

SAMSUNG

REFRIGERATOR

SIDE BY SIDE TYPE

MODEL NAME :	RS68N**	RS67N**	RS66N**
	RS6GN**	RS6JN**	RS6KN**
MODEL CODE :	RS66N8100**/**	RS68N8322S9/SS	
	RS66N8101**/**	RS68N8330**/**	
	RS67N8210**/**	RS68N8331**/**	
	RS67N8211**/**	RS68N8340**/**	
	RS68N8220**/**	RS68N8341SL/EF	
	RS68N8221**/**	RS6GN8221**/**	
	RS68N8222S9/EF	RS6GN8222S9/EG	
	RS68N8230**/**	RS6GN8231S9/EG	
	RS68N8231B1/EF	RS6GN8321B1/EG	
	RS68N8231**/**	RS6GN8322SL/EG	
	RS68N8232**/**	RS6GN8331S9/EG	
	RS68N8240**/**	RS6GN8332SL/EG	
	RS68N8241**/**	RS6JN8210S9/EG	
	RS68N8242**/**	RS6JN8211S9/EG	
	RS68N8320**/**	RS6KN8100S9/EG	
	RS68N8321S9/EF	RS6KN8101**/**	

SERVICE Manual

REFRIGERATOR



RS68N**
RS6GN**

RS67N**
RS6JN**

RS66N**
RS6KN**

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WARNING

IMPORTANT SAFETY NOTICE

The service guide is for service technicians with sufficient background in electrical, electronic and mechanical engineering.

Any attempt to repair the appliance yourself may result in personal injury and property damage.

The manufacturer or dealer will not be held responsible for the interpretation of this information.

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1. PRECAUTIONS (SAFETY WARNINGS)

- Unplug the appliance before the changing or repairing the electric parts.
- Use rated electronic Control equipment.
 - Make sure to check out Model name, Rated voltage, Rated current, Operation Temp, etc.
- Upon repair, make sure that harnesses are not to be water-penetrated and are bundled tight.
 - Should not be detached by a certain amount of external force.
- Upon repair, completely remove dust or other foreign substances from housing, harness, connector, etc.
 - To prevent fire by tracking, short, etc.
- Check out whether water has penetrated into the electronic Control system.
 - If there is any kind of trace, take necessary measures such as related component change, insulation tapping, etc.
- After repair, check out the assembled state of parts.
 - It should be the same as the previous state.
- Check out the surrounding conditions.
 - Change the location, if the fridge is located at humid, wet places or the installed state is unstable.
- In order to reduce the risk of electric shock the appliance must be properly grounded.
- Do not allow consumers to overload a certain outlet.
- Check out whether the power cord or the outlet is broken, squeezed, chopped off or heatdeformed.
 - Repair or replace the defective power cord/outlet immediately.
 - Make sure the power cord is not punctuated or stomped down.
- Do not allow consumers to keep food frayed or place bottles in the Freezer Room.
- Do not allow consumers to repair the fridge by themselves.
- Do not allow consumers to keep things except for food.
 - Pharmaceutical, Chemical substances : These are not possible to be fine-Controlled with a consumer fridge.
 - Flammable material (alcohol, benzene, ether, LPG, etc) : possibility of explosion.

PRECAUTIONS(SAFETY WARNINGS)

Read all instructions before repairing the product and follow the instructions in order to prevent danger or property damage.

CAUTION/WARNING SYMBOLS DISPLAYED



Warning

Indicates that a danger of death or serious injury exists.



Caution

Indicates that a risk of personal injury or material damage exists.

SYMBOLS



means "Prohibited".



means "Do not disassemble".



means "No contact".



means "Warning or Caution".



means "Unplug the unit before performing service"



means "Earth or Ground".



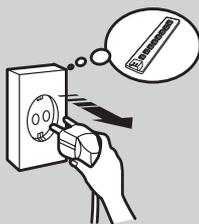
Warning & Caution

Plug out to exchange the interior lamp.

- It may cause electric shock.



Unplug

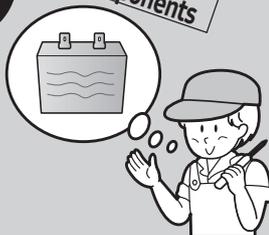


Use the rated components on the replacement.

- Check the correct model, rated voltage, rated current, operating temperature and so on.

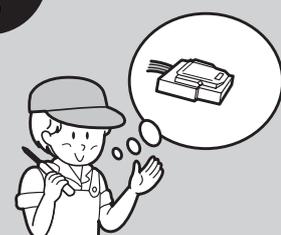


Rated components



On repair, make sure that the wires such as harness are bundled tightly.

- Bundle tightly wires in order not to be detached by the external force and then not to be wetted.



On repair, remove completely dust or other things of housing parts, harness parts, and check parts.

- Cleaning may prevent the possible fire by tracking or short.



After repair, check the assembled state of components.

- It must be in the same assembled state when compared with the state before disassembly.

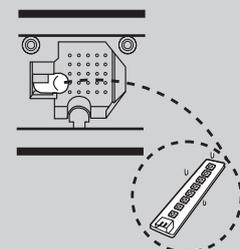


Earth



Check if there is any trace indicating the permeation of water.

- If there is that kind of trace, change the related components or do the necessary treatment such as taping using the insulating tape.



PRECAUTIONS(SAFETY WARNINGS)

Please let users know following warnings & cautions in detail.



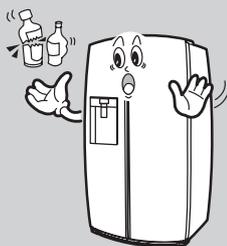
Warning & Caution

Do not allow users to put bottles or kinds of glass in the freezer.

- Freezing of the contents may inflict a wound.



Prohibited



Do not allow users to store narrow and lengthy bottles or foods in a small multi-purpose room.

- It may hurt you when refrigerator door is opened and closed resulting in falling stuff down.



Prohibited



Do not allow users to store pharmaceutical products, scientific materials, etc., in the refrigerator.

- The products which need precise temperature control should not be stored in the refrigerator.



Prohibited

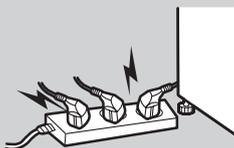


Do not allow users to plug several appliances into the same power receptacle.

- May cause abnormal generation of heat or fire.



Prohibited

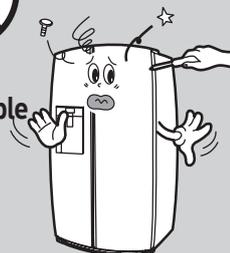


Do not allow users to disassemble, repair or alter.

- It may cause fire or abnormal operation which leads to injury.

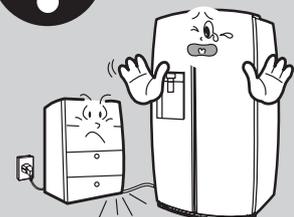


Do not disassemble



Do not allow users to bend the power cord with excessive force or do not have the power cord pressed by heavy article.

- May cause fire.

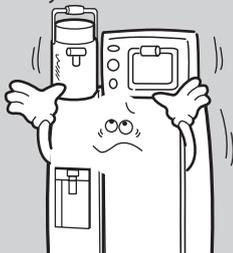


Do not allow users to store articles on the product.

- Opening or closing the door may cause things to fall down, with may inflict a wound.

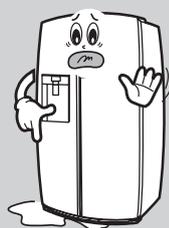


Prohibited



Do not allow users to install the refrigerator in the wet place or the place where water splashes.

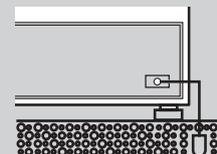
- Deterioration of insulation of electric parts may cause electric shock or fire.



In order to reduce the risk of electric shock the appliance must be properly grounded.

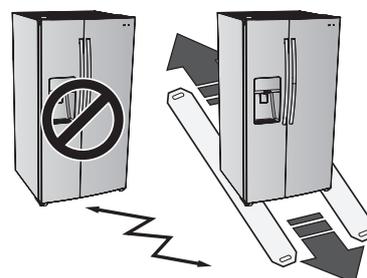


Earth



CAUTION

When installing, servicing or cleaning behind the refrigerator, be sure to pull the unit straight out and push back in straight after finishing.



2. PRODUCT SPECIFICATIONS

2-1. Introduction of Main Function



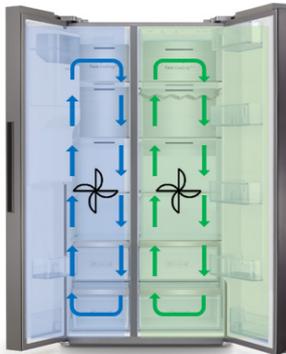
Large Capacity

- The Samsung Side by side Refrigerator has a very spacious interior with a huge Capacity. Thinner wall with its special high-urethane insulation technology and . So there's plenty of room in the drawers and shelves of the fridge and freezer to store your weekly grocery shopping, including items of various shapes or sizes. And it's much easier to keep everything neatly and efficiently organized. So you can quickly find and take out the things you need whenever you need them.



Minimal Dispenser & Hidden Display

- The Samsung Side by side Refrigerator offers a simple way to look and stay cool, as its Ice & Water Dispenser and hidden display are perfectly aligned with the minimalist design of modern kitchens and appliances.
- The Ice & Water Dispenser is seamlessly integrated into the front of the door and only has the controls you need to enjoy a refreshing glass of chilled filtered water or fill a pitcher with cubed or crushed ice. All the other controls are discretely hidden inside, but easily accessible when you open the door.



Twin Cooling Plus

- The Samsung Side by side Refrigerator's Twin Cooling System optimizes the temperature and humidity and prevents odors mixing. It supplies cool air independently to each compartments using each dedicated coolers. By keeping more moisture in the fridge compartment, it creates the optimal storage conditions to ensure food items stay much fresher.



LED Lighting

- This space-saving LED fixture illuminates every corner of the fridge, so things are easier to find. Also LED emits less heat than conventional bulb lighting, affecting less damage to the temperature management.

PRECAUTIONS(SAFETY WARNINGS)

2-2. Model Specification



NOTE

This operation instruction covers various models.
The characteristics of your appliance may differ slightly from those described in this manual.

- **Key features of your new refrigerator**
Your Samsung Side-By-Side Refrigerator comes equipped with many space-saving, innovative storage and energy-efficient features.
- **Multi Airflow**
Provides even cooling throughout the refrigerator to maintain optimal temperatures to keep food fresh.
- **LED Lighting**
See everything in a new light with LED lighting.
- **Clear View Icemaker**
The Icemaker is located in the freezer door, this ensures that all the shelf space can be fully utilized. Ice cubes are quickly produced and the clear ice bucket lets you easily see the amount of ice cubes produced.
- **Premium Design Ice & Water Dispenser**
Quick and easy access to filtered water and cubed/crushed ice at your fingertips with the external dispenser.

PRECAUTIONS(SAFETY WARNINGS)

2-2-1. Dispenser-featured models (RS68N8220**)



- | | | |
|-------------------------------|------------------------------------|--|
| 01 Freezer shelves | 02 Multipurpose freezer bin | 03 Dried food and meat storage drawer |
| 04 Refrigerator bin | 05 Refrigerator shelves | 06 Vegetable drawer |
| 07 Multipurpose drawer | 08 Ice maker * | 09 Water tank * |
| 10 Wine rack * | 11 Dairy bin | 12 Smart Dongle * |

* Applicable models only

NOTE

The design of the egg container may differ with the model.

PRECAUTIONS(SAFETY WARNINGS)

2-2-2. Dispenser-featured models (RS68N8340**)



- | | | |
|-------------------------------|------------------------------------|--|
| 01 Freezer shelves | 02 Multipurpose freezer bin | 03 Dried food and meat storage drawer |
| 04 Refrigerator bin | 05 Refrigerator shelves | 06 Vegetable drawer |
| 07 Multipurpose drawer | 08 Ice maker * | 09 Water tank * |
| 10 Wine rack * | 11 Dairy bin | 12 Smart Dongle * |

* Applicable models only

NOTE

The design of the egg container may differ with the model.

PRECAUTIONS(SAFETY WARNINGS)

2-2-3. Normal models (RS67N8220**)



- | | | |
|-------------------------------|------------------------------------|--|
| 01 Freezer shelves | 02 Multipurpose freezer bin | 03 Dried food and meat storage drawer |
| 04 Refrigerator bin | 05 Refrigerator shelves | 06 Vegetable drawer |
| 07 Multipurpose drawer | 08 Ice maker * | 09 Water tank * |
| 10 Wine rack * | 11 Dairy bin | 12 Smart Dongle * |

* Applicable models only

NOTE

The design of the egg container may differ with the model.

PRECAUTIONS(SAFETY WARNINGS)

2-2-4. Normal models (RS66N8100**)



01 Freezer shelves

02 Multipurpose freezer bin

03 Dried food and meat storage drawer

04 Refrigerator bin

05 Refrigerator shelves

06 Vegetable drawer

07 Multipurpose drawer

08 Ice maker *

09 Water tank *

10 Wine rack *

11 Dairy bin

12 Smart Dongle *

* Applicable models only

NOTE

The design of the egg container may differ with the model.

PRECAUTIONS(SAFETY WARNINGS)

2-3. Basic Specification

ITEM		Specification										
Model		RS68N8220**	RS68N8320**	RS67N8210**	RS66N8100**	RS68N8221**	RS68N8331**	RS67N8211**	RS66N8101**	RS68N8222** RS6GN8222** RS68N8232**	RS68N8242**	RS68N8322** RS6GN8322** RS6GN8332**
Image												
Valid net capacity	Gross capacity (LT)	664	664	652	682	664	664	652	682	664	664	664
	Freezing compartment (LT)	237	237	234	255	237	237	234	255	237	237	237
	Cold compartment (LT)	427	427	418	427	427	427	418	427	427	427	427
Dimensions (width x depth x height)		W912*D716*H1780		W912*D772*H1780		W912*D716*H1780		W912*D772*H1780		W912*D716*H1780		
Dimensions of package (width x depth x height)		W960*D776*H1912										
Rated frequency (Hz)		50 or 60										
Rated voltage (V)		220 ~ 240 or 110 ~ 127										
Rated power consumption of motor (W)		170	←	←	←	←	←	←	←	←	←	←
Rated power consumption of heating device (W)		200 (AC 230V, 120 V)	←	←	←	←	←	←	←	←	←	←
Refrigerator type		Indirect Cooling Refrigerator										
Refrigerant		R-600a										
Refrigerant charging volume		71g	←	←	74g	←	←	←	←	←	←	←
Product weight (kg)		118	←	←	113	118	←	←	113	118	←	←
Weight of packaged product (kg)		122	←	←	117	122	←	←	117	122	←	←

PRECAUTIONS(SAFETY WARNINGS)

2-3-1. Electric Parts Specification

Items		Specification							
Model		RS68N8220** RS68N8320**	RS67N8210**	RS66N8100**	RS68N8221** RS68N8331**	RS67N8211**	RS66N8101**	RS68N8222** RS68N8232** RS68N8242** RS68N8322** RS6GN8222** RS6GN8322** RS6GN8332**	
Freezing Component	Compressor	Type	NF54M5151ARAK3	←	←	NF54M7151ANAK3	←	←	NF54M9131AMAK3
		Drive mode	INVERTER						
		Charged oil	SUNUSO-2GSD(250cc)						
	Freezer	Freezer compartment	SPLIT FIN TYPE						
		Cold compartment	SPLIT FIN TYPE						
	Condenser		Forced and spontaneous convection type						
	Desiccant		Molecular sieve XH-9						
	Capillary tube	Freezing compartment	F: ID0.75*L4000	←	←	←	←	←	←
		Cold compartment	R: ID0.85*L3500	←	←	←	←	←	R: ID0.82*L3500
	Refrigerant		R-600a						
Components for defrosting	Freezer Component	Section	OFF			ON			
		THERMISTOR (F-SENSOR) 502AT	Strong (°C)	-24			-21		
			Intermediate (°C)	-21			-18		
	Weak (°C)		-17			-14			
	Cold compartment	Section	OFF			ON			
		THERMISTOR (R-SENSOR) 502AT	Strong (°C)	0			3		
Intermediate (°C)			1.5			4.5			
Weak (°C)	5			8					
Defrosting Cycle	Initial defrosting cycle (simultaneous defrosting of F and R)		6 hours ± 10 minutes						
	Defrosting cycle of freezing component		12 to 77 hours (varying dependent upon operation conditions)						
	Defrosting cycle of cold component		12 to 77 hours (varying dependent upon operation conditions)						
	Idle duration		-						
Defrosting Sensor	F defrosting Sensor	Type	Thermistor (DTN-C502)						
		Specification	5.0 kΩ at 25°C						
	R defrosting Sensor	Type	Thermistor (DTN-C502)						
		Specification	5.0 kΩ at 25°C						
Bimetal (F)	Type	Bimetal thermostat (BT-121-M)							
	Operating temperature (°C)	On : 40°C, Off : 60°C							
Bimetal (R)	Type	-							
	Operating temperature (°C)	-							

PRECAUTIONS(SAFETY WARNINGS)

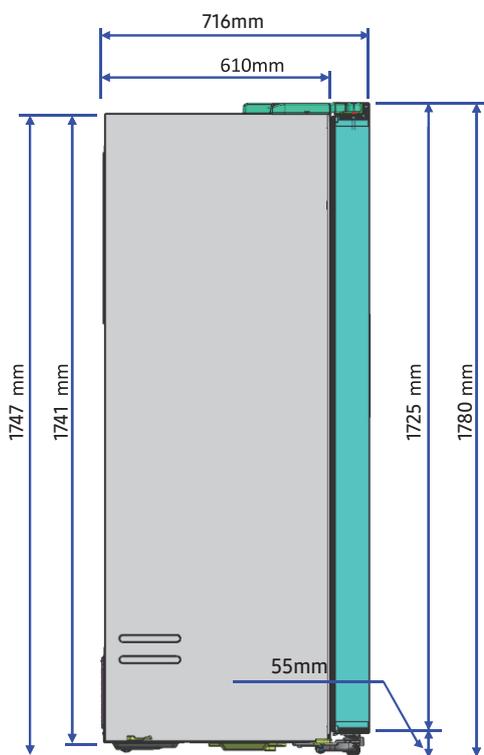
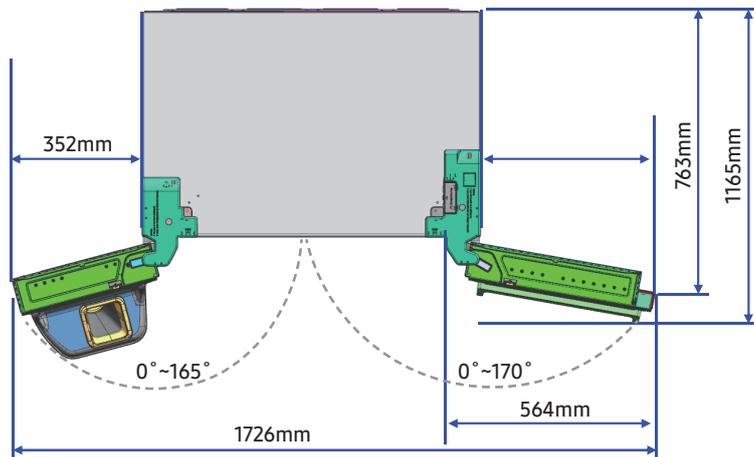
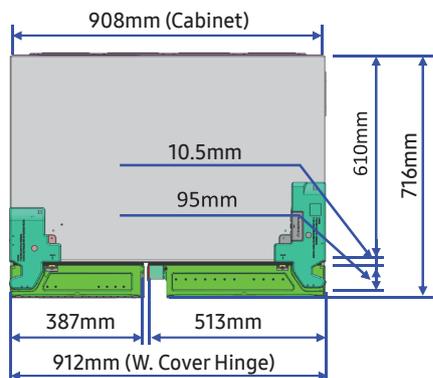
2-3-2. Electric Component

Items		Specification							
Model		RS68N8220** RS68N8320**	RS67N8210**	RS66N8100**	RS68N8221** RS68N8331**	RS67N8211**	RS66N8101**	RS68N8222** RS68N8232** RS68N8242** RS68N8322** RS6GN8222** RS6GN8322** RS6GN8332**	
Electric Component	Defrosting heater in freezing compartment	Power supplying during freezing compartment defrosting	AC230V,200W or AC120V,200W						
	Defrosting heater in cold compartment	Power supplying during cold compartment defrosting	-						
	Home bar heater (cold compartment)	Ambient humidity sensor interlocking	-						
	Icemaker heater		-						
	Dispenser heater		AC 230V,6W or AC120V,6W	-	AC 230V,6W or AC120V,6W	-	AC 230V,6W or AC120V,6W		
	Water pipe heater		DC12V 6W	DC12V 2.3W	-	DC12V 6W	DC12V 2.3W	-	DC12V 6W
	Water tank heater		-						
	Damper heater	Kept turned on	-						
	Bimetal for preventing overheating of defrosting heater in freezing compartment		Thermostat (BT-121-M) On: 40°C, Off: 60°C						
	Bimetal for preventing overheating of defrosting heater in cold compartment		-						
	OLP	Type	-						
		Operating temperature (°C)	-						
		Shutdown temperature (°C)	-						
	Cooling fan motor in freezing compartment		DC12V, AIO Q7						
	Cooling fan motor in cold compartment		DC12V, AIO Q7						
	Compressor cooling fan motor		DC12V, C150Q						
	Motor-driven damper (True-taste chamber)		-						
	Motor step valve		DC 12V,700mA						
	DC valve		DC12V, 300mA (RS68N8320**)	-	-	DC12V, 300mA (RS68N8331**)	-	-	DC12V, 300mA (RS68N8322**/ RS6GN8322**/ RS6GN8332**)
	Freezing compartment lamp		DC12V, MAX 2.39W, 1EA						
	Cold compartment lamp		DC12V, MAX 4.22W, 1EA						
	Fridge Door Lamp		-						
	Door reed switch		DC 200V 0.5A						
Power cord		AC 250V 10A or 16A							
Grounding screw		BSBN(BRASS SCREW)							

