



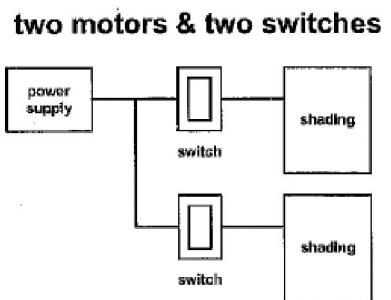
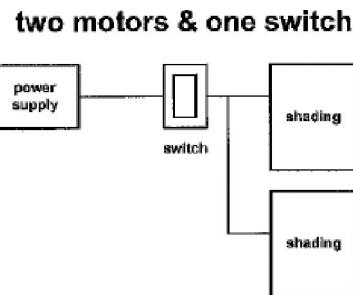
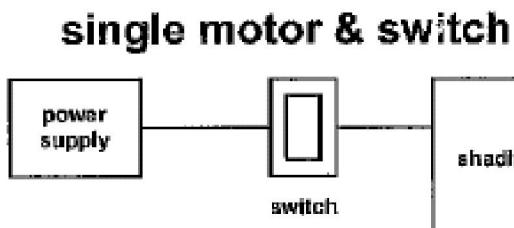
PRE-WIRE FOR 24 V DC MOTORS

Hard-wired Switch Applications (1 of 4)

Important Motor Information:

The 24 VDC motors used in Insolroll Window Shading Systems are unique in some aspects and have wiring requirements that differ from many household devices.

1. Insolroll 24 VDC motors are directional to run shades up and down and have two electrical wires : positive and negative
2. **24 VDC motors can be either wired in parallel** and/or home run to a given DC wall switch. See diagrams .



3. Type of wire run is vital. See chart for minimum wire gauge for each length of run.

Wire Parameters	
Wire Run	Minimum Wire
0 - 40'	16 gauge
41 - 100'	14 gauge
101 - 150'	12 gauge

4. Insolroll 24 VDC (STD-DC) motors pull 1.25 amps.
5. Insolroll 24 VDC motors require a double throw switch - (up - off -down).
6. 24 VDC Motors require a 24 volt power supply to convert 110 VDC to low voltage.
7. Insolroll 24 VDC motors have built-in limit switches to stop accurately when shades reach desired up and down positions.
8. Insolroll 24 VDC motors can be operated by wall switches, remote controls, automatic controls or interfaced with home automation systems.

Additional Project Considerations:

9. The typical wiring layout for an Insolroll 24 VDC Window Shading System does not require that a single gang junction box is within the six foot pigtail. Typically, small wire nuts or small DC connectors supplied by others are used to make connections.
10. Variations in motor speeds may occur depending upon wire gauge used and length of wire run to power supply.

Typical hard-wired switch scenarios are attached. For additional wiring information, please call customer service.

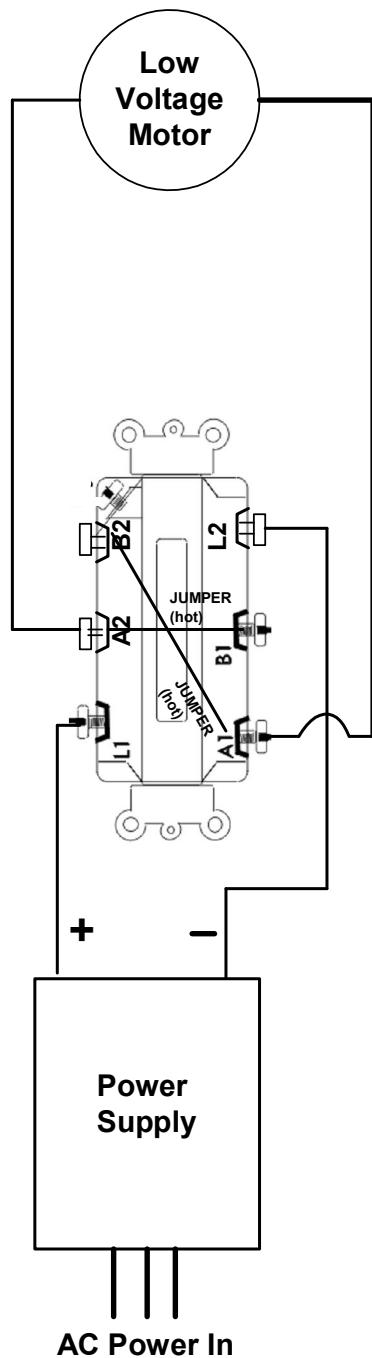


PRE-WIRE FOR 24V DC MOTORS

Hard-wired Switch Applications (2 of 4)

One motor wired to SPDT Switch

For a single shade to be operated by a double pole double throw DC wall switch, there should be a 2 conductor (2 wire) wire run within 6 feet of the motor head to the desired switch location. DC power is provided to this double throw switch through the appropriate power supply. This diagram is for a designer switch.



