Teensy 4.0 Pins	Pin Type	In or Out?	Connection	Color	Description
GND	GND	IN	SR Ground	Black	Will need to be connected to slip ring ground
0	Serial 1	IN	SR RX		Receives Information for Master Over UART Communication
1	Serial 1	OUT	SR TX		Transmits Information to Master Over UART Communication
2	PWM	OUT	J5 Enable		To J5 Stepper Driver
3	PWM	OUT	J5 DIR		To J5 Stepper Driver
4	PWM	OUT	J5 STEP		To J5 Stepper Driver
5	PWM	OUT	J5 CLK		To J5 Stepper Driver
6	PWM	OUT			SPARE
7	Serial 2	IN	J5 RX		Communication to J5 Stepper Driver
8	Serial 2	OUT	J5 TX		Communication to J5 Stepper Driver
9	PWM	OUT	J6 Enable		To J6 Stepper Driver
10	PWM	OUT	J6 DIR		To J6 Stepper Driver
11	PWM	OUT	J6 STEP		To J6 Stepper Driver
12	PWM	OUT	J6 CLK		To J6 Stepper Driver
13	PWM	OUT	On Board LED		Will set to be ON/Blinking when board is running properly, solid when fault occurs.
14	Serial 3	IN	J6 RX		Communication to J6 Stepper Driver
15	Serial 3	OUT	J6 TX		Communication to J6 Stepper Driver
16	I2C 0	IN	J5 SCL1		J5 I2C Encoder Bus
17	I2C 0	IN	J5 SDA1		J5 I2C Encoder Bus
18	I2C 1	IN	J6 SCL0		J6 I2C Encoder Bus
19	I2C 1	IN	J6 SDA0		J6 I2C Encoder Bus
20	Analog	IN			SPARE
21	Analog	IN			SPARE
22	PWM	OUT	Servo Output 1		EoAT Servo Output
23	PWM	OUT	Servo Output 2		EoAT Servo Output
3.3 V	3.3 V	OUT	3.3 V		3.3V Connection for x2 magnetic encoders (AS5600), IO power for x2 stepper drivers (TMC 2209)
	GND	IN	SR Ground	Black	Will need to be connected to slip ring ground
Vin	GND	IN	SR 5VDC	Green	Powers the Teensy and can be used for future servos

J5 - TMC 2209					
Stepper Driver	Pin Type	In or Out?	Connection	Color	Description
0	EN		TEENSY PIN 2		
1	MS1				
2	MS2				
3	TX		TEENSY PIN 7		
4	RX		TEENSY PIN 8		
5	CLK		TEENSY PIN 5		
6	STEP		TEENSY PIN 4		
7	DIR		TEENSY PIN 3		
8	VM		SR 24 VDC		Slip Ring 24V supply
9	GND		SR GND		Will need to be connected to slip ring ground
	M2B		Stepper		
	M2A		Stepper		
	M1A		Stepper		
	M1B		Stepper		
	VIO		3.3 V		Supplied from Teensy 4.0
	GND		SR GND		Will need to be connected to slip ring ground
J6 - TMC 2209	Dia Tana	l O 40	0	0-1	
Stepper Driver	Pin Type	In or Out?	Connection	Color	Description
0	EN		TEENSY PIN 9		
1	MS1				
2	MS2		TEENION DIN 44		
3	TX		TEENSY PIN 14		
4	RX CLK		TEENSY PIN 15		
5	I CLK				
			TEENSY PIN 12		
6	STEP		TEENSY PIN 11		
7	STEP DIR		TEENSY PIN 11 TEENSY PIN 10		Clin Dina Od/ symph.
7 8	STEP DIR VM		TEENSY PIN 11 TEENSY PIN 10 SR 24 VDC		Slip Ring 24V supply
7 8 9	STEP DIR VM GND		TEENSY PIN 11 TEENSY PIN 10 SR 24 VDC SR GND		Slip Ring 24V supply Will need to be connected to slip ring ground
7 8 9	STEP DIR VM GND M2B		TEENSY PIN 11 TEENSY PIN 10 SR 24 VDC SR GND Stepper		
7 8 9 10	STEP DIR VM GND M2B M2A		TEENSY PIN 11 TEENSY PIN 10 SR 24 VDC SR GND Stepper Stepper		
7 8 9 10 11 11	STEP DIR VM GND M2B M2A M1A		TEENSY PIN 11 TEENSY PIN 10 SR 24 VDC SR GND Stepper Stepper Stepper		
7 8 9 10 11 12	STEP DIR VM GND M2B M2A M1A M1B		TEENSY PIN 11 TEENSY PIN 10 SR 24 VDC SR GND Stepper Stepper Stepper Stepper		Will need to be connected to slip ring ground
7 8 9 10 11 12 13	STEP DIR VM GND M2B M2A M1A M1B VIO		TEENSY PIN 11 TEENSY PIN 10 SR 24 VDC SR GND Stepper Stepper Stepper Stepper Stepper 3.3 V		Will need to be connected to slip ring ground Supplied from Teensy 4.0
7 8 9 10 11 12	STEP DIR VM GND M2B M2A M1A M1B VIO		TEENSY PIN 11 TEENSY PIN 10 SR 24 VDC SR GND Stepper Stepper Stepper Stepper		Will need to be connected to slip ring ground
7 8 9 10 11 12 13	STEP DIR VM GND M2B M2A M1A M1B VIO		TEENSY PIN 11 TEENSY PIN 10 SR 24 VDC SR GND Stepper Stepper Stepper Stepper Stepper 3.3 V		Will need to be connected to slip ring ground Supplied from Teensy 4.0

