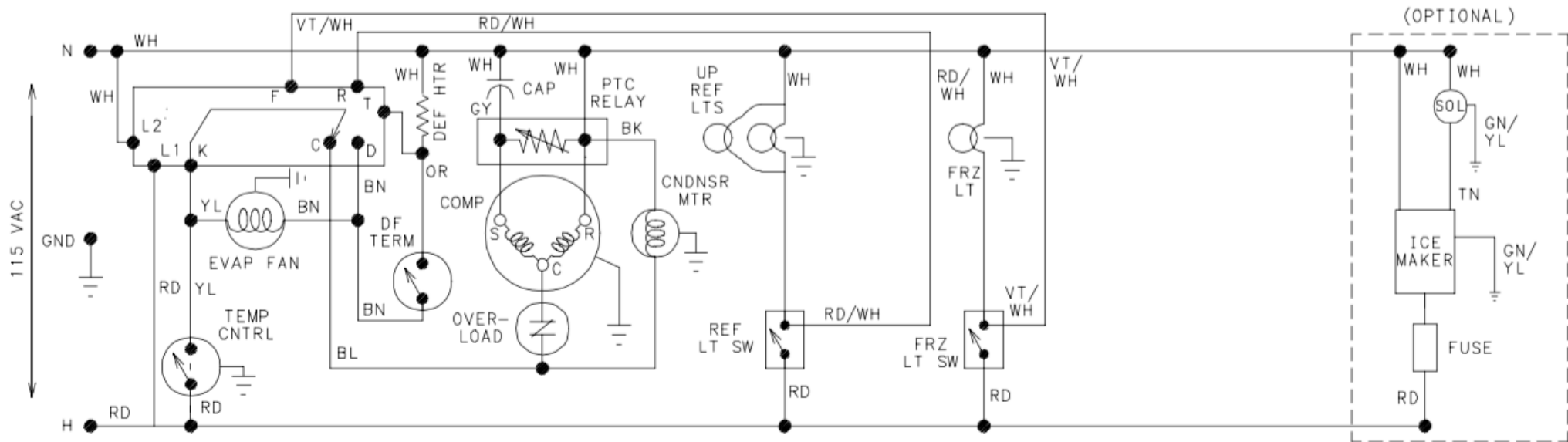


Acme M/N 110011 FDBM Refrigerator

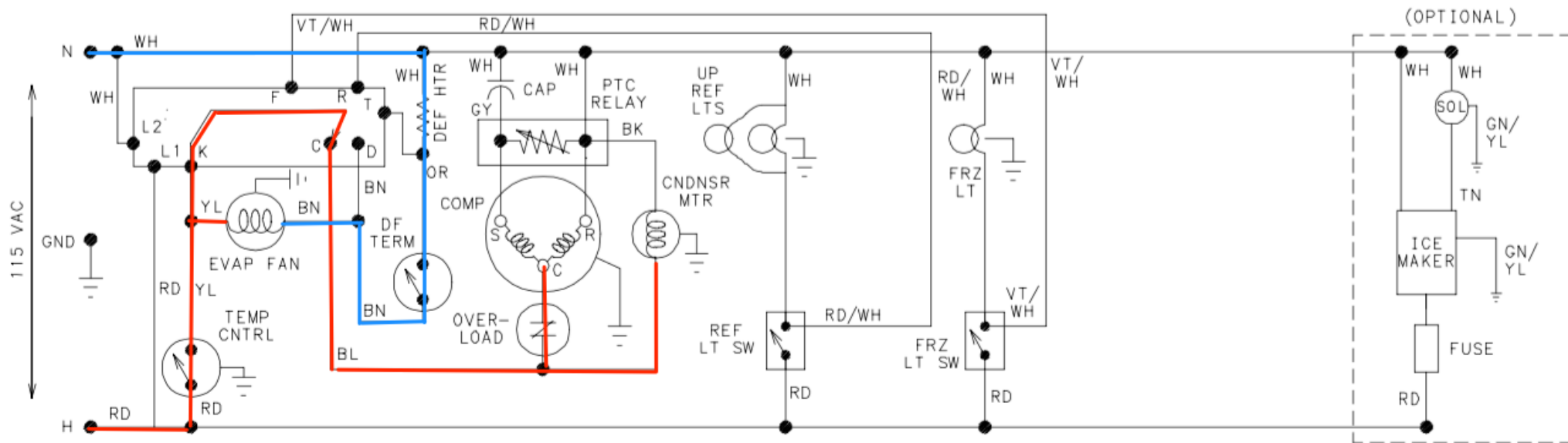
Service Call Request:

"Customer reports that the FF cmpt is warm. FZ still cold. Customer says the problem started right after that thunderstorm we had yesterday. Thinks the compressor isn't running because the fridge sounds quiet. Note: Customer is also Madonna's personal gynecologist!"

