



PN 75729 = KIT, WEST TEMPERATURE CONTROLLER

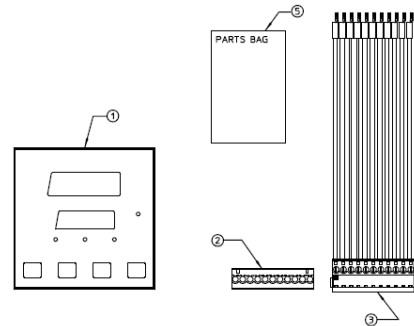
PURPOSE

This kit is being installed to replace previous Honeywell, West, and analog temperature controllers. Analog temperature controllers include P/N 28071-0012, 28071-0018, and 34983.

For use in the following ovens: **PS520, PS528, PS629, PS536, PS540, PS555, PS570, PS360EWB, PS624, PS628, PS200, PS200VL, PS360S, PS360WB, PS314**

For **PS640VE2, PS740VE2, and PS840VE2**, use instructions on page 3.

ITEM	P/N	DESCRIPTION
1	71280	TEMPERATURE CONTROLLER
2	76579	TERMINAL BLOCK, PLUG TYPE, FEMALE
3	75732	PIGTAIL ASSEMBLY
4	75730	INSTRUCTION SHEET (not shown)
5	N/A	MISCELLANEOUS EXTRA TERMINALS



Installation Assistance

HIGHLY RECOMMENDED: Use the QR codes below to view Installation and Programming videos before beginning!



INSTALLATION

<https://middmarshall.com/install-westcontroller.php>



PROGRAMMING

<https://middmarshall.com/program-westcontroller.php>

TOOLS REQUIRED

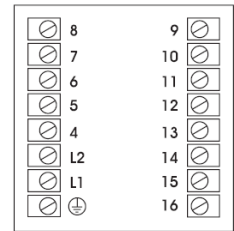
Wire labels, screwdrivers, wire cutter/stripper, cable ties, electrical tape. For West controller only: spudger tool.

WARNING: Disconnect the oven power before proceeding to remove old or install new wires.

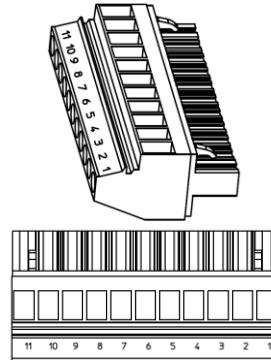
CONTROLLER REPLACEMENT PROCEDURES

Instructions to replace Honeywell controller using pigtail (ALL OVENS EXCEPT PS640VE2, PS740VE2, PS745, and PS840VE2)

1. Open the control panel of the oven with the old controller.
2. Label all wires going into the Honeywell controller with associated Honeywell terminal positions.
3. Disconnect the orange or green female terminal block from the pigtail.

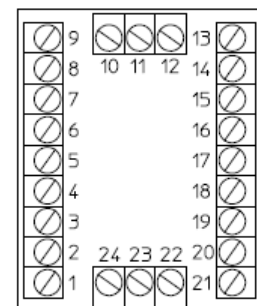
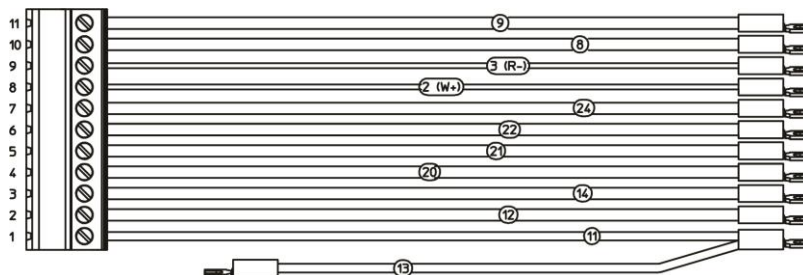
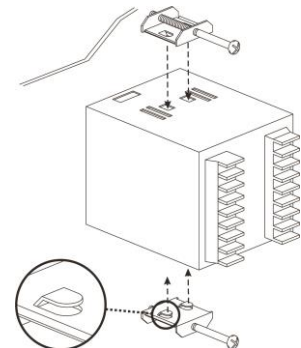


4. One by one, route the labeled wires from the Honeywell control to the terminal block poles based on the chart to the right. Make sure ALL wires in the Honeywell terminal are transferred to their respective terminal block position. Some terminal block positions may be empty, and some may have multiple wires.
NOTE: JUMPERS: Discard the jumper between Honeywell positions L1 and 10, if applicable.
OTHER JUMPERS: Any other jumper will be rerouted to the appropriate poles on the terminal block, jumping two positions on the terminal block.

