

SERVICE MANUAL
for
Thermador
Professional Series
Built-in Wall Ovens

Models:
PO301, POD301, PO302, POD302,
PODC302, POM301, POMW301

This manual contains information that is necessary for servicing the following Thermador electric built-in wall ovens:

P0301, POD301, PO302, POD302, PODC302,
POM301, POMW301

This manual is designed to be used by qualified service personnel only. Due to the complexity and the risk of high-voltage electrical shock, Thermador does not recommend that customers service their own units.

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1 GENERAL

There are 7 models in the 2007 Thermador Professional Built-in Wall Oven (BIWO) Series. A, C, and D oven cavities are utilized, and combination models include a built-in variation of the WD30 warming drawer and/or an MCE convection microwave. A user interface with stainless steel knobs and analog clock, fast preheat, 2-hour self-clean, a 12-pass broil element, and a heavy duty rotisserie are among the features offered.

The control panel and door skins are grade 304 stainless steel.

1.1 Models

- PO301 Single oven without display
- PO302 Double oven without display
- POD301 Single oven with display
- POD302 Deluxe double oven with display
- PODC302 Deluxe double oven with display and true convection in both cavities.
- POM301 Combination oven with microwave
- POMW301 Triple combination oven with microwave and warming drawer

1.2 Features and Options

Table 1 reflects the cavity configuration and the features available in each model.

Thermador Professional Series Ovens: Features by Model

MODEL & CAVITY CONFIG	PO301 (Single:D)	PO302 (Double: D/A)	POD301 (Single:D)	POD302 (Double: D/A)	PODC302 (Double: D/C)	POM301 (Comb: Conv MW/D)	POMW301 (Comb: Conv MW/D/WD)
FEATURE							
Electronic Display	N/A	N/A	✓	✓	✓	N/A (MW only)	N/A (MW only)
True Conv	✓	U	✓	U	U	✓	✓
Speed Conv	✓	U	✓	U	✓	✓	✓
Conv Broil	✓	✓	✓	✓	L	✓	✓
Max Conv Broil	✓	U	✓	U	U	✓	✓
Conv Roast	✓	U	✓	U	✓	✓	✓
Bake	✓	✓	✓	✓	✓	✓	✓
Broil	✓	L	✓	✓	✓	✓	✓
MaxBroil	✓	U	✓	U	U	✓	✓
Roast	✓	✓	✓	✓	✓	✓	✓
Rotisserie	✓	U	✓	U	U	✓	✓
Warm	✓	✓	✓	✓	✓	✓	✓
Dehydrate	✓	U	✓	U	U	✓	✓
Fast Preheat	N/A	N/A	✓	U	✓	N/A	N/A
-Bake	N/A	N/A	✓	U	✓	N/A	N/A
-Roast	N/A	N/A	✓	U	✓	N/A	N/A
-Conv Roast	N/A	N/A	✓	U	✓	N/A	N/A
-True Conv	N/A	N/A	✓	U	U	N/A	N/A
2-Hour Self-clean	✓	✓	✓	✓	✓	✓	✓
Sabbath Mode	N/A	N/A	✓	✓	✓	✓	✓
Cook Control Temperature Probe	N/A	N/A	✓	U	U	✓	N/A
12-Pass Broil Element	✓	U	✓	U	U	✓	✓
10-Pass Broil Element	✓	L	✓	L	L	✓	✓
Timer	N/A	N/A	✓	✓	✓	N/A	N/A
Pro-Style Racks	2	5	2	5	5	2	2

✓ = feature included (on single oven or both upper and lower if double unit)
 U = feature included on upper oven
 L = feature included on lower oven
 [Red] = feature not available because upgraded feature is included
 N/A = feature not available

CAVITY KEY
 A = Thermal oven
 B = A + convection fan
 C = B + convection element
 D = C + Max element and rotisserie
 MW = Microwave
 WD = Warming Drawer

Table 1 Thermador Pro Series Features by Model

1.3 Data Plate

The data plate reflecting model number and FD number is located on the underside of the interface control panel, as shown in Figure 1.

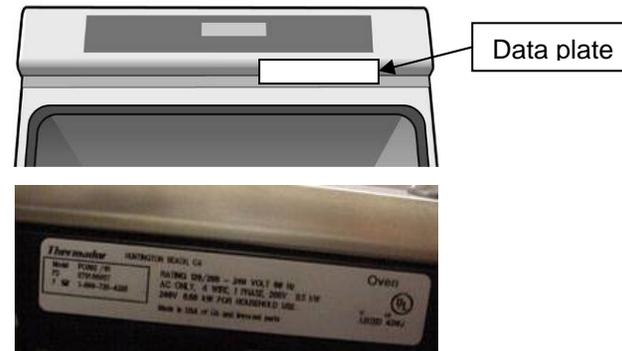


Figure 1 Data plate

The first 4 positions of the FD number reflect the year/month the product was produced. FD numbers that begin with 87 were built in 2007; 88 = 2008; 89 = 2009, etc.

1.4 Warranty

The product is warranted to be free from defects in materials and workmanship for a period of 12 months from date of purchase.

Thermador will pay for all repair labor and replacement parts found to be defective due to materials and workmanship. Service must be provided by a Factory Authorized Service Agency, during normal working hours.

Thermador assumes no responsibility for any repairs made on our products by anyone other than authorized service technicians.

Find the complete product warranty statement in the Use and Care Manual.

2 OPERATION

2.1 Element Duty Cycles

A new PID algorithm controls the way in which the elements cycle on and off during each cooking mode duty cycle. Every minute, the oven temperature is compared to the set point and a recalculation occurs, which results in varied element cycle times rather than the standard fixed 60-second cycle.

During preheating, however, a 2-point control is still used and there is a defined element on-time. The tables below reflect the duration and start point by preheat mode, for cavity types A, C, and D.

Technicians should have ample time to troubleshoot element problems during the ~10-minute preheat period.

It is important to note that during regulation (regular cooking period that follows preheat), different elements may be used and element duty cycles will vary.

CAVITY A ELEMENT DUTY CYCLE DURING PREHEAT								
PREHEAT MODE	BAKE ELEMENT		RING ELEMENT		INNER BROIL ELEMENT		OUTER BROIL ELEMENT	
	DURATION	START POINT	DURATION	START POINT	DURATION	START POINT	DURATION	START POINT
Bake	60	0			18	0		
Roast	45	15			33	0		
Broil					60	0		
Warm	36	12			12	0		
Self-clean	42	18			42	0		
Sabbath	60	0			18	0		

CAVITY C ELEMENT DUTY CYCLE DURING PREHEAT								
PREHEAT MODE	BAKE ELEMENT		RING ELEMENT		INNER BROIL ELEMENT		OUTER BROIL ELEMENT	
	DURATION	START POINT	DURATION	START POINT	DURATION	START POINT	DURATION	START POINT
Bake	60	0			18	0		
Roast	45	15			33	0		
Broil					60	0		
Convection Bake	42	18			30	0		
Convection Roast	45	15			33	0		
Convection Broil					60	0		
True Convection	30	30	30	30	30	0		
Warm	36	12			12	0		
Dehydrate			30	0				
Proof	18	0			18	30		
Self-clean	42	18			42	0		
Speed Convection	60	0	60	0	54	0		
Pizza	60	0			18	0		
Pie	60	0			18	0		
Sabbath	60	0			18	0		

