

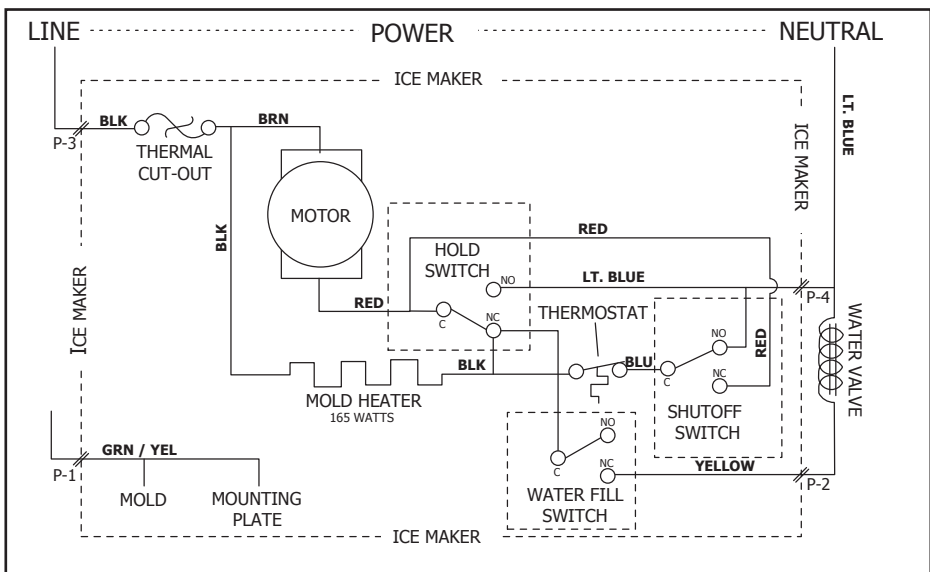
PERFORMANCE DATA NO LOAD & NO DOOR OPENINGS AT 37°/0° CONTROL SETTING		
Type A with Run / Start Capacitor	65°F (18°C) Ambient	90°F (32°C) Ambient
Operating Time	90 to 100%	100%
Freezer Temperature	-5° to 2°F (-20° to -17°C)	-1° to 3°F (-18° to -16°C)
Refrigerator Temperature	34° to 39°F (1° to 4°C)	34° to 39°F (1° to 4°C)
Low Side Pressure	-2 to 6 psig (-14 to 41 kPa)	-2 to 6 psig (-14 to 41 kPa)
High Side Pressure (last 1/3 cycle)	85 to 105 psig (586 to 724 kPa)	120 to 135 psig (827 to 931 kPa)
Wattage (last 1/3 cycle)	30 to 50	50 to 70
Amps (running)	.4 to .8	.7 to .9
Base Voltage	115 vac (127 vac max)	

DEFROST SPECIFICATIONS						
Cabinet Size:	Thermal Cutout		Heater		Defrost Thermistor Termination	
	Cut-in	Cut-out	Watts	Ohms	Cut-out	
27' & 28' SD, 22' CD	Freezer	110°F (43.3°C)	135°F (57.2°C)	500	26.5	48°F (8°C)
	Fresh Food Ice Maker	110°F (43.3°C)	135°F (57.2°C)	70	188.9	68°F (20°C)

Electronic Timer - (ADC) Defrost 24 minutes every 6-96 hours of compressor run time.

CONDENSER FAN MOTOR		
Watts	RPM	Amps
3.1	1100 CW Opposite Shaft	0.03 Running

FREEZER ICE MAKER SPECIFICATIONS	
Electrical	115 vac (127 vac max)
Thermostat	Opens at 48°F (9°C), Closes at 15° F (-9°C)
Heater Voltage	115 vac



CAUTION
All electrical parts and wiring must be shielded from torch flame. DO NOT allow torch to touch insulation; it will char at 200°F and flash ignite (burn) at 500°F. Excessive heat will distort the plastic liner.

