

DC Motor Control Using Android.

About This Project:

This project we demonstration of, Speed, direction Control of DC Motor using Arduino controller with the help of Bluetooth Android apps .Interfacing DC motor to the microcontroller is a very important concept in many industrial and robotic applications. By interfacing DC motor to the microcontroller, we can control the direction of the motor, control the speed of the motor. Speed & direction Control of DC motor using Android mobile has many applications like industrial applications, escalators, elevators, Robotic applications, and security systems application. The user needs to install an android application on his/her Android smartphone. The user can send directions to control the speed of DC motor. Bluetooth Wireless communication is used to send commands to the user and the controller. The main hardware components of the circuit are Arduino microcontroller platform, motor driver L293D IC, DC motor, Bluetooth module, and Android smartphone. The circuit uses standard power supply comprising of a step-down transformer. And 4 diodes forming a bridge rectifier that delivers pulsating dc which is then filtered by an electrolytic capacitor. The filtered dc being unregulated, IC LM7805 is used to get 5V DC constant. The regulated 5V DC is further filtered by a small electrolytic capacitor of 10 μ F for any noise so generated by the circuit. The control signal from Android device will be sent through Bluetooth. This signal will be communicated with the microcontroller with the help of transmitter and receiver of both the devices. This signal will be signified by a single letter which controls the speed and direction of the motor. In this project, the main working principle is the PWM pulses are generated from the programmed microcontroller to enable pin 1 of L293D for increasing and decreasing the duty cycle of pulses. These duty pulses can lead to driving the DC motor in the proper direction with specific speed.

Block Diagram:

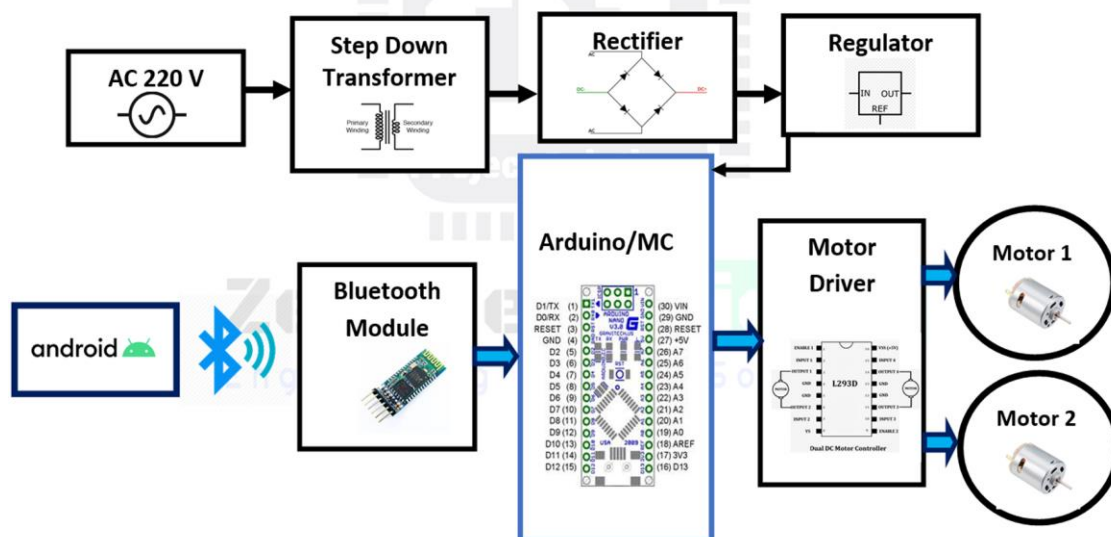


Figure: Block Diagram of DC Motor Control Using Android.

Office:

Road#04, Plot#03, Sec#6/Ka,
Mirpur-2, Dhaka-1216

Web & Mail:

www.projects.zeronebd.com
projects.zeronebd@gmail.com

Contact:

01676 99 80 99
01714 80 84 02

Required Instrument:

- Arduino Nano.
- Bluetooth Module.
- Motor Driver IC L293D.
- DC Motor.
- Transformer.
- Full Wave Bridge Rectifier.
- Voltage Regulator.
- Capacitor.
- Switch.
- Resistor.

Advantages:

- Motor forward and reverse can be controlled
- Motor Speed can be controlled.
- Wireless Controlled.
- Energy wastage is prevented

Applications:

- This method can be used in various household items/home appliance such as Washing Machine, Blender Machine etc.
- This system can be used in all places where DC motors are used.
- It's can be used industrial and robotic applications.

N.B: Any modification of this project can be done as per your requirement. We will make the project according to your needs. Contact us with your any innovative engineering projects idea. We will help you to implement your project.

Office:

Road#04, Plot#03, Sec#6/Ka,
Mirpur-2, Dhaka-1216

Web & Mail:

www.projects.zeronebd.com
projects.zeronebd@gmail.com

Contact:

01676 99 80 99
01714 80 84 02