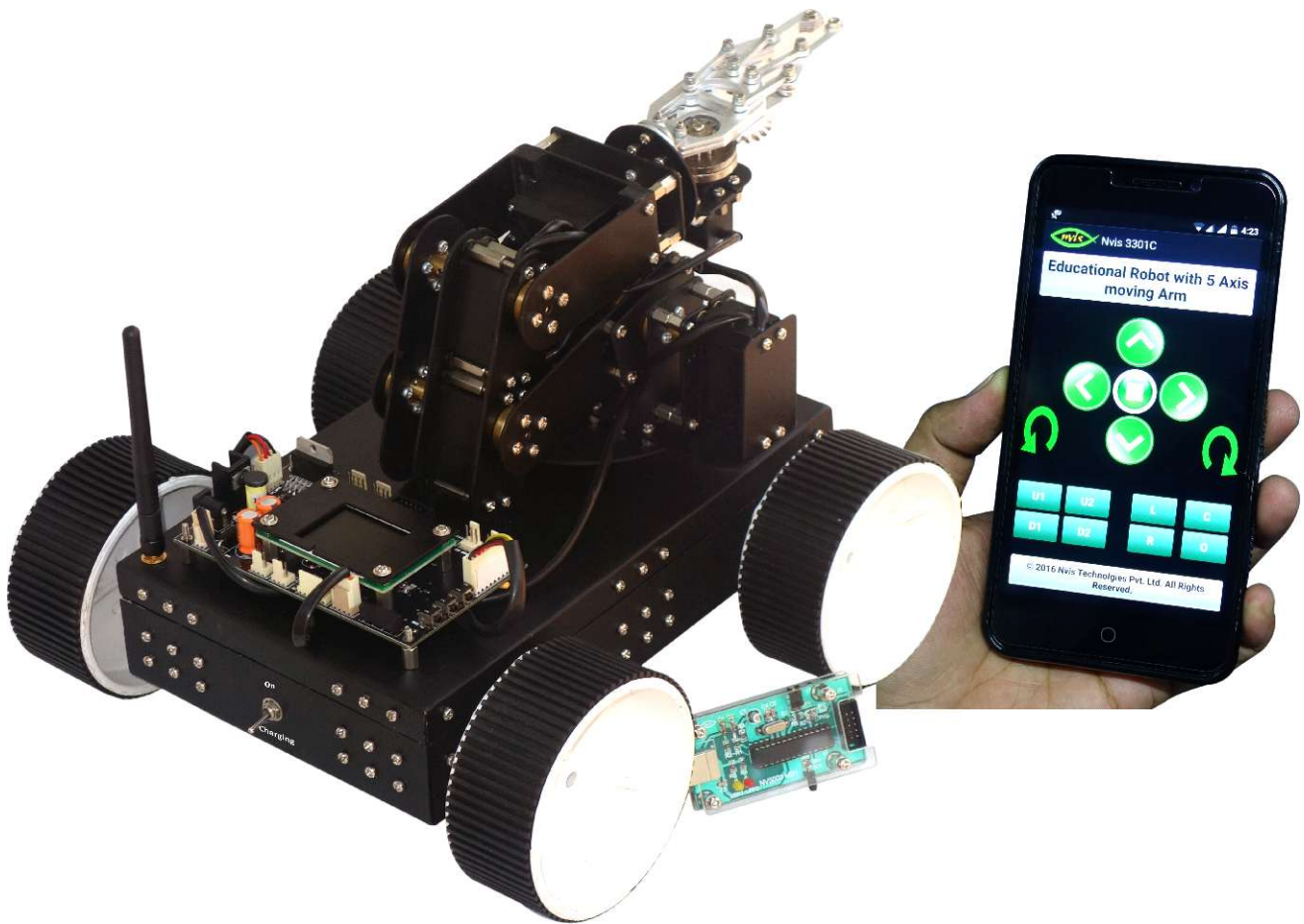




# Educational Robot with 5 Axis moving Arm

Nvis 3301C



**Nvis 3301C Educational Robot with 5 Axis Moving Arm** an educational robotic arm based on ATmega 128 which provides knowledge about basic mechanical design concepts and also deals with very fascinating features like Servo motor interfacing and controlling, wireless control, graphical TFT interfacing etc. This Moving Arm driven by the RC servo motors consists of 5 degree of freedom (DOF) which can be represented by the rotating base, shoulder, elbow, wrist and the gripper. DC motors at its base makes it a moving robotic arm

## Features

- Moving Robotic Arm
- Wireless Wi-Fi control
- 160x128 TFT Color LCD interface
- DC motor interface & control
- Servo motor interface
- Switch interface
- Expansion connectors for more experiments
- Onboard battery charger
- PC based programming
- Gripper for pick and place
- Online Product Tutorial



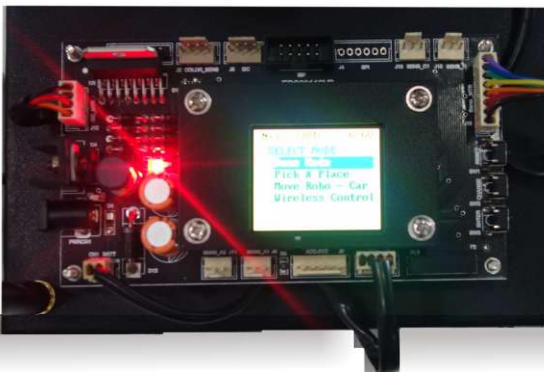
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## Nvis 3301C

### Scope of Learning

- Learn to interface RC servo motor with ATmega128 microcontroller
- Learn the concept of RF communication
- Learn to interface LCD with ATmega128 microcontroller
- Learn to interface DC motor with ATmega128 microcontroller
- Learn the concept of Pick and Place Robot
- Learn to interface color sensor and study of application like color detection and sorting
- Gaining knowledge about Robotics and ATmega128 microcontroller
- Wi-Fi Module Interface

### Main board of Nvis 3301C



Compact AVR USB Programmer

### Technical Specifications

MCU	: ATmega128
Crystal Frequency	: 16MHz
DC Power Supplies	: +8.4V & +5V & 3.7V
Charger Supply	: 9V/1A
Battery Power	: 8.4V / 4400mAh

#### Motor

##### DC Motor

Rated Voltage	: +12V DC
Rated Speed	: 100rpm
Rated Torque	: 2Kgcm
Rated Current	: No load-60mA, With load 300mA

##### High Torque Metal Gear Standard Servo

Operating Voltage	: 4.8-6.0 Volts
Operating Speed(4.8V)	: 0.18sec/60 degrees at no load
Stall Torque(4.8V)	: 14kg/cm

#### Degree of Freedom

Base	: 0 to 180°
Shoulder (1 and 2)	: 0 to 180°
Elbow	: 0 to 180°
Wrist	: 0 to 180°
Grip	: 50° to 90°

**Payload** : 150 gm

#### Included Accessories

Battery (8.4V)	: 1 no.
4-pin relemate female cable	: 3 nos.
Compact AVR USB Programmer (Nvis 5003P)	: 1 no
Software CD	: 1 no.
Battery Charger Adapter 9V	: 1 no.

#### Optional Accessories

Sensor Modules:

- IR Sensor (Nvis MCS02)
- TSOP-IR Sensor (Nvis MCS03)
- Fire Sensor (Nvis MCS04)
- Light Sensor (Nvis MCS05)
- Clap Sensor (Nvis MCS06)

