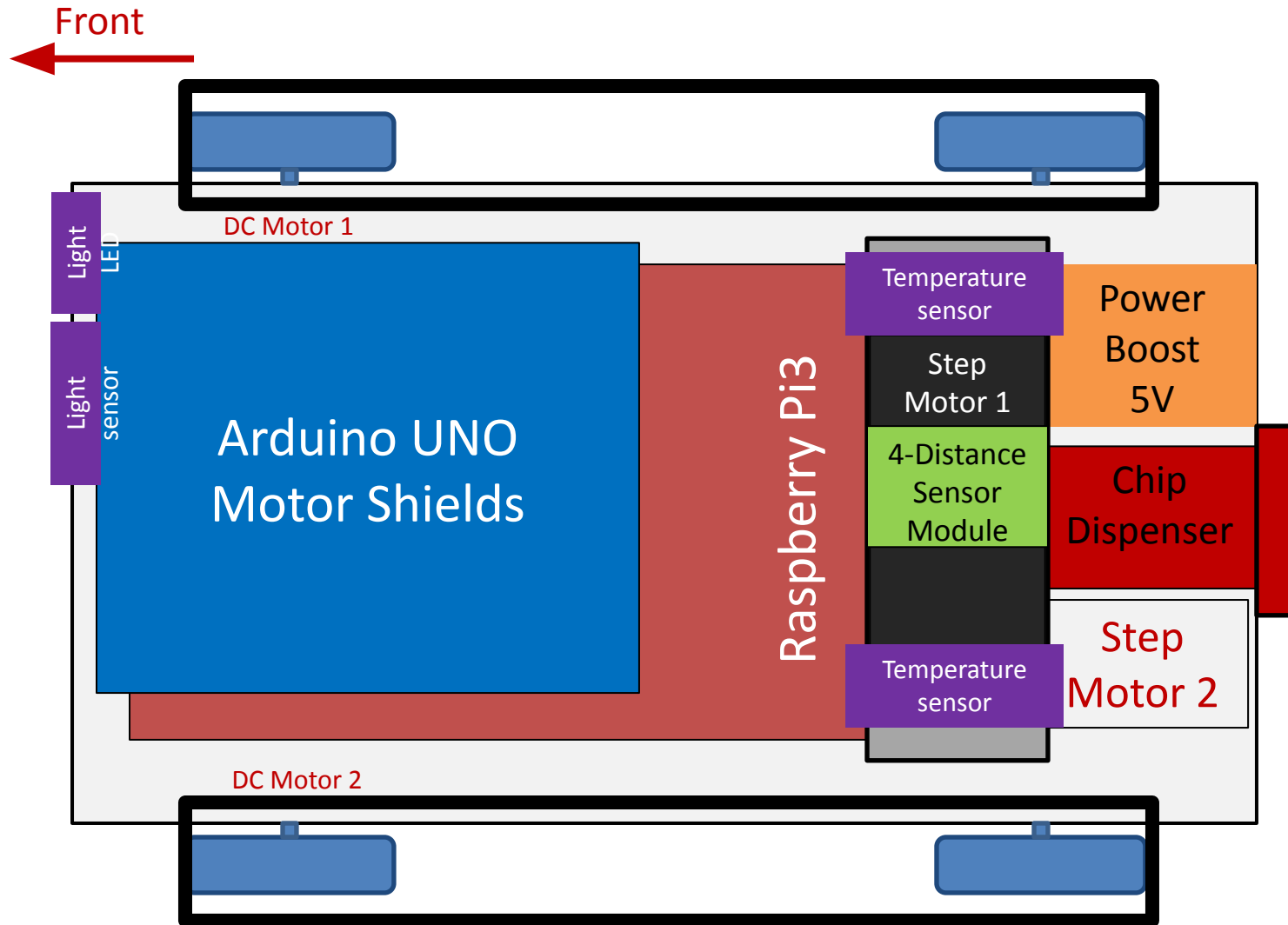


AlexBot Connections

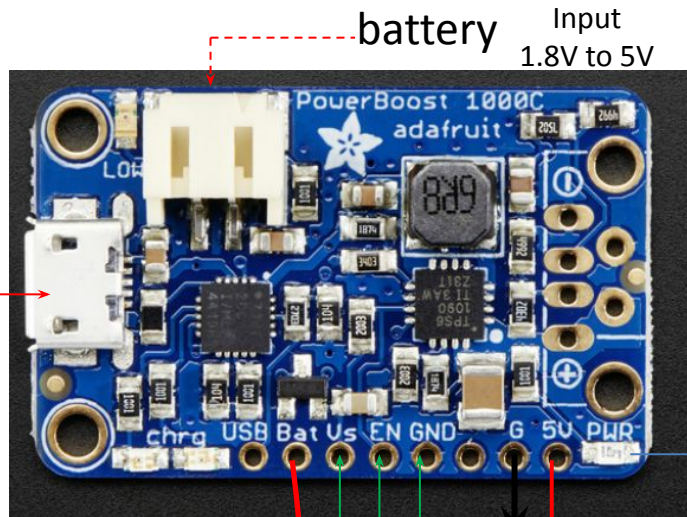
10/28/2017

Version 1.0

AlexBot Framework

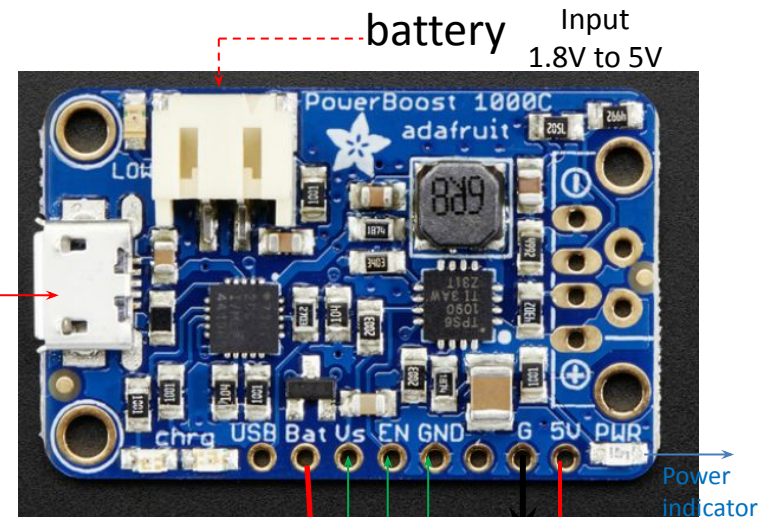


Power Sources



PowerBoosta

Motor Shield v2.3, 2DC motors,
