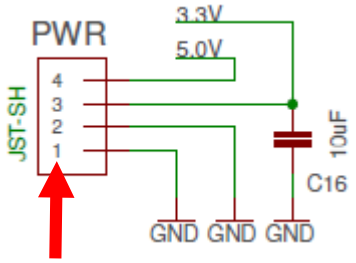
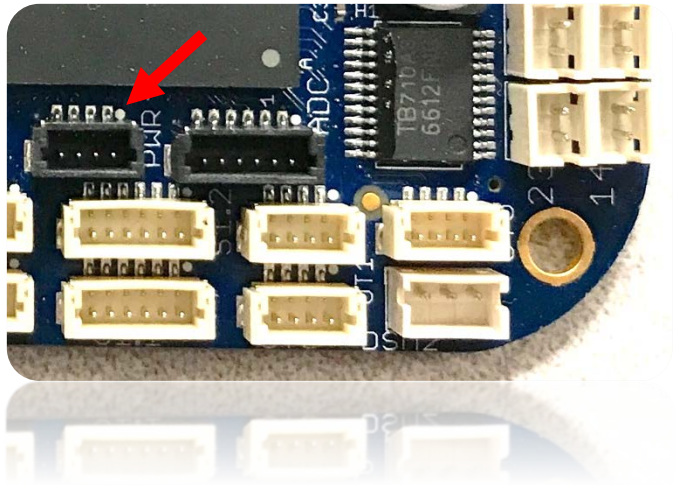
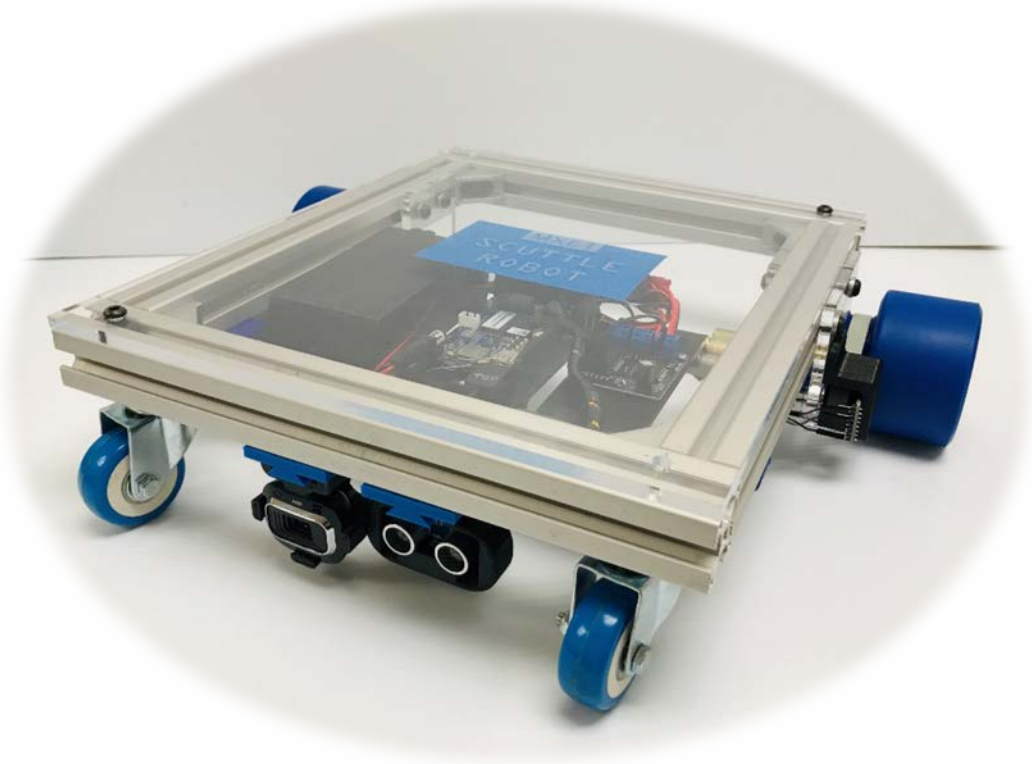
Scuttle robot Wiring Guide (rev 2019.02.05)

Important Info:
To match the beaglebone pins to the pin numbers on the diagram:
The tiny white circle on the silkscreen at each connector indicates “pin1”

