

# Motorized (Nema) Insect Blocking Mesh Curtain Installation Instructions



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## **System Overview:**

Your Motorized Vertical Curtain Door is a high quality, high performance flexible door system based on proven components and our many years of experience in the vinyl partition fabrication business. We are confident that it will bring you and/or your customers years of reliable and trouble-free service.

Your specific system(s) is a motorized roll-up curtain door with “under-header” mount bracketry. Your unit is supplied with Custom Vertical Extrusions that have been sized 9” less than the stated door opening height. Your Vinyl Curtain Door is 3” narrower than the stated door opening width. The gap between the curtain door and your door opening is covered and sealed with the Custom Vertical Extrusions and EPDM seal strips.

Your system is designed for 115VAC, 60Hz operation with a maximum current draw of 3A per unit. The services of a qualified and/or certified electrician may be required to complete the installation.

## **Unpacking and Inspection:**

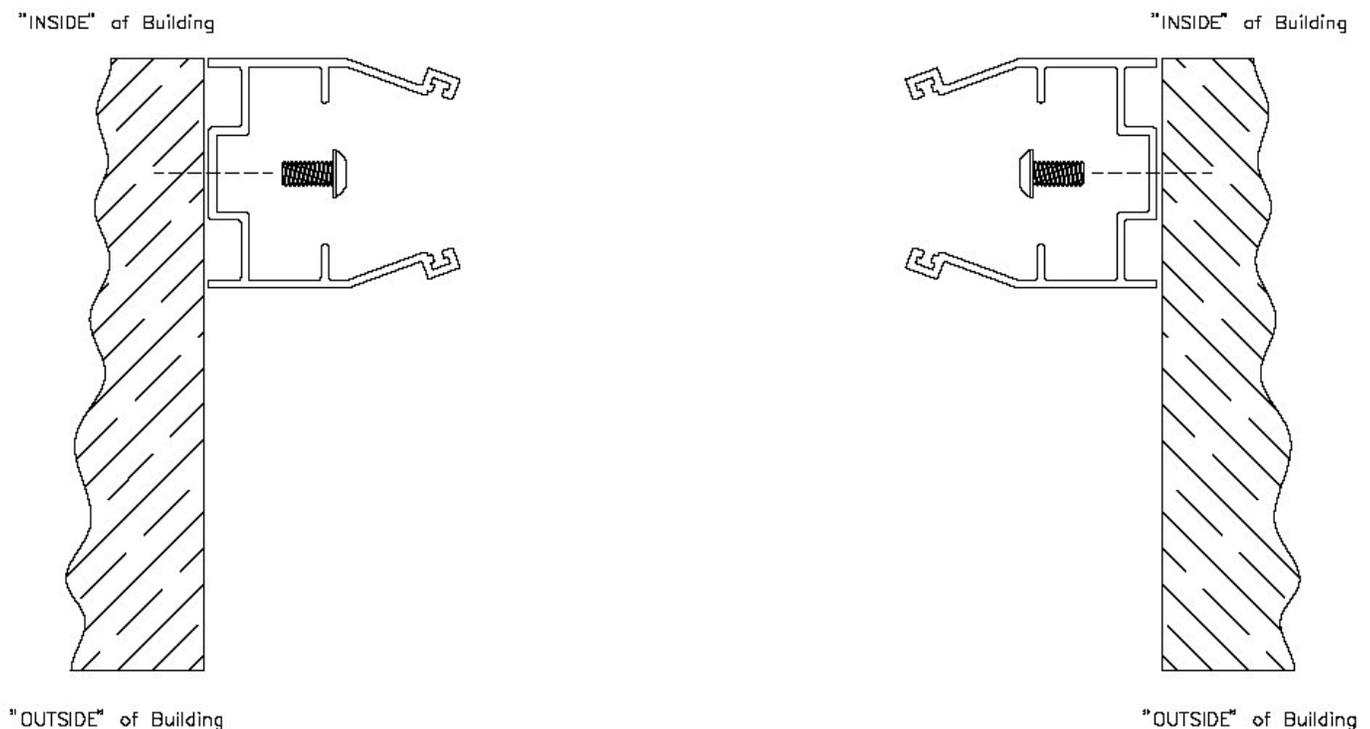
Please unpack your systems carefully and notify the factory immediately if there are any shortages or if any items have been damaged during transit. Your kit(s) should have all of the necessary hardware and components for a complete installation with the following exceptions (installer-provided hardware):

1. Hardware and conduit associated with the professional electrical installation of the 115VAC source power.
2. Extrusion, Bracketry, and Valence Panel mounting fasteners that are unique to your specific building material and jamb composition.

