

A COST EFFECTIVE APPROACH TO IMPLEMENTING CHANGE OVER SYSTEM

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ABSTRACT

This paper reviewed the methods of implementing change over system and proposed a better and cost effective approach to realizing the same. Some of the approaches which have been employed to implement change over system include manual change over switch box, automatic change over system with electromechanical relays and change over system with automatic transfer switch. Each of the methods has some drawbacks that make it undesirable. Among these drawbacks are time wastage, possibility of fire outbreak, generation of noise, frequent failures, product damage, high component count to mention but a few. These contribute to the high cost of these methods. The approach proposed in this paper makes use of solid state relay(SSR) which eliminates totally the noise, arcing, wear and tear associated with electromechanical relays. Digital integrated circuits and microcontroller were used to reduce the component count as well as improve the speed of the system. The system also has some desirable features like liquid crystal display (LCD) which makes the system user friendly, an alarm system for indicating generator failure, automatic phase selector for selecting most appropriate phase, over-voltage and under-voltage level monitoring.

Keywords: electromechanical relays, Automatic phase selector, solid state relay, voltage level monitoring