

## Changing the Start Switch or Capacitor

HySecurity supplies two different motors for their gate operators: Leeson® and Baldor® motors. These instructions explain how to replace the Start Switch and the Capacitor. Determine which motor you have and follow the corresponding instructions. Note if you are working on a StrongArm unit, you will need to remove the motor and pump pack from the chassis to access the Start Switch. For instructions, refer to the StrongArm Installation Manual.

### Tools Needed

Nut drivers (1/4 inch and 5/16 inch) or Phillips-head screwdriver  
Needle-nose pliers



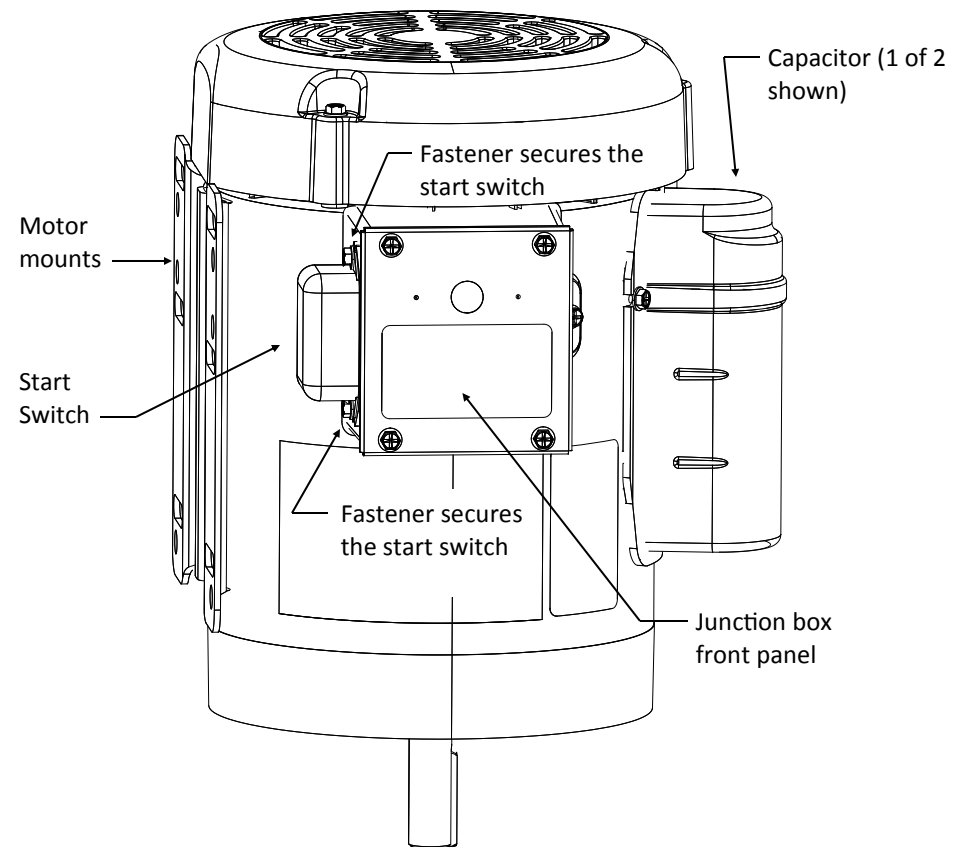
**To avoid risk of injury or death, turn off the gate operator and disconnect it from the main power source prior to performing any of the following procedures!**

### Leeson Motor: Replacing the Start Switch

1. Remove the four screws that secure the front panel to the junction box.
2. Use a needle-nose pliers to remove the four spades from the Start Switch.
3. Remove the two screws that secure the Start Switch to the motor.
4. Pull the Start Switch away from the motor. Keep the screws, but discard the used Start Switch.
5. Attach the motor's 4 spade connectors to the new Start Switch. The connecting wires are labeled. Be sure to match the wires to the correct terminal. Refer to the wiring diagram on page 3. *Tip:* Connect inside spades first.



Wiring differs between Baldor and Leeson motors. Refer to the wiring diagrams on page 3 for Leeson and on page 6 for Baldor.



**Leeson Motor**

T9—Pin 1, T5—Pin 2, T11—Pin 3, T7—Pin 4

6. Sandwich the rubber seal (found in the kit) between the Start Switch and the motor and replace the two screws that secure the box to the motor.
7. Align the front panel on to the junction box and secure it with the four screws removed in step 1.



