

# Wireless Charging Electric Vehicle with Management Unit

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**Abstract:** *Now a day's world is shifting towards electrified mobility to reduce the pollutant emissions caused by nonrenewable fossil fueled vehicles and to provide the alternative to pricey fuel for transportation. But for electric vehicles, traveling range and charging process are the two major issues affecting its adoption over conventional vehicles. Method of dynamic wireless charging allows to keep the vehicle charge while running. To overcome the issue of charging process, a wireless charging & battery management unit for electric vehicle is designed. In this project, a wireless charging system will be implemented. Along with this, a battery management unit will be design, which will show the battery percentage & auto cut the supply when battery get full. For charging stations, an AC to DC converter system is used along with wireless power transmitter. Whereas in vehicle, wireless power receiver system is used. These both transmitter and receiver will be inductively coupled to transfer maximum power. This wirelessly received power will be regulated and given to battery for charging. To measure battery voltage, a voltage sensor is used. Battery voltage will be measured by microcontroller & displayed on 16x2 LCD. It will also display battery low status, whenever battery voltage fall below certain level. To avoid overcharging, microcontroller will turn off the charging trough relay when battery gets full.*

**Keywords:** Arduino, Ohm's Law, PCB, Capacitor, Relay

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