# **Lesson 4 - Joystick Module**

### 1.0verview:

This PS2 game dual-axis joystick module is made of high-quality metal PS2 joystick potentiometer, with (X, Y) 2 axis analog output, (Z) 1 button digital output.

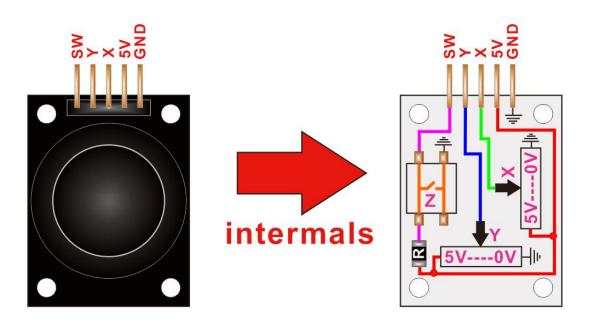
## 2. Product parameters:

Interface type: analog, digital value

Three axes (X, Y, Z (buttons)) Interface: 2.54mm pin header

Size: 34x26x32mm

# 3.Pin and internal structure:



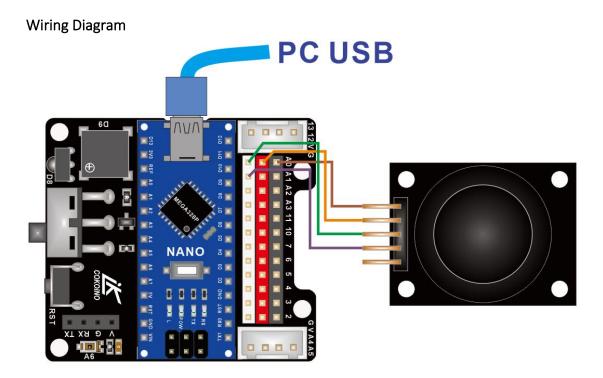
GND: Connect to the negative pole of the power supply 5V: connected to the positive pole of the power supply

X: X axis analog value output

Y: Y-axis analog value output SW: Z-axis output (button)

The joystick is made up of two passive potentio-meters (variable resistors) and a push button, it is made by mounting two potentiometers at a 90 degrees angle. The potentiometers are connected to a short stick centered by springs. This module produces an output of around 2.5V from X and Y when it is in resting position. Moving the joystick will cause the output to vary from 0v to 5V depending on its direction. This joystick also has a select button that is actuated when the joystick is pressed down.

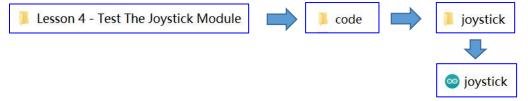
# 4. How to Use Joystick?



Note: The Z-axis function is not used in the robot arm, so the joystick is not equipped with Z-axis function, you do not need to connect the sw pin.

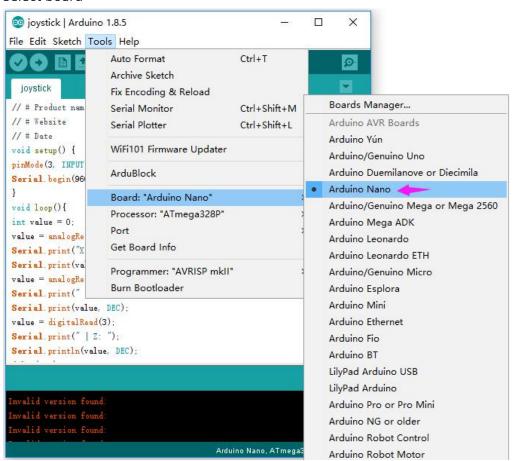
#### Upload code

Find the "joystick" code from the following path, open it with the Arduino IDE and upload it.

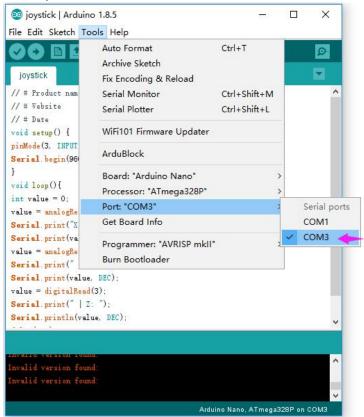


#### Setting up the arduino IDE

#### Select board



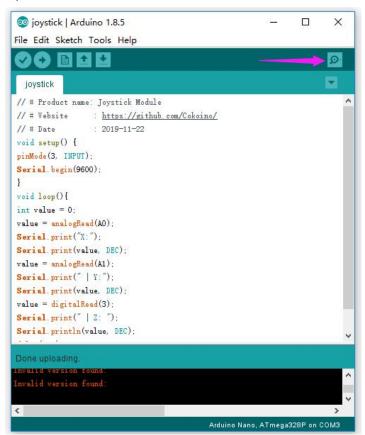
#### Select port



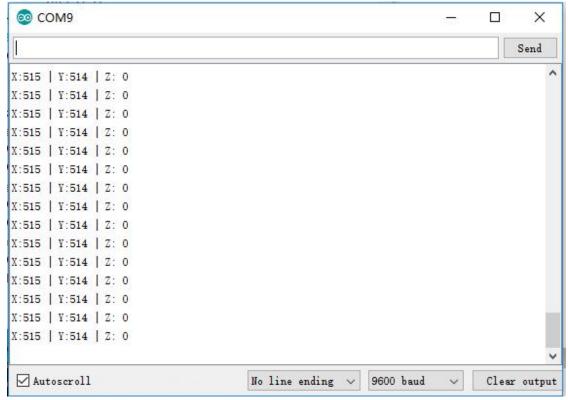
#### Upload the code

```
o joystick | Arduino 1.8.5
                                                              X
File Edit Sketch Tools Help
joys ck
// # Product name: Joystick Module
// # Website
              : https://github.com/Cokoino/
// # Date
                 2019-11-22
void setup() {
pinMode(3, INPUT);
Serial begin (9600);
void loop(){
int value = 0;
value = analogRead(A0);
Serial.print("X:");
Serial print(value, DEC);
value = analogRead(A1);
Serial.print(" | Y:");
Serial print (value, DEC);
value = digitalRead(3);
Serial print(" | Z: ");
Serial println(value, DEC);
Compiling sketch.
                                          Arduino Nano, ATmega328P on COM3
```

#### Open the serial monitor



The serial display can reflect the x, y, z 3D data of the joystick module in real time to the Serial Monitor window, as shown below:



Since the pin SW of the joystick module is not used, the data of the Z axis is 0