## System Assembly:

### Custom Extrusion Mounting:

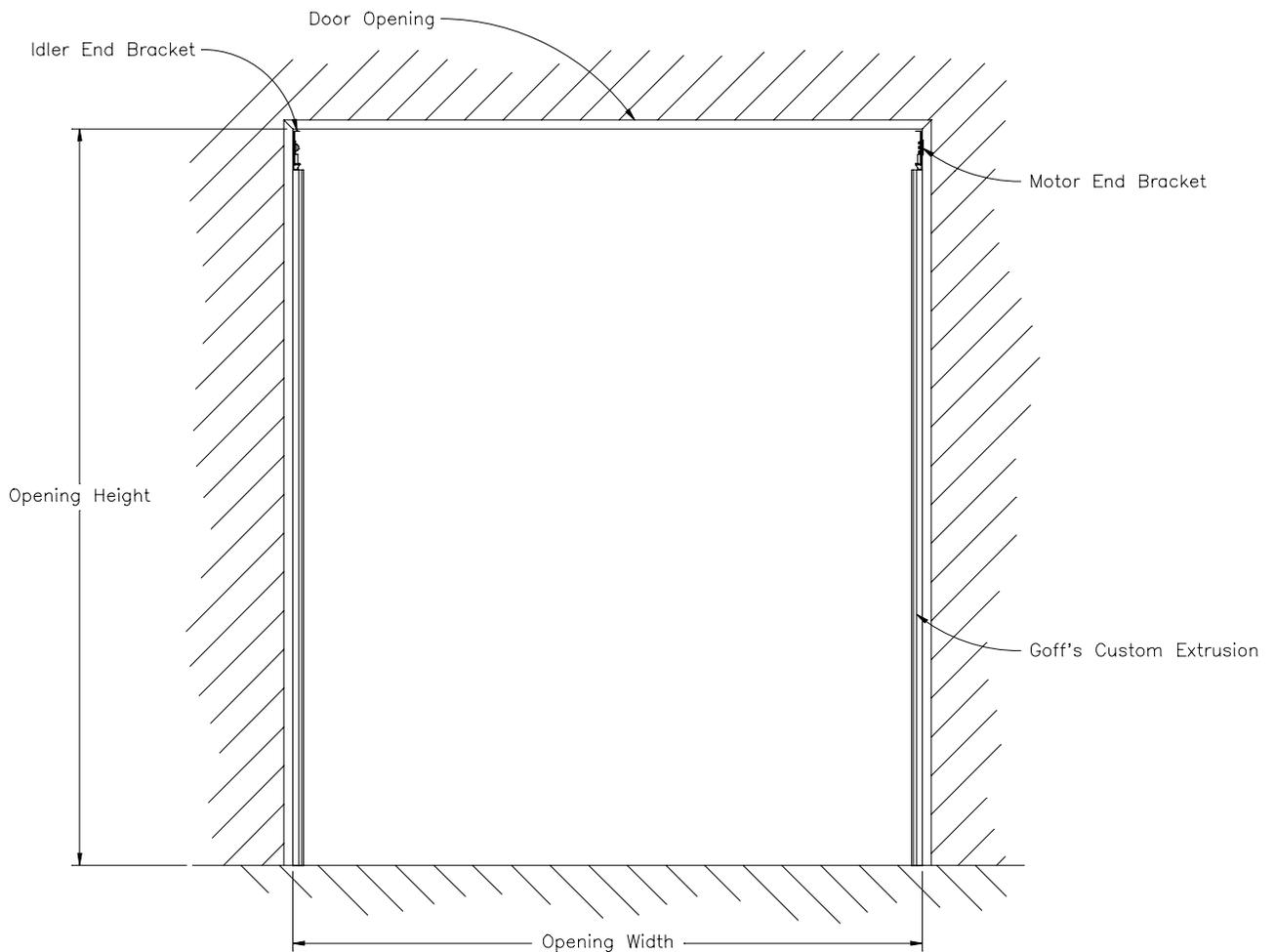
The Custom Extrusion should be mounted “flush” to the inner building surface as shown in the following diagram (Diagram 1). There should be small “TL” (Top Left) and “TR” (Top Right) markings on the vertical extrusions which may help you with the orientations. The bottoms of the extrusions should be at the floor elevation (resting on the floor). It is recommended that the extrusions be secured to the door opening with fasteners within approximately 5” of each end of the extrusions, and additional fasteners on at least 3’ centers. Specific fastener selection and mounting methodology is left up to the installer and “best practices for the door opening material. Be very careful when drilling the Vertical Extrusions as to not damage the EPDM seal strips.



**Diagram #1**  
(Extrusion and Opening Layout)

### Motor and Idler Bracket Installation:

The Motor and Idler Bracket Assemblies should be mounted using the same “best practices” and fasteners as applied with the installation of the custom extrusions. On the motor bracketry it is important to use appropriately sized low-profile or flat-headed fasteners to ensure that there is not an interference with the motor and its wiring. As shown in the following diagram (Diagram 2) the “Idler End” bracket and hardware should be mounted on the LEFT side of the door opening when viewed from the exterior of the building. The “Motor End” bracket and hardware should be mounted on the right.



**Diagram #2**  
(Bracketry and Opening Layout)

The extrusions and brackets have been sized to provide approximately ½” of clearance between the tops of the Idler and Motor brackets and the underside of the door opening header. This clearance will be beneficial when it comes time to install the “double-baffle” support bar.

Particular care must be taken with the positioning of the brackets with respect to the extrusions. As shown in Photo 1 (EPDM seal strips removed for clarity), the “funnel lead-in” of the bracket should be positioned directly above the custom extrusion, and should be positioned in such a manner to provide a smooth transition into the extrusion track. Shim or otherwise adjust the position of the bracket to ensure that any misalignment does not exceed .10”.



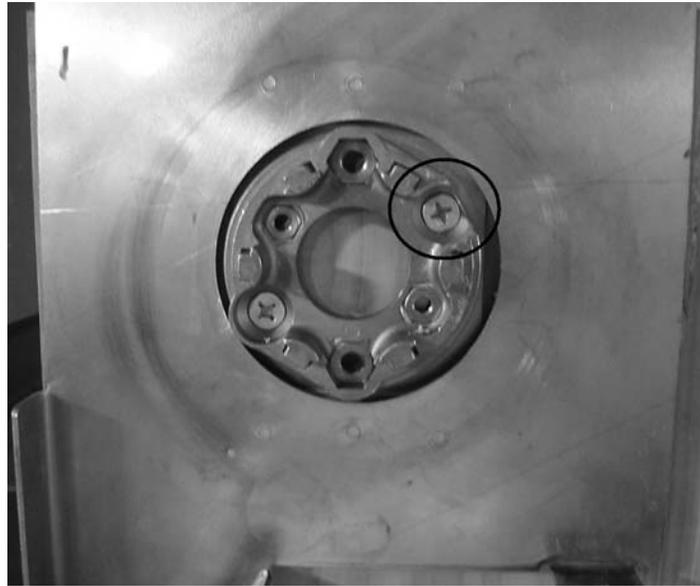
**Photo #1**  
(Bracket to Extrusion Alignment)

As shown in the following photo (Photo 2) the Idler hardware should be installed in the nest of the Idler End Bracket and secured to the door opening with the appropriate fasteners.



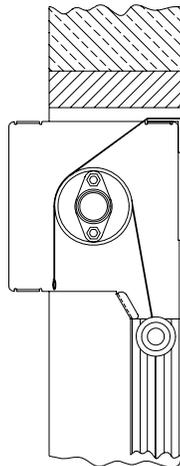
**Photo #2**  
(Idler Bracket Mounting)

As shown in the following photo (Photo 3) the Motor mount should be installed in the nest of the Motor End Bracket and secured to the door opening with the appropriate fasteners. Orient the “cut and relieved” section of the motor bracket (circled in the photo) in the direction that you want the power cord to exit the bracketry (usually toward the interior side of the bracketry).



**Photo #3**  
(Motor Bracket Mounting)

On some installations (header depth less than 8”) the Motor and Idler bracketry will extend past the exterior fascia of the building as shown in the following diagram (Diagram 3). This is typically not a problem and the “bulge” will be covered with the front valence panel. If the protrusion is excessive a valence panel stand-off may have to be fabricated. Please contact the factory if you need assistance.



**Diagram #3**  
(Bracketry Extension Past Fascia)

## Motorized Roll Installation:

Prior to the installation of the motorized roll into the bracketry it should be fully inspected for completeness and proper assembly. Make sure that the motor is installed and fully seated in the aluminum tube, as is the spring-loaded idler unit on the opposite end. While the photographs will depict an installation with the track rollers loaded into the fiberglass pulltrusion bushings, it is often easier to perform this step without the rollers. There will be a section later in these instructions on the installation of the rollers after the motorized tube has been installed and programmed.

