A 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.

A DANGER



Electrical Shock Hazard

Only authorized technicians should perform diagnostic voltage measurements. After performing voltage measurements, disconnect power before servicing.

Failure to follow these instructions can result in death or electrical shock.

Voltage Measurement Safety Information

- When performing live voltage measurements, you must do the following:
- Verify the controls are in the off position so that the appliance does not start when energized.
- Allow enough space to perform the voltage measurements without obstructions. Keep other people a safe distance away from the appliance to prevent potential injury.
- Always use the proper testing equipment.
- After voltage measurements, always disconnect power before servicing.

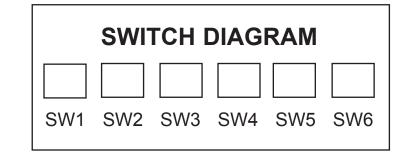
| No-Load Performance, Controls in Normal Position | | | | | | | |
|--|------------------|----------------------------|--------------|--------------|--------------|--|--|
| | Kw/24 hr ±0.4 | Percent Run Time ±10 | | Average Food | Compartment | Icemaker Compartment Average Food Temperature ±5°F | |
| Ambient °F | 70° 90° 110° | 70° 90° 110° | 70° 90° 110° | 70° 90° 110° | 70° 90° 110° | 70° 90° 110° | |
| 29 cu ft | 0.9 1.5 2.8 | 50 70 90 | 28 22 10 | 37 37 37 | 0 0 0 | 24 24 24 | |

| Temperature Relationship Test Chart | | | | | | |
|-------------------------------------|--|---|----------------------|-------------------------------|--------------------------------|------------------------------|
| | Refrigerator Evaporator Inlet/Outlet ±5°F | Freezer Evaporator Inlet/Outlet ±5°F | Suction Line ±7°F | Average Total Wattage ±10% | Suction Pressure ±2 PSIG | Head Pressure ± 5 PSIG |
| Ambient °F | 70° 90° | 70° 90° | 70° 90° | 70° 90° | 70° 90° | 70° 90° |
| 29 cu ft | 15 20 | -11 -8 | 80 104 | 80-100 80-100 | 6.0 3.6 | 70 125 |

Component Specifications

| Component | Specifications all parts 115VAC/60HZ unless noted | | | | |
|---|---|---|--|--|--|
| Cooling | | | | | |
| Compressor | BTUH Watt Current Lock rotor Current Full load Resistance Run windings Resistance Start windings Inverter | 60 Hz / 113 watts 3.3 amps± 15% 3.3 amps± 15% 6.4 ohms± 15% 6.4 ohms± 8%@77°F | | | |
| Electric damper control | Maximum closing time Temperature Rating | -11°F- 110°F | | | |
| Condenser motor | Rotation | . 1190 RPM | | | |
| Refrigerator Evaporator fan motor | Rotation(facing end opposite shaft) RPMWatt | 3300 RPM± 10% | | | |
| Freezer Evaporator fan motor | Rotation | 2800 RPM 5.5±15% watts | | | |
| Thermostat (Defrost) | Volt | 495 watts 3.75/1.87 amps 56 K ohms Open | | | |
| Freezer Evaporator Heater | VoltWattageResistance | 435 ±5% watts | | | |
| Controls | | | | | |
| Control board | VoltSee control board section for diagnostics | 120 VAC,60HZ | | | |
| Thermistor | Temperature | 2700 ohms± 5.0% 7964 ohms± 1.0% | | | |
| Light switch | TypeVoltCurrent | 125/250 VAC | | | |
| Ice & Water | | | | | |
| Dual Water Valve | Watts | Green side 20w, Red side 35w | | | |
| Isolation Valve | Watts | 20w (Green) | | | |
| Ice Box Fan | Rotation(facing end opposite shaft) RPMWatt | 3500 RPM | | | |

Control board Troubleshooting



To ENTER SERVICE DIAGNOSTICS Mode:

Press SW1 and SW2 simultaneously for 3 seconds. Release both buttons when you hear the CHIME indicator. Unit must not be in Lockout prior to entering SERVICE DIAGNOSTIC MODE.

The display will show 01 to indicate the control is in step 1 of the diagnostics routine.

To EXIT SERVICE DIAGNOSTICS Mode: do one of the following 3 options:

- Press SW1 and SW2 simultaneously for 3 seconds.
- Disconnect the product from power.
- Allow 20 minutes to pass

Following the exit of the diagnostic mode, the controls will then resume normal operation.

