

ABSTRACT

In the field, cables may be cut or damaged, leaving wires with no markers. This document will provide a procedure to determine the wire numbers if no markers are found.

PROCEDURE

1. Find the pair of wires with resistance value of approximately 0.4 ohms between them. These are the thermal switch leads. Mark T1 and T3 for reference.
2. Find the 3 wires with measurable resistance between them. These are the power leads. If the motor is 3 phase, mark L1, L2, L3 and proceed with your connections.
3. If the motor is 1-phase, you must determine the start, run, and common leads. Mark the leads A, B, and C, measure the resistance between the combinations and record.

A-B: _____ A-C: _____ B-C: _____

(Example: A-B is 4.7 ohms, A-C is 2.6 ohms, and B-C is 8.3 ohms)

4. The highest resistance is always between wires Z2 and U2. This allows you to determine which lead is U1 common, because it is not in the highest resistance pair. In the example above, the highest resistance value is between B and C, so we know that wire A is U1.
5. The next highest resistance reading will be between U1 and Z2 (start winding). Determine which pair of wires has the second highest resistance reading. This will be a combination of U1 and an unmarked wire. Mark the unmarked wire in this pair Z2.
6. The final unmarked wire must be U2, verify that the resistance between U1 and U2 is the lowest value, and then mark the last wire U2. Now you can use the wiring diagram below to determine the connections to the control panel.