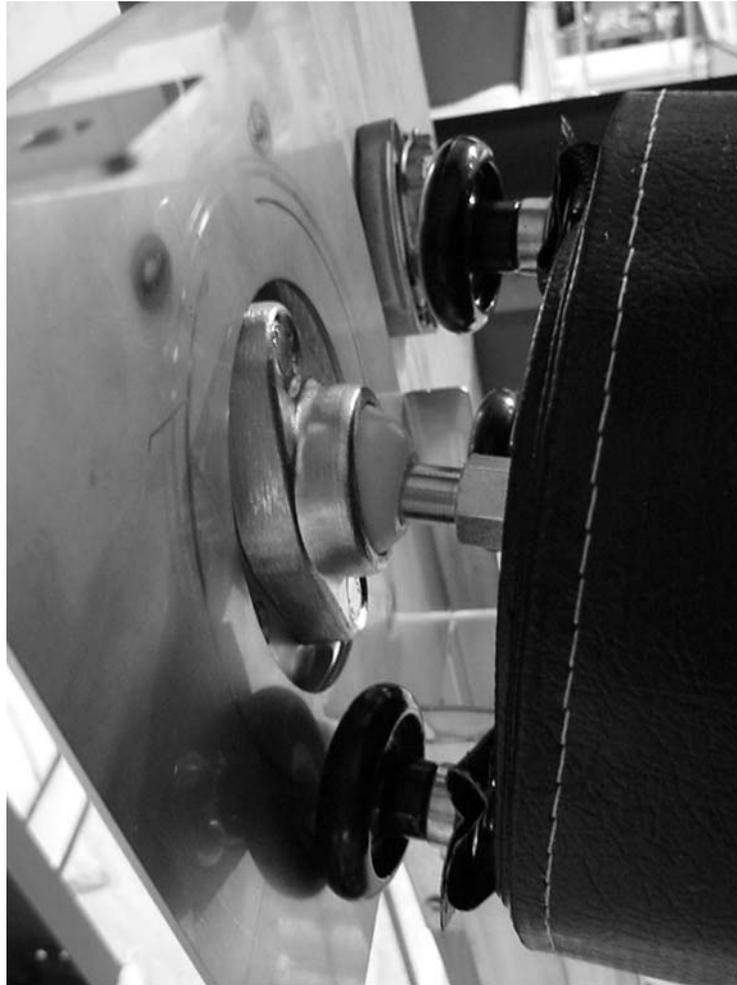
The installation of the motorized roller tube can best be accomplished by two workers on ladders or one worker on a scaffold or scissors jack (with at least a 6' platform). At all times be aware of the angle of the roller tube and make sure that no parts such as the rollers or motor "slide out" during the installation process.

Orient the roller tube so that the motor is on the "right side" of the door opening as you face the opening from the exterior side. Raise the complete tube assembly until both ends are within about a foot of their respective mounting brackets. Feed the motor power cable through the opening in the cast motor bracket as shown in the following photo (Photo 4):



**Photo #4**  
(Motor Cord Routing)

Carefully tilt the idler end of the motorized tube up and engage the 12mm extension of the spring loaded idler cap into the corresponding bore of the ball-eye idler mount as shown in the following photo (Photo 5):



**Photo #5**  
(Idler Shaft Engagement)

While feeding the service loop of the motor cord through the hole in the cast motor mount, rotate the motor end of the tube up into position. It will be necessary to apply a force along the axis of the tube in order to compress the spring loaded idler end and provide end clearance for the motor and the rollers.

Orient the motor so that the cable exit from the motor flange lines up with the cable exit opening in the cast motor mount. Pull on the free end of the motor cable to eliminate any slack or service loop and engage the body of the motor into the “fingers” of the cast motor mount. Press the motor/tube firmly into the cast mount until it fully seats and a “click” is heard as the spring ring captures the motor housing. It can take quite a bit of force to overcome the spring ring and often it is necessary to slightly deflect the ends of the spring ring with a small screwdriver in order to get the motor to properly engage. Do not use the motorized roll door without the spring ring in place and properly engage with the motor housing.

**Pro Tip:** It is often difficult to get the motor to seat in the motor bracket and engage the spring ring. As an alternative assembly method you can completely remove the spring ring, engage the motor in the “fingers” of the cast motor mount, seat the motor in the mount, and then “slide” the spring ring around the assembly as shown in the following photo (Photo 6). Make sure that the spring ring properly engages the groove in the motor flange and the cast motor bracket.



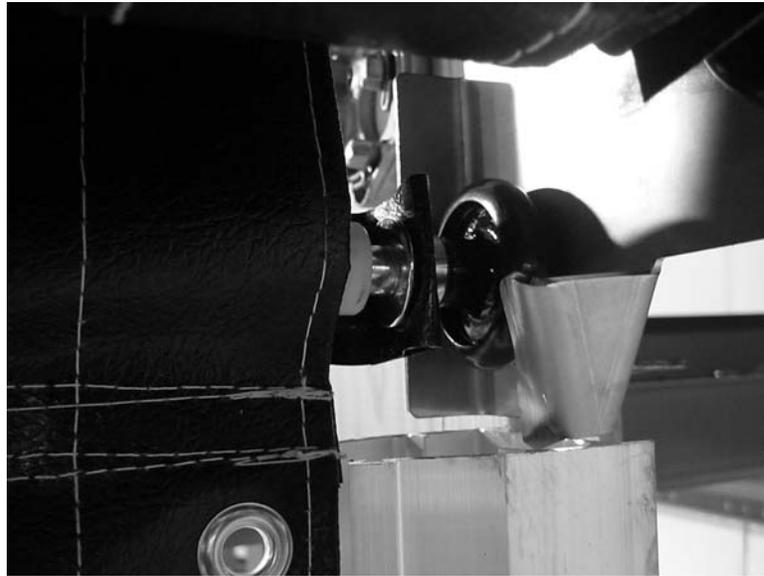
**Photo #6**  
(Spring Ring Installation)

After the motor and spring ring are installed the assembly should look like the following photo (Photo 7):



**Photo #7**  
(Motor Housing Engagement)

If the rollers are installed you can manually unwrap one to two turns of material from the roll and check the engagement and transition of the roller from the side brackets into the custom extrusion. Adjust and/or shim the brackets as required to ensure a smooth and repeatable roller transition into the extrusion.



