

SERVICE AND WIRING SHEET

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2313239REL



⚠ WARNING

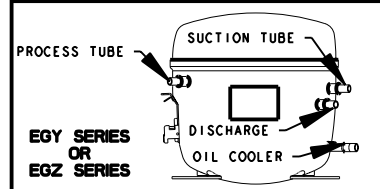
Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

• Normal operating conditions are viewed when the air and temperature controls are at mid-sitting, freezer section 0 to -5°F and unit is cycling.

NOTE: Watt and pressure readings will vary and are influenced by the existing condition of the appliance, such as iced-up evaporator, condition of condenser, defrost cycle, pull-down time and customer use.

PERFORMANCE DATA (NORMAL OPERATING CONDITIONS)				
AMB	WATTS	SYSTEM PRESSURE (PSIG)		
		HIGH SIDE	LOW SIDE	
70°	140 ± 20	95 ± 20	-7 TO 3	
90°	150 ± 20	135 ± 20	-4 TO 3	
110°	170 ± 20	185 ± 20	-2 TO 4	

(OIL COOLER IS OPTIONAL)
 EMBRACO



SERVICE INFORMATION (2313240 REL)

1. COMPRESSOR SUCTION AND PROCESS STUBS MAY NOT BE INTERCHANGED.
2. REFRIGERANT CHARGE MUST BE APPLIED TO HIGH SIDE ONLY.
3. ICE MAKER AND WATER VALVE NOT ORIGINAL EQUIPMENT ON ALL MODELS.
4. NOTE: ICE MAKER CYCLE MUST BE INITIATED ELECTRICALLY. DO NOT TRY TO MANUALLY START CYCLE.
5. SERVICE DEFROST BI-METALS -50°F OPEN
6. PART NUMBER CAN BE FOUND ON THE COMPONENT.

SERVICEABLE ELECTRICAL PARTS MATRIX (COMPONENTS BY CUBIC FOOT SIZE)

SERVICEABLE PARTS	22 CUBIC FT 120V	25 AND 27 CUBIC FT 120V	WATTAGE	RESISTANCE (Ω)
	Kenmore	Kenmore	120V AC	120V AC
COMPRESSOR	2255455	2255197		
RUN WINDINGS	*	*		1-5
START WINDINGS	*	*		3-11
RELAY, OVERLOAD	2255554	2255198		
RUN CAPACITOR (OPT)	See Note 6	See Note 6		
ELECTRIC AIR BAFFLE ASSY	2216112	2216112		
THERMISTOR	2188819	2188819		2.7K AT 77°F (25°C)
USER INTERFACE CONTROL	2313176	2313176		
MAIN CONTROL	2313177	2313177		
DEFROST HEATER	2188174	2188175	550-650	27-21
DEFROST BI-METAL	2188824	2188824		
EVAPORATOR FAN MOTOR	See Note 6	See Note 6	2-9	
CONDENSER FAN MOTOR	See Note 6	See Note 6	3-12	

ELECTRONIC CONTROL FEATURES

The electronic control in this appliance controls the temperatures in the refrigerator and freezer compartments independently, delays the operation of the evaporator fan, pulses the defrost heater and monitors the water filter usage. The fan delay and pulsed defrost features are controlled in the following manner:

1. **Evaporator Fan Delay** - The electronic control delays the evaporator fan from coming on for 60 seconds after the compressor has turned on, and the evaporator fan stays on for 120 seconds after the compressor has turned off.
2. **Pulsed Defrost Heat** - During the defrost cycle the heater is energized continuously for the first 5 minutes. It is then cycled off for 60 seconds and on for 120 seconds. This on/off cycle is repeated until the bi-metal opens or the maximum defrost time (25 minutes) is reached.

SERVICE DIANOSTICS MODE

The Service Diagnostic Mode can be entered 13 seconds after the refrigerator is powered up. This mode tests the thermistor inputs and control board outputs. The results of the thermistor checks are displayed on the RC temp display as shown below. In steps 3 through 6, the component tested will be energized and should function if operational.

