⚠WARNING

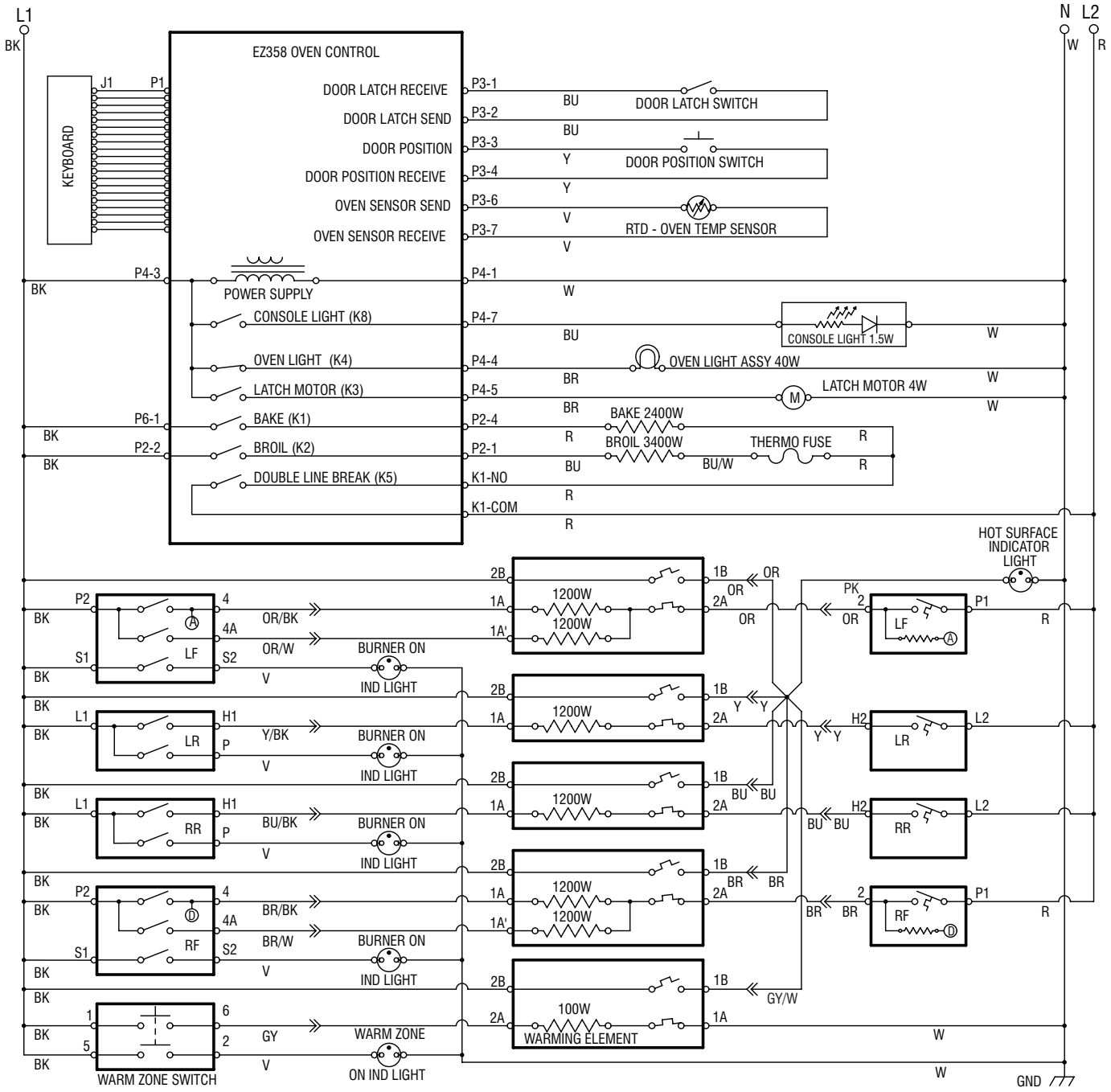
Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

LEGEND

COMPONENT TERMINAL	CONNECTION (SPLICE)	NO CONNECTION	CURRENT DIRECTION	IN LINE CONNECTION

P1-2 = CONNECTOR P1 POSITION 2

NOTE: Schematic shows door latch switch in the COOK position with oven door open and elements off.