FREEZER ICE MAKER INFORMATION (Where Applicable)

Test Cycling: Remove cover by inserting screwdriver in notch at bottom and prying cover from housing. Use screwdriver to rotate motor gear counterclockwise until holding switch circuit is completed. All components of ice maker should function to complete the cycle.

Water Fill Volume: The water fill adjustment screw will change the fill time. One full turn is equal to 20cc (.68 oz.). The correct fill is 102 to 130cc (3.4 to 4.3 oz.). When a water valve is replaced, the fill volume must be checked.

SERVICE DATA SHEET

A06156001

ICE & WATER - AUTOMATIC DEFROST BOTTOM FREEZER - R134a

IMPORTANT: PLEASE RETURN THIS SHEET TO ITS ORIGINAL LOCATION.

ERROR CODES			SPECIAL MODES				
Display		Interpretation	Mode	Display		Activate	Deactivate
FZ	FF			FZ	FF	(press for up to 10 sec. simultaneously)	
--	OP	Open FF Cavity Thermistor	Manual Defrost	d	F	FF + and FF -	Same to deactivate
OP	--	Open FZ Cavity Thermistor	Demo / Showroom	77	77	FZ + and FF -	Unplug to deactivate
--	SH	Shorted FF Cavity Thermistor	Sabbath	Sb	Sb	FZ - and FF +	Same to deactivate
SH	--	Shorted FZ Cavity Thermistor	System Diagnostic	No FF or FZ display, all UI LEDs on		FZ + and FF -	Press and hold FF + to deactivate
SY	CF	UI to Main Board communication failure; on start up	Current Air Temps	FZ Temp	FF Temp	FZ - and FF + and Water	Automatically after 10 sec
SY	CE	UI to Main Board communication error; after a period in operation	FFIM Diagnostic	Numerical display of first test		FZ + and FF +	Press and hold FF + to deactivate
SY	EF	Freezer Evaporator Fan Failure	Notes: • Always check for pin back-outs, pinched or damaged wires before replacing components. • Determine whether failure is caused by the component, main control board or wiring. • Contact TID before replacing main control board. • Refer to Service Manual for additional information.				

FRESH FOOD ICE MAKER DIAGNOSTIC MODE			
Activate:	Press FZ UP and FF UP temperature pads for up to 10 sec. simultaneously. Press FF UP or FF DOWN to move forward or backward through tests.		
Deactivate:	Press FF UP for up to 10 sec. FFIM Diagnostic Mode will automatically deactivate after 5 min. of inactivity. NOTE: Silence alarm.		
Test	To activate test	Passing Result	
52C	Ice Maker Thermistor	Activates automatically	FZ display shows temperature sensed by Ice Maker Thermistor. "OP" if open; "SH" if short
55C	Water Valve	Press power on-off	Remove ice tray to collect water into a measuring container to measure water fill. If collecting water into ice tray, first perform test 63C to empty ice tray.
57C	Evaporator Fan (FFIM)	Press power on-off	"On" on FZ display when fan activated, "OFF" when deactivated.
58C	Ice Level Sensor	Activates automatically	Remove ice bucket. Allow bail arm to drop freely. Pass if no alarm when tray returns to "home" position. Hold bail arm up. Pass if alarm sounds when tray returns to "home" position. This test runs continuously until another test is selected.
63C	Twist Tray	Press power on-off	Remove ice bucket. FZ display shows "1" and "GOOD".

FRESH FOOD ICE MAKER FILL TIME ADJUSTMENT MODE			
NOTE: First consider water filter condition before adjusting fill time.			
Activate:	Press and hold the Water and Crush pads for up to 10 seconds. Press FF + or FF - to adjust between the 3 fill settings.		
Deactivate:	Exits automatically after 10 seconds, or press any button other than + or -.		
Display		Description	
FZ	FF	--	Min Fill Time (default)
ICE		=	Mid Fill Time
		≡	Max Fill Time

VCC COMPRESSOR MOTOR RESISTANCE CHECK

Check resistance between terminals 1 and 2, 2 and 3, 3 and 1. If all resistances are equal, compressor is operative.

