



Replacement Instructions CTAN #337

Focus 1 to 2100/2300 Replacement

This replacement instruction is pertinent for Focus 1 drive upgrade

Focus 1 Drives

Enclosed



2400-8000



2400-8001

Chassis

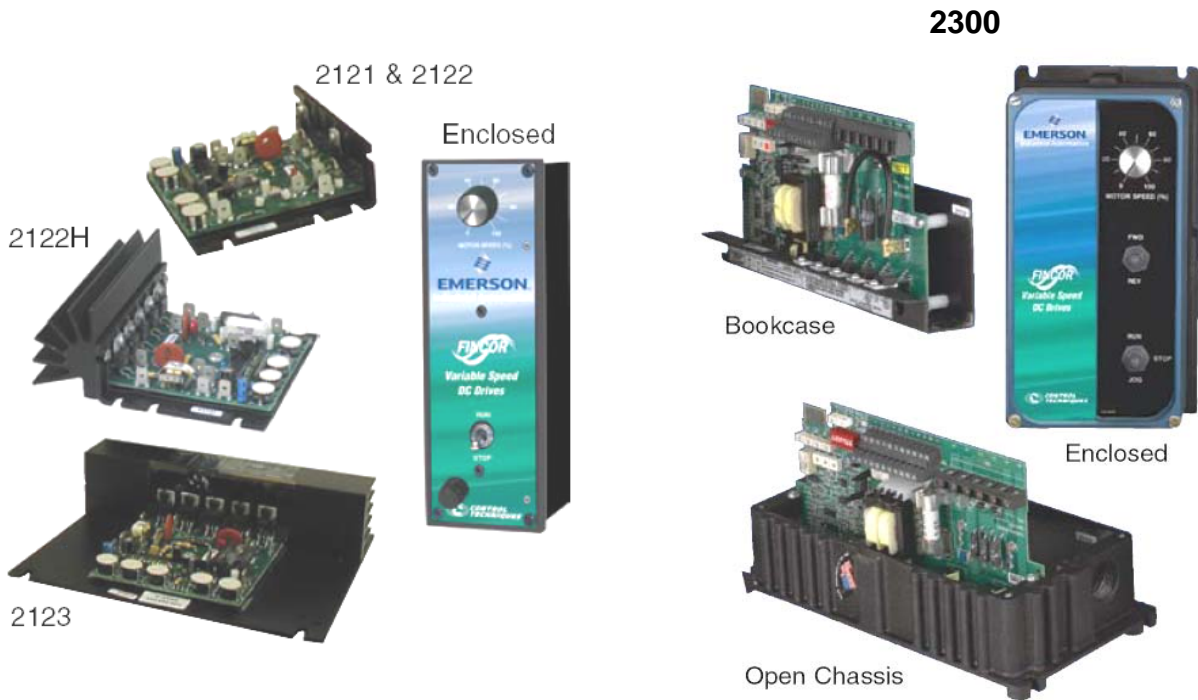
The Focus DC drive series was a popular single motor speed controller for both permanent magnet and shunt field motors 2HP or less. Focus drives were powered from single phase 115vac or 240vac lines typically powering 90v or 180v armatures respectively. The basic unit was available enclosed or in chassis form. Option kits were available to extend functionality and features.

The Focus drive was also sold under various other labels such as:



2400-8000	F903 or 612800	WF1000	LWS 25/200
2400-8001	F904 or 612802	WF1050	LWS 25/200C

Fincor Drives



In this document we will describe the cross over process from the Focus 1 products to our Fincor replacement. Half of the battle with any upgrade, is knowing what you have and what you're going to need. Many options can be with the Focus 1 such as an Enclosure, M Contactors, Dynamic Braking, and so on. Now we just have to figure out what is in our current drive.