PRECAUTIONS(SAFETY WARNINGS)

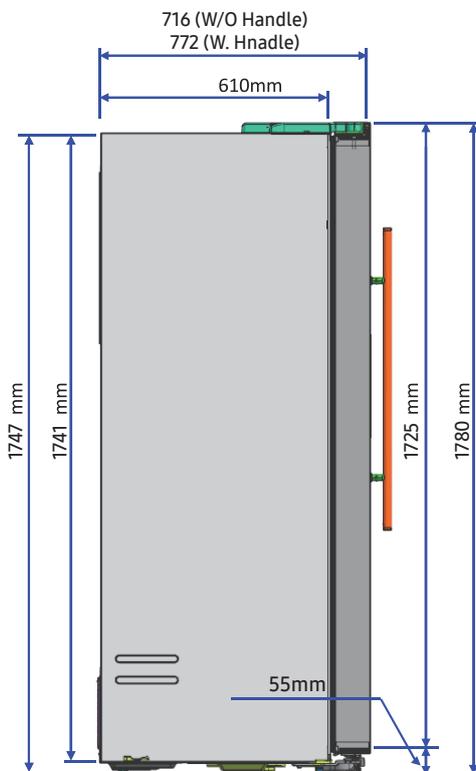
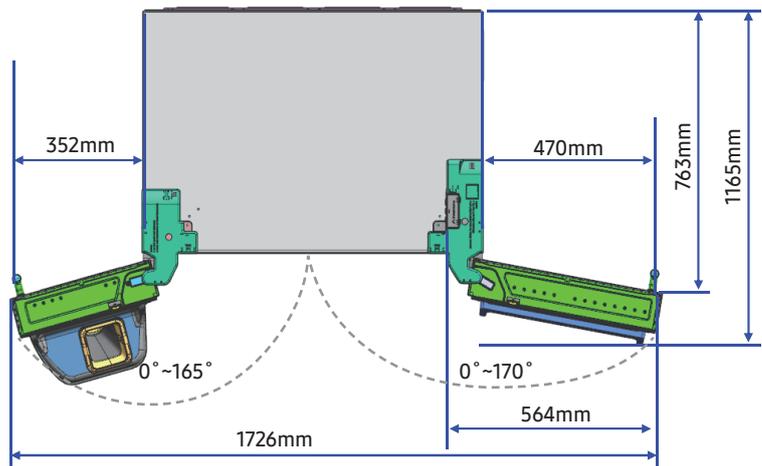
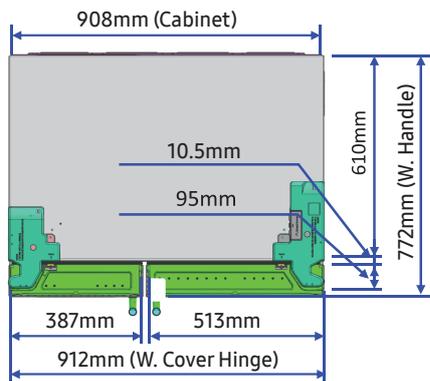
2-4. Dimensions (mm/inch)

※ RECESS HANDLE TYPE



PRECAUTIONS(SAFETY WARNINGS)

※ BAR HANDLE TYPE



PRECAUTIONS(SAFETY WARNINGS)

2-5. Optional Material Specification

Photograph	Part Name	Part Code	Quantity	Remark
	FILTER-WATER	DA29-10105J	1	For Plumbing Model
	ASSY INSTALL-FILTER	DA97-11752A	1	For Plumbing Model

3. DISASSEMBLY & REASSEMBLY

3-1. PRECAUTION

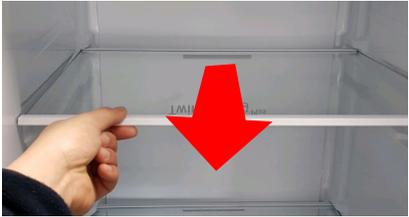
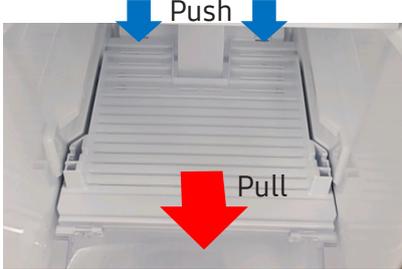
- Unplug the appliance before servicing or replacing electrical parts.
- Remove any foreign matter or dust from the power plug pins.
 - Otherwise there is a risk of fire.
- Do not use a cord that shows cracks or abrasion damage along its length or at either end.
- Do not plug several appliances into the same multiple power board. The refrigerator should always be plugged into its own individual electrical which has a voltage rating that matched the rating plate.
 - This provides the best performance and also prevents overloading house wiring circuits, which could cause a fire hazard from overheated wires.
- Do not install the refrigerator in a damp place or place where it may come in contact with water.
 - Deteriorated insulation of electrical parts may cause an electric shock or fire.
- In order to reduce the risk of electric shock the appliance must be properly grounded.
- Do not put bottles or glass containers in the freezer.
 - When the contents freeze, the glass may break and cause personal injury.
- Do not store volatile or flammable substances in the refrigerator.
 - The storage of benzene, thinner, alcohol, ether, LP gas and other such products may cause explosions.

- NEED TOOL

Item	How to use	Pictures
Phillips Head Driver	Use for assembling and disassembling of screw.	
Flat Head Driver	Use for assembling and disassembling of Beverage Station, Dispenser, Display, Cover Lamp etc...	
Magnet	Use for checking of the F/R Fan.	
Hexagon wrench (4mm diameter)	Use for adjust Door Hinge Ref Up.	
Box wrench (12mm)	Use for disassemble the compressor.	
Box wrench (10mm)	Use for disassemble the hinge lower.	
Spanner(19mm)	Use for adjust the height of the door.	

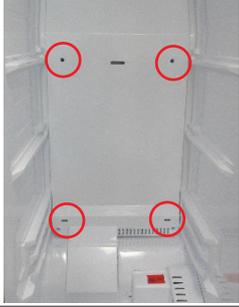
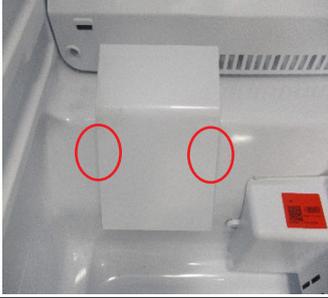
PRECAUTIONS(SAFETY WARNINGS)

3-2. Interior-Fridge

Part Name	Description	Figure
Shelf	Pull the Shelf out to the front.	
<div style="display: flex; align-items: flex-start;"> <div style="margin-right: 20px;">  <p>CAUTION</p> </div> <div> <p style="color: red;">Do not put the shelf on the place where wine rack is assembled. If the shelf is put on the wine rack place, it may cause collision between the shelf and door bin when the door is closed.</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;">    </div>		
Drawer cover	Remove all Drawers before disassembling the cover.	
	Push the two position and pull the flip cover out to the front.	

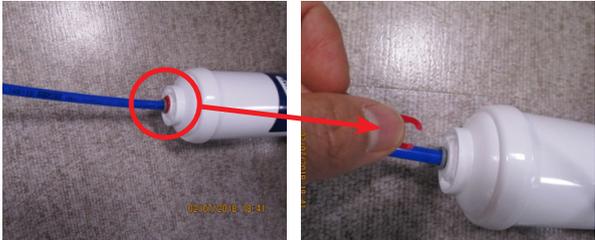
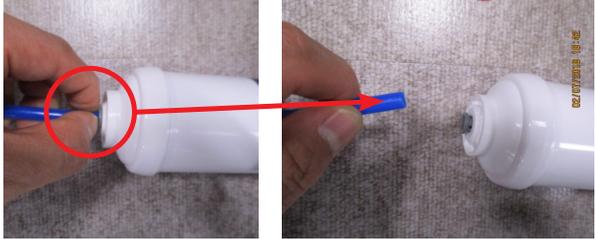
PRECAUTIONS(SAFETY WARNINGS)

3-3. R-Compartment Duct & Eva Cover

Part Name	Description	Figure
R-Compartment Duct & Eva Cover	1. Remove the screws (4ea) from the lower part of the compartment.	
	2. Remove the inlet cover. (Remove side hook 2ea)	
	3. Remove the Evap Cover from the cabinet. Pull the Cover in the direction of the front.	
	4. Remove the Housing connector. (1ea)	
Multi Duct (Fridge)	1. After disengage the Evaporator Cover, pull the Multi duct fridge in the direction of the front.	
	2. Disengage the housing Connector.	

PRECAUTIONS(SAFETY WARNINGS)

3-4. Water Filter (Assembly & Disassembly)

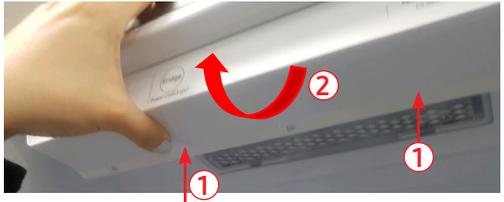
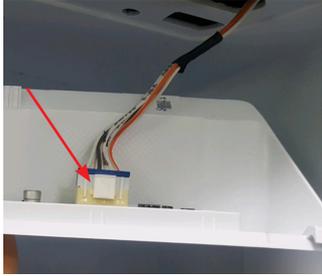
Part Name	Description	Figure
Water Filter	<p>■ Assembly Remove the Clip and input the Hose.</p>	
Water Filter	<p>■ Disassembly Remove the Hose by puching the Collet.</p>	



Be sure to flush the dispenser thoroughly (approx. 6 to 7 minutes), otherwise water may drip from the dispenser. This means that there is still air in the line.

PRECAUTIONS(SAFETY WARNINGS)

3-5. Cover-Display

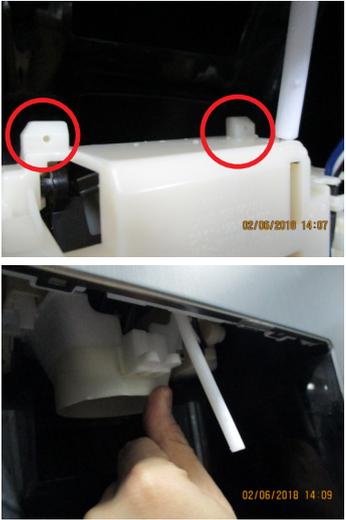
Part Name	Description	Figure
Cover-Display	Remove 3 screw under the display cover.	
	Remove the display cover by pulling it up.	
	Press and disconnect the wire connector connected to the cover display.	

PRECAUTIONS(SAFETY WARNINGS)

3-6. Dispenser Display & Assy Guide Ice Route

Part Name	Description	Figure
Dispenser Display	Remove 2 Screw bottom of the Display.	
	Disengage the the Display to lower direction by Pushing.	
	Disengage Housing of Display.	
Assy Guide Ice Route	Disengage the Water Line from Hook, Remove 2 Screw of Assy Case Ice Route.	
	Move out Assy Case Ice Route right side direction and Disengage the Housing.	

PRECAUTIONS(SAFETY WARNINGS)

Part Name	Description	Figure
<p>ASSY GUIDE ICE ROUTE</p>	<p>■ Assembly Assembling housing of Assy Case Ice Route Upper 2 Rib have to match with inside Hook and Screw assembling.</p> <p> CAUTION Upper Hook have to completely match with Hook for prevent the leak of Gasket Cover.</p>	
	<p>Display Housing assembling and Fixing the Harness with Hook .</p>	
	<p>Input the water line to Display hose hole and assembling 2 screws.</p>	

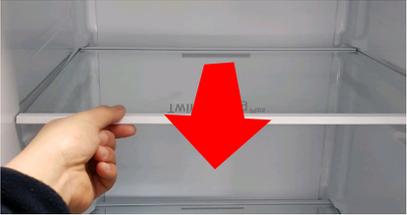
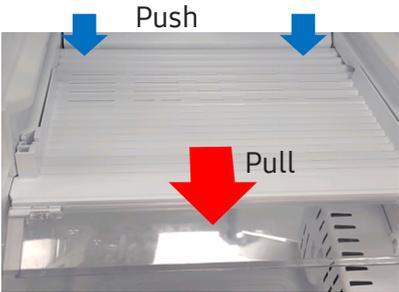
PRECAUTIONS(SAFETY WARNINGS)

3-7. Assy Lever Dispenser

Part Name	Description	Figure
Assy Lever Dispenser	<p>■ Disassembly</p> <ol style="list-style-type: none">1. Put both fingers in the upper of lever. Pull and remover the lever slowly.	
	<p>■ Assembly</p> <ol style="list-style-type: none">2. Put the lever with adjusting to rectangle block slowly.	

PRECAUTIONS(SAFETY WARNINGS)

3-8. Interior-Freezer

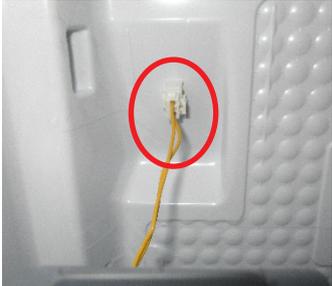
Part Name	Description	Figure
Shelf	Pull the Shelf out to the front.	
Drawer Cover	Remove all Drawers before disassembling the cover.	
	Push the two position and pull the flip cover out to the front.	

PRECAUTIONS(SAFETY WARNINGS)

3-9. F-Compartment Duct & Eva Cover

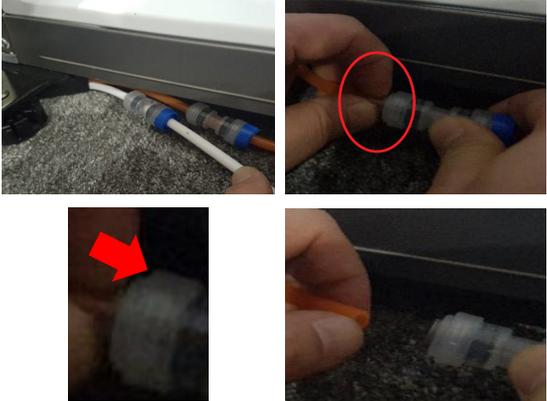
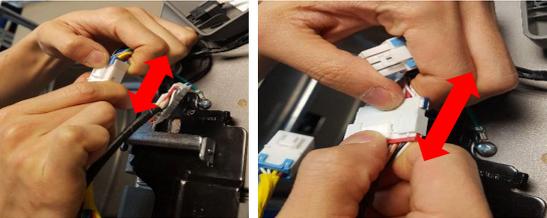
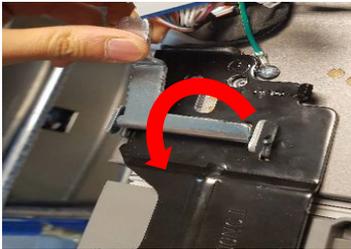
Part Name	Description	Figure
	<p>1. Remove the screws (4ea) from the lower part of the compartment.</p>	
<p>F-Compartment Duct & Eva Cover</p>	<p>2. Remove the Evap Cover from the cabinet. Pull the Cover in the direction of the front.</p>	
	<p>3. Remove the Housing connector (1ea).</p>	

PRECAUTIONS(SAFETY WARNINGS)

Part Name	Description	Figure
Multi Duct (Freezer)	1. After disengage the Evaporator Cover- Freezer, Pull the Multi duct Freezer in the direction of the front.	
	2. Remove the Housing connector (1ea).	
Multi Duct (Freezer) ※ Incabi only	1. After disengage the Evaporator Cover- Freezer, Pull the Multi duct Freezer in the direction of the front.	
	2. Remove the Housing connector. (1ea)	

PRECAUTIONS(SAFETY WARNINGS)

3-10. Assy Door Disassembling(FreezerDoor)

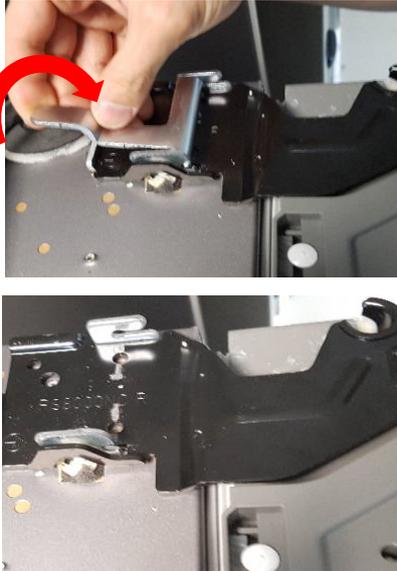
Part Name	Work sequence	Remarks
Door	<p>1. Open the Door and remove 2 fitting of the Hose at the bottom. Remove the fitting by pulling the hose while hold the left cap of the fitting in the direction of the arrow.</p>	
	<p>2. Disconnect the power cord, and remove 1 cover screws using a Phillips screwdriver. Then open the Freezer door and pull the hooks on the sides to loosen the cover. Lift up the cover towards you to detach it.</p>	
	<p>3. Disassemble the top hinge from the Door Fre.</p>	
	<p>4. After pull the Fixer Hinge Up in the direction of arrow, remove it.</p>	
	<p>5. Disassemble the top hinge from the front of the door.</p>	

PRECAUTIONS(SAFETY WARNINGS)

Part Name	Work sequence	Remarks
Door	<p>Remove the door from the lower hinge by lifting up the door straight.</p> <p> CAUTION Be careful not to pinch the water tubing and the wire harness on the door. Lift up the door straight in upper direction until the water hose is eliminated from lower hinge. Do not pull the door forward to remove it. It cause injury of water hose and tubing.</p>	

PRECAUTIONS(SAFETY WARNINGS)

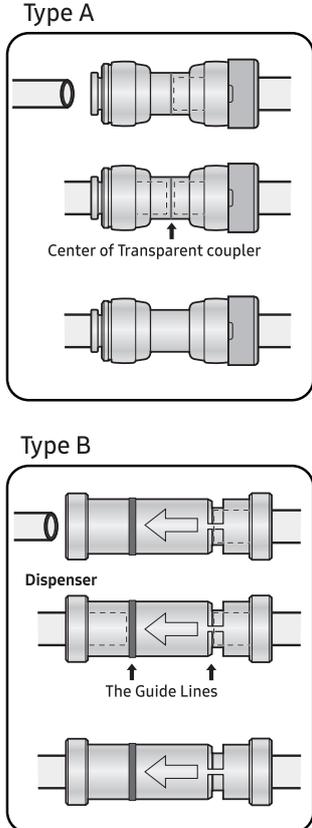
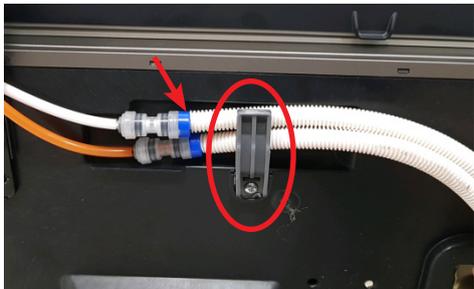
3-11. Assy Door Disassembling(Fridge Door)

Part Name	Work sequence	Remarks
Door	<p>1. Disconnect the power cord, and remove 1 cover screws using a Phillips screwdriver. Then pull the the hooks on the sides to loosen the cover. Lift up the cover towards you to detach it.</p>	
	<p>2. After pull the Fixer Hinge Up in the direction of arrow, remove it.</p>	

PRECAUTIONS(SAFETY WARNINGS)

Part Name	Work sequence	Remarks
<p>Door</p>	<p>3. Disassemble the top hinge from the Door Ref.</p> <p>※ Function of Screw Adjust the door side leveling. (0~0.9mm to right side using by Hexagon wrench 4mm)</p>	
	<p>4. Disassemble the Fridge door.</p>	

PRECAUTIONS(SAFETY WARNINGS)

Part Name	Description	Figure
<p>Reassembly doors</p>	<ul style="list-style-type: none"> The Water Line must be fully inserted to the center of transparent coupler (Type A) or the line (Type B) to prevent water leakage from the dispenser. Check that it holds the line firmly. 	 <p>Type A</p> <p>Center of Transparent coupler</p> <p>Type B</p> <p>Dispenser</p> <p>The Guide Lines</p>
	<ul style="list-style-type: none"> The cover hose must be fully covered water hose. (Make the cover hose fit to end of the fitting) Bottom hook must fix the cover hose to prevent loosen the hose line. 	

