

Multifunctional Robotic Cart – RoCart

Introduction

Multifunctional Robotic Cart can be used in different environments like hospitals, manufacturing industry, home, etc. to carry out various related functions through any of the three modes of operations:

Fully autonomous mode: The robotic cart tracks a dark line drawn on a lighter background to maneuver itself while performing multifunctions. IR sensors detect the deviations on the track and Ultrasonic sensors detect the obstacles. The motion to the cart is activated using two START/ STOP switches available on the RF transmitter console.

Manual Mode: The robotic cart can be maneuvered in any direction using the joystick positioned in the RF transmitter console.

Semi-autonomous Mode: The robotic cart can be maneuvered in any direction using the joystick positioned in the RF transmitter console. Ultrasonic sensors detect and avoid the obstacles coming in the way by changing its motion path.

Features

- Remotely controlled robotic cart, programmed to operate in three different modes
- Collision detection and avoidance using Ultrasonic range sensors
- Line follower using IR Sensor module
- Module based attachments
- Wireless RF Remote for motion controls of accessories like Cabinet, Hand Sanitizer, Disinfectant Sprayer etc
- Differential wheel drive for maneuvering on a curved / straight path
- Rear wheel drive using powerful DC motors
- Front castor wheels provides minimum turning radius
- Equipped with electronic brakes and auto power cut feature
- Smooth and uniform movement in forward and reverse directions
- Customizable chassis and load capacity by changing motor & battery

Specifications

- Motion Control : Differential
- Controller : Stand alone
- Drive Interface : RF Switches
- Wireless control range : Max. 100 feet
- Communication : RF wireless transmitter and receiver
- Speed : 1 m/sec

- Speed Levels : Fixed
- Load Capacity : variable up to 100 Kgs
- Rechargeable battery

Benefits

- Automates the manual processes in various environments like Industry/ Hospitals/ Home
- Saves time / manpower
- Can be used to go in hazardous environments, sanitization, fume spray
- Useful to supply food, water and medicine for any contagious ward like COVID-19
- Eliminates the manual process of material transfer in medium scale/heavy industry without much human intervention
- Can be used to perform various functions at home

Applications

The device can be customised for use by:

- Hospitals Applications (General/ Army/ Private)
- Domestic Applications (Elder/disabled care; Cleaning)
- Industrial Applications (Heavy/Light)
- Guidance Applications (Malls/ Museums)

