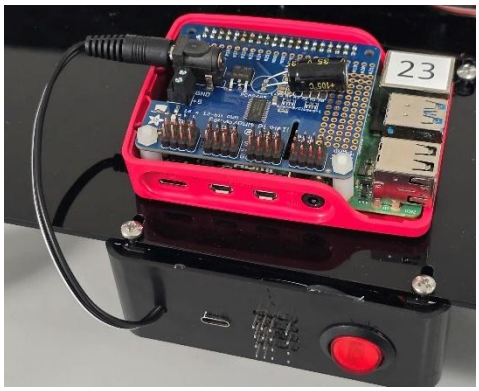
Powering Merlin

(Prepared by Jarede Mayers on 26th Feb 2025)

The Power Pack has been designed to work with the Merlin rover but can be used for other robotics applications.

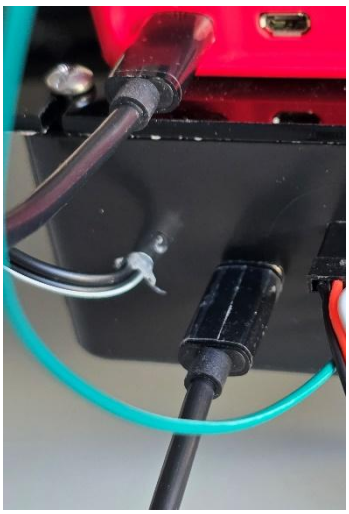
This table shows the characteristics of the different ports.

	Voltage	Max Current
DC Jack 2.1mm	7.4V	15A
USB-C	5V	4A (Shared)
Header Pin		

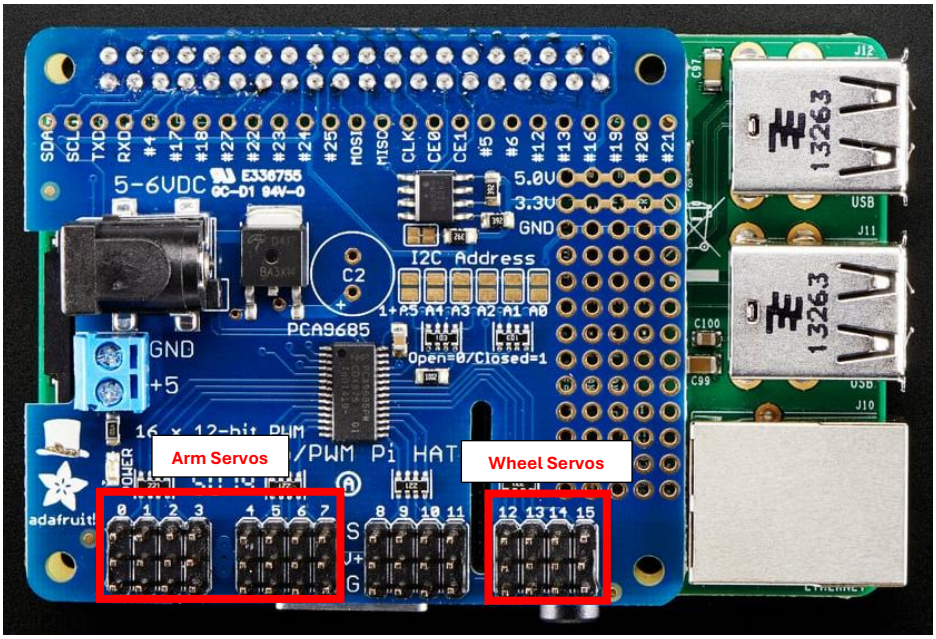


The DC Jack is for the Motor Hat and the USB-C slot is to power the Raspberry Pi.

Use the USB-C to USB-C cable as shown to power the Raspberry Pi.

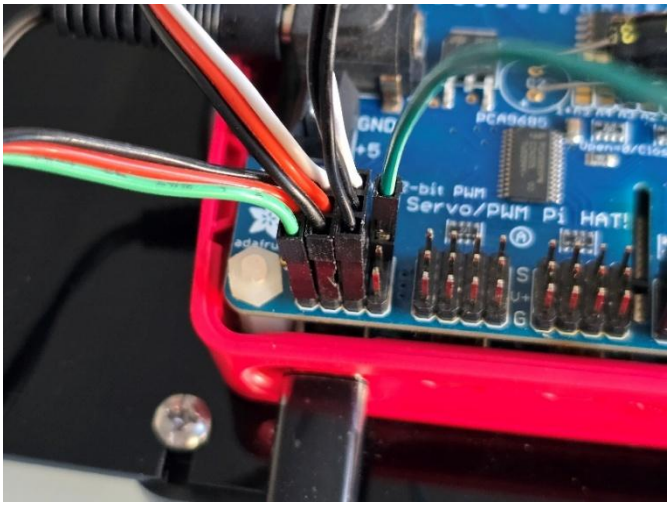


There are 2 locations for the servos to be placed, shown in the image below. This is because the Wheel Servos use a different communication protocol to the Arm Servos.

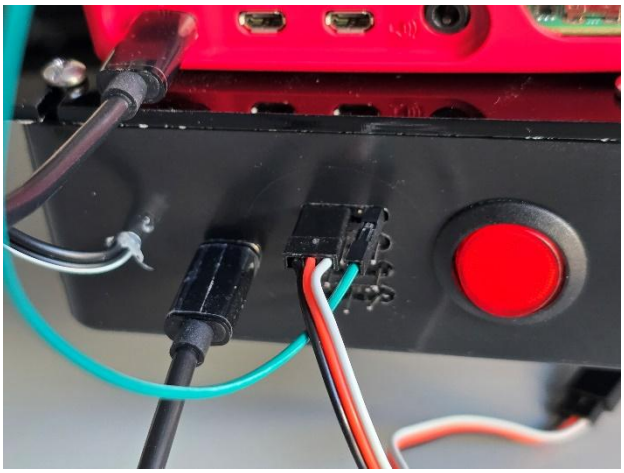


Tere are multiple cables that can be added to the motor board, each with different colours, but you need to ensure that they are connected properly to prevent damage. Use this to ensure extenders are connected in the correct orientation.

Signal			
Power			
Ground			



The single green wire is from the front of the front of the power supply, where you will connect you end effector motor.



The front of the power pack has header pins for using with 5V servos via header pins.

Header Pins are Connected as shown. Note the signal connection are joined across. This is so you can attach a wire to connect the signal wire from the servo to the Motor Control Board. Plug in the Servo on the left-hand side. Use a Female-to-female connector wire to connect the right side to the desired signal pin of the motor hat.