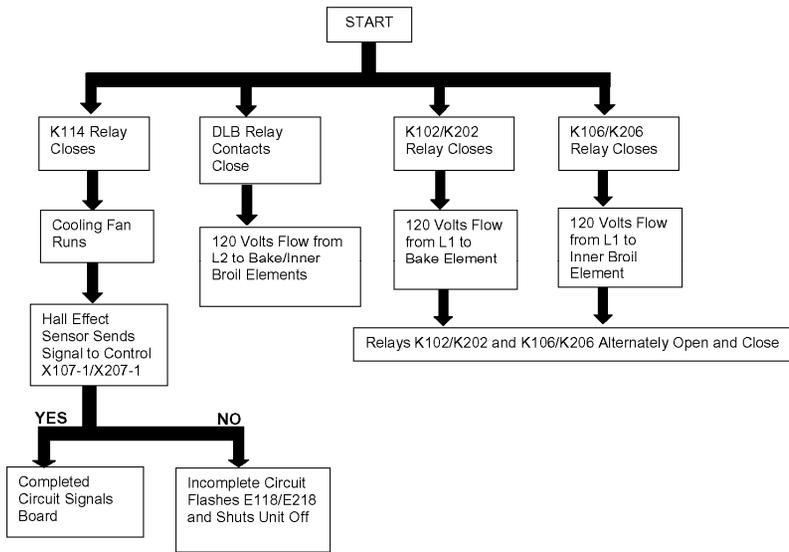
CAVITY D ELEMENT DUTY CYCLE DURING PREHEAT								
PREHEAT MODE	BAKE ELEMENT		RING ELEMENT		INNER BROIL ELEMENT		OUTER BROIL ELEMENT	
	DURATION	START POINT	DURATION	START POINT	DURATION	START POINT	DURATION	START POINT
Bake	60	0			18	0		
Roast	45	15			33	0		
Broil					60	0		
Convection Bake	42	18			30	0		
Convection Roast	45	15			33	0		
Convection Broil					60	0		
True Convection	30	30	30	30	30	0		
Warm	36	12			12	0		
Dehydrate			30	0				
Proof	18	0			18	30		
Self-clean	48	12			48	0		
Maxi Broil					60	0	60	0
Speed Convection	60	0	60	0	54	0		
Maxi Convection Broil					60	0	60	0
Pizza	60	0			18	0		
Pie	60	0			18	0		
Maxi Rotisserie					60	0	60	0
Rotisserie					60	0		
Sabbath	60	0			18	0		

Tables 2, 3, and 4 Element duty cycle during preheat - by cavity

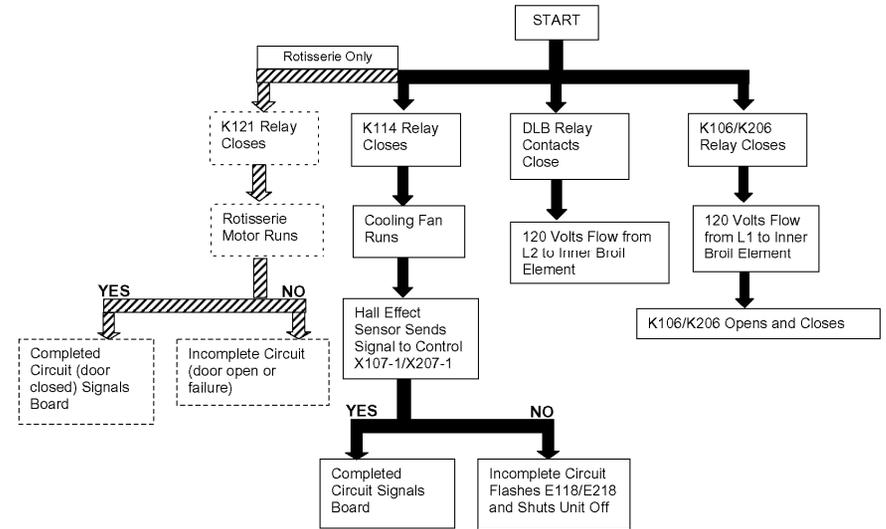
2.2 Sequence of Events

Figures 2-8 that follow reflect the sequence of events that occurs during preheat for the various cooking modes.

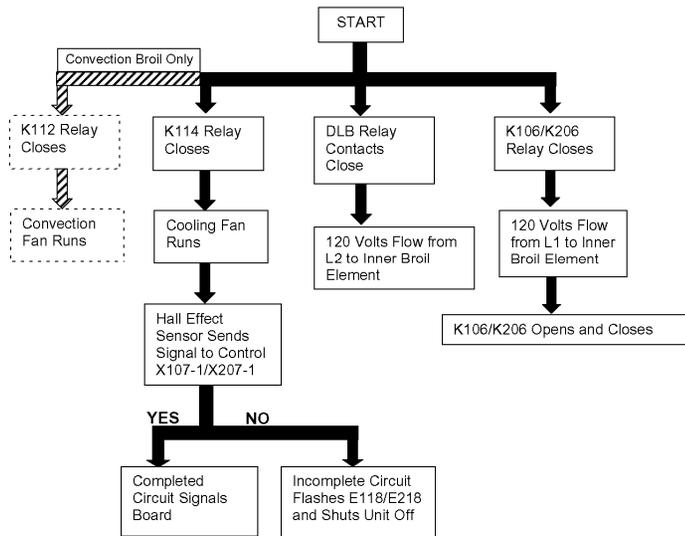
Bake/Roast/Warm/Proof/Pizza/Pie/Sabbath Mode