HS-422 Servo Motor, Micro Servo Motor
Arduino
Floor LED
Light sensor



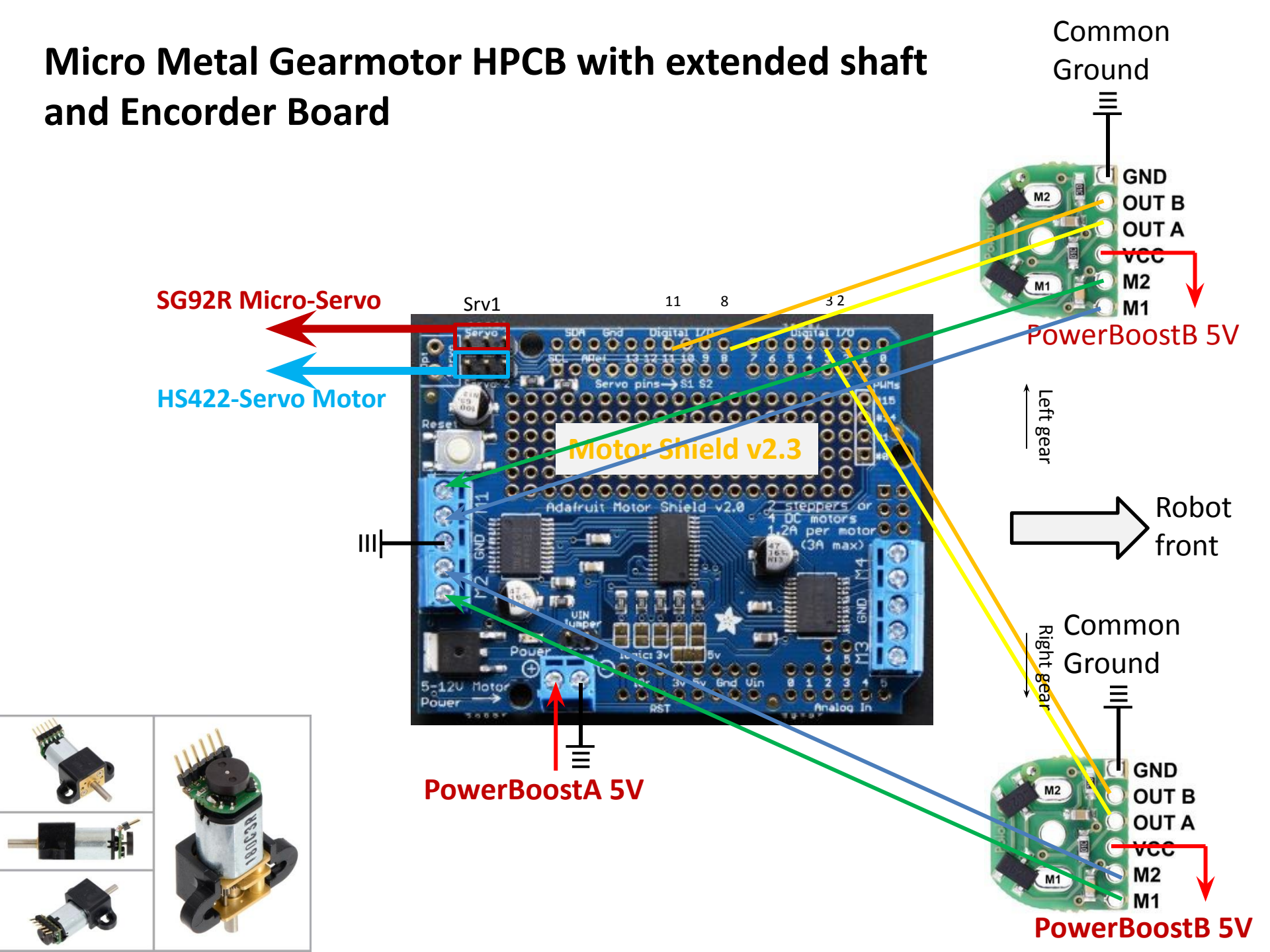
PowerBoostB

Raspberry Pi
Wireless dongle
2 Encoders
4 distance sensors
2 temp sensors
1 signal LED
1 IMU
1 MIPI camera