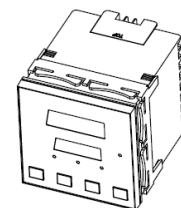


Honeywell Labels	Terminal Block Pole
10/L1	1
9	2
L2	3
11	4
12	5
16	6
15	7
8	8
7	9
5	10
4	11

- NOTE: L1/10:** All wires connected to L1 and 10 will be routed into the same terminal pole (#1).
5. PS555E ONLY: Remove the wire connected to position 9 on the Honeywell controller. Reroute the wire connected to position 10 to Terminal Block Pole 2.
 6. Reroute ground wires into nearby chassis ground studs.
 7. Remove the Honeywell controller by unscrewing the two retaining brackets and pulling the controller out of the front of the panel.
 8. Remove the plastic retaining bracket from the back of the West controller. Ensure that the rubber gasket remains installed in the inside bevel of the controller.
 9. If pigtail is not assembled to the West controller, assemble the pigtail to the controller by matching the wire numbers to the position on the West controller. To facilitate insertion into the control panel, do not connect wires 22 and 24.

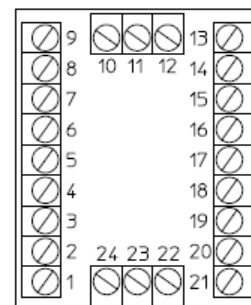
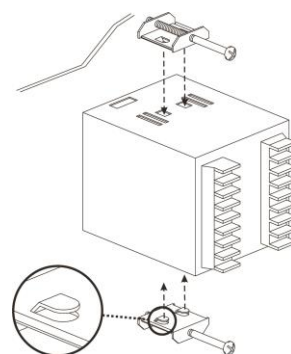


10. Insert the pigtail and controller through the square hole in the control panel. If wires 22 and 24 have been connected, disconnect to allow the controller to fit through the square hole.
11. Assemble the plastic bracket to the back of the controller, with retaining feet pointed away from the control panel and tighten as much as possible by hand.
12. Connect wires 22 and 24 to the matching terminals on the West controller.
13. Plug the male and female terminal blocks together.
14. Tidy wires with cable ties. Use electrical tape as needed to prevent shorts.



Instructions to replace Honeywell controller on ovens PS640VE2, PS740VE2, PS745, and PS840VE2

1. Remove the pigtail from the back of the West controller, including the jumper. Discard the pigtail.
2. Open the control panel of the oven with the old controller.
3. Ensure wire numbers match wiring diagram and chart below.
4. Remove all wires from the Honeywell controller.
5. Remove the Honeywell controller by unscrewing the two retaining brackets and pulling the controller out of the front of the panel.
6. Remove the plastic retaining bracket from the back of the West controller. Ensure that the rubber gasket remains installed in the inside bevel of the controller.
7. Insert the controller through the hole in the control panel.
8. Assemble the plastic bracket to the back of the controller, with retaining feet pointed away from the control panel and tighten as much as possible by hand.
9. Connect wires to the controller based on the chart below. Reroute ground wires to nearby chassis grounds.



Wire Number	Controller Terminal
Thermocouple WHITE	2
Thermocouple RED	3
16	14
44	13
84	12
83	11
86 OR 25	7
87	6
ANY GROUND WIRE	CHASSIS GROUND

Instructions to replace Honeywell controller without pigtail

If there is an issue using the pigtail or one is not available, the old wires on the Honeywell controller may be attached directly to the West controller.

1. Open the control panel of the oven with the old controller.
2. Label all wires going into the Honeywell controller with associated Honeywell terminal positions.
3. Remove all wires from the back of the Honeywell controller. Set aside any jumpers.
4. Remove the Honeywell controller by unscrewing the two retaining brackets and pulling the controller out of the front of the panel.
5. Remove the plastic retaining bracket from the back of the West controller. Ensure that the rubber gasket remains installed in the inside bevel of the controller.
6. Insert the controller through the hole in the control panel.
7. Assemble the plastic bracket to the back of the controller, with retaining feet pointed away from the control panel and tighten as much as possible by hand.
8. Attach wires to the West controller based on the chart below. Any jumpers from the Honeywell controller must be transferred to the West controller in the appropriate position.

