



Fast Track Troubleshooting

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Models Covered:
RF4267HABP/XAA
RF4267HARS/XAA
RF4267HAWP/XAA
French Door Refrigeration

IMPORTANT SAFETY NOTICE – “For Technicians Only” This service data sheet is intended for use by persons having electrical, electronic, and mechanical experience and knowledge at a level generally considered acceptable in the appliance repair trade. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.

Self Diagnosis: Press Energy Saver and Lighting buttons *simultaneously* for 8-12 seconds, (No sound when both buttons are pressed at the same time) until the display quits blinking and beeps, then release the buttons and read Fault Codes. This will also cancel the Fault Mode created by self-diagnosis at power up.

Forced Mode: Press Energy Saver and Fridge buttons *simultaneously* for 8-12 seconds (No sound when both buttons are pressed at the same time) until the display beeps and goes blank. Release buttons.

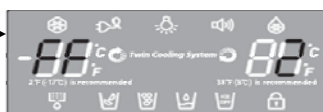
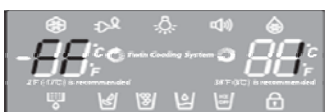
Wait 5 seconds between button pushes



3600RPM

2450RPM

2200RPM

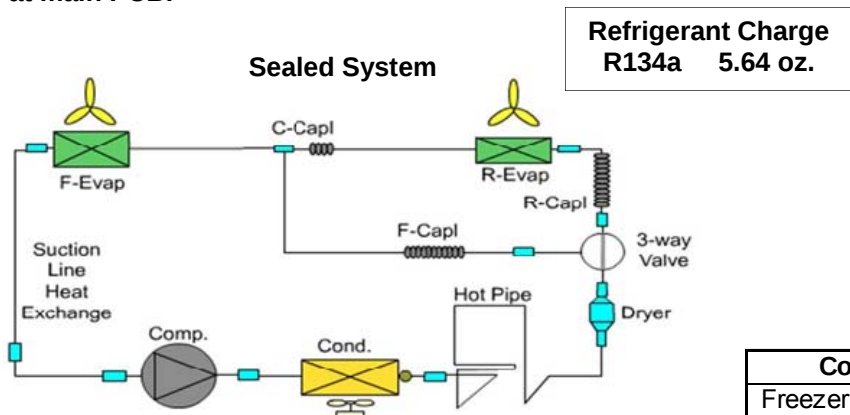


Press Freezer button one time at the Forced Mode to Force Compressor High Speed Run. Measure fan and compressor voltages at main PCB.

Press Freezer button a second time to Force Mid Speed Run.

Press Freezer button a third time to Force Low Speed Run.

Press Freezer button a fourth time to Force Defrost of Fridge & Freezer. Measure defrost voltage at main PCB.



Sales Mode, No Compressor Operation
Press Energy Saver and Freezer buttons *simultaneously* for 3 seconds (you will hear a “Ding Dong”) to remove or put into Sales Mode. When in the Sales Mode, the display will show “OF” “OF”
Removing power will not cancel this mode.

SUPPORT INFORMATION

Training — Plus One
<http://my.plus1solutions.net/clientPortals/samsung/>
Help — GSPN
<http://service.samsungportal.com/>

Component Value Chart

Component	Resistance	Wattage	Voltage
Freezer Defrost Heater	60Ω	240	120vac
Fridge Defrost Heater	120Ω	120	120vac
French Mullion Heater	1800Ω	8	120vac
Ice Duct Heater	3600Ω	4	120vac
Dispenser Heater	7200Ω	2	120vac
Water Tank Heater	72Ω	2	12vdc
Sensors	2.5k-89kΩ	N/A	1~4.5vdc
Fans	N/A	N/A	7~12vdc

Sensors

Defrost – The sensor voltage tells the Main PCB to turn off the Defrost Heater at 50°F in Freezer, 63°F in Refrigerator Section

Compartment Temp – The sensor controls fan/compressor on/off to maintain temperature.

Ice Production – Ice maker harvests when the I/M sensor reads 1.5°F for 5 minutes, Flex Tray Only. If the door is opened during that 5 minutes, harvest is delayed.

Ambient Sensor

Fan Speeds – Below 60 degrees, condenser fan is off.

Defrost Timing – Based on ambient temperature. Higher temperatures mean more defrosting.

How to Check Sensor Resistances Accurately

Make ice slurry. To do this, fill a cup with ice (preferably crushed), then add water and a teaspoon of salt to make a slush. Mix thoroughly and allow to sit for 2 to 3 minutes. This will give you a 32°F reference. Now, lower the sensor into the mixture and leave for about 1 minute, then check the resistance. It should be very close to 13,300 ohms. Before reinstalling the sensor, be sure to rinse it with fresh water and dry it.

