

How to Calibrate the Hakko FR-860 Preheat Plate

The Hakko FR-860 Preheat Plates are factory adjusted to be within specifications, however if you have a specific requirement to calibrate the unit, the following steps should be followed.

Part 1 - Unlocking the Controller

1. Turn the power ON for the Hakko FR-860 Preheat Plate.
2. After 5 seconds, the PV and SV values will appear on the face of the controller.
3. Press and hold the MODE button until the display blinks 1 time (about 10 seconds), then release the MODE button.
4. Press the FUNC button one time and release.
5. Press the MODE button one time and release. The display will show a PV value of `_Su1` with a SV value of ON.
6. Press and hold the MODE button (about 3 seconds) until the display shows a PV value of `SETn`, where n is an integer value, then release the MODE button.
7. Using the UP or DOWN buttons, navigate through the SET menus and press the FUNC button to toggle the SV value from OFF to ON for SET1 and SET2 menus. This will make the key lock, gain correction, and limit settings available.
8. Press and hold the MODE button until the display reads `_Su1` with a value of ON, then release the MODE button.
9. Press and hold the MODE button again until the display reads `_C/F` with a value of OFF, then release the MODE button.
10. Press the FUNC button to change the value to ON. This will make the option to change between °C and °F accessible.
11. Turn the power OFF on the Hakko FR-860 Preheat Plate to store the new settings.

Part 2 - Changing the Key Lock Setting

1. Turn the power ON for the Hakko FR-860 Preheat Plate.
2. After 5 seconds, the PV and SV values will appear on the face of the controller.
3. Press and hold the MODE button for more than 2 seconds. The display will show a PV value of SET. Use the UP or DOWN arrows to set the SV value to 1.
4. Press the MODE button until the display shows `_LoC` with a value of 3.
5. Press the UP or DOWN buttons to adjust the value to 0 which removes the locks on adjusting the controller.
6. Turn the power OFF on the Hakko FR-860 Preheat Plate to store the new setting.

Part 3 - Adjusting the Correction Gain (Calibration)

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1. Turn the power ON for the Hakko FR-860 Preheat Plate
2. After 5 seconds, the PV and SV values will appear on the face of the controller
3. Press and hold the MODE button for more than 2 seconds. The display will show a PV value of SET. Release the MODE button and then use the UP or DOWN arrows to set the SV value to 2.
4. Press the MODE button until the display shows a PV value of _PuG with a factor default value of 0.97.
5. Press the UP or DOWN buttons as needed to adjust the SV value as needed.

NOTE: If the temperature displayed on the controller is lower than the measured temperature of the plate surface, increase the value. ; If the temperature displayed on the controller is higher than the measured temperature of the plate surface, decrease the value.

IMPORTANT: Be sure to measure the plate surface temperature using a Type K thermocouple that has been properly attached to the geometric center of the plate surface. Use of spot IR non-contact thermometers is not recommended due to the properties of the plate surface.

IMPORTANT: Adjustment of the correction gain must be done as a set - controller to plate. Interchanging controllers or plates will require readjustment if accuracy is critical.

6. Turn the power OFF on the Hakko FR-860 Preheat Plate to store the new setting.

After the adjustment has been completed, turn the Hakko FR-860 Preheat Plate on and allow it to stabilize at the set temperature for 30 minutes before making a temperature measurement of the plate surface. Repeat the steps in Part 3 above as needed.

NOTE: In order to prevent unintended changes to the controller, it is recommended that after making the changes above, you follow the steps in Part 1 and Part 2 above to restore the factory settings to lock out access to SET menu 2 and restore the key lock setting.

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