SYSTEM DIAGNOSTIC MODE			
Activate:	Press FZ UP and FZ DOWN for up to 10 sec. simultaneously. Press FF UP to advance through tests.		
Deactivate:	Press FF UP for up to 10 sec. Diagnostic Mode will automatically deactivate after 5 min. of inactivity. Note: Silence alarm.		
<ul style="list-style-type: none"> • Tests marked with "*" may not be applicable to this unit and will not be displayed in System Diagnostic Mode. • Tests displayed in diagnostic mode but not described below are for internal purposes only; advance through. • View UI display for "on," "off," "CL," "OP," "SH," "LO," "HI" or numerical results of tests. • Listen for operating sounds; feel for heat or air flow as appropriate to determine results of tests. 			
Test	To activate test:	Passing result	
--	First Screen	--	All LEDs on UI illuminated, except digit displays.
--	Second Screen	--	All segments of UI digit displays illuminated.
--	Third Screen	--	Blank UI display, no LEDs illuminated.
28	Dispenser Paddle	Press disp. paddle	"on" on UI when depressed; "off" when released
34	Ambient Thermistor @ UI	Activates automatically	UI shows temperature sensed at UI; Pass if within +20°F/-10°F of temperature measure with gauge at UI location. "OP" if open; "SH" if short.
46	Humidity Sensor	Activates automatically	"OP" if open, "SH" if short. AC Heater System: Displays %RH. DC Heater System: "HI" - heater should be on. "Lo" - heater should be off. %RH is displayed when humidity is between "Lo" and "HI" values; heater could be on or off.
2	Freezer Defrost Heater	Press power on-off	Freezer defrost heater on when "on"; off when "off". Evaporator thermistor temperature is flashed. Watch for temp increase with the heater on. It may take a few minutes for the evaporator to heat up.
3	FF Lights powered by external board	Press power on-off	FF lights on when "on"; off when "off"
8	Water Valve (Dispenser)	Press power on-off	FF door must be closed. Be prepared to collect water at dispenser. Water dispenses when "on"; stops when "off"
10	Auger Motor	Press power on-off	FF door must be closed. Motor running when "on"; motor stopped when "off"
11	Cube/Crush Solenoid	Press power on-off	FF door must be closed. Do not leave solenoid in activated state. Solenoid activated when "on"; deactivated when "off".
12	Condenser Fan	Press power on-off	Fan running when "on"; stopped when "off"
41	Perfect Temp Drawer (PTD)	Press power on-off	PTD UI illuminated when "on", off when "off"
43	Mullion Anticondensation Heater	Press power on-off	Flip mullion heater and dispenser pocket heater on when "on"; off when "off"
38	VCC Compressor	Press power on-off	Compressor running when "on"; off when "off"
15	Freezer Evaporator Fan	Press power on-off	Press to toggle between "off", "LO" and "HI". A current sensor reading is flashed (units are not mA). OFF reading should be around 2. "LO" speed reading should settle down to around 9. "HI" speed reading should settle down above 40.
20	FZ Lights	Press power on-off	FZ lights on when "on", off when "off"
22	Damper	Press power on-off	Perform test 15 and set fan to "HI". Then check for air flow when open "OP"; and no air leaks when closed "CL"
36	Ice Chute Door	Depress ice chute door or press power on-off	"OP" on UI when manually opened; "CL" when closed. Or using "Power On-Off," "OP" on UI when solenoid activated; "CL" when deactivated.
23	FF Door	Open/Close FF door	"CL" on UI when door closed; "OP" when open
24	FZ Door	Open/Close FZ door	"CL" on UI when door closed; "OP" when open
26	Ice Maker Defrost Heater	Activates automatically	Heater is turned on automatically. The ice maker evaporator thermistor temperature is flashed. Watch for temp increase with the heater on. It may take a few minutes for the evaporator to heat up.
29	FF Thermistor	Activates automatically	UI shows temperature sensed by FF thermistor; pass if within 10°F of temperature measured with gauge at FF thermistor location. "OP" if open; "SH" if short
30	FZ Thermistor	Activates automatically	UI shows temperature sensed by FZ thermistor; pass if within 10°F of temperature measured with gauge at FZ thermistor location. "OP" if open; "SH" if short
33	Ambient Thermistor @ Main Board	Activates automatically	UI shows temperature sensed at main board; pass if within +20°F/-10°F of temperature measured with gauge at main board location. "OP" if open; "SH" if short
39	Freezer Evaporator Thermistor	Activates automatically	UI shows temperature sensed by freezer evaporator thermistor; pass if within 10°F of temperature measured with gauge at evaporator thermistor location. "OP" if open; "SH" if short
45	Ice Maker Mold Thermistor	Activates automatically	UI shows temperature sensed at ice maker; pass if within +20°F/-10°F of temperature measured with gauge at ice maker mold. "OP" if open; "SH" if short
68	Ice Maker Evaporator Thermistor	Activates automatically	UI shows temperature sensed by evaporator thermistor; pass if within 10°F of temperature measured with gauge at evaporator thermistor location. "OP" if open; "SH" if short
0-	Firmware Parameters	Press power on-off	Displays digit sequence; record
1-	Main Board Firmware	Press power on-off	Displays digit sequence; record
3-	UI Firmware	Press power on-off	Displays digit sequence; record

