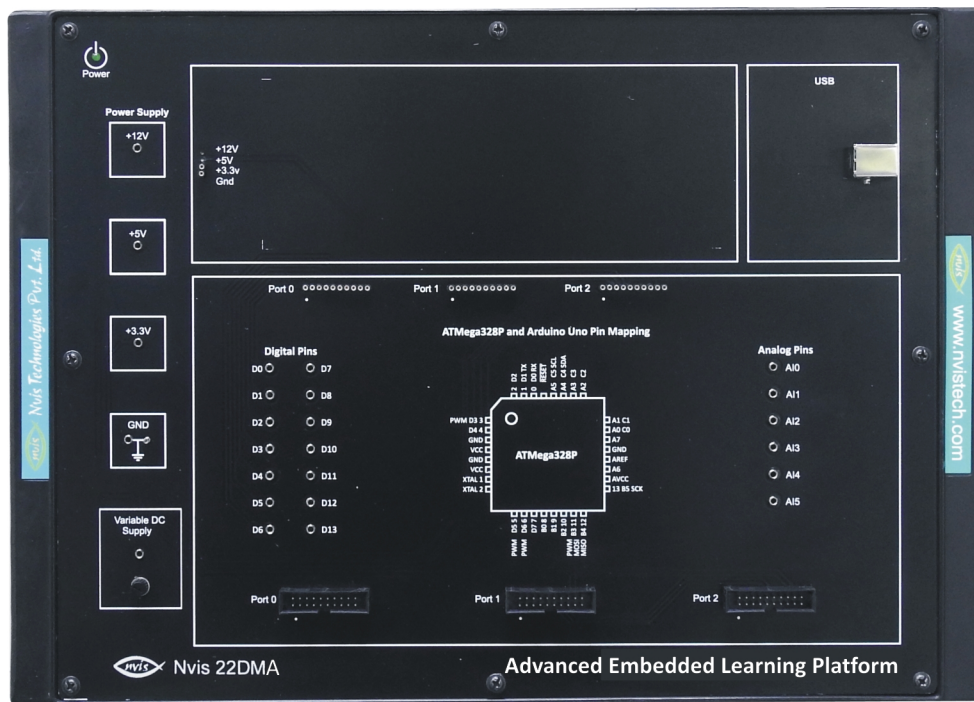




# Advanced Embedded Learning Platform

## Nvis 22DMA



**Nvis 22DMA Advanced Embedded Learning Platform** is a full featured development platform for ATmega328P microcontrollers. The Nvis 22DM is a convenient way to teach the principles of the Arduino & the family of AVR microcontrollers through programming and interfacing on the ATmega328P device. It is an ideal platform to implement and test the designs both for the beginners and the experts. Using the platform a range of projects in various domains like telecommunication, robotics, consumer electronics etc can be done.

Nvis 22DMA Advanced Embedded Learning Platform Interface Module is a platform designed for students. It will help them to get aware with the world of microcontroller and embedded systems.

### Features

- ATmega328P MCU clocked at 16MHz
- USB Boot loader to program ATmega328P device
- On board ISP connector for PC based programming
- Every pin is marked in order to make understanding easier
- Master Reset/Restart key for hardware reset
- On board variable supply
- On board Temperature Sensor
- All GPIO's are provided on board.
- On board 10-bit ADC provides variable analog output
- On board External Power Socket
- USB or External power, selectable with a jumper
- On board test point for various GPIO Pins breadboard friendly design



### Scope of Learning

- Learn the concept of Arduino IDE
- Learn to interface AVR series microcontroller
- Pin to pin study of MCU

### Electronics circuit using breadboard

- Study of serial protocol
- Study of Internal ADC & PWM
- Study and Interface various external MCXX series modules (optional)

```
void loop()
{
  // add any incoming characters to the String:
  while (Serial.available() > 0)
  {
    char inChar = Serial.read();
    // if it's a newline, that means you should make the call:
    if (inChar == '\n')
    {
      // make sure the phone number is not too long:
      if (remoteNumber.length() < 20)
      {
        // let the user know you're calling:
        Serial.print("Calling to : ");
        Serial.println(remoteNumber);
        Serial.println();

        // Call the remote number
        remoteNumber.toCharArray(charbuffer, 20);
      }
    }
  }
}
```

### Technical Specifications

<b>Microcontroller</b>	:	ATmega328P
<b>Operating Voltage</b>	:	2.7V-5.5V
<b>Input Voltage</b>	:	2.7V-5.5V
<b>Digital I/O Pins</b>	:	14 (of which 6 provide PWM output)
<b>Analog Input Pins</b>	:	6
<b>Flash Memory</b>	:	32KB (of which 2KB used by boot loader)
<b>SRAM</b>	:	2KB
<b>EEPROM</b>	:	1KB
<b>Clock Speed</b>	:	16MHz
<b>Variable Supply</b>	:	0-5.0 Volt
<b>Sensor</b>	:	LM35 On board

### Included Accessories

- USB A to B type cable -1 no
- 20Pin FRC Cable-2nos
- Patch cord -6nos
- Software & Learning material CD -1 no.