Knowing what you have

The Focus's model number can be found either on the top of the heatsink or on the bottom of the enclosure. Pictured below is where your model number is located as well as what your label would look like

Current Rating



Enclosed Unit
(Viewed from the bottom)



Model #

Serial #



Chassis Unit



Catalog Part #	Enclosure	HP	AC Input		DC Armature	DC Output		
			1Ø	Max		Armature	Field	Field
			Volts	Amps	Volts	Amps	Volts	Amps
2400-8001W	Chassis	¼ -1	120	14	90	10	100	1
		½-2	240	14	180	10	200	1
2400-8000W	NEMA 1	¼ -1	120	14	90	10	100	1
		½-2	240	14	180	10	200	1

When you decide on the proper drive you should always base your selection on the motor's rated current. The Focus 1 has an output of 10 Amps DC. The Fincor lines of DC drives have other drives available at a lower current output that might be a better match to your motor at a better price.

Shown below is the Fincor Series of Low horsepower units that will crossover from the Focus 1.

RATINGS: 1/8 TO 3 hp (115-230 VAC)

Series 2100 Non-Regenerative DC Drives								
Model	Motor HP ²	Input		Output				RUN-STOP
		AC Volts	Amps	DC Volts		Amps		Order Code
				Arm	Field	Arm	Field	
Chassis ¹	1/8-1/2	115	8.7	90	50/100	5.4	1.0	2121
	1/8-1/2	115	8.7	90	50/100	5.4	1.0	2122
	1/2-1.0	230	8.8	180	100/200	5.5	1.0	
	1/8-1.0	115	15	90	50/100	10.5	1.0	2122H
	1/2-2.0	230	15.8	180	100/200	11.6	1.0	
	1/8-1.0	115	15	90	50/100	10.5	1.0	2123
	1/2-3.0	230	24	180	100/200	16	1.0	
NEMA 1 Enclosed	1/8-1/2	115	8.7	90	50/100	5.4	1.0	2121P1
	1/2-1.0	230	8.7	180	100/200	5.4	1.0	2122P1

(2) Units may be easily recalibrated using trim pots for any standard rating within the hp range.

RATINGS: 1/8 TO 5 hp (115-230 VAC)

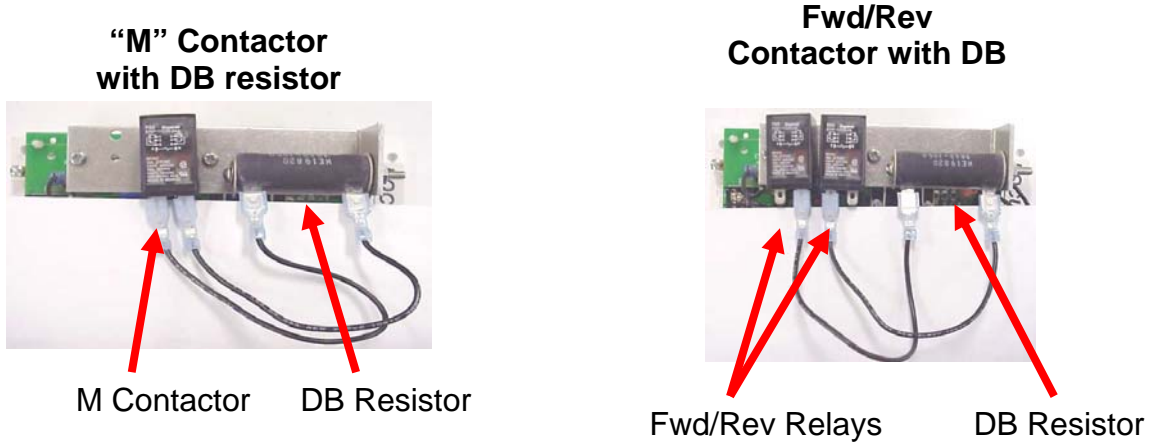
Series 2330 Non-Regenerative DC Drives										
Model	Motor HP	Input		Output				Run-Stop, (Basic)	Run-Stop, Arm. Cont. DB	Run-Stop, Arm. Cont., Rev. & DB
		AC Volts	Amps	DC Volts		Amps		Order Code	Order Code	Order Code
				Arm	Field	Arm	Field			
Chassis w/o Operator Controls	1/8-1.0	115	15.8	90	50/100	10.5	1.0	2331	2331B	2331A
	1/2-2.0	230	15.8	180	100/200	11.6	1.0			
	1/8-1.0	115	15.8	90	50/100	10.5	1.0	2332	2332B	2332A
	1/2-3.0	230	22	180	100/200	15.1	1.0			
Bookcase w/o Operator Controls	1/8-1.0	115	15.8	90	50/100	10.5	1.0	2335	2235B	2235A
	1/2-2.0	230	15.8	180	100/200	11.6	1.0			
	1/8-1.0	115	15.8	90	50/100	10.5	1.0	2336	2336B	2336A
	1/2-3.0	230	22	180	100/200	15.1	1.0			
NEMA 4/12 w/o Operator Controls	1/8-1.0	115	15.8	90	50/100	10.5	1.0	2331P0	2331BP0	2331AP0
	1/2-2.0	230	15.8	180	100/200	11.6	1.0			
NEMA 4/12 with Integral Operator Controls	1/8-1.0	115	15.8	90	50/100	10.5	1.0	2331P1*	2331BP1*	2331AP3
	1/2-2.0	230	15.8	180	100/200	11.6	1.0			
	1/8-1.0	115	15.8	90	50/100	10.5	1.0			2331P2*
	1/2-2.0	230	15.8	180	100/200	11.6	1.0			

