

## Protection of solar electric car DC motor with PIC controller

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### ABSTRACT

The electric car may represent new opportunities for any country and its electric utilities. Widespread use of electric cars can reduce the consumption of both imported and domestic oil, substitute abundant fuels such as coal and nuclear power. Since the charging of electric cars DC motor can be accomplished to a large extent during utility off-peak hours, electric cars can contribute to improve the utility load factors, as a result, reducing the average cost of generation. The problem arising when the DC motor does not stop automatically due to the abnormal condition and cause the loss of energy and the damages to the motor itself. This paper is mainly about controlling ON and OFF of Electric Car DC motor when the load is sharply varied. In this study, the DC motor is connected to the current sensor interfaced with the PIC controller and a booster IC is used to boost 12V to 24V from a rechargeable battery which is supplied by a solar panel. The PIC is utilized for automatically stopping the DC motor in order to save the Electric Car and reduce the lost of energies. The Microcode Studio software has been used for PIC coding incorporating with the Protues 7.5 simulation. Since the DC motor is being used extensively in machineries and vehicles, the proposed controlling system in this paper could reduce the cost in the industries and improve the quality of Electric Cars.

### KEYWORDS:

Electric Car; DC motor; PIC controller; Temperature sensor

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