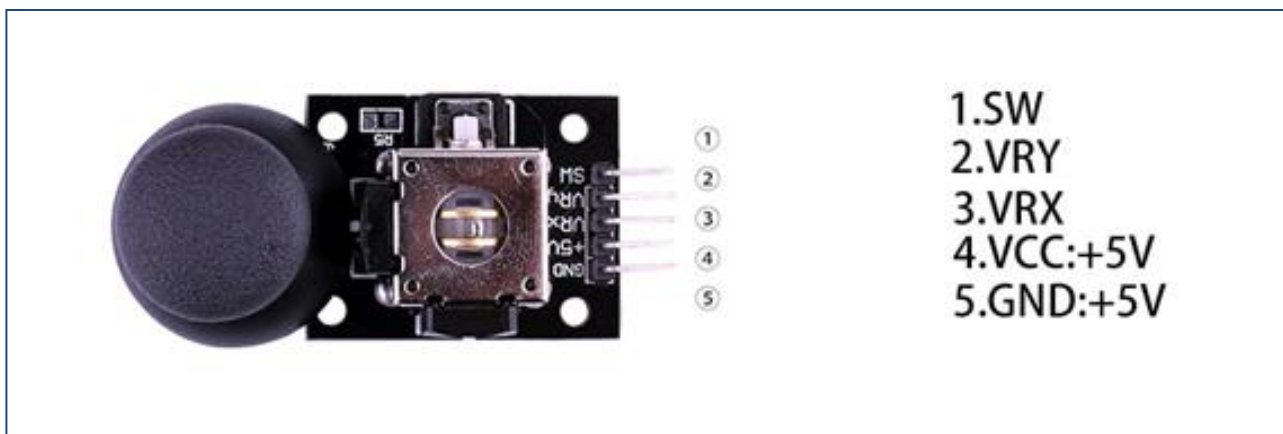


Lesson 20 JOYSTICK MODULE

Overview

Just like a joystick on game console. you can control x, y and z dimensions input by this joystick module. It can be considered as combination of potentiometers and one button. Data type of the x, y dimensions are analog input signals and z dimension is digital input signal. thus the x and y ports connect to analog pins of Sensor Shield, while z port connects to digital pin.



Component Required:

- (1) x Elegoo Uno R3
- (1) x USB cable
- (1) x Joystick module
- (x) x F-M wires

Component Introduction

Joystick sensor:

Lots of robot projects need joystick. This module provides an affordable solution. By simply connecting to two analog inputs, the robot is at your commands with X, Y control. It also has a switch that is connected to a digital pin. This joystick module can be easily connected to Arduino by IO Shield. This module is for Arduino (V5) with cables supplied.

