AF4000/AF Slide
Wall-Mount Controller

INSTALLATION GUIDE

3/3/2022

General

Before operating the AutoFire Controller, read and follow these installation instructions.

- **Turn off the circuit breaker for your kiln**. If your kiln is plugged into an electrical receptacle, unplug the kiln from the wall.
- **Never leave your kiln unattended**. Follow your kiln manufacturer recommendations for safety and monitoring. The controller warranty does not cover damage from over firing, regardless of the circumstances. It is the responsibility of the operator to make sure the kiln turns off at the end of the firing.

Power requirements vary depending on the controller model you have selected. Refer to the serial number label on the controller for the appropriate voltage and current requirements. The controller contains relays that turn the kiln elements on and off. Some relays will make clicking noises during normal operation. If your controller is equipped with Mercury relays, the controller must be installed in an upright position.
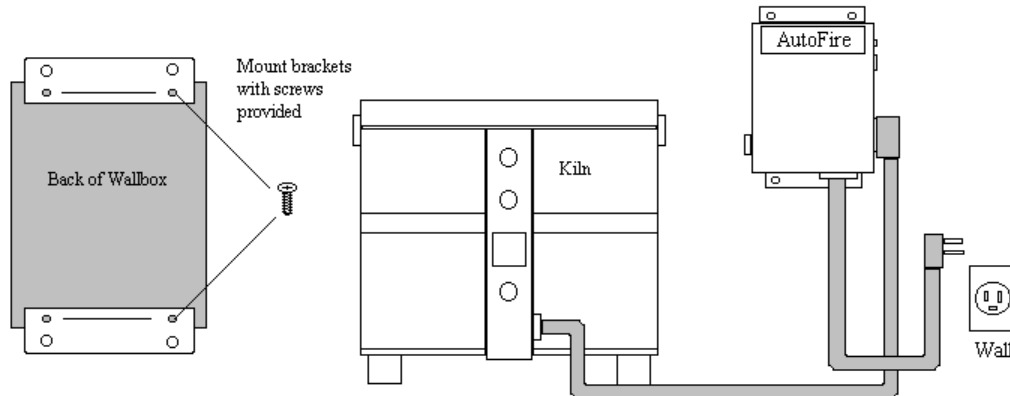
Wallbox Installation

The controller should be mounted to a wall or a stand with the two brackets attached to the top and bottom of the controller. Mount the controller in an upright position with the power cord at the bottom. The power cord lengths should determine location of the controller. Position the controller so that the power cord will reach your outlet receptacles and the power cord of the kiln will reach the controller receptacle.

Direct wire controllers: direct wire controllers will not have power cord limitation. The installer can determine location of the controller.

- Do not mount the controller directly above the kiln or other heat source.
- Check the position of the ON-OFF switch on the right side of the controller. Turn this switch OFF (OFF is the down position pushed in) until the installation is complete.

Once the controller is mounted to the wall, plug the controller power cord into the wall receptacle and the kiln cord into the controller receptacle.

Direct wire controllers: It will be necessary to remove the front cover of the controller for access to the internal terminal strips for wire connections. Connection labels will be found at the terminal strip or relay connections.

Hand-Held Controller Option

To install the optional Hand-Held controller; simply connect the 14-pin plug from the Hand-Held controller to the mating jack on the left side of the wall box.
Fasten the restraining clips on the connector to prevent the controller from being accidentally disconnected.
The top of the Hand-Held controller has an eye bolt for hanging the controller in a convenient location. It is recommended that the controller be mounted at eye level.

- Do not mount the controller directly above the kiln or other heat source.
- Cables should not be able to come in contact with the hot kiln.
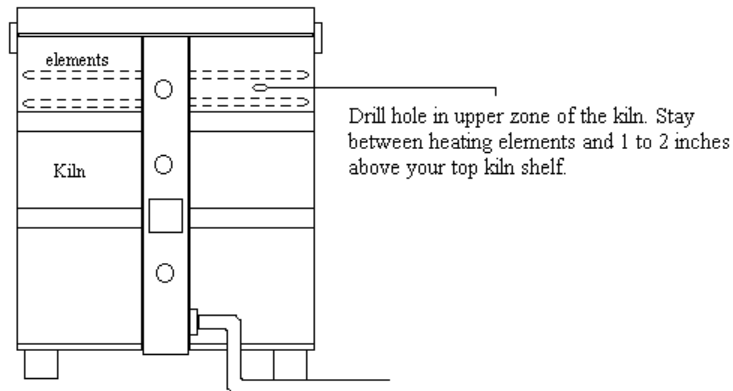- Never lay the controller on top of the kiln.