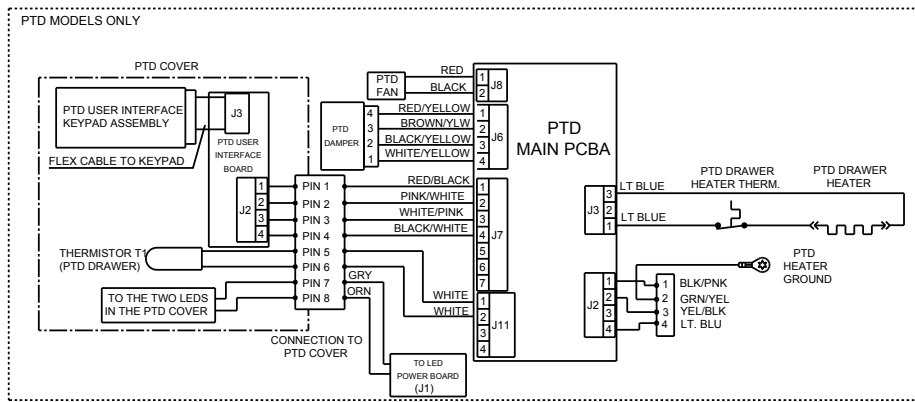
IMPORTANT SAFETY NOTE
The information provided herein is designed to assist qualified repair personnel only. Untrained persons should not attempt to make repairs due to the possibility of electrical shock. Disconnect power cord before servicing this appliance.

IMPORTANT
If any green grounding wires are removed during servicing, they must be returned to their original position and properly secured.