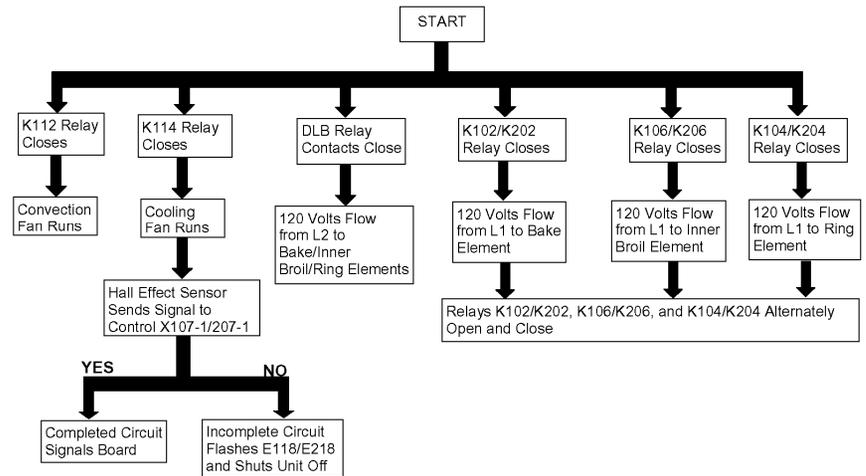
Rotisserie Mode



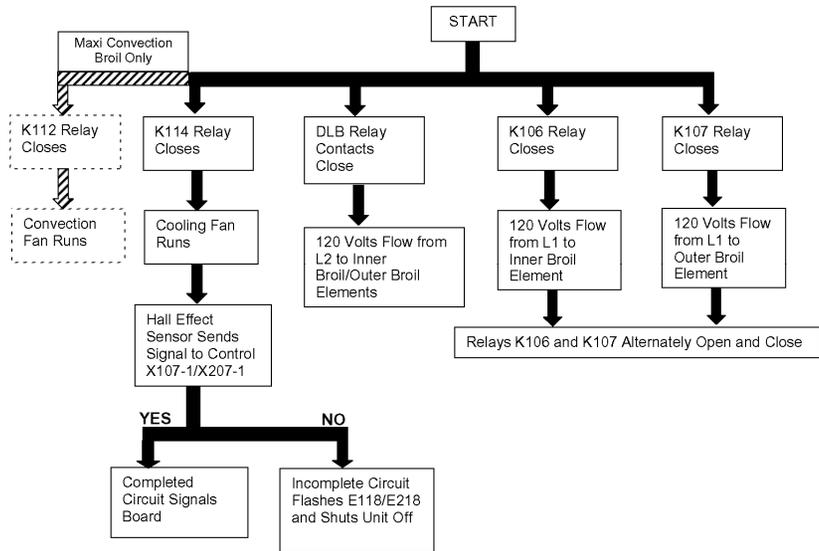
Convection Broil/Broil Mode



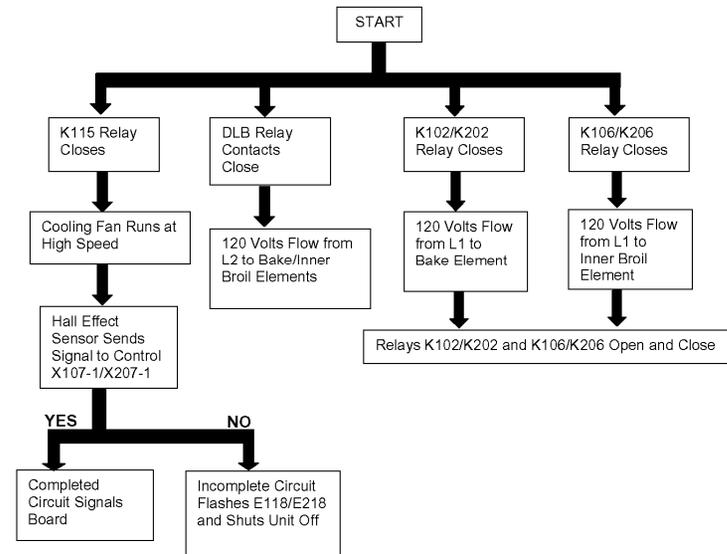
True Convection/Speed Convection Mode



Maxi Convection Broil/Maxi Broil Mode

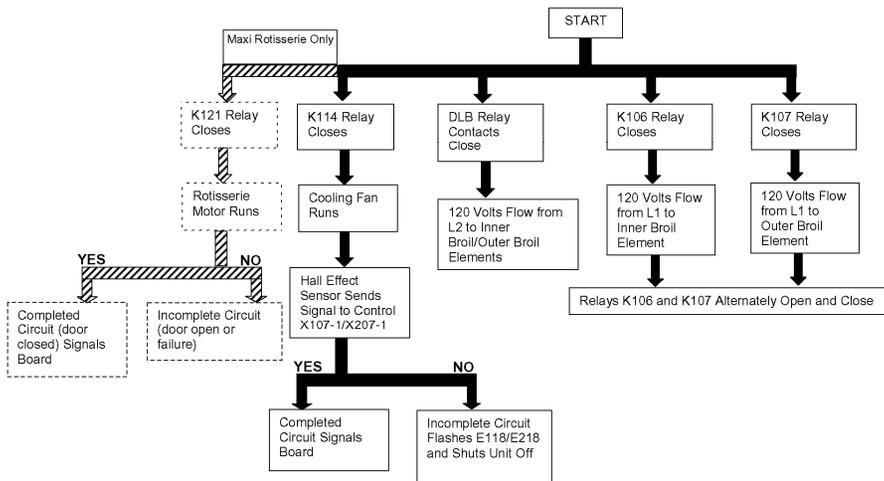


Self-clean Mode



Figures 2-8 Sequence of events

Maxi Rotisserie Mode



3 COMPONENT ACCESSIBILITY

3.1 Serviceable from Front

- Door
- Door latch/motor assembly
- Cavity lamps
- High Temperature Cutout (HTC)
- Convection ring element and convection fan assembly (except motor)
- Temperature sensor
- Inner and outer broil elements

The User Interface is serviceable from the front after sliding the oven out from the wall ~ 4 inches.

3.2 Serviceable from Top

The PC Control Module is serviceable from the top access panel after sliding the oven out from the wall ~16 inches.

With the unit pulled completely away from the wall, the following components are serviceable from the top after removing the top panel:

- Halogen light transformers
- Terminal block
- Power supply

3.3 Serviceable from Rear

With the unit pulled completely away from the wall and the back panel(s) removed, the following components can be serviced from the rear:

- Convection fan motor
- Bake element
- Cooling fan(s)
- Rotisserie motor

4 SERVICE AND REPAIR

CAUTION

- ✓ Sheet metal parts often have sharp edges. Avoid injury by handling these parts with care.
- ✓ Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.
- ✓ For those checks requiring the use of electrical power, exercise extreme care.

4.1 Doors

The doors on the double ovens are different, but interchangeable. The Thermador logo is located on the upper cavity door.

The Pro Series handles are interchangeable with the Masterpiece Series handles.

CAUTION

- Avoid injury when removing and replacing oven doors.
- ✓ Be sure oven is cool enough for handling.
 - ✓ Position hinges properly (see Figure 9).
 - ✓ Grasp only by sides, not by the handle.
 - ✓ Do not force door open or closed.
 - ✓ Handle with care—door weighs ~38 pounds.

4.1.1 Removing and Replacing the Door(s)

To remove the door:

1. Open door completely.
2. Flip hinge levers back to open.
3. Close door until it remains open ~6 inches.
4. Using both hands, lift door up and out.

To replace the door:

1. Position door as if it were open ~6 inches and insert hinges into slots.
2. Open door completely.
3. Flip hinge levers forward to close.
4. Close and open door to check operation.

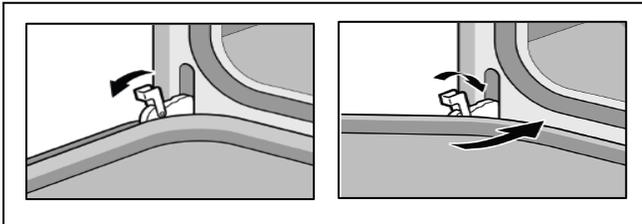


Figure 9 Opening (left) and closing (right) door hinges

4.2 Door Latch/Motor Assembly

The motorized door latch (MDL) mechanism (120V 5W) has 2 switches - the door switch and the lock/unlock switch. The latch will automatically lock when mode and temperature selectors are set to CLEAN, and unlocks when the oven cools to ~490°F. It is serviced as an assembly. See Figure 10.

If the latch becomes stuck in the locked position, turning the unit off and back on will open the latch if the cavity temperature <450°. If latch is stuck in partially locked position, turn the mode selection knob to CLEAN, then to OFF.

In models with a display, the latch can be tested in Service Mode.

To remove the latch/motor assembly:

1. Remove 3 T20 screws securing trim piece to frame (do not remove 2 screws on either side of latch).
2. Pull trim forward about 1", then slightly to the right or left to clear the screw tab (see Figure 10).
3. Slip hands under trim and lift upper plate while sliding trim and latch toward you.

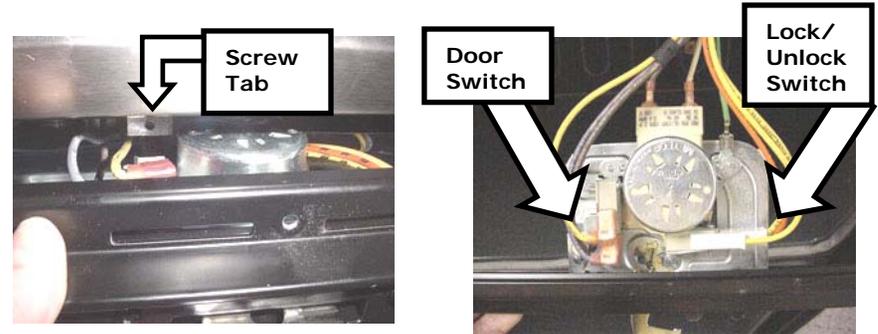


Figure 10 Door latch/motor assembly

4.3 Lamps

Softlight is a feature in all oven Pro Series oven cavities, and a triac is used to switch the voltage. The lights will gradually fade in when turned on, and fade out when turned off.

If this feature is not working properly, check the pin-out of X105 to verify that pin 6 (Softlight triac output) is utilized rather than pin 5 (relay output). On double ovens, verify that pin 4 on X205 (Softlight triac output) is utilized rather than pin 3 (relay output). If the pin-out is correct, replace the control module.