Wire Parameters:

Wire Run	Minimum Wire Gauge
0 - 40'	18 AWG
40 - 100'	14 AWG
100 - 150'	12 AWG

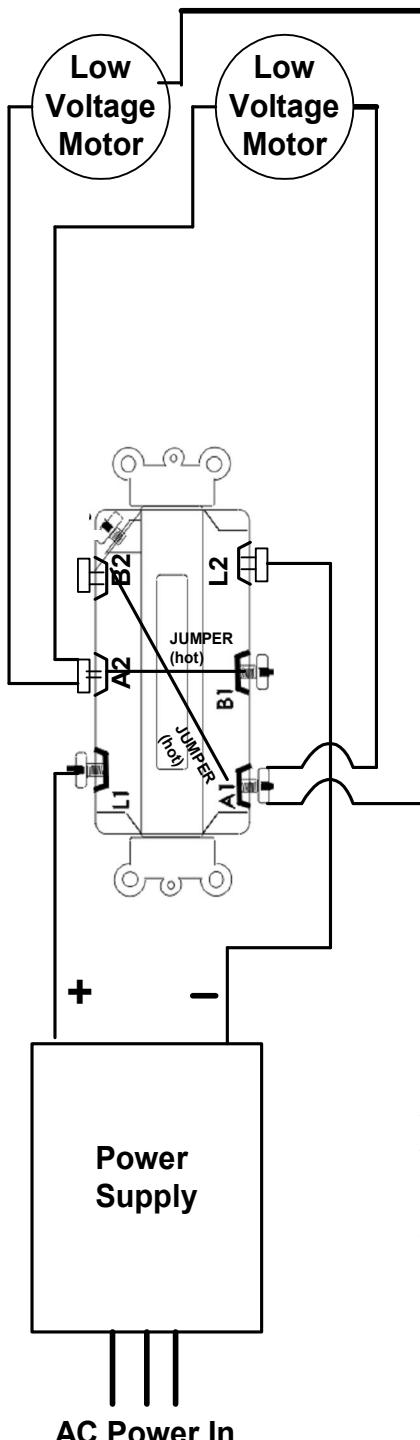


PRE-WIRE FOR 24 V DC MOTORS

Hard-wired Switch Applications (3 of 4)

2 motors wired to DPDT Switch

1. For two shades operated by a single DC switch (shades will always run in unison) there must be a dedicated 2 wire run (homerun) from each motor to the switch location.
2. The length of run determines the gauge of wire used. Reference chart.
3. A power supply is used to converts 110 VAC power to 24 VDC which powers the wall switch.
4. As the switch is triggered low voltage power is transferred to both motors causing them to move in unison only until internal motor limits are reached.



Wire Parameters:

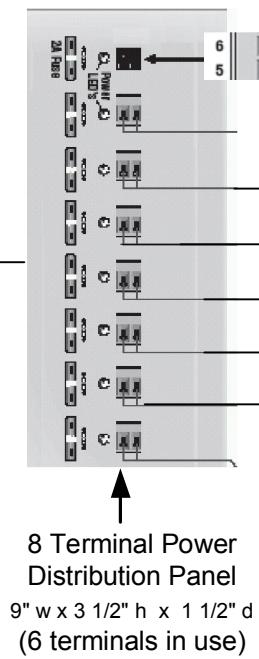
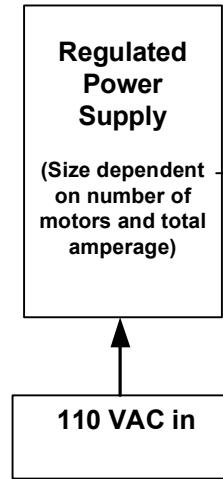
Wire Run	Minimum Wire Gauge
0 - 40'	18 AWG
40 - 100'	14 AWG
100 - 150'	12 AWG



PRE-WIRE FOR 24 VDC MOTORS

Hard-wired Switch Applications (4 of 4)

**16/2 Home Run from
head of motor to
Power Supply**



Important Notes about wiring & responsibilities:

- 1) Electrician is responsible for motor hook-up to 16/2 home-run, landing each 16/2 home-run to the DC switch and fused panel, and provide 110VAC to power supply as shown.
- 2) Window shade installer is responsible for shade installation and motor limit setting.
- 3) Fused distribution panels have 2 amp fuses per motor terminal connection.
- 4) When utilizing power supplies with outputs exceeding 2.5 amps a fused power distribution panel is required. Failure to provide this item creates a fire safety hazard.