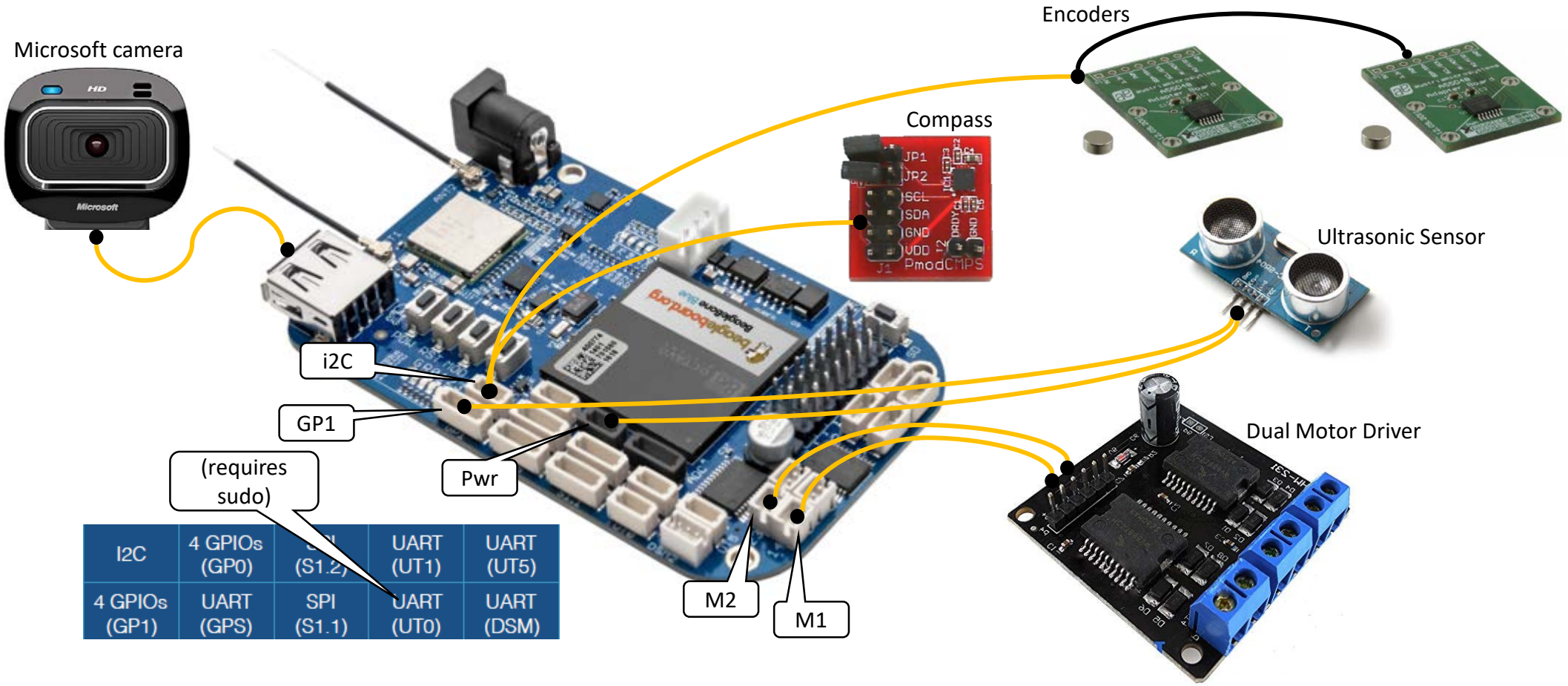
All images of this style are copied directly from the beaglebone schematic







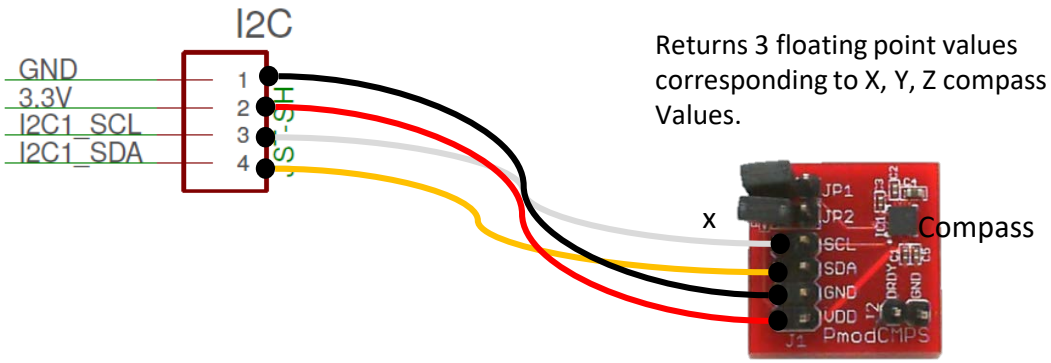
All Sensors on BeagleBone



I2C	4 GPIOs (GP0)	[illegible] (S1.2)	UART (UT1)	UART (UT5)
4 GPIOs (GP1)	UART (GPS)	SPI (S1.1)	UART (UT0)	UART (DSM)