Honeywell Terminal	West Terminal
L1	13
L2	14
4	9
5	8
7	3
8	2
9	12
10	11
11	20
12	21
15	24
16	22

Instructions to replace broken West controller

1. Pull front panel off the old West controller. No fastener is used, instead the face is press-fit into the body. Use a spudger tool to assist with face removal.
2. Replace with front panel from the new West controller.

Instructions to replace old analog controller

1. To replace Analog Controllers, follow the steps under “Instructions to replace Honeywell controller using pigtail” above. In step 4, connect the following controller labels to the terminal block poles.

P/N 28071-0012 and 28071-0018

Controller Labels	Terminal Block Poles
14/L1	1
13	2
L2	3
15	4
16	5
1	8
2	9
5	10
6	11

P/N 34983

Controller Labels	Terminal Block Poles
L1	1
L2	3
TC+	8
TC-	9
COM	10
NO	11

WEST CONTROLLER PROGRAMMING PROCEDURES

NOTE: The instrument will always return automatically to Operator mode if there is no key activity for 2 minutes.

Initial start-up

1. Turn the blower switch to start the oven without heat.
2. If "GoTo ConF" displays, press the Scroll key to enter the Unlock Screen.
3. Press the up key to enter the unlock code ("20"), then press the Scroll key to proceed.
4. Press the Scroll key 20 times to scroll through the list of parameters.
5. Hold down the Star key for 3 seconds to return to Operator mode.

For all Electric ovens with Modulating Heat (Pigtail Positions 6 and 7 used), except PS520E.

- a. Continue to Manually Loading PID Values.

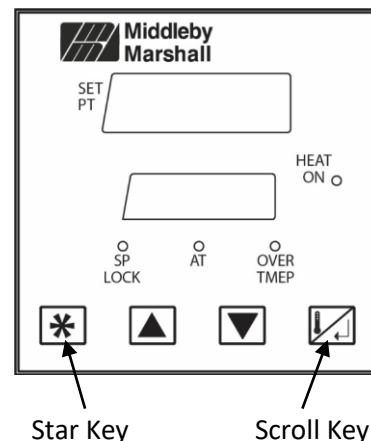
For all Gas ovens with Modulating Heat (Pigtail Positions 6 and 7 used)

- a. No further setup is required. Continue to Operating Instructions.

For all ovens with On/Off or Solenoid Heat (Pigtail Positions 10 and 11 used):

(Oven Models include PS570S, PS360, PS360WB, PS200, etc.)

- a. Hold down the Scroll key and press the up key to enter Select mode.
- b. Press the up key until "SEtP" appears in the upper display.
- c. Press the Scroll key to enter the Unlock Screen.
- d. Press the up key to enter the unlock code ("10"), then press the Scroll key to proceed.
- e. Press the Scroll key until parameter Pb_P is displayed.
- f. Use the down arrow key to set Pb_P to "0.0".
- g. Hold the Star key for 3 seconds to return to Operator mode. Continue to Operating Instructions.



For PS520E ovens only:

- a. Hold down the Scroll key and press the up key to enter Select mode.
- b. Press the up key until "ConF" appears in the upper display.
- c. Press the scroll key to enter the Unlock Screen.
- d. Press the up key to enter the unlock code ("20") then press the Scroll key to proceed.
- e. Press the Scroll key until parameter "tYP 2" is displayed.
- f. Use the up key to change the value of "tYP 2" to "0_10" (other ovens use 4_20).
- g. Press the Star key to confirm.
- h. Hold the Star key for 3 seconds to return to Operator mode. Continue to Manually Loading PID Values.

Mode	Upper Display	Lower Display	Description	Default Unlock Codes
Operator	<i>OPtr</i>	<i>SLCt</i>	Normal operation	None
Set Up	<i>SEtP</i>	<i>SLCt</i>	Tailor settings to the application	10
Configuration	<i>ConF</i>	<i>SLCt</i>	Configure the instrument for use	20
Product Info	<i>inFo</i>	<i>SLCt</i>	Check manufacturing information	None
Auto-Tuning	<i>Atun</i>	<i>SLCt</i>	Invoke Pre-Tune or Self-Tune	0

Note: In Configuration Mode, modified parameters must be confirmed by pressing the "star" key after making a change. The parameter will blink until the change is confirmed.

Manually Loading PID Values

For electric ovens, PID values need to be manually loaded. The control comes pre-loaded with gas oven PID values.

