SYSTEM DIAGNOSTIC MODE

Activate:	Press and hold **+** and **—** keys simultaneously for 10 secs. Use **+** to advance through different loads and **—** to go back to the previous load.			
Deactivate:	Press and hold **+** and **—** keys simultaneously for 10 secs.			

Display	Test	Activation/Deactivation	Display	Passing result
---	First Screen	---	Turn on all LEDS on main UI	---
---	Second Screen	---	Turn off all LEDS on main UI	
2	FZR Defrost	Press **Modes** to change the status of load	Heater on when 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 is activated when **On**, stops when **oF**	Valve turns on and off
82	IM Water Valve + Main Valve		Remove ice tray to collect water into a container to measure water fill. If collecting water into ice tray, perform test 88 first to empty tray. Water flows in the tray when **On**, test is correspondent to Ice tray water fill setting; automatically goes to **oF** state once configured time has elapsed.	Water is dispensed at ice tray for configured time setting.
13	FF Light		FF lights come on when **On**; lights turn off when **oF**	All FF lights turn on
15	FRZ Evaporator Fan Motor		Fan runs at 3 speeds: max speed **On**, medium speed **MI**, stopped **oF**; locked rotor will show **Lc**. No PWM signal will show **nS**; when fan is stopped **oF** No 12V signal or ground will show **nP** when fan is **On** or **MI**	Fan will cycle through all 3 speeds and **Lc** or **nS** or **nP** is not displayed
38	VCC Compressor		Compressor is running at max speed when **On**, stopped when **oF**	Compressor successfully turns on
63	Flipper Mullion DC Heater		Flipper mullion heater is activated when **On**, deactivated when **oF**	Heater turns on successfully and difference in temperature is felt around along flipper mullion
94	FRZ Fill Tube Heater		FRZ fill tube heater is activated when **On**, deactivated when **oF**	Fill tube heater is successfully turned on and off. Temperature increase is noted in fill tube area
22	FF Damper Motor		FRZ Evap Fan will turn on at max speed Damper is open when **OP**, closed when **CL** Check for air flow when damper is fully open (**OP**) and no air flow when fully closed (**CL**) Screen will blink **1** during damper movement Any FRZ evap fan motor errors will display alternately of damper status during test.	Damper opens and closes successfully and no air flow is felt when damper is closed (**CL**)
88	FRZ IM Twist Tray Harvest Test		Remove ice bucket to see rotation of tray. Display will show **Go** when tray is in home position (horizontal). Screen will blink **1** during rotation. In case of failure at end of twisting operation, screen will show **Er**.	Display reads correctly when door is opened/closed
86	FRZ IM Bail Arm/ Ice Level Bucket		Remove ice bucket in order to see status of IM bail arm. Allow bail arm to drop freely, **Em** (empty) will show when tray returns home. Hold bail arm up by hand, **Fu** (full) will show when tray returns home In case of failure at end of twisting operation, will show **Er**. Screen will blink **1** during rotation.	Bail arm successfully completes test and **Er** is not displayed at the end of each cycle.
23	FF Door Switch	Open/Close FF doors	Display shows **CL** when door is closed; **OP** when open	Display reads correctly when door is opened/closed
24	FRZ Door Switch	Open/Close FRZ door		
29	FF Temp Sensor	Activates automatically	Display will show FF cabinet air temperature in either °C or °F depending on mode Display will read **OP** if open circuit, **SH** if short circuit	Temperature is displayed and does not show **OP** or **SH**
30	FRZ Temp Sensor		Display will show FRZ cabinet air temperature in either °C or °F depending on mode Display will read **OP** if open circuit, **SH** if short circuit	
33	Ambient Temp Sensor		Display will show ambient temperature in either °C or °F depending on mode Display will read **OP** if open circuit, **SH** if short circuit	
39	FRZ Evaporator Temp Sensor		Display will show FRZ evaporator temperature in either °C or °F depending on mode Display will read **OP** if open circuit, **SH** if short circuit	
64	Humidity Sensor		Display will show relative humidity sensed by H&T sensor on UI. Display will read **OP** if open circuit, **SH** if short circuit	
87	FRZ IM Tray Temp Sensor		Display will show FRZ IM tray temperature in either C or F depending on mode Display will read **OP** if open circuit, **SH** if short circuit	

FREEZER ICE MAKER FILL TIME ADJUSTMENT MODE

Setting #	Pressure Condition	Fill Time
1	Normal-High (more than 60 psi)	4.6 secs
2	Low (between 30 and 60 psi)	5.8 secs
3	Very Low (between 20 and 30 psi)	6.6 secs
4	Extremely Low (less than 20 psi)	7.2 secs

➡ 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 DATA SHEET

A22302902
ICE & WATER - AUTOMATIC DEFROST
BOTTOM FREEZER - R600a

➡ IMPORTANT: PLEASE RETURN THIS SHEET TO ITS ORIGINAL LOCATION.

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	Runs automatically scrolling through all digits Press "+" button to skip to next test	Displays digit sequence related to software loaded onto main power board; 8 digit sequence	Firmware version is able to be recorded from display
	Main Board Firmware Version			
	Ruby UI Firmware Version			
	Lifetime	Press + button to advance to next digit	Displays number of days the appliance has been powered up, even not consecutively Range is from 0-9999	Lifetime displays successfully on display

After Lifetime is displayed, last display is a 1-second counting up timer (0, 1, 2, 3...) this communicates the Service Mode has come to an end
To return to normal operation, press and hold "+" and "-" for 10 seconds or plug/unplug the appliance

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

Type A with Run / Start Capacitor	90°F (32°C) Ambient
Operating Time	90 to 100%
Freezer Temp	'-13°F to 3°F (-25°C to -16°C)
Refrigerator Temp	34° to 44°F (1° to 7°C)
Low Side Pressure	10 psi (69kPa)
High Side Pressure (last 1/3 cycle)	67 - 69 psi (472kPa)
Wattage (last 1/3 cycle)	40W to 42W
Amps (running)	0.6W to 0.7W
Base Voltage	115 vac (127 vac max)

DEFROST SPECIFICATIONS

		Thermal Cutout	Heater		Defrost Thermistor Termination
Cabinet Size: 22' CD		Cut-out	Watts	Ohms	Cut-out
	FRZ	2 fuses, each fuse rated to open @ 72°C +0/-4°C	172	76.9	10°C

Electronic Timer - (ADC) Defrost 30 minutes every 8-96 hours of compressor run time.

ERROR CODES

Display		Interpretation
1st message	2nd message	
Er	CE	Communication Error UI to Main Board
	t1	Fzr Temp Sensor Open/Shorted
	t2	Fzr Defrost Sensor Open/Shorted
	t3	FF Temp Sensor Open/Shorted
	t8	FRZ IM Temp Sensor

SPECIAL MODES

Mode	Display	Activate	Deactivate
Manual Defrost	t	Press and Hold **+** & **Reset Water Filter** for 10 secs	---
Demo / Showroom	dE	Press and Hold **—** & **Reset Water Filter** for 10 secs	
Sabbath	Sb	Press and Hold **—** & **Reset Air Filter** for 5 secs	
System Diagnostics	Refer to System Diagnostics Table	Press and Hold **+** & **—** for 10 secs	
°F/°C Display	F or C	Press and Hold **Freeze Boost** & **+** for 5 seconds	
IM Fill Time Menu	Settings will appear on UI	Press and Hold **Modes** & **Ice Maker** for 10 secs	Automatically after 10 secs of no activity

ERF2004

Wiring Diagram A03002501 Rev G AK