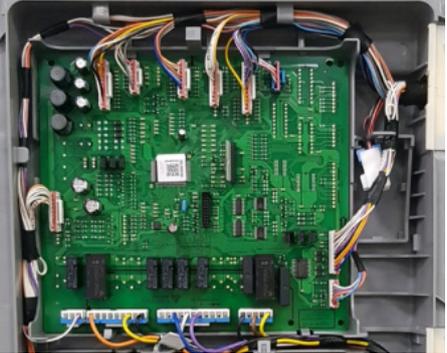
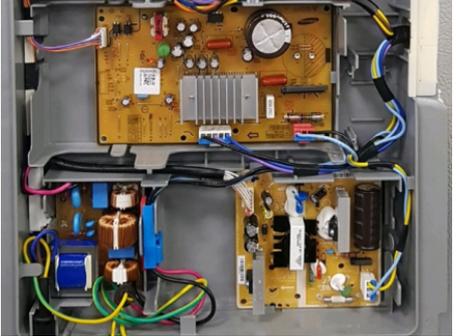
PRECAUTIONS(SAFETY WARNINGS)

3-12. Evaporator

Part Name	Description	Figure	
		Freezer	Fridge
Evaporator	Remove the Evaporator cover.		
	Disengage the housing connector. (left)		
	Disengage the housing connector. (right)		
	Remove the evaporator by pulling the lower part of the evaporator while lifting it up.		

PRECAUTIONS(SAFETY WARNINGS)

3-13. Main PCB and Inverter PCB Disassembling (whole)

Work sequence	Remarks
<p>1. Pull the refrigerator forward to make space for servicing.</p>	
<p>2. Disassemble the four screws. - New issued model use 5 screw.</p>	
<p>3. Disassemble the thirteen connectors of the housing (Number of the housing connectors may vary dependent upon models and functions). While pressing the upper hook on the location shown on the figure, pull the main main PBA and remove it.</p>	
<p>4. Disassemble the five connectors of the housing. While pressing the hooks on the left and the right side on the locations shown on the figure, pull the inverter PBA and the SMPS PBA to remove them. (It will be a little difference each model)</p>	

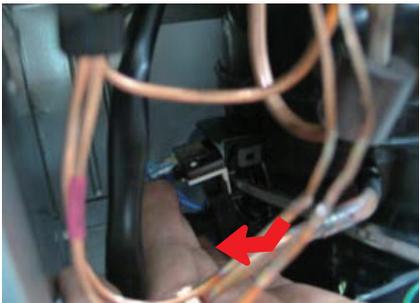
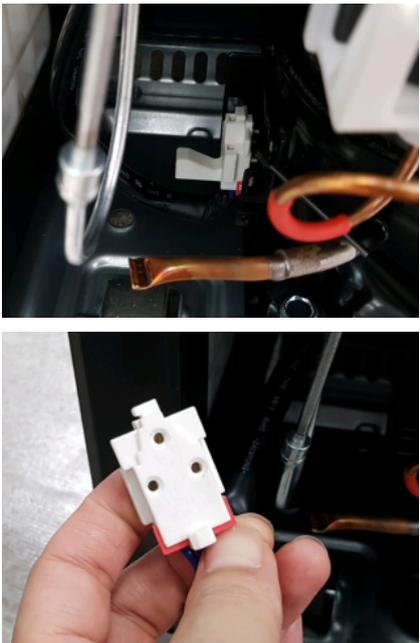
PRECAUTIONS(SAFETY WARNINGS)

3-14. Comp Cooling Fan

Work sequence	Remarks
1. Unscrew 7 screws of COVER COMP.	
2. Remove screw from the Assy Support Circuit Motor.	
3. Separate Assy Support Circuit Motor connect.	
4. Cutting seal.	
5. Pipe moved down side.	
6. Assy Support Circuit Motor turn out and assy in reverse .	

PRECAUTIONS(SAFETY WARNINGS)

3-15. Relay Cover disassembling

Work sequence	Remarks
<p>1. Unscrew 7 screws of COVER COMP.</p>	
<p>2. Remove the cover relay with a flat screwdriver.</p> <p> CAUTION Caution: Pipe bending or exercise of excessive force may pinching on the hands when removing the cover.</p>	
<p>3. User a flat driver to disassemble the relay protector from the compressor.</p>	

PRECAUTIONS(SAFETY WARNINGS)

3-16. Step Valve Disassembling (whole)

Work sequence	Remarks
1. Unscrew 7 screws of COVER COMP.	
2. Remove 1 screw.	
3. Remove 1 screw.	
<p>4. Remove the refrigerant, and disassemble the step valve from the connection pipe.</p> <p> CAUTION Exerting excessive force when forming the pipe causes bending of the pipe.</p>	

CAUTION

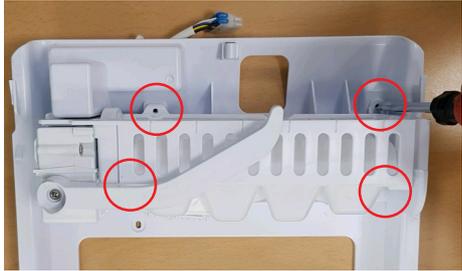
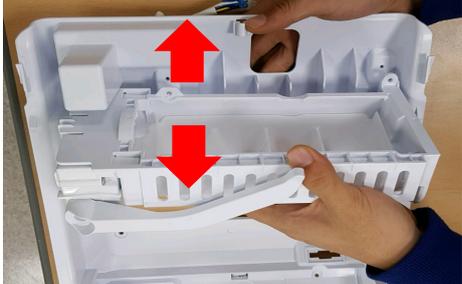
Cautions for R-600a : Environment-friendly gas (R-600a) is used as refrigerant at this refrigerator, which is combustible gas though in volume kept small. If gas is leaked by serious damage to the refrigerator during transportation, installation and operation may cause fire or burn when spark makes contact with leaked gas.

PRECAUTIONS(SAFETY WARNINGS)

3-17. Ice Maker Compartment (Indoor Auger Motor)

Part Name	Description	Figure
Ice Bucket Assy ※indoor only	Disassemble the Ice Bucket Assy by holding the handle and pulling up The bottom part slightly.	
Assy Case Auger Motor (Disassemble) ※indoor only	Unscrew the 4 screws and disassemble the Auger Motor Assy as shown.	
	Disconnect the housing connectors by gently pulling.	
	Connect the housing connectors.	
Assy Case Auger Motor (assemble) ※indoor only	Arrange wire harness in the housing room.	
	Push the auger motor each side.	
	screw the 4 screws.	

PRECAUTIONS(SAFETY WARNINGS)

Part Name	Description	Figure
	<p>Unscrew the 1 screw on the icemaker cover and lift up the Icemaker Cover and gently pull out.</p>	
<p>Assy Ice Maker ※indoor only</p>	<p>Unscrew the 4 screws.</p>	
	<p>Disassemble the Ice Maker Assy.</p>	

PRECAUTIONS(SAFETY WARNINGS)

3-18. Ice Maker Compartment (InCabi Model)

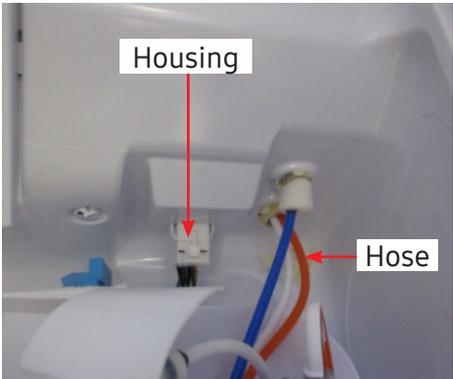
Part Name	Description	Figure
Assy Case Auger Motor ※incabi only	Push the Cover Led side and pull out.	
	Unscrew the 2 screws.	
	Pull out Assy Case Auger Motor gently.	
	Disconnect the auger motor housing.	
Assy Ice Maker ※incabi only	Unscrew the 2 screws.	
	Pull out Assy Ice Maker gently.	
	Disconnect the Assy Ice Maker housing.	
	When you assemble the Assy Ice Maker Check Fill tube rightly.	

PRECAUTIONS(SAFETY WARNINGS)

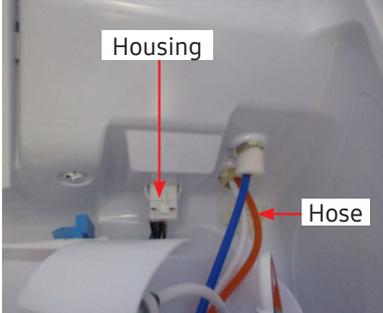
3-19. Water tank

Part Name	Description	Figure
	<p>1. Take out the water tank by pulling it.</p> <p> CAUTION When disassembling, make sure the unit turned off If you want to assembly, follow the reverse order</p>	
Water tank	<p>2. Disassembly 2 screws.</p>	 
	<p>3. Separate the hose and fitting from the bottom of the fridge door.</p>	
	<p>4. Disconnect the wire connector and Pull out the Hose.</p>	

PRECAUTIONS(SAFETY WARNINGS)

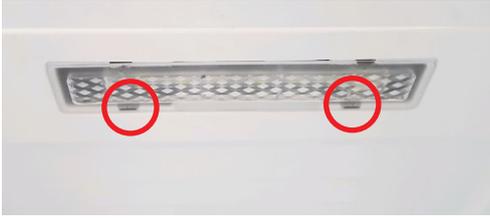
Part Name	Description	Figure
<p>Water tank</p> <p>※ indoor</p>	<p>1. Separate the hose and fitting from the bottom of the fridge door.</p>	
	<p>2. Disassembly 2 screws.</p>	
	<p>3. Disconnect the housing and Pull out the Hose.</p> <p> CAUTION To prevent the folding hose for assembling : Input the OJC-Seal into the hole over 1/2 or fully.</p>	
	<p>4. Check the Water Dripping. (Have to remove Air bubbles in the Water tank)</p>	

PRECAUTIONS(SAFETY WARNINGS)

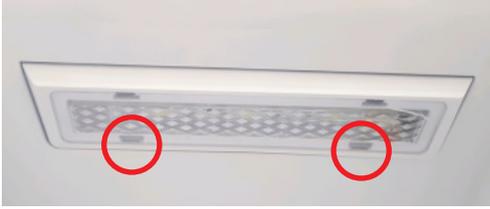
Part Name	Description	Figure
	<ol style="list-style-type: none"> 1. Separate the hose and fitting from the bottom of the fridge door. 	
	<ol style="list-style-type: none"> 2. Separate the hose and fitting from the Real plate. 	
<p>Water tank</p> <p>※ incabi plumbing model</p>	<ol style="list-style-type: none"> 3. Disassembly 2 screws. 	
	<ol style="list-style-type: none"> 4. Disconnect the housing and Pull out the Hose. <p> CAUTION To prevent the folding hose for assembling : Input the OJC-Seal into the hole over 1/2 or fully.</p>	
	<ol style="list-style-type: none"> 5. Check the Water Dripping. (Have to remove Air bubbles in the Water tank) 	

PRECAUTIONS(SAFETY WARNINGS)

3-20. LED LAMP (Indoor model)

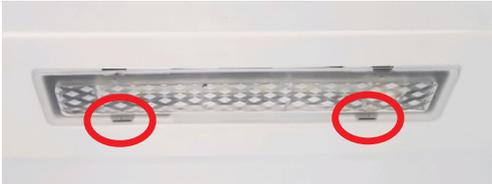
Part Name	Description	Figure
LED Lamp (Fridge)	<p>1. Insert the (-) screw driver into the hook at the back and pull the internal lamp cover forward to separate it.</p> <p> CAUTION Take care not to scratch the cabinet or damage the screw cover.</p> <p> CAUTION Be sure to unplug the power cord before performing the operation above.</p>	
	<p>2. Pulling it to the direction of the arrow on the left.</p>	
	<p>3. Remove the connector from the LED LAMP.</p>	

PRECAUTIONS(SAFETY WARNINGS)

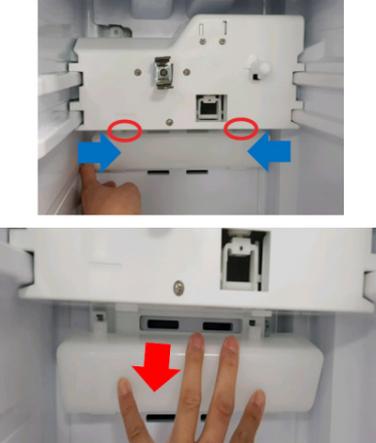
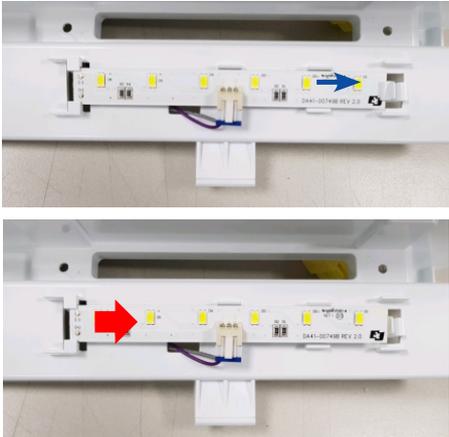
Part Name	Description	Figure
LED Lamp (Freezer)	<p>1. Insert the (-) screw driver into the hook at the back and pull the internal lamp cover forward to separate it.</p> <p> CAUTION Take care not to scratch the cabinet or damage the screw cover.</p> <p> CAUTION Be sure to unplug the power cord before performing the operation above.</p>	
	<p>2. Remove the connector from the LED by lifting and then pulling it to the direction of the arrow on the right.</p>	
	<p>3. Remove the connector from the LED LAMP.</p>	
Cover Optical LED (Indoor Freezer Only)	<p>1. Insert the (-) screw driver into the hook at the back and pull the internal lamp cover forward to separate it.</p> <p> CAUTION Take care not to scratch the cabinet or damage the screw cover.</p> <p> CAUTION Be sure to unplug the power cord before performing the operation above.</p>	

PRECAUTIONS(SAFETY WARNINGS)

3-21. LED LAMP (Incabi model)

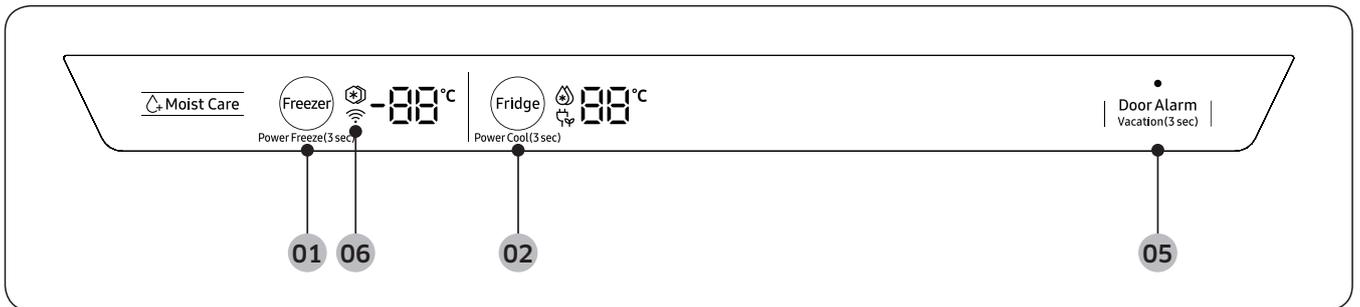
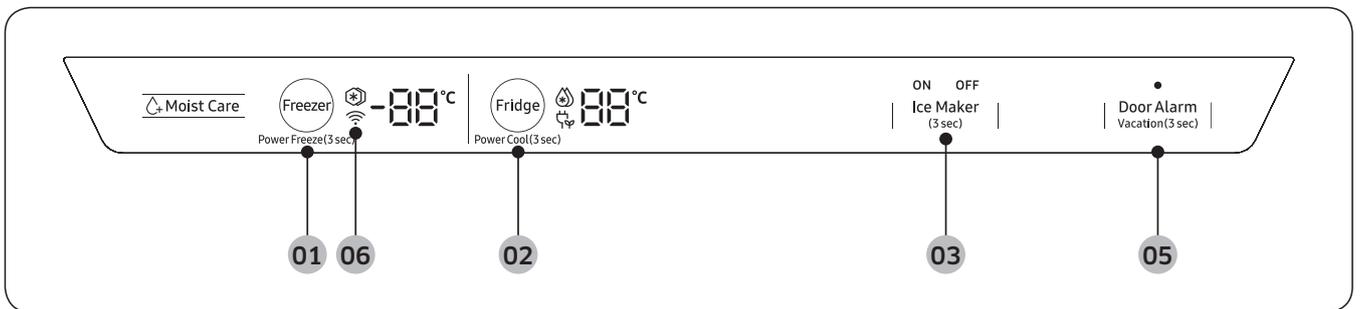
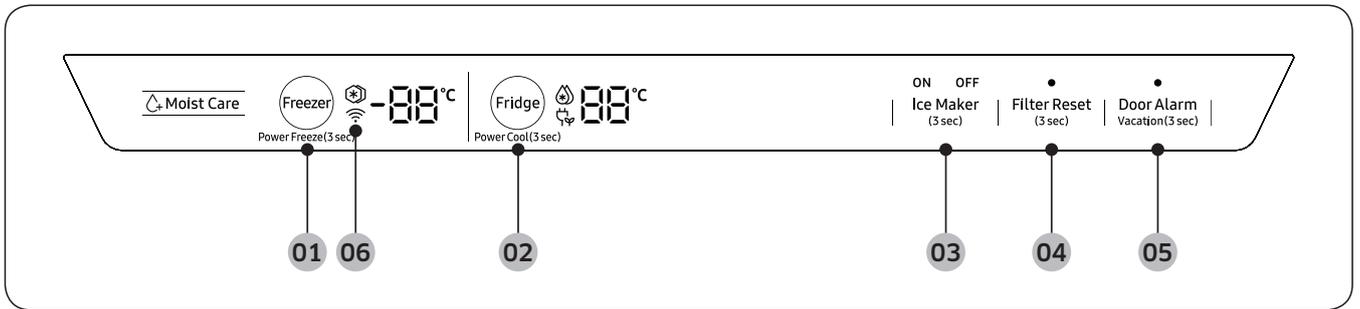
Part Name	Description	Figure
LED Lamp (Fridge)	<p>1. Insert the (-) screw driver into the hook at the back and pull the internal lamp cover forward to separate it.</p> <p> CAUTION Take care not to scratch the cabinet or damage the screw cover.</p> <p> CAUTION Be sure to unplug the power cord before performing the operation above.</p>	
	<p>2. Pulling it to the direction of the arrow on the left.</p>	
	<p>3. Remove the connector from the LED LAMP.</p>	

PRECAUTIONS(SAFETY WARNINGS)

Part Name	Description	Figure
LED Lamp (Freezer)	1. Pull out the Cover	
	2. Push the Cover Led side and pull out.	
	3. Push the right side hook and pull out the led to right side	
	4. Remove the connector from the LED LAMP.	

4. TROUBLESHOOTING

4-1. Using the control panel



01 Freezer / Power Freeze (3 sec) **02** Fridge/ Power Cool (3 sec) **03** Ice Maker (3 sec) *

04 Filter Reset (3 sec) * **05** Door Alarm / Vacation (3 sec) **06** Network connection

* applicable models only

PRECAUTIONS(SAFETY WARNINGS)

01 Freezer / Power Freeze (3 sec)

Freezer	The Freezer button can be used to set the freezer temperature, or to activate Power Freeze. Available temperatures are between -15 °C and -23 °C.
Power Freeze	<p>Power Freeze speeds up the freezing process at maximum fan speed. The freezer keeps running at full speed for 50 hours and then returns to the previous temperature.</p> <ul style="list-style-type: none"> To activate Power Freeze, press and hold Freezer for 3 seconds. The corresponding indicator (❄️) lights up, and the refrigerator will speed up the freezing process for you. To deactivate, press and hold Freezer for 3 seconds again. The freezer returns to the previous temperature setting. To freeze large amounts of food, activate Power Freeze for at least 20 hours before putting food in the freezer. <p> NOTE Using Power Freeze increases power consumption. Make sure you turn it off and return to the previous temperature if you do not intend to use it.</p>

02 Fridge / Power Cool (3 sec)

Fridge	<p>The Fridge button can be used to set the fridge temperature, or to activate/deactivate Power Cool.</p> <p>You can manually adjust the cooling temperature for the fridge. Keep pressing Fridge to select a desired temperature between 1 °C and 7 °C.</p>
Power Cool	<p>Power Cool speeds up the cooling process at maximum fan speed. This is useful to quickly cool food that spoils quickly, or after the door is left open for some time. The fridge keeps running at full speed for several hours and then returns to the previous temperature.</p> <p>Press and hold Fridge for 3 seconds.</p>

03 Ice Maker

Ice Maker	<p>Press and hold Ice Maker for more than 3 seconds to turn the ice maker on or off.</p> <p>The ice maker has 2 indicators (ON/OFF) to indicate the operating status.</p> <ul style="list-style-type: none"> When the ice maker operates, the ON indicator turns on. When the ice maker is turned off, the OFF indicator turns on. In this case, ice making is disabled even if you press the Cubed Ice or Crushed Ice buttons on the dispenser panel. To enable ice making, you must turn the ice maker on. <p> NOTE</p> <ul style="list-style-type: none"> If the ice maker is turned off, it will turn on if you press and hold the ice lever for more than 5 seconds. After tuning off the ice maker by inside cabinet control panel, this function doesn't work for 1 minute.
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PRECAUTIONS(SAFETY WARNINGS)

04 Filter Reset (3 sec)

Filter Reset	<p>After about 6 months (approximately 300 gallons) of using the original water filter, the Filter indicator turns red to remind you that the filter needs to be replaced. If this happens, replace the filter, and press and hold Filter Reset for 3 seconds. The filter indicator will be reset, and the Filter indicator turns off.</p> <p> NOTE</p> <p>Some regional areas have relatively large amounts of lime contained in the water. This may reduce the lifecycle of the filter. In these areas, you will have to replace the water filter more often than specified above.</p>
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05 Door Alarm / Vacation (3 sec)

Door Alarm	<p>You can set the alarm for a reminder. If the door is left open for more than 2 minutes, the alarm will sound with the alarm indicator blinking. The alarm is enabled by factory default. To disable the alarm, press Door Alarm. To enable, press Door Alarm again.</p>
Vacation	<p>The Vacation button can be used to activate/deactivate Vacation mode. If you are going on vacation or a business trip, or if you do not intend to use the refrigerator for an extended time, use the Vacation feature. Press and hold Vacation for 3 seconds to turn off the fridge operation with the Vacation indicator (🔒) on.</p> <p> NOTE</p> <p>It is strongly recommended to empty the fridge compartment and make sure the door is closed.</p>

06 Network connection (applicable models only)

You can use the optional Smart Home Dongle (sold separately) to control and monitor your refrigerator through the SmartThings app. For more information about SmartThings, see the SmartThings section.