SOFTWARE COPYRIGHTED. THIS PRODUCT IS COVERED BY ONE OR MORE OF THE FOLLOWING PATENTS: U.S. PATENT NOS.

4,852,544	5,175,413	5,422,460	5,571,434	5,808,278	5,910,265	5,983,888	6,087,944	6,263,782	6,403,929	6,663,009	6,722,356	6,904,969
4,974,804	5,185,047	5,424,512	5,620,623	5,810,576	5,918,589	6,008,478	6,097,000	6,349,717	6,437,294	6,666,676	6,734,403	6,935,330
5,008,516	5,321,229	5,438,180	5,694,916	5,813,320	5,924,857	6,017,211	6,111,231	6,363,971	6,509,551	6,693,262	6,784,404	
5,064,998	5,349,162	5,441,036	5,749,388	5,841,112	5,928,543	6,035,848	6,163,017	6,375,150	6,545,251	6,698,417	6,841,761	
5,138,137	5,378,874	5,491,314	5,756,970	5,856,654	5,961,311	6,043,461	6,201,222	6,392,204	6,570,136	6,698,923	6,870,138	
5,142,125	5,382,552	5,571,433	5,767,488	5,881,710	5,967,634	6,079,756	6,232,584	6,394,081	6,614,006	6,700,101		

AND OTHER PATENTS PENDING.

DIAGNOSTICS

Unplug range or disconnect power before performing the following checks:

- A potential cause of a control not functioning is corrosion on connections. Observe connections and check for continuity with an ohmmeter.
- Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.
- All tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms per volt DC or greater.
- Resistance checks must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.

Temperature Adjustment

- Press and hold BAKE pad for five (5) seconds. Current offset, if any, is shown in 3-digit display. CAL is shown in 4-digit display (3 digits on right).
- Pressing the TEMP pad "up" arrow (▲) adjusts the temperature in 5.6°C (10°F) increments in the following sequence: Celsius: 0°, 5.6°, 11.1°, 16.7°, -16.7°, -11.1°, -5.6°, 0°; (Fahrenheit: 0°, 10°, 20°, 30°, -30°, -20°, -10°, 0°) and so on.
- Press START/ENTER pad to activate the desired temperature adjustment. If the START/ENTER pad is not pressed within 1 minute, adjustment is ignored.
- BAKE temperature adjustment cannot result in operating temperatures higher than 260°C (500°F) or lower than 77°C (170°F), as measured at oven cavity center.
- Once the BAKE temperature has been adjusted, BROIL temperatures are automatically offset to the same degree.
- CLEAN temperature is also offset automatically when BAKE temperature is adjusted. If BAKE temperature has been raised, CLEAN temperature is offset +3°C (+5°F). If BAKE temperature has been lowered, CLEAN temperature is offset -3°C (-5°F).

