



TEMPERATURE CONTROLLERS... PORTABLE CHILLERS... CENTRAL CHILLERS... PUMP TANK STATIONS... TOWER SYSTEMS...

**SUBJECT: VOLTAGE CHANGE : SENTRA TEMPERATURE CONTROL UNITS
MANUFACTURED AFTER JANUARY 1, 2011**

FYI #311

04/23/2013

A qualified field technician can convert the voltage on most standard Advantage Sentra “SK” temperature control units. Contact the Advantage Service department with your unit serial number to confirm that your unit can be converted. After confirming that your unit can be converted use this document as a guide to making the voltage change.

This documents outlines the steps required to change the voltage from 240 to 480 and from 480 to 240 volt for units manufactured after approximately January 1, 2011. Refer to FYI document 1-I-218 for voltage conversion instructions for units manufactured prior to January 1, 2011.

Assistance is available during business hours from the Advantage Service department at 317-887-0729. Contact Advantage for other power supply requirements.

Typical Conversions for 1/2 to 7.5 horsepower motors and 10 to 16 kW heaters. Consult the factory for other units.

1. 240/3/60 to 480/3/60
2. 480/3/60 to 240/3/60
3. 480/3/60 to 208/3/60

For a field voltage change, the following items will require replacement or rewiring:

1. Heater (rewiring)
2. Motor (rewiring)
3. Transformer (rewiring)
4. Motor starter and overload block (replace)
5. Replace unit data tag with tag showing new voltage and amp rating.



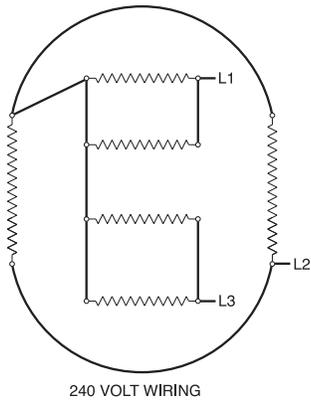
Figure A. Sentra with lift-off access panel and thermoformed panel removed.

A qualified technician should follow this procedure to complete a field voltage change:

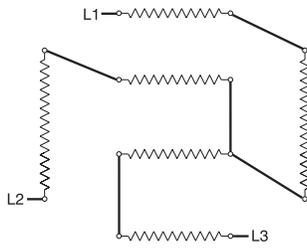
1. Disengage operations. Verify all system pressure is relieved and the unit’s pressure gauges read “0”.
2. Disengage main electrical supply. **Follow proper lock-out/tag-out procedures.**
3. Remove the lift-off access panel and set aside. (Figure A).



Continued on reverse.



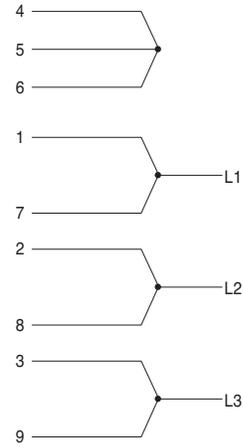
240 VOLT WIRING



480 VOLT WIRING

Figure B. Heater wiring.

208/240



460/480

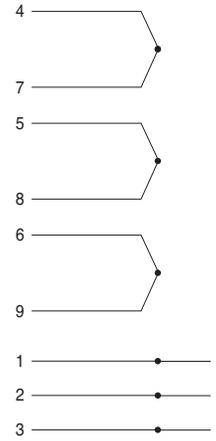


Figure C.
Pump wiring.

4. Rewire the heater to the new voltage. Figure B shows the wiring for 240 and 480 volt heaters.
5. On some models, remove the thermoformed front panel and open the electrical cabinet panel door. On other models, unplug the instrument connectors to fully extend the hinged panel.
6. Rewire the pump motor for the new voltage. Most Sentra pump motors are dual voltage. Figure C shows the wiring schematic for 240 and 480 voltages.
7. Rewire the transformer to the proper voltage as shown by the schematic on the transformer (Figure D).
8. Replace the motor starter and overload block. Adjust the overload block settings for the current draw at the new voltage (Figure E).
9. Once a voltage change is complete, be certain the unit is properly connected to the new voltage supply as outlined in the Operations manual. Restart unit operations according to the manual.



Figure D
Transformer schematic.

Motor Starter and Overload Block

Control Transformer

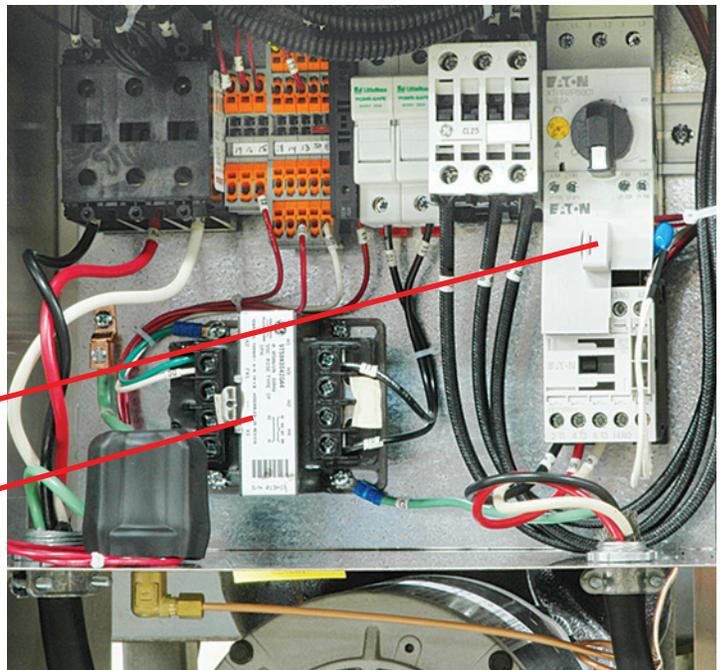


Figure E
Typical Sentra electrical cabinet.