



Current Sensor Upgrade

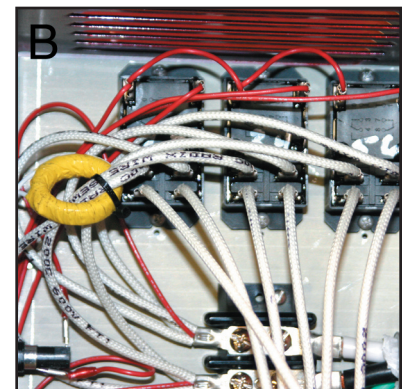
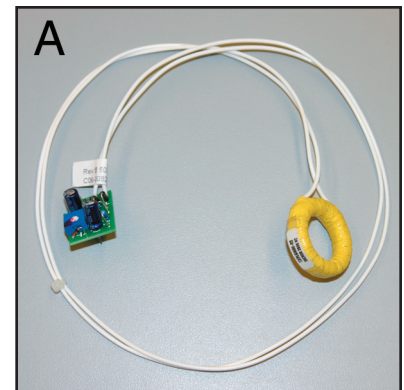
OVERVIEW

The current sensor is a device that will allow you to read the Voltage and Amperage of your kiln through use of the Diagnostic Menu options on your controller. It is to be used in conjunction with the KilnMaster and GlassMaster 700 Boards. If your kiln was manufactured with a 700 board than you should already have a current sensor installed in your kiln.

In order to operate properly, the sensing coil of the current sensor must be placed over some of the wires that connect the power cord terminal block to the kiln's relays. Usually the kiln will have two or three relays. It is only necessary to pull one wire from each relay and thread it through the sensing coil, then reconnect the wires.

STEP BY STEP INSTRUCTIONS

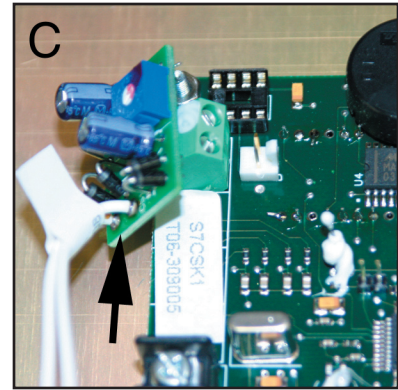
1. Identify the new 700 controller and sensing coil. Refer to photo A
2. Read these instructions thoroughly to get a feel for the scope of the job and to have the proper tools on hand for the installation.
3. Unplug your kiln from the wall receptacle or turn off the power if the kiln is direct wired.
4. Remove the control box from the kiln, disconnecting any of the feeder wires and the thermocouple wires.
5. Remove the fiberglass lined heat baffle from the control box. Do not disconnect any wiring and lay the heat baffle alongside the control box.
6. Locate the control relays in the bottom portion of the control box. The relays should be numbered on top. Most two section kilns will only have two relays that will also be numbered.
7. Locate the wire that runs from the power cord terminal block and plugs into the relay at position #1. Remove this wire from the relay by pulling the push on connector loose from the relay. Thread the loose end of this wire through the current sensor coil and reinstall the wire on the relay by pushing it firmly on the relay's male tab. Repeat this operation for the remaining ODD numbered wires such as 3 and 5. Kilns with only two relays will use wires #1 and #3. Refer to photo B.
8. Use the installation instructions included with your new 700 Board to install the new board if you have not done so already.



(continued)

CURRENT SENSOR UPGRADE

9. The current sensing coil will have two wires that connect it to a small printed circuit board. This printed circuit board must now be installed on the receptacle on the new 700 control board. Refer to photo C for proper location. Make sure the circuit board is oriented so that the 2 exiting white wires are on the bottom. Loosen the set screws, place the two pins of the circuit board into the two holes on the receptacle, and tighten securely.
10. Check to ensure all wiring is firmly attached and secure.
11. Reinstall the fiberglass lined heat baffle in the control box.
12. Reinstall the control box on the kiln. Ensure the feeder wires are properly installed on the numbered terminal strip. Ensure the thermocouple wiring is properly attached to the terminal strip. The red thermocouple wire should be connected to the negative tab (-) and the yellow wire should be attached to the positive tab (+).
13. Restore power to the kiln and ensure that the green LED's on the new 700 controller illuminate.
14. Refer to the programming instructions for your new 700 controller for further instruction.



VOLTAGE CALIBRATION

The new 700 controller has the ability to measure the voltage supply to your kiln. In order to use this feature with a retrofitted 700 controller, it is necessary to calibrate the controller for the kiln on which it is installed.

In order to perform this calibration, it will be necessary to have a good quality volt meter available and the experience to measure the kiln's voltage at the power cord plug. To measure the voltage at this point it is necessary to pull the kiln plug slightly out of the wall receptacle to gain access to the power supply blades on the kiln plug. Use the volt meters two metal probes to measure the voltage on the two exposed flat blades of the plug.

On 3 phase kilns it will be necessary to take 3 readings so you can use the average voltage of the phase wires. (one reading for each combination of 2 phase wires)

Calibration Procedure

1. With the kiln plugged into the power supply and at the idle condition, press the menu button until the message "diag" appears. Press the "ENTER" button to select this feature. Press the menu button until the message "volt" appears. Press the "ENTER" button and the message "NOLD" appears followed by a number like 240
2. Press 4, 4, and 3 and the message "CAL1" appears. Enter the voltage measured at the kiln plug, using a volt meter. You should enter a voltage value like 240, then press "ENTER". When this value is entered the display will show a message "CAL2". Refer to your volt meter at the kiln plug and enter the kiln voltage again, then press "ENTER". The voltage under load will usually be slightly lower, such as 238. When this voltage is entered, the calibration is complete.