NOTE

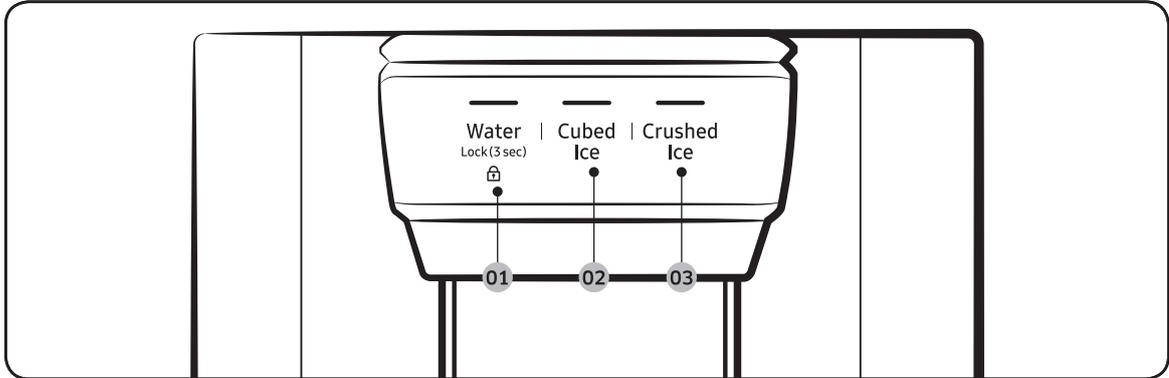
- Recommended encryption systems include WPA/TKIP and WPA2/AES. Any newer or unstandardized Wi-Fi authentication protocols are not supported.
- Wireless networks may be affected by the surrounding wireless communication environment.
- If your Internet service provider has registered the MAC address of your PC or modem for identification, your Samsung Smart Refrigerator may fail to connect to the Internet. If this happens, contact your Internet service provider for technical assistance.
- The firewall settings of your network system may prevent your Samsung Smart Refrigerator from accessing the Internet. Contact your Internet service provider for technical assistance. If this symptom continues, contact a local Samsung service center or retailer.
- To configure the wireless access point (AP) settings, see the user manual of the AP.
- Samsung Smart Refrigerators featuring the Samsung Smart Home Dongle support both Wi-Fi 2.4 GHz with IEEE 802.11 b/g/n and Soft-AP protocols (IEEE 802.11 n is recommended).
- Unauthorized Wi-Fi wireless routers may fail to connect to applicable Samsung Smart Refrigerators.

PRECAUTIONS(SAFETY WARNINGS)

Category	Item	Description
Monitoring	Fridge temperature	Displays the current temperature setting of the fridge.
	Freezer temperature	Displays the current temperature setting of the freezer.
	Diagnosis	Detects abnormal operations of the refrigerator.
	Energy monitoring	Checks the accumulated power consumption of the refrigerator for the last 180 days.
Functions	Ice making	You can turn the ice making function on or off, and check the current settings of the function.
		You can also check the status and progress of ice making.
	Power Cool	You can turn Power Cool on or off, and check the current settings.
	Power Freeze	You can turn Power Freeze on or off, and check the current settings.
Alarms	Abnormally high temperature	This alarm is triggered when the fridge or freezer has abnormally high temperatures.
	Door opening	This alarm is triggered if the fridge or freezer door is open for more than 2 minutes.
	Water filter replacement	This alarm reminds you that the water filter must be replaced.

PRECAUTIONS(SAFETY WARNINGS)

Dispenser panel (applicable models only)



01 Water / Lock

02 Cubed Ice

03 Crushed Ice

01 Water / Lock (3 sec)

Water	To dispense chilled water, press Water. The corresponding indicator turns on.
Lock (Dispenser panel / Dispenser lever)	To prevent use of the dispenser panel buttons and the dispenser lever, press and hold Water for more than 3 seconds. If you press and hold the button again for more than 3 seconds, the dispenser lock will be deactivated.
	<p> NOTE</p> <p>The Lock on the dispenser panel does not affect the controls on the main panel. To lock the main panel, use the Control Lock function on the main panel.</p>

02 Cubed Ice

Cubed Ice	Press Cubed Ice to dispense cubed ice. The corresponding indicator turns on.
-----------	--

03 Crushed Ice

Crushed Ice	Press Crushed Ice to dispense crushed ice. The corresponding indicator turns on.
-------------	--

PRECAUTIONS(SAFETY WARNINGS)

4-2. SmartThings (available only with the optional dongle)

■ Installation

Visit the Google Play Store, Galaxy Apps, or Apple App Store and search for "SmartThings". Download and install the SmartThings app provided by Samsung Electronics to your smart device.

NOTE

- The SmartThings app is designed for Android 6.0 (Marshmallow) or later, iOS 10.0 or later, iPhone 6 or later, and is optimized for Samsung smartphones (Galaxy S and Galaxy Note series).
- For improved performance, the SmartThings app is subject to change without notice, or discontinued support according to the manufacturer's policy.

Samsung account

You are required to register with a Samsung account to use the app. If you don't have a Samsung account, follow the app's onscreen instructions to create a free Samsung account.

Getting started

1. Insert the Smart Home Dongle into the corresponding port of your refrigerator.
2. Run the SmartThings app and log in with your Samsung account. iPhone users are required to provide the login information each time they access the app.
3. Access Add Device and then tap Refrigerator.
4. Follow the onscreen instructions to provide the necessary information about the router, and then tap Next.
5. Press and hold Fridge for more than 5 seconds until the "AP" message appears on the display. Your refrigerator will be registered with the app.
6. When device registration is complete, the refrigerator icon will appear on the SmartThings app.
7. Tap the refrigerator icon to open the refrigerator page.
8. When a network connection is established, the Wi-Fi icon lights up on your refrigerator.

■ Refrigerator app

Integrated control

You can monitor and control your refrigerator at home as well as while on the move.

- Tap the refrigerator icon on the SmartThings to open the refrigerator page.
- Check the operation status or notifications for your refrigerator, and change options or settings if necessary.

NOTE

Some options or settings of the refrigerator may not be available for remote control.

PRECAUTIONS(SAFETY WARNINGS)

■ Wi-Fi connection

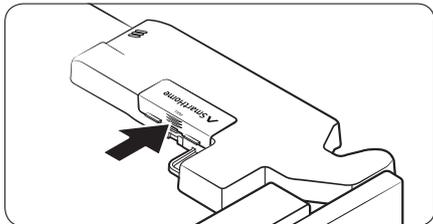
You can control the refrigerator remotely using the Smart Home Dongle that is sold separately. To purchase the Smart Home Dongle, visit www.samsung.com and follow the product information about the dongle.

👉 NOTE

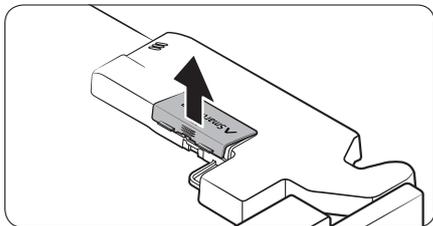
- You may not be able to purchase the Smart Home Dongle separately in some countries. Please check with your dealer for availability.

⚠ CAUTION

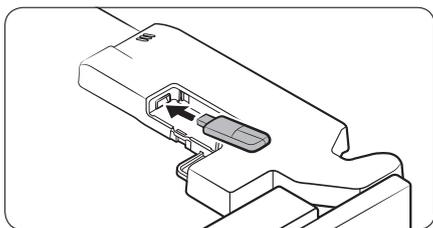
- The Samsung Smart Home Dongle comes in two types: one that is dedicated to Samsung smart TVs, and the other one that is dedicated to Samsung home appliances.
- You must purchase the Samsung Smart Home Dongle (HD39N1230GW) dedicated to home appliances. Any other dongles may cause system failure.



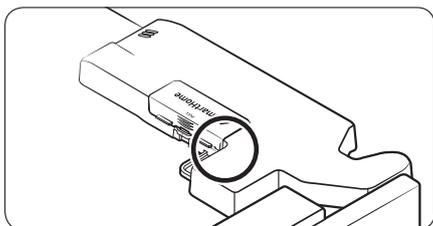
1. Press to unlock the arrow area of the dongle cover.



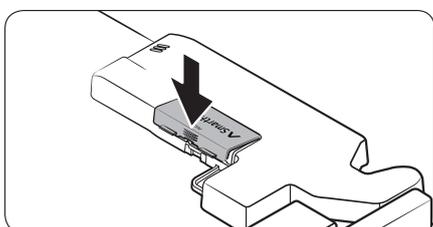
2. Open up the dongle cover.



3. Insert the Smart Home Dongle into the dongle port in the correct direction.



4. Insert the upper area of the dongle cover first, and then close to lock as shown.



👉 NOTE

The marked area is the cover of the optional dongle, not a crack or defect.

PRECAUTIONS(SAFETY WARNINGS)

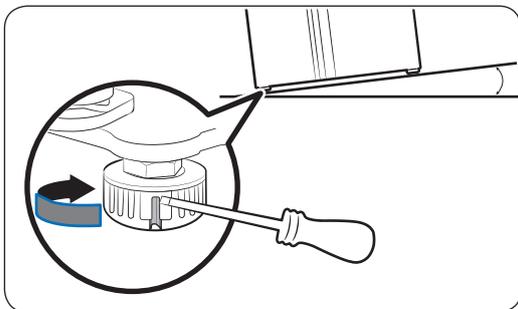
4-3. Adjust the leveling feet and door height

4-3-1. Adjust the leveling feet

CAUTION

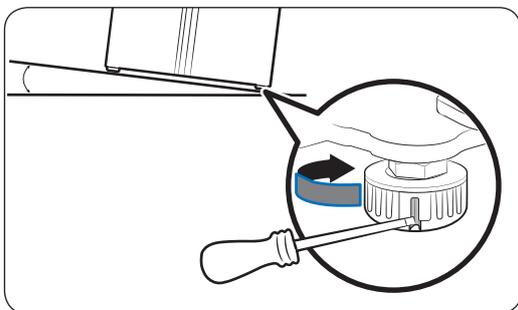
- The refrigerator must be levelled on a flat, solid floor. Failing to do so can cause damage to the refrigerator or physical injury.
- Levelling must be performed with an empty refrigerator. Make sure no food items remain inside the refrigerator.
- For safety reasons, adjust the front side a little higher than the rear side.

The refrigerator can be levelled using the front legs that have a special screw (leveller) for levelling purposes. Use a flat-head screwdriver for levelling.



To adjust the height of the freezer side:

Insert a flat-head screwdriver into the leveller of the freezer-side front leg. Turn the leveller clockwise to raise, or turn it counter clockwise to lower.



To adjust the height of the fridge side:

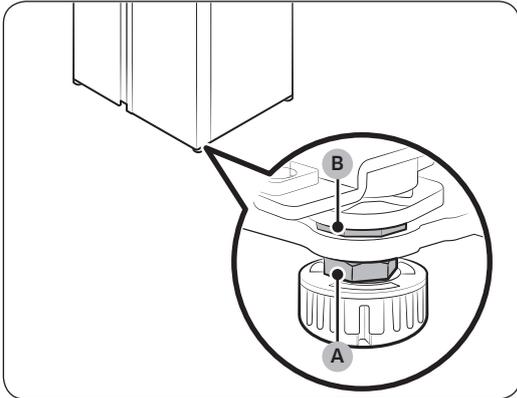
Insert a flat-head screwdriver into the leveller of the fridge-side front leg. Turn the leveller clockwise to raise, or turn it counter clockwise to lower.

PRECAUTIONS(SAFETY WARNINGS)

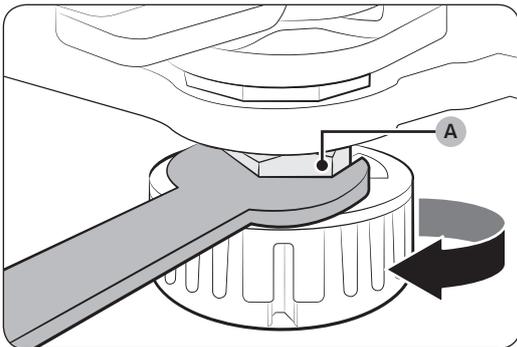
4-3-2. Adjust the door height as well as the door gap

■ To adjust the height of a door

The height of a door can be adjusted using the clamp nut and the height nut on the front bottom of each door.

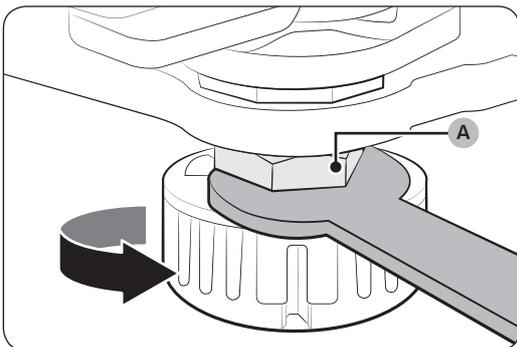


1. Open the door to adjust, and locate the two nuts (A) and (B) on the front bottom of the door.



2. With a 19 mm spanner, turn the clamp nut (A) clockwise to loosen. Then, open the door, and do the following inside the door.

- To raise the door, turn the height nut (B) counter clockwise.
- To lower the door, turn the height nut (B) clockwise.

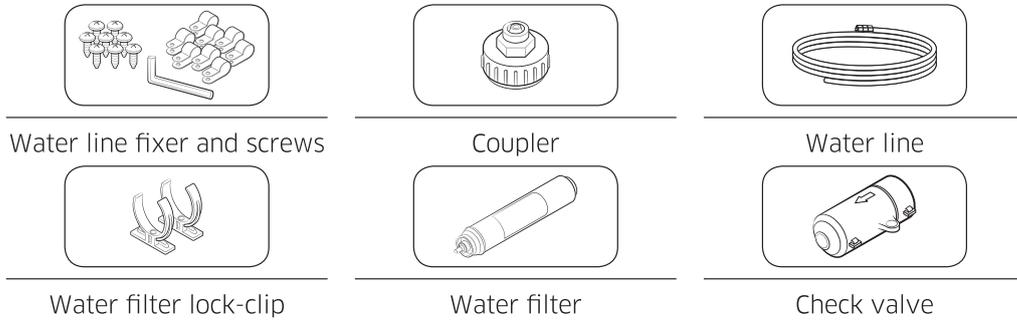


3. When complete, tighten the clamp nut (A) by turning it counter clockwise.

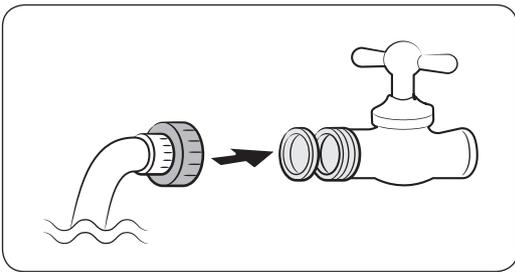
PRECAUTIONS(SAFETY WARNINGS)

4-3-3. Connect the water dispenser line (applicable models only)

■ Parts and tools required



■ Installation (external dispenser line)



1. Assemble the water pipe line using couplers.
2. Close the main water supply, and then close the water tap.
3. Connect the coupler to the cold water tap.

CAUTION

- Make sure you connect the coupler to the cold water tap. Connection to the hot water tap may cause the water filter to be clogged and fail to operate normally.
- The warranty for your refrigerator does not cover the water line installation. The water line installation will be performed at your own costs unless the installation fee is included in the retailer's price.
- Samsung takes no responsibility for the water line installation. If water leaks occur, contact the installer of the water line.
- The water line must be repaired by a qualified professional. If you encounter a water leak, contact a local Samsung service centre or the installer of the water line.

PRECAUTIONS(SAFETY WARNINGS)

4-3-4. Connect to a water source (applicable models only)

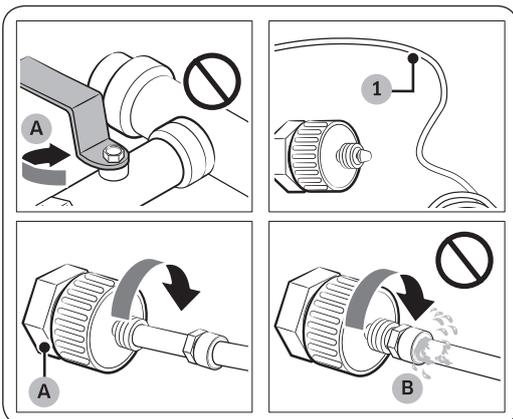
⚠ CAUTION

- The water line must be connected by a qualified technician.
- The warranty for your refrigerator does not cover the water line installation. The water line installation will be performed at your own costs unless the installation fee is included in the retailer's price.
- Samsung takes no responsibility for the water line installation. If water leaks occur, contact the installer of the water line.

■ To connect the cold water pipe to the water filtering hose

⚠ CAUTION

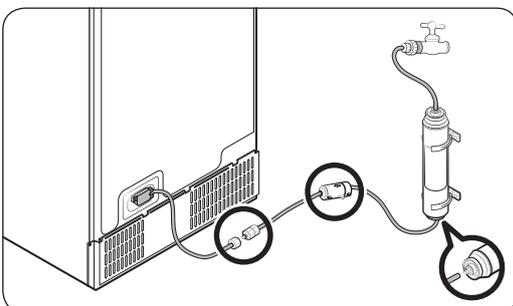
- Make sure the water filtering hose is connected to a cold, potable water source pipe. Connecting to the hot water pipe may cause the water filter to malfunction.



A. Close Main Water pipe

B. No gap

1. Shut off the water supply by closing the main water valve.
2. Locate the cold, potable water pipe (1).
3. Follow the Water Line Installation to connect to the water pipe.

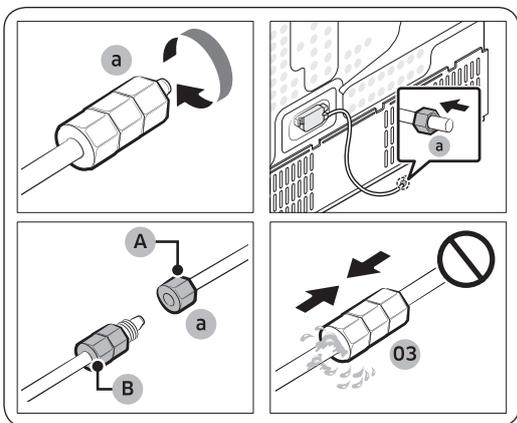


👉 NOTE

New hose-sets supplied with the appliance are to be used and old hose-sets should not be reused.

PRECAUTIONS(SAFETY WARNINGS)

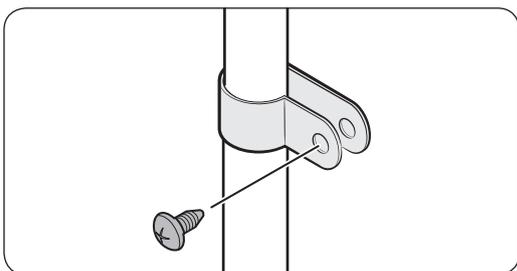
■ To connect the cold water pipe to the water filtering hose



A. Water Line from unit

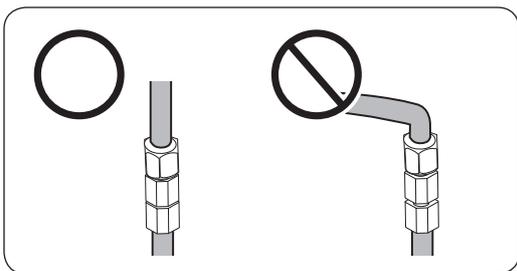
B. Water Line from Kit

1. Loosen and remove the **compression nut (a)** from the water line of the refrigerator, and insert it to the water filtering hose.
2. Tighten up the **compression nut (a)** to connect the water filtering hose and the water line.
3. Open the main water valve and check for any leaks.
4. If there are no leaks, dispense about 10 litres of water or dispense the water for 6 - 7 minutes before actually using the refrigerator to remove impurities inside the water filtering system.
5. Secure the water line to a sink or a wall using a clip.



⚠ CAUTION

- Do not tighten the water line excessively. Make sure the water line is not bent, pinched, or squashed.
- Do not mount the water line on any part of the refrigerator. This may damage the refrigerator.



👉 NOTE

If you have to relocate the refrigerator after connecting the water line, make sure the joined section of the water line must be straight.

■ To repair the water line

⚠ CAUTION

The water line must be repaired by a qualified professional. If you encounter a water leak, contact a local Samsung service centre or the installer of the water line.

PRECAUTIONS(SAFETY WARNINGS)

■ Reverse osmosis water filtration system

The water pressure of the water supply system to a reverse osmosis water filtration system must be between 241 kPa and 827 kPa.