1. Hold the Scroll key and press the up key to enter the Select (SLCt) mode.
2. Use the up key until "SEtP" appears in the upper display.
3. Press the up key to enter the unlock code ("10"), then press the Scroll key to proceed.
4. Press the Scroll key until parameter "Pb_P" is displayed. Use the up key until the number from the table below is shown. Press the Scroll key to select.
5. Press the Scroll key to move to parameter "ArSt", then use the up key until the number from the table below is shown. Press the Scroll key to select.
6. Press the Scroll key to move to parameter "rAtE", then use the up key until the number from the table below is shown. Press the Scroll key to select.
7. Hold the Star key for 3 seconds to return to the operator screen. Continue to Operating Instructions.

Oven Type	Pb_P	ArSt	rAtE
PS540G	1.4	0.20	0.03
PS540E	1.7	0.53	0.13
Other Gas Ovens (default)	1.0	0.20	0.04
Other Electric Ovens	1.6	0.52	0.13
Solenoid Ovens (Pigtail positions 10 and 11 used)	0.0	N/A	N/A

Terminal Cross Reference Chart

Honeywell Terminals	Terminal Block Pole	West Terminals	Connection Purpose
L1	1	13	POWER
9	2	12	Output from Cool Down Relay (NO)
L2	3	14	NEUTRAL
11	4	20	Input to High Limit Relay (COMMON)
12	5	21	Output from High Limit Relay (NO)
16	6	22	PID or Variable Pulse Output
15	7	24	PID or Variable Pulse Output
8	8	2	TC (+) WHITE
7	9	3	TC (-) RED
5	10	8	Input to Temp Control Relay (COMMON)
4	11	9	Output to High Flame Solenoid or Heater Contactors (NO)
10	1	11	Input to Cool Down Relay (COMMON)

Proper Installation Checklist

1. Set the set point at the correct operating temperature.
2. Turn on the heat switch. Ensure the oven comes up to temperature and stays at temperature.
NOTE: HEAT LIGHT: For modulating ovens, the heat light will stay on at any effort above 0%, and will only turn off if the set point temperature is lowered below the current temperature. For solenoid ovens, the heat light will turn on when the solenoid is open and off when the solenoid is closed.
3. Turn off the blower switch. Ensure that the oven blowers remain running until the oven has dropped below 200°F, after which the oven will turn off.
4. After the oven has turned off, turn the blower switch back on again. Ensure that the oven operates normally.

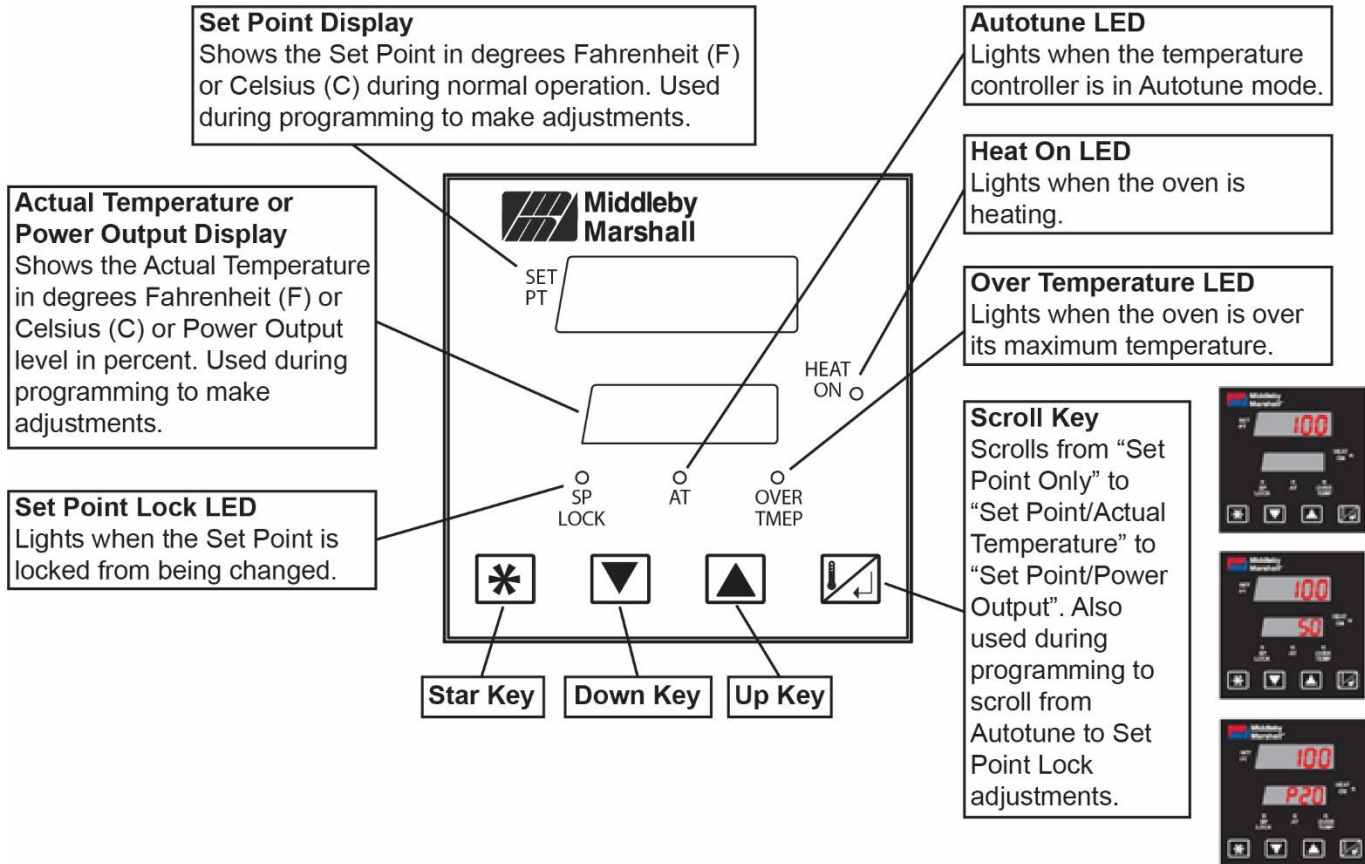
NOTE: If GoTo ConF displays after power is cycled:

