

Resource R10 Copley 412 analog amplifier setup

This should be adequate (and safe) for the Clifton Precision JDH-2000-V-1C or similar dc motor. It has a stall voltage of 24 V and stall current of 2.18 A.

Resource R10.6 Resistor settings

- RH15 Peak Current 6.2 k Ω (20 % of 20 A = 4 A)
- RH16 Continuous Current Limit 0 Ω (16 % of 20 A = 3.2 A)
- RH17 Peak Current Time Limit open (1 second)
- RH20 Armature Inductance 49.9 k Ω (0.6 to 1.9 mH)

Resource R10.7 Capacitor settings

- CH18 Armature Inductance 4.7 nF (0.6 to 1.9 mH)

Resource R10.8 Dip switch settings

- S1 Ground-active Enable OFF (up, away from the board)
- S2 Torque Mode ON (down, toward the board)

Resource R10.9 Gain adjustment

We will be operating the amplifier in TORQUE MODE. For transconductance, (output current / input voltage) = peak current / 10 V, which can be set up with the following steps:

1. Set S2 ON.
2. Set Ref Gain fully CW.
3. Set Loop Gain fully CCW.
4. Adjust the transconductance gain to 4 A / 10 V.
 - a) To increase gain, turn Loop Gain CW.
 - b) To decrease gain, turn Ref Gain CCW.