Units shipped calibrated for desired hp rating but jumpers can be adjusted for others. Units shipped ready for 230VAC but may be reconnected for 115VAC.

* P1, BP1, & P2 have additional Jog controls. 2331P2 includes switch reversing (not contactor) without DB.

Identifying Option Kits

Your Focus 3 could have different options. Pictured below are the option kits for you to identify.



Enclosed unit

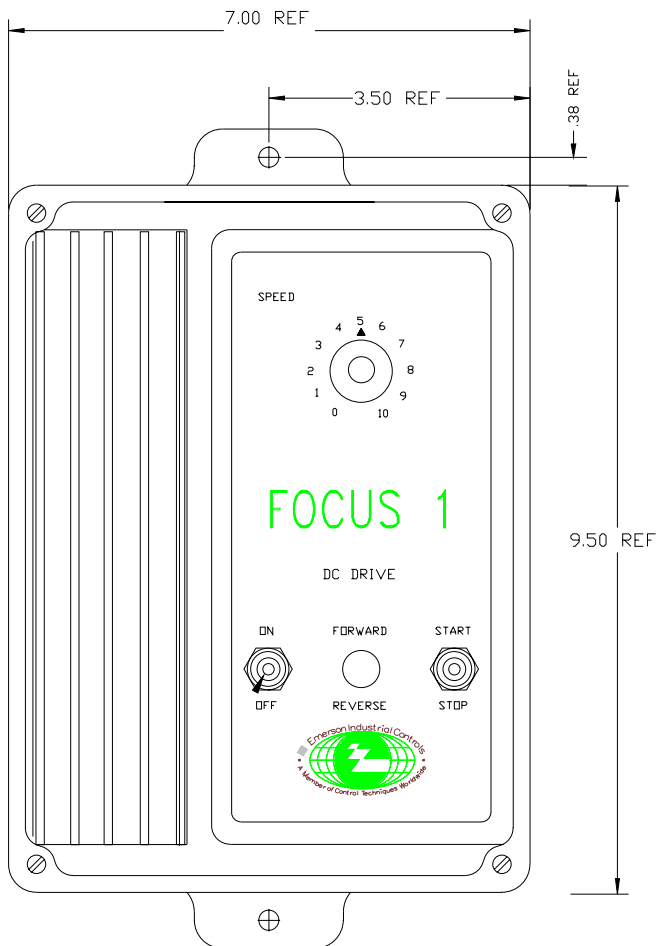
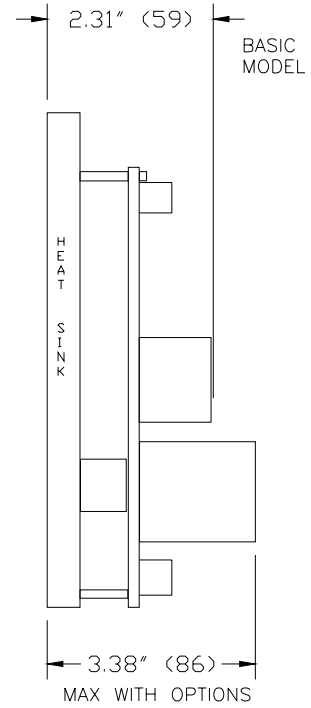
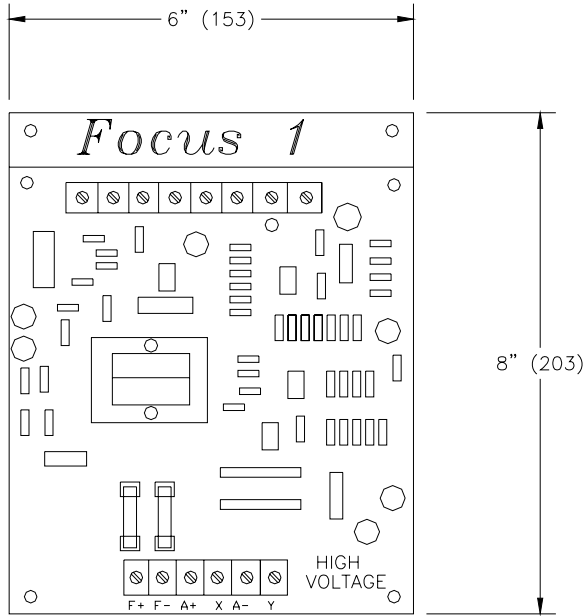