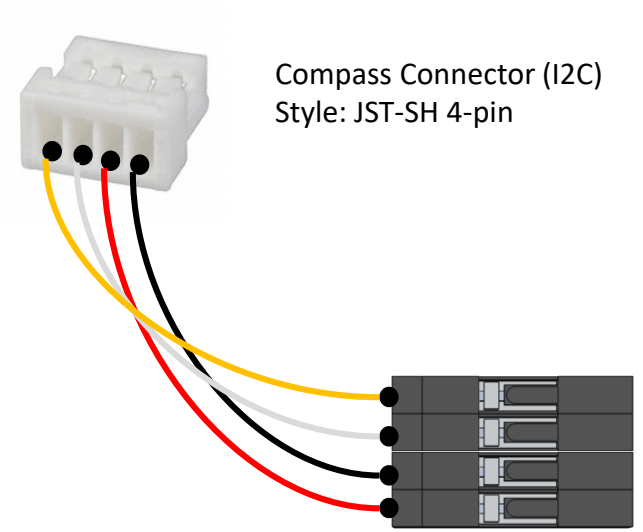
BeagleBone to Compass (I2C)

BeagleBone I2C Connector



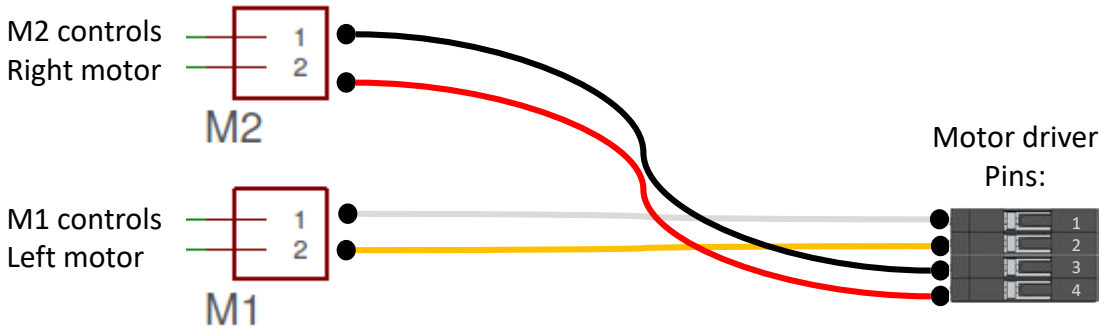
Returns 3 floating point values corresponding to X, Y, Z compass Values.

This diagram does not show encoders which couple to the same i2C bus



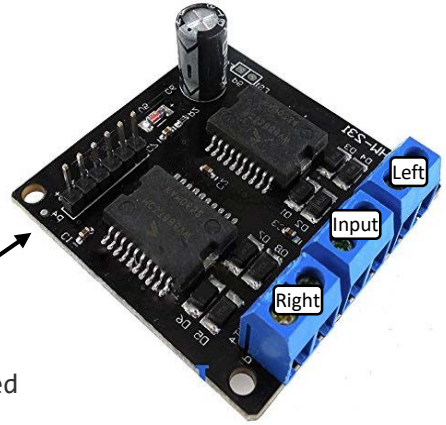
Compass Connector (I2C)
Style: JST-SH 4-pin

BeagleBone to Motor Driver (PWM)

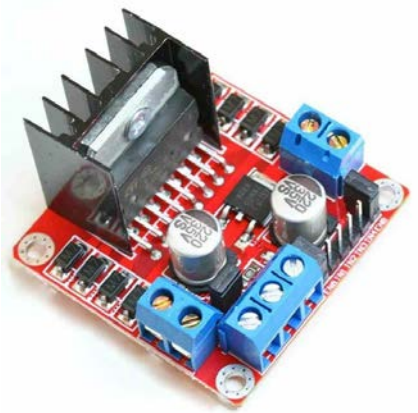


Ground is not connected because the BBB has a common ground to the battery pack.