Command ground

2000mAh 3.7V

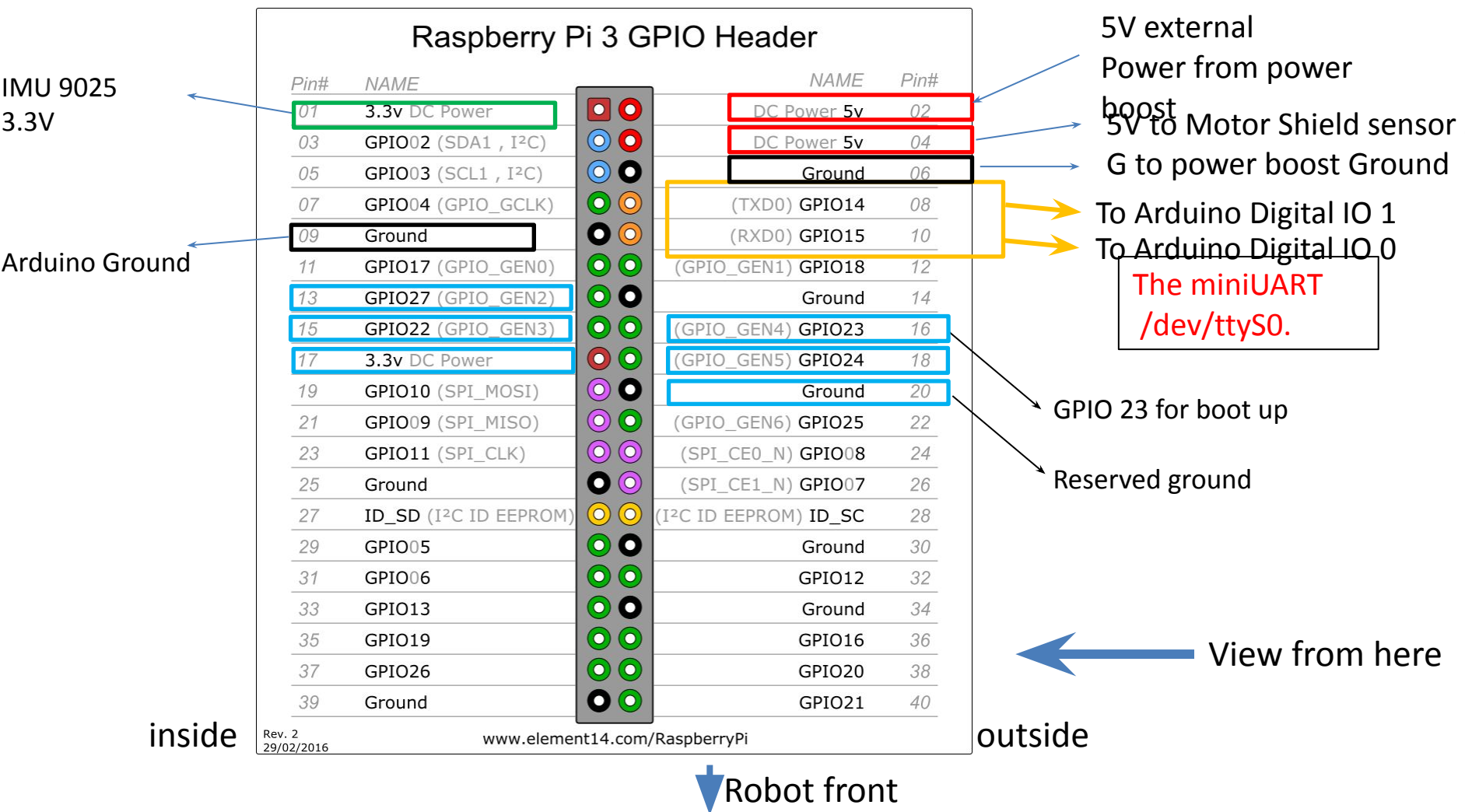
Micro Metal Gearmotor HPCB with extended shaft and Encoder Board



