HYBRID ELECTRICAL BICYCLE

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ABSTRACT - At present, the European cities are living each day an accumulation of excessive traffic and noise. Approximately one quarter of the population of the UE live within 500 m from a road with more than three million vehicles annually. Although the 50 % of the journeys by car doesn't reach the 5 Km and the 30 % don't even reach 3 Km, the 75% of the mobility in the European cities are done by carDifferent perspectives that are as a rule genuinely hurt by the city traffic are the air quality and the wellbeing. The traffic is the principle wellspring of many air poisons, for example, carbon monoxide and suspended particulates. Likewise, expansion, the air contamination is the primary driver of ecological illness in Europe. Due to this air contamination, the residents have numerous potential outcomes to experience some cardiovascular and respiratory issues. The main reasons of this air contamination are the traffic increment, likewise the expansion of vehicles with diesel motors that are more poison than vehicles with gas motor. Another explanation that clarifies the air contamination in the cities is the fact that vehicles pollute more in urban environments because of the traffic.

I.   INTRODUCTION

According to a German study, 4000 heart attacks annually are due to traffic noise (UBA, 2006). Other possible consequences are the lack of sleep, discomfort, and mental effects. Finally, and no less important, the climate change is quickly growing because of the air pollution in the cities. Urban traffic accounts for over 40% of CO_2 outflows created by vehicles and 10% of absolute CO_2 emanations in the EU. 3 outflows created by vehicles and 10% of absolute CO_2 emanations in the EU. To advance the present circumstance, it is important to change the way of life and the ensembles for metropolitan portability. Foundations and residents should put forth an attempt and attempt to take care of this issue quickly. Coming up next are a few points that would help to solve the problem:

•Reconciling the economic development in cities with the quality of life and environmental protection.

•Developing lifestyles less dependent on cars.

•Developing new clean an efficient ways of transport.

•Minimize the environmental and health damage.

•Reduce the energy use and the economic and social cost.

1.1 OBJECTIVE

To foster a basic vehicle model and reproduction for measuring of force train parts followed by choice of force train segments .

To propose and foster a basic control system for the module cross breed electric two – wheeler appropriate For city driving conditions.

To assess the annual saving of gasoline and reduction of CO_2 emission for the span of next 10 years This hybrid electric vehicle can be configured to meet different objective such as improved Fuel economy ,increased power ,or additional auxiliary power for electronic devices and power tools .

1.2 HARDWARE
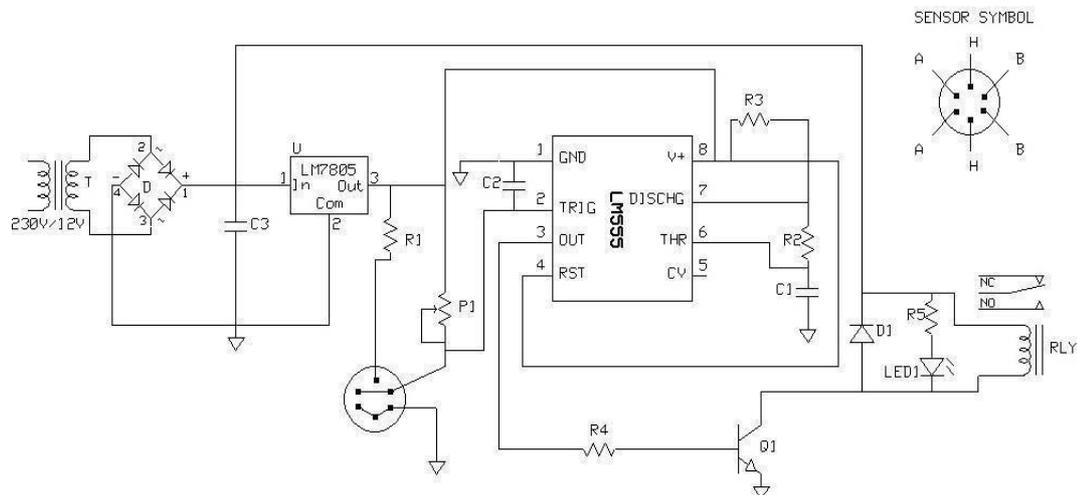
1.2.1 HYBRID SOLAR BICYCLE
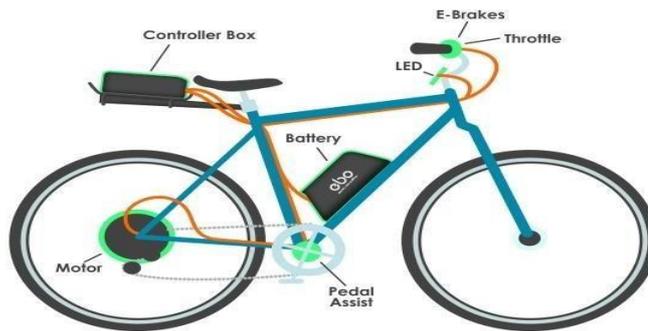
Alcohol sensor

Fig.1. Circuit Diagram of MQ3 sens

OPERATION

The circuit described here is very useful in alcohol detection. MQ3 gas sensor has high sensitivity to alcohol, and has good resistance to disturb of gasoline, smoke and vapour. The sensor could be used to detect alcohol with different concentration, it is with low cost and suitable for

different application.