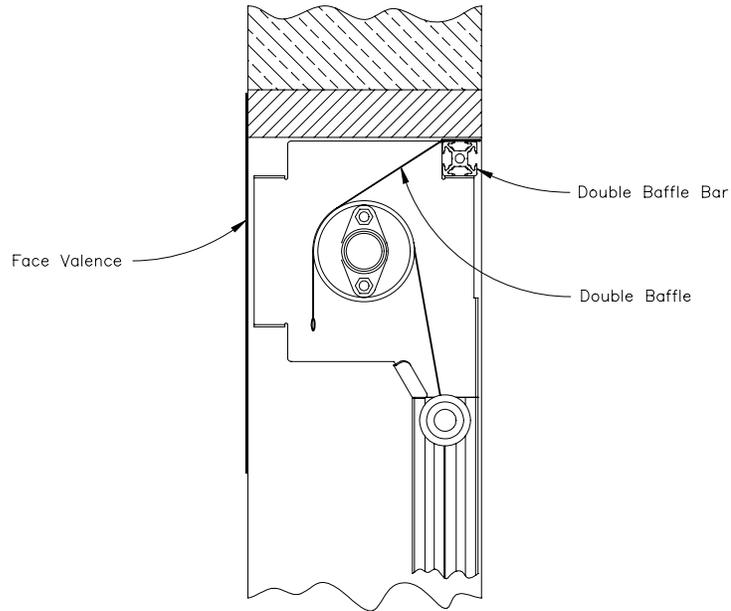
**Photo #8**  
(Roller into Extrusion Transition)

If the rollers were not installed it will be necessary to apply power to the motors and do the initial programming before they can be added to the assembly. Please refer to the Addendum at the end of this document for those instructions.

**Final Mechanical Assembly:**

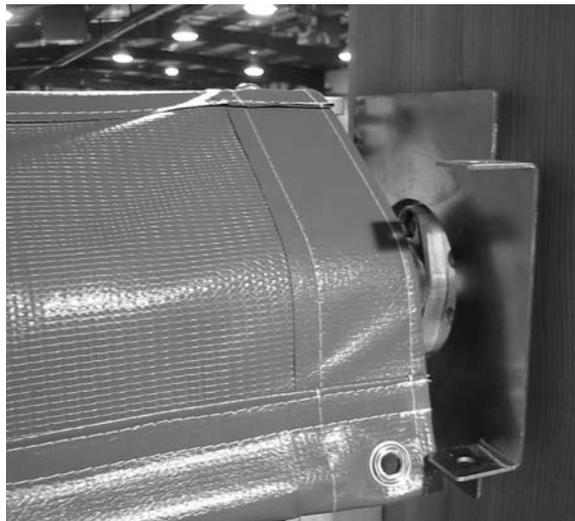
**Double-Baffle Support Bar:**

The Double Baffle Support Bar and Double Baffle come pre-assembled for ease of installation. The Double Baffle will be attached to the Motor and Idler Bracketry in the orientation shown in the following diagram (Diagram 4):



**Diagram #4**  
(Double Baffle and Support Bar)

The double baffle should drape smoothly and uniformly over the body of the roller tube as shown in the following photo (Photo 9). Failure to install the double baffle will allow for the unwanted entrance of pests and debris.

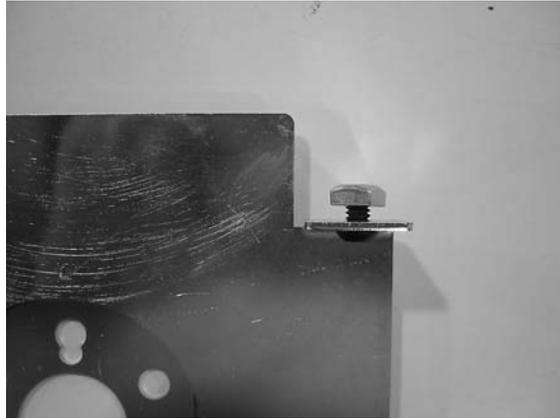


**Photo #9**  
(Double Baffle Support Installation)

There are two standard methods for assembling the Double Baffle Support Bar to the Idler and Motor Bracketry. Both methods work equivalently well, and the only determining factor is the clearance and accessibility provided by your particular installation.

**Method #1:**

Pre-assemble the 1/4-20 x 3/8 Button Headed fasteners through the “ears” of the bracketry and into the 1/4-20 square nuts as shown in the following photo (Photo 10). Only engage the fastener into the nut by a few threads.



**Photo #10**  
(Double Baffle Support Fastener)

Position the Double Baffle Support Bar over the top of the curtain roller tube and engage the square nut on one of the brackets into corresponding extruded groove of the support bar. Slide the support bar onto the nut and then engage the nut on the opposite bracket at the other end of the support bar into the groove. Slide the support bar until it is approximately centered over the curtain and firmly tighten both fasteners.

**Method #2:**

Pre-load a 1/4-20 square nut into the bottom groove at each end of the Double Baffle Support Bar as shown in the following photo (Photo 11). Position the nut approximately 1.5” inches in from the end of the bar.



**Photo #11**  
(Double Baffle Support Nut)

Carefully position the Double Baffle Support Bar over the top of the curtain roller tube and rest it on the mounting flanges of the Idler and Motor End Bracketry. Be careful not to dislodge or move the 1/4-20 nuts. Install a 1/4-20 x 3/8 Button Headed screw through the hole of each mounting flange and into the nut. Slide the support bar until it is approximately centered over the curtain and firmly tighten both fasteners.

#### Valence Installation:

It is recommended that the bottom of the valence panel be in alignment (elevation) with the bottom of the curtain door when it is in the fully up (OPEN) position. The valence panel can be mounted via any “best practices” methodology using standard building fasteners with or without washers. It is recommended that the panel be roughly located on the building fascia (the use of a strong tape is often helpful) and the alignment checked before installing the fasteners. Starting with the top-center fasteners and pulling a small amount of “tension” into the panel before locating the rest of the holes generally leads to a more professional looking installation.

**Electrical Connections:**

There are two independent and unique aspects of the wiring configuration for your Motorized Vertical Curtain Door. These are the 115VAC 60Hz power wiring and the low-voltage control wiring. While the low-voltage side of the control system can be configured and properly wired by anyone who has a rudimentary understanding of electrical circuitry, the power wiring should be performed by an electrical professional and done in such a manner to conform to all local and national wiring codes and regulations.