- Press the Control **On Button** and the **C Button** simultaneously for 2 seconds.
- Diagnostics will begin at Step No. 1.
- **The freezer compartment (FC) temperature display will show "I" to indicate the control is in Step No. 1 of the diagnostics routine.**
- The table below shows the component tested at each step.
- Press the FC Temp Up Button to move to the next step in the sequence.
- **The FC display advances each time the the FC Temp Up Button is pressed (indicating the completion of the previous step).**
- The diagnostics mode ends automatically after the steps are complete or 20 minutes have passed (whichever comes first). The control will then resume normal cooling operation.

Service Tip: If the control does not respond it may be necessary to remove power from the entire appliance for a few seconds. Re-apply power and perform the service diagnostics routine to verify that the control is working correctly.

Step No.	Component Tested	Suggested Diagnostics Routine	RC Temp Display (Steps 1 and 2)
1	FC thermistor	This is an internal board test. The board will check the resistance value of the thermistor and display the results on the RC Temp Display.	1 Pass 2 Fail
2	RC thermistor	This is an internal board test. The board will check the resistance value of the thermistor and display the results on the RC Temp Display.	
3	Evaporator fan motor	Verify 120V AC between line and neutral at motor. Verify 120V AC between Red/White and White wires.	
4	Compressor and Condenser fan motor	Line voltage switched to components from board, verify 120V AC between line and neutral at compressor and motor (red wire and white wires).	
5	Air baffle motor	Verify 120V AC between line and neutral at baffle (White and Yellow/Red wires).	
6	Defrost heater/Bi-metal	Line voltage switched to components from board, verify 120V AC between line and neutral at heater. Note: If Bi-metal is open, it will need to be by-passed for heater to operate. See Note below. Press the FC Temp Up Button to indicate the completion of this step and the service routine.	

ATTENTION: IF BI-METAL IS BY-PASSED FOR TESTING (IF APPLICABLE), DO NOT OVERHEAT EVAPORATOR AREA.


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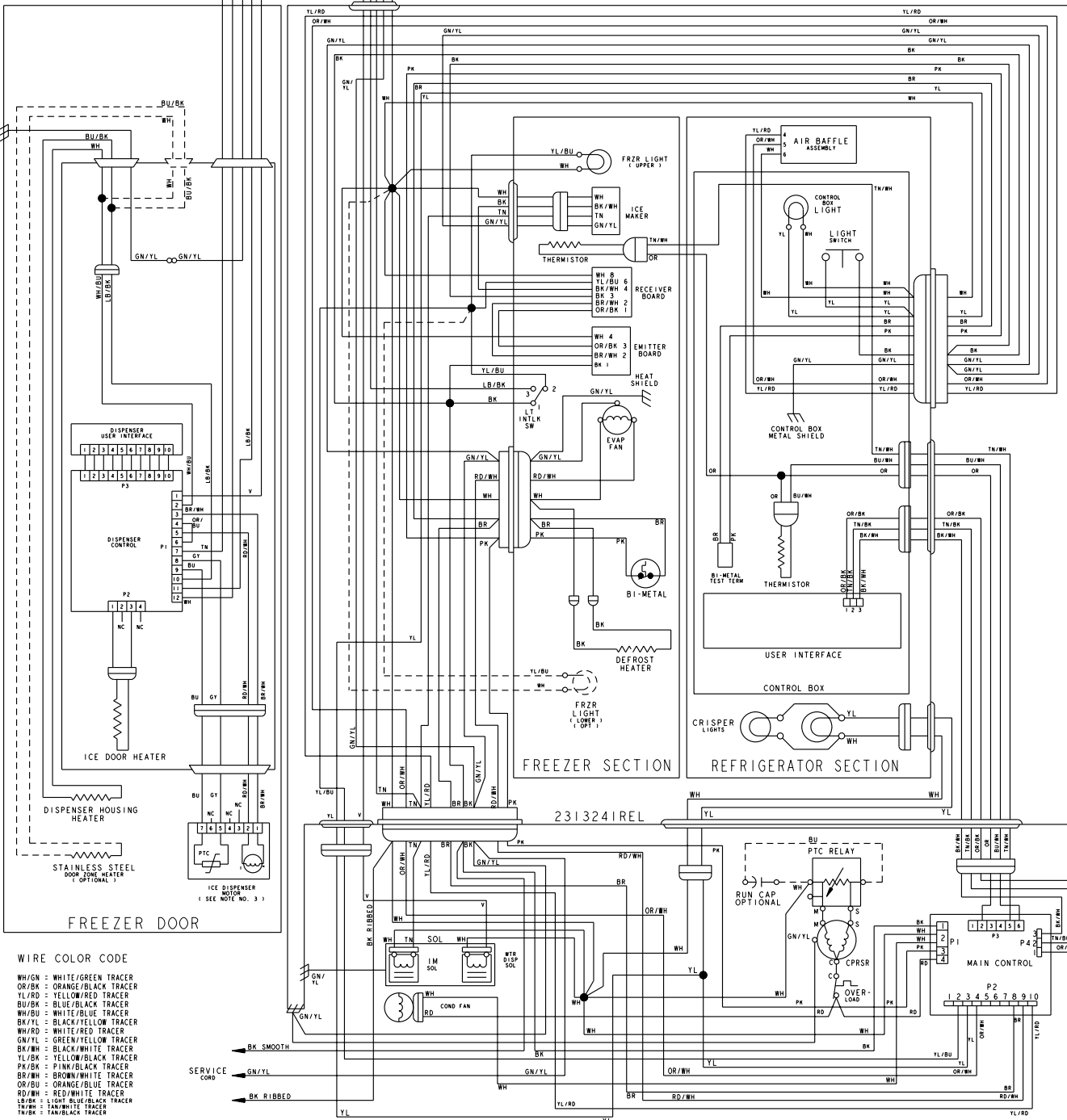
- NOTES:
1. 1M SOLENOID GROUNDED HEAT MOUNTING.
 2. EVAP COVER GROUNDED HEAT SHIELD.
 3. THE DISPENSER CONTROL HAS A BUILT IN INVERTER BOARD WHICH CONVERTS THE AC HOUSE POWER TO DC. THE WIRING AND RD/WH WIRES SWITCH POLARITY DEPENDS ON CROSSOVER POSITION. SEE TABLE BELOW.