FLEX TRAY Ice Makers

When the initial power is applied, the ice tray will stand by for 2 hours. After the 2-hour standby time, the Ice Maker Sensor will check the temperature. When it is lower than 1.5°F for more than 5 minutes, it will start a harvest, with or without ice in the tray, then fill with water. 58 minutes after water is supplied to the Ice Tray, the Ice Maker Sensor temperature will be checked. When the Ice Maker Sensor maintains lower than 1.5°F for 5 minutes, the icemaker completes the harvest (if the ice bin is not sensed as full). The thermistor senses temperature to determine water fill on newer units.

When the water fill is completed, the ice maker sensor will evaluate the water volume one and a half minutes later. When it detects no or low water level, it will add more water. First supply time will be 1.5 seconds, next one will be 1 second and the last will be 2 seconds.

Shattered Ice – Flex Tray

When all ice shatters, it is because of a bad tray or ice cube temp. that is too cold (lower than -5° F). In some areas, there are water issues that can also cause shattered cubes. The temp. in the freezer should not have any effect on this issue, as long as it is below 1.5°F, as a properly installed sensor will not read the freezer temp., only the water/ice temp.

Check the ice tray for defects in the plastic. Ice that is too cold will shatter during harvest. This can happen due to: (1) sensor not reading the correct temp., (2) sensor is not mounted correctly, (3) the icemaker offset value is programmed to a lower number, or (4) the board does not understand the reading.

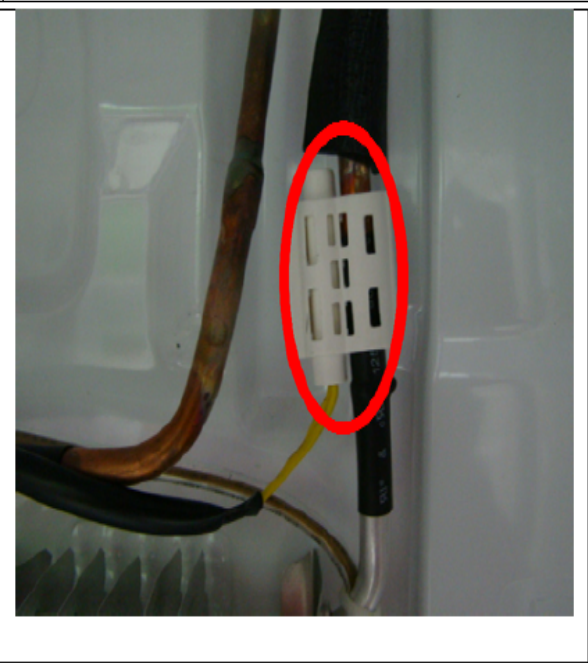
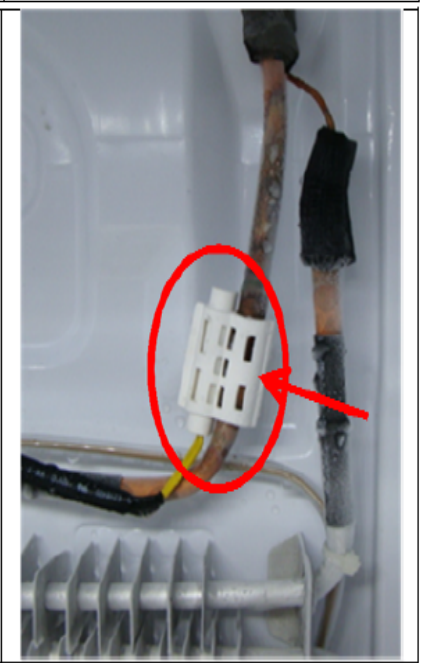
To check the sensor, you must check the tray temp (not air temp) and compare it to the sensor reading. The sensor should read 3.7 volts at the main board connector when the cube temperature is 1 degree. After the fill, the sensor will read water temp, normally 1.5 to 2.2 volts.

To clear offsets, put unit into Diagnostics mode.

Please note, some shattering is normal for a flex tray icemaker.

