

SYSTEM DIAGNOSTIC MODE				
System Diagnostics		Refer to SYSTEM DIAGNOSTIC MODE table: FZ + A and FZ - v for 10 secs		
Code	Test	Activation/Deactivation	Display	Passing Result
---	1st Screen	---	Turn on all LEDs on the Main UI and VCZ UI	---
	2nd Screen		Turn off all LEDs on the Main UI and VCZ UI	
2	FZ Defrost	Press Cube to change the status of the load	Heater is on when the display reads On , off when oF	Defrost heater shows temp increase before 5 min have passed or reaches 45°C cutout.
8	Main Water Valve		Main valve activates when On , stops when oF	Valve turns on and off.
53	Dispenser Water Valve + Main Valve		Water dispenses when On , stops when oF	Water successfully dispenses at dispenser.
56	FF IM Water Valve + Main Valve		Remove the ice tray to collect water into a container to measure the water fill. If collecting water into the ice tray, perform test 50 first to empty the tray. Water flows in the tray when On . Test is correspondent to the ice tray water fill setting; automatically goes to oF state once the configured time elapses.	Water dispenses at the ice tray for the configured time setting.
71	FF Defrost Heater		Heater is on when the display reads On , off when oF	Defrost heater shows temp increase before 5 min have passed or reaches 45°C cutout.
72	FF IM Defrost Heater			
74	VCZ Balance Heater			
79	FF Fill Tube Heater		FF fill tube heater activates when On , deactivates when oF	Fill tube heater successfully turns on and off. Note a temperature increase in fill tube area.
10	Auger Motor		Auger activates when On , deactivates when oF	Auger motor successfully activates
13	FF Light		FF lights come on when On ; lights turn off when oF	All FF lights turn on
14	VCZ Light		VCZ light comes on when On ; light turns off when oF	
15	Freezer Evaporator Fan		Fan runs at 3 speeds: max On , medium MI , stopped oF ; locked rotor shows Lc . No PWM signal shows nS when fan stops (oF). No 12V signal or ground shows nP when fan is On or MI	Fan will cycle through all 3 speeds and Lc or nS or nP is not displayed
17	VCZ Fan Motor		Fan is on when On , deactivates when oF	Fan motor successfully activates
18	Condenser Fan		FZ light comes on when On ; lights turn off when oF	FZ light turns on
20	FZ Light		Compressor runs at max speed when On , stops when oF	Compressor successfully turns on
38	VCC Compressor		Chute heater activates when On , deactivates when oF	Heater successfully turns on and you feel the difference in temperature around the dispenser ice chute
47	Ice Chute Heater		Evap fan motor activates when On , deactivates when oF	FF IM evap fan successfully turns on
62	FF IM Evaporator Fan Motor		Flipper mullion heater activates when On , deactivates when oF	Heater successfully turns on and you feel the difference in temperature along the flipper mullion
63	Flip Mullion DC Heater		Dispenser pocket light turns on when On , deactivates when oF	Dispenser pocket light successfully turns on
66	Dispenser Light		Fan on when On , deactivates when oF	Fan motor successfully activates
70	FF Evap Fan Motor	VCZ damper heater activates when On , deactivates when oF	Heater successfully turns on and you feel the difference in temperature around the dispenser ice chute	
76	VCZ Damper Heater	Solenoid activates when On , deactivates when oF	Solenoid turns on and off	