Raspberry Pi 3

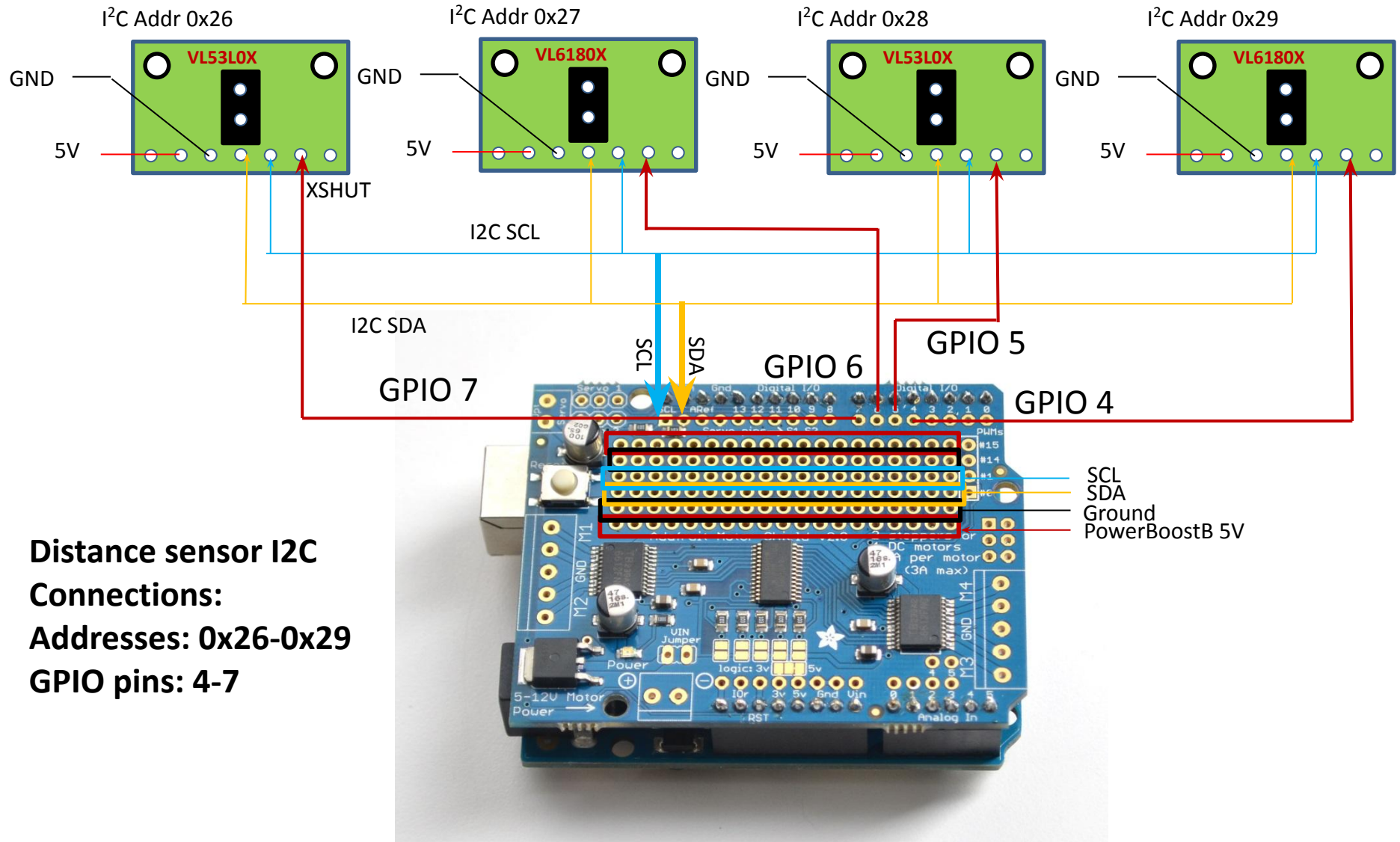
/dev/ttyAMA0 connects to Bluetooth.

I2C on Pi Configuration

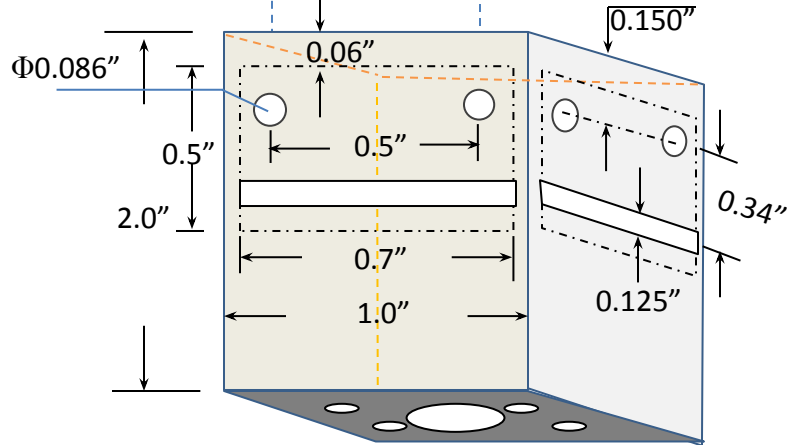
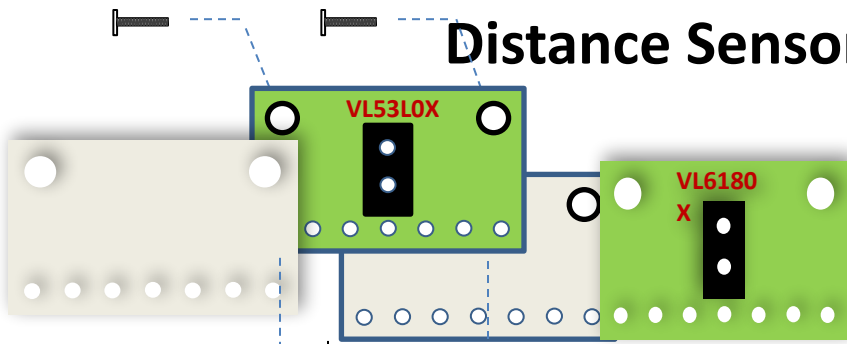