Symptom:	Panel Cover not attached to the Display assembly	
Background	When the Mylar cover over the plastic panel is removed quickly it can pull the entire plastic cover off	
Part Number -	DA64-03884B	
Solution	Replace the panel cover assembly with the updated design The new assembly changes the mounting adhesive tape, the new tape has a larger adhesive surface area.	
Repair Procedure:	Step 1 - Align the cover to the back panel at the top.	
	Step 2- Press the taped area along the edge of the cover as shown here	

Refrigerator Evaporator Ice Build-up

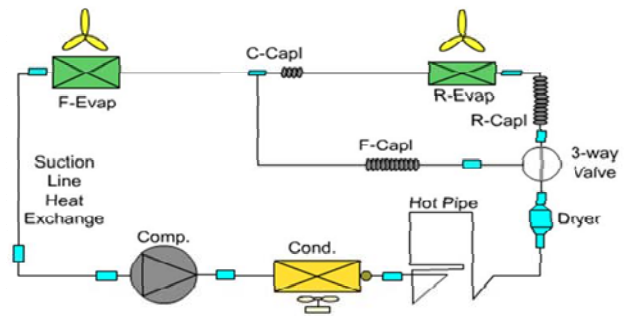
Symptom:	Ice buildup on the Refrigerator Evaporator			
Solution:				
Step 1 of 5	Defrost the unit			
Step 2 of 5	Verify the refrigerator defrost sensor is not open or shorted, also measure the voltage at the main PCB. The voltage should be between 2.3V and 2.8V (assuming room temperature).			
Step 3 of 5	Move the defrost sensor	Original location: inlet line to the evaporator	New location: outlet side of the evaporator	
	from the inlet side of the refrigerator evaporator to the outlet side.			
Step 4 of 5	Make sure the wiring is routed properly and the sensor is firmly adhered to the evaporator line.			
Step 5 of 5	If the evaporator cover has been cracked or split by the ice buildup the cover must be replaced. If it is not damaged, make sure to firmly seat the cover against the rear wall with no gaps.			

LED		Item	LED		Item	
F	R		F	R		
88	88	FZ-Sensor Error	88	88	FF-DEF Error	
88		FF-Sensor Error				
84		FZ-DEF-Sensor Error				
89		FF-DEF-Sensor Error				
88		Ambient-Sensor Error	89		Ice Maker(FF) Function Error	
88		PANTRY-Sensor Error	88			
88		Humidity-Sensor Error	88		Ice Room- FAN Error	
84		Ice Maker(FF) Sensor Error	88		Panel ↔ Main Communication Error	
89		Ice Room Sensor Error				48
88		FZ-FAN Error	88		Comp starting Failure	
88		FF-FAN Error	88		IPM FanIt	
88		C-FAN Error	88		Comp Abnormal current Detection	
84		FZ-DEF Error	84		Motor Locked Over RPM	
		88	Comp under voltage			
		88	Comp over voltage			

Compressor & System Operation Testing

The Time Divided Multi-cycle (TDM) System (Stepper Valve) is used to switch refrigerant flow. This improves temperature control and energy efficiency.

If it falls in the all evaporator mode, it should work properly, using slightly more energy. If it falls in the Freezer evaporator only mode, there will be a Fridge no cool Force on the Fridge with the "Power Cool" option. Monitor the Fridge evaporator(s) temp by using the Defrost Sensor(s). If the temp doesn't decrease, then suspect the Main PCB is not supplying signal to switch the diverter valve.



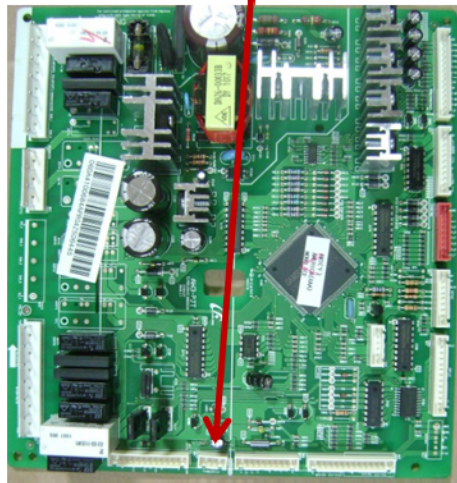
TEST BEFORE INTERPRETING LED BLINKING FREQUENCY

Compressor not running

1. Activate Forced Compressor Operation, wait 2 minutes (In case of high head pressure)
2. If compressor doesn't start, check CN75 for 2.5vdc (If not there replace Main PCB)
3. If voltage is OK, remove power, disconnect CN03 (Inverter PCB) and check resistance to the windings. Approximately 10 ohms. If not correct, inspect wire harness. If OK replace compressor.
4. Disconnect CN02 (SMPS PCB), check resistance to Overload. If open replace overload.