84	Cube/Crush DC Solenoid	FRZ evap fan turns on at max speed Damper opens when OP , closes when CL Check for air flow when damper fully opens (OP) and fully closes (CL) Screen blinks 1 during damper movement Any FRZ evap fan motor errors display alternatively of damper status during test	Damper successfully opens and closes and you feel no air flow when the damper closes (CL)	
77	VCZ Damper Motor	Flapper closes when CL , opens when OP	Flapper door successfully opens and closes; Er does not show on display	
36	Ice Chute Door/Flapper Motor	Remove ice bucket in order to see rotation of tray. Display shows Go when tray is in home position (horizontal). Screen blinks 1 during rotation. In case of failure at end of twisting operation, screen shows Er	Tray successfully twists and Er does not display at the end of the cycle	
50	FF IM Twist Tray Harvest Test	Remove ice bucket to see status of IM bail arm. Allow bail arm to drop freely, Em (empty) shows when tray returns home. Hold bail arm up by hand, Fu (full) shows when tray returns home. In case of failure at end of twisting operation, Er shows. Screen blinks 1 during rotation.	Bail arm successfully completes test and Er does not display at the end of each cycle	
78	FF IM Bail Arm Test	Compressor automatically runs at max speed. Valve cycles through 4 states: 1. 03 Open position 2. 00 Closed position 3. 01 IM/FZ position 4. 02 FF/IM/FZ position FF IM evap temp flashes during 00 and 01 to check if temp is increasing/decreasing in FF IM evap FF evap temp flashes during steps 03 and 02 to see if temp is increasing/decreasing in FF evap during movement Screen flashes 1 when the valve moves from position to position.	Damper successfully opens and closes and you feel no air flow when the damper closes (CL)	
61	Stepper Motor Valve	Open/Close FF Doors	Display reads correctly when the door is opened/closed	
23	FF Door Switch	Open/Close FZ Door		
24	FZ Door Switch	Open/Close VCZ Door		
25	VCZ Door Switch	Dispenser Paddle	Display shows oF when you press the paddle; On when you release or do not press the paddle	
28	Dispenser Paddle	Press the Dispenser Paddle	Display shows oF when you do not press the paddle and On when you press the paddle	
29	FF Temp Sensor	Activates automatically	Display shows compartment temperature in either C or F depending on the mode Display reads OP if open circuit; SH if short circuit	Temperature displays and does not show OP or SH
30	FZ Temp Sensor		Display shows FF evaporator temperature in either C or F depending on the mode Display reads OP if open circuit; SH if short circuit	
31	FF Evaporator Temp Sensor		Display shows compartment temperature in either C or F depending on the mode Display reads OP if open circuit; SH if short circuit	
32	VCZ Temp Sensor		Display shows UI temperature in either C or F depending on the mode Display reads OP if open circuit; SH if short circuit	
34	UI Ambient Temp Sensor		Display shows FZ evaporator temperature in either C or F depending on the mode Display reads OP if open circuit; SH if short circuit	
39	FZ Evaporator Temp Sensor		Display shows FF IM tray temperature in either C or F depending on the mode Display reads OP if open circuit; SH if short circuit	
45	FF IM Tray Temp Sensor		Display shows FF IM evaporator temperature in either C or F depending on the mode Display reads OP if open circuit; SH if short circuit	
68	FF IM Evaporator Temp Sensor		Display shows relative humidity sensed by H&T sensor on UI. Display reads OP if open circuit, SH if short circuit	
64	Humidity Sensor			

