Motor Controls Lab #3 VFD #1 AB JD Jones

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Points 100

In this lab you will be wiring up a VFD (Variable Frequency Drive). We will take and build more of the features with each lab. As always wait for the instructor to approve your wiring prior to powering up. You will be using the **Allen Bradley** VFD on the LabVolt trainers for most of these labs.

Use the website for the VFD. Here is a link for the PowerFlex 40 VFD

<http://literature.rockwellautomation.com/idc/groups/literature/documents/um/22b-um001_-en-e.pdf>

Go to AB.com to find the PowerFlex 525 VFD information.

For all of the PowerFlex **40** VFD labs you will first have to reset the factory defaults.

1) Select parameter P041

2) Set the value to 1

3) After the defaults are complete this parameter will set itself back to 0.

4) F048 on the display means you were successful at resetting the default settings.

You will reset the defaults because previous students might have made changes and the results will be unpredictable.

**You will need to add a jumper from terminal 1 to 11.**

Tasks to complete:

A) Hook up the motor

B) Turn the motor on and off and direction with the keys on the VFD.

C) Control the speed of the motor with the dial on the VFD.

D) Have the display show the current frequency of the motor.

E) Adjust the Accel time to 2 seconds.

F) Adjust the Decel time to 6 seconds.

G) Adjust the current value to the motor FLA (Full Load Amps).

Points for PowerFlex **40** VFD

A) Wire up the motor and VFD and be allowed to power-up on the first request = 10 pts

B) Turn the motor on and off and change direction with the keys on the VFD. 10 pts

C) Control the speed of the motor with the dial on the VFD. 5 pts

D) Have the display show the current frequency of the motor. 5 pts

E) Adjust the Accel time to 2 seconds. In the P menu. 5 pts

F) Adjust the Decel time to 6 seconds. In the P menu. 5 pts

G) Adjust the current value to the motor FLA (Full Load Amps). 5 pts

H) Safety glasses and all grounds are connected. 5 pts

Points for PowerFlex **525** VFD

A) Wire up the motor and VFD and be allowed to power-up on the first request = 10 pts

B) Turn the motor on and off and change direction with the keys on the VFD. 10 pts

C) Control the speed of the motor with the dial on the VFD. 5 pts

D) Have the display show the current frequency of the motor. 5 pts

E) Adjust the Accel time to 2 seconds. In the P menu. 5 pts

F) Adjust the Decel time to 6 seconds. In the P menu. 5 pts

G) Adjust the current value to the motor FLA (Full Load Amps). 5 pts

H) Safety glasses and all grounds are connected. 5 pts

INSTRUCTOR’S INITIAL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_