Multiple Distance Sensor Module Connections

Polulu.com



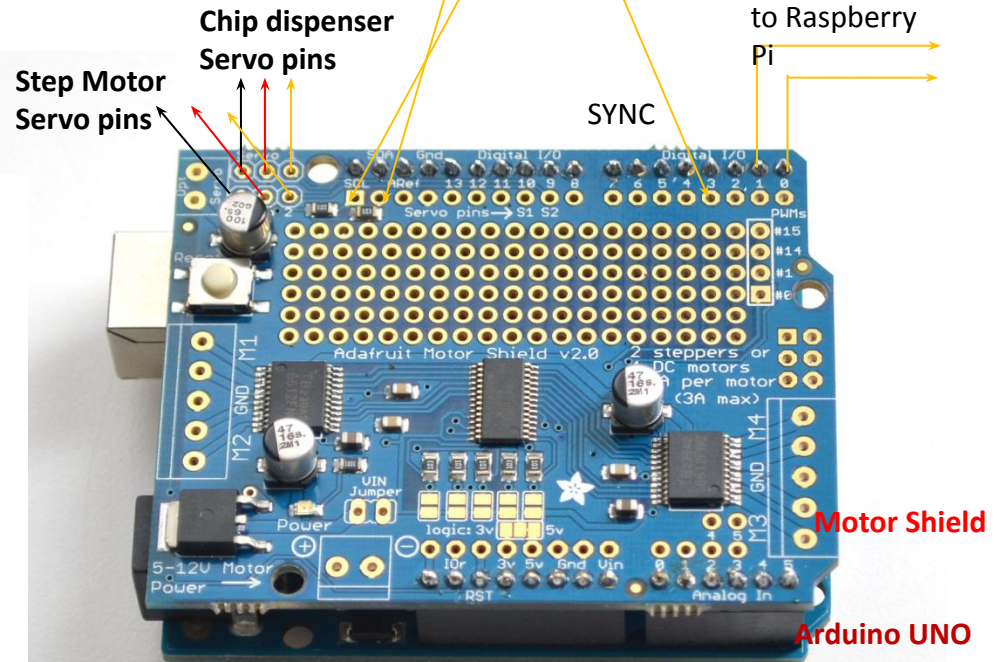
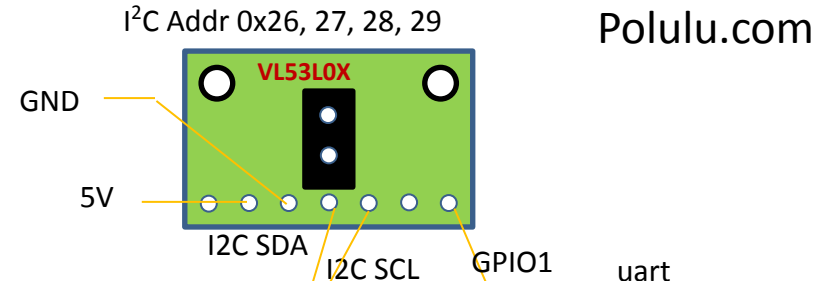
Distance Sensor Module(1)



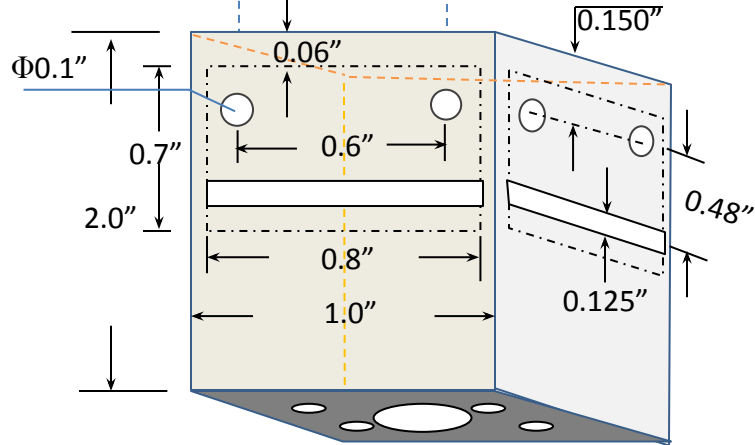
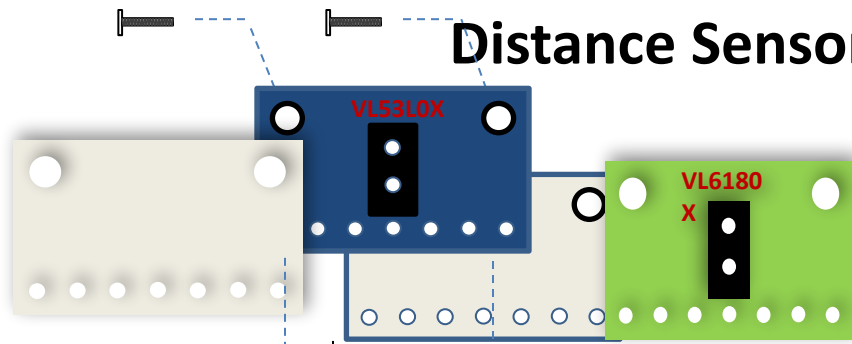
1/8" thick



HiTec HS-422 Servo Motor



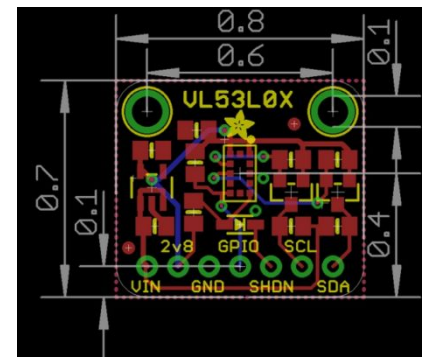
Distance Sensor Module(2)



