RoboCar
Nvis 3302ARD

Nvis 3302ARD is capable of sensing environment using various sensor modules and acts accordingly. Nvis RoboCar is a ready assembled unit consisting of strong chassis wheels with different Sensor modules mounted on it. The machine is driven by DC motors which are powered by rechargeable batteries. This Nvis 3302ARD is Atmega328P Microcontroller RoboCar, is designed for users to start developing smart robot which is capable of accelerometer balancing, Gyroscope angular velocity sensing, Ultrasonic obstacle avoiding/detecting and distance measure and many more. There is Zigbee for wireless control your smart RoboCar.

Features

- **Wireless Zigbee RoboCar control**
- **Ultrasonic RoboCar control**
- **DC motor interface & control**
- **Gyroscope Accelerometer Sensor Interface and control**
- **Expansion Analog connectors for enhancing more experiments**
- **Expansion PWM connectors for Servo motor Interface**
- **Expansion connectors for use ISP Programming**
- **Onboard motor Driver IC to control Motor**
- **Onboard battery charger**
- **PC based Programming**
- **Separate reset switch facility for Zigbee, controller**
- **Every pin is marked in order to make work easier**

Scope of learning

To study the:

- Basic robotic theory
- Board Configuration and pin configuration
- Programming on Arduino (ATmega328P) Processor
- Control DC Motor
- Ultrasonic Sensor
- Zigbee Interface with robot control
- Gyreosensor with accelerometer
- Arduino Software hardware Interfacing
- Accelerometer interfacing
- Gyroscope interfacing
- Led interface
- Learn to interface various Sensor modules

Technical Specifications

Robot Mechanism

- Motors: 2 metal geared 12V DC/150rmp/2Kgcm

- Interconnection for modules: CBK male connector

Robotic Processor Board

- Arduino processor with on board Zigbee for movements Control.

- Arduino Controller IC - Atmega328P

- FT232 PCB for USB programming

- Motor driver ICs - L293d

- On board Zigbee 2.4 GHz for robotic control

- Sensor interfacing PCB, CBK male connectors plug able onboard.

- Sensor interface PCB with facility

  - Ultrasonic

  - Accelerometer(on range: ±2g, ±4g, ±8g, ±16g)

  - Gyro scope(on range: ±2g, ±4g, ±8g, ±16g)

  - 4 Analog sensors and 1 Digital

  - 6 PWM servomotors optional

- USB 2.0 compatible for programming PCB

- 16 MHz Crystal Oscillator

- Separate reset switch facility for Zigbee, controller

- On board 4 SMD LEDs for digital output indicator

- Rechargeable batteries 8.4V /3000mAh (Lithium battery)

- DC Charger Supply 9volt/700mAh.

- On Board battery charger

- On Board separate Supply +5V, +3.3V

The Robotic Mechanical Structure

Dimension	:	190 x 190 x 80mm Dual rim
Weight	:	1kg approx.

Included Accessories

DC Adapter 9V/700mA	:	1 no.
Product tutorial CD	:	1 no.
USB Cable B type	:	1 no
Zigbee base with Zigbee	:	1 no
Optional Accessories		
AVR USB Programmer	:	1 no.
Simtel Robotics	:	1 no

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