There are 4 halogen lamps in each Pro Series cavity: 1 on each side, and 2 on the oven ceiling. Double oven lights are operated by a series of button pushes as shown in Table 5.

LIGHT Button	Upper Oven Lights	Lower Oven Lights
1 st Touch	ON	OFF
2 nd Touch	ON	ON
3 rd Touch	OFF	ON
4 th Touch	OFF	OFF

Table 5 Double oven lighting operation

4.3.1 Replacing Lamps

Use 10-watt, 12-volt bi-pin halogen light bulbs (Part # 187385).
Halogen bulbs must be handled with a clean, dry cloth.

CAUTION

- ✓ Turn off power to the oven at the fuse or breaker box—light socket is live with door open.
- ✓ Be sure oven and lights are cool to the touch.
- ✓ Handle glass lenses carefully.

4.3.1.1 Side Lamps

1. Remove racks and rack support.
2. **Firmly** push the top mounting clip up and back (toward oven wall), until it releases the glass cover.
3. Pull the halogen bulb straight out from its socket.
4. Using a clean, dry cloth, insert the new bulb.
5. Reinsert the bottom of the glass cover (smooth side out) into the bottom clip, and firmly push the top of the cover into the upper clip until it snaps into place.

4.3.1.2 Ceiling Lamps

1. Unscrew glass cover.
2. Pull bulb straight out of its socket.
3. Using a clean, dry cloth, insert the new bulb.
4. Replace the glass cover.

4.4 High Temperature Cutout (HTC)

The HTC is a normally closed switch that will interrupt the relay supply voltage in the event of a high temperature caused by a malfunctioning control module.

The HTC is located in the plenum, behind and to the left of the MDL. Although it cannot be easily removed or replaced, a screwdriver can

be used to reach the reset button located on the top center of the HTC after the latch plate has been removed.

4.5 Convection Fan and Ring Element

All models in the Pro Series are configured with one or more oven cavities that have both the convection fan and ring element (cavity type D). The lower cavity of the PODC302 has the convection fan only (cavity type C), and the lower cavities of the PO302 and POD302 offer strictly thermal heating (cavity type A).

The fan may be used, with or without the ring element, to circulate heat evenly throughout the cavity in various cooking modes.

The ring element (240V 2000W) and/or fan blade are easily accessed on the rear wall of the oven cavity behind the convection baffle. The convection fan motor is accessible only from the rear of the unit.

Refer to the Element Strip Diagram to test the element at the control module, or:

1. Remove 2 T20 screws on either side of the element terminals.
2. Pull the element toward you so that terminal wires are inside the oven cavity.
3. Disconnect the wires from the terminals.
4. Use an ohmmeter to check for resistance of ~29 ohms.

4.6 Temperature Sensor

Use an ohmmeter to check the resistance of the sensor. Normal ranges based on cavity temperature are shown in Table 6.

TEMP. (°F)	RESISTANCE
32 ± 1.9	1000 ± 4.0
75 ± 2.5	1091 ± 5.3
200 ± 3.8	1350 ± 7.8
250 ± 4.4	1453 ± 8.9
350 ± 5.4	1654 ± 10.8
450 ± 6.9	1852 ± 13.5
550 ± 8.2	2047 ± 15.8
650 ± 9.6	2237 ± 18.5
865 ± 13.0	2634 ± 23.5
900 ± 13.6	2697 ± 24.4

Table 6 Normal temperature sensor resistance readings

On models with a display, real-time cavity temperature can be measured while in Service Mode (refer to the section entitled *Service Mode* or the *Service Guide* for instructions). After entering Service Mode, press the + MAX button once to display the real-time upper cavity temperature; a second press will display the upper cavity probe temperature. For lower oven readings, press the LIGHT button.

4.6.1 Setting Temperature Offsets

If it becomes necessary to adjust the ongoing operating temperature of one or both oven cavities, offsets may be programmed on models with a display.

Oven temperature offsets can be entered to raise or lower the cavity temperature during Bake, Convection Bake, Roast, Convection Roast, and Speed Convection modes. To access the 5° incremental offset selections, simultaneously press FAST PREHEAT and ⊕ for cavity 1 or FAST PREHEAT and ⊖ for cavity 2, for 5 seconds. After confirming that *Upper* or *Lower* is correctly illuminated in the

display, press ⊕ to enter a positive offset or ⊖ to enter a negative offset.

A +25° offset will result in a cavity temperature of 350° when the temperature knob is set to 325° for any of the cooking modes listed above. Similarly, a -25° offset will result in a cavity temperature of 300° when the temperature knob is set to 325°.

4.7 Broil Element(s)

All single oven models, as well as the upper cavity of double oven models, have a 12-pass broil element that consists of an Inner Broil Element (240V 3600 W) and an Outer Broil Element (240V 1400W). In the lower cavity of double oven models, the 10-pass Inner Broil Element is used (240V 3600W).

Refer to the Element Strip Diagram to test the element at the control module, or:

1. Remove the 4 T20 screws securing the element to the broil reflector.
2. Remove the 2 T20 screws on either side of the element terminals.
3. Pull the element toward you so that the terminal wires are inside the oven cavity.
4. Disconnect the wires from the inner broil element terminals.
5. Use an ohmmeter to check for resistance of ~16 ohms.
6. Disconnect the wires from the outer broil element terminals (if applicable).
7. Use an ohmmeter to check for resistance of ~41 ohms.

4.8 User Interface

Figure 11 reflects the 5 variations of the T3 User Interface used in the Pro Series ovens. Three have an LED display:

- ❶ T3S1-POD301/POM301/POMW301, ❷ T3D1A-PODC302,
- ❸ T3D1B-POD302, and 2 without display: ❹ T3S2-PO301,
- ❺ T3D2-PO302.



Figure 11 T3 User Interface variations

The temperature selector is an encoder with 23 positions; position 0=OFF and position 22=CLEAN. Rotary switches are used for cooking mode selectors, and the number of switch positions will vary by model (either 6 or 12).

The user interface control board, clock, and rotary setting devices are assembled onto a chassis and the entire assembly is serviced as a single unit.

NOTICE

- The Pro User Interfaces require a relatively long start-up. There will not be a response if attempting to operate the unit during the first ~20 seconds after power-up.
- If the oven does not appear to be functioning properly (it will not heat or the display does not look normal), a power reset should be performed (preferably by the customer) before service is requested.

4.8.1 Removing the User Interface

1. Slide unit out from wall ~ 4 inches.
2. Remove 2 T20 bolts from each side.
3. Grasp one corner of the interface panel and lift upward, then pull it toward you (see Figure 12).
4. Repeat on the other side.
5. Disconnect the 3-wire yellow harness leading to PC Control Module.

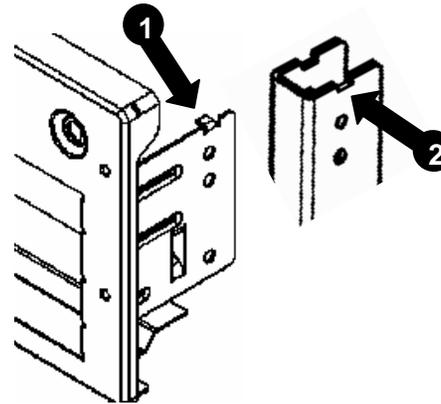


Figure 12 Each side of the user interface bracket has a tab ❶ that rests in a slot on the chassis u-profile ❷.

To remove the User Interface Board and chassis from the stainless steel panel:

1. Remove all knobs.
2. Rotate clock bezel counterclockwise.
3. Remove 10 binding-head T20 screws securing the interface chassis to the bracket (these screws are unique to the interface – notice the serrated underside).

After installing a new User Interface Board, always reset the oven and test. In some cases, a second reset may be necessary.

4.9 PC Control Module

To access the PC Control Module, pull the unit out from the wall 15-16 inches, and remove the access panel (3 T20 screws) on the top of the unit. See Figure 13.

