



# MOTOR WINDING CHECK PROCEDURE

Use this worksheet to check windings on 3 Phase Squirrel Cage motors (typical fan motors up to 100 HP). 6 Post motors use all connections not shaded in the tables below. 9 Post motors use all connections in tables, including shaded entries. **All wiring & bridge bars must be disconnected.**

## TOOLS REQUIRED:

- Multi-Meter or other Ohm Meter type instrument for checking resistance
- Screw driver (Philips or Torx) for accessing motor connection box (aka 'peckerhead')
- Small socket or wrench for disconnecting wiring and bridge bars from motor leads/posts

## TESTING:

### GROUND TO TERMINALS

Using the Resistance setting on multi-meter/ohm meter (marked with  $\Omega$ ), test each terminal for grounding condition. Attach Probe 1 to Ground Connection / motor housing, and then place Probe 2 on each terminal. Record results below. **Any result not reading 'OL' or open line / no connection indicates a short to ground in that coil or terminal connection.**

TEST	RESULT	TEST	RESULT	TEST	RESULT
GND to U1		GND to V1		GND to W1	
GND to U2		GND to V2		GND to W2	
GND to U5		GND to V5		GND to W5	

### EQUAL RESISTANCE ACROSS COILS

Test each coil for equal resistance. Attach probe to each terminal as indicated in the table below. Record results below, and mark if each row indicates equal resistance. **Unequal resistance indicates a bad coil or winding.**

TEST	RESULT	TEST	RESULT	TEST	RESULT	EQUAL?
U1 to U2		V1 to V2		W1 to W2		
U5 to V5		U5 to W5		V5 to W5		

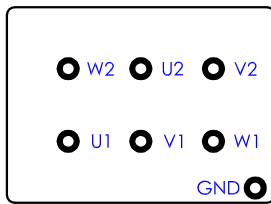
### NO SHORTS BETWEEN COILS

Test each coil for short circuit to another coil. Attach Probe 1 to either lead for first coil listed below, and then place Probe 2 on either lead for second coil. All results should be 'OL' or open line / no connection. **Any other result indicates a short circuit between those two windings.**

TEST	RESULT	TEST	RESULT	TEST	RESULT
U1/U2 to V1/V2		U1/U2 to W1/W2		V1/V2 to W1/W2	
U1/U2 to U5/V5/W5		V1/V2 to U5/V5/W5		W1/W2 to U5/V5/W5	

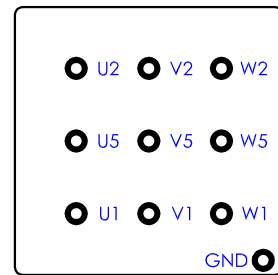
## 6-POST 3-PHASE MOTORS

6-POST MOTOR TERMINALS

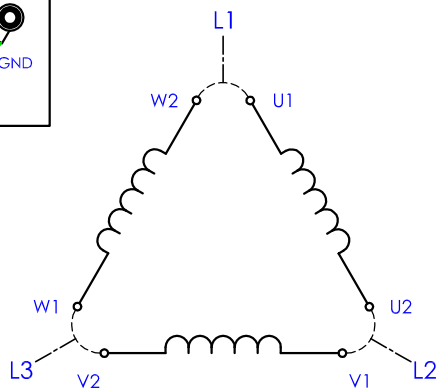
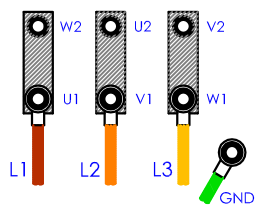


## 9-POST 3-PHASE MOTORS

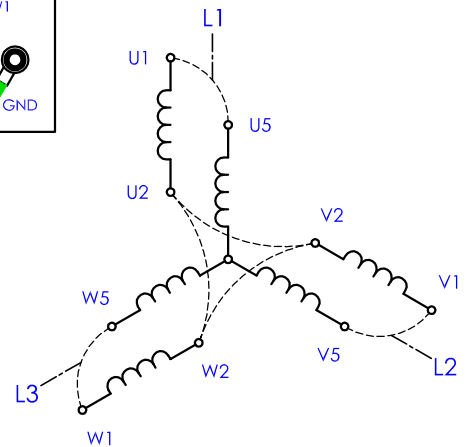
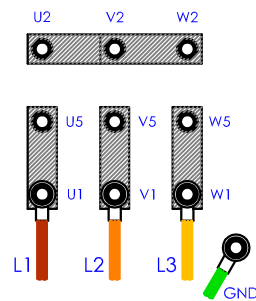
9-POST MOTOR TERMINALS



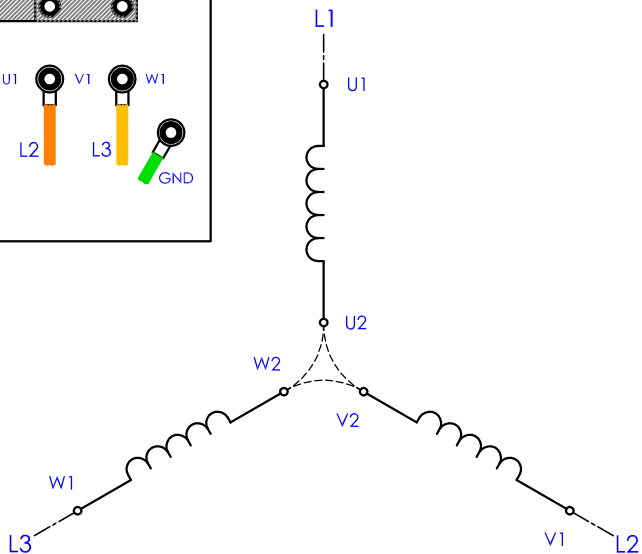
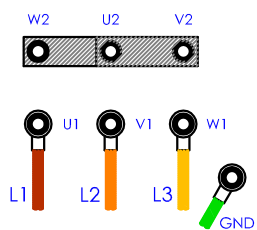
### 208V / 220 - 240V [ DELTA - Δ ]



### 208V / 220 - 240V [ DOUBLE STAR / WYE - YY ]



### 460 - 480V [ STAR / WYE - Y ]



### 460 - 480V [ STAR / WYE - Y ]