The main part of the circuit is the sensor which when biased with 5V supply from 7805 IC through R1 resister, the sensitivity is set by P1 preset. The sensor senses the gas and develops the trigger signal. This trigger signal is filtered by C2 and fed to pin2 of 555IC where pin2 is trigger pin of 555IC. This IC acts as monostable multivibrator which has only one stable state and one quasi stable state. Output of IC becomes high only when trigger is applied and remain high till capacitor charges to 2/3Vcc. The output is received on pin3. There is LED indication for the ON and OFF of relay. This output is fed to relay RLY via driving transistor BC547. Hence relay coil gets energized and buzzer will gets ON and same informstion of alcohol detection STOPS the bike Following figure shows the typical sensitivity characteristics of the MQ-3, ordinate means resistance ratio of the sensor (Rs/Ro), abscissa is concentration of gases.

II. SOLAR PANNEL

Fig.2 Solar Panel

This solar module comes with a 10 foot cord attached. The Solartech 5 to 20 watt solar panels have a channel frame for mounting, see spec sheet for details. With smaller battery systems you should have a charge controller, such as the Morningstar SunGuard. For larger battery systems, 400 amp-hour and over one is usually not needed. This module has a built-in blocking diode.

Specifications:

Max Rated Power (Pmax)	10 Watts
Voltage at Max Power (Vmp)	17.3 Volts
Current at Max Power (Imp)	0.59 Amps
Open Circuit Voltage (Voc)	21.8 Volts
Short Circuit Current (Isc)	0.64 Amps
Length x Width x Depth (inches)	13.8 x 11.8 x 0.98
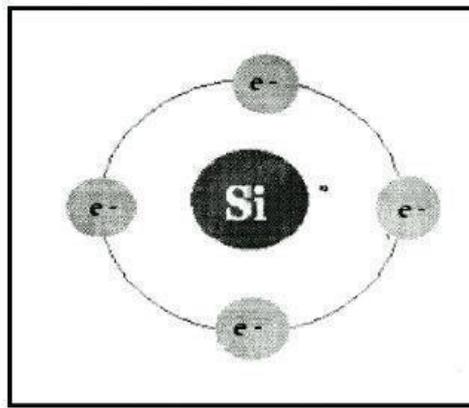
2.1 Silicon in Natural State

When silicon is stripped of all impurities, it makes a ideal neutral platform for the transmission of electrons. Silicon also has some atomic level properties which make it even more attractive for the creation of solar panels. Silicon atoms have room for eight electrons in their outer bands, but only carry four in their natural state. This means there is room for four more electrons. If one silicon atom contacts another silicon atom, each receives the other atom's four electrons.

This creates a strong bond, but there is no positive or negative charge because the eight electrons satisfy the atoms' needs. Silicon atoms can combine for years to result in a large piece of pure silicon. This material is used to form the plates of solar panels. In order for electricity to flow, a positive charge must also be created. This isachieved in solar panels by combining silicon with an element such as boron, which only has 3 electrons to offer.

A silicon/boron plate still has one spot left for another electron. This means the plate has a positive charge. The two plates are sandwiched together in solar panels, with conductive wires running betweenthem.

DISADVANTAGES

1. You have to clear areas for them.

2. It might be stormy.

3. May brake

2.2 ELECTRICAL BRAKE

The e-brake lever is a replacement for the regular brake lever and either cuts out the controller or engages regenerative braking in the controller when the lever is squeezed. We have integrated levers for both mechanical and hydraulic brakes, as well as a TripWire product which can be added to your existing levers to turn them into e-brakes. All operate as a NO switch, with two wires that close the circuit when the brakes are engaged.

Brake for Ebike MY1016 is an attachment for its motor controller, it provides smooth breaking while not damaging motors and it's performance. There comes a time in every biker's life where braking becomes a high priority, especially in a world filled with inattentive car drivers that so often do not even notice fast moving bicyclists. A car may pull out right in front of you, or open a door in front of you as you ride in a bike lane, and countless other obstacles.

In emergencies like these, even a small improvement in stopping power can make a big difference, especially if you are riding an electric bike with its higher speed and increased weight. While good equipment like disc brakes are highly recommended, this article focuses on the basic information to use the brakes you have most effectively.

Specifications and Features:

1.   Fit Handlebar Diameter: 22 mm/0.9".

2.   Fit Cable Wire Diameter: 4 mm.

3.   Total wire length: 1.4 m.

4.   Total Weight: 120 gm.

5.   Side: Left-Hand side

III.   ADVANTAGES AND DISADVANTAGES

Advantages

1. Pollutionis almost zero.
2. Less manpower required
3. Totally natural power to be used.
4. Operation will be smooth.
5. Different speed level can be achieved.
6. Efficiency will be more.
7. Less initial cost.

Disadvantages

1. Braking and speed restriction applied.
2. Atmospheric restriction applied.

Application

1. In small scale and large scaleindustry.
2. In farming system.
3. For residential as well as commercial place.
4. Routine labour.
5. Short distance travelling.
6. It is more beneficial for school and college student.

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