table 2

The Transformer has structure a customary plan where setup down voltage the fire sensor is situated in the electric field is while the Xmr loop's is situate on Xmr the internal side where the get is set . The framework to give the 230volt AC yield control 24 Volt AC. 3-wire is associated with the optional curl of Xmr L1,L2,L3 this 3phase line the blame in the transformer.

CASES – III

Phase	Load units (mWhr)	energy units (mWhr)	SMS status In SIM
Phase R	19	19	YES
Phase Y	22	22	
Phase B	20	18	

Table 3



Figure 6. Sample SMS ON GSM

B. ADVANTAGES

1. This system design is very useful for electric power unit maintenance.
2. This System protection for very have loss for transformer
3. In system can b control over load problem.
4. Power distribution unit to easy way for track fault locations.
5. The system design very low cost.

V. CONCLUSION

The framework configuration screens different parameters blame of the Transformer line blame and screen breaking down and blame identification area of a transformer is done on the portable. The modem by means of correspondence innovation and the microcontroller guidance . In this proposition is working rule of the GSM and GPS modem. The framework characterizes the equipment circuit stream outline and the product. The product structure by module guidance distinctive pathways of the power control unit area of hardware framework. The execution of the arrangement of power and along these lines power will be accessible for more number of buyers in a very populated nation, for example, India

SCOPE FOR FEATURE WO

A transformer blame screen at a module can be interface with this framework for accepting and putting away transformer parameters data occasionally about all the dissemination intensity of transformers utility in a database application. This database will be a valuable wellspring of data on the utility transformers. The utility in observing the operational work of their circulation transformers and distinguish blames before at attributes disappointments in this way bringing about huge exceptionally cost sparing quick working framework unwavering quality.

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