



It's time to get comfortable.

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TO: All York Distribution Service
Managers All York Service Managers
Field Service Techs and Installers

PRODUCT: ALL 230VAC - 3 PHASE PACKAGED UNITS WITH ECM OR X-13 MOTORS

SUBJECT: 230 VOLT 3 PHASE POWER - ECM or X13 MOTORS

The 230 volt three phase units have either an X13 or an ECM motor. These motors are single phase 230 volt type motors, though the unit is three phase. In this case, two legs of the three phase power are used to operate the motor. We have received a few calls concerning the motor acting erratically or not running at all.

Three phase 230 volt power is supplied in different ways, the most common being WYE configuration. The less common is "High Leg Delta". With High Leg Delta four wire systems, the following voltages* are measurable on a typical A-B-C and D configuration going to ground:

A to B =	230	A to C =	230	B to C =	230
A to grd	120	B to grd	195-208	C to grd	120

* voltages may vary slightly from those listed

The NEC code states that the "wild" or "stinger" leg is tied to the B terminal in the panel box with a tag in the panel box stating that phase B has 208 to ground. This is commonly an orange wire or a wire with orange tape.

When tracing the circuit, confusion may arise as the code also states the orange "wild" or "stinger" leg is tied to the C terminal in the meter pan.

When the wiring is brought into the unit and attached to the disconnect, a terminal block, or a contactor, the B wire from the panel box must be connected to the B terminal in the unit. Wiring the "wild" or "stinger" leg on A or C, could affect X13 or ECM motor operation.

The motors should always receive power from the A and C wires of the three phase power supply. If the wires are swapped to reverse rotation on a three phase motor or compressor, make sure that the "stinger" or "wild" leg remains on B, while reversing A and C. Check all three phase motors and compressors for proper rotation after making a change.