If the unit that you are replacing has the option to the right, you may not need it for your future application. **Except for the 2120 Series**, all of the Fincor Single phase DC Drives are Isolated.



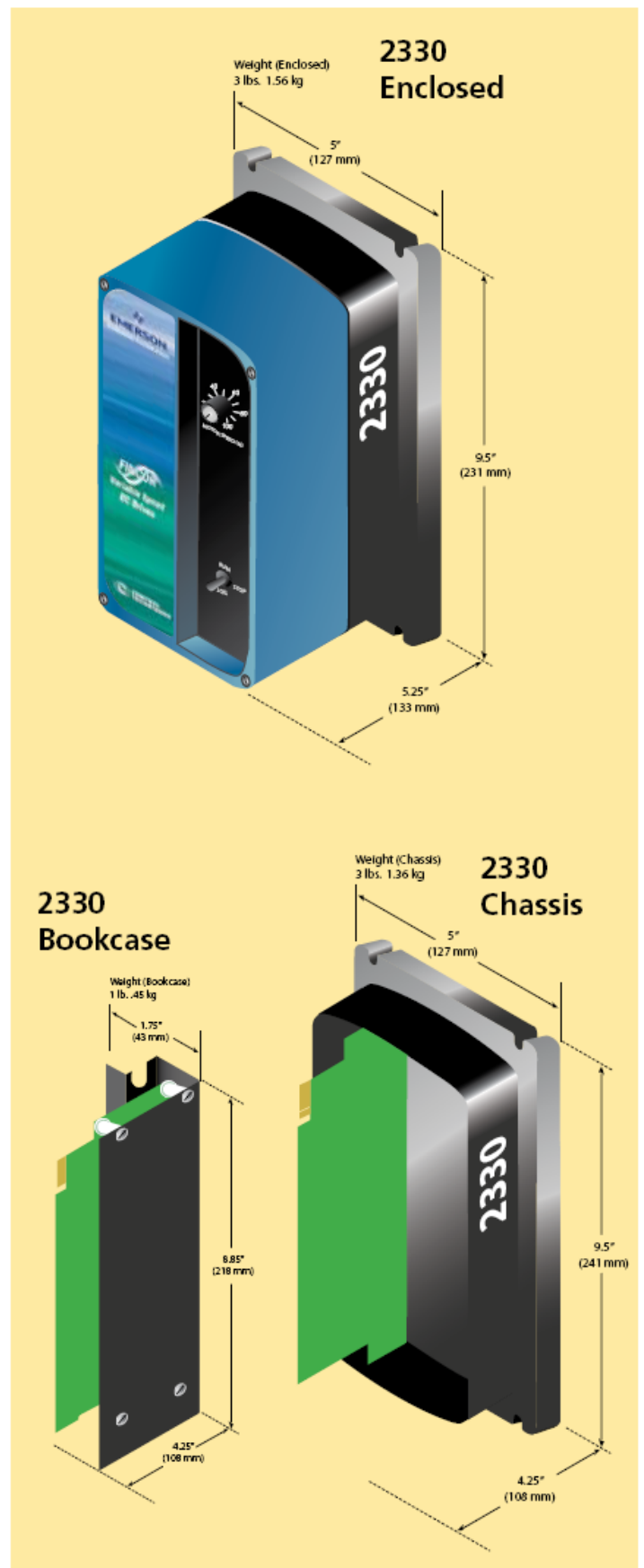
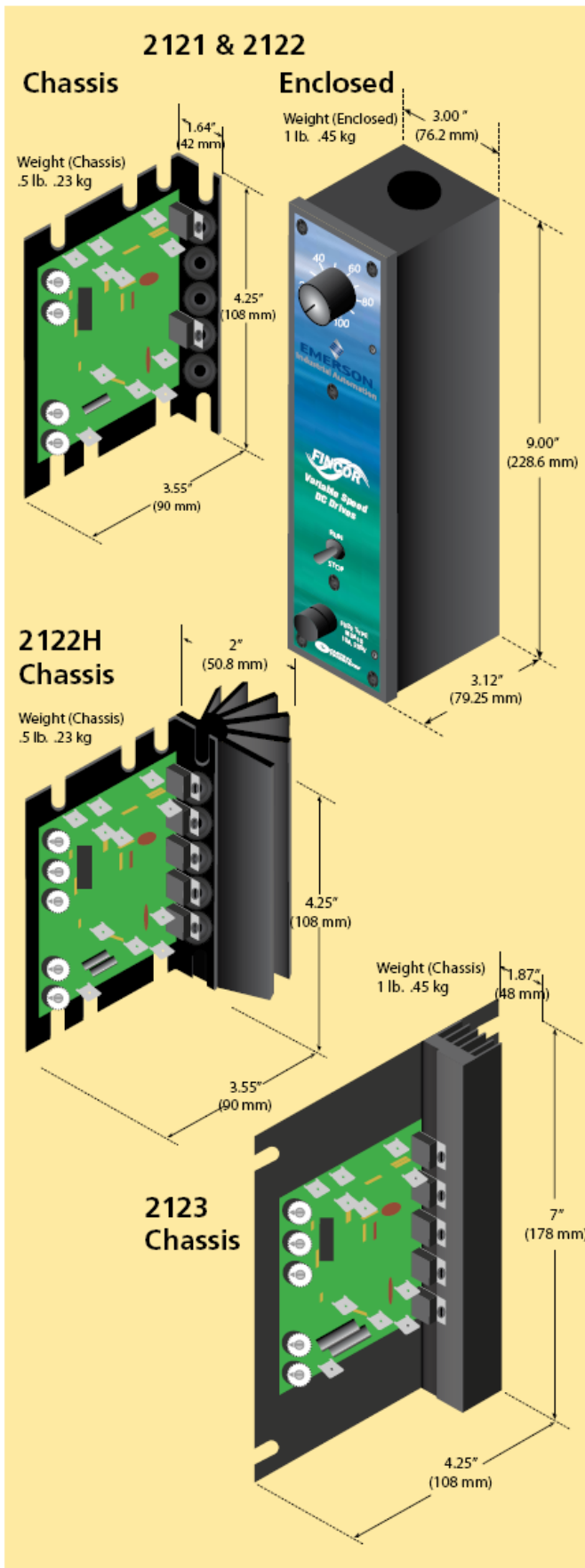
Dimensions

2400-8001W



Depth 5 inches Maximum.