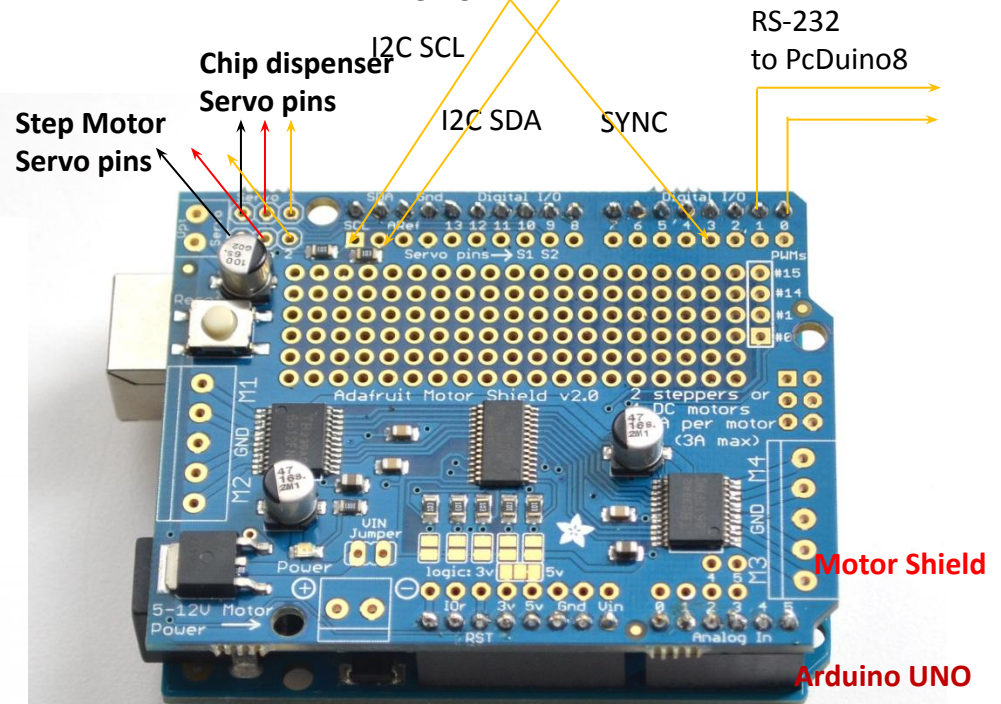
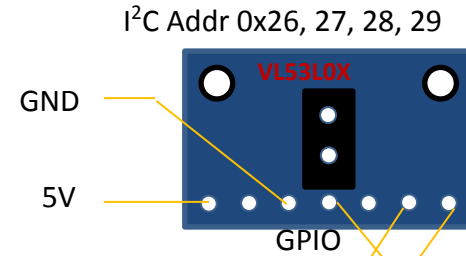
1/8" thick

