Arduino Based Robotic Kit

Overview

Arduino Based Robotic Kit is a versatile development kit featuring Arduino Nano, L293D motor driver, OLED display, and sensor sockets. Ideal for rapid prototyping of autonomous, Bluetooth-controlled, or IoT-enabled robotic systems, it provides an educational platform for students, researchers, and hobbyists to develop smart robot and embedded projects.

Fig:Robotic Kit

Key Features

- Built-in Arduino Nano (ATmega328P)
- L293D motor driver for DC/stepper motors
- 0.96" OLED display interface
- HC-05 Bluetooth module socket
- MQ-series gas sensor socket
- Onboard buzzer for alerts
- Multiple GPIO headers for sensors/servos
- Reverse-polarity & overcurrent protection

Technical Specification

- Microcontroller: ATmega328P (Arduino Nano compatible)
- Operating Voltage: 5V DC; Input: 7–12V DC (Barrel/USB-C)
- Motor Driver: L293D Dual H-Bridge, 2 channels (DC/stepper), 4.5–36V, 600mA per channel
- Communication: HC-05 Bluetooth, I²C, UART, SPI (optional)
- Display: 0.96" OLED (I²C)

- Sensors: MQ-series gas, ultrasonic, potentiometer
- Buzzer: Onboard piezo
- Power Supply: 5V regulated, DC barrel jack, USB-C, onboard regulator
- Protection: Reverse-polarity (SS34), overcurrent
- Expansion: Female headers for I/O, GND, 5V, VIN, Reset
- Optional Modules: Ultrasonic, IR, Servo, LCD

APPLICATIONS

- Bluetooth-controlled robotic cars and vehicles
- Line follower and obstacle-avoiding robots
- Gas detection and alert systems (MQ-series sensors)
- IoT-based environmental monitoring and data logging
- Smart home and automation projects
- Educational robotics and embedded systems training
- Prototyping of embedded control systems and mobile robots
- Alarm and security alert systems
- Bluetooth-based appliance control and automation