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KilnTroller II

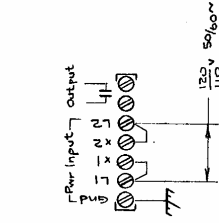
**ELECTRONIC TEMPERATURE CONTROLLER
for Ceramic Kilns**



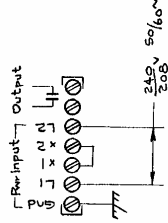
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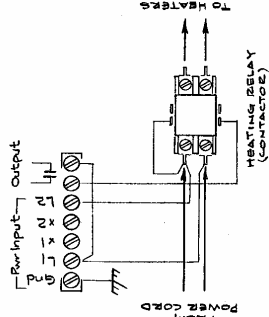
Third Edition
14 June 2010



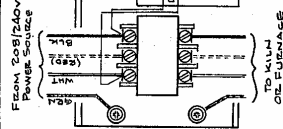
A Hook-Up for 110/120V Power



B Hook-Up for 208/240V Power



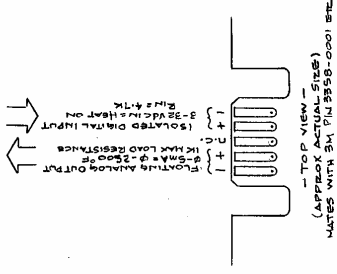
C Typical Kiln Wiring



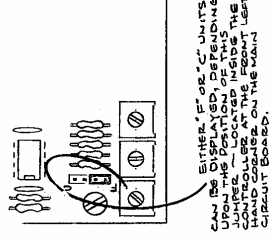
D Hook-Up for FireRight Power Controls

| CABLE REMITS | TEMP. RANGE | MAX. AMP. |
|--------------|-------------|-----------|
| B | 40-35 | 15 |
| D | 55-45 | 15 |
| A | 70-50 | 15 |
| 2 | 95-80 | 15 |

A RED WIRE USED FOR 3PH POWER.



E Personal Computer Interface



F Display "F"/"C" Selection

KilnTroller II

ELECTRONIC TEMPERATURE CONTROLLER for Ceramic Kilns



GENERAL INFORMATION

The *KilnTroller II* is a precision electronic temperature controller for ceramic kilns.

The controller measures the kiln's temperature, and regulates the heating process by switching its heaters on and off. The controller's main instruction is the temperature "LIMIT" setting, which is adjusted as desired by the user. When operated in the "SOAK" mode, the controller will maintain the kiln's temperature at the LIMIT setting indefinitely. When operated in the "SHUT-OFF" mode, the controller will permit the temperature to increase to the LIMIT, then shut off the kiln. A bright four-digit indicator shows the measured temperature, and the limit setting. An array of indicator lights continuously displays the status of the system, and a bi-directional fail-safe feature protects against thermocouple burn-out or reversal.

The controller uses a "Type K" (nickel-chromium vs. nickel-aluminum) thermocouple as its temperature sensor. FireRight interface panels and power controllers isolate the *KilnTroller II* from high voltages and currents. These will accommodate either 120vac or 240vac 50/60Hz power sources. Interface panels will handle kilns drawing up to 15-amps, and can be connected to operate power contactors of any size. Standard power controllers are available for single phase loads of 48-amps or less, and for single or three-phase kilns drawing as much as 75-amps. All connections to the controller use keyed telephone-type plug-in cables.

INSTALLATION

Use the *KilnTroller II* with either a FireRight “Interface Panel” or “Power Controller”. If you have chosen the interface panel, mount it on the kiln’s electrical box, and connected it to the kiln’s power relay. If, instead, your system has a power controller, mount it on the wall just below the kiln’s breaker box or immediately above its power receptacle. Please note that the operating temperature for these units must not exceed 131°F (50°C).

Interface panels work with both 120vac and 208-240vac kilns. If using the Interface Panel, hook it up according to diagram “C”, then jumper terminals x1 and x2 according to either diagram “A” or “B”. Standard power controllers work with for 208-240vac kilns only; make the line and kiln connections as shown in diagram “D”. Flush mounting panels may be connected for either 110/120v or 208/240v. If using the panel mounting unit, hook it up according to diagram “C”, then jumper terminals x1 and x2 according to either diagram “A” or “B”.

Fasten the temperature sensor to the kiln, at the sensor port (normally provided for “KilnSitter” tubes), or at one of the peepholes. If the sensor should happen to fall out, **an over-firing will likely spoil the ware being fired, and might seriously damage the kiln**. Plug the sensor cable into the **SENSOR CABLE** receptacle on the back of the controller. Observe polarity when connecting the sensor cable to the sensor: connect the (+) side of the element to the yellow wire, and it’s (-) side to the red wire.

Plug the control cable into the **CONTROL CABLE** receptacle on the back on the temperature controller. Connect its other end to a like receptacle on the interface panel or power controller.

To avoid problems with electrical interference, please keep both of these cables well away from the power line or kiln wiring.

Your electrical service carries **HIGH VOLTAGES**, which can cause **LETHAL ELECTRICAL SHOCKS**. Improper connections can produce safety hazards, and may damage this device. If you have no wiring experience, or are unsure of your planned hook-up please **REFER THE WIRING OF THIS DEVICE TO A SKILLED ELECTRICIAN**.

OPERATION

To operate *the KilnTroller II*, proceed as follows:

1. Push the **ON-OFF** button to turn on the controller.
2. Select either the **SOAK** or **SHUT-OFF** mode.
3. While holding the **DISPLAY LIMIT** button in, adjust the recessed **LIMIT ADJ** to the desired temperature setting (normally determined from standard cone charts).
4. If you have selected the soak mode, the firing will begin immediately. If you choose the shut-off mode, the firing will not begin until you press the **RESET** button.
5. In the soak mode, the controller will bring the temperature at the sensor up to the limit setting, then switch the kiln on and off as necessary to hold it there. The **HEATING (Ht)** light and flashing **SOAKING (Sk)** light will alternate back and forth accordingly.
6. In the shut-off mode, the controller will latch the kiln off upon reaching the limit setting, and allow it to cool at its own rate. At shut-off, the **HEATING (Ht)** light will go off, and the **SHUT-OFF (S.O.)** light will come on to indicate that the firing is complete..
7. When a personal computer is operating the system, the **PC** and **Ht** lights operate together to indicate that the heating command is coming from the computer, not from the controller. The computer overrides the controller's shut-off latch..
8. When done with the firing, it’s good practice to (a) leave the **SELECT** switch in the **SHUT-OFF** mode, (b) turn the **LIMIT ADJ** all the way down, and (c) turn off the controller.

The **SENSOR** warning light indicates a missing, reversed or burned-out sensor.

SERVICE

If you have questions, please give the dealer or kiln manufacturer from whom you purchased your controller the first opportunity to assist you.

FireRight Controls warrants *KilnTroller II* units for one-year from the date of purchase. We will repair or replace, without charge, units that fail because of defective material or workmanship.

Beyond the warranty period, factory service is available a reasonable flat rates, and can be handled through your dealer, or factory-direct.