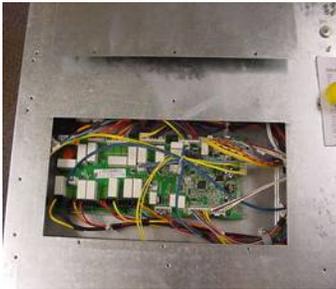


Figure 13 PC Control Module is visible after removing access panel.

Whenever possible, conduct troubleshooting tests at the control module. Refer to Figures 14-16 for plug and relay locations.

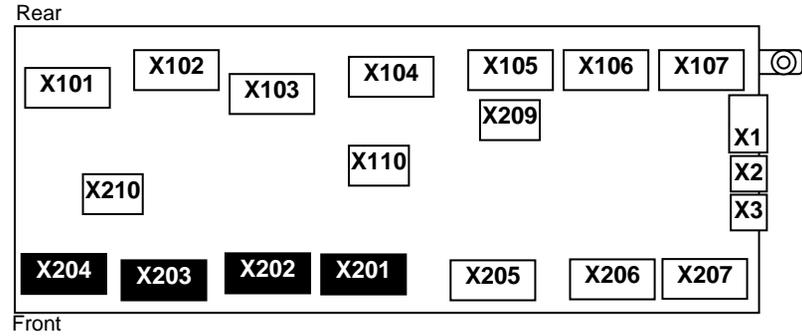
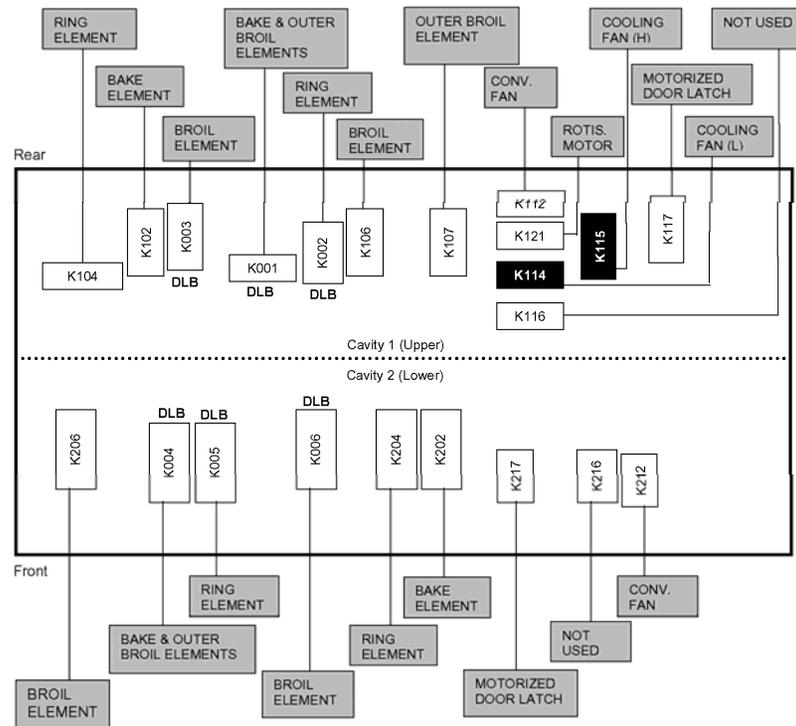


Figure 14 Plug locations on the double oven control module

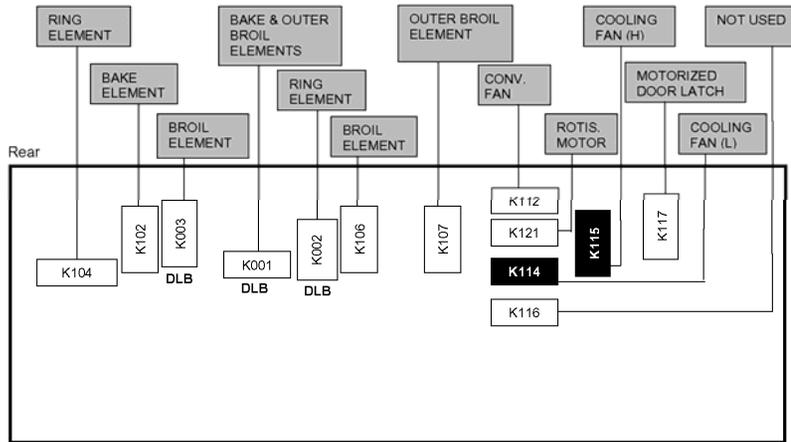
PC Control Board Relay Diagram: PO302, POD302, POC302



NOTICE

More than 75% of the control modules returned to the factory are fully functional. Before diagnosing a bad control module, be sure to disconnect and reconnect each wire/wire harness.

PC Control Board Relay Diagram: PO301, POD301, POM301, POMW301



Front

Figures 15 and 16 Relay locations on the double and single oven control modules

Use Table 7 as a reference guide to the plugs, pins, and wire colors found on the PC Control Module.

PLUG NO	PIN NO	FROM/TO
COMMUNICATION		
X1	5-position card-edge connector - WH	Control Module to Power Supply Module
X2	3-position card-edge connector - YE	Control Module to User Interface Module
X3	3-position card-edge connector - YE	Control Module to Factory Service Port
X108*	2-position card-edge connector - WH/GN	Control Module to Meat Probe
UPPER/SINGLE CAVITY ELEMENTS		
X101	1-OR	K102 Relay to Ring Element
	2-BK	L1 to K102 Relay
	3-Blank	N/A
	4-BK	L1 to K104 Relay
	5-Blank	N/A

PLUG NO	PIN NO	FROM/TO
X102	6-BU	K104 Relay to Bake Element
	1-YE	K003 DLB Relay to Inner Broil Element
	2-Not Used	N/A
	3-Blank	N/A
	4-RD	L2 to K003 DLB Relay
X103	5-RD	L2 to K003 DLB Relay
	1-BU	K002 DLB Relay to Ring Element
	2-RD	L2 to K002 DLB Relay
	3-Blank	N/A
	4-RD	L2 to K001 DLB Relay
	5-Blank	N/A
	6-OR	K001 DLB Relay to Bake Element
7-VT	K001 DLB Relay to Outer Broil Element	
X104	1-VT	K107 Relay to Inner Broil Element
	2-Blank	N/A
	3-BK	L1 to K107 Relay
	4-BK	L1 to K106 Relay
	5-BK	L1 to K106 Relay
	6-Blank	N/A
	7-Not Used	N/A
	8-YE	K106 Relay to Inner Broil Element
X110	1-BU	High Temperature Cutout (HTC)
	2-Not Used	N/A
	3-BU	High Temperature Cutout (HTC)
UPPER/SINGLE CAVITY SMALL LOAD		
X105	1-GR	K121 Relay to Rotisserie Motor
	2-YE	K112 Relay to Convection Fan
	3-BU/WH	K114 Relay to Cooling Fan (L)
	4-BU	K115 Relay to Cooling Fan (H)
	5-Not Used	N/A
	6-BN	Softlight Triac to Lights

PLUG NO	PIN NO	FROM/TO
	7-BN	K117 Relay to Motorized Door Latch (MDL)
	8-RD	L2 to K117 Relay
X106	1-YE	Door Switch
	2-YE	Door Switch
	3-Not Used	N/A
	4-YE/BK	Latch Switch
	5-OR/BK	Latch Switch
	6-VT/WH	Door Switch
	7-BN/WH	Door Switch
	X107	1-WH
2-BK		Hall Effect Sensor
3-RD		Hall Effect Sensor
4-WH		Temperature Sensor
5-WH		Temperature Sensor
X110	1-BU	High Temperature Cutout (HTC)
	2-Not Used	N/A
	3-BU	High Temperature Cutout (HTC)
LOWER CAVITY ELEMENTS		
X201	1-BU **	K204 Relay to Ring Element
	2-Blank	N/A
	3-Blank	N/A
	4-BK **	L1 to K204 Relay
	5-BK	L1 to K202 Relay
	6-Blank	N/A
	7-OR	K202 Relay to Bake Element
X202	1-RD	L2
	2-RD	L2 to K006 DLB Relay
	3-Not Used	N/A
	4-Not Used	N/A
	5-YE	K006 DLB Relay to Broil Element
X203	1-OR	K004 DLB Relay to Bake Element