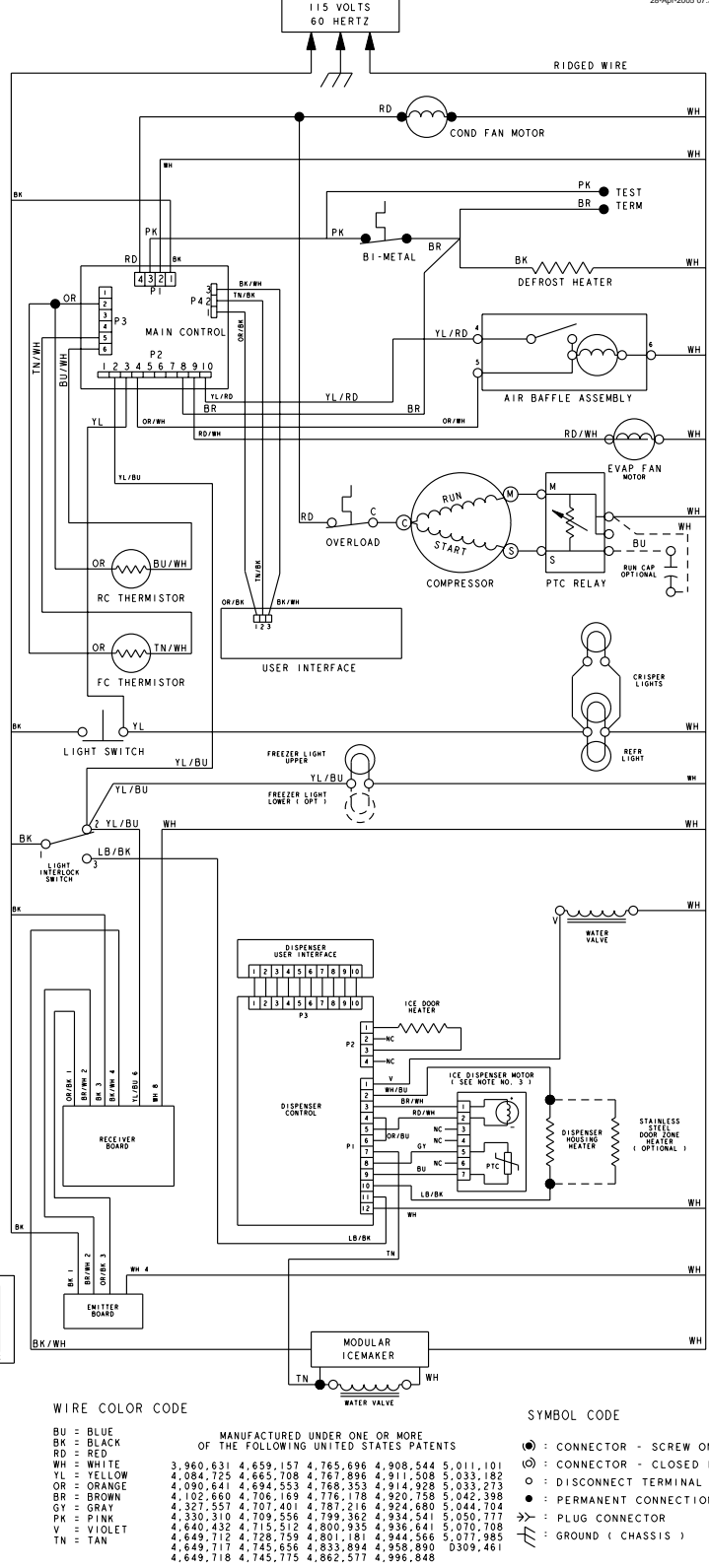
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WIRING DIAGRAM