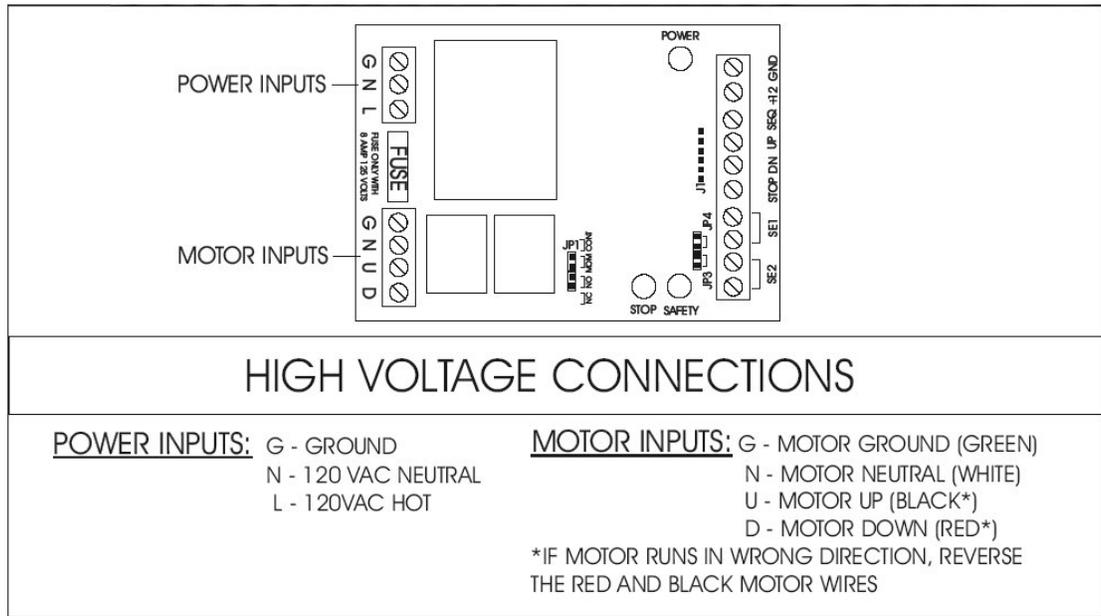
**115VAC Power Wiring:**

Locate the Control Interface within a few feet of the motor end of the motorized roll. It is designed to fit in a standard “3-Gang” enclosure (included). It should be noted that the face of the Control Interface is not waterproof and the unit should be mounted in a dry location.

115VAC Power with ground should be brought to the Control Interface enclosure in an approved manner. The maximum current draw of the Interface (operating one motor) should not exceed 3A. Conductors and branch circuit current limiting should be sized accordingly.

The four conductor (ground, neutral, forward, and reverse) motor wiring should also be brought to the Control Interface enclosure in an approved manner. If solid waterproof conduit is not used a vertical “service loop” should be employed that ensure that water will not follow the path of the wiring back into the motor housing.

The Control Interface power and motor connections are shown in the following diagram (Diagram 5):



**Diagram #5**  
(Control Interface Power and Motor Connections)

Per the above diagram, the incoming 115VAC power should be connected to the two lower terminal locations on the top block. The “HOT” (Black) lead should connect to the bottommost terminal and the “NEUTRAL” (White) lead should connect to the next one up.

The motor connections are made at the bottom terminal block. The standard convention is that the “DOWN” (Close) motor wire (Red) be connected to the bottom terminal. The “UP” (Open) motor wire (Black) is connected to the “second from bottom” terminal and the “MTR COM” (Neutral) motor wire (White) is connected to the “second from top” terminal. Do **NOT** connect the Black motor wire (UP) to the Black power connection (HOT). The GROUND (Green) motor and power wires should be connected to the “G” terminals.

#### Jumper Settings:

The Jumpers on the Control Interface must be set for proper operation. Locate the JP1 jumper block (just to the left of the yellow STOP LED). Remove or relocate the upper jumper (MOM-CONT). Leave the lower jumper (NC-NO) installed as shown in the following diagram (Diagram 6):



**Diagram #6**  
(JP1 Jumpers)

Check the JP3 and JP4 jumper block (located just above the red SAFETY LED). Both jumpers should be installed.

#### Control Connections:

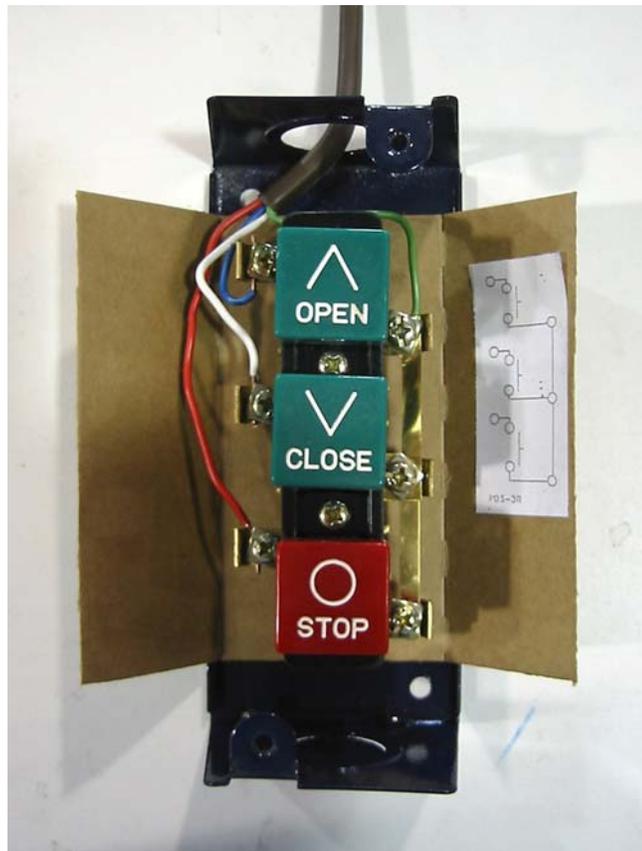
The Control Interface supports NEMA-1 and NEMA-4 (See Addendum) 3-button control stations with N/O “STOP” buttons. All control stations should be wired in PARALLEL and the wiring junctions can be made either at the switches (daisy-chain) or at the Control Interface (Home-Run). The low-voltage control connections should be made with the 4-conductor “Thermo Wire” that was included with your kit. Although the color codes are arbitrary, Aleco has selected the following standard:

- |          |   |              |
|----------|---|--------------|
| 1. Green | - | Common       |
| 2. Red   | - | Stop         |
| 3. Blue  | - | Open (UP)    |
| 4. White | - | Close (DOWN) |

Single-station control installations are performed by simply running the control wiring between the operator station and the Control Interface, and attaching the appropriate wires to the terminals or wires as indicated in the following photos (Photo 12 and 13):