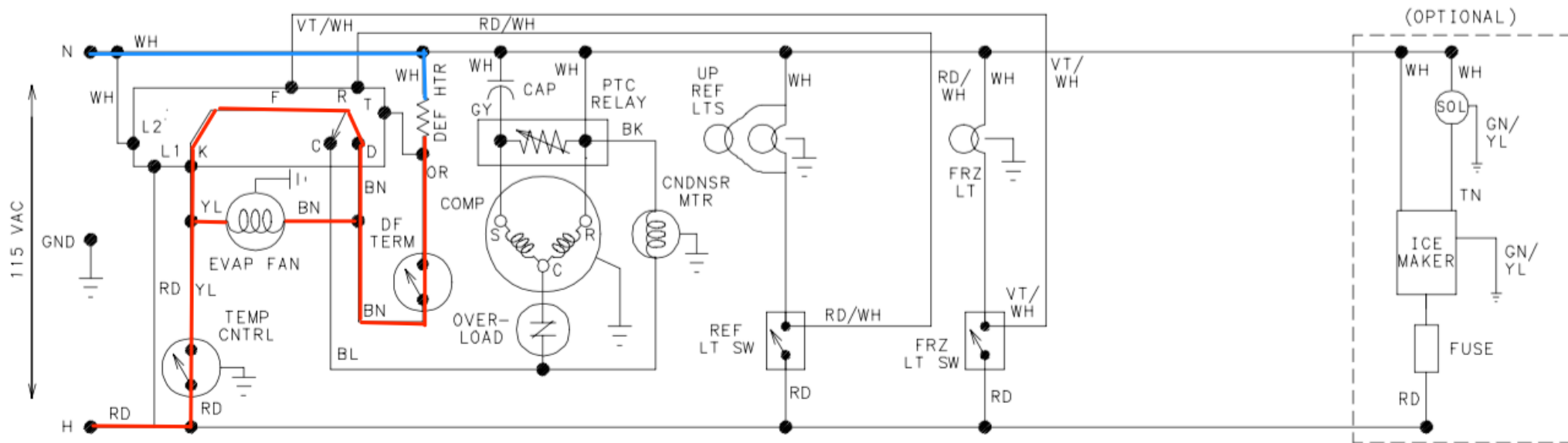
1. Problem Statement:
2. Schematic Review and Initial Findings:
3. LOI:
4. LOI Circuit Analysis:
5. Troubleshooting Hypothesis:
6. Electrical Measurements and Expected Readings:
7. EEPs:
8. Measurement Results and Expected Readings:
9. Compare Measurement with Specifications:
10. Make Repair and Check:



12026201 REV 02 PRINTED IN U.S.A.



12026201 REV 02 PRINTED IN U.S.A.



12026201 REV 02 PRINTED IN U.S.A.

Technical Information—Refrigerator

- Due to a possibility of personal injury or property damage, always contact an authorized technician for servicing or repair of this refrigerator.
- Refer to Service Manual RS1300003 for installation, disassembly, ice maker, safety, testing, and troubleshooting information.



CAUTION

All safety information must be followed as provided in Service Manual RS1300003.



WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to refrigerator before servicing, unless testing requires power. Wires removed during disassembly must be replaced on proper terminals to insure correct grounding and polarization.

Model	SX22S
Capacity	22.4 cu ft
Electrical requirements separate circuit	115 VAC 60 Hz 15 amps
Refrigerant Type	R134a
Width without side extrusions	35.75"
Depth without handle includes door extrusions	29.75"
Height including top hinge cap	68.5"

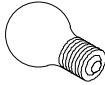
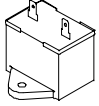
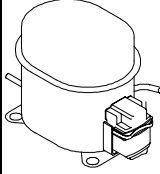
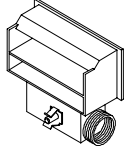
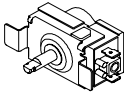

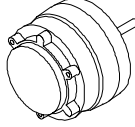
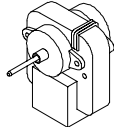
No Load Performance Controls in Normal Position