Slip Ring 24 VDC Power Rail	Pin Type	Description
0	24 V	J5 Stepper Driver
1	24 V	J6 Stepper Driver
2	24 V	Fan 1
3	24 V	Fan 2
4	24 V	24V Spare 1
5	24 V	24V Spare 2

Servo Conn	ection 1	Servo Connection 2		
Ground	GND	Ground	GND	
Signal	TEENSY PIN 22	Signal	TEENSY PIN 23	
Power	3.3 V	Power	3.3 V	

Slip Ring Ground Rail	Pin Type	Description
0	Ground	J5 Stepper Driver
1	Ground	J6 Stepper Driver
2	Ground	Fan 1
3	Ground	Fan 2
4	Ground	24 V Spare 1
5	Ground	24 V Spare 2
6	Ground	J5 Encoder (AS5600)
7	Ground	J6 Encoder (AS5600)
8	Ground	Teensy 4.0 GND 1
9	Ground	Teensy 4.0 GND 2
10	Ground	Servo 1
11	Ground	Servo 2
12	Ground	SR Black Wire

3.3 VDC IO Power	Pin Type	Description
0	3.3 V IN	J5 Stepper Driver
1	3.3 V OUT	J6 Stepper Driver
2	3.3 V OUT	Fan 1
3	3.3 V OUT	Fan 2
4	3.3 V OUT	24V Spare 1
5	3.3 V OUT	24V Spare 2

Welcome to Teensy 4.0 32 Bit Arduino-Compatible Microcontroller To begin using Teensy, please visit the website & click Getting Started. www.pjrc.com/teensy					
Digital Pins digitalRead digitalWhite pinMode	Bad LED Loading Status dim: Ready	X1 PWM PWM	PWM UT PWM PWM		
Analog Pins	volts) CRX1 MCLK1 CTX1 CTX1	BCLK1 LRCLK1 SCL0 SDA0 SDA1	S/PDIF IN S/PDIF OI CRXI		
PWM Pins analogWrite	(3.6 to 5.5 v (250 mA m A9 A8	A7 RX5 A6 TX5 A5 A4 A3 TX4	<u> </u>		
Digital Audio Audio Library	UND EE EE 22	21 20 19 18 17 1	2 보 본 띠 On/Off		
Serial Ports Serial1 - Serial7		MIMXRT1862 DVL6A BN88X CTAA1848H	Program GND 3.3V		
I ² C Port Wire Library	GND 0 1 2 3	456789			
SPI Port SPI Library	EXT EXT	A RXZ	SR CS 10 1 MOSI 11 3L MISO 12 Al digital pins have interrupt capability.		
CAN Bus FlexCAN_t4 Library	0001	M BCLK2 M INZ M OUTID M OUTIA M INI	MOO		
	MA WA	PWM PWM PWM PWM	M M M		