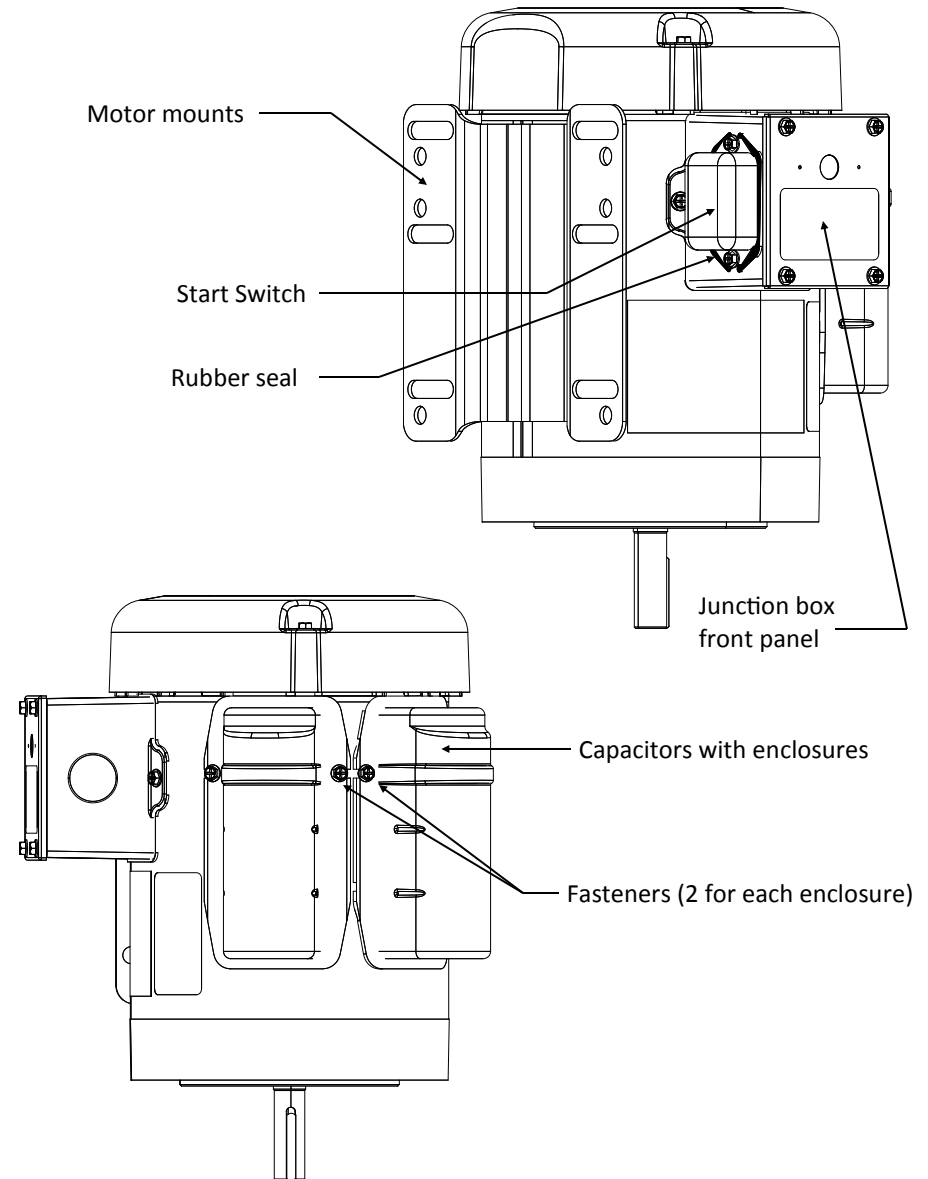
**Discharge the capacitors prior to removing the wires!** The capacitors still maintain a charge even after the gate operator is turned off and disconnected from its main power source. Use a safe and effective way to short the leads before working on removing the capacitors from the motor.

