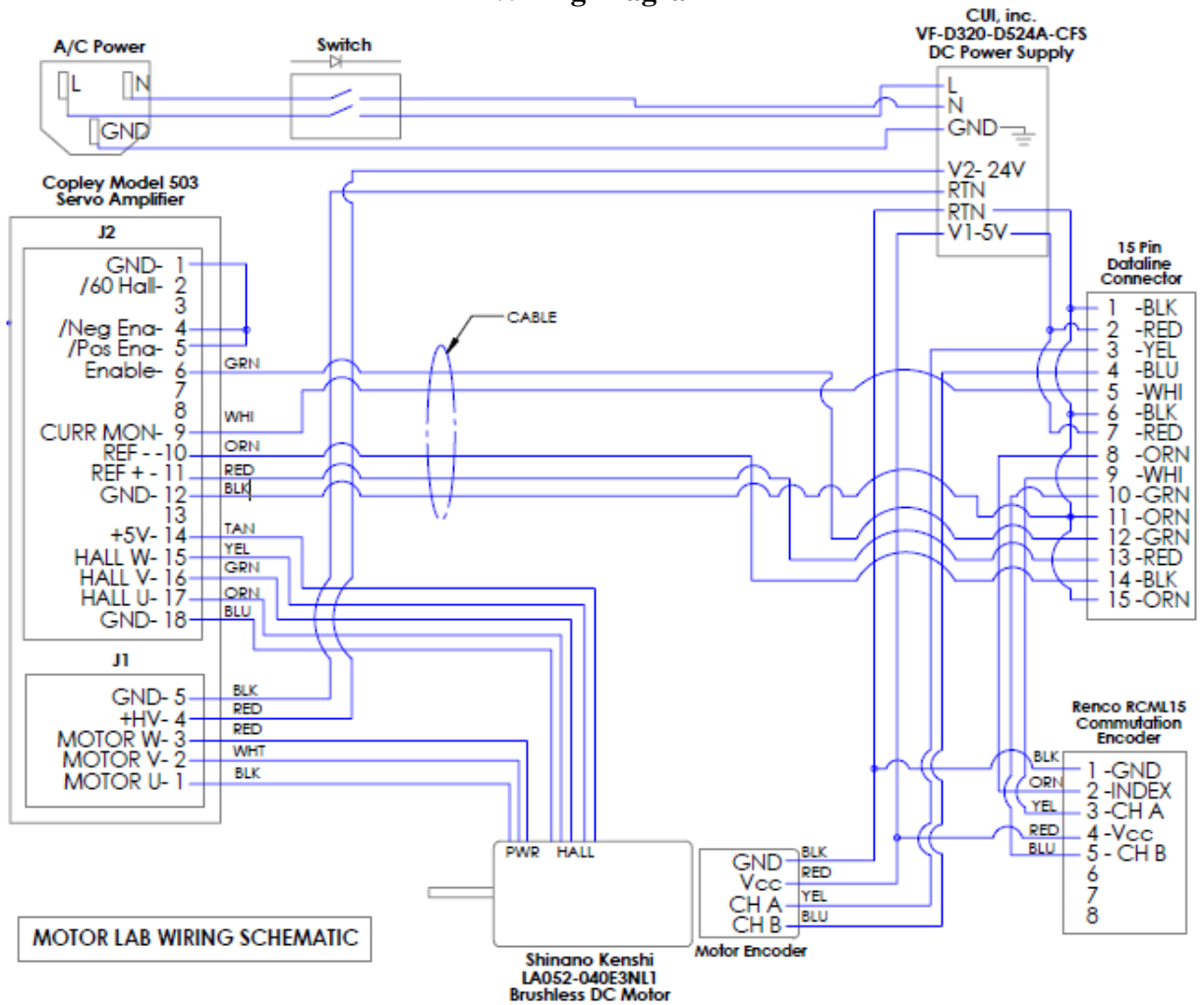


## ***Wiring for the “Motorlab” Apparatus***

### 15 Pin Microcontroller Connections

Amp J2	Hardware Wire Color	15pin Connector	Function	15pin Cable	STM32f4 Discovery
	Black	1 Black	Motor Encoder Ground	1 Black	GND
	Red	2 Red	+5V Power	2 Brown	Voltage Regulator
	Yellow	3 Yellow	Motor Encoder Channel A	3 Red	PE9 (TIM1-Ch1)
	Blue	4 Blue	Motor Encoder Channel B	4 Orange	PE11 (TIM1-Ch2)
Curr Mon	9 White	5 White	Current Monitor	5 Yellow	PB0 (ADC1-Ch8) thru resistor network
	Black	6 Black	Inertia Encoder Ground	6 Green	GND
	Red	7 Red	+5V Power	7 Blue	Voltage Regulator
	Orange	8 Orange	Inertia Encoder Index	8 Purple	--
	Yellow	9 White	Inertia Encoder Channel A	9 Gray	PA15 (TIM2-Ch1)
	Blue	10 Green	Inertia Encoder Channel B	10 White	PA1 (TIM2-Ch2)
GND	12 Black	11 Orange	Amp Signal Ground	11 Pink	GND
Enable	6 Green	12 Green	Amp Signal (Amp Enable)	12 Light Green	PB11 (Digital Out)
Ref+	11 Red	13 Red	Current Command +	13 Black-White	PB4 (TIM3-Ch1)
Ref-	10 Orange	14 Black	Current Command -	14 Brown-White	PB5 (TIM3-Ch2)
GND	12 Black	15 Orange	GND	15 Red-White	--

### Wiring Diagram



# STM32F4Discovery Host Board