PLUG NO	PIN NO	FROM/TO
	2-Not Used	N/A
	3-RD	L2 to K004 DLB Relay
	4-Blank	N/A
	5-RD **	L2 to K005 DLB Relay
	6-Blank	N/A
	7-BU **	K005 DLB Relay to Ring Element
	X204	1-YE
2-Not Used		N/A
3-Blank		N/A
4-BK		L1 to K206 Relay
5-BK		L1 to K206 Relay
X210	1-BU	High Temperature Cutout (HTC)
	2-BU	High Temperature Cutout (HTC)
	3-Not Used	N/A
LOWER CAVITY SMALL LOAD		
X205	1-YE **	K212 Relay to Convection Fan
	2-RD	L2 to K217 Relay
	3-Not Used	N/A
	4-BN	Softlight Triac to Lights
	5-Not Used	N/A
	6-BN	K217 Relay to Motorized Door Latch (MDL)
X206	1-YE	Door Switch
	2-YE	Latch Switch
	3-YE/BK	Latch Switch
	4-OR/BK	Latch Switch
	5-Not Used	N/A
	6-VT/WH	Door Switch
	7-BN/WH	Door Switch
X207	1-WH	Hall Effect Sensor
	2-Not Used	N/A
	3-WH	Temperature Sensor

PLUG NO	PIN NO	FROM/TO
	4-RD	Hall Effect Sensor
	5-BK	Hall Effect Sensor
	6-WH	Temperature Sensor
X209	1-BU/WH	X105-P3 to Cooling Fan (L)
	2-BU	X105-P4 to Cooling Fan (H)
* POD models only ** PODC only		

Table 7 Plugs and pins on the PC control module

To remove the PC Control Module:

1. Disconnect all wires.
2. Remove 1 T20 screw securing control module to chassis.
3. Slide module to the left to release the 3 tabs on the bottom of the module bracket from the 3 slots in the chassis.

Always reset the oven and test after changing the control module. In some cases, a second reset may be necessary.

4.10 Power Supply Module

The power supply module (9.6V 12.5W) provides DC voltage to the control module and user interface.

4.11 Halogen Light Transformer(s)

One transformer (120V-12V 40VA) is utilized per cavity. Triac switches 120 VAC to the transformer. There are 4 terminals on the new transformer, as shown in Figure 17.

The resistance between the primary terminals should measure ~12.8 ohms and the resistance between the secondary terminals should measure ~0.32 ohms.

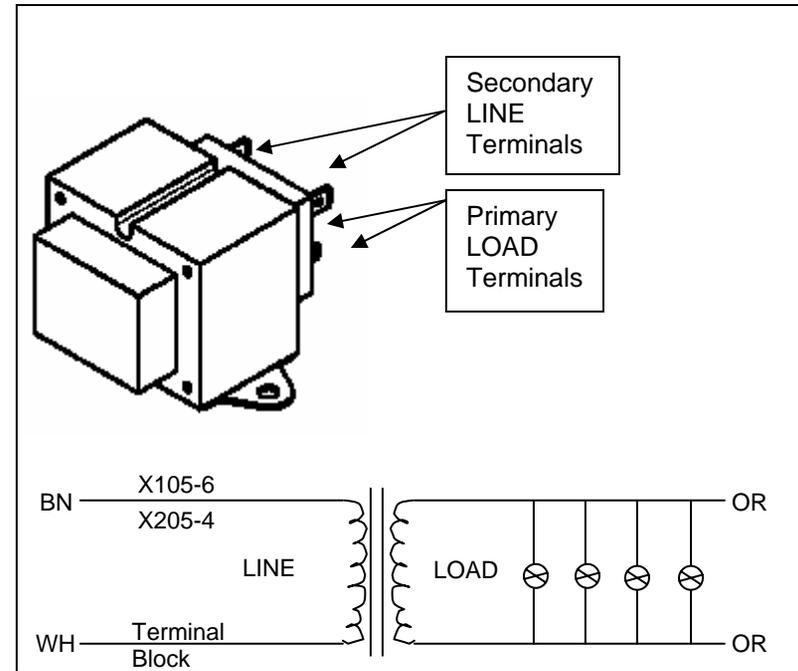


Figure 17 Halogen light transformer

4.12 Convection Fan Motor

The convection fan motor is 120V 29W. To test the motor, check for 120V across X105 / Pin 2 (upper/single) or X205 / Pin 1 (PODC) and chassis ground or neutral.

The motor is accessible from the rear, after removing the rear outer sheet metal panel.

1. Disconnect the 2 wires from the motor terminals.
2. Remove 3 T20 screws from the arms of the motor assembly.
3. Use a tap and a hammer to dislodge the assembly from the clips that secure it to the rear of the unit. (Position tap on the arm secured by the rightmost clip.)

4.13 Bake Element (Upper Oven)

Refer to the Strip Element Diagram to test the element (240V 2000W) at the control module, or disconnect the wires from the terminals and use a meter to check for a reading of ~29 ohms.

To clear a path for removing the bake element, it is necessary to remove the vertical air channel(s) and disconnect wires. Before proceeding, note the position of the wires.

4.13.1 Removing the Bake Element

1. Pull wires out of plastic purse locks attached to upper and lower vertical air channels.
2. Remove upper air channel (4 T20 screws).
3. To create a pathway for the bake element, disconnect OR wires from upper and lower bake element terminals; YE from convection element terminals, BU/WH, BU, and WH from cooling fan motor.
4. Drape the wires/harnesses to the side so they do not block the element as it is pulled out.
5. Remove the screw between the element terminals.
6. Tuck insulation up into the oven wall as necessary.
7. While holding element terminals, lift element upward to clear the outer edge of the compartment.
8. Hold element on both sides and lift upward as you slide it straight out.

4.13.2 Reinstalling the Bake Element

There are 2 tabs inside the element cavity, and the front tab will prevent the element from going in all the way. Use a ruler or the vertical air channel (after removing plastic purse locks) as a tool to guide the element back in.

1. Place the tool inside the cavity, on top of the tab, then insert the element on top of the tool and slide it in.

2. After the element is beyond the front tab, remove the tool.
3. Complete the installation.
4. Replace the plastic purse locks clips if they were removed from the vertical air channel.

4.14 Cooling Fan Motor (Upper Oven)

Each 2-speed cooling fan (120V 28/41W) has 3 terminals (high speed, low speed, and neutral) and a Hall effect sensor. There is tape around the motor windings and the terminals are labeled N, H, and L for reference, as shown in Figure 18.



Figure 18 Tape on cooling fan windings marked to designate terminals

If the Hall effect sensor does not detect fan rotation, an error will display. To test the upper fan at the control module, check voltage across X105 / Pin 3 or 4 and neutral.

1. Remove 3 T20 screws securing the fan to the mounting bracket.
2. Remove 3 T20 screws securing the bracket to the oven housing.
3. Slide bracket up and out to release it from the 2 tabs holding it in position.
4. Remove 3 T20 screws from the right side of the unit's top panel.
5. Lift the right corner of the top panel and remove the fan/motor.

4.15 Rotisserie Motor

If the rotisserie does not turn with the door closed and the oven in a rotisserie mode, replace the rotisserie motor (120V 12W).

The maximum weight allowed on the rotisserie spit is 12 lbs.

5 ERROR CODES

A *Service Guide* with error code information, wiring diagrams, and instructions for entering Service Mode (if applicable) is packed with every unit. Find it on the underside of the upper plenum access panel as shown in Figure 19.