HW 231 Motor Driver

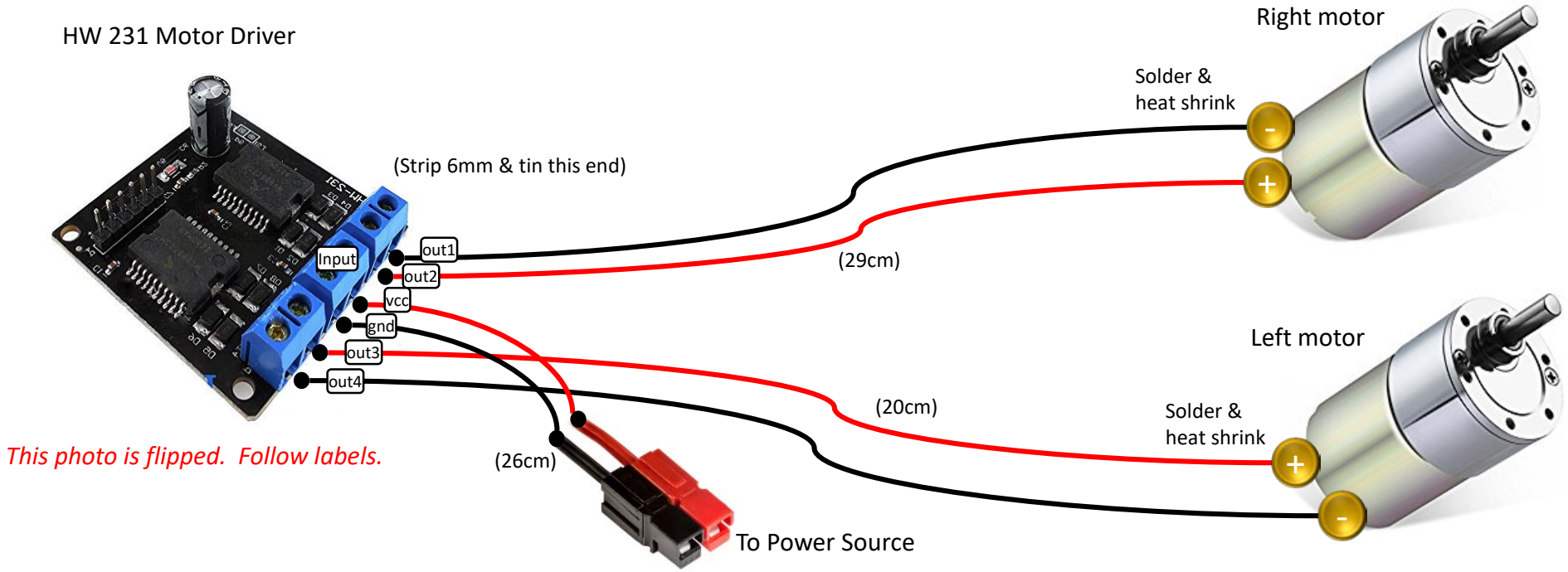


L298N Motor Driver