2400-8000W



Terminal Description of the 2330 Series

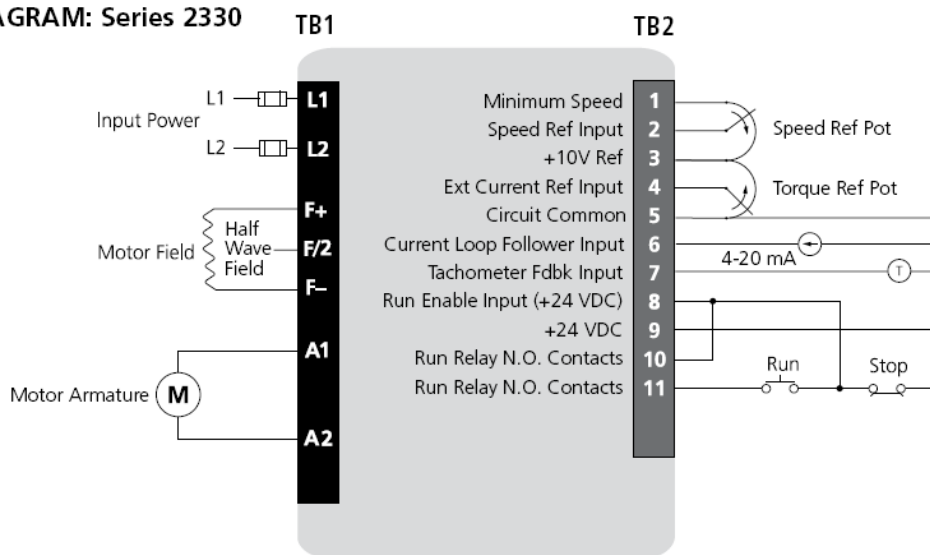
TB1

Pin#	Type	Notes
L1	Line Voltage Input	115 or 230 VAC J1 Selectable
L2	Line Voltage Input	115 or 230 VAC J1 Selectable
F+	Field Voltage Output	+100 VDC @ 115 VAC or +200 VDC @230 VAC Input
F/2	Field Voltage (Half-Wave) Output	+50 VDC @ 115 VAC or +100 VDC @230 VAC Input
F-	Field Voltage Output	Field Minus Output
A1	Armature + Output	0 to +90 VDC @ 115 VAC or 0 to +180 VDC @ 230 VAC Input
A2	Armature - Output	Armature Minus Output

TB2

Pin#	Type	Notes
1	Speed Reference Pot '0' End	With On-board Min Speed Pot Active
2	Speed Reference Input	200 KΩ Input Resistance
3	+10V Reference Output	5mA max
4	External Current Reference Input FWD	Refer to DIP Switch SW3-
5	Circuit Common	Isolated From Line – Can be connected to Earth
6	Current Loop Follower Input	Refer to DIP Switch SW3-2 (1 – 5 mA, 4 – 20 mA, 5 – 50 mA)
7	Tachometer Input (Speed Feedback)	Polarity Insensitive for Reversing Applications (3-30 Vdc, 31-175 VDC)
8	Enable Input (+24 VDC) – Run Relay	24 VDC @ 6ma Input
9	+24 VDC	For drive enable use only
10	Run Relay N.O. Contacts	Form A Contact Rated 0.5 A @ 115 VAC or 2 A @ 30 VDC
11	Run Relay N.O. Contacts	

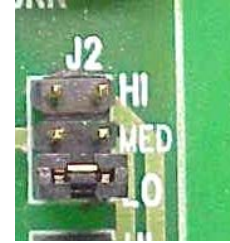
TERMINAL DIAGRAM: Series 2330



d) **DC Current Output**

J2 (Shown in the Low select)

<i>DC Output Current (A)</i>	<i>J2 Jumper Position</i>
5.5	<i>Low</i>
7.5	<i>MED</i>
10	<i>HI</i>



On the face of the drive do you have a:

- A) Speed pot? _____
- B) Current limit pot? _____
- C) Run Switch? _____
- D) Jog Switch? _____

Do you have a DB resistor? _____

Do you have an “M” contactor? _____

Do you have a Reversing kit? _____

Once you have all of the information needed you can contact Customer Service or Technical Support to assist you further

Emerson Control Techniques
1- 800-893-2321