FAILURE/ERROR DISPLAY CODES

DISPLAY CODES		LIKELY FAILURE CONDITION	SUGGESTED CORRECTIVE ACTION PROCEDURE
Good		No failure.	Will only display if user enters diagnostic mode and there are no pre-existing faults. Press STOP/CLEAR key to clear display.
F1	**E0**	EEPROM communications failure - Power line noise - Lightning	1. Unplug range or disconnect power. 2. Replace the control. 3. Replace all parts and panels before operating. 4. Plug in range or reconnect power. 5. Verify operation is normal. Go to step 1 and complete checks.
	E1	EEPROM checksum failure - Power line noise - Lightning	
F2	**E0**	Key contact closed for more than 60 seconds - Key held down too long or shorted key - Warped keypad - Moisture inside keypad - Missing keytail	1. Verify failure if not displayed. Go to manual diagnostics screen 5 to view and clear error codes. 2. Unplug range or disconnect power. 3. Unplug keytail connector. Inspect connector and keytail ends for damage. Ensure keytail is not bent or broken, and keytail is not creased or torn. 4. Plug keytail into connector. Ensure keytail is fully seated on both ends. 5. Replace all parts and panels before operating. 6. Plug in range or reconnect power. 7. Observe for longer than 1 minute. 8. If any false key presses occur or the failure remains, go to step 9. 9. Unplug range or disconnect power. 10. Replace keypad. 11. Replace all parts and panels before operating. 12. Plug in range or reconnect power. 13. Observe for longer than 1 minute. 14. If any false key presses occur or the failure remains, go to step 15. 15. Unplug range or disconnect power. 16. Replace control. 17. Plug in range or reconnect power. 18. Verify operation is normal. Go to step 1 and complete checks.
	E1	No communication between keyboard and control. - Keytail loose, unplugged, or damaged	
F3	**E0**	Break in oven sensor circuit - Open sensor - Loosened or disconnected sensor connector at sensor or control - Open wire in harness	1. Verify failure if not displayed. Go to manual diagnostics screen 5 to view and clear error codes. 2. Use manual diagnostics screen 2 to view the status screen. 3. The temperature shown should read approximately room temperature if oven has not been turned on and heated up. If it does, the sensor is good. If temperature is greater than 100°F or less than 60°F, go to step 4. 4. Unplug range or disconnect power. 5. Disconnect sensor from harness. 6. Measure sensor value (between connector pins) between 1000 ohms @ 32°F and 2697 ohms @ 900°F (room temperature approx. = 1080 ohms). Also measure from sensor connector to sensor casing for possible short. If measurement does not correlate to real temperature, or short is found, replace sensor. 7. Trace wires and connectors from control to sensor and back to the control. If the wire or connection is damaged, replace the harness. 8. Reconnect the sensor to the harness. 9. Replace all parts and panels before operating. 10. Plug in range or reconnect power. 11. Press BAKE, then START. Observe from longer than 1 minute. If failure remains, go to step 12. 12. Unplug range or disconnect power. 13. Replace the control. 14. Replace all parts and panels before operating. 15. Plug in range or reconnect power. 16. Verify operation is normal. Go step 1 and complete checks.
	E1	Short in oven sensor circuit - Short in sensor - Sensor shorted to sensor casing - Pinched or shorted harness sensor wires - Sensor terminals shorted at sensor or control	

Continued...

DISPLAY CODES		LIKELY FAILURE CONDITION	SUGGESTED CORRECTIVE ACTION PROCEDURE
F3	E2	BAKE/BROIL temperature out of range (too high) - BAKE or BROIL elements do not turn off	1. Verify failure if not displayed. Go to manual diagnostics screen 5 to view and clear error codes. 2. Use manual diagnostics screen 2 to view the status screen. 3. Press the BAKE keypad to turn the BAKE element ON and OFF. The Bake relay should turn the element ON and OFF. If the element does not turn off, go to step 4. 4. Unplug range or disconnect power. 5. Trace wires and connectors from the control to the BAKE and BROIL elements. If the wire or connection is damaged, replace the harness. If the wiring is good, replace the control. 6. Replace all parts and panels before operating. 7. Plug in range or reconnect power. 8. Initiate and start a bake cycle at 500°F. Allow the oven to preheat and reach 500°F. Observe for longer than 1 minute. If failure remains, go to step 9. 9. Unplug range or disconnect power. 10. Replace the control. 11. Replace all parts and panels before operating. 12. Plug in range or reconnect power. 13. Verify operation is normal. Go to step 1 and complete checks.
	E3	Clean temperature out of range (too high) - BAKE elements does not turn off	
F5	E0	Door switch open during clean - Switch fails open - Open or loose wire connections - Open harness wires - Open harness wires at control (loose or disconnected connector) - Door warps	1. Verify failure if not displayed. Go to manual diagnostics screen 5 to view and clear error codes. 2. Use manual diagnostics screen 2 to check operation of the door switch, latch switch and door latch motor. 3. Open the oven door. 4. Press the CLEAN key to start the door motor. The CLEAN icon will flash indicating the control is driving the latch motor and stop flashing when the motor reaches the locked or unlocked position. The leftmost time digit will display a “1” when the latch is in the locked position and a “0” in the unlocked position. The door position is displayed with the second time digit from the left. A “1” will display when the door is closed, and a “0” when the door is open. 5. Verify that the latch motor moves to the latched position. 6. If the motor did not rotate, go to step 7 (check for mechanical binding and motor wiring). If the motor did rotate, go to step 11 (check door latch switch wiring and circuit). 7. Unplug range or disconnect power. 8. Check integrity of latch mechanism from cam/eccentric, through actuating rod, to latch hook and door slot. Ensure the hook aligns with the door slot. Correct any mechanical malfunction. 9. If latch mechanism is good, check continuity of the latch motor and of electrical connections between oven control and motor. If continuity is present, replace the control. 10. Go to step 18. 11. Observe the time display. Did the leftmost digit change state from a “1” for locked or “0” for unlocked? - If not, go to step 12 (Check door latch switch and wiring). - If it did, go to step 16 (check door switch circuit). 12. Unplug range or disconnect power. 13. Check continuity of latch switch. Check wires and connectors from control to latch switch, then from latch switch to control. - Replace harness if damaged. - Replace door latch assembly if latch switch does not close. 14. If no damage to wires or connectors, replace the control. 15. Go to step 18. 16. Unplug range or disconnect power. 17. Check wires and connectors from control to door switch, then from door switch to control. 18. Replace all parts and panels before operating. 19. Plug in range or reconnect power. 20. Press STOP/CLEAR. Press CLEAN then START. Observe for longer than 1 minute to ensure the operation is normal. 21. Go to step 1 and complete checks.
	E1	Latch switch not operating - Latch switch does not close in clean (contacts stay open) - Latch motor does not rotate (open windings) - Open or loose wire connections - Open harness wires - Open harness wires at control (loose or disconnected connector) - Open relay on control	