**Photo #12**  
(Interface Control Connections)

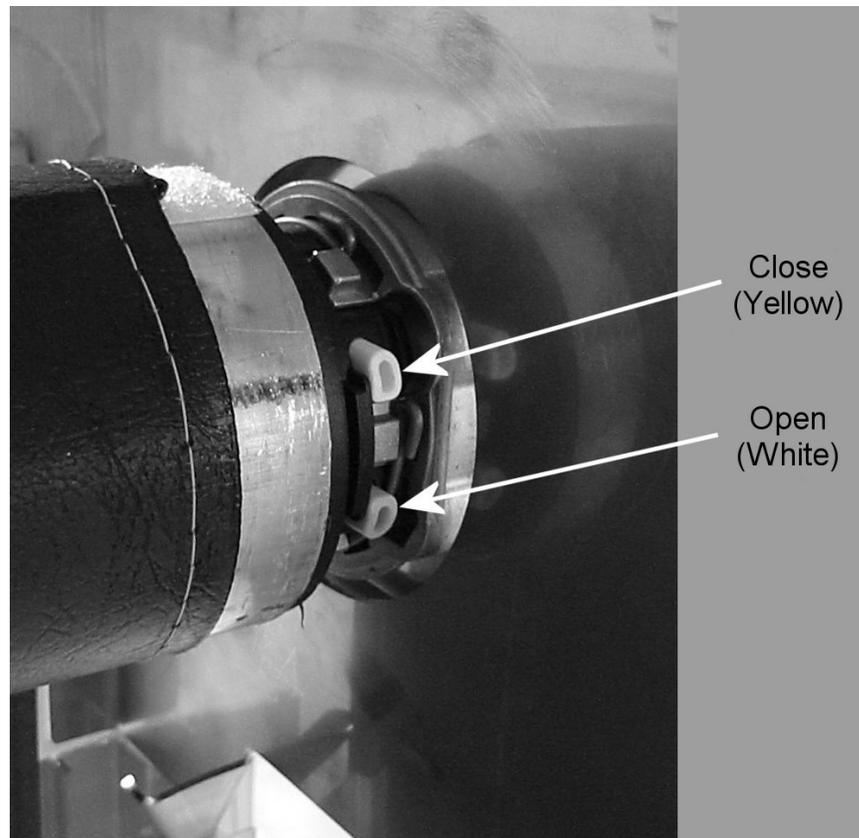


**Photo #13**  
(NEMA 1 Connections)

## Setup and Operation:

To check the motor rotation direction and set the end stops it is necessary to first completely disable the end-stop limit switches for the motorized roll. **Wait at least one minute after power has been enabled to the controller before performing this operation!** This will ensure that the controller internal timer has cycled and that no motion command is being issued to the motor.

Note the location of the Open and Close buttons as shown in the following photo (Photo 14) (it may be necessary to remove the yellow protective snap-on cap):



**Photo #14**  
(Limit Switch Buttons)

To disable the limits, press each button firmly. The buttons should detent into a “depressed” position. It is wise to repeat this operation a few times to guarantee that the buttons have locked into the depressed position.

Press the “Close” (Down) button on the operator station and observe the direction of rotation of the motorized roll. Press the STOP button as soon as this has been determined. If the “Close” direction is correct and corresponds to the “unwrapping” of the curtain door then proceed to the next section (Setting End Stop Positions). If not, the direction control wiring must be reversed. This can most readily be accomplished by reversing the motor direction connections at the terminal block on the Control interface. Disconnect the Black (CLOSE/DOWN) and Red (OPEN/UP) connections from the terminals and reverse the connections. Please notify Aleco that this change was required. After the change has been made verify the proper directional operation of the door.

Once the direction control of the motorized roll has been verified it is necessary to set the end stop positions for the door. This is a two-step operation and either end stop can be modified at any time without upsetting the other position. To set the “Full Down” (Closed) position press the “Close” button on the operator station and monitor the position of the door. Press the “Stop” button as soon as the weighted bottom seal of the door contacts the floor and begins to compress. This exact position can be adjusted by using the “Open”, “Close”, and “Stop” buttons in quick succession in order to “jog” the door. After the position has been established lock it into the motorized roll memory by depressing the Yellow (Close) button. The button should release from the “depressed” position and “pop out”. You can repeat this process a few times to verify that the button is no longer depressed.

To set the “Full Up” (Open) position press the “Open” button on the operator station and monitor the position of the door. Press the “Stop” button as soon as the bottom set of rollers are within a few inches of the top of the vertical extrusions. **DO NOT** allow the curtain door to continue above this point. If it should happen to disengage the custom extruded tracks and completely wrap around the motorized roll it will become necessary to manually reset the rollers into the track and reestablish the “Full Down” position via the above procedure. The exact “Open” position can be adjusted by using the “Open”, “Close”, and “Stop” buttons in quick succession in order to “jog” the door. After the position has been established lock it into the motorized roll memory by depressing the White (Open) button. The button should release from the “depressed” position and “pop out”. You can repeat this process a few times to verify that the button is no longer depressed.

The assembly, installation, and set-up of your Motorized Curtain Door is now complete and it is ready for typical operation. It is a virtually maintenance free unit and should give you years of reliable service.

We want to thank you again for your business and the opportunity to partner with your firm on this project. Please don't hesitate to contact us if you have any questions regarding these instructions or encounter any problems with the installation or performance of your door.

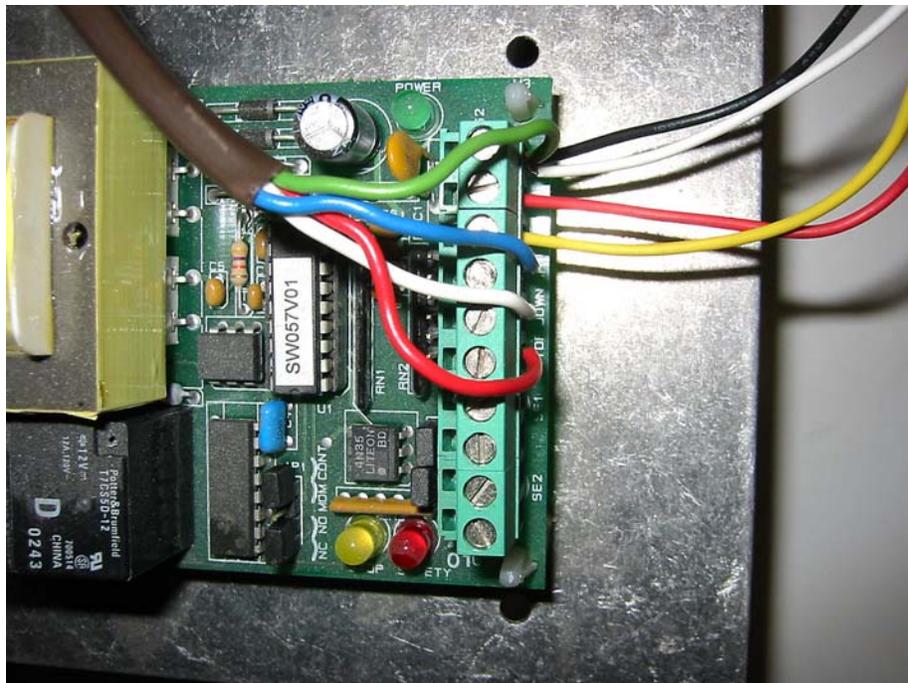
# Addendum

## Installing the RF Receiver:

The RF Transmitter/Receiver can be used in conjunction with NEMA-1, NEMA-4, PullCord, Single Button, and any other operator stations.