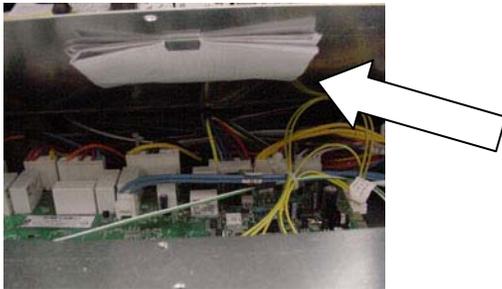


Figure 19 Location of *Thermador Built-in Oven Service Guide*

5.1 How Error Codes are Communicated

On models without a digital display, error codes are communicated through a series of 3 LEDs on the User Interface (see Figure 20) blinking at a frequency of .5 seconds on and .5 seconds off.

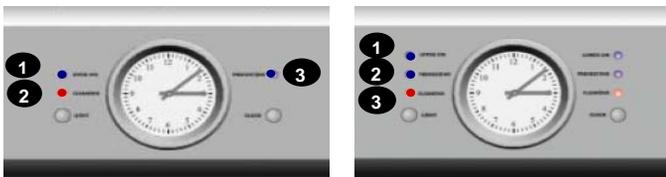


Figure 20 LEDs used to communicate error codes on the PO301 user interface (left) and PO302 user interface (right)

- LED1 communicates the left digit of the error code.
- LED2 communicates the middle digit of the error code.
- LED3 communicates the right digit of the error code.

For example, Error Code 115 is displayed by 1 blink of LED1, 1 blink of LED2, and 5 blinks of LED3. After a 1 second pause, the end of the code series will be signaled by LED1, LED2, and LED3 turning on for 1 second. The sequence will then repeat.

On models with digital display, digital error codes will show to the right of the clock (see Figure 21), and blink at a frequency of 2 seconds on, .5 second off. Clear the error by touching the + and – buttons simultaneously.

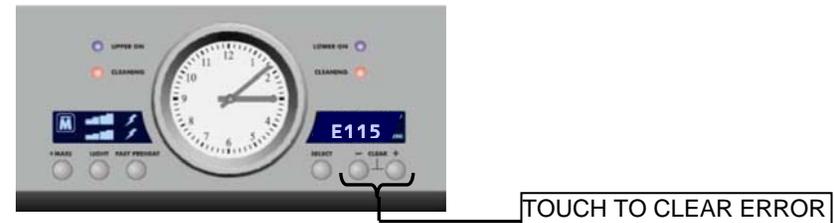


Figure 21 Error code 115 displayed on POD302/PODC302 user interface

5.2 Error Code Table

The following table is included in the PO302/POD302/PODC302 *Service Guide*. (The same error code information applies to PO301/POD301/POM301/POMW301 models except for the E2xx codes, which only apply to models with 2 cavities.)

Diagrams referenced in the table can be found in the appropriate *Service Guide*.

CODE	DESCRIPTION	CAUSE/ACTION
E000	Wrong module combination	Control module and user interface are mismatched. Set Option Code properly.

CODE	DESCRIPTION	CAUSE/ACTION
E003	Electronics too hot	User interface exceeds 185°F/85°C
E005	Communication error	Loss of communication between user interface and control module. Start-up error. Check connection of all communication lines and control module inputs.
E009	ROM check error in user interface	
E010	Data memory error in user interface	
E011	Continuous pushing of single key	Check user interface assembly. Inspect touch PCB.
E012	Defective User Interface PCB temp. sensor	
E014	ON/OFF key does not work	
E032	Continuous pushing of keys	10 seconds of multiple keys being pressed.
E101/E201	Cvt 1/Cvt 2 Temp. sensor open	Refer to Diagram 2/4
E104/E204	Cvt 1/Cvt 2/Temp. sensor shorted	Refer to Diagram 2/4
E106/E206	Cvt 1/Cvt 2 Door latch does not lock	Refer to Diagram 2/4
E107/E207	Cvt 1/Cvt 2 Door latch does not unlock	Refer to Diagram 2/4
E115/E215	Cvt 1/Cvt 2 Temp. in unlocked cavity too high	
E116	Cvt 1/Cvt 2 Probe error	Standard probe module is part of the control module. Refer to Diagram 1.
E118/E218	Cvt 1/Cvt 2 Cooling fan supervision error	Cooling fan speed is too low or too high. Refer to Diagram 2/4.
E122	Cvt 1/ Probe sensor temp. too high	
E123	Cvt 1/ Probe sensor temp. too low	
E124/E224	Cvt 1/Cvt 2 Door switch error	Door switch is in undefined state. Refer to Diagram 2/4.
E126/E226	Cvt 1/Cvt 2 Door latch error	Door latch is in an undefined state. Refer to Diagram 2/4.
E303	Electronics too hot	Control module exceeds 212°F/100°C.
E309	ROM Check error in control module	
E310	Data memory error in control module	

CODE	DESCRIPTION	CAUSE/ACTION
E312	Defective control module PCB temp. sensor	

Table 8 Error codes

6 SERVICE MODE

Only the PODx models with a display have Service Mode capabilities.

1. Set oven mode knob(s) to OFF.
2. Set upper oven temperature knob to 100°.
3. Press SELECT, , and  simultaneously for 5 seconds. (P5.1 will appear in the display.)

A button press or change in mode knob will prompt a response.

Service mode will terminate when the upper oven temperature knob is turned, an oven cavity exceeds 400°, or when idle time exceeds 5 minutes.

7 OPTION CODE

The Option Code on Pro Series ovens is programmed in memory and will automatically transfer to the User Interface board and PC Control Module when necessary. Option Codes are provided in Table 9 for information purposes only.

MODEL	OPTION CODE	MODEL	OPTION CODE
PO301	0550	PO302	1050
POD301	0551	POD302	1051
PODC302	1251	POM301	0550
POMW301	0550		

Table 9 Option codes

8 DEMO MODE

The display and lights will work on 120VAC when the black and red wires are tied together.

9 TROUBLESHOOTING

Test with wire harness off at pin header or with circuits open.

Plug	Pins	Operates	Explanation
X102 and X103	4, 5 2, 4	Upper oven double line break relay coil	No fail code. If double line break relay does not close, L2 (120 volts) will not reach upper oven bake, broil, convection elements.
X105	7	Upper door latch motor	Will accept all modes except self-clean. When oven set to self-clean, display will be on constantly, doors will not lock and self-clean will not start. E106 will appear.
X105	6	Upper oven convection motor	No fail code. Lower oven convection motor will not work.
X105	1	Rotisserie motor	No failure code. Rotisserie will not rotate.
X106	1 (common), 6, 7	Upper oven door latch	If latch position is not detected during normal operation, E124/126 will be displayed.
X107	4, 5	Upper oven sensor	Controls function normal. When sensor opens, E101 code will appear. If sensor shorts, E104 will appear. Cooling fan is on constantly.
X107 X207	1, 2, 3 1,4,5	Cooling fan motors	Will accept modes. In ~45 seconds, E118 will appear in upper oven display or E218 will appear in lower oven display when hall sensor does not detect fan rotation.
X202 and X203	1, 2 3, 5	Lower oven double line break relay coil	No fail code. If double line break relay does not close, L2 (120 volts) will not reach lower oven bake, broil, convection elements.

Plug	Pins	Operates	Explanation
X205	6	Lower door latch motor	Will accept all modes except self-clean. When oven set to self-clean, display will be on constantly, doors will not lock and self-clean will not start. E206 will appear.
X205	1	Lower oven convection motor	No fail code. Lower oven convection motor will not work. Relay will snap closed.
X206	1 (common), 6, 7	Lower oven door latch	If latch position is not detected during normal operation, E224/226 will be displayed.
X207	3, 6	Lower oven sensor	Control functions normal. When sensor opens, E201 code will appear. If sensor shorts, E204 will appear. Cooling fan is on constantly.
X2		Sends display signal to display	Glass control panel is completely dead. 3-position connector (ground/voltage/data line) should measure 9.6 VDC.
X2		Sends communication signals to display	If no communication between electronic modules, E005 will display. Connector positions 1-2 should measure ~5 VDC.