MANUAL DIAGNOSTICS

Entering Manual Diagnostics

Manual diagnostics has two modes.

Mode 1: If the user enters manual diagnostics within 120 seconds of power-up all of the relay capabilities listed below will be enabled.

Mode 2: If the user enters manual diagnostics after 120 seconds of power-up the relay capabilities listed below will be disabled. The temperature readouts will still be active, the ability to scroll through the error codes will still be active, and the door states can be toggled.

- Pressing the START and Cancel/OFF keys in the following order can enter both diagnostics modes: Cancel/OFF key, Cancel/OFF key then START key.

Diagnostic Navigation

- Temp Up, Temp Down (Slew) will move the user up and down between diagnostics screens.
- CLOCK key is used to enter edit modes for clearing faults.
- START key is used to accept fault clearing.
- Cancel/OFF is used to cancel out of diagnostics.

Screens

There are six screens used to display various information.

Screen 1: Entry

Upon entry to diagnostics, tESt is displayed in the time digits for 3 seconds. Press any key during the 3 second time frame, the control will display the Load Status Screen.



Screen 2: Load Status:

Oven cavity temperature, door position and door latch position is displayed.

- Door Latch State (leftmost time segments)
- Door Locked: Display: 1X:XX
- Door Unlocked: Display: 0X:XX

Door State (second time segment from the left).

- Door Closed: Display: X1:XX
- Door Open: Display: X0:XX



Screen 3: Software Version:

The current software version in the control is displayed. Entering manual diagnostics in the four time segments.

Fuel Type (“E” for electric, “G” for gas) displayed in the rightmost temperature digits.

Display depends on software version.

Screen 4: EEPROM Checksum

The current EEPROM Checksum in the control is displayed in the four time segments.

Display depends on software version.

Screen 5: Error Code

The last recorded error code stored in memory is displayed in the four time segments.



The error code can be cleared only while in the error code screen.

Clearing Error Codes:

Entering diagnostics Mode 1 within the first 120 seconds of power-up and pressing the CLOCK key initiates clearing of the error codes. User will be prompted to delete the errors. When CLOCK key is pressed, CLr is displayed in the time digits and the START? icon is displayed.



Press the START key to clear the error. The word Good will be displayed.



Screen 6: Light All Segments

All display segments will be displayed to check display.

Load Status Screen

The Load Status screen allows the user to check the stated of certain loads.

