

OBJECT AVOIDING ROBOT USING ULTRASONIC SENSOR

ABSTRACT

Now day's many industries are using robots due to their high level of performance and reliability and which is a great help for human beings. The obstacle avoidance robotics is used for detecting obstacles and avoiding the collision. This is an autonomous robot. The design of obstacle avoidance robot requires the integration of many sensors according to their task. The obstacle detection is primary requirement of this autonomous robot. The robot gets the information from surrounding area through mounted sensors on the robot. Some sensing devices used for obstacle detection like bump sensor, infrared sensor, ultrasonic sensor etc. Ultrasonic sensor is most suitable for obstacle detection and it is of low cost and has high ranging capability.

The obstacle avoidance robotic vehicle uses ultrasonic sensors for its movements. A microcontroller of 8051 family is used to achieve the desired operation. The motors are connected through motor driver IC to microcontroller. The ultrasonic sensor is attached in front of the robot.

Whenever the robot is going on the desired path the ultrasonic sensor transmits the ultrasonic waves continuously from its sensor head. Whenever an obstacle comes ahead of it the ultrasonic waves are reflected back from an object and that information is passed to the microcontroller. The microcontroller controls the motors left, right, back, front, based on ultrasonic signals. In order to control the speed of each motor pulse width modulation is used (PWM).

At work as usual: 080-40969981 | Write to me: info@technofist.com, technofistprojects@gmail.com

| when u needs me the most: +91-9008001602, 080-40969981 |

On theWeb: www.technofist.com , www.itcdp.in