Cooling diagnostics are steps 1 through 7 and 32 through 39. Dispensing diagnostics are steps 8 through 31. Each step must be manually advanced. Press SW5 to move to the next step in the sequence. Press SW4 to back up in the sequence to the previous step. Diagnostics will begin at Step 1. Each step is displayed in the two digits of the dispenser user interface display. The step results are displayed in the two digits on dispenser user interface display 2 seconds after the step number is displayed. An amber order filter light will be shown to designate that the step number is being displayed and a red replace filter light will be shown to designate that the status of the step is being displayed. All button and pad inputs shall be ignored and all inputs shall be off except as described in the actions for each step.

Service Test - 1 FC thermistor

• The board will check the resistance value of the thermistor and display flashes results on the Temp

Display. (01 = Pass, 02 = Open, 03 = Short) Service Test - 2 RC thermistor

• The board will check the resistance value of the thermistor and display the results on the Temp Display (01 = Pass, 02 = Open, 03 = Short)

Service Test - 3 Evaporator fan motor and air baffle motor

• Control the RC & FC Evaporator Fan Mtrs. by depressing SW3 (01= Both Fan Mtr. off. 02 =FC Fan on.)

• Depress SW3 once to advance. Step 3 will flash quickly and advances to steps 13/23 very quickly. The result is RC Fan on, Pantry Air Damper on. Pantry Air Damper will open and close automatically. (13= Damper Open. 23= Damper Closed). Verify air flow inside pantry on left hand side when damper is open, (13 displayed). Air flow in pantry will cease when 23 is displayed).

• Depress SW3 to advance to last step. (04 = Both RC & FC fans on).

Service Test - 4 Compressor/ condenser fan motor/evaporator fan

• There will be a delay of 3 seconds before start of sub step 01. Each step is timed and be automatically proceed tho the next step. User will not be allowed to exit step. If exit is attempted, an invalid chime will be

• Control the Sealed System loads selecting SW3 (01 = Initialize Dual Evap Valve in home position (4min), 02 = Close both RC&FC Evap Valve (1min), 03 = Turn compressor ON (1min), 04 = Keep compressor ON, drive the valve to RC position & turn RC fan ON, 05 = Keep compressor ON, drive the valve to FC position & turn FC

fan ON. Verify air flow from the evaporator fan. Note: Advance quickly through step 4 to keep from locking in. Once locked in you can't exit, must wait ten minutes approximately.

Service Test - 5 Compressor Status / Speed

Initial Display 02 = Minimum speed

• Depress SW3. Display = 03. Compressor Ramps up to Max speed. When Max speed reached, 01 displayed. • Depress SW3. Display = 04 Speed ramps down from Max to minimum speed. Display = 02

Service Test - 6 Defrost heater/Bi-metal

• Note: if bi-metal is open, it will need to be by-passed for heater to operate. Heater should be on. Display will be blank until a valid reading is displayed. (01 = Bi-metal closed, 02 = Bi-metal open) Service Test - 7 Defrost mode Selection

• The defrost mode can be set by using SW3. In ADC Mode the product will automatically defrost after a minimum of 8 hours of compressor runtime up to maximum of 96 hours of compressor runtime, depending upon product usage. In Basic Mode the product will automatically defrost after 8 hours of compressor runtime. (01 = ADC ON, 02 = Basic Mode ON 8 hour timer.)

Service Test - 8 All UI indicators

· Verify that all LED indicators and UI display digits turn on automatically. All indicators ON for 30 second timeout.

Service Test - 9 UI Button and Pad Test

• Displays the user Interface Buttons and Ice and Water Pads status as described in the Component Status

NOTE: Do not use SW4 and SW5 as these are used only to navigate through the Service Diagnostics.

| Press | Digit 1 Digit 2 |
|------------|-----------------|
| SW1 | 1 |
| SW2 | 2 |
| SW3 | 3 |
| SW6 | 6 |
| Ice Pad | 1 |
| Water Pad | 2 |
| Ice & | 3 |
| Water Pads | |

NOTE: SW4 and SW5 are used for navigation and are not displayed

Service Test - 11 Dispenser Lighting

 Pressing SW3 will change the dispenser lighting setting from OFF (0%) to ON (100%) to DIM (50%) Status indicator is Blank

Service Test - 12 Accent Light Turns on

Service Test - 15 Ice Level Sensor

• Displays the Ice Bin Status in real time on the UI display. Verify that the full and not full levels display correctly. (01 = Bin Full, 02 = Bin Not Full)

Service Test - 16 RC Door Switch Input

• Displays the RC Door status in real time on the UI display. Verify that the open and close status display correctly. (01 = RC Door open, 02 = RC Door closed)

Service Test - 17 FC Door Switch Input

• Displays the FC Door status in real time on the UI display. Verify that the open and close status display correctly. (01 = FC Door Open, 02 = FC Door Closed)