## Leeson Motor: Replacing the Capacitors

**NOTE:** Remove and replace one capacitor at a time.

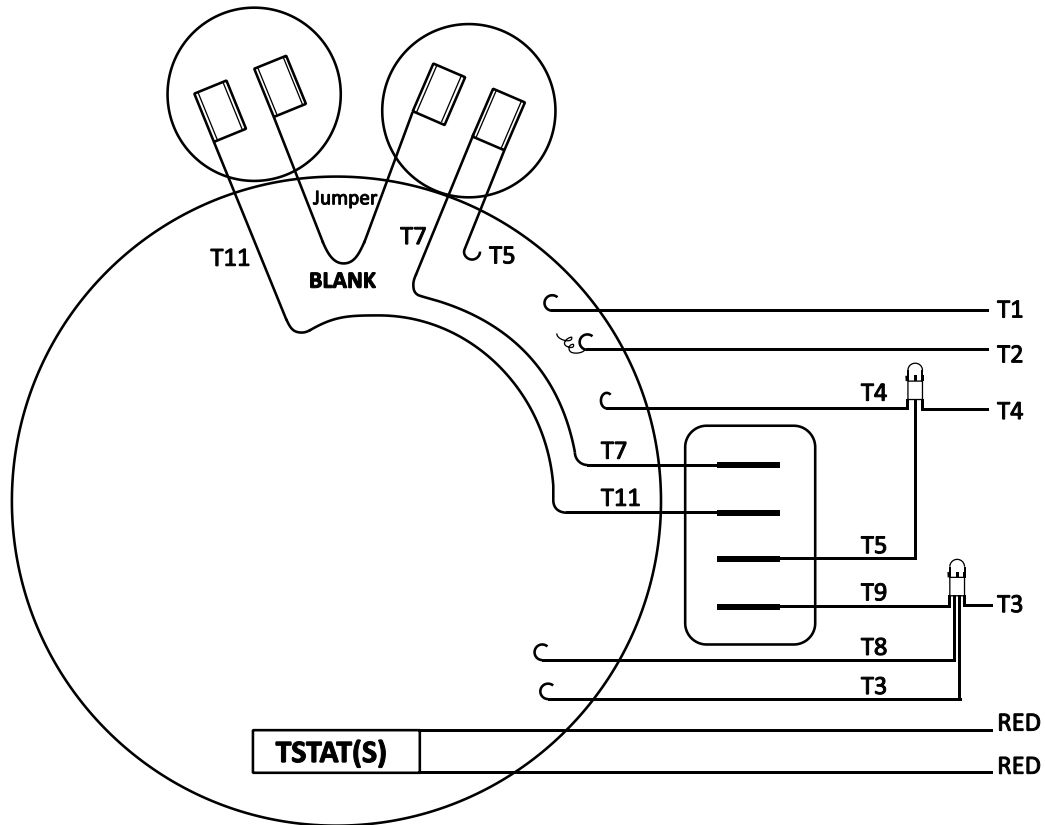
1. Use a ¼ inch nut driver to remove the two screws that secure the capacitor enclosure and set the enclosure and screws aside. A weather seal is sandwiched between the capacitor and the motor. Do not misplace the weather seal as it is needed for reassembly in step 6.
2. Read the CAUTION above and discharge the capacitor.
3. Use a needle-nose pliers to remove the wires from the capacitor terminals.
4. Discard the used capacitor.
5. Attach the motor wires to the new capacitor terminals per the wiring drawing on page 3.
6. Make sure the weather seal is positioned properly and replace the capacitor enclosure. Secure it with the two screws removed in step 1.
7. Follow steps 1 through 6 to replace the other capacitor.

**NOTE:** If you are working on a StrongArm unit, remount the motor and pump pack assembly inside the unit and replace the cover.

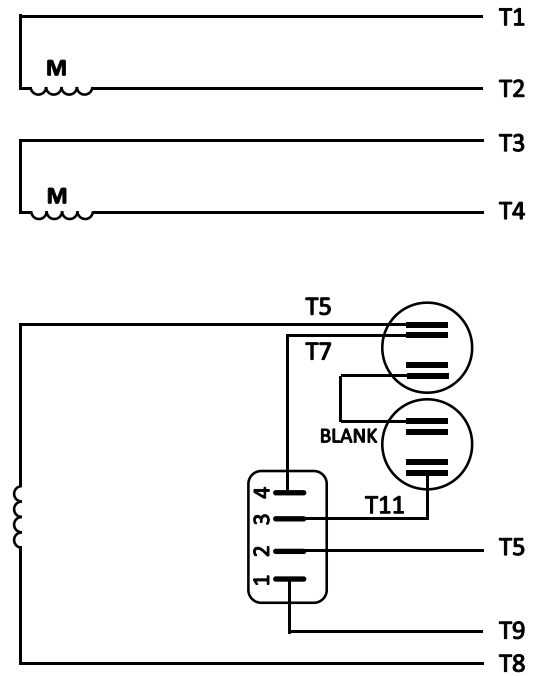


**Leeson Motor**

View from outside of the motor at the switch end.