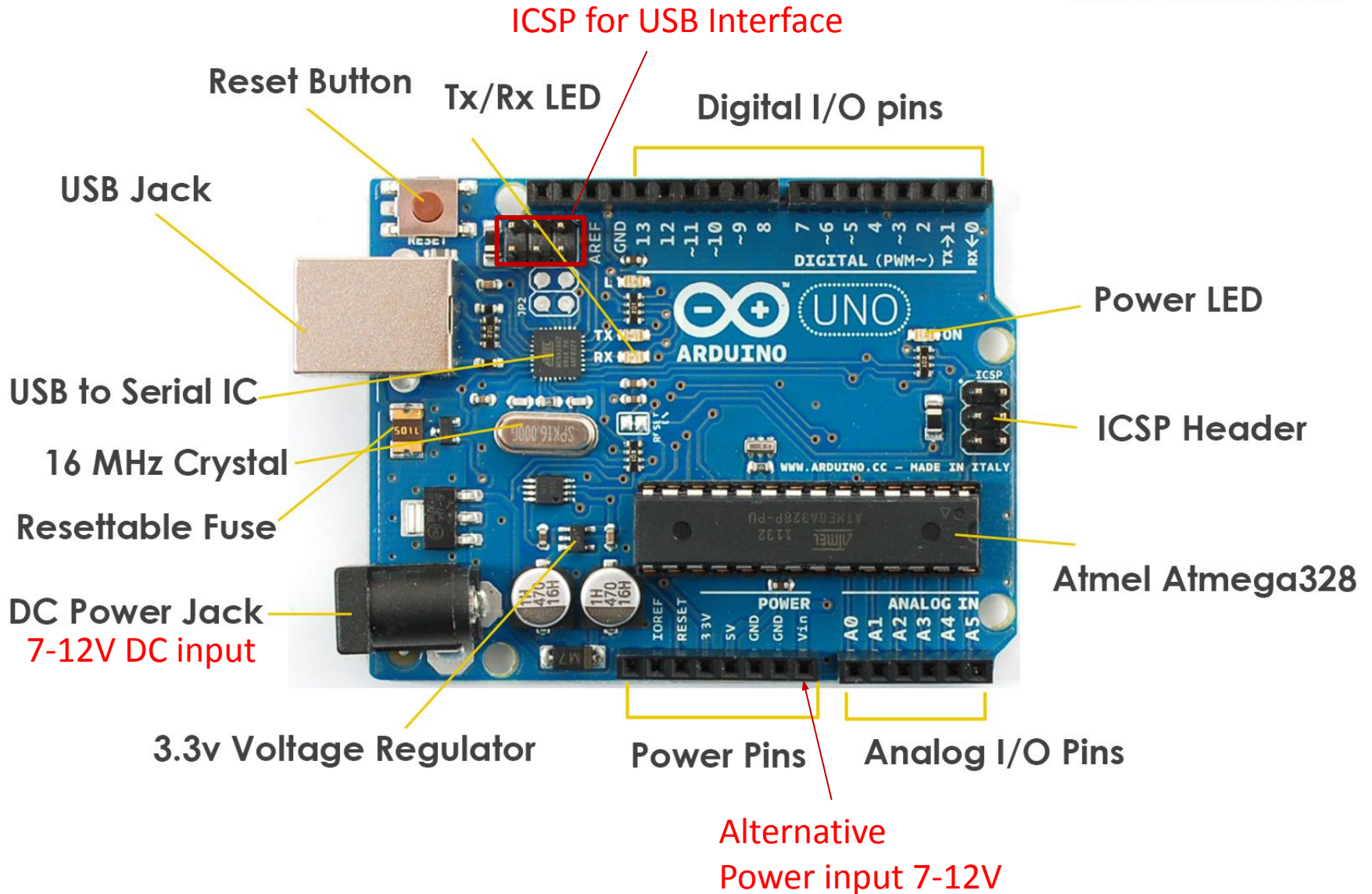


HiTec HS-422 Servo Motor

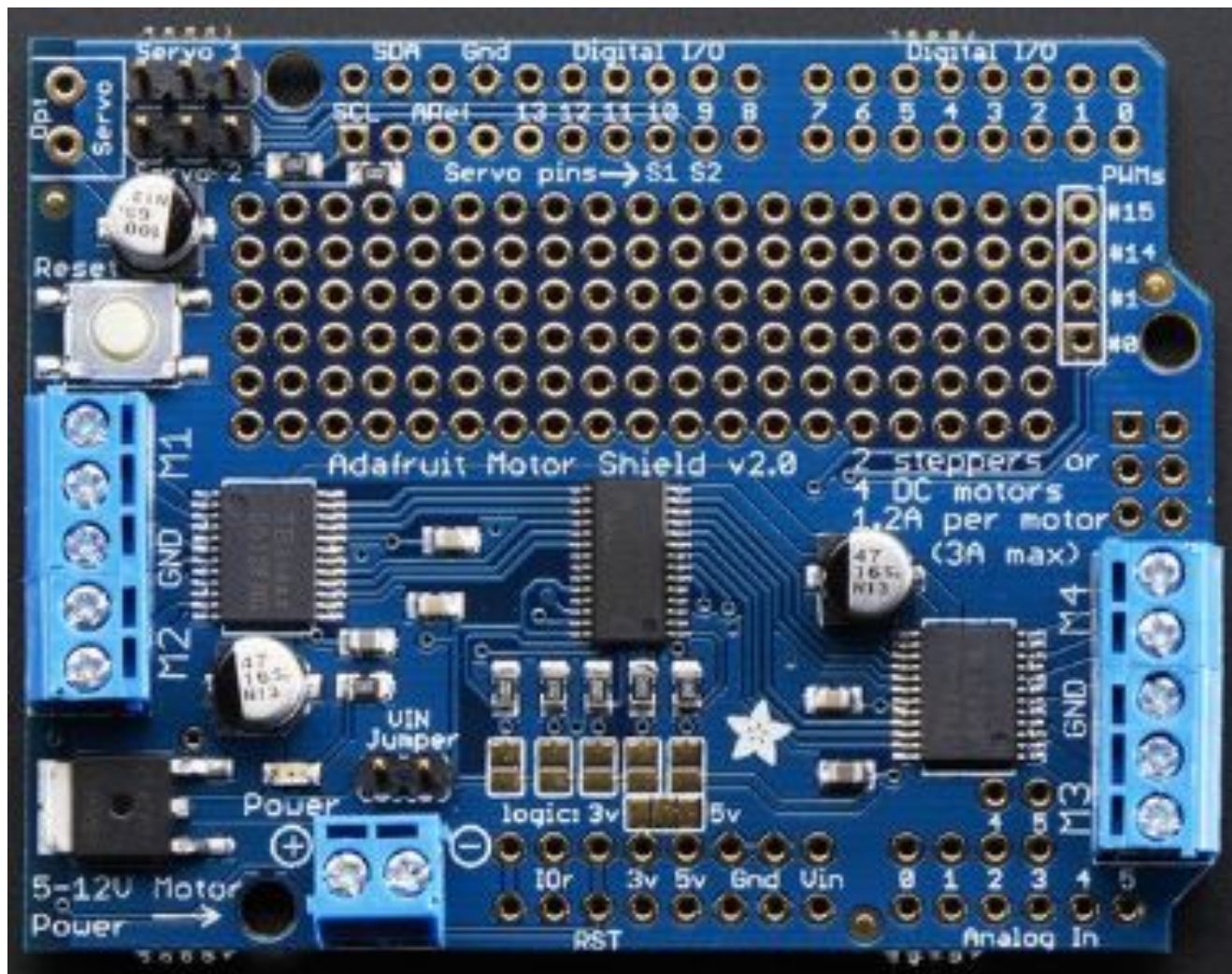


Adafruit.com





Motor Shield Connections



MPU-9250 break board

EMSENSR-MPU9250 Pin Descriptions

Pin	Name	Type	Function
P1 1	VDD	Input	Power Supply, 1.71-3.45 V
P1 2	Gnd	Ground	Ground. Connect to ground on the PCB
P1 3	VDDIO	Input/Output	Digital I/O Supply Voltage, 1.71-3.45 V
P1 4	FSYNC	Input	Synchronization digital input (optional). Connect to GND if unused.
P1 5	INT	Input	Interrupt digital output (totem pole or open-drain)
P2 1	SDA/SDI	Output	I2C serial data (SDA); SPI serial data input (SDI)
P2 2	SCL/SCLK	Output	I2C serial clock (SCL); SPI serial clock (SCLK)
P2 3	ADO/SDO	Output	I2C slave address LSB (ADO); SPI serial data output (SDO)
P2 4	nCS	Input	Chip Select (0=SPI mode, 1=I2C Mode)
P2 5	NC	NC	Not Used