Specification

Supply Voltage: 3.3V to 5V

Interface: Analog x2, Digital x1

Size: 40*28mm

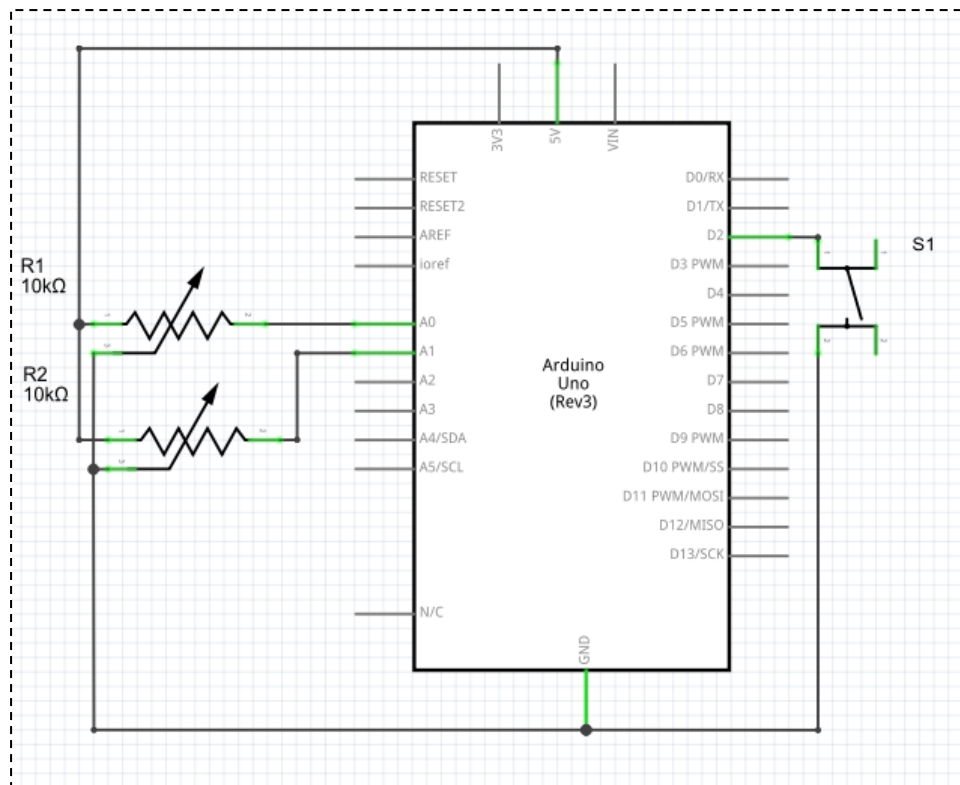
Weight: 12g

The module has 5 pins: Vcc, Ground, X, Y, Key. Note that the labels on yours may be slightly different, depending on where you got the module from. The thumb stick is analog and should provide more accurate readings than simple 'directional' joysticks that use some forms of buttons, or mechanical switches. Additionally, you can press the joystick down (rather hard on mine) to activate a 'press to select' push-button.