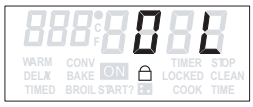
- Pressing the BAKE key toggles the Bake relay and the BAKE icon ON or OFF.
- Pressing the BROIL key toggles the Broil relay and the BROIL icon ON or OFF.
- Pressing the CLEAN key toggles the door latch relay and allows the door latch motor to cycle to the opposite state (unlocked to locked, locked to unlocked). While the motor is rotating, the CLEAN INDICATOR icon will flash 0.5 second ON and 0.5 second OFF. When the motor reaches the locked position, the LOCKED icon will be turned ON and the CLEAN icon will stop flashing and remain ON.
- When the motor reaches the unlocked position, the LOCKED icon will be turned OFF and the CLEAN icon will stop flashing and remain OFF.
- Door position can be either open or closed.
- Pressing the TOP key toggles the top console light relay and the cooktop lockout relay ON or OFF.
- Display tOPL in the time digits for 5 seconds.



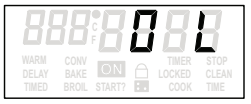
- The COOKTOP icon is displayed when cooktop is locked out. The COOKTOP icon turns off when the cooktop is not locked outl



- Pressing the OVEN key toggles the oven light relay and the mini oven /warming drawer lockout relay ON or OFF. OL is displayed in the time digits for 5 seconds.
- The PADLOCK icon is displayed when oven is locked out.



- The PADLOCK icon turns off when the oven is not locked out.



Exiting Manual Diagnostics Mode

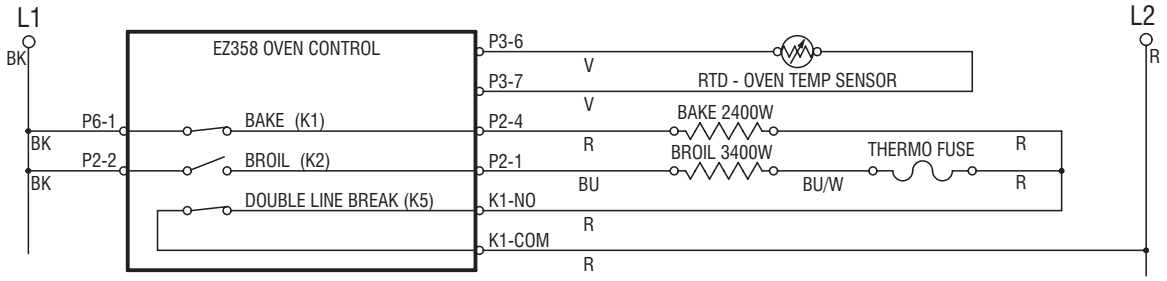
To exit manual diagnostics, press the CANCEL key, remove power or wait 5 minutes to time out.

STRIP CIRCUITS

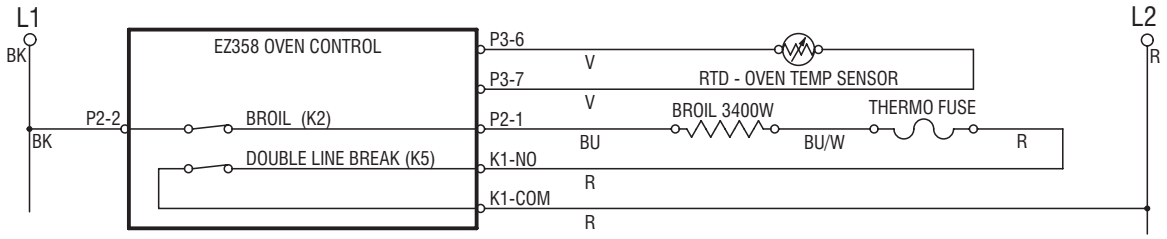
The following individual circuits are for use in diagnosis, and are shown in the ON position. Do not continue with the diagnosis of the appliance if a fuse is blown, a circuit breaker is tripped, or if there is less than a 240 volt power supply at the wall outlet.