The water pressure of the reverse osmosis water filtration system to the refrigerator's cold water line must be at least 276 kPa. If the water pressure is below the specified:

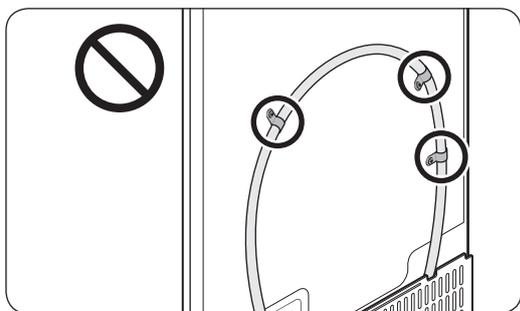
- Check if the sediment filter in the reverse osmosis system is blocked. Replace the filter if necessary.
- Refill the water tank in the reverse osmosis system with water.
- If your refrigerator has a water filter, it may further reduce the water pressure when used in conjunction with a reverse osmosis system. Remove the water filter.

For more information or servicing, contact a licensed plumbing professional.

■ Ordering a new filter

To purchase a new water filter (part type: HAFEX/EXP), contact a local Samsung service centre.

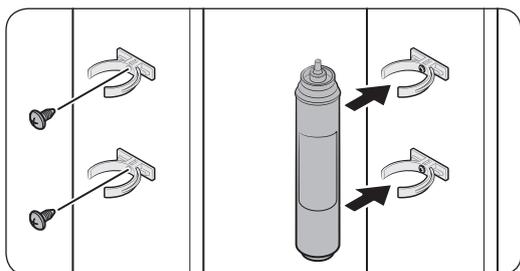
■ To mount the water filter into place



1. Attach the **lock clips** (x2) to appropriate positions under the sink, for instance. Then, fix the **lock clips** firmly using screws.
2. Insert the **water filter** into the upper and lower clips in the correct direction. Make sure to check the vertical direction of the **water filter**.

NOTE

If the filter is installed horizontally, water may remain in the filter. Therefore, vertical installation is recommended.



CAUTION

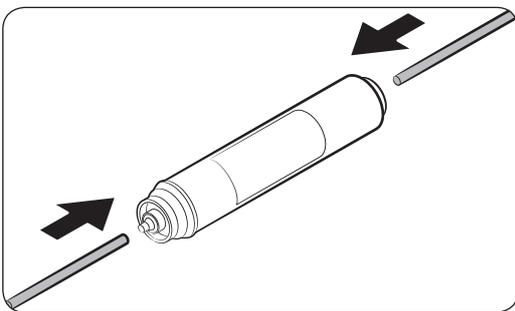
Do not mount the water filter on any part of the refrigerator. This may damage the refrigerator.

PRECAUTIONS(SAFETY WARNINGS)

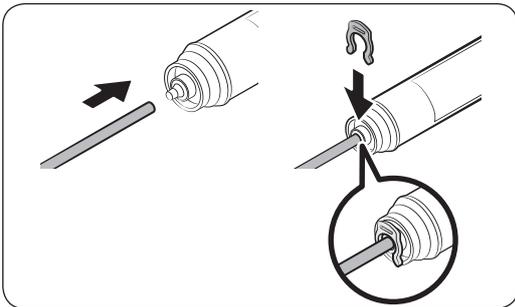
■ Water filter replacement (applicable models only)

⚠ CAUTION

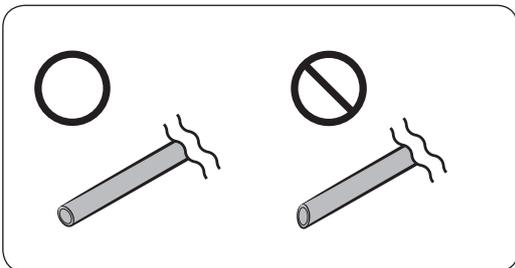
- Do not use third-party water filters. Use only Samsung-provided or -approved filters.
- Unapproved filters may leak and damage the refrigerator, causing electric shock. Samsung holds no responsibility for any damage that may occur from use of third party water filters.
- The filter indicator turns red as a reminder that lets you know it is time to replace the water filter.



1. Shut off the main water supply.
2. Connect the water supply line to the inlet side of the filter to the end.
3. Connect the dispenser line to the outlet side of the filter.



4. Check if there is any leak. If not, fix the lines with the clips.
5. Put the water filter into place and fix it with the clips.
6. Press and hold **Filter Reset** for 3 seconds to reset the filter lifecycle.
7. When replacing is complete, flush 10 litres of water (or dispense the water for 6 - 7 minutes) to remove impurities from the water line.



⚠ CAUTION

When adjusting the length of the water line tubing, make sure to smooth out the cut surface at a right angle. This is to prevent a water leak.

👉 NOTE

- A newly installed filter may cause the water dispenser to spurt water briefly. This is because air has entered the water line.
- This replacement process may involve the refrigerator to drip water onto the floor. If this happens, wipe up with dry cloths.

PRECAUTIONS(SAFETY WARNINGS)

4-4. Function for failure diagnosis

4-4-1. Test mode (manual operation / manual defrost function)



- If Freezer Key + Alarm Key are pressed simultaneously for 6 seconds, ALL ON/OFF will blink with 0.5 interval for 4 seconds. If take the finger off from above keys and press Alarm key.
- It will be changed to the test mode and all displays on the front of panel will be off.
- If any key on the front of panel is pressed within 15 seconds after the test mode, it will be operated as below sequence : Manual operation (FF) → manual operation (FF-r) → manual operation (FF-F) → manual operation (FF-A) → manual defrost of fridge compartments(rd) → manual defrost of freezer compartment(Fd) → cancel(Display all off)
- If any key on the front of panel is not pressed within 15 seconds after the test mode, the test mode will be canceled and it will be returned to previous mode.

1) Manual operation function

DISPLAY		Operating Time	Operation			
			F-Fan (Freezer)	R-Fan (Fridge)	F-Valve	R-Valve
FF		24hr	ON	Temperature Control	Swing	Swing
FF	r	24hr	OFF	ON	OFF	ON
FF	F	24hr	ON	OFF	ON	OFF
FF	A	24hr	ON	ON	ON	ON

2) Forced Defrost

- Rd : Forced Fridge Compartment defrosting (rd) begins, a beeping sound will be heard for 2 seconds and then the sound will be turned on for 0.1 seconds and then off for 0.9 seconds repeatedly while the Forced defrosting function runs.
- Fd : Forced Freezing, Fridge Compartment defrosting (Fd) begins, a beeping sound will be heard for 2 seconds and then the sound will be turned on for 0.5 seconds and then off for 0.5 seconds repeatedly while the Forced defrosting function runs.

3) Test cancel mode

During the defrosting of freezer compartment if the display panel change to the test mode and test button is pressed one more time, defrosting of freezer compartment will be canceled and the unit will return to the normal operation.
Or, all test functions will be canceled by turning main power ON and OFF.

PRECAUTIONS(SAFETY WARNINGS)

4-4-2. Self-diagnostic function



1) Self-diagnostic function in the Initial power ON.

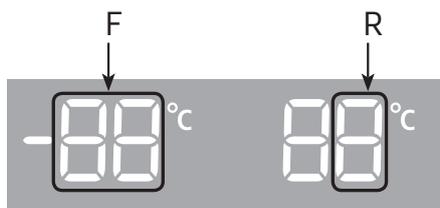
- 1-1) Micom operates self-diagnostic function to check the temperature sensor condition within 1 second when the refrigerator turned On initially.
- 1-2) If bad sensor is detected by the self-diagnostic function, the applicable display LED will blink for 0.5 sec. At this moment, there is no beep sound.(Refer to self-diagnostic CHECK LIST)
- 1-3) Self-diagnostic button is recognized only when the error is displayed by the bad sensor. Display does not operate normally but temperature control will be controlled by the emergency operation.
- 1-4) When the error is detected by self-diagnosis, the error can be canceled automatically if all troubled sensors are corrected or Self-diagnostic function key Freezer Key + Alarm Key are pressed simultaneously for 10 seconds. (Return to normal display mode)

2) Self-diagnostic function during normal operation.

- 2-1) If Freezer Key + Alarm Key are pressed simultaneously for 6 seconds during normal operation, the temperature setting display will operate for 4 seconds (ON/OFF 0.5sec each). If Freezer Key + Alarm Key are pressed simultaneously for 10 seconds (including above 4 seconds), self-diagnostic function will be selected.
- 2-2) At this moment, self-diagnostic function will be returned with buzzer sound. If there is an error, display of error will be operated for 60 seconds and then return to normal condition whether problem is corrected or not. (Refer to self-diagnosis CHECK LIST)
- 2-3) Input by button is not accepted during self-diagnostic function.

PRECAUTIONS(SAFETY WARNINGS)

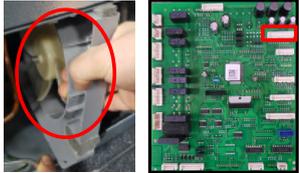
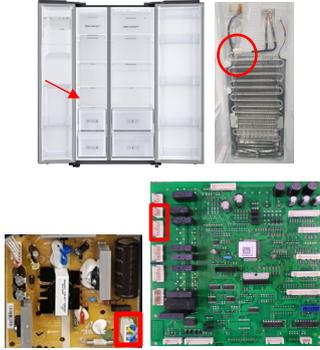
Self-diagnostics check list



LED		Item	Trouble contents	Diagnostic method	Image
F	R				
88		F-Sensor Error		When measuring the voltage between the Main PCB CN30 3PIN - 7PIN, it should read between 4.5V~1.0V.	
88		R-Sensor Error		When measuring the voltage between the Main PCB CN30 5PIN - 7PIN, it should read between 4.6V~1.0V.	
88		F-DEF-Sensor Error	Display error : separation of sensor housing part, contact error, disconnection, short circuit. Display error of detecting temperature of sensor : more than 149°F(+65°C) or less than -58°F(-50°C)	The voltage of MAIN PCB CN30 4PIN - 7PIN shall be between 4.5V~1.0V	
88		Fridge-Defrostsensor Error		The voltage of MAIN PCB CN30 6PIN - 7PIN shall be between 4.5V~1.0V	
88	8	Ambient-Sensor Error		The voltage of MAIN PCB CN30 1PIN-2PIN shall be between 4.5V~1.0V	
88		Ice Maker Sensor Error	Display error : separation of sensor housing part, contact error, disconnection, short circuit Display error of detecting temperature of sensor: more than 149°F (+65°C) or less than -58°F(-50°C)	The Voltage of MAIN PCB CN90 3PIN - 9PIN Shall be between 4.5V ~ 1.0V.	
88		Humidity-Sensor Error	Separation of sensor housing part, contact error, disconnection, short circuit	When measuring the voltage between the Main PCB CN30 11PIN-7PIN, it should read between 4.5V~1.0V.	
88		F-FAN Error	Display error during operation of applicable fan motor : Feed back signal line contact error, motor wire separation, motor error	The voltage of MAIN PCB CN74 4PIN - 1PIN shall be between 7V~12V	

PRECAUTIONS(SAFETY WARNINGS)

Self-diagnostics check list

LED		Item	Trouble contents	Diagnostic method	Image
F	R				
88		R-FAN Error	Display error during operation of applicable fan motor : Feed back signal line contact error, motor wire separation, motor error	The voltage of MAIN PCB CN74 3PIN - 1PIN shall be between 7V~12V	
89		C-FAN Error	Display error during operation of applicable fan motor : Feed back signal line contact error, motor wire separation, motor error	The voltage of MAIN PCB CN74 2PIN - 1PIN shall be between 7V~12V	
8A		F-DEF Error	Separation of freezer compartment defrost heater housing part, contact error, disconnection, short circuit or temperature fuse error. Display error : the defrosting does not finish though freezer compartment defrost is heating continuously for more than 100 minutes.	After separating Main PCB CN70& SMPS CN01 wire from PCB, Resistance value between CN70 9PIN - SMPS CN01 3PIN Shall be 63(230) ohm ± 7%(Resistance value is varied by input power) 0 ohm : heater short, ∞ ohm : wire/bimetal open (Must power off)	
8B	C	Ice Maker Function Error	When the Freezer Ice Maker error occurs more than 3 times, the error will be displayed.	After replacing the Ice Maker, check if it operates normal.	
8C		Damper Heater Error	Display error when open error is detected by damper heater : separation of Damper Heater housing part, contact error, disconnection, short circuit.	The voltage of MAIN PCB CN75 1PIN - 2PIN shall be between 7V~12V.	
8D		Panel ↔ Main Communication Error	Display pc - Er in the panel with alarm : MICOM MAIN PANEL communication error.	Actually, If there is not a problem, it is desirable to replace Main and Panel PCB With the oscilloscope after a cable problem confirming.	
8E		Main - Inverter Communication Error	Display 44Er in the panel : Inverter MICOM Main MICOM communication error.	Actually, If there is not a problem, it is desirable to replace Main and Inverter PCB With the oscilloscope after a cable problem confirming.	
8F		I/O Expander Communication Error	Display 46Er in the panel : I/O Expander ↔ Main MICOM communication error.	It is desirable to replace Main PCB.	

PRECAUTIONS(SAFETY WARNINGS)

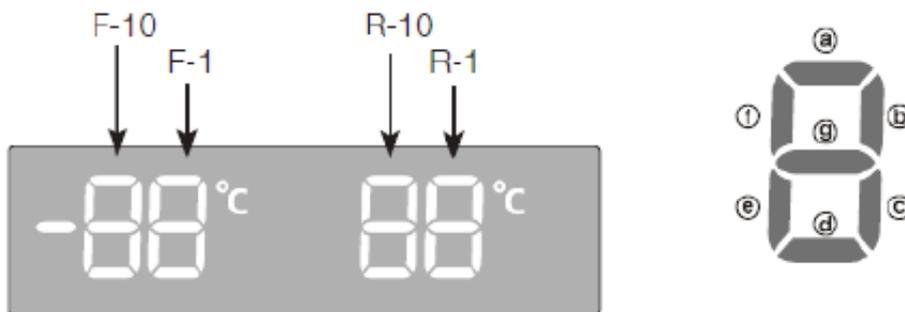
LED		Item	Trouble contents	Diagnostic method	Image
F	R				
88		Dispenser Panel ↔ Main Communication Error	MICOM MAIN ↔ DISPENSER PANEL communication error.	Actually, If there is not a problem, it is desirable to replace Main and Panel PCB With the oscilloscope after a cable problem confirming.	
88		The F compartment abnormal hightemperature indicator blinks	When the freezer temperature is abnormally high or the freezer door is open for a certain period of time and the freezer temperature increases, the freezer display blinks.	The temperature has been abnormally increased. Check if the door has been open for a long time or if hot food has been stored in the compartment. If the reason for the error is removed, the error code disappears after a pre-determined period of time.	
88		The R compartment abnormal hightemperature indicator blinks	When the fridge temperature is abnormally high or the fridge door is open for a certain period of time and the fridge temperature increases, the fridge display blinks.	Check if door has been open for a long time or if hot food has been stored in the compartment. If the reason for the error is removed, the error code disappears after a pre-determined period of time.	
88	E	Comp starting Failure Error	When the Compressor fails starting	Check if there is a short between compressor terminals. Check IPM Voltage [Under 13.5V] Check if there is a short between IPM Pins [#1~33] Check the Compressor and the Cycle	 
88		IPM Fault Error	When there is a IPM Fault error		
88		Comp Abnormal current Detection Error	When there is abnormal current detected at the Compressor	Check the Compressor connections Check the voltage of Resistance of R308 [0.090hm] Check the Compressor and the Cycle	
88		Motor Locked Over RPM Error	When there is a Compressor restriction error	Check the voltage of Resistance of R308 [Short/Open] Check the voltage of both of C103 terminals [Unstable Voltage] Check the Compressor and the Cycle	
88		Comp under voltage Error	When there is a low voltage error	Check the voltage of Resistance of R513 [Short/Open]	
88		Comp over voltage Error	When there is a over voltage error	Check the voltage of Resistance of R501, R505, R509 [Short/Open]	

PRECAUTIONS(SAFETY WARNINGS)

4-4-4. Display function of Load condition



- 1) If Freezer Key + Alarm Key are pressed simultaneously for 6 seconds during normal operation, the temperature setting display of fridge and freezer compartments will blink ALL ON/OFF with 0.5 for 4 seconds.
- 2) If take the finger off from above keys and press Fridge key load status will display. At LED all on state only load condition display will blink ON/ OFF with 0.5 seconds interval.
- 3) Load condition display mode shows the load that micom signal is outputting. However, It means that micom signal is outputting, it does not mean whether load is operating or not. That is to say that though load operation is displayed, load could not be operated by actual load error or PCB relay error etc. (This function would be applied at A/S.)
- 4) Load condition display function will maintain for 30 seconds and then normal condition will be returned automatically.
- 5) Load condition display is as below. Only the load control LED will blink with 0.5 interval in "Display LED".



PRECAUTIONS(SAFETY WARNINGS)

※ Load mode Check list

NO	Part	Display (LED)	Operation contents
1	R-FAN HIGHEST	R-1- (a) , (b)	When R-FAN HIGHEST operates, applicable LED blinks.
2	R-FAN HIGH	R-1- (a)	When R-FAN HIGH operates, applicable LED blinks.
3	R-FAN LOW	R-1- (b)	When R-FAN LOW operates, applicable LED blinks.
4	R-DEF HEATER	R-1- (c)	When R-DEF Heater operates, applicable LED blinks.
5	Overload condition	R-1- (e)	When ambient temperature is more than 93°F(34°C),LED blinks.
6	Low Temperature condition	R-1- (f)	When ambient temperature is less than 70°F(21°C),LED blinks.
7	Normal condition	R-1- (e) , (f) (Not blinks ALL LED)	When ambient temperature is between 72°F(22°C) and 91°F(33°C).
8	Exhibition mode	R-1- (g)	LED Blinks at the display mode.
9	ICE MAKER FULL (DISPENSER model)	R-10- (d)	When the Ice Maker's Bucket is full, applicable LED blinks.
10	COMP	F-1- (a)	When COMP operates, applicable LED blinks.
11	F-FAN HIGHEST	F-1- (b) , (c)	When F-FAN HIGHEST operates, applicable LED blinks.
12	F-FAN HIGH	F-1- (b)	When F-FAN HIGH operates, applicable LED blinks.
13	F-FAN-LOW	F-1- (c)	When F-FAN LOW operates, applicable LED blinks.
14	F-DEF HEATER	F-1- (d)	When F-DEF HEATER operates, applicable LED blinks.
15	C-FAN HIGHEST	F-1- (e) , (f)	When C-FAN HIGHEST operates, applicable LED blinks.
16	C-FAN HIGH	F-1- (e)	When C-FAN HIGH operates, applicable LED blinks.
17	C-FAN LOW	F-1- (f)	When C-FAN LOW operates, applicable LED blinks.
18	F-VALVE	F-10- (b)	When F-VALVE opens, applicable LED blinks.
19	R-VALVE	F-10- (c)	When R-VALVE opens, applicable LED blinks.
20	DISPENSER HEATER	F-10- (e)	When DISPENSER HEATER operates, applicable LED blinks.
21	DAMPER	F-10- (f)	When DAMPER opens, applicable LED blinks.
22	WIFI Status	WIFI Icon	When AP and Internet Disconnect : LED OFF. When AP connect and Internet Disconnect : LED Blinks. When AP and Internet connect : LED ON.

PRECAUTIONS(SAFETY WARNINGS)

4-4-5. Exhibition mode setting function (All Regions Except for North America)



- 1) If Fridge Key + Alarm Key are pressed simultaneously for 6 seconds, ALL ON/OFF will blink with 0.5 interval for 4 seconds. If take the finger off from above keys and press Freezer key, Exhibition mode will be started with buzzer sound.
- 2) If above Exhibition entering Key are pressed one more time, Exhibition mode will be canceled.
- 3) If Exhibition mode is selected or canceled by key, displays "on" or "oF" for 5 seconds on the temperature setting display of the panel and it indicates the refrigerator has entered or exited the Exhibition mode. After 5 seconds, the display panel will work normally.
- 4) During Exhibition mode, if fridge and freezer compartments sensors are higher than 65°C Exhibition mode will be canceled automatically and freezing operation will be returned. (There is no buzzer sound when the Exhibition mode is canceled by the Temperature.)
- 5) Operation contents of Exhibition mode
 - Display, Fan motor and etc operate normally, not to operate compressor and Door Open Alarm.
 - Defrost is not operated. (including french heater)
 - Display function of the initial real temperature is finished.
 - Under the condition of Exhibition mode, Exhibition mode will be canceled when Power On after Power OFF.

PRECAUTIONS(SAFETY WARNINGS)

4-4-6. MAC Address Display Mode

- 1) This function is to display the MAC address of the Refrigerator Wi-Fi module, and consecutively displays the MAC address on the Freezer (F Compartment) Temperature Display Part for one minute.
 - If you press the Freezer button and the Fridge button simultaneously for six seconds or longer, the Display will blink.
Here, if you press the Freezer button, a buzzer sound will be made and the product will enter the MAC Address Display Mode.
- 2) If the MAC address is "11-22-33-44-55-66," "--," "11," "22," ... "66," and "--" will be repeatedly displayed on the Freezer Temperature Display Part for one minute.
When one minute has passed, the MAC Address Display Mode will be canceled with a buzzer sound, and the product will return to the normal Display Mode.
 - ※ If the MAC address is not valid or the WI-Fi module is not connected, "--" will be displayed on the Freezer Display Part for one minute.