Thermocouple Installation

The thermocouple should be connected to the thermocouple wire that extends out of the bottom of the push button control panel.

For Single zone controllers, it's recommended that the thermocouple be installed through a hole in the upper half of the kiln. Check to see if your kiln has a pre-determined location for a thermocouple. If you choose to install the thermocouple through the lid of the kiln, this will reduce the life span of the thermocouple.

Metal sheathed thermocouples should not be in direct contact with the metal shell of the kiln. A peephole may be used as long as Fiber Blanket or other High Temperature insulating material is packed around the thermocouple for a tight fit. Drilling a hole may be necessary. Holes should be drilled over-size to allow for insulating material between the thermocouple and metal kiln wall. If your thermocouple has a ceramic sheath, a 9/16" hole is recommended.
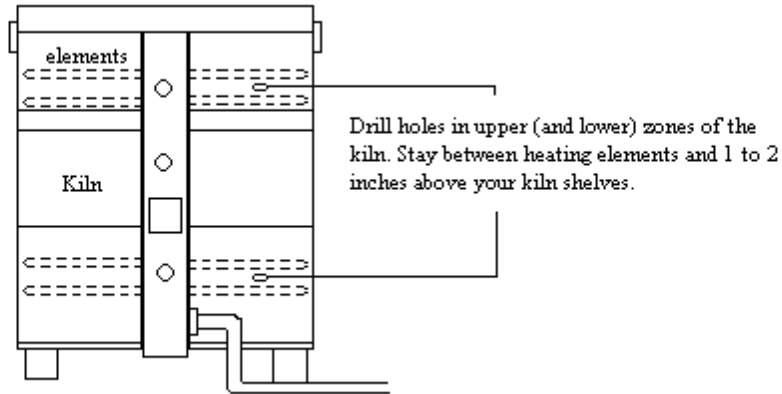
Refer to the Diagram below for thermocouple placement.

elements

Kiln

Drill hole in upper zone of the kiln. Stay between heating elements and 1 to 2 inches above your top kiln shelf.

- Inside the kiln - 1 inch or more of the thermocouple should be visible.
- Outside the kiln - the thermocouple connector should be spaced off slightly to prevent damage from radiant heat.

Use Caution when loading and unloading the kiln. Some thermocouples are more fragile than others and can be easily damaged if struck by kiln furniture.

Zone controllers: Require more than one thermocouple connection. It is important to identify the thermocouples as Top, Middle or Bottom before installing the thermocouples into the kiln.

Drill holes in upper (and lower) zones of the kiln. Stay between heating elements and 1 to 2 inches above your kiln shelves.

Optional Vent Fan

If your controller is equipped for Vent fan operation, the Vent fan for your kiln should be plugged into the outlet on the bottom of the controller. This outlet is for a Vent Fan only. The supply voltage to the Vent Fan is 120volt AC. The controller is equipped with a 120V power cord for powering the vent fan option. This cord is required only for use with the optional Kiln vent control. If you are not using the Vent Fan option, the optional power cord does not need to be plugged in for normal kiln control operation.

Computer Software

If you have *AutofireRMS* computer software, a connection is provided on the left side of the controller for your computer cable. Refer to the user manual for proper cabling and more information on computer interface options.

Before Firing Your Kiln

If you have a Kiln-Setter device on your kiln, a #10 bar can be used in the sensing rod. This will allow the Kiln-Setter to act as an over-temperature protection circuit. The #10 bar will last for many firings before it needs replaced (depending on how hot you fire the kiln).

If there is a timer on your kiln, set the timer for a longer period than the programmed firing of your controller. Keep in mind that some firings may take longer than expected due to kiln performance.

If your kiln has zone power switches, Begin with all the switches set to their HIGH position. These switches can still be used to balance the heat within the kiln if you discover the kiln is not heating uniformly.

Read the user manual for the AutoFire4000 controller and follow the Manufacturers guidelines for operating your kiln.

If you have questions or problems installing your Orton Controller, Customer Service can be provided by phone. Call 800-999-5442 or 614-895-2663

Thank You for Choosing Orton Kiln Controllers