- WIRE COLOR CODE
- WH/GN = WHITE/GREEN TRACER
 - OR/BK = ORANGE/BLACK TRACER
 - YL/BD = YELLOW/BLACK TRACER
 - BU/BK = BLUE/BLACK TRACER
 - WH/BU = WHITE/BLUE TRACER
 - BN/YL = BLACK/YELLOW TRACER
 - WH/RD = WHITE/RED TRACER
 - GN/YL = GREEN/YELLOW TRACER
 - BN/WH = BLACK/WHITE TRACER
 - YL/BK = YELLOW/BLACK TRACER
 - PK/BK = PINK/BLACK TRACER
 - BR/WH = BROWN/WHITE TRACER
 - OR/BU = ORANGE/BLUE TRACER
 - RD/WH = RED/WHITE TRACER
 - LB/BK = LIGHT BLUE/BLACK TRACER
 - TN/WH = TAN/WHITE TRACER
 - TN/BK = TAN/BLACK TRACER



- WIRE COLOR CODE
- MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING UNITED STATES PATENTS
- | | | | | |
|-----------|-----------|-----------|-----------|-----------|
| 3,960,631 | 4,659,157 | 4,765,696 | 4,908,544 | 5,011,101 |
| 4,084,725 | 4,665,708 | 4,767,896 | 4,911,508 | 5,033,182 |
| 4,090,641 | 4,694,553 | 4,768,353 | 4,914,928 | 5,033,273 |
| 4,102,660 | 4,708,169 | 4,776,178 | 4,920,758 | 5,042,398 |
| 4,327,557 | 4,707,401 | 4,787,216 | 4,924,680 | 5,044,704 |
| 4,330,310 | 4,709,556 | 4,799,362 | 4,934,541 | 5,050,777 |
| 4,640,432 | 4,715,512 | 4,800,935 | 4,936,641 | 5,070,708 |
| 4,649,712 | 4,728,759 | 4,801,181 | 4,944,566 | 5,077,985 |
| 4,649,717 | 4,745,556 | 4,833,894 | 4,958,890 | 5,089,461 |
| 4,649,718 | 4,745,575 | 4,862,577 | 4,986,848 | |
- OTHER PATENTS PENDING
- SYMBOL CODE
- ⊙ : CONNECTOR - SCREW ON
 - ⊞ : CONNECTOR - CLOSED END
 - ⊙ : DISCONNECT TERMINAL
 - ⊙ : PERMANENT CONNECTION
 - ⊞ : PLUG CONNECTOR
 - ⊞ : GROUND (CHASSIS)

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