BAKE

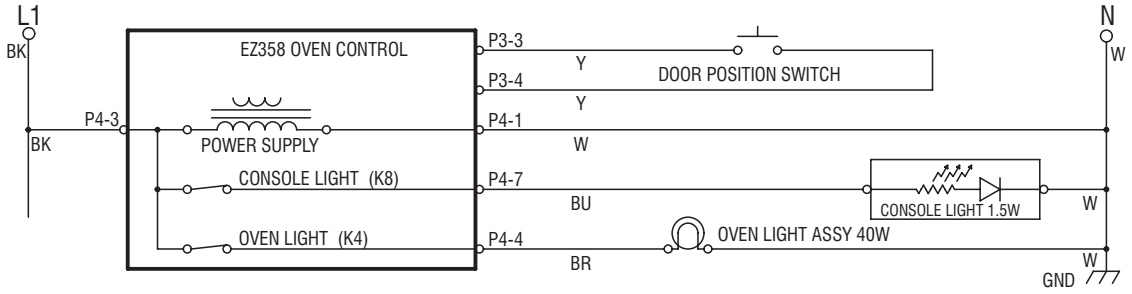
Bake and broil relays cycle.



BROIL



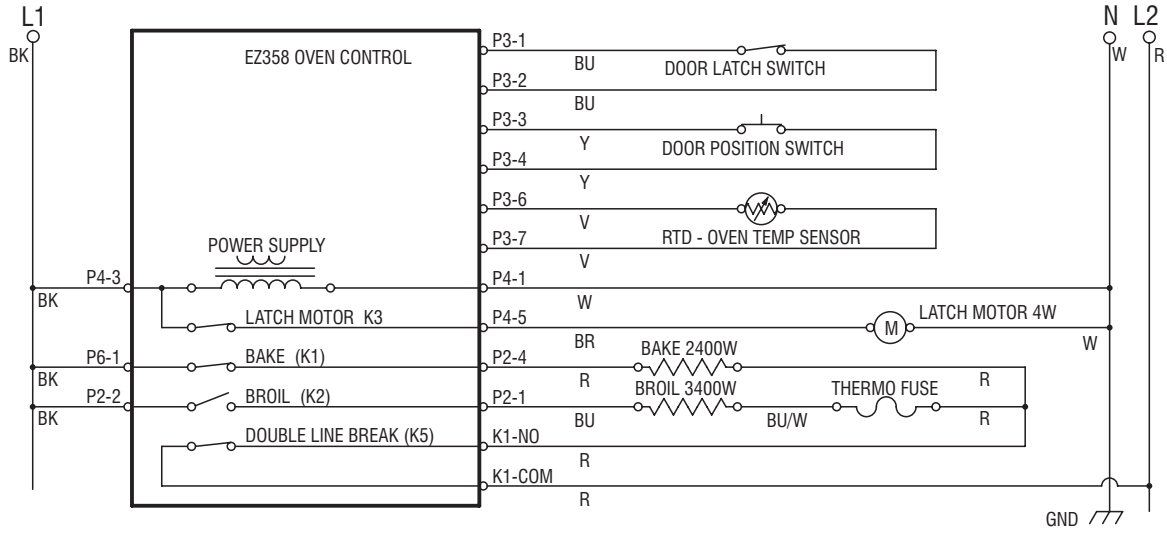
OVEN/ CONSOLE LIGHT



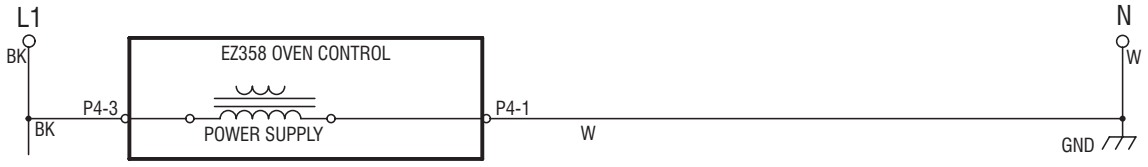
CLEAN

Bake and broil relays cycle.

Latch relay cycles to lock oven door.