The wires from the RF Receiver are attached to the SEQ, +12, and GND terminals on the Control Interface. Locate the receiver in a suitable location where the wires will reach and secure it to the building or Interface enclosure. Carefully route the wires from the receiver to the terminals on the Interface. Cut off the spade terminals from the receiver wires and strip back approximately ¼” of the insulation..

Install both the white and black wires on the GND terminal. The yellow wire will be attached to SEQ and the red wire goes to +12. The orange wire is not used. Your wiring should resemble the following photo (Photo 15):



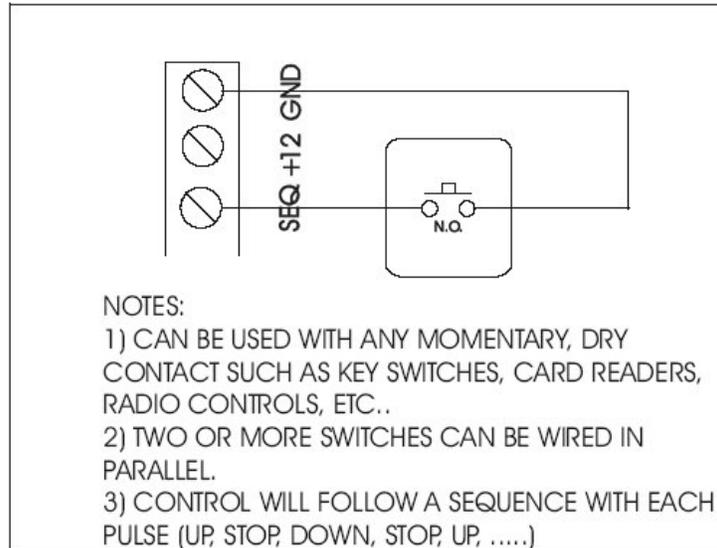
**Photo #15**  
(RF Receiver Wiring)

Per the included instructions, set the DIP switch codes on the transmitter and receiver to the same value. Your RF system should now be ready to use.

**Door hardware, the Interface, and building configurations can substantially reduce the range of your RF system. If your performance is substandard, try repositioning the green antennae wire until you get optimal performance. If good performance cannot be achieved, an external co-ax antennae can be added to your system. Please contact your local dealer or Aleco.**

## Installing the PullCord Station:

The Control Interface supports N/O (Normally Open) Pullcord Switches, N/O Single Button Control Stations, and any other N/O dry contact. All N/O switches should be wired in PARALLEL and the wiring junctions can be made either at the switches (daisy-chain) or at the Control Interface (Home-Run). Switches should be connected using two-conductor wiring (supplied) and terminated at the Control Interface at the “SEQ” and “GND” terminals on the right side block as shown in the following diagram (Diagram 7):



**Diagram #7**

(Pullcord Control Connections)

## Switch Wiring:

Control wiring should be attached to the NEMA-4 Single Button Control Station at the lower two N/O terminals (#'s 13 & 14) as shown in the following photo (Photo 16):



**Photo #16**

(Single Button Station Wiring)

Control wiring should be attached to the Pullcord Switch Stations at the two N/O terminals as shown in the following photo (Photo 17):



**Photo #17**  
(Pullcord Switch Station Wiring)

### **NEMA-4 3-Button Station Wiring:**

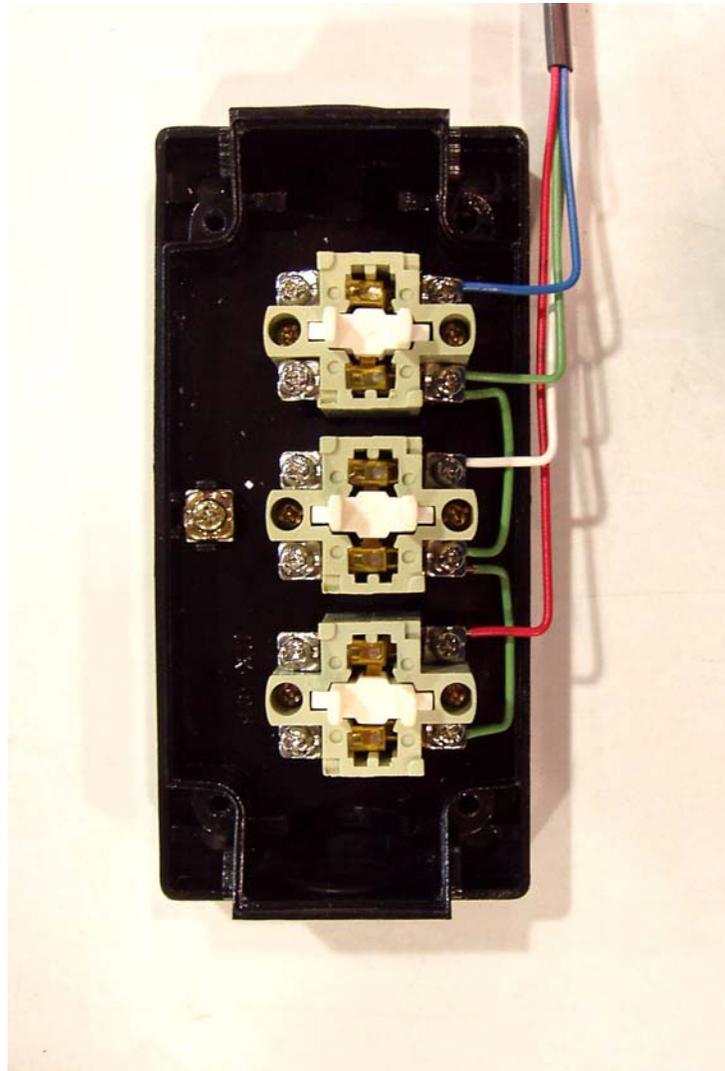
The Control Interface supports NEMA-1 and NEMA-4 3-button control stations with N/O “STOP” buttons. All control stations should be wired in PARALLEL and the wiring junctions can be made either at the switches (daisy-chain) or at the Control Interface (Home-Run). The low-voltage control connections should be made with the 4-conductor “Thermo Wire” that was included with your kit. Although the color codes are arbitrary, Aleco has selected the following standard:

- |          |   |              |
|----------|---|--------------|
| 1. Green | - | Common       |
| 2. Red   | - | Stop         |
| 3. Blue  | - | Open (UP)    |
| 4. White | - | Close (DOWN) |

Remove the cover of the NEMA-4 station and note the location of the N/O and N/C terminals for each button. The N/O terminals are located closer to the base and are on the “right” side of the station. The N/C terminals are raised and are on the “left” side.