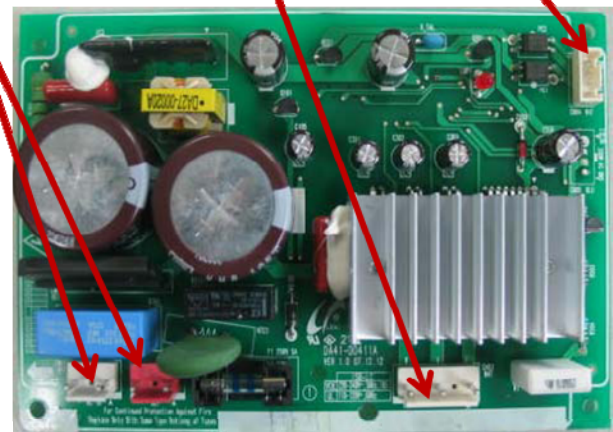
CN75 To Comp Inverter Board
2- (CN76-1) (Brn-Gry) 5vdc
4- (CN76-1) Comp control (Org-Gry) 2.5vdc



CN02
Overload &
A/C Line
1 OLP (Brn)
3 OLP (S/Blu)
3 L (Red)
1 N (Gry)

CN04 Compressor Control
1-(CN76-1) +13vdc (Blk-Gry)
2-(CN76-1) 5vdc (Brn-Gry)
4 Comp Signal (Org)

CN03 Compressor Windings
1 Compressor (Blue)
3 Compressor (Prp)
5 Compressor (Wht)



Protection Functions	LED Blinking Frequency	Test	Replace
Starting Failure	●	Check the Inverter PCB & Comp Relay Connectors	Connectors OK, replace Inverter PCB, if same, replace compressor
SPM Fault	● ●	If blinking after reset,	Check System for restriction & refrigerant, if OK replace inverter, if same, replace compressor
Detecting Position Failure	● ● ●	Check Inverter Connectors,	Connectors measure OK, replace compressor, if same, replace inverter PCB
Motor Locked	● ● ● ●	Compressor Locking	Compressor
Low Voltage	● ● ● ● ●	Compressor Locking, check input voltage	Replace Inverter PCB, if same, replace Compressor
Over Voltage	● ● ● ● ● ●	Compressor Locking, check input voltage	Replace Inverter PCB, if same, replace Compressor

RF4267HA**/XAA

CN70 - AC LOAD

- ① : FF-DEF-HEATER
- ③ : FZ-DEF-HEATER
ICE DUCT HEATER
- ⑤ : COMMON2 LINE(L)
- ⑦ : COMMON1 LINE(N)

CN70_1 - AC LOAD

- ① : Open
- ③ : ICE MAKER HEATER(FF)
- ⑤ : FRENCH-HEATER
DISPENSER-HEATER

CN72 - AC LOAD

- ① : Open
- ③ : COMMON1 LINE(N)

CN73_1 - AC LOAD

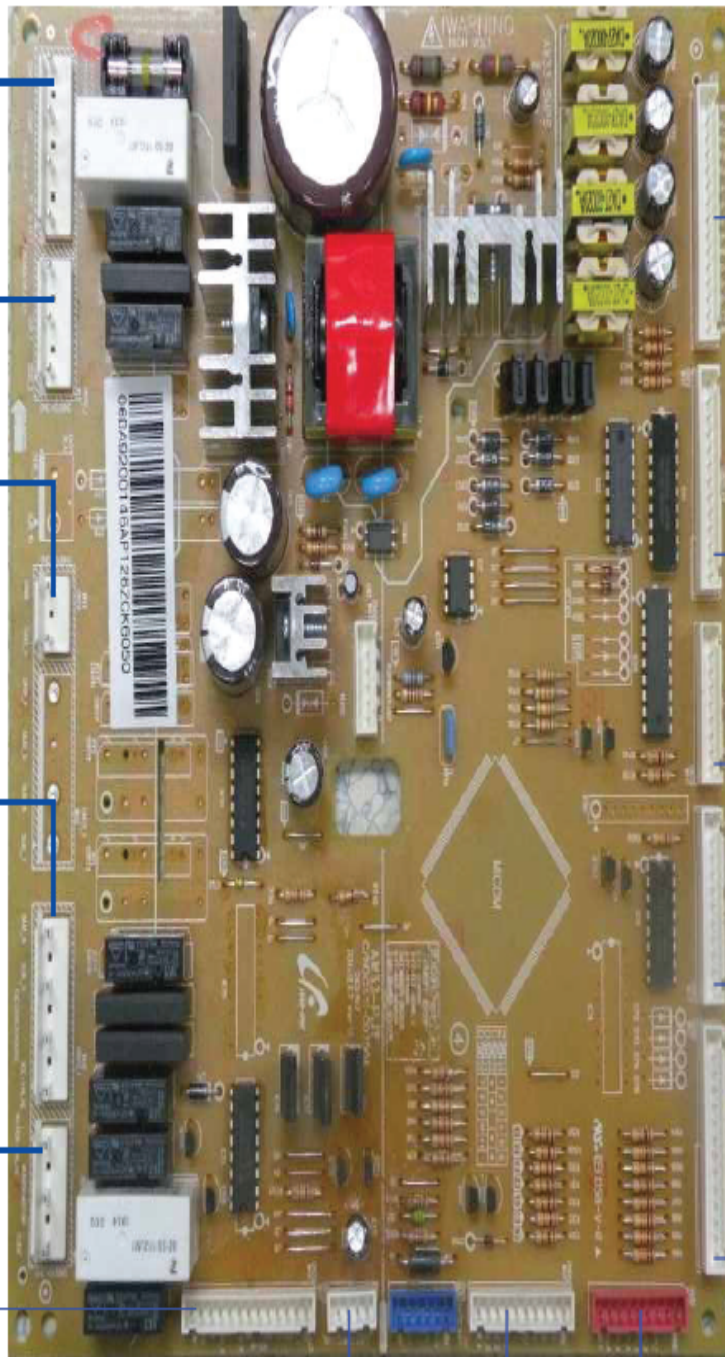
- ① : ICE WATER
SOLENOIDE VALVE(FF)
- ③ : ICE COVER ROUTE
- ⑤ : ICE MAKER MOTOR(CW)
- ⑦ : ICE MAKER
MOTOR(CCW)

