

AUTOMATIC POWER FACTOR DETECTION AND CORRECTION BY USING 8051 MICRO CONTROLLER

*A project report submitted in partial fulfillment of the requirements
For the award of the degree of*

BACHELOR OF TECHNOLOGY IN ELECTRICAL & ELECTRONICS ENGINEERING

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Tamaram, Narsipatnam, Visakhapatnam-531113

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CERTIFICATE

This is certify that the project report entitled "AUTOMATIC POWER FACTOR DETECTION AND CORRECTION BY USING 8051 MICRO CONTROLLER" is a bonafide work submitted by CH SIVA BALAJI NAIDU, V HARICHANDAN, P L K CHAITANYA, K POORNA KISHORE, M KONDALARAO in partial fulfillment of the requirements for the award of degree of

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ABSTRACT

In the present technological revolution power is very precious. So we need to find out the causes of power loss and improve the power system. Due to industrialization the use of inductive load increases and hence power system losses its efficiency. So we need to improve the power factor with a suitable method. . When ever we are thinking about any programmable devices then the embedded technology comes into fore front. The embedded is now a day very much popular and most the product are developed with Microcontroller based embedded technology.

Automatic power factor correction device reads power factor from line voltage and line current by determining the delay in the arrival of the current signal with respect to voltage signal from the function generator with high accuracy by using an internal timer. This time values are then calibrated as phase angle and corresponding power factor. Then the values are displayed in the 2X16 LCD modules. Then the motherboard calculates the compensation requirement and accordingly switches on different capacitor banks. This is developed by using 8051 microcontroller.

Automatic power factor correction techniques can be applied to the industries, power systems and also house holds to make them stable and due to that the system becomes stable and efficiency of the system as well as the apparatus increases. The use of microcontroller reduces the costs.