Service Test - 18 Ice Door Motor

• Displays the Ice Door stepper motor state on the UI display. Press ice paddle and verify that the mechanical operation of the ice door corresponds to the component status indicator. NOTE: Ice door will have a delay in closing after an ice paddle is released. (01 = Closed, 02 = Opening, 03 = Open, 04 = Closing)

Service Test - 19 Ice Maker Fill Tube Heater and Facia Heater Status • Control the Ice Maker Fill Tube Heater and Facia Heater selecting SW3 (toggle between On and Off) (01 = ON, 02 = OFF)

Service Test - 20 Water Filter Usage Rating

· Displays in two sequential flashes the total water usage rating in gallons for the water filter on the UI display. Wait until dash is displayed which means end of the number. (00/0- to 99/9-)

Example: 123 will be displayed as 12 3-

Service Test - 21 Water Filter Time Rating

• Displays in two sequential flashes the total time rating in days for the water filter on the UI display. Wait until dash is displayed which means end of the number. (00/0- to 99/9-) Example: 123 will be displayed as 12 3-Service Test - 22 Water Filter Usage

• Displays in two sequential flashes the current water filter status in gallons used since last reset on the UI display. Wait until dash is displayed which means end of the number. (00/0- to 99/9-) Example: 123 will be

Service Test - 23 Water Filter Time

· Displays in two sequential flashes the current water filter status in days since last reset on the UI display.

Wait until dash is displayed which means end of the number. (00/0- to 99/9-)

Example: 123 will be displayed as 12 3-

Service Test - 24 Water Filter Reset • Display in two sequential flashes the current times the water filter was reset on the UI display. Wait until dash is displayed which means end of the number. (00/0- to 99/9-) Example: 123 will be displayed as 12 3-

Service Test - 26 Main Control Software Version NOTE: Not normally used • Displays in three sequential flashes the Main Control software version on the UI display. NOTE: This is

repeatedly displayed during all time in this step. 00/00/00 to 99/99/99

Service Test - 27 Dispenser UI Control Software Version NOTE: Not normally used

• Displays in three sequential flashes the Dispenser UI Control software version on the UI display. NOTE: This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99

Service Test - 28 Smart Valve Software Version NOTE: Not normally used • Displays in three sequential flashes the Smart Valve software version on the UI display. NOTE: This is

repeatedly displayed during all time in this step. 00/00/00 to 99/99/99 Service Test - 29 Low Voltage IDI Software Version NOTE: Not normally used

• Displays in three sequential flashes the low voltage software version on the UI display. NOTE: This is

repeatedly displayed during all time in this step. 00/00/00 to 99/99/99 Service Test - 31 Touch Input Module Software NOTE: Not normally used

· Displays in three sequential flashes the Dispenser UI Control software version on the UI display. NOTE: This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99

Service Test - 32 Ambient Thermistor UI Control • This is an internal board test. The board will check the resistance value of the thermistor and display the

results. (01 = Pass, 02 = Open, 03 = Short)

Service Test - 39 RC Evap Thermistor

Service Test - 33 Humidity Sensor UI Control • Relative Humidity Test (Humidity % Value 0-99 = pass or Er = Fail)

Service Test - 34 Vertical Mullion Heater Mode

• Set the Vertical Mullion Heater Sensor Mode by selecting SW3. (01 = Sensor Operation On, 02 = Sensor Operation Off) (Heater on 100%)

Service Test - 35 Vertical Mullion Heater Status • Control the Vertical Mullion Heater selecting SW3 (toggle between On and Off) (01 = ON, 02 = OFF)

Service Test - 36 Ice Box Fan • Check for fan operation. Control Ice Box Fan using SW3. Display the status on Temp Display.

(01 = ON, 02 = OFF). Verify air flow from the IB fan.

Service Test - 37 Ice Box Thermistor • The board will check the resistance value of the thermistor and display the results on the Temp Display

(01 = Pass, 02 = Open, 03 = Short) Service Test - 38 Forced Defrost mode

• Set the Forced Defrost Mode by selecting SW3. OF = No Forced Defrost, Sh = Short Defrost, Lo = Long

• The board will check the resistance value of the thermistor and display the results on the Temp Display.

(01 = Pass, 02 = Open, 03 = Short) Service Test - 42 UI EEPROM Control Software Version NOTE: Not normally used

• Displays in three sequential flashes the Dispenser UI Control software version on the UI display. **NOTE**: This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99

Service Test - 43 UI FLASH Control Software Version NOTE: Not normally used • Displays in three sequential flashes the Dispenser UI Control software version on the UI display.

