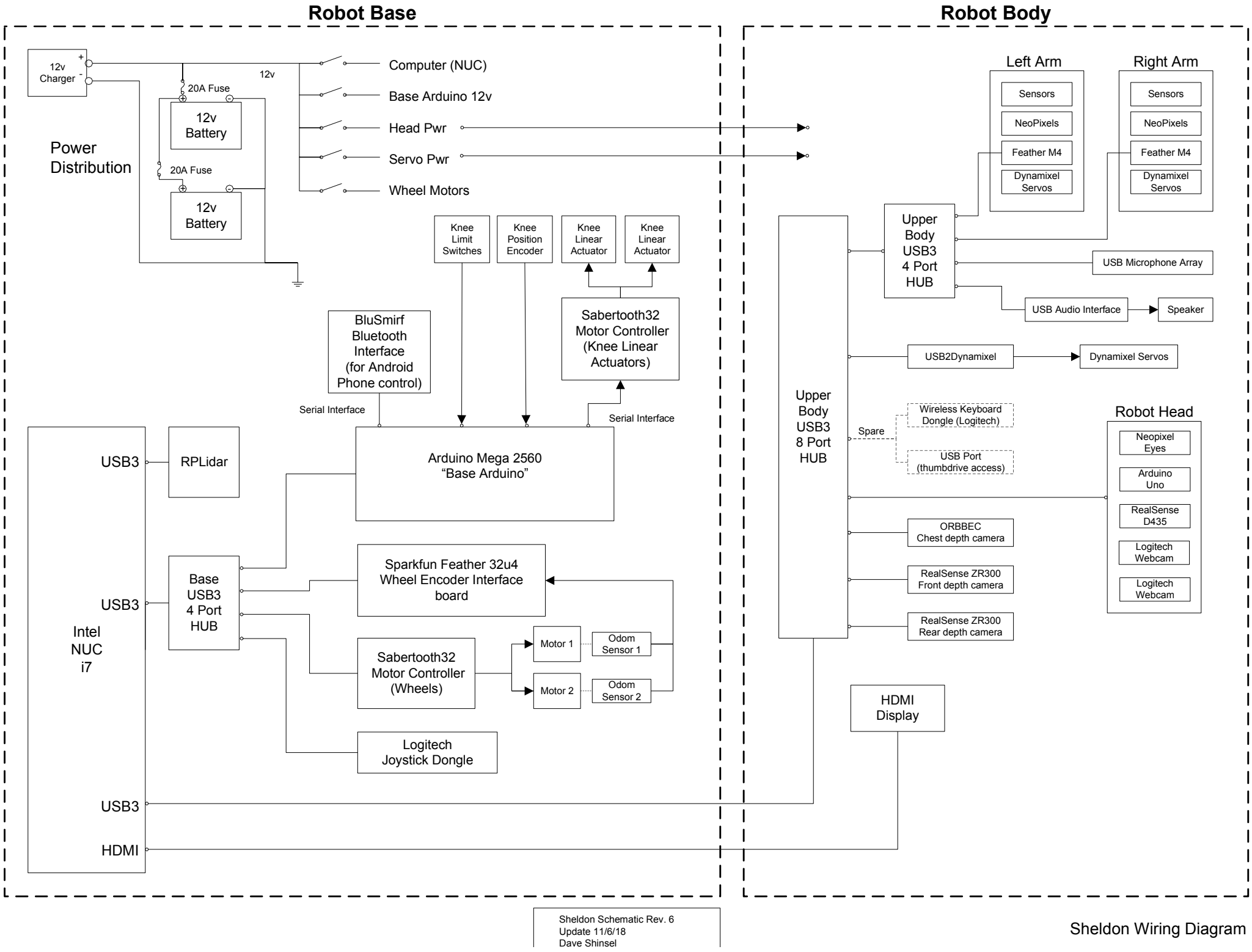
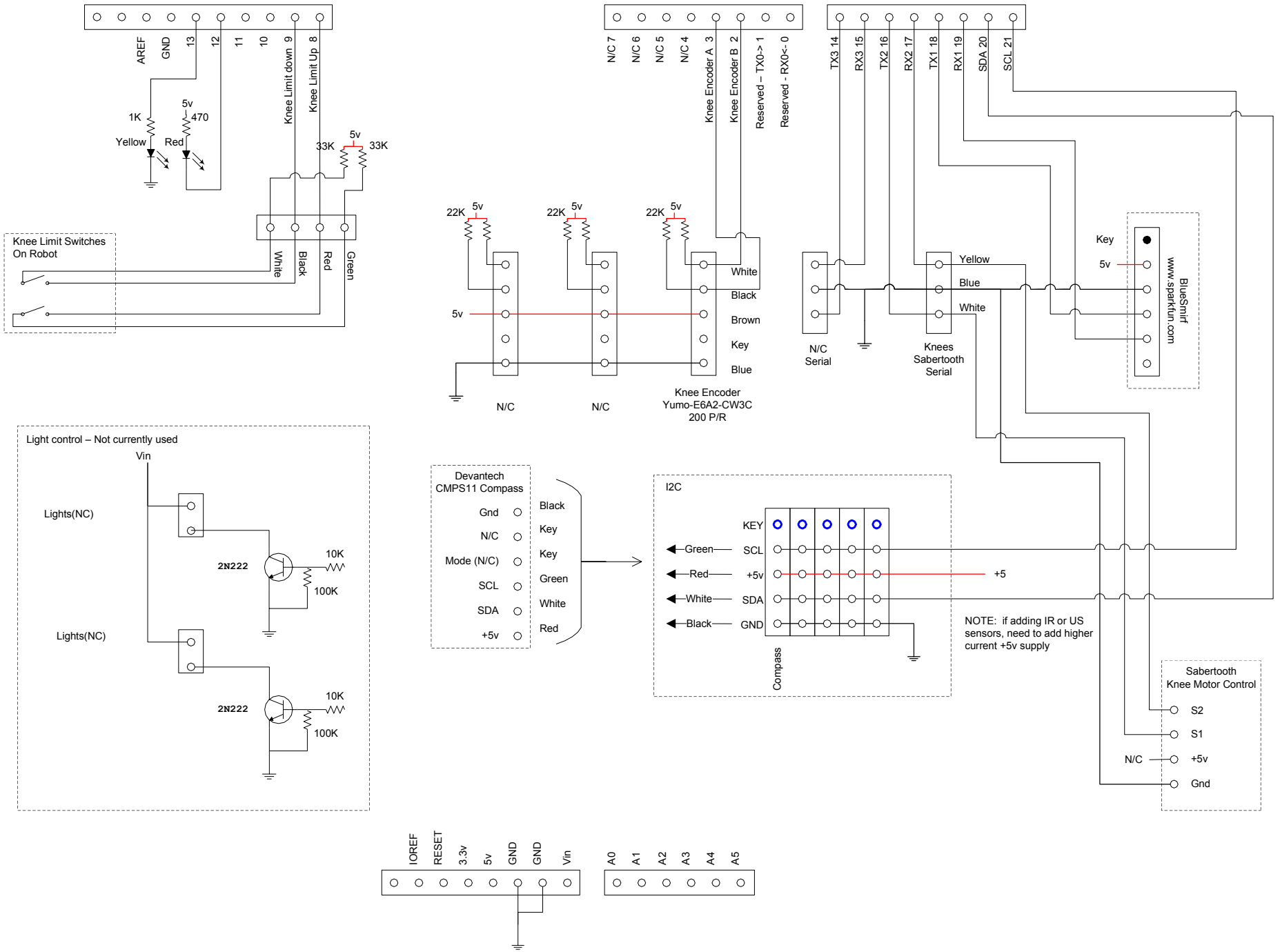
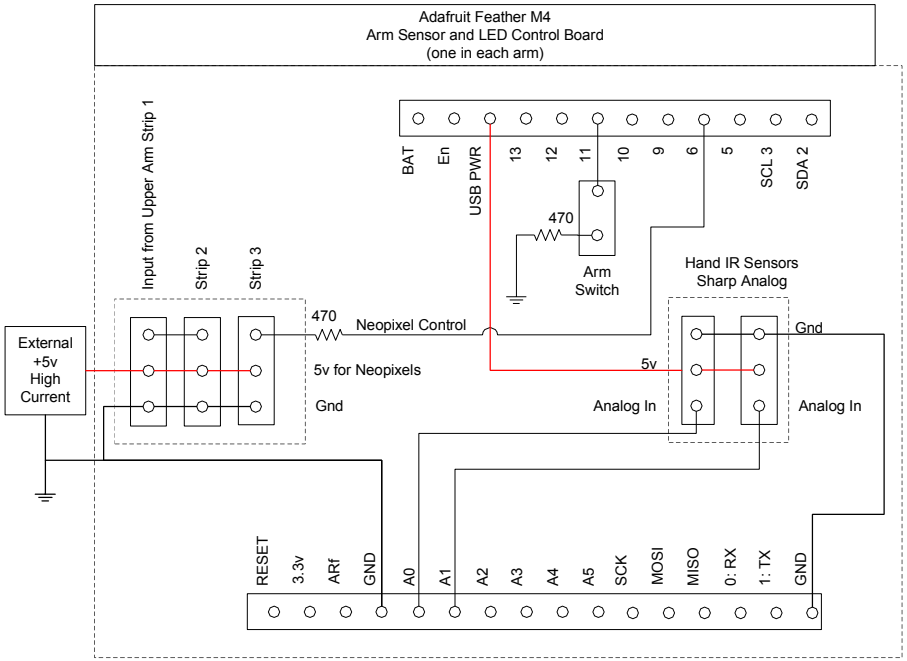
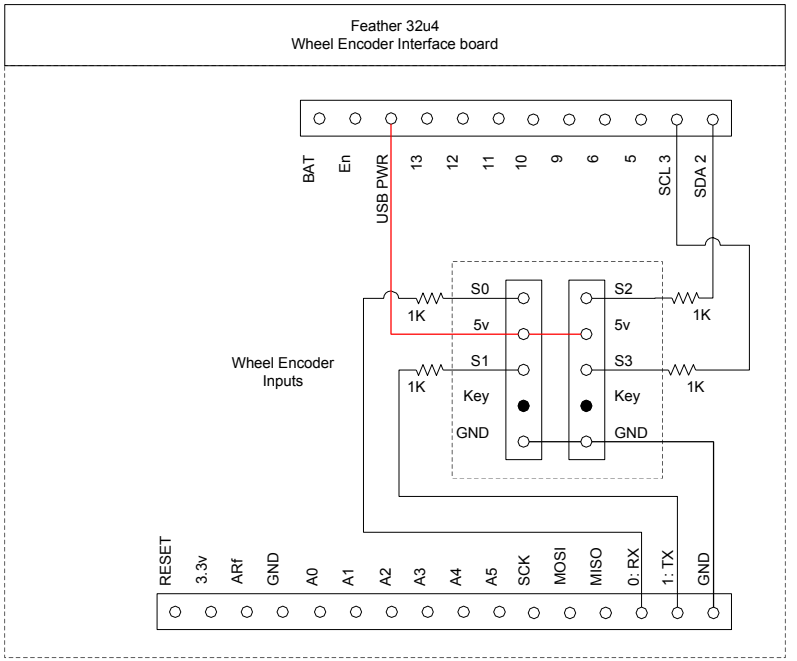
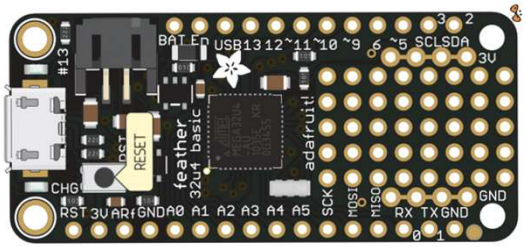