Ambient °F	Kw/24hr ±0.4			Percent Run Time ±10%			Cycles/24 hr ±25%			Refrigerator Center Compartment Food Average Temperature ±3°F			Freezer Compartment Food Average Temperature ±3°F		
	65°	90°	110°	65°	90°	110°	65°	90°	110°	65°	90°	110°	65°	90°	110°
22 Cu Ft	1	2	4	37	50	100	37	33	0	38	40	40	1	2	2

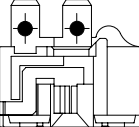
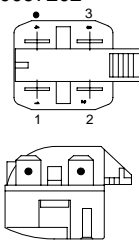
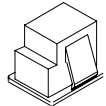
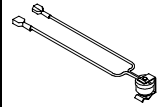
Temperature Relationship Test Chart

Ambient °F	T-1 Outlet ±3° F		T-2 Inlet ±3° F		T-3 Suction Line ±7° F		Average Total Wattage ±10%		Suction Pressure ±2 PSIG		Head Pressure ±5 PSIG	
65°	65°	90°	65°	90°	65°	90°	65°	90°	65°	90°	65°	90°
22 Cu Ft	-10	-11	-13	-12	67	90	161	171	1	1	85	135

Component Specifications

Illustration	Component	Test Procedure	
A0282803 	Bulb	Volt Watt	115/125 VAC 40 watts
C8931604 	Capacitor, compressor run	Volt Capacitance	220 VAC 15 Mfd +10% -5%
12049702 	Compressor	Type BTUH Volt Watt Current Lock rotor Full load Resistance Run Windings Start Windings	Fan Cooled, R134a refrigerant 970 BTUH 115 VAC, 60 Hz 176 watts 21.3 amps 1.6 amps 2.60 ohms 4.35 ohms
D7547412 	Control, damper	Settings #1 #4 #7	Closing temperatures 47°F 40°F 30°F
R0161092 	Control, freezer temperature	Settings #1-in #1-out #4-in #4-out #7-in #7-out	Temperatures 21.0°F 4.5°F 13.3°F -5.9°F 9.8°F -11.0°F
B2150504 	Drier	Drier must be changed every time the system is opened for testing or compressor replacement. Desiccant (20) 8 x 12 4AXH - 7 M>S> -Grams	
12049801	Heater, evaporator	Volt Wattage Resistance	115 VAC 450 ±5% watts 29 ±5% ohms
10884501 	Motor, condenser	Volt Rotation (facing end opposite shaft) RPM Watt Current Resistance	115 VAC, 60 Hz Clockwise 1300 RPM 10.0 watts 0.15 amps 220 ±10% ohms
10513803 	Motor, evaporator fan	Volt Rotation (facing end opposite shaft) RPM Watt	115 VAC, 60 Hz Clockwise 2500 RPM 12 ±15% watts

Component Specifications

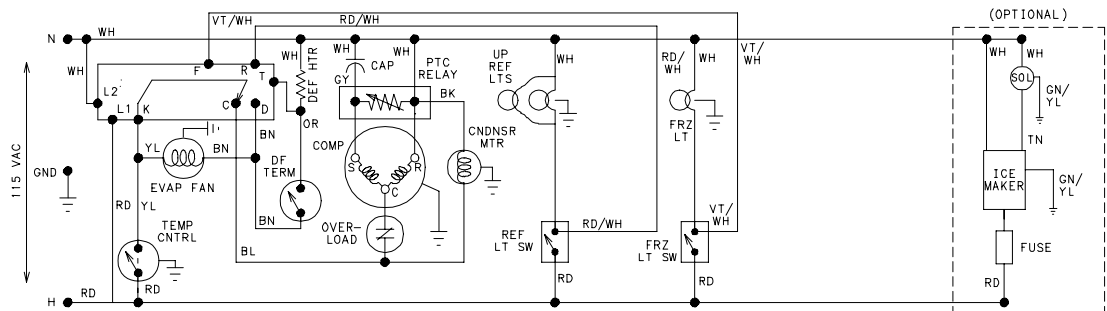
Illustration	Component	Test Procedure	
10377015 	Overload, 4TM	Volt Ult. trip amps @ 158°F (70°C) Close temperature Open temperature Short time trip (seconds) Short time trip amps @ 77°F (25°C)	115 VAC 3.51 amps 142°F (61°C) ±9° 257°F (125°C) ±5° 10 seconds ±5 14 amps
10097202 	Relay, ptc	Resistance With power off check: Across terminals 2 & 3 Shorted Open	3-12 ohms 0 ohms Very high or infinite ohms
C3680304 	Switch, light	Type Volt Current	SPDT, NC 125/250 VAC 5/2.5 amps
12017816 	Thermostat	Volt Watt Current Resistance across terminals Above 48° ±5°F Below 15° ±7°F Between 48° ±5°F and 15° ±7°F	120/240 VAC 1000 watts 10/5 amps Open Closed Will stay in current state (either open or closed) until either 48° ±6°F or 15° ±8°F is reached.