### Line Leads



Voltage	Rotation facing lead end	L1	L2	Join & Insulate
HIGH	C.C.W.	T1	T4	T2, T3
LOW	C.C.W.	T1, T3	T2, T4	---

Leeson Motor — External Wiring Diagram



**DANGER**

To avoid risk of injury or death, turn off the gate operator and disconnect it from the main power source prior to performing any of the following service procedures!

## Baldor Motor: Replacing the Start Switch

1. Remove the four screws that secure the front panel to the junction box.
2. Use needle-nose pliers to remove the four spades from the Start Switch.
3. Remove the two screws that secure the Start Switch to the motor.
4. Pull the Start Switch away from the motor. Keep the screws, but discard the used Start Switch.
5. Attach the motor's 4 spade connectors to the new Start Switch. The connecting wires are color-coded. Be sure to match the wires to the correct terminal. Refer to the wiring diagram on page 6.

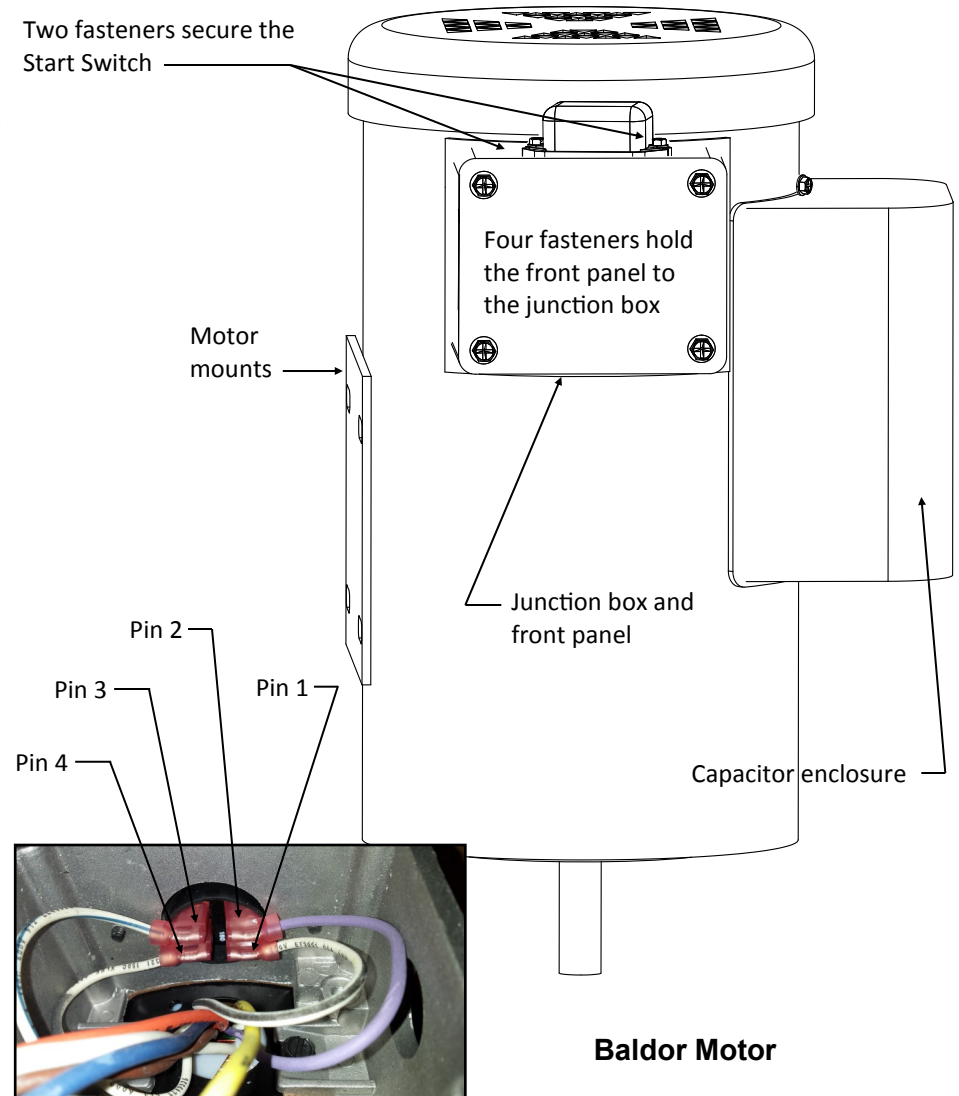
*Tip:* Place inside spades on:

