



APPLICATION NOTE POWER UP/DOWN SEQUENCE
Linear Servo Amplifiers Series 45, 47, and 52

The power on/off sequence described in each product manual needs to be followed in order to protect the amplifier output stage from being over stressed by power up/down transients or motor connection or disconnection.

The Brake command is used to protect the amplifier output stage from the transients described in the preceding paragraph. When the Brake command input is set to a logic "1" the top half of the power output bridge is turned off, and the bottom half is turned on, shorting the motor windings together. This input overrides all the other logic input commands.

With the brake off the output bridge is biased at half the supply voltage. Therefore, with the brake off, switching the +Vs Power Bus supply on and off can cause significant current transients. This can occur due to the uncontrolled state of the power stage regulation circuits during the power supply transient rise or fall time. If the brake is not applied, significant potential differences can be developed between the three phases as the power supply voltage rises and falls or if the motor windings are relay switched.

The following is the Manual Power Up/Down Sequence.

Power Up

1. Brake Command should be on (logic 1).
2. Enable/Reset input should be in Reset (disable) position (logic 0). Switch S1 on the PCB, is in series with this input, and can be used to perform this function.
3. Analog input command should be 0 volts.
4. Apply DC power. LED1 and LED2 should be illuminated.
5. Set Brake Command off. LED2 should be off.
6. Set Enable/Reset input to the Enable state. LED1 should be off.
7. Motor should respond to analog input current commands.



Power Down

1. Analog input command should be 0 volts. (Preferred but not critical).
2. Set Enable/Reset input to reset (disable) state. LED1 should be on.
3. Set Brake Command on. LED2 should be on.
4. Turn off the VDC power.

WARNING: Verify that the DC power bus has decayed to 0 VDC before installing or removing the Servo Amplifier.