CN73 - AC LOAD

- ① : CUBE SOLENOIDE
VALVE
- ③ : AUGER MOTOR
- ⑤ : WATER SOLENOIDE
VALVE

CN78 - LAMP(LED)/Sensor

- ① : FZ LAMP(LED)
- ② : GND
- ③ : FF LAMP(LED)
- ④ : Open
- ⑤ : GND
- ⑥ : Flex Zone Room LED
- ⑦ : GND
- ⑧ : AMBIENT Sensor
- ⑨ : Open
- ⑩ : ICE ROOM Sensor
- ⑪ : +5V
- ⑫ : GND
- ⑬ : +12V



CN75 - Inverter

- ① : COMP. SIGNAL INPUT
- ② : +5V
- ③ : GND
- ④ : COMP. SIGNAL OUTPUT

CN50

- ① : LED PANEL TX
- ② : LED PANEL RX
- ③ : +12V
- ④ : +5V
- ⑤, ⑥ : GND
- ⑦ : ICE&WATER Switch
- ⑧ : Open
- ⑨ : ICE Route Switch 1
- ⑩ : ICE Route Switch 2

CN30 - Sensor

- ① : GND
- ② : +5V
- ③ : Humidity
- ④ : FZ-Sensor
- ⑤ : FZ-DEF-Sensor
- ⑥ : FF-Sensor
- ⑦ : ICE MAKER
DEF-Sensor
- ⑧ : FF-DEF-Sensor
- ⑨ : Flex Zone-Sensor

CN76 - BLDC Motor & door Switch

- ① : GND
- ② : Ice Room-FAN operation
signal
- ③ : FZ-FAN operation signal
- ④ : FF-FAN operation signal
- ⑤ : C-FAN operation signal
- ⑥ : Ice Room-FAN signal
input volt
- ⑦ : FZ-FAN signal input volt
- ⑧ : FF-FAN signal input volt
- ⑨ : C-FAN signal input volt
- ⑩ : GND
- ⑪ : FZ-Door Switch
- ⑫ : FF-Door Switch
- ⑬ : Flex Zone Room-Door Switch
- ⑭ : Open
- ⑮ : Open

CN51 - Flex Zone Room Display

- ① : Open
- ② : Open
- ③~ ⑦ : Flex Zone Room LED
Driver
- ⑧~⑩ : Open
- ⑪ : Flex Zone Room Switch
- ⑫ : Open
- ⑬ : Open

CN79

- ① : +5V
- ② : GND
- ③ : Flow Sensor Out
- ④ ~ ⑨ : Open

CN77 - Damper & Valve

- ①~② : Damper Heater
- ③~⑥ : Damper Motor
- ⑦ : +12V
- ⑧~⑪ : Step Valve

CN90 - Ice Maker

- ① : Sensor(FF)
- ② : Test Switch
- ③ : Full Switch
- ④ : Horizontal Switch
- ⑤ : +5V
- ⑥ : Open
- ⑦ : GND
- ⑧~⑭ : Open

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