Robot Base
Robot Body
12v Charger
+
-
12v
20A Fuse
12v Battery
20A Fuse
12v Battery
Power Distribution
Computer (NUC)
Base Arduino 12v
Head Pwr
Servo Pwr
Wheel Motors
Knee Limit Switches
Knee Position Encoder
Knee Linear Actuator
Knee Linear Actuator
Sabertooth32 Motor Controller (Knee Linear Actuators)
BluSmirf Bluetooth Interface (for Android Phone control)
Serial Interface
Serial Interface
Arduino Mega 2560 "Base Arduino"
USB3
RPLidar
USB3
Base USB3 4 Port HUB
Intel NUC i7
Sparkfun Feather 32u4 Wheel Encoder Interface board
Sabertooth32 Motor Controller (Wheels)
Motor 1
Motor 2
Odom Sensor 1
Odom Sensor 2
Logitech Joystick Dongle
USB3
HDMI
Left Arm
Sensors
NeoPixels
Feather M4
Dynamixel Servos
Right Arm
Sensors
NeoPixels
Feather M4
Dynamixel Servos
Upper Body USB3 4 Port HUB
USB Microphone Array
USB Audio Interface
Speaker
Upper Body USB3 8 Port HUB
USB2Dynamixel
Dynamixel Servos
Spare
Wireless Keyboard Dongle (Logitech)
USB Port (thumbdrive access)
Robot Head
Neopixel Eyes
Arduino Uno
RealSense D435
Logitech Webcam
Logitech Webcam
ORBBEC Chest depth camera
RealSense ZR300 Front depth camera
RealSense ZR300 Rear depth camera
HDMI Display
Sheldon Schematic Rev. 6
Update 11/6/18
Dave Shinsel
Sheldon Wiring Diagram