PRECAUTIONS(SAFETY WARNINGS)

4-3-7. Option setting function



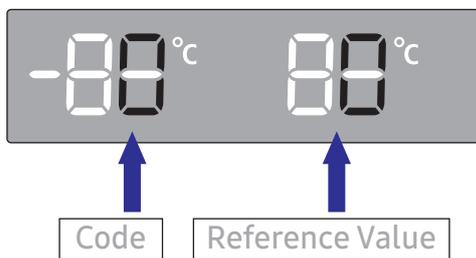
If Freezer Key + Alarm Key are pressed simultaneously for 6 seconds during normal operation, ALL ON/OFF will blink with 0.5 interval for 4 seconds. If take the finger off from above keys and press Freezer, Fridge and Freezer compartments temperature display will be changed to operation setting mode.

■ Key control in option mode

Freezer Key	Reference Value down key
Fridge Key	Reference Value Up key
Alarm Key	Code Up / Down Key (Rotation)

- If the display changes to option setting mode, all displays will be off except freezer and fridge compartments temperature display as below.
(Fridge and freezer compartments case will be explained only because all options are operated with the same method according to the option table.)

PRECAUTIONS(SAFETY WARNINGS)



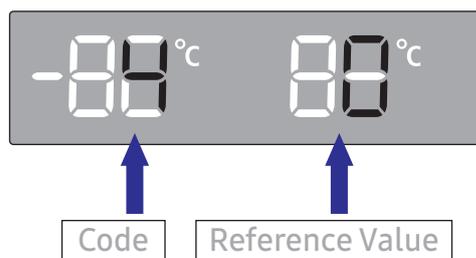
- 1) For example, if you want to change freezer compartment standard temperature to -2°C by operating option, do as below. This function is for changing the standard temperature.
In -19°C of current temperature of freezer compartment, if you make the temperature lower to -2°C by the option, the standard temperature would be controlled -21°C .
Therefore, if you change the setting of temperature option to -19°C on the panel, the appliance will be operated with -21°C . It means that standard temperature is controlled -2°C less than setting temperature in the display.



NOTE

Basically, all the data in option has cleared from the factory. Therefore, almost all setting value are "0". But, some setting values could be changed for the purpose of improving performance. You need to check the product manual and/or specification.

- 2) After changing to the option mode, fridge compartment "0", freezer compartment "0" will be displayed. (Basically fridge compartment "0", freezer "0" would be set at shipping process, but setting value could be changed for the purpose of improving product at mass producing process.)
- If fridge compartment "0" shows only, temperature reference value of freezer compartment will be set and current freezer compartment temperature code will be displayed on the freezer temperature display.
- 3) If freezer compartment "4" is set as below freezer compartment code after fridge compartment "0" is set, standard temperature of freezer compartment will be lower than -2°C . (Refer to the picture "changing the freezer compartment temperature")



: If you wait for 20 seconds after completing the setting, MICOM will save the setting value to the EEPROM and normal display will be returned and the option setting mode will be canceled.

- 4) Option changing method as above is the same as all model.
- 5) By the same method as above, it is possible to control the fridge compartment temperature, water supply, ice-maker harvest temperature/time, defrost return time etc.
- 6) Option function is set in the EEPROM at shipping process in the factory. You would better not to change the option of your own. Completing the setting is that option function return to normal display after 20 seconds. Do not turn off the appliance before returning to the normal display mode.



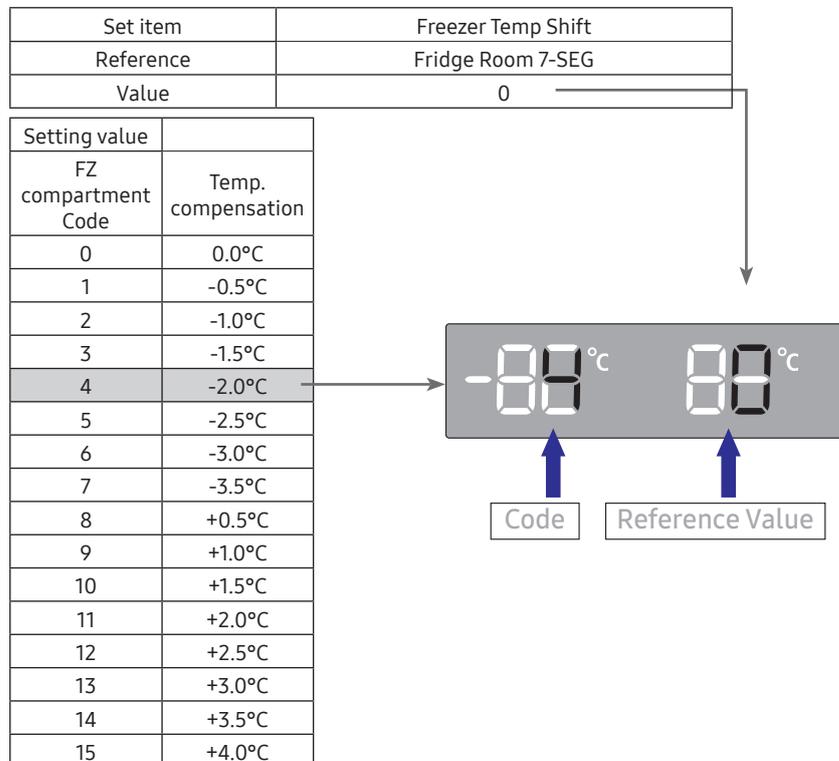
NOTE

Option setting function exists in the other items. We will skip the explanation of the other functions by the option because it is associated with refrigerator control function and is not needed at SERVICE. (Please do not set the other options except above SERVICE Manual.)

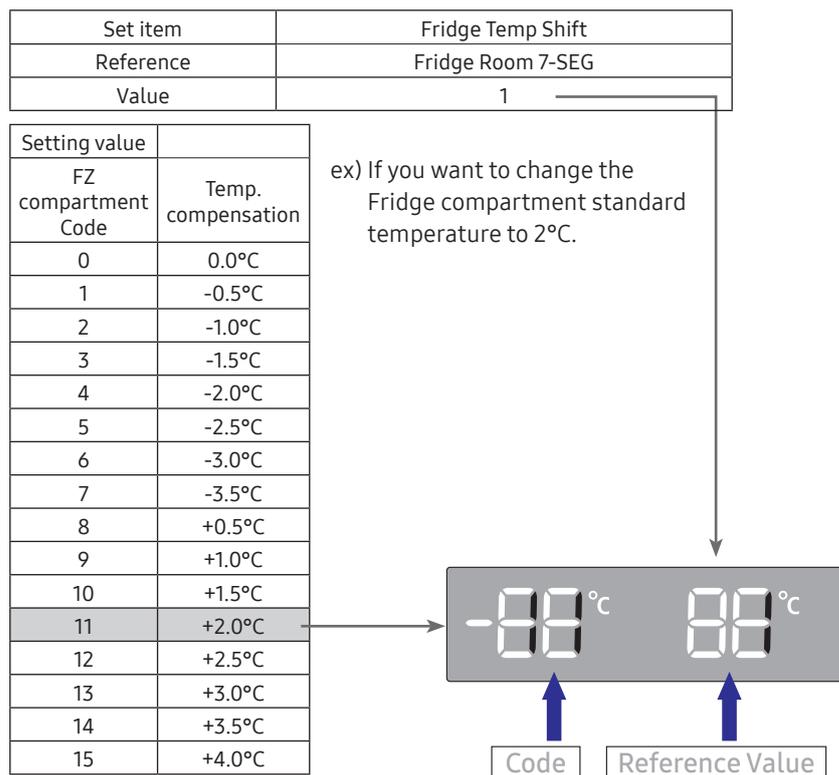
PRECAUTIONS(SAFETY WARNINGS)

4-4-8. Option TABLE

1) Temperature changing table of freezer compartment



2) Temperature changing table of Fridge compartment



PRECAUTIONS(SAFETY WARNINGS)

3) Ice Tray water supply of freezer compartment Ice Maker (In DISPENSER MODEL with flow sensor Only features)

Set item	FZ-Room ICE TRAY
Reference	Fridge Room 7-SEG
Value	2

Setting value	
FZ compartment Code	Water Settings.
0	92cc
1	105cc

4) Eject waiting time changing table of freezer compartment Ice Maker (In DISPENSER MODEL Only features)

Set item	FZ-Room Ice Maker Eject waiting time Shift
Reference	Fridge Room 7-SEG
Value	3

<RS67N** model>

Setting value	
FZ compartment Code	Setting time
0	58min
1	57min
2	56min
3	55min
4	54min
5	53min
6	52min
7	51min
8	50min

<RS68N**, RS6GN** model>

Setting value	
FZ compartment Code	Setting time
0	90min
1	89min
2	88min
3	87min
4	86min
5	85min
6	84min
7	83min
8	82min

5) Eject temperature changing table of freezer compartment Ice Maker (In DISPENSER MODEL Only features)

Set item	FZ-Room Ice Maker Eject temperature Shift
Reference	Fridge Room 7-SEG
Value	4

Setting value	
FZ compartment Code	Temp. compensation
0	-17.0°C
1	-16.0°C
2	-15.0°C
3	-14.0°C
4	-13.0°C
5	-12.0°C
6	-18.0°C
7	-19.0°C

PRECAUTIONS(SAFETY WARNINGS)

6) Minimum Comp RPM shifting.

- This option is rising minimum Comp RPM.
As this option is applied, Comp operation.

Set item	Minimum Comp RPM setting
Reference	Fridge Room 7-SEG
Value	12

Setting value	
FZ compartment Code	Comp RPM
0	No RPM Change
1	Minimum 2450RPM
2	Minimum 2450RPM
3	Minimum 2450RPM

7) Temp Display Option.

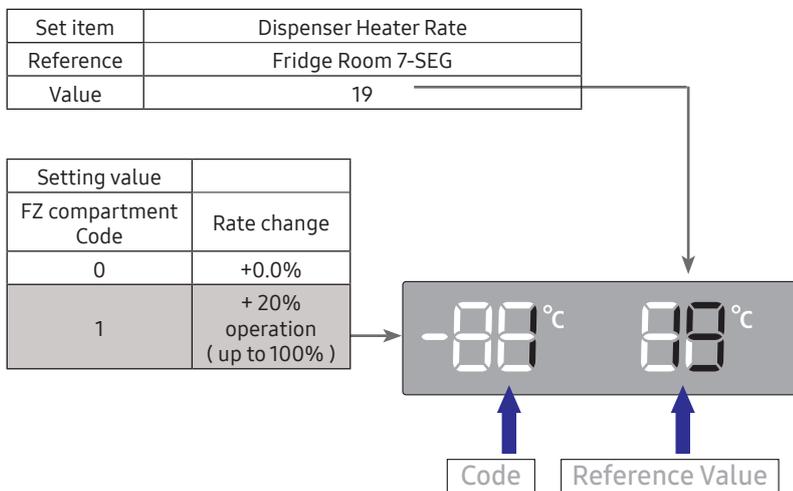
- This option is for temp display all on mode.
If user wants temp display always on, this option is solution.

Set item	Temp Display Option
Reference	Fridge Room 7-SEG
Value	16

Setting value	
FZ compartment Code	Temp Display Option
0	Normal Display (Temp display temporally on at use)
1	Always Temp Display On
2	Always Temp Display On

PRECAUTIONS(SAFETY WARNINGS)

8) Operation rate changing table of dispenser heater.



ex) If you want to change the dispenser heater operation rate to +20%.

9) Temperature changing table of Flex Room compartment. (in FLEX ROOM Model Only features)

Set item	Flex Room Temp shift
Reference	Fridge Room 7-SEG
Value	34

Setting value	
FZ compartment Code	Temp. compensation
0	0.0°C
1	-0.5°C
2	-1.0°C
3	-1.5°C
4	-2.0°C
5	-2.5°C
6	-3.0°C
7	-3.5°C
8	+0.5°C
9	+1.0°C
10	+1.5°C
11	+2.0°C
12	+2.5°C
13	+3.0°C
14	+3.5°C
15	+4.0°C

PRECAUTIONS(SAFETY WARNINGS)

4-5. Diagnostic method according to the trouble symptom(Flow Chart)

DATA1.Temperature table

Resistance value and MICOM port voltage of sensor according to the temperature

SENSOR CHIP : based on PX41C, PX41C, 502AT/ 103**(ICE MAKER SENSOR(MOLD)/FULL UP, 20Kohm

(Actual measurement = value of the table below X 2)

°C	°F	Voltage	Resistance	°C	°F	Voltage	Resistance	°C	°F	Voltage	Resistance
-50	-58	4.694	153319	-5	23	3.107	16419	40	104	1.153	2997
-49	-56.2	4.677	144794	-4	24.8	3.057	15731	41	105.8	1.124	2899
-48	-54.4	4.659	136798	-3	26.6	3.006	15076	42	107.6	1.095	2805
-47	-52.6	4.641	129294	-2	28.4	2.955	14452	43	109.4	1.068	2714
-46	-50.8	4.622	122248	-1	30.2	2.904	13857	44	111.2	1.040	2627
-45	-49	4.602	115631	0	32	2.853	13290	45	113	1.014	2543
-44	-47.2	4.581	109413	1	33.8	2.802	12749	46	114.8	0.988	2462
-43	-45.4	4.560	103569	2	35.6	2.751	12233	47	116.6	0.963	2384
-42	-43.6	4.537	98073	3	37.4	2.700	11741	48	118.4	0.938	2309
-41	-41.8	4.514	92903	4	39.2	2.649	11271	49	120.2	0.914	2237
-40	-40	4.490	88037	5	41	2.599	10823	50	122	0.891	2167
-39	-38.2	4.465	83456	6	42.8	2.548	10395	51	123.8	0.868	2100
-38	-36.4	4.439	79142	7	44.6	2.498	9986	52	125.6	0.846	2036
-37	-34.6	4.412	75077	8	46.4	2.449	9596	53	127.4	0.824	1973
-36	-32.8	4.385	71246	9	48.2	2.399	9223	54	129.2	0.803	1913
-35	-31	4.356	67634	10	50	2.350	8867	55	131	0.783	1855
-34	-29.2	4.326	64227	11	51.8	2.301	8526	56	132.8	0.762	1799
-33	-27.4	4.296	61012	12	53.6	2.253	8200	57	134.6	0.743	1745
-32	-25.6	4.264	57977	13	55.4	2.205	7888	58	136.4	0.724	1693
-31	-23.8	4.232	55112	14	57.2	2.158	7590	59	138.2	0.706	1642
-30	-22	4.199	52406	15	59	2.111	7305	60	140	0.688	1594
-29	-20.2	4.165	49848	16	60.8	2.064	7032	61	141.8	0.670	1547
-28	-18.4	4.129	47431	17	62.6	2.019	6771	62	143.6	0.653	1502
-27	-16.6	4.093	45146	18	64.4	1.974	6521	63	145.4	0.636	1458
-26	-14.8	4.056	42984	19	66.2	1.929	6281	64	147.2	0.620	1416
-25	-13	4.018	40938	20	68	1.885	6052	65	149	0.604	1375
-24	-11.2	3.980	39002	21	69.8	1.842	5832	66	150.8	0.589	1335
-23	-9.4	3.940	37169	22	71.6	1.799	5621	67	152.6	0.574	1297
-22	-7.6	3.899	35433	23	73.4	1.757	5419	68	154.4	0.560	1260
-21	-5.8	3.858	33788	24	75.2	1.716	5225	69	156.2	0.546	1225
-20	-4	3.816	32230	25	77	1.675	5039	70	158	0.532	1190
-19	-2.2	3.773	30752	26	78.8	1.636	4861	71	159.8	0.519	1157
-18	-0.4	3.729	29350	27	80.6	1.596	4690	72	161.6	0.506	1125
-17	1.4	3.685	28021	28	82.4	1.558	4526	73	163.4	0.493	1093
-16	3.2	3.640	26760	29	84.2	1.520	4369	74	165.2	0.481	1063
-15	5	3.594	25562	30	86	1.483	4218	75	167	0.469	1034
-14	6.8	3.548	24425	31	87.8	1.447	4072	76	168.8	0.457	1006
-13	8.6	3.501	23345	32	89.6	1.412	3933	77	170.6	0.446	978
-12	10.4	3.453	22320	33	91.4	1.377	3799	78	172.4	0.435	952
-11	12.2	3.405	21345	34	93.2	1.343	3670	79	174.2	0.424	926
-10	14	3.356	20418	35	95	1.309	3547	80	176	0.414	902
-9	15.8	3.307	19537	36	96.8	1.277	3428	81	177.8	0.404	877
-8	17.6	3.258	18698	37	98.6	1.253	3344	82	179.6	0.394	854
-7	19.4	3.208	17901	38	100.4	1.213	3204	83	181.4	0.384	832
-6	21.2	3.158	17142	39	102.2	1.183	3098	84	183.2	0.375	810

PRECAUTIONS(SAFETY WARNINGS)

DATA2. Humidity Sensor table

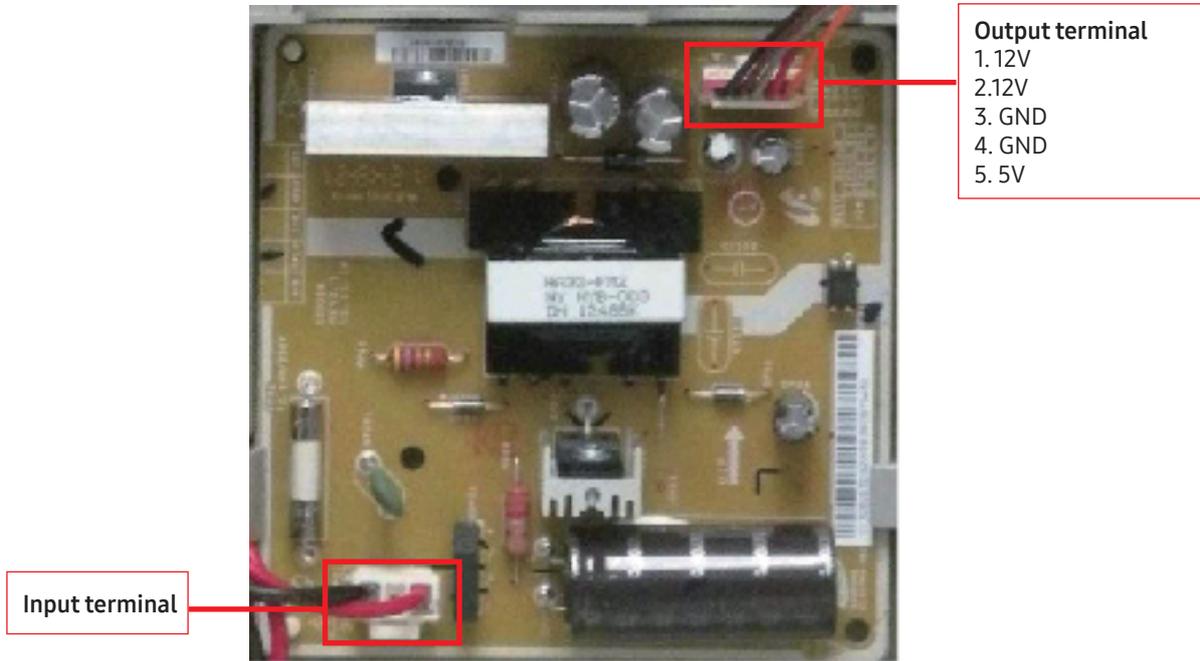
- Voltage output table @23°..., 5Vdc --- HTG3515CH/HTG3535CH

RH(Temperature compensate) = RH (Relative Humidity) + (Temp(°C) °@ 23°C) x 0.05

°C	°F	Voltage	Resistance	°C	°F	Voltage	Resistance	°C	°F	Voltage	Resistance
0	909	186	744	46	2246	460	1839	92	3452	706	2827
1	943	193	772	47	2272	465	1861	93	3478	712	2848
2	977	200	800	48	2298	470	1882	94	3504	717	2870
3	1010	207	827	49	2324	475	1903	95	3530	722	2891
4	1043	213	854	50	2350	481	1925	96	3566	730	2920
5	1076	220	881	51	2376	486	1946	97	3595	735	2944
6	1109	227	908	52	2402	491	1967	98	3624	741	2968
7	1141	233	935	53	2428	497	1989	99	3653	747	2992
8	1173	240	961	54	2454	502	2010	100	3683	754	3016
9	1205	247	987	55	2480	507	2031				
10	1235	253	1011	56	2505	513	2052				
11	1266	259	1037	57	2530	518	2072				
12	1297	265	1062	58	2555	523	2093				
13	1328	272	1088	59	2580	528	2113				
14	1359	278	1113	60	2605	533	2133				
15	1390	284	1138	61	2630	538	2154				
16	1420	291	1163	62	2655	543	2174				
17	1450	297	1188	63	2680	548	2195				
18	1480	303	1212	64	2705	553	2215				
19	1510	309	1237	65	2730	559	2236				
20	1540	315	1261	66	2756	564	2257				
21	1569	321	1285	67	2782	569	2278				
22	1598	327	1309	68	2808	575	2300				
23	1627	333	1333	69	2834	580	2321				
24	1656	339	1356	70	2860	585	2342				
25	1685	345	1380	71	2886	590	2364				
26	1713	350	1403	72	2912	596	2385				
27	1741	356	1426	73	2938	601	2406				
28	1769	362	1449	74	2964	606	2428				
29	1797	368	1472	75	2990	612	2449				
30	1825	373	1495	76	3017	617	2471				
31	1852	379	1517	77	3044	623	2493				
32	1879	384	1539	78	3071	628	2515				
33	1906	390	1561	79	3098	634	2537				
34	1933	395	1583	80	3125	639	2559				
35	1960	401	1605	81	3152	645	2581				
36	1986	406	1627	82	3179	650	2604				
37	2012	412	1648	83	3206	656	2626				
38	2038	417	1669	84	3233	661	2648				
39	2064	422	1690	85	3260	667	2670				
40	2090	428	1712	86	3288	673	2693				
41	2116	433	1733	87	3316	678	2716				
42	2142	438	1754	88	3344	684	2739				
43	2168	444	1776	89	3372	690	2762				
44	2194	449	1797	90	3400	696	2785				
45	2220	454	1818	91	3426	701	2806				