**Pin 1**—White with Black stripe      **Pin 3**—White with Blue Stripe  
**Pin 2**—Purple                              **Pin 4**—White with Red stripe

6. Sandwich the rubber seal between the Start Switch and the motor and replace the two screws that secure the box to the motor.
7. Align the front panel on to the Junction Box and secure it with the four screws removed in step 1.

## Baldor Motor: Replacing the Capacitors

1. Use a 5/16 inch nut driver to remove the two screws that secure the capacitor enclosure and set the enclosure and screws aside.
2. Read the CAUTION on the next page.
3. Discharge both capacitors.



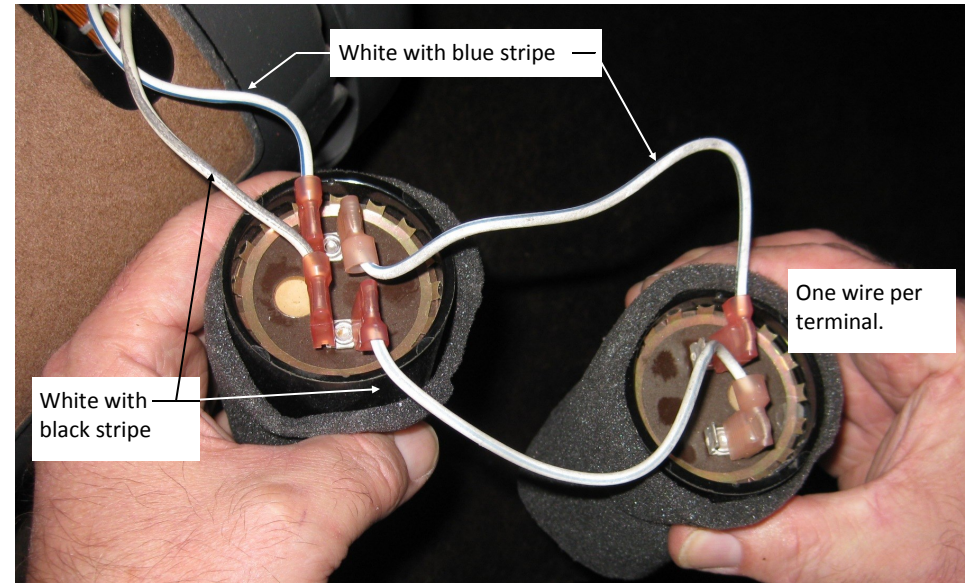
**Spade Connections to Starter Switch**



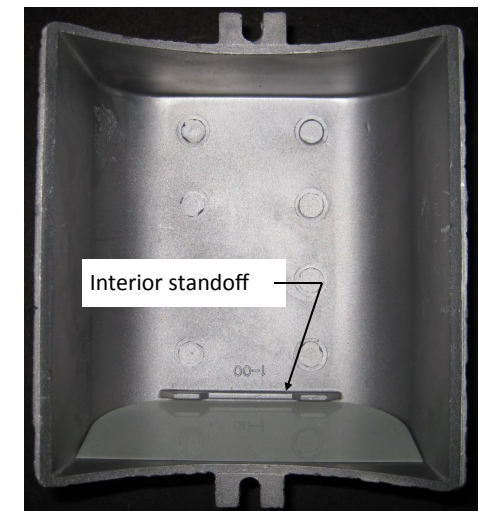
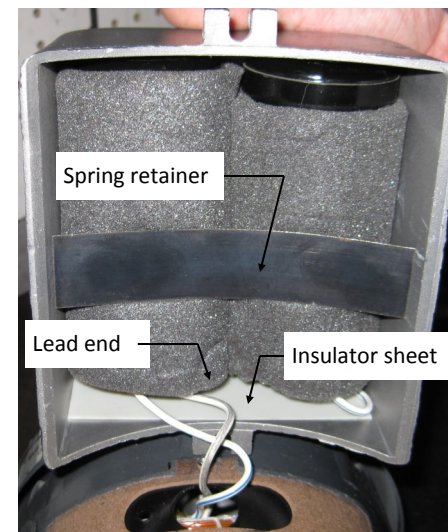
**Discharge the capacitors prior to removing the wires!** The capacitors still maintain a charge even after the gate operator is turned off and disconnected from its main power source. Use a safe and effective way to short the leads before working on removing the capacitors from the motor.

