

AUTOMATIC POWER SWITCH

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ABSTRACT

Automatic power switch is designed to backup the power supply when there is a blackout of power source. The Automatic Power Switch is functioning by using 2 relays which act as a switch. The first relay is used to connect the main source to the load directly while the second relay is used for the backup power to the load.

By understanding all the functionalities of those components, I can then start to design the operation of the whole project. The components that I use in this project are PIC16F87, current sensor, voltage sensor, and relays. I use the ADC of the PIC to count the voltage and current detected by the sensors and then show it on LCD. I use C programming to command the PIC.

This project faces the problems of cost. Some parts which are needed such as converter and inverter are very expensive. In order to solve this problem, I change the AC input to DC input (by battery or voltage supply), but it will still generate AC output. By using this method, I can save some cost on buying the converter.

This project meets most of the requirement. However, it still got a lot more to improve, such as switching speed, adding more optional source.