Component Specifications

12050506

Defrost occurs after predetermined length of compressor run hours. Compressor run time between defrost changes, or adapts, depending upon recent history of defrost lengths (time it takes for defrost terminator to open after defrost heater has been turned on).

- Defrost terminator opens at 48°F and closes at 25°F.
 - Compressor run time between defrost (CRTD) will be one of three values under normal operation:
 - CRTD 1 (8 hours)
 - CRTD 2 (12 hours)
 - CRTD 3 (16 hours)
- If defrost length is low (DT-LO defined as 19 minutes) indicating small frost load, CRTD for next defrost cycle is advanced to next level.
 If defrost length is high (DT-HI defined as 21 minutes) indicating large frost load, CRTD for next defrost cycle is lowered to next level.
 If defrost length is between 19 and 21 minutes CRTD for the next defrost cycle remains the same.
 Initial value at power up CRTD 0 is 4 hours.
- Vacation Mode CRTD equals 72 hours. Vacation Mode CRTD is interrupted with door openings. Defrost interval will revert back to interval before Vacation Mode. Three things must occur to reach Vacation Mode CRTD:
 - 1) Defrost interval must be CRTD 3 (16 hours).
 - 2) Both refrigerator and freezer doors must have remained closed since last defrost cycle.
 - 3) Defrost thermostat must have opened in less than 19 minutes during last defrost cycle.
 - Six minute dwell time occurs after defrost terminator opens before compressor and condenser fan motor will operate. If defrost thermostat does not open within 29 minutes from start of defrost cycle, adaptive defrost control will terminate defrost even though defrost thermostat had not opened.
 - To force defrost cycle, with compressor running and one compartment door closed, press either door light switch 4 times within 8 seconds with at least 1/2 second between each cycle.



Input voltage readings and checks

- L1 to L2 line voltage should be present when unit is powered.
- K to L2 line voltage should be present with cold control contacts closed.
- T to L2 line voltage should be present when cold control contacts are closed, defrost terminator is closed and adaptive defrost is in defrost mode.
- R to L2 line voltage should be present when refrigerator door open (door light switch is closed).
- F to L2 line voltage should be present with freezer door open (door light switch is closed).

Output voltage readings and checks

- C to L2 line voltage should be present when in refrigeration mode with cold control contacts closed.
- D to L2 line voltage present when in defrost mode with cold control contacts closed.

Schematic Diagram

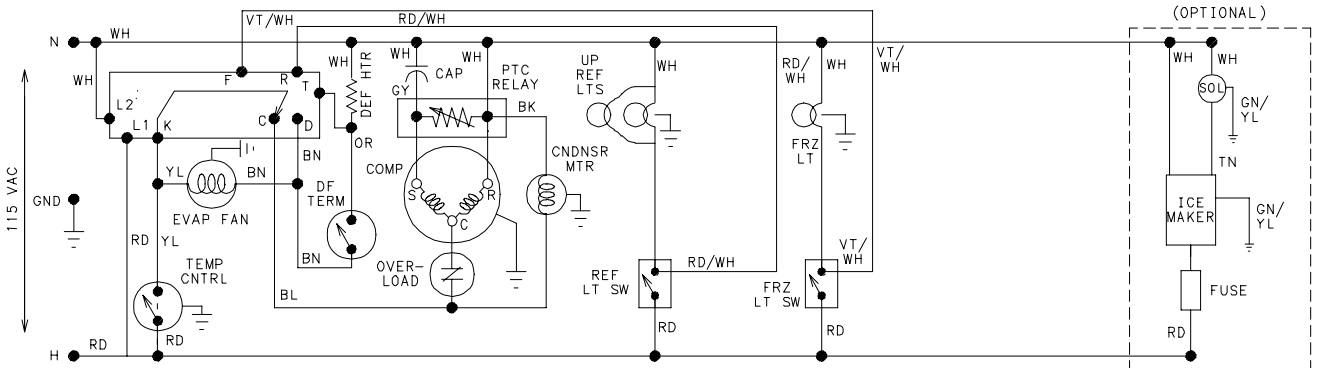


WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to refrigerator before servicing, unless testing requires power. Wires removed during disassembly must be replaced on proper terminals to insure correct grounding and polarization.