Table 10 Troubleshooting

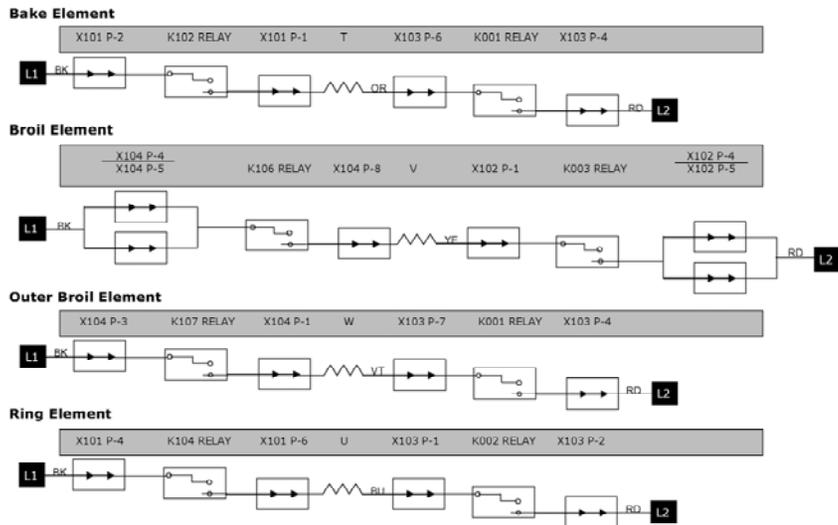
10 WIRING DIAGRAMS AND SCHEMATICS

The wire color key (Table 11) and element strip diagrams (Figures 22-25) are shown below. For schematics, please refer to the *Built-in Oven Service Guide* (Wiring Diagram) which can be found on *QuickFinder* or in the upper oven plenum, near the control module.

BK	Black	BN	Brown	BU	Blue
GN	Green	OR	Orange	RD	Red
VT	Violet	WH	White	YE	Yellow
BN/WH	Brown/White	BU/WH	Blue/White	OR/BK	Orange/Black
VT/WH	Violet/White	YE/BK	Yellow/Black		

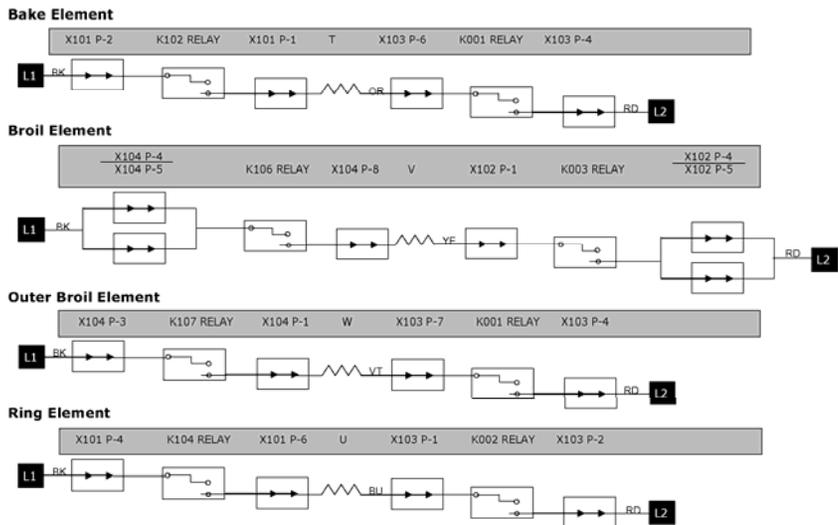
Table 11 Wire color key

ELEMENT STRIP DIAGRAMS: PO301, POD301

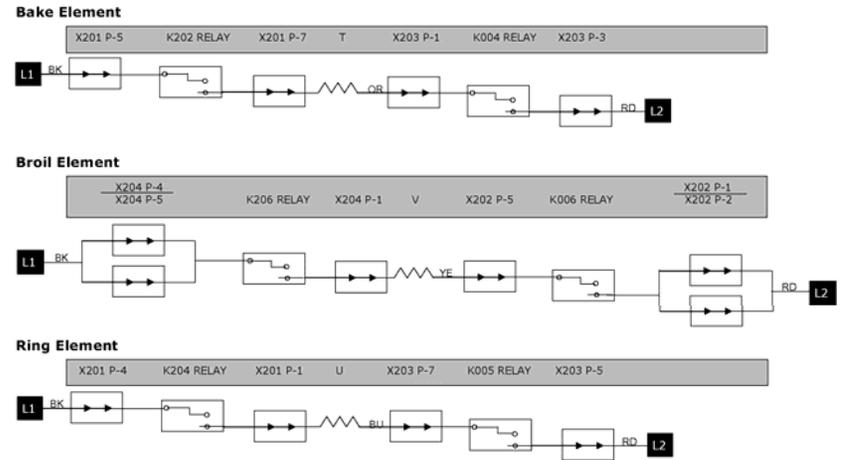


ELEMENT STRIP DIAGRAMS: PO302, POD302, PODC302

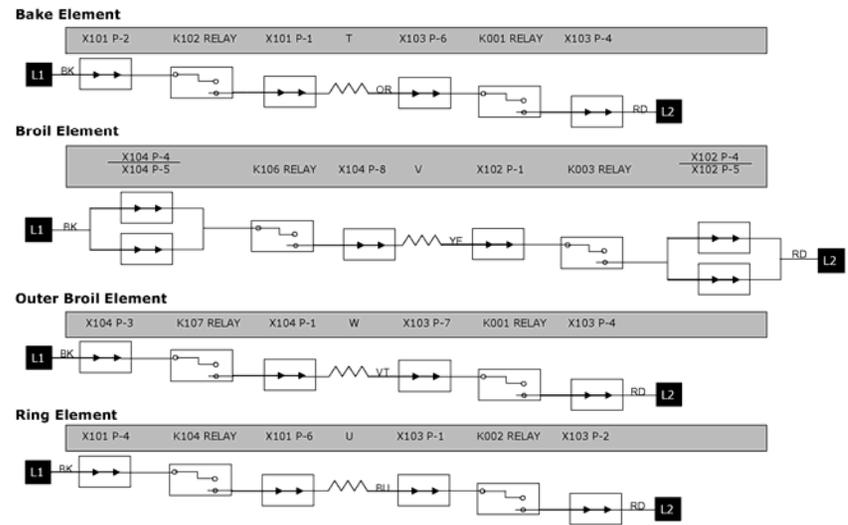
CAVITY 1 (UPPER)



CAVITY 2 (LOWER)



ELEMENT STRIP DIAGRAMS: POM301, POMW301



Figures 22-25 Element strip diagrams

11 ADDITIONAL REFERENCES

11.1 QuickFinder

For further information, please refer to the following documents on *QuickFinder*.

- Wiring Diagram (*Built-in Oven Service Guide*)
- Installation Instructions
- Use and Care Manual
- MCEB/MCEB Convection Microwave Use and Care Manual
- MCEB/MCEB Convection Microwave Installation Instructions
- MCEB/MCEB Convection Microwave Service Manual
- WD27/WD30 Traditional Warming Drawer Use and Care Manual

Exploded views, parts lists, and related service and parts notes are also available on *QuickFinder*.

NOTICE

Not all service parts are shown on the *QuickFinder* exploded views; review the parts list for additional information.

11.2 Technical Support

To reach Thermador technical support, call the toll free TechLine at 800 444-9091. Technicians are available to assist you Monday – Friday, between the hours of 5am and 5pm, Pacific Time.