Use a short pieces of green wire from the 4-conductor “Thermo Wire” and jumper between one of the N/O terminals on the Open button and one of the N/O terminals on the Close button and then from the same N/O terminal on the Close button to one of the N/O terminals on the Stop button. Also connect the free end of the green wire in the 4-conductor bundle to one of these terminals.

Connect the rest of the wires as shown in the following photo (Photo 18):



**Photo #18**  
(NEMA-4 Station Wiring)

Route the cable through one of the station knockouts and carefully reinstall the cover. Make sure that the cover is installed properly and that the buttons work freely.

### **NEMA-4 Locking Station Wiring:**

All control stations should be wired in PARALLEL and the wiring junctions can be made either at the switches (daisy-chain) or at the Control Interface (Home-Run). The low-voltage control connections should be made with the 4-conductor “Thermo Wire” that was included with your kit. Although the color codes are arbitrary, Aleco has selected the following standard:

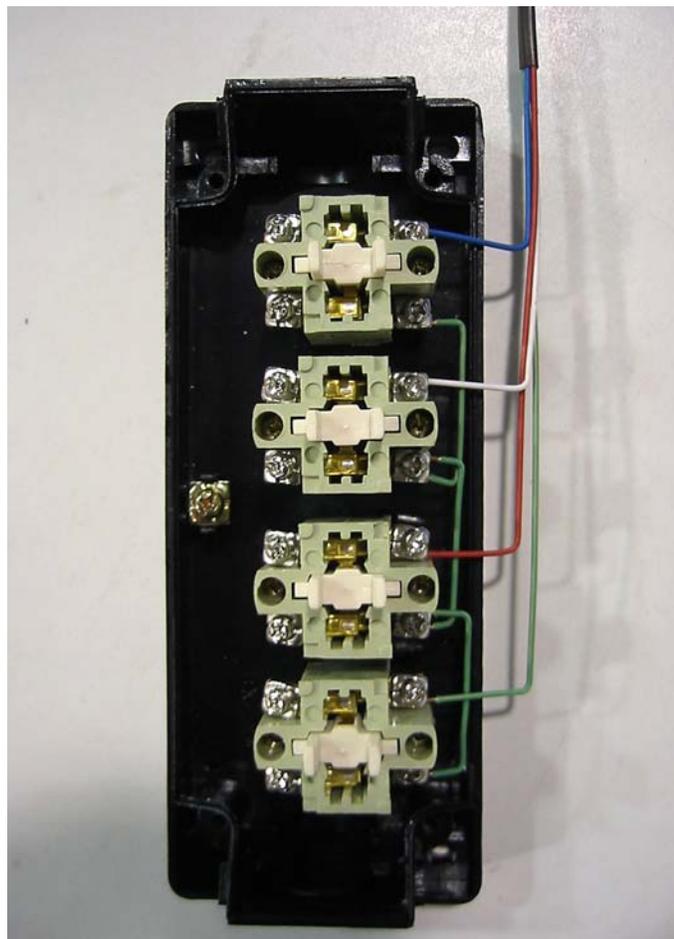
- |          |   |              |
|----------|---|--------------|
| 1. Green | - | Common       |
| 2. Red   | - | Stop         |
| 3. Blue  | - | Open (UP)    |
| 4. White | - | Close (DOWN) |

Remove the cover of the NEMA-4 station and note the location of the N/O and N/C terminals for each button. The N/O terminals are located closer to the base and are on the “right” side of the station. The N/C terminals are raised and are on the “left” side.

The Locking NEMA-4 can be configured a number of different ways depending on which button and feature you want to disable/enable with the key switch. Two typical and common configurations are shown below. Use short pieces of green wire from the 4-conductor “Thermo Wire” to create the necessary jumpers.

#### Lock-Out All Buttons:

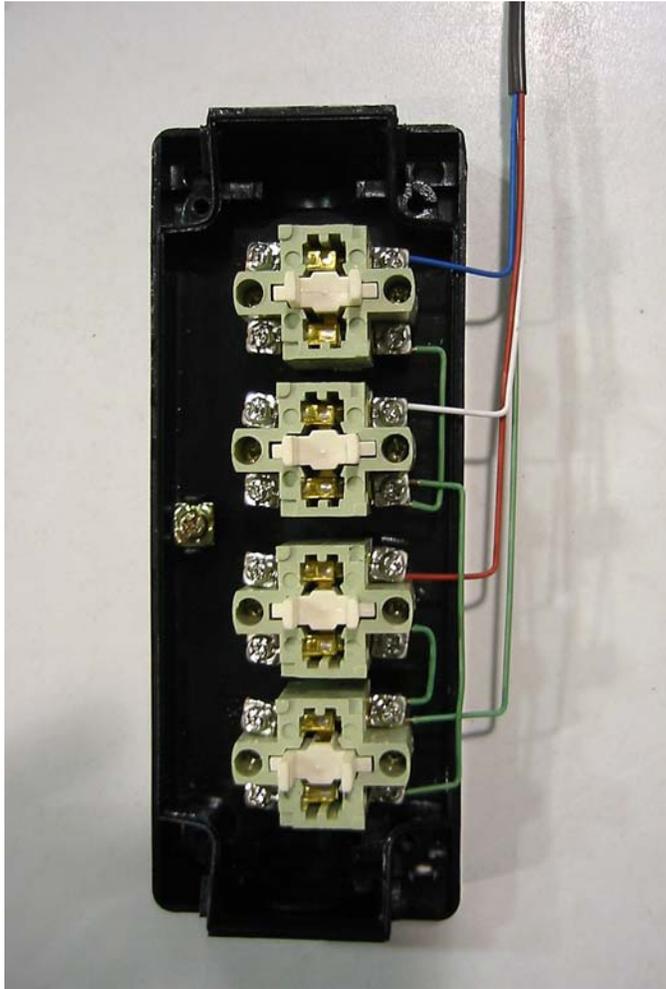
Wire the NEMA-4 station as shown in the following photo (Photo 19) to have the locking key switch disable **ALL** of the buttons on the control station.



**Photo #19**  
(All-Button Disable Wiring)

#### Lock-Out Direction Buttons:

Wire the NEMA-4 station as shown in the following photo (Photo 20) to have the locking key switch disable only the “Direction” (Open/Close) buttons. This allows the Stop button to still function from this control station.



**Photo #20**  
(Direction-Button Disable Wiring)