- a. Turn the blower switch to start the oven without heat.
- b. When “GoTo ConF” displays, press the Scroll key to enter the Unlock Screen.
- c. Press the up key to enter the unlock code (“20”), then press the Scroll key to proceed.
- d. Press the scroll key 20 times to scroll through the entire list of parameters.
- e. Hold the Star key for 3 seconds to return to the Operator screen.
- f. “GoTo ConF” should not return.

Troubleshooting

Error Code or Situation	Description	Troubleshooting Steps
Upper Display: [HH] or [LL]	Temperature input is out of range.	Double check that the thermocouple wires are in the correct positions in the pigtail as well as on the temperature controller (WHITE in terminal 2 and RED in terminal 3).
Upper Display: OPEN	The controller does not detect Thermocouples.	Double check that the thermocouple wires are in the correct positions in the pigtail as well as the temperature controller. Ensure the terminal blocks are properly plugged together.
Upper Display: Err	There is an internal fault in the controller.	Turn off the power for at least 10 seconds, then turn it back on. If error does not clear, replace the defective controller.
Solenoid Ovens: Solenoid is not opening.	The Solenoid is not receiving power.	Check that parameter Pb_P is set to 0. Check that pigtail position 10 is connected to Line voltage and position 11 is connected to the solenoid.
All ovens: A relay is not working (cooldown relay, heat relay, high limit relay)	The relay is not receiving power.	Check that any jumpers (except L1-10) were transferred to the terminal block.

OPERATING INSTRUCTIONS



NOTE: After 1 minute of no key activity, the controller will go to "Set Point Only" with the lower display blank.

OPERATION ADJUSTMENTS

Adjusting the Set Point



The set point appears in the upper display and can only be adjusted when the lower display is blank. Press the Scroll key until you reach this "Set Point Only" display. Use the Up and Down keys to adjust the temperature. Holding in the pressed key will adjust

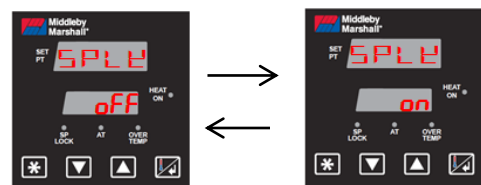
at a faster rate.

Adjusting for °F/°C

Press the Up and Down keys together for 3 seconds. The units will switch between Fahrenheit and Celsius.

PROGRAMMING ADJUSTMENTS

Locking and Unlocking Set Point



The Set Point can be locked so that it isn't changed during operation. Press the Star key for 3 seconds, then use the Scroll key to choose Set Point Lock. Use the Up and Down keys to turn the Set Point Lock on and off. Press the Star key for 3 seconds to exit.