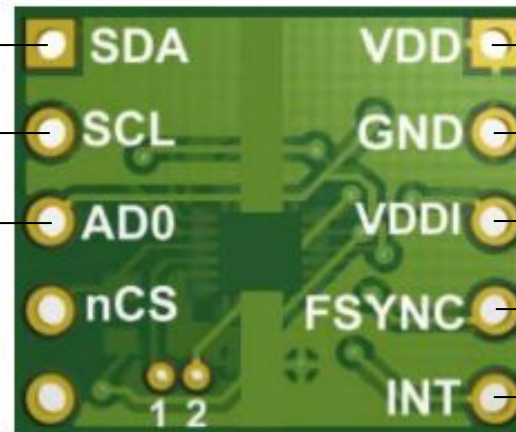


I²C bus

I²C Address Selection

Low: 0b1101000 ⇔ 0x68

High: 0b1101001 ⇔ 0x69



3.3V

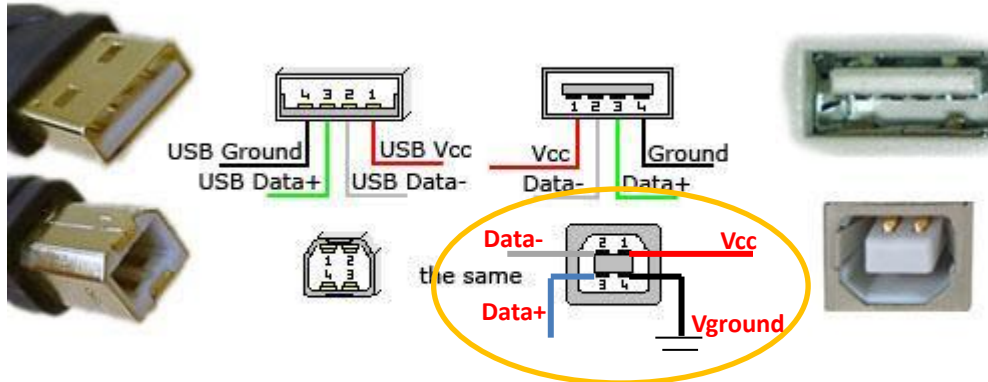
0 V

3.3V??

0 V

INT output

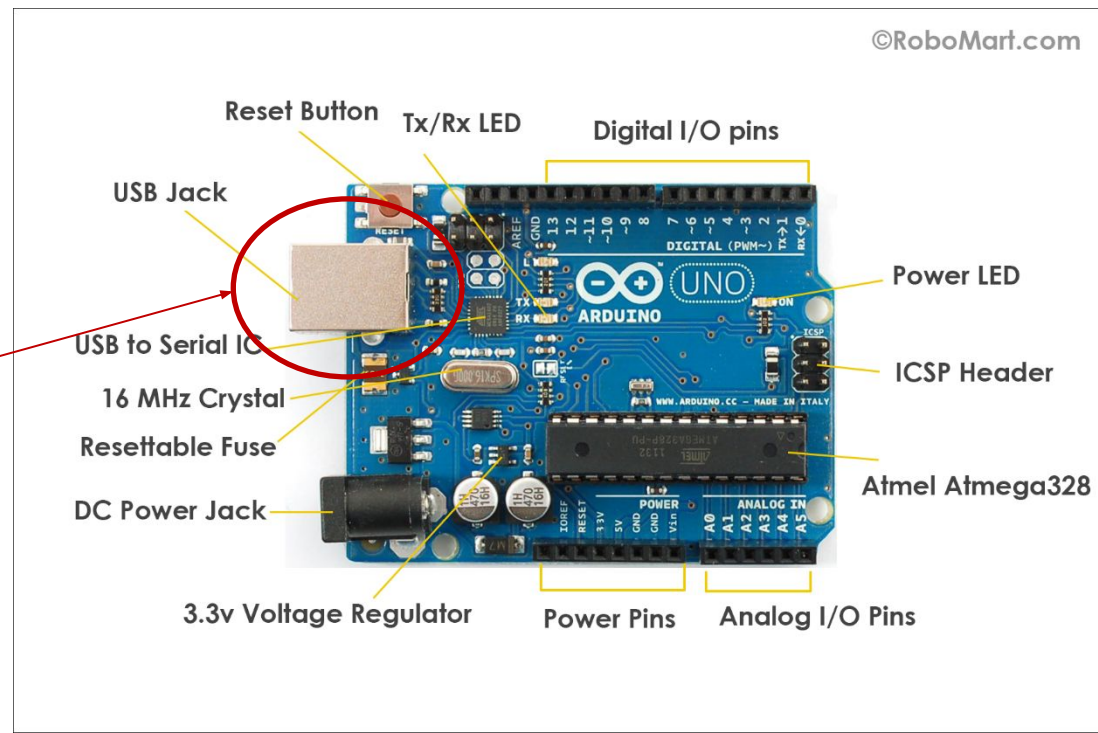
USB pinout



USB is a serial bus. It uses 4 shielded wires: two for power (+5v & GND) and two for differential data signals (labelled as D+ and D- in pinout)

http://pinouts.ru/Slots/USB_pinout.shtml

- Unsolder the USB port from Arduino UNO. Connect the physical port to the board with 4 wires. Ground connects to the port case.
- With this change, programming Arduino board does not need to move other wires and boards and motors.



Dip Switch Control Mini-board

Connection to Raspberry Pi-3 Board Digital I/O

