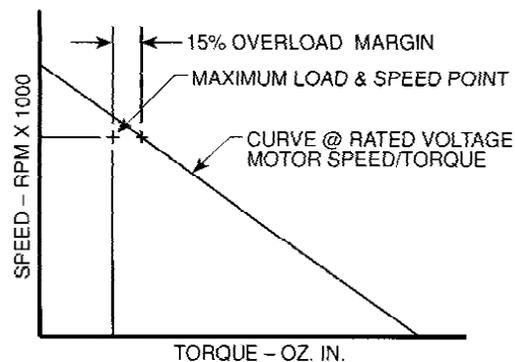


Motor and Control Selection Process & Wiring Schematic:

700A121-124 DC Motor Speed Control

MOTOR SELECTION

Choose a 6, 12 or 27 VDC motor that has a speed/torque curve beyond the maximum load and maximum speed point for desired operation. Allow a 15% overload margin (Figure 1) to ensure that some accelerating torque will be available under the most extreme operating conditions. For applications with high inertia in the system (i.e., more than 5 times the armature inertia), the overload margin may need to increase as much as 25%. When selecting a motor, the only limits on the speed/ torque combination at which the motor can run are the 10 ampere rating of the control and/or the continuous duty rating of the motor selected.



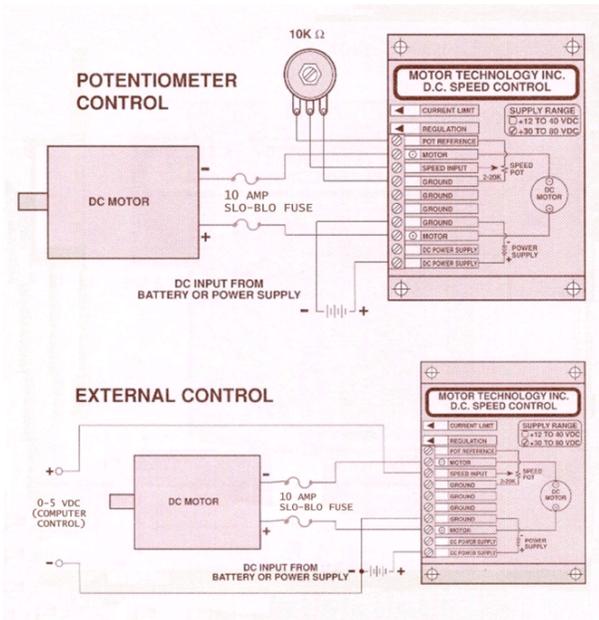
CONTROL SELECTION

Once you know which DC motor you would like to use, you can select and order a control based on the ratings shown below:

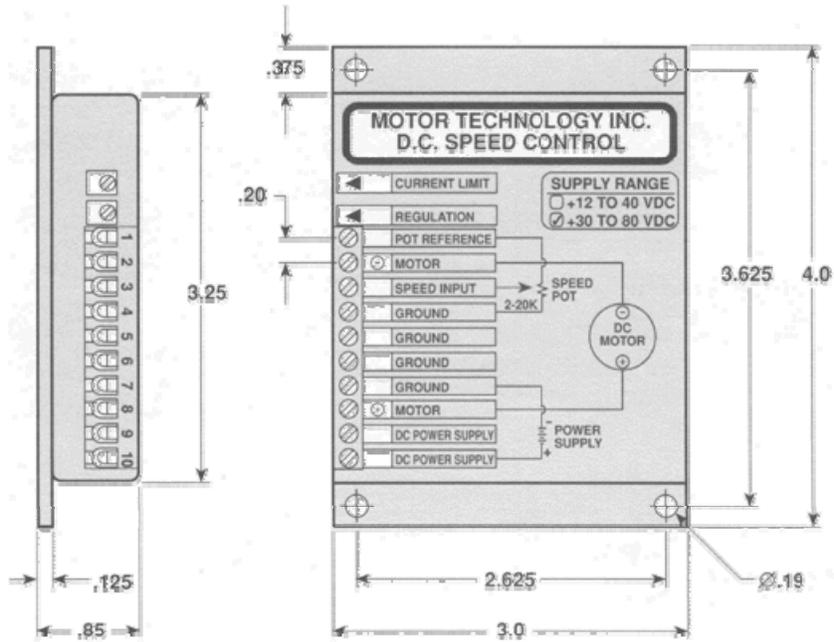
Control Part No.	Input, VDC	Motor Armature** Resistance - Ohms
700A121	30 - 80 VDC	< 5 Ohms
700A122	30 -80 VDC	> 5 Ohms
700A123	12 - 40 VDC	> 5 Ohms
700A124	12 - 40 VDC	< 5 Ohms

**The nominal armature resistance of a motor can be calculated by dividing the motor's rated voltage by the motor's stall current. The rated voltage and stall current of a motor can be found on the "Motor Data" page of each motor model.

WIRING SCHEMATIC*



DIMENSIONS*



*The customer is responsible for providing the remaining circuit components (i.e., potentiometer, fuses and computer control).

GENERAL SPECIFICATIONS:

DC Motor 700A121 Speed Control

ELECTRICAL SPECIFICATIONS

Current: Continuous duty DC motor current of 10 amps maximum. Note: Higher instantaneous motor start-up currents will not harm the control.

Voltage: Maximum DC voltage input into control should not exceed 20% over the nominal voltage rating of motor.

Line Variation: $\pm 5\%$ without affecting motor speed.

Motor Voltage: Four models cover voltages from 12 vdc – 80 vdc.

Fusing: 10 amps maximum. Slo-Blo fuses in both lines to motor (supplied by customer).

Control Element: 10K ohm potentiometer rated for 0.5 watts, or 0-5 vdc external control from computer (supplied by customer).

Connection Method: Designed for simple screw-down connections.

MECHANICAL SPECIFICATIONS

Speed Control: Minimums at $\pm 2\%$ for full-range motor operation and $\pm 1\%$ for mid-range motor operation.

Motor Speed: 200 – 22,000 rpm, depending on motor model. Gearmotors can approach .005 rpm, depending on reduction ratio of the gearbox.

Temperature Range: $-40^{\circ}\text{C} - + 75^{\circ}\text{C}$.

Protection: Internal components encapsulated in high-density heat conductive epoxy. Each control is environmentally protected and virtually impervious to shock, vibration, moisture and dust.

Mounting Method: Bolt-down capability through 0.19" diameter holes in frame of control.

Weight: Approximately 13 oz.