CONTROL POWER

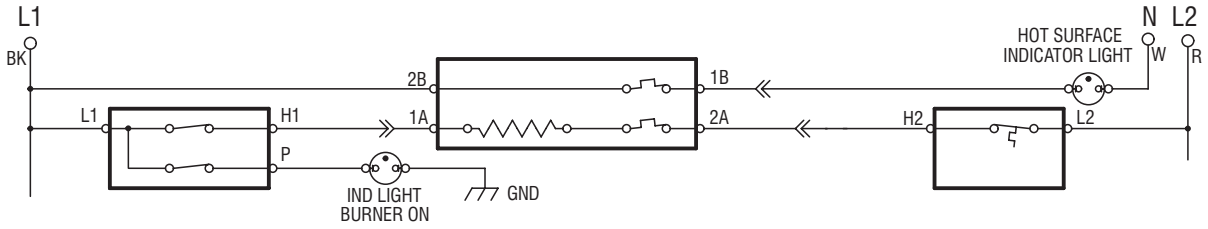


STRIP CIRCUITS

The following individual circuits are for use in diagnosis, and are shown in the ON position. Do not continue with the diagnosis of the appliance if a fuse is blown, a circuit breaker is tripped, or if there is less than a 240 volt power supply at the wall outlet.

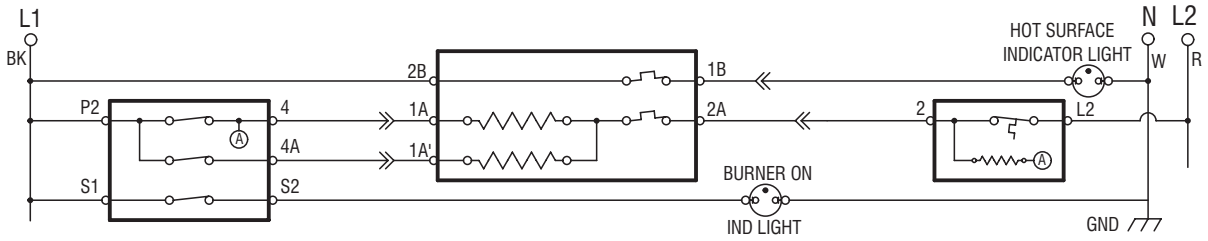
SURFACE POWER (SINGLE)

Typical

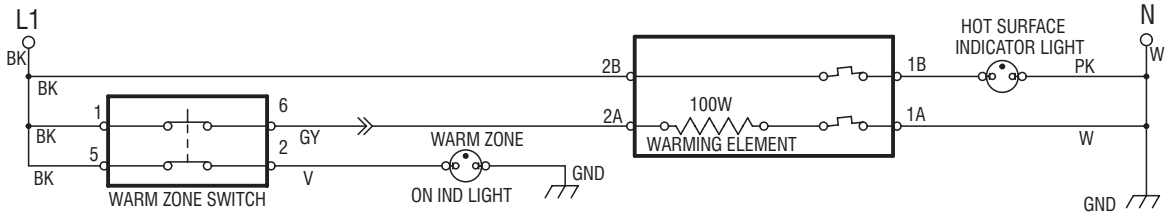


SURFACE POWER (DUAL)

Typical



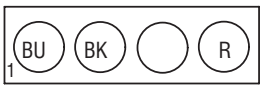
SURFACE POWER (WARM)



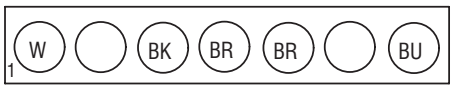
QUICK CONNECT PLUGS

For controls

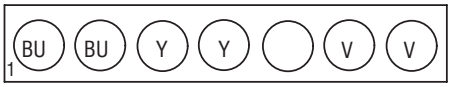
P2



P4

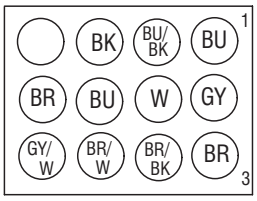


P3

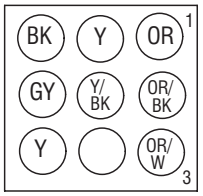


QUICK CONNECT PLUGS

For cooktop



RIGHT SIDE COOKTOP



LEFT SIDE COOKTOP

PART NO. 9762981 REV. A

NOTE: This sheet contains important Technical Service Data.

FOR SERVICE TECHNICIAN ONLY
DO NOT REMOVE OR DESTROY