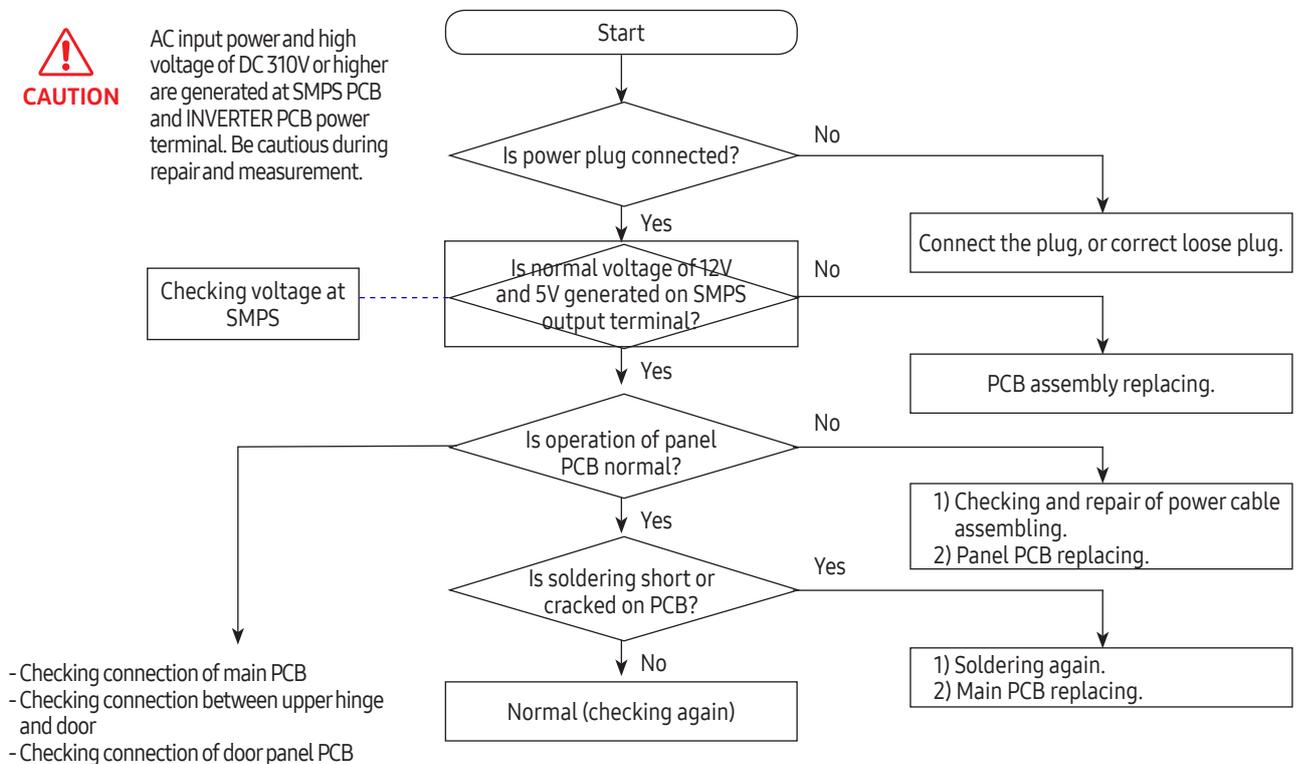
PRECAUTIONS(SAFETY WARNINGS)

4-5-1. Power Not Supplied (SMPS PCB)



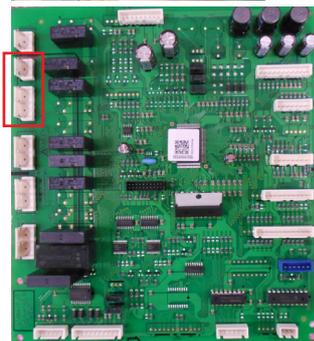
AC input power and high voltage of DC 310V or higher are generated at SMPS PCB and INVERTER PCB power terminal. Be cautious during repair and measurement.

Checking voltage at SMPS



PRECAUTIONS(SAFETY WARNINGS)

4-5-2. Unable to Defrost

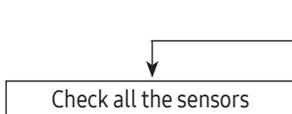


F-DEF-HEATER : Read resistance between MAIN PBA CN70_1 #3 and SMPS PBA CN01 #3

Defrost Sensor Voltage is lower than 3.1V.

Press the FREEZE AND ALARM buttons at the same time for 6 sec and then Touch the Freeze button.

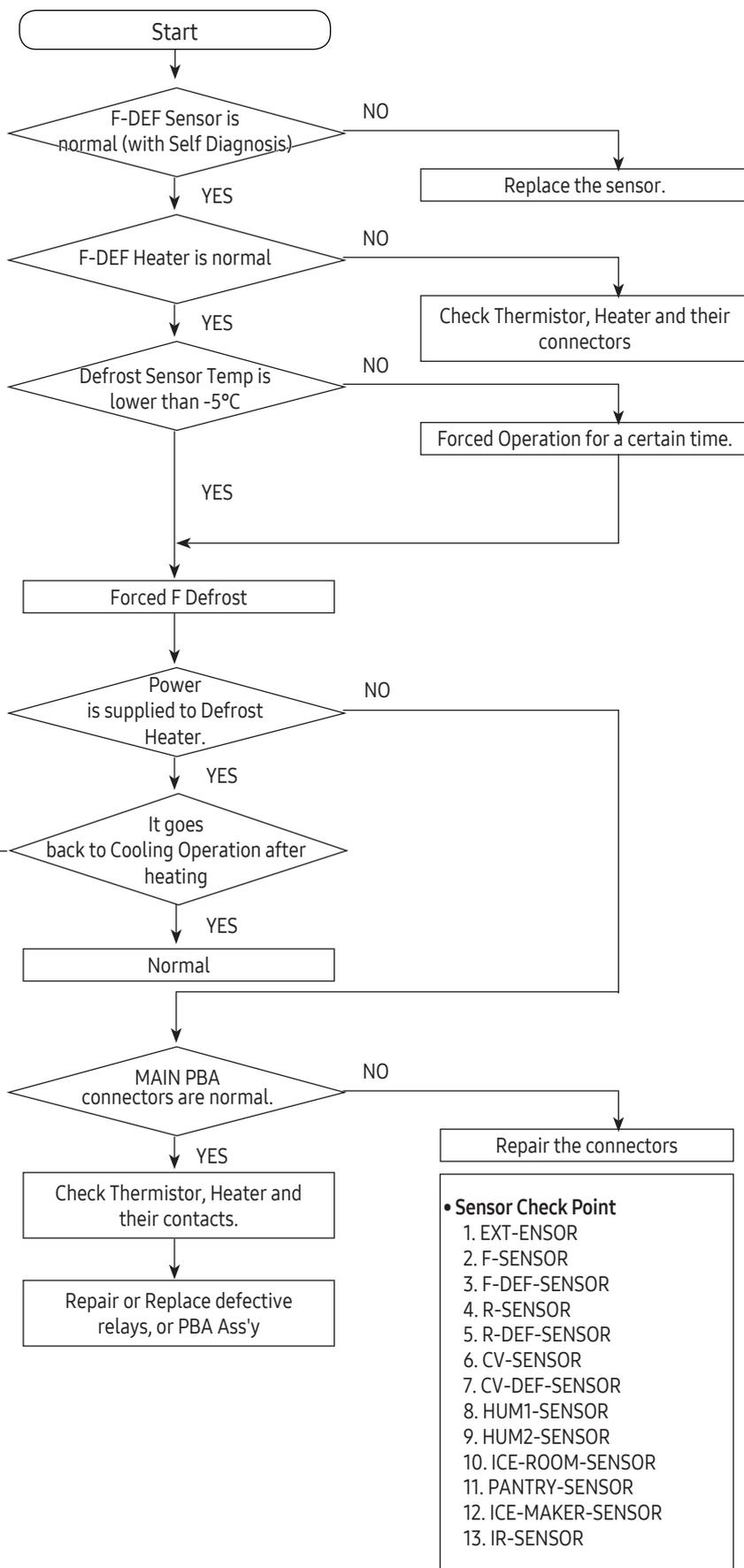
F-DEF-SENSOR : Read resistance between CN30 #4 and #7.



Note
When F-DEF Sensor is higher than +10°C and +17°C, it will stop heating and go back to Cooling Operation.

Checking method of voltage for F-DEF-Sensor

- Check the voltage of **CN30 #4 and #7** on the PBA
- Compare it with the temperature table after measurement. (same method is applied to other sensor)

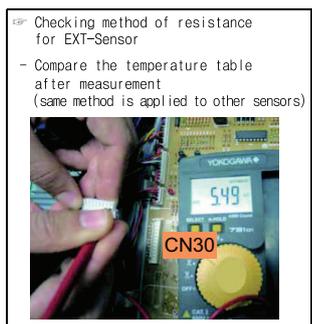


PRECAUTIONS(SAFETY WARNINGS)

4-5-3. Self-Diagnosis Error (Defective Sensor)

When there is sensor error, display panel show that. When it occurs during the initial power on time, display panel keeps blinking relevant 7-SEG and the refrigerator go into the emergency operation mode. Under the emergency operation mode, the refrigerator can not do its normal operation. So check out with the Self Diagnosis in this manual.

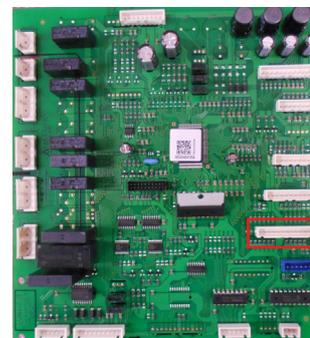
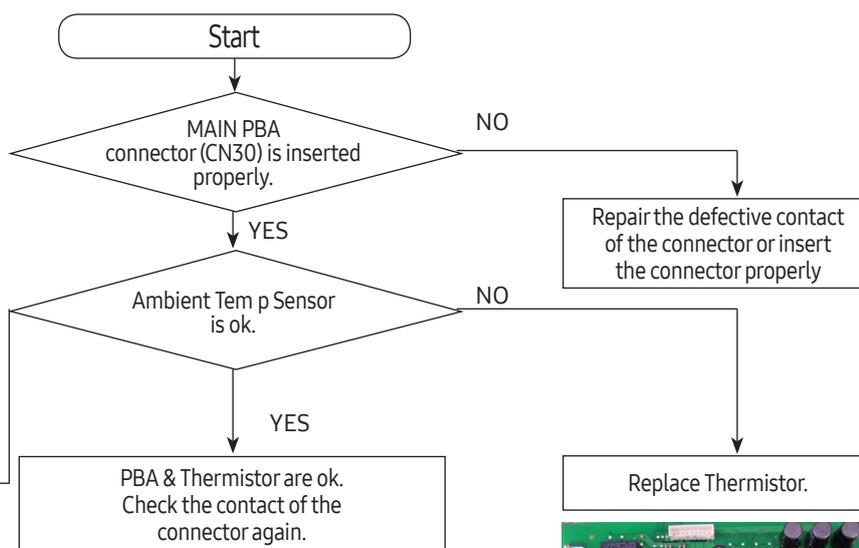
1) When the Ambient Sensor is defective,



Checking method of resistance for EXT-Sensor
- Compare the temperature table after measurement (same method is applied to other sensors)

Ambient-Sensor: Read the resistance between CN30 #1 and #2

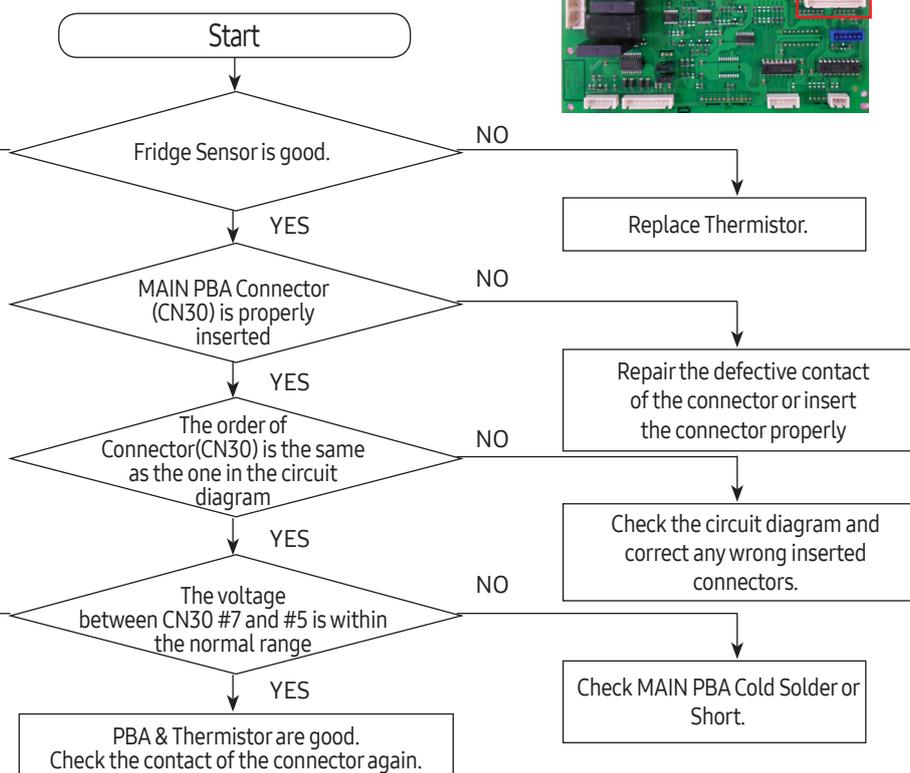
Compare the room temp. with sensed temp. using Temp-Resistance Table.



2) When the Fridge Temp Sensor is defective (also applied to other sensors)

Refer to Circuit Diagram and Temp Sensor Troubleshooting in this manual.

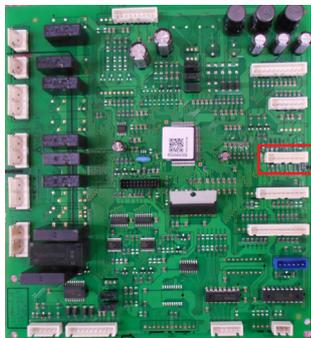
Refer to Circuit Diagram and Temp Sensor Troubleshooting in this manual.



PRECAUTIONS(SAFETY WARNINGS)

4-5-4. When Alarm Sound continues (Buzzer Sound)

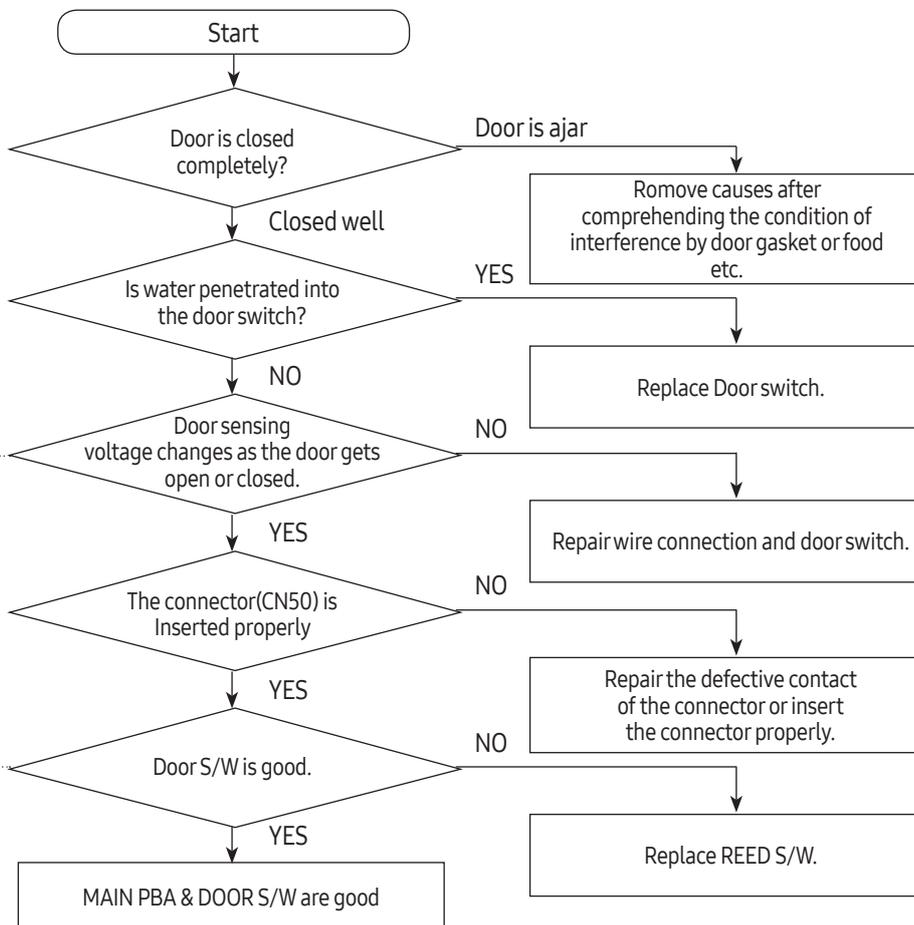
1) When "DingDong" sound continues



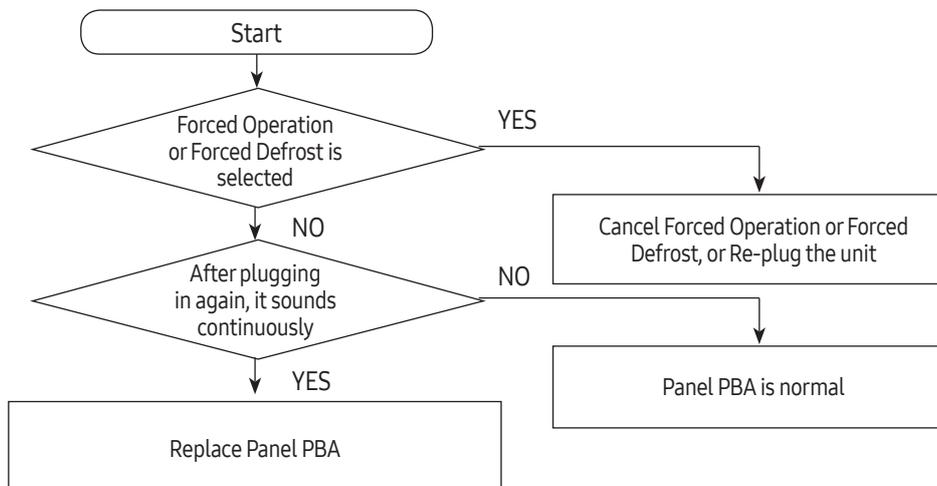
F-Doorsensing : CN50 #6-#5
R-Door sensing : CN50 #7-#5

Normal State
-Door Open : 5 Vdc
-Door Close : 0 Vdc

Separate the Door S/W and check its resistance change according to s/w on(0Ω) and off($\infty\Omega$)



2) When "Beeping" sound continues

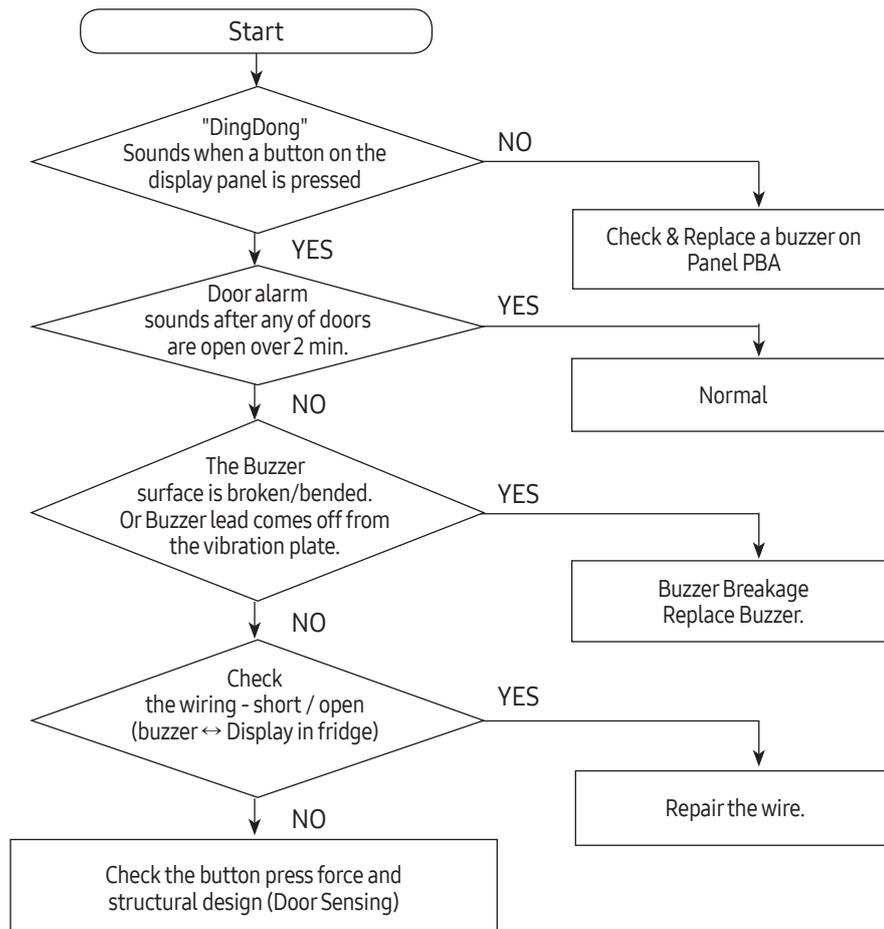


PRECAUTIONS(SAFETY WARNINGS)