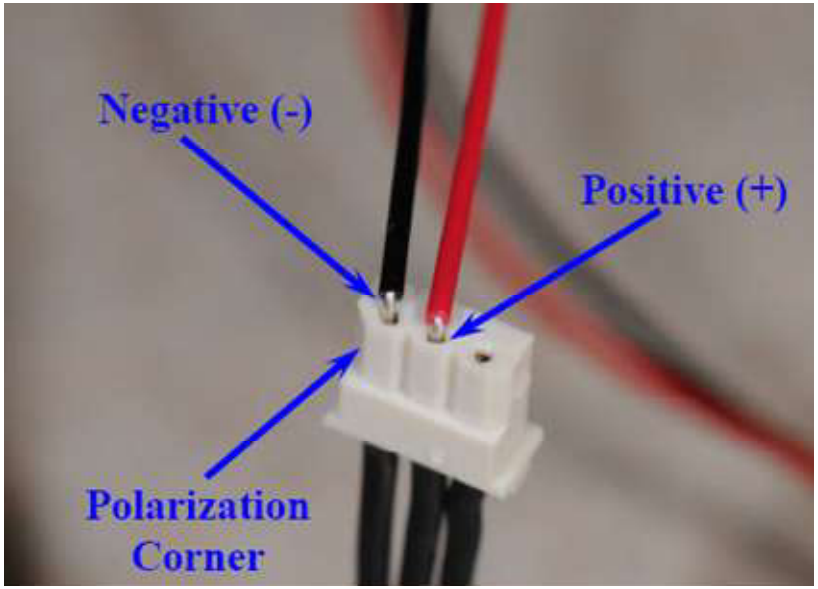
Sheldon Base Arduino Mega 2560 Interface Board