SERVICE DATA SHEET

A23689302

ICE & WATER - AUTOMATIC DEFROST BOTTOM FREEZER - R600a

IMPORTANT: PLEASE RETURN THIS SHEET TO ITS ORIGINAL LOCATION.

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 you remove any green grounding wires during servicing, you must return and properly secure them to their original position.

This concludes the hardware tests. The following tests correspond to firmware versions. Before each firmware version is displayed, -- will appear on screen followed by each 8-digit string representing firmware version. After the string has been displayed, -- will appear again before automatically proceeded to the next 8-digit string. Press **+** to advance to the next string at any time

--	Software Version	Press + to skip to the next test	The current software revision will show simultaneously on both displays. For example: 00559502 will be shown as 0-0, 0-0, 5-5, 5-5, 9-9, 5-5, 0-0, 2-2	
	Main Board Firmware Version		The current software revision will show simultaneously on both displays. For example: JHBI0500 will be shown as J-J, H-H, B-B, I-I, 0-0, 5-5, 0-0, 0-0	
	VCZ Firmware Version		The current software revision will show simultaneously on both displays. For example: 3HFE0C00 will be shown as 3-3, H-H, F-F, E-E, 0-0, C-C, 0-0, 0-0	
	Dispenser UI Firmware Version		The current software revision will show simultaneously on both displays. For example: 2HFE0H12 will be shown as 2-2, H-H, F-F, E-E, 0-0, H-H, I-I, 2-2	
	Lifetime		Press + to advance to next digit	Displays number of days the appliance has been powered. Range is from 0-9999

PERFORMANCE DATA NO LOAD & NO DOOR OPENINGS AT 37°/0° CONTROL SETTING

Type A with Run / Start Capacitor	CD I&W DISPENSER		SD I&W DISPENSER	
	55°F (13°C) Ambient	90°F (32°C) Ambient	55°F (13°C) Ambient	90°F (32°C) Ambient
Operating Time	70 to 90%	90 to 100%	40 to 60%	90 to 100%
Freezer Temperature	-6° to 6°F (-21° to -14°C)			
Refrigerator Temperature	34° to 44°F (1° to 7°C)			
VCZ Temperature	-6° to 45°F (-21° to 7°C)			
Low Side Pressure	-1 to 3 psig (98 to 124 kPa)	0.8 to 3 psig (107 to 120 kPa)	-7.6 to 0 psig (49 to 101 kPa)	-6.2 to 0 psig (58 to 101 kPa)
High Side Pressure	69 to 83 psig (577 to 672 kPa)	117 to 128 psig (907 to 982 kPa)	21 to 24 psig (244 to 268 kPa)	60 to 68 psig (515 to 571 kPa)
Wattage	45 to 55W	54 to 74W	25 to 40W	40 to 75W
Amps (running)	0.7 to 0.9	0.1 to 1.1	0.4 to 0.7	0.7 to 1.1
Base Voltage	115 vac (103 to 127 vac max)			

