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| **Title:** | Universal Battery Charging System for Electric Vehicle Using Single Phase Variable PWM Control Buck Converter |
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| **Abstract:** |  |
| The main goal of this project is to use the solar or AC power to charge all kind of regulated and unregulated battery like electric vehicle’s battery. Besides that, it will charge Lithium-ion (Li-ion) batteries of different voltage level. A standard pulse width modulation (PWM) which is controlled by duty cycle is used to build the solar or AC fed battery charger. A microcontroller unit and Buck/Boost converters are also used to build the charger. This charger changes the output voltages from variable input voltages with fixed amplitude in PWM. It gives regulated voltages for charging sensitive batteries. An unregulated output voltage can be obtained for electric vehicle’s battery. The battery charger is tested and the obtained result allowed to conclude the conditions of permanent control on the battery charger. |