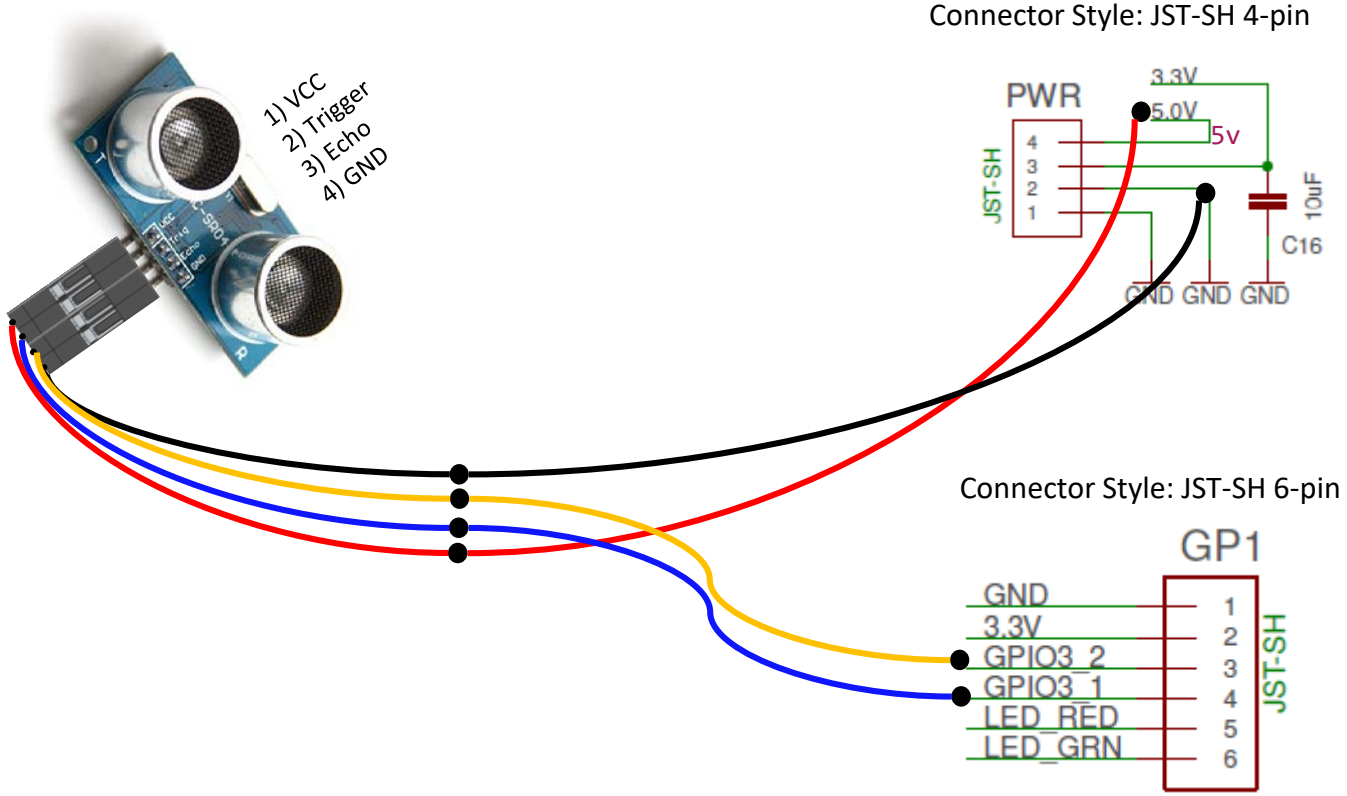


L298N is an alternative motor driver. It has less current-carrying capacity.