Adafruit Feather M4
Arm Sensor and LED Control Board
(one in each arm)
Input from Upper Arm Strip 1
Strip 2
Strip 3
External
+5v
High
Current
470
Neopixel Control
5v for Neopixels
Gnd
BAT
En
USB PWR
13
12
11
10
9
6
5
SCL 3
SDA 2
470
Arm
Switch
Hand IR Sensors
Sharp Analog
Gnd
5v
Analog In
Analog In
RESET
3.3v
ARf
GND
A0
A1
A2
A3
A4
A5
SCK
MOSI
MISO
0: RX
1: TX
GND

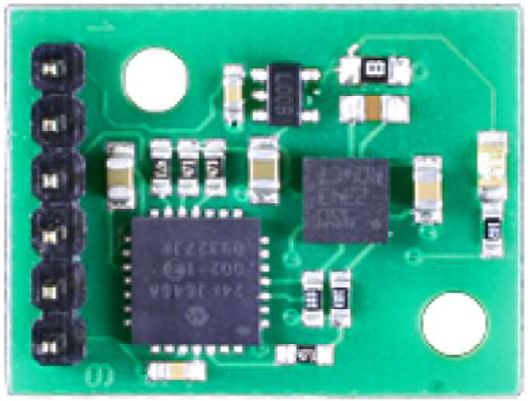

Feather 32u4
Wheel Encoder Interface board
BAT
En
USB PWR
13
12
11
10
9
6
5
SCL 3
SDA 2
1K
S0
5v
S1
Key
GND
S2
5v
S3
Key
GND
1K
1K
1K
Wheel Encoder
Inputs
RESET
3.3v
ARf
GND
A0
A1
A2
A3
A4
A5
SCK
MOSI
MISO
0: RX
1: TX
GND


BAT
En
USB
13
12
11
10
9
6
5
SCL
SDA
3V
GND
#13
CHG
RST
3V
ARf
GND
A0
A1
A2
A3
A4
A5
SCK
MOSI
MISO
RX
TX
GND
RESET
feather
32u4 basic
adafruit

Dynamixel Servo Connection



3.6v-5v
SDA
SCL
Mode
Factory use
0v Ground



To enter the I2C mode of operation leave the mode pin unconnected