- Remove the spring retainer with a needle nose pliers.  
**NOTE:** A weather seal is sandwiched between the capacitor and the motor. Leave the weather seal in place. Do not remove it.
- Remove the wires from the capacitor terminals and remove the foam pads from the cylinders and set them aside.
- Discard the used capacitor cylinders.
- Wrap each new capacitor cylinder in a foam pad.
- Attach the motor wires to the new capacitor terminals. Refer to the photo on this page and the wiring drawing on page 6.
- Orient the enclosure so the interior standoff will be at the top once the enclosure is attached to the motor.
- Place the capacitors inside their enclosure so the lead end is facing up and stabilized against the interior standoff.
- Place the insulator sheet above the capacitor terminals between the terminals and the enclosure.
- Make sure the insulator sheet and capacitor enclosure are positioned properly and the capacitor wires are inside the enclosure and attached to the terminals.
- Replace the spring retainer to hold the capacitors in place.
- With the weather seal sandwiched between the enclosure and motor, secure the capacitor enclosure with the two screws removed in step 1.

**NOTE:** If you are working on a StrongArm unit, remount the motor and pump pack assembly inside the unit and replace the cover.

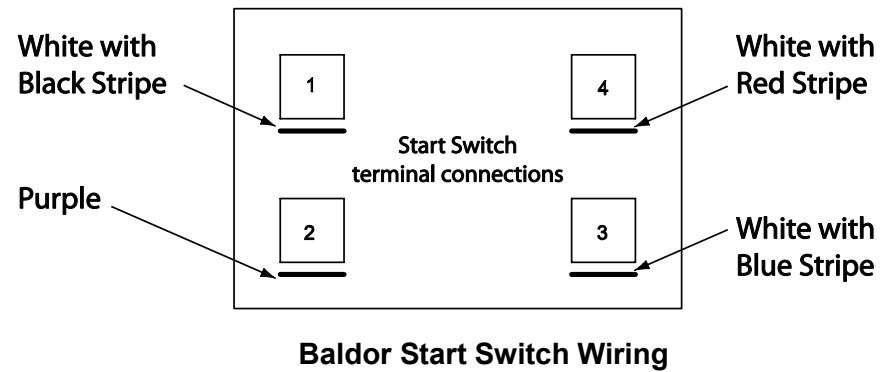
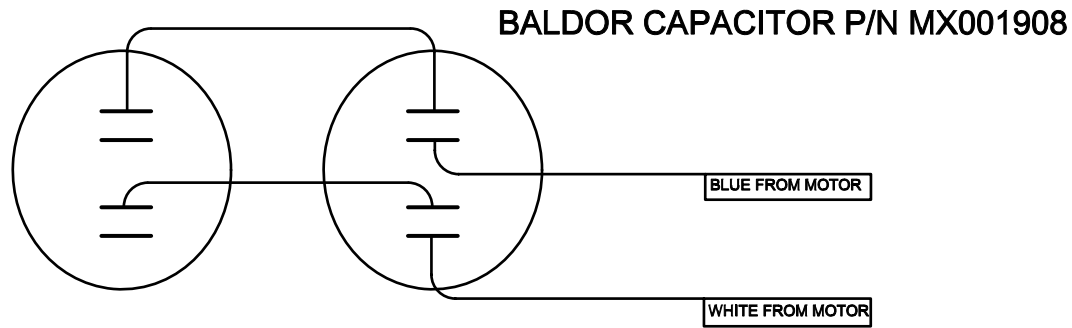


**Capacitor Wiring**



**Capacitor Enclosure Interior**

# BALDOR CAPACITOR CONNECTION



© Copyright 2015 by HySecurity Gate Inc. All rights reserved.

Trademarks: SlideDriver, Smart Touch Controller, and the HySecurity logo are trademarks or registered trademarks of HySecurity Gate Inc. Baldor is a registered trademark of Baldor Electric Company. Leeson is a registered trademark of Leeson Electric Corporation.