NOTE: This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99 Service Test - 45 Ice Maker Water Fill Test

NOTE: BEFORE INITIATING THIS TEST, GO TO STEP 57, INITIATE ICE MAKER HARVEST TO INSURE ALL ICE IS EJECTED FROM MOLD BEFORE FILLING.

• After an initial 3 second delay, displays the Ice Maker water fill state on the UI display. Press SW3 to start awater fill. Pressing SW3 will toggle between ON and PAUSE. (02 = Off, 03 = On, 04 = Paused

Service Test - 46 Water dispensing Test • Displays the status of the water dispense valve. Press the water pad to initiate a water dispense.

(00 = Water Dispense Valve Off, 01 = Water Dispense Valve On) Service Test - 56 Ice Maker Error Codes • Displays active Ice Maker Error Codes on the UI display. (E0 = No Errors, E1 = No Cooling, E2 = Motor

Lost Position, E3 = Heater Timeout, E4 = Dry Cycle, E5 = Timed Ice Making)

Service Test - 57 Ice Maker Harvest

• Press SW3 to activate a Harvest sequence. Digit 1 displays the state of the sequence. Digit 2 displays the outcome of the sequence. Once initiated, the sequence cannot be exited 0 = Heater and Motor OFF, 1 = IM Heater ON, 2 = Motor Rotating CW until it finds home position

0 = In Progress, 1 = Harvesting Completed, 2 = Harvesting Not Completed, Doors must be Digit 2 NOTE: Harvesting Not Completed does not exit the step, but indicates the timeout of 70 seconds has passed

Service Test - 58 Ice Maker Heater Activation and Thermiston

• Press SW3 to activate the Ice Maker Heater and to toggle between On and Off. Digit 1 displays the state of the heater. Digit 2 displays the thermistor state.

0 = IM Heater OFF, 1 = IM Heater ON

0 = Temp warmer than harvest temp, 1 = Temp cooler than harvest temp, 2 = Open, 3 = Short Digit 2 Service Test - 59 Ice Maker Motor • Press SW3 to activate a Motor sequence and toggle through each step. Digit 1 displays the state of the

motor. Digit 2 displays the status of the motor. Once initiated, the sequence cannot be exited. Digit 1 0 = Motor OFF, 1 = Motor Rotating CW until home position, 2 = Motor OFF, 3 = Motor Rotating

CCW until home position Digit 2 0 = In Progress, 1 = Harvesting Completed, 2 = Harvesting Not Completed

NOTE: Harvesting Not Completed does not exit the step, but indicates the timeout of 70 seconds has passed Service Test - 60 Pantry UI Software Version NOTE: Not normally used

• Displays in three sequential flashes the Pantry UI Control software version on the UI display. NOTE: This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99

Service Test - 61 Pantry Touch Input Module Software NOTE: Not normally used • Displays in three sequential flashes the Pantry UI Control software version on the UI display. **NOTE**: This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99

Service Test - 62 Pantry Lighting (On Some Models) • Pressing SW3 will change the pantry lighting setting from OFF (0%) to ON (100%). (00 = OFF, 01 = ON).

Service Test - 63 All Pantry UI indicators • Verify that all pantry LED indicators and pantry UI display digits turn on automatically. All indicators ON for

Service Test - 64 Pantry UI Button Test · Displays the pantry UI Buttons status

Digit 1 Digit 2 SW2 SW3 SW4 SW5

| | FN25 and FN 54 | | | FN25 and FN 54 | | |
|-----|-------------------------------|--|--|---|--|--|
| - 1 | Label Preset "+" "-" | Control key SW703 SW704 SW705 | | Label Meat/Poultry Cold Drinks Deli/Cheese | Control key SW701 SW702 SW703 | |

Service Test - 65 Pantry thermistor

• The board will check the resistance value of the thermistor and display the results on the Temp Display (01 = Pass, 02 = Open, 03 = Short)

Service Test - 66 Manufacturing Codes

• Displays the active manufacturing errors codes stored in the UI. Press SW3 to toggle between the Errors. See status on Temp Display (E0 = No Error, E1 = LPIM Motor Faulty, E2 = Damper Cycle not completed, E3 = Thermistor Faulty, E4 = Ice Bin not present or Full, E5 = Heater Bimetal Faulty, E6 = Dispenser UI EEPROM Faulty, Er = Communication Failure).

NOTE: Step is used by Whirlpool Manufacturing plant only.

Service Test - 67 Water Filter Switch Status

• Displays the water filter switch status in real time on the UI display. Verify that the open and close status display correctly. (01 = Switch open, filter installed, 02 = Switch closed, filter not installed)

Service Test - 73 Pantry Heater Status

Schematic Rev: A Wiring Diagram Rev: A

