



# WASHGUARD®

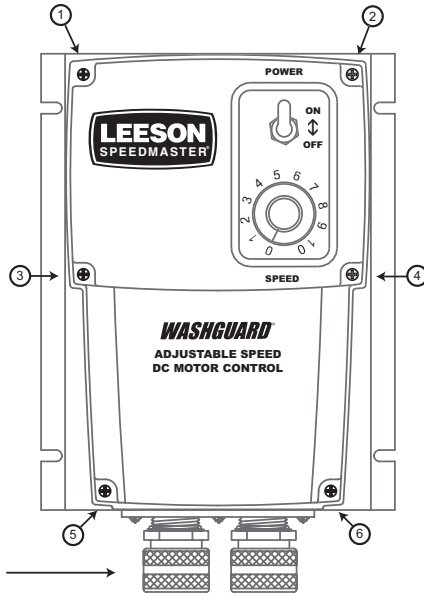
## QUICK START GUIDE

### 174102 & 174107 NEMA4X SCR MOTOR CONTROLS

#### STEP # 1

REMOVE THE SIX (6) PHILLIPS SCREWS ON THE FRONT CASE.

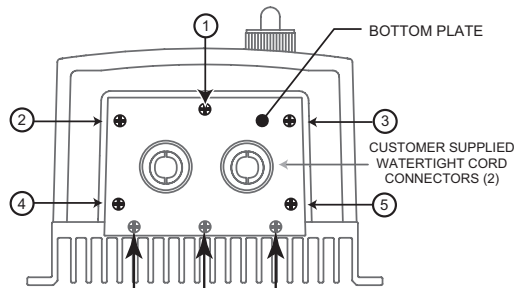
NOTE: THE TWO SHORTER SCREWS (#6 - 32 x 2 1/2) ON THE FRONT CASE ARE USED AT HOLE LOCATIONS 5 & 6.



CUSTOMER SUPPLIED WATERTIGHT CORD CONNECTORS (2)

#### STEP # 2

REMOVE THE FIVE (5) PHILLIPS SCREWS ON THE BOTTOM PLATE.



**DO NOT REMOVE**  
THE THREE (3) SCREWS SECURING  
THE BOTTOM PLATE TO THE HEATSINK

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## CONNECTIONS

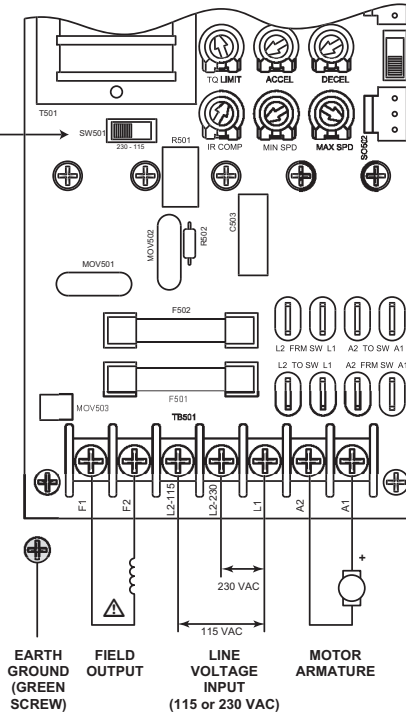
AC LINE VOLTAGE SWITCH (SW502)  
115 or 230 VAC

#### STEP # 3

WIRE THE CONTROL AS SHOWN THROUGH THE CONDUIT HOLES IN THE BOTTOM PLATE.

#### FIELD OUTPUT CONNECTIONS

The field output is for shunt wound motors only. Do not make any connections to F1 and F2 when using a permanent magnet (PM) motor. For field motor connections, see "Field Voltage" in Specifications box below.



ARMATURE VOLTAGE SWITCH (SW501)  
90 or 180 VDC

#### STEP # 4

ASSURE THAT THE VOLTAGE SWITCH SETTINGS ARE CORRECT (SW501 & SW502)

#### STEP # 5

REPLACE SIX SCREWS ON FRONT CASE & FIVE SCREWS ON BOTTOM PLATE.

## OPERATION

#### 174102 Non-Reversing Speed Control

- Set the speed adjust dial to "0" (full CCW).
- Apply AC line voltage.
- Set the POWER switch to the ON position.
- Slowly advance the speed adjust potentiometer CW. The motor slowly accelerates as the potentiometer is turned CW. Continue until the desired speed is reached.
- To coast the motor to a stop, turn the speed adjust potentiometer to "0" or set the POWER switch to the OFF position.

#### 174107 Reversing Speed Control

- Set the FORWARD/OFF/REVERSE switch to the OFF position.
- Set the speed adjust potentiometer to "0" (full CCW).
- Apply AC line voltage.
- Set the FORWARD/OFF/REVERSE switch to the desired direction of rotation.
- Slowly advance the speed adjust potentiometer CW. The motor slowly accelerates as the potentiometer is turned CW. Continue until the desired speed is reached.
- To coast the motor to a stop, turn the speed adjust potentiometer to "0" or set the FORWARD/OFF/REVERSE switch to the OFF position.

## SPECIFICATIONS

AC Line Voltage	... 115 VAC or 230 VAC, ±10%, 50/60 Hz, single phase
Horsepower Range with 115 VAC applied	... 1/8 - 1 HP
Horsepower Range with 230 VAC applied	... 1/4 - 2 HP
Maximum Armature Current	... 10 ADC
Maximum Field Current	... 1 ADC
Field Voltage	for 115 VAC Input ... .50 VDC (F1 to L1); 100 VDC (F1 to F2)
	for 230 VAC Input ... 100 VDC (F1 to L1); 200 VDC (F1 to F2)
Form Factor	... .1.37 at base speed
Analog Input Voltage Range (signal must be isolated; S1 to S2):	for 0 - 90 VDC Armature Voltage ... 0 - 1.4 VDC
	for 0 - 180 VDC Armature Voltage ... 0 - 2.8 VDC
Input Impedance (S1 to S2)	... .3M ohms
Load Regulation	... .1% base speed or better
Style	... NEMA 4X

- To reverse direction:
  - Set the FORWARD/OFF/REVERSE switch to the OFF position.
  - After the motor comes to a complete stop, set the FORWARD/OFF/REVERSE switch to the desired direction of rotation.

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