



5 Electrical Installation

*Please refer to section 1 for a discussion of the various control options available with the **Mpac**.*

An o-ring seal is located on the back plate. Make sure that it is properly seated with no cuts or other discontinuities before tightening.

The standard power connection to the **Mpac** actuator is single phase, 120 vac, 60 Hz. An optional 24 vdc power supply is available for the B power module. The actuator is shipped from the factory assuming that only one power connection will be required (Section 5.1). However, for certain installations it may be advantageous to power the fail safe solenoid (Section 5.2) or the heater element (Section 5.3) separately from the main power.

Remove the four cap screws that retain the control compartment cover. Take care not to damage the o-ring seal on the back plate. After completing the electrical connections and insuring that the wires are not pinched, securely fasten the cover to the back plate.

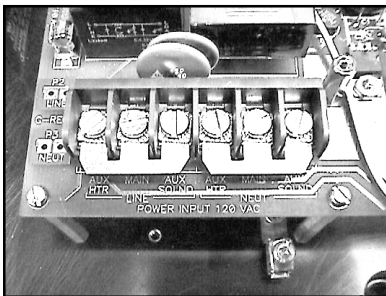
A ½" NPT connection port is provided on the back of the control compartment to allow feed through of the power cable.

⚠ CAUTION!

The activation of electrical power may cause the **Mpac to move to an endpoint. Inadvertent motion may damage the actuator and driven device or cause injury to installation personnel.**

5.1 SINGLE INPUT POWER (MAIN)

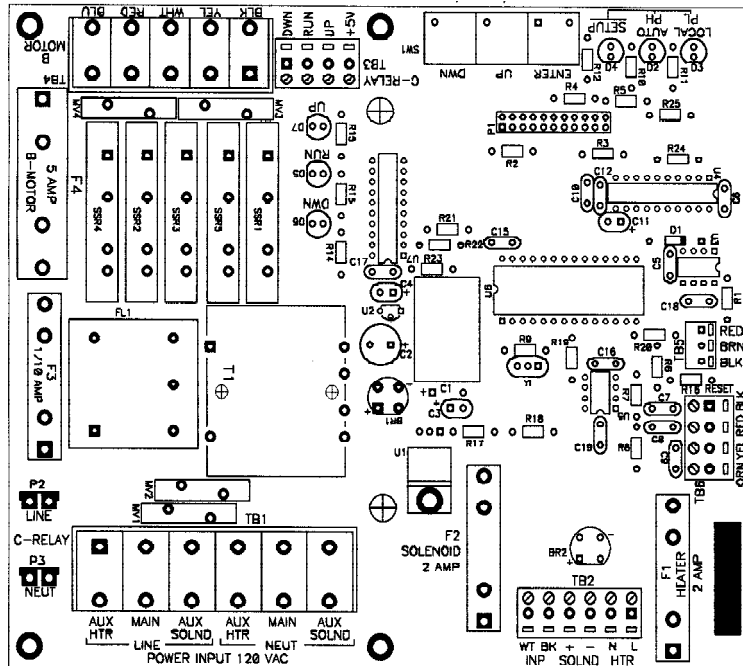
A single power connection is made to the "Power Input," a 6-position terminal block (Figure 5.A, p.17) located on the base circuit board. One screw terminal is provided for line and one screw terminal is provided for neutral. An earth ground connection should also be made to the grounding lug located on the back plate of the control compartment.



Single Input Terminal Block



Figure 5.A Single Input Power (Main)



POWER INPUT
6 POSITION TERMINAL BLOCK

The selected wire gauge and the power source must be sufficient to insure that 120 volts is provided at the actuator terminals under the worst case operating conditions. Failure to observe this requirement may cause faulty operation or damage to the actuator.

The minimum wire gauge providing power must be of sufficient size to insure the rated voltage is supplied to the actuator. The amperage rating for each power module is:

	Amperage		Motor HP
	120 vac	24 vdc	
B size Power Module			1/6
fail in place	3	6 amp	
spring failure	4	8 amp	
low power (no heater), fail in place		3 amp	
low power (no heater), spring failure		5 amp	
C size Power Module	12		3/4

The **Mpac** with 120 vac input power utilizes an induction motor. Therefore, consideration should be given to the total wire length and start-up surge current as recommended by the National Electric Code.



*The solenoid power input also supplies power to the control board. If the solenoid is deactivated, the **Mpac** will move to the spring failure position and all indicator lights will be “off”.*

A separate solenoid power supply is particularly useful for an MFT or other infrequent situation that demands high speed closure.

Continuous heater power will eliminate the warm-up period when main input power also acts as the control signal (ESD).

5.2 SEPARATE SOLENOID

When shipped from the factory, the solenoid is jumpered to the main power input connection. To separately power the solenoid:

1. The solenoid is jumpered to the main power on the power input terminal strip. The marking identifies the function of each terminal. Remove the 3-position jumpers from both the LINE and NEUTRAL terminals. Cutoff one jumper from each strip. Reinstall the now 2-position jumpers onto AUX HTR and MAIN for both the LINE and NEUTRAL terminals.
2. Connect the main input power as described in Section 5.1.
3. Separate solenoid power must now be connected to the AUX SOLND terminals. When operating, the internal solenoid draws 30 watts of power.

5.3 SEPARATE HEATER

When shipped from the factory, the heater is jumpered to the main power input connection. To power the heater separately:

1. The heater is jumpered to the main power on the power input terminal strip. The marking identifies the function of each terminal. Remove the 3-position jumpers from both the LINE and NEUTRAL side of the terminal strip. Cut off one jumper from each strip. Reinstall the now 2-position jumpers onto AUX SOLND and MAIN for both the LINE and NEUTRAL terminals.
2. Connect the main input power as described in Section 5.1.
3. Separate heater power must now be connected to the AUX HTR terminals. When operating, the heater draws 150 watts of power.