Service Mode For Perfect Temp™ Drawer

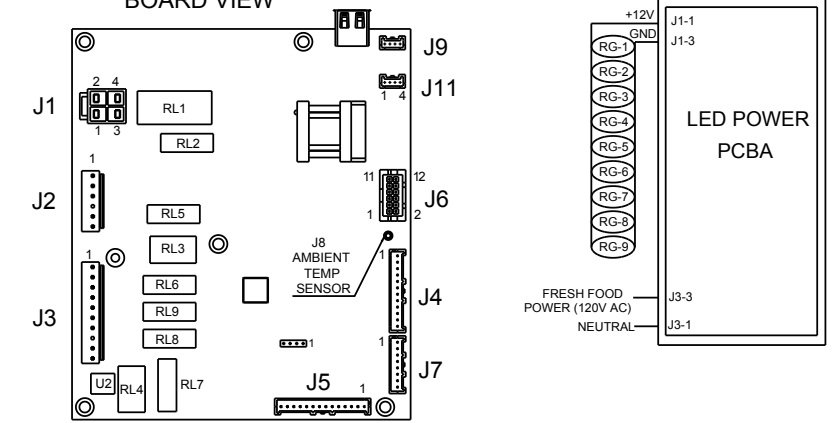
<p>Activation This mode is accessible only when the drawer is in OFF mode. Press and hold the temperature decrease key (-) and the temperature increase key (+) for 5 seconds.</p> <p>Deactivation Press and hold the temperature (+) key for 5 seconds, or no keys pressed in 5 minutes returns to the OFF mode of operation.</p>	<p>Test Operation The up/down buttons will be used to navigate through the tests and the ON/OFF button will be used to initiate the displayed test.</p> <p>Fan Test Display shows "F1" for fan on or "F0" for fan off.</p> <p>Heater Test Display shows "H1" for heater ON or "H0" for heater OFF.</p>	<p>Damper Test Display shows "d1" for damper open, or "d0" for damper closed. Damper movement may take 30 seconds.</p> <p>To Test Damper 1. Remove drawer. 2. Start damper test. 3. Observe damper moving open and closed. 4. Exit damper test.</p>	<p>Report NTC Temperature Test Display shows "b1" for chamber sensor test. The UI display will show -9°F until the main board responds with associated sensor temperature reading.</p> <p>Display Test "LO" for display test. The display test will cycle through all the display segments with a minimal on time for each segment.</p>
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Fault Codes Listed on Diagram Sheet



- PTD ERROR CODES**
- 9X - SHORTED KEY/BUTTON, WHERE THE "X" IS:
 1 FOR "ON/OFF"
 2 FOR "+"
 3 FOR "C/F"
 4 FOR "-"
 5 FOR "LOCK"
 6 FOR "V" DOWN ARROW KEY
 7 FOR "V" UP ARROW KEY
- 2X - OPEN NTC, WHERE THE "X" IS:
 1 FOR THE PTD DRAWER NTC
- 3X - SHORTED NTC, WHERE THE "X" IS:
 1 FOR THE PTD DRAWER NTC
- CE - LOSS OF COMMUNICATION BETWEEN UI AND MAIN PCB
- HI* - UCL OVER TEMP TIME OUT EXCEEDED
- LO* - LCL UNDER TEMP TIME OUT EXCEEDED

BOARD VIEW



ABBR.	EXPLANATION
AT1	9 PIN CONNECTION AT AIR TOWER
IM1	9 PIN CONNECTION IN FRESH FOOD ICEMAKER COMPARTMENT
IM2	6 PIN CONNECTION IN FRESH FOOD ICEMAKER COMPARTMENT
LH1	6 PIN CONNECTION AT THE LEFT DOOR UPPER HINGE
LH2	5 PIN CONNECTION AT THE LEFT DOOR UPPER HINGE
MB1	9 PIN CONNECTION IN THE MAIN BOARD HOUSING BEHIND THE TOE GRILLE
MB2	4 PIN CONNECTION IN THE MAIN BOARD HOUSING BEHIND THE TOE GRILLE
MC1	9 PIN CONNECTION IN THE MACHINE COMPARTMENT TO THE LEFT OF THE COMPRESSOR
RH1	9 PIN CONNECTION AT THE RIGHT DOOR UPPER HINGE
RH2	5 PIN CONNECTION AT THE RIGHT DOOR UPPER HINGE
RH3	2 PIN CONNECTION WITH THICKER WIRES AT THE RIGHT DOOR UPPER HINGE