DANGER
High Voltage



12026201 REV 02 PRINTED IN U.S.A.

SX22S

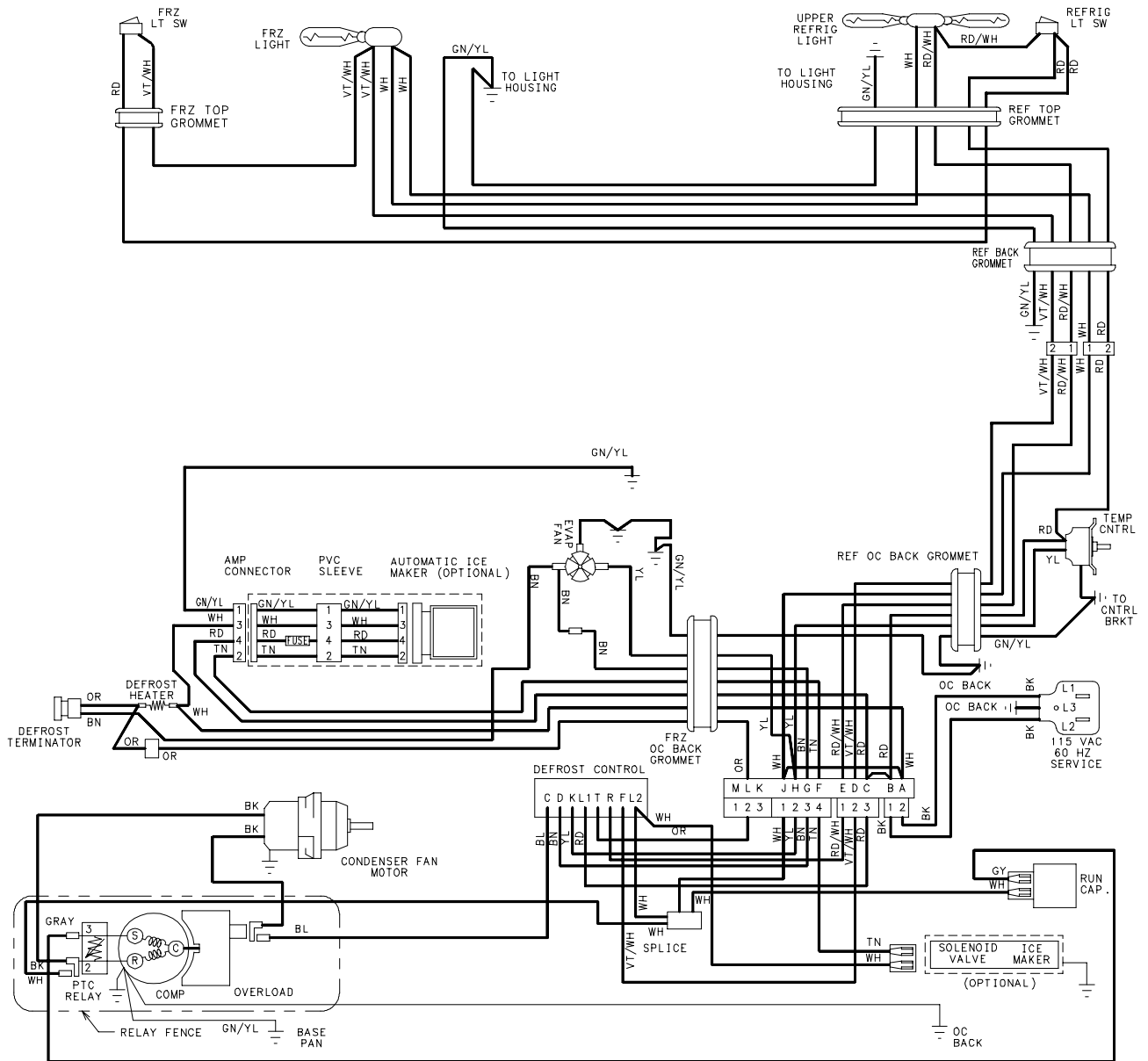
P1190213W

Wiring Diagram



WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to refrigerator before servicing, unless testing requires power. Wires removed during disassembly must be replaced on proper terminals to insure correct grounding and polarization.



12026201 REV 02 PRINTED IN U.S.A.

SX22S

P1190213W