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STUDENT PROJECT PROPOSAL

(SPP-37th SEREIS: 2013-2014)

Dr.AMBEDKAR INSTITUTE OF TECHNOLOGY

Near JnanaBharathi Campus, BDA Outer Ring Road, Mallathahalli, Bangalore-560056

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PROJECT TITLE:

HYBRID ELECTRIC BICYCLE FOR RURAL APPLICATIONS

Project ref. no.: 37S1056

Department of Electrical and Electronics Engineering

Under Innovative project

GUIDANCE BY:

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Introduction

As the price of crude oil is increasing significantly over the past few years and seems no turning back towards lower price. The world-wide focus for any invention is being carried out with clean environment. The electric bicycle offers a cleaner and eco-friendly alternative to travel short-to-moderate distances rather than driving a gasoline-powered vehicle. Many countries in the today's world is encouraging to have cleaner environment and less dependence on foreign oil in transportation system

The conventional bicycle can be made an electric bicycle simply by connecting an electrical motor to ride a bicycle without pedaling.

Block diagram of Electric Bicycle

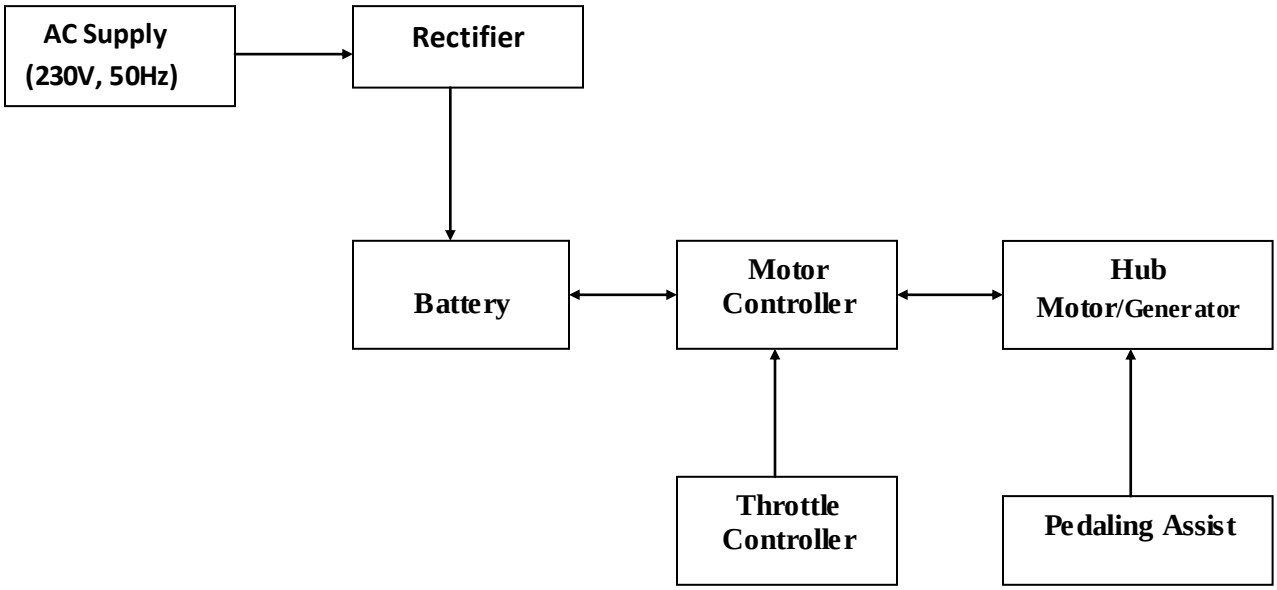

Fig1. System Block Diagram for Electric Bicycle

As shown in Fig.1 the power source chosen is DC source and is Battery i.e., Lithium-ion battery is used because of its high energy density and it is charged from AC supply of 230V, 50Hz

The Majority of power for charging is provided through AC supply whenever rider is not riding bicycle i.e. at parking areas. Pedaling option is also provided for rider so that person riding can also have exercise for the body and can enjoy riding.

The battery is interfaced with the motor controller block. The motor controller controls all the functional capabilities. The basic requirement for the control is to regulate the amount of power applied to the motor. The inputs to the controller include the speed and current signals that are supplied by the throttle. The motor used commonly is a DC motor; especially a brushless Dc