

# Auto Load Shedder For Electricity Board Using GSM Technique

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## ABSTRACT

The problem of electricity losses is increasing day by day. Because of the weak ability of generating electricity, proper management of load shedding is very important. If now we went on to waste electricity, the future is definitely going to be darkened. We are developing the system for Electricity Board. The system will keep track of proper load management. Our aim is to develop the system which will be used for wireless management of load shedding in different areas in city or district.

**Keywords :** Max 232, GSM Model, Micro-Controller, LCD

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## I. INTRODUCTION

The problem of electricity losses is increasing day by day. Because of the weak ability of generating electricity, proper management of load shedding is very important. If now we went on to waste electricity, the future is definitely going to be darkened. We are developing the system for Electricity Board. The system will keep track of proper load management. Power cut or load shedding is a common process in countries where the production of electricity is less than the total requirement. To balance the availability and the requirement of electricity a concerned authority has to execute this process. This process is prone to human errors as an operator has to manually switch the channel on/off. If we can design an efficient and economical solution to perform this operation remotely from a centralized location, we will be able to replace the manual system with a sophisticated centralized remote system. "GUI Based Remote power distribution system using GSM" implements the emerging applications of the GUI (Graphical User Interface) & GSM technology, which has fully covered almost all areas of the world. This helps in reducing the implementation cost and makes it simpler and easier to install the GSM system both at the controller and transformer side. We have selected a GSM modem named quad band Fargo 900/1800Hz for our use. The proposed approach for designing this system is to implement

microcontroller based control module that receives its instructions and command from a cellular phone over the GSM network.

## II. LITERATURE SURVEY

"Islanding Scheme and Auto Load Shedding to Protect Power System" Srinu Naik Ramavathu, Venkata Teja Datla, and Harshitha Pasagadi. This paper presents a technique to develop an auto load shedding and islanding scheme for a power system to prevent blackout and to stabilize the system under any abnormal condition. In this paper, load shedding is done calculating the rate at which the system frequency is varying during an abnormal condition. The rate of change of frequency (rocof) technique proposes the sequence and conditions of the applications of different load shedding schemes and islanding strategies. It is developed based on the international current practices. It is designed, and an auto load-shedding and islanding scheme is developed which is quick and is highly helpful in obtaining system stability.

"GSM based automatic substation load shedding and Sharing using programmable switching control"

S.R.BALAN, P.Sivanesan, R.Ramprakash,  
B.Ananthakannan, K.Mithin Subash

This project is designed to control substation load shedding and sharing using a programmable switching control by automatically. In this project he demonstrates the working of this simple operation using a Microcontroller. The development of this application requires the configuration of the program through GSM module. In substation, there are many tasks like certain loads need to be switched on/off in specific time intervals. In this, the loads can be operated in three modes: Set mode, Auto mode and Manual mode All the modes and status of loads are displayed on an LCD. Finally GSM modem which sending sms to the control system we can select the mode and timing remotely.

“SMS based Load Shedding Period Control System”  
Dwijen Rudrapal, Smita Das Swapan Debbarma Goutam Pal

This paper demonstrates the need for a modern load shedding scheme and introduces the idea of developing a SMS based procedure for controlling the load-shedding system where manual work will be minimized by selecting the feeder, substation and duration of shedding time by the user by sending SMS.

**III.PROPOSED SYSTEM**

Conventional methods of load shedding systems are too slow to calculate efficiently the accurate amount of load to be shed. This consequences either excessive or insufficient load reduction. In latest years, load shedding systems have been carried out using conventional under-frequency relay and/or breaker interlocks schemes incorporated with Programmable Logic Controllers to give an innovative glance to an obsolete load preservation methodology. In true sense, period of load shedding can be controlled with a computerized power management system where rapid and optimal load management can be done. Again, the Computerized Load Shedding Control System can now be extended and it can be controlled by a SMS based system.

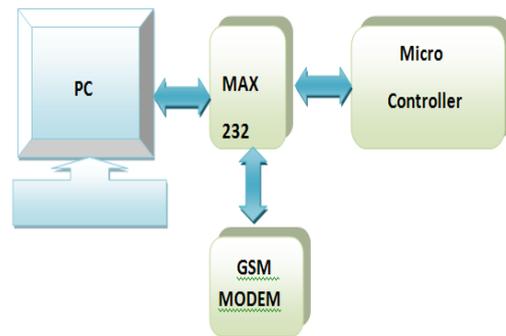
- Our aim is to develop the system which will be used for wireless management of load shedding in different areas in city or district.

The system will consist of 2 units.

- Main server unit will be place at head office of city.
- It contains RTC and KEYPAD to enter the time slots for load shedding for different areas.
- It contains LCD to display these time slots.
- The data will be sent to area sub server using GSM modem.
- The area sub unit will send these values to different remote stations in that particular area.

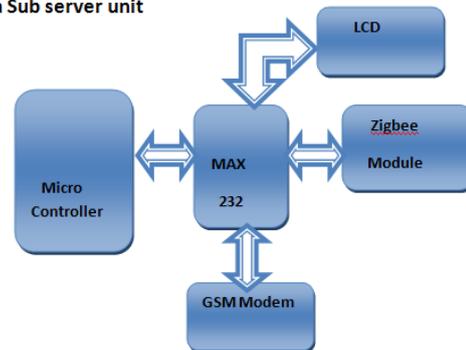
**IV. BLOCK DIAGRAM**

MSEB Unit: (Main Server)



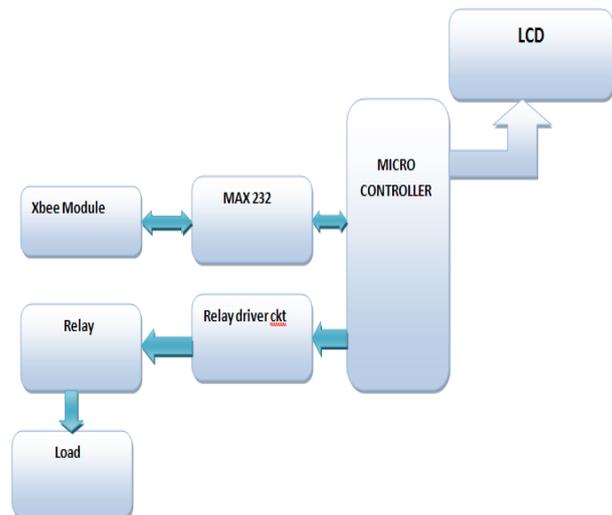
**Fig 1.** Block diagram of MSEB Unit

Area Sub server unit



**Fig 2.** Block diagram of Area Sub Server Unit

The Area Remote unit:



**Fig 3.** Block diagram of Area Remote Unit

## V. APPLICATION AND ADVANTAGES

Advantages:

- 1 .Save waste of electricity
2. Reduce problem of electricity

Applications:

1. To reduce electricity losses problems & to improve the ability of generating electricity .
2. For wireless management of load shedding in different areas in city or district.

## VI. CONCLUSION

'GSM BASED REMOTE POWER DISTRIBUTION SYSTEM' is a very useful project since with its help we can provide remote management of power distribution through easy to use GSM application. The device we have designed toggles on and off a transformer branch line from the remote control centre. We have tried to make our system easy to use and efficient by implementing GSM application. The main motive behind our system is to reduce human effort, cost and time involved in the process of load shedding.

## REFERENCE

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