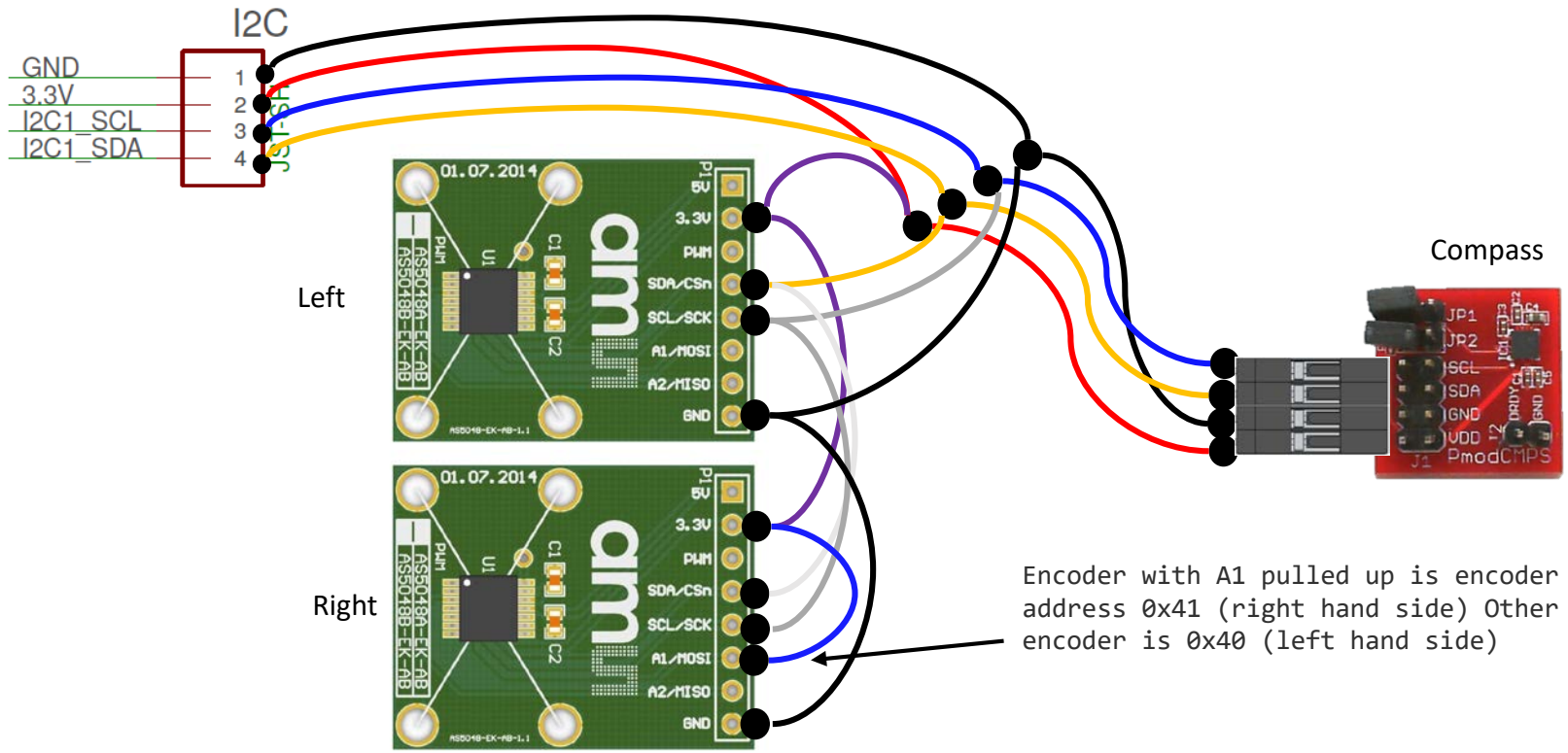
Motor Driver Power Cables (18awg)



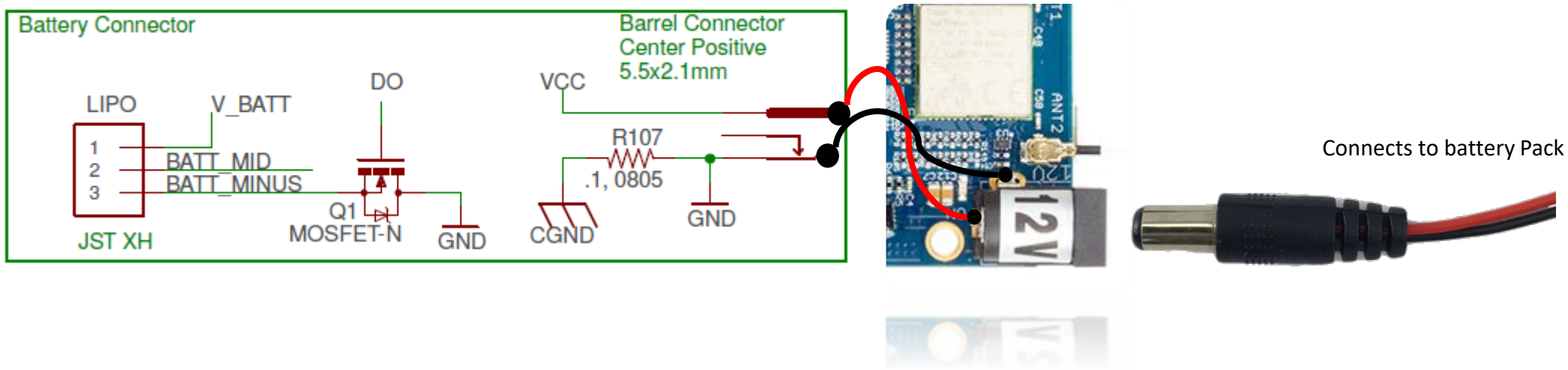
Ultrasonic Distance Sensor (GPIO)



Encoder AS5048 (I2C)



Battery


Battery Connector
LIPO
V_BATT
1
2
3
BATT_MID
BATT_MINUS
JST XH
DO
Q1
MOSFET-N
GND
VCC
R107
.1, 0805
CGND
GND
Barrel Connector
Center Positive
5.5x2.1mm
12V
Connects to battery Pack