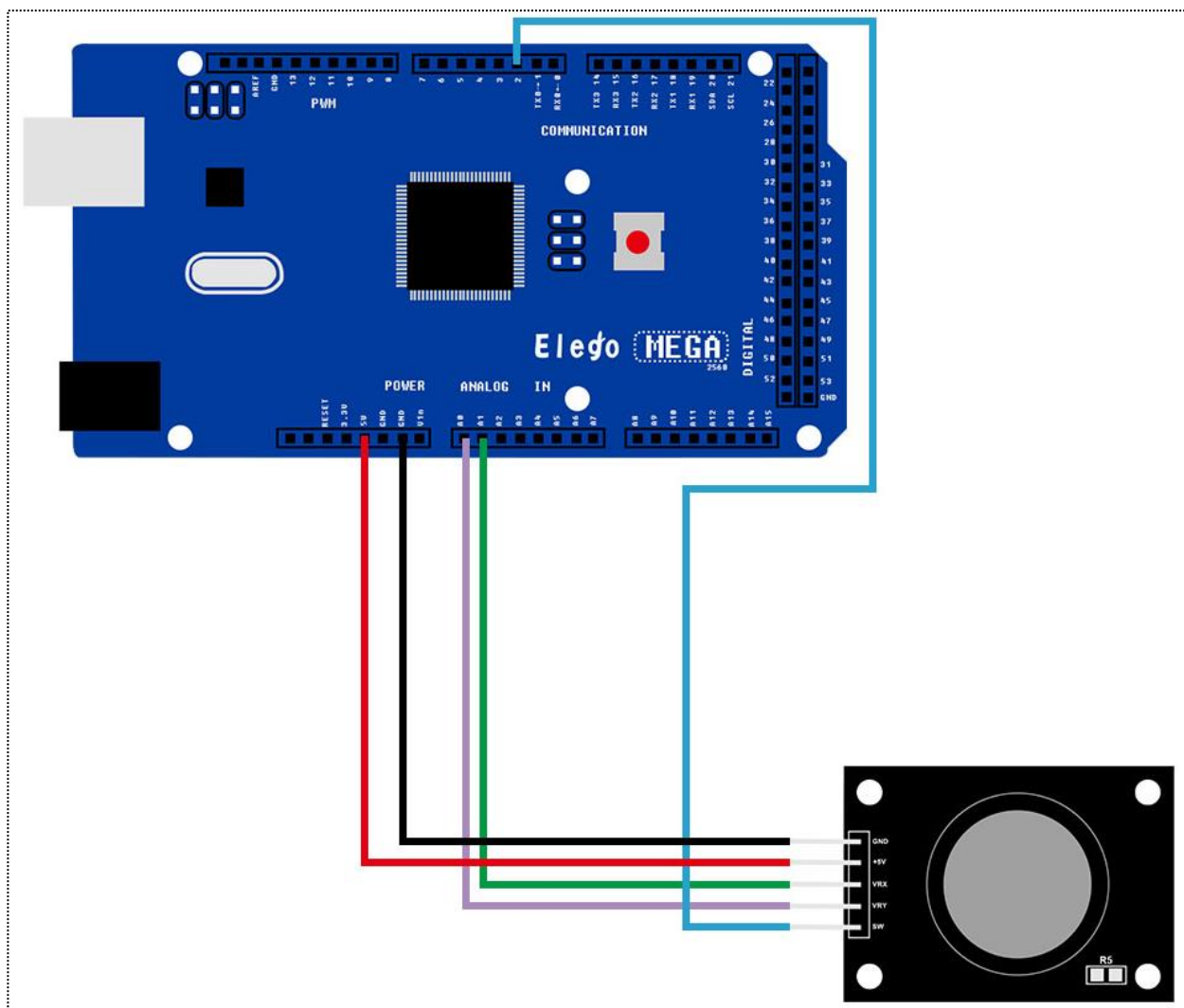
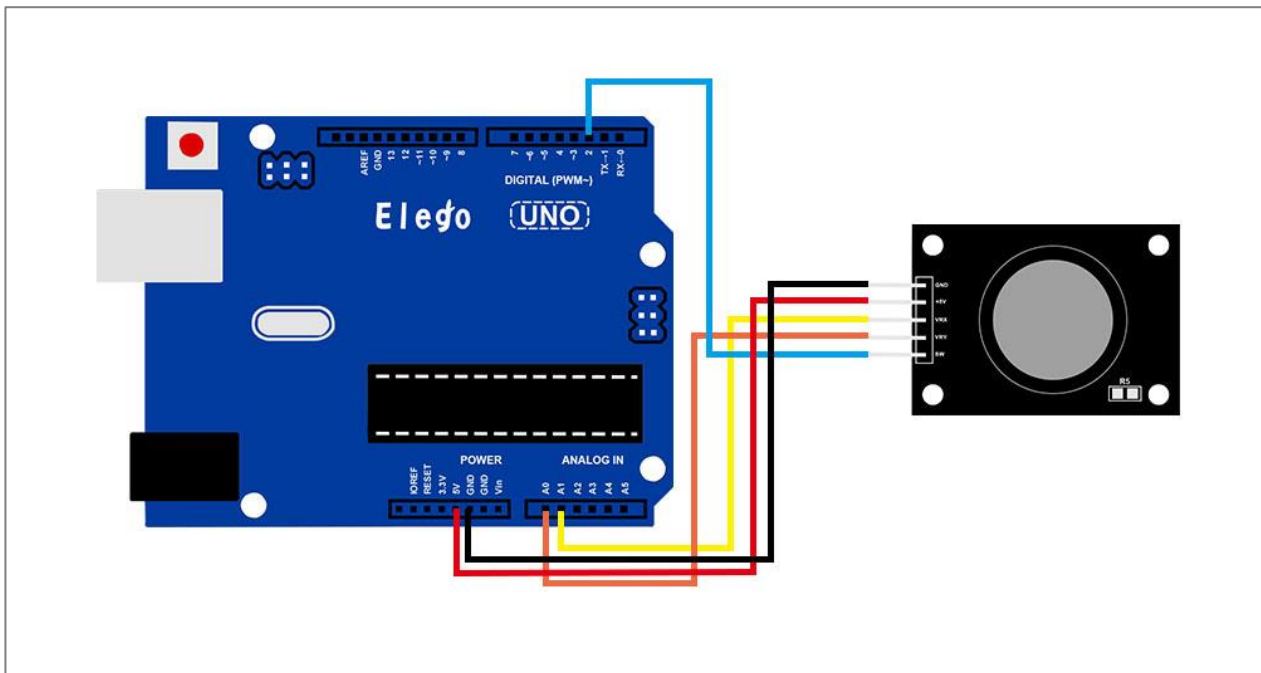
We have to use analog Arduino pins to read the data from the X/Y pins, and a digital pin to read the button. The Key pin is connected to ground, when the joystick is pressed down, and is floating otherwise. To get stable readings from the Key /Select pin, it needs to be connected to Vcc via a pull-up resistor. The built in resistors on the Arduino digital pins can be used. For a tutorial on how to activate the pull-up resistors for Arduino pins, configured as inputs

Connection

Schematic



wiring diagram



Result

Analog joysticks are basically potentiometers so they return analog values.

When the joystick is in the resting position or middle, it should return a value of about 512.

The range of values go from 0 to 1024.