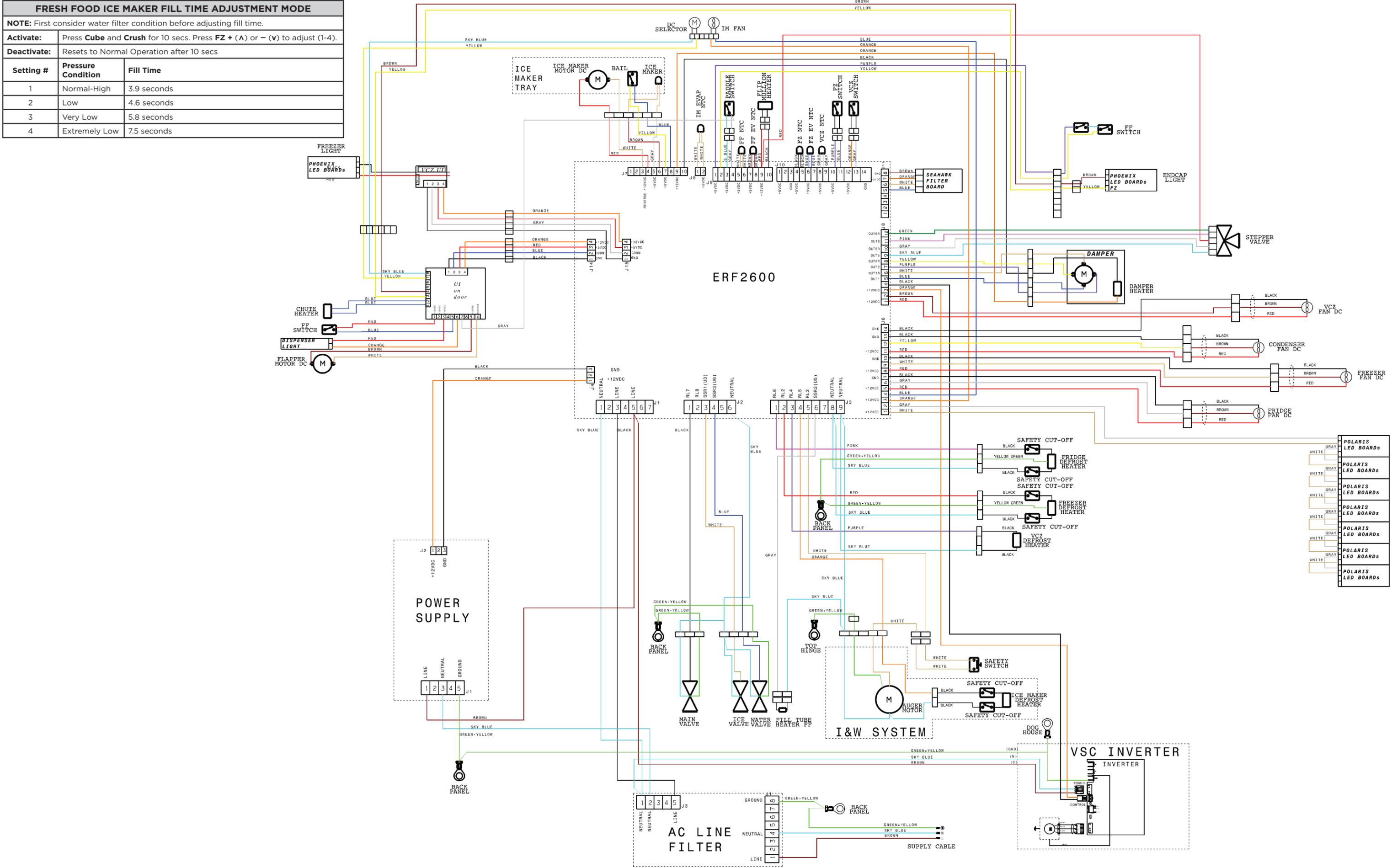
ERROR CODES

Error Message Display		Interpretation
FZ Temp Disp. Area	FF Temp Disp. Area	
Er	Ht	Defrost Heater Open/Shorted
	CE	Communication Error UI to Main Board
dl	SP	Chute Flapper Error - Flapper not Closed
Er	t1	FZ Temp Sensor Open/Shorted
	t2	FZ Defrost Sensor Open/Shorted
	t3	FF Temp Sensor Open/Shorted
	t4	FF Defrost Sensor Open/Shorted
	t5	VCZ Temp Sensor Open/Shorted
	t6	FF IM Tray Open/Shorted
	t7	FF IM Defrost Sensor Open/Shorted

SPECIAL MODES

Mode	Display			Activate	Deactivate
	FZ	FF	Other		
Manual Defrost	d	F	---	FZ + A and FF + A for 10 secs	---
Sabbath	Sb			FZ - v and FF + A for 5 secs	
Demo/Showroom			Demo Light On	FZ + A and FF - v for 10 secs	
System Diagnostics			Refer to System Diagnostics Table	FZ + A and FZ - v for 10 secs	
°F/°C Display		---	°F or °C	FF + A and FF - v for 5 secs	
Sleep/Awake Mode			Display off or always on	Crush and Light keys for 5 secs	
FF IM Fill Time Menu			Setting will appear on UI	Cube and Crush keys for 10 secs	After 10 secs of no activity

FRESH FOOD ICE MAKER FILL TIME ADJUSTMENT MODE		
NOTE: First consider water filter condition before adjusting fill time.		
Activate:	Press Cube and Crush for 10 secs. Press FZ + (Λ) or - (v) to adjust (1-4).	
Deactivate:	Resets to Normal Operation after 10 secs	
Setting #	Pressure Condition	Fill Time
1	Normal-High	3.9 seconds
2	Low	4.6 seconds
3	Very Low	5.8 seconds
4	Extremely Low	7.5 seconds



Wire Diagram A20593707 Rev C