3) If a buzzer does not sound

This model has a buzzer on the Panel PBA. If the buzzer does not sound when button is pressed, Forced Operation, door open and disconnection with Main PBA, check out defective soldering on PBA or buzzer damage. (It is recommended replacing Panel PBA if components are damaged)

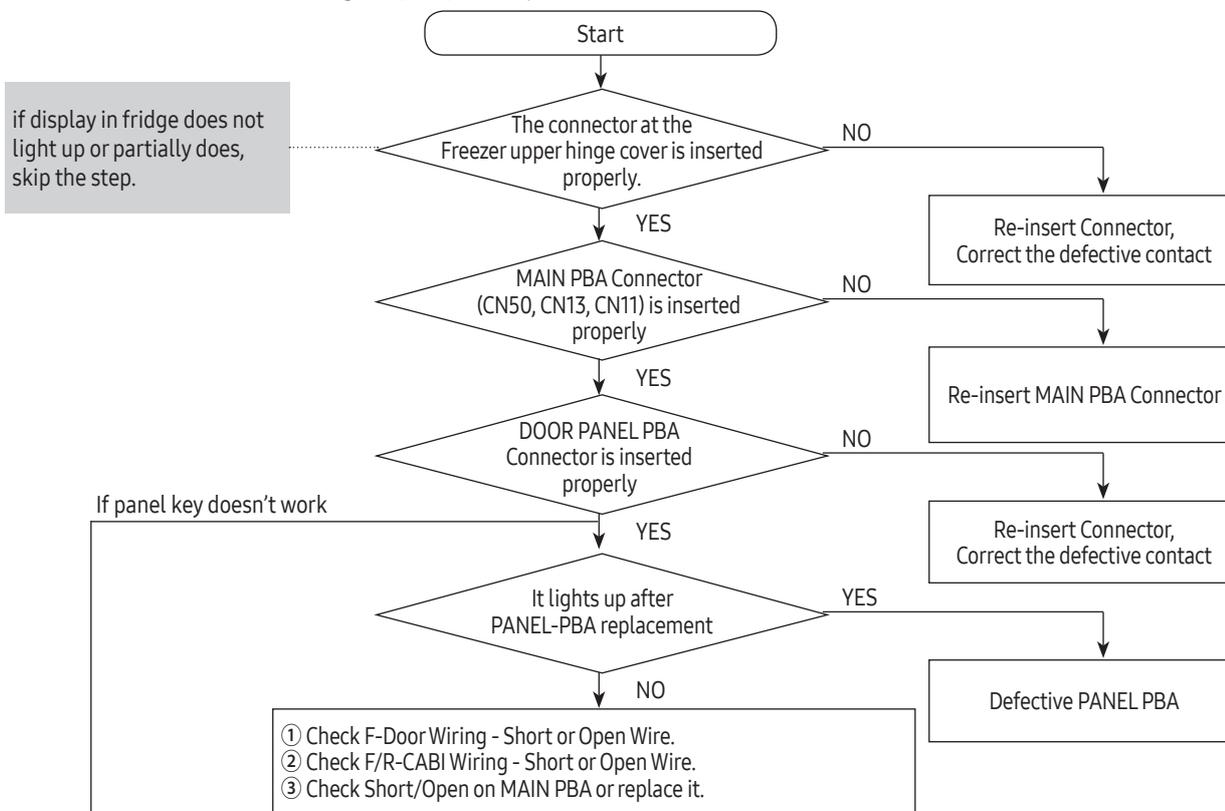
※ It could be unable to hear in case there is heavy noise or built-in environment.



PRECAUTIONS(SAFETY WARNINGS)

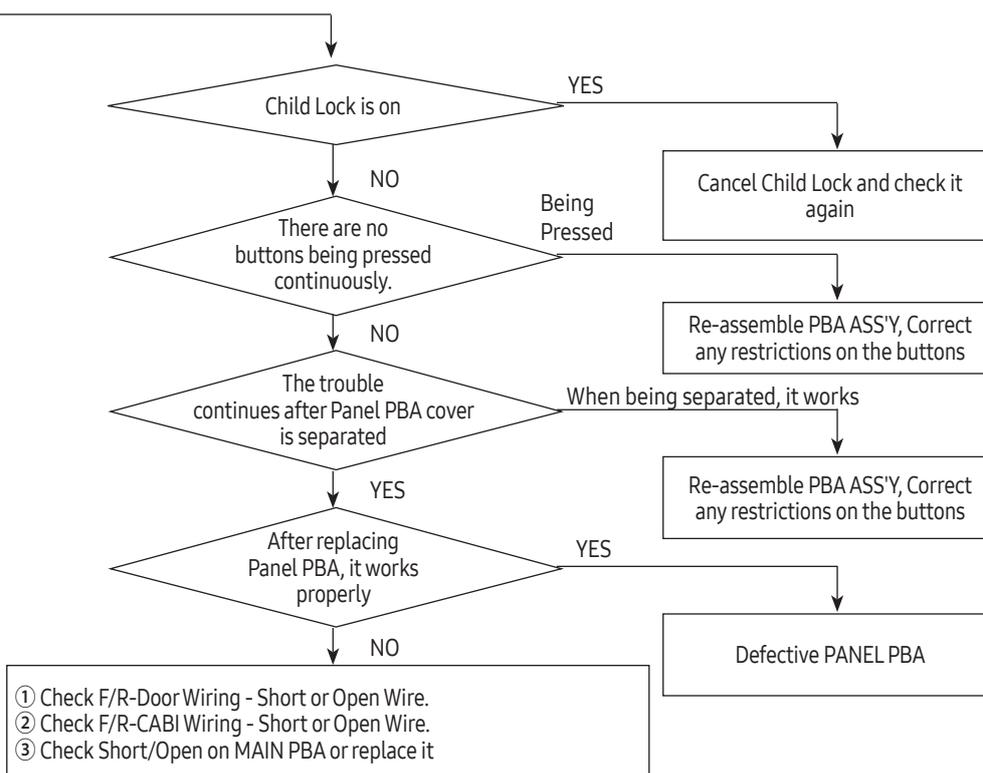
4-5-5. When PANEL PBA operates abnormally

1) When PANEL PBA does not light up or partially does



2) When Panel PBA buttons are not working

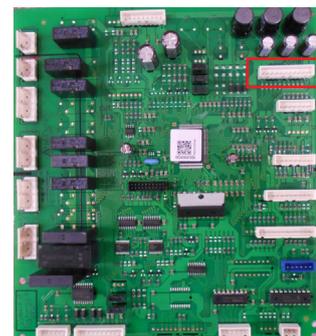
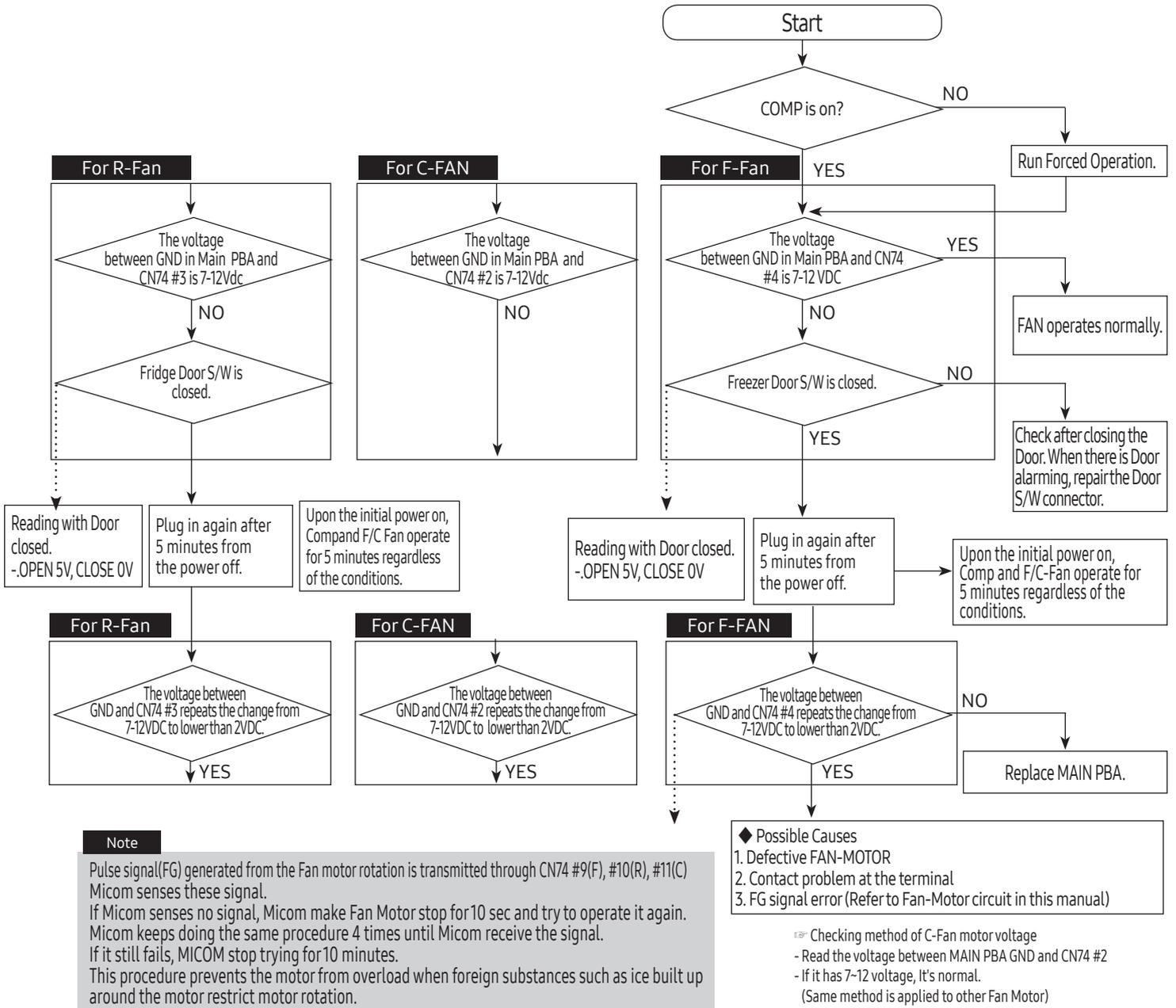
※ When the trouble is being remained after the above,



PRECAUTIONS(SAFETY WARNINGS)

4-5-6. When Fan does not operate

- This model has BLDC FAN motor. BLDC motor is driven by DC7~12V
- F-Fan motor usually runs together with the Compressor. Once the door is open and closed at high ambient temperature, F-Fan motor put off its operation for one minute. Therefore, you are advised not to take it as an error.
- When fridge door is open, the F-Fan motor stops.



PRECAUTIONS(SAFETY WARNINGS)

4-5-7. When the internal lamp of the freezer/fridge does not light up

Caution

Model with light bulb applied

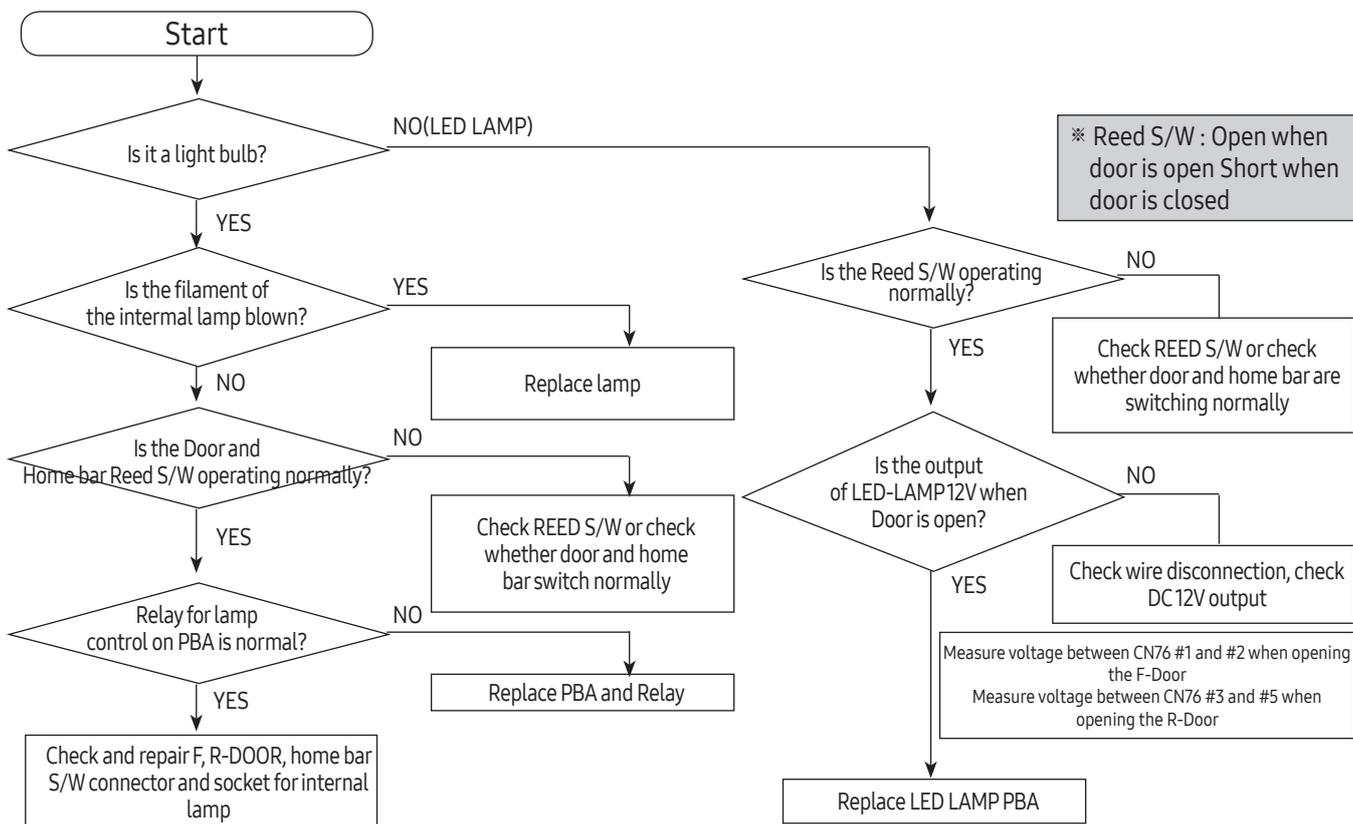
1. Turn off the power for repair because there is risk of electric shock when replacing the internal lamp.
2. Please keep in mind you could get burnt by the excessive heating of an incandescent light bulb.

Reference

Internal lamp RELAY switches ON/OFF as the DOOR is OPEN/CLOSE.
When the internal lamp is not on, check the operating noise of the RELAY.
RELAY operation noise is generated every time as the DOOR is OPEN/CLOSE.

Reference

1. When the DOOR is open, the DOOR S/W becomes OPEN. Micom senses 5V from Door S/W and recognizes that the Door is open. If 5V has sensed for more than 2 minutes, buzzer will sounds "DingDong" every 1 minute. Therefore, if the DOOR S/W is defective, it can generate the "Ding Dong" sound every 1 minute.
2. ON/OFF control of the internal lamp is linked with the DOOR S/W.



<Light bulb control method>

	Fridge internal lamp	Freezer internal lamp
Model with light bulb applied	On : Fridge door is open or Fridge HomBar is open	On : Freezer door is open or Freezer HomBar is open

PRECAUTIONS(SAFETY WARNINGS)

4-5-8. LED blinking frequency depending on protecting functions

If Failure Condition is detected during compressor is operating, immediately stop Compressor operating and stand by 5 minutes. During this 5 minutes, RPM command signal is not available. It means, even if available RPM command signal is applied to the compressor, it does not work and keep standing by.

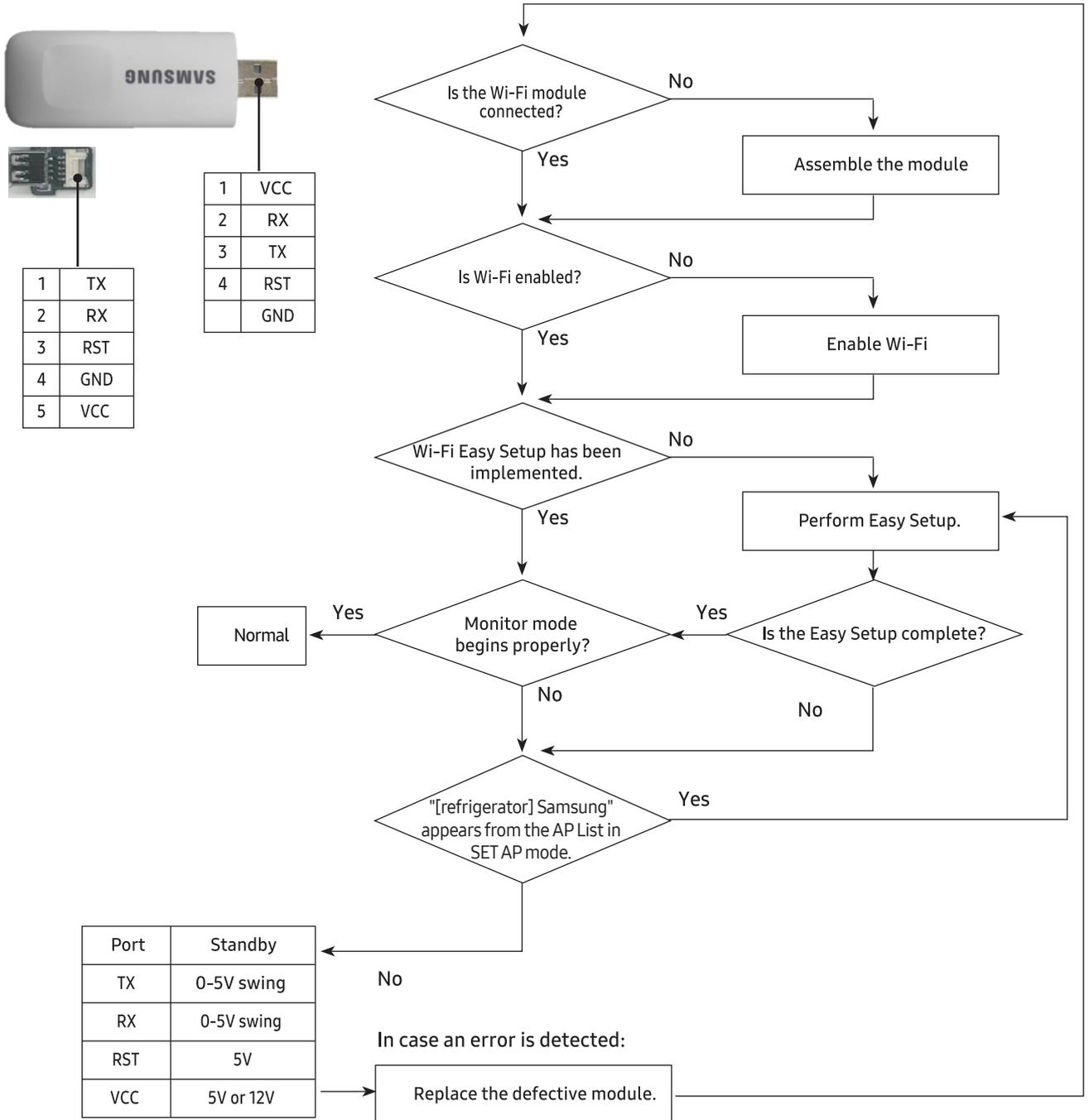
Blinking time is 1 second and dwell time is 2 seconds.

LED Blinking Frequency	Protecting Functions	Remarks
	Normal Operation	N/A
	Starting Failure	1. Short between COMP U,V and W Phase (CN102) 2. Short among IPM Pins (No. #1 ~ 26)
	IPM Fault	3. Drop the IPM operating Voltage under DC 13.5V 4. Other cases, check the COMP, cycle, etc.
	Abnormal Current Detection	1. Open the COMP wire (CN102) 2. Bad condition of R1(ex. Bad soldering) 3. Other cases, check the COMP, cycle, etc.
	Motor Locked / Over RPM	1. Operating the locked rotor COMP within 5 second. 2. Operating the COMP under 1,000 RPM more than 5 second. 3. Occur the huge change of input voltage in a moment. 4. Other cases, check the COMP, cycle, etc.
	Under Voltage	1. Drop the input voltage under AC 53V 2. Short resistor R525 (DC link Resistor)
	Over Voltage	1. Increase the input voltage over AC 155V 2. Short resistor among R522, R523 and R524 (DC Link Resistor)
	Communication Error	1. Check Terminal CN103 2. Short or Open resistor R210, R212 3. Short or Open harness between Main and Inverter

LED blinking frequency depending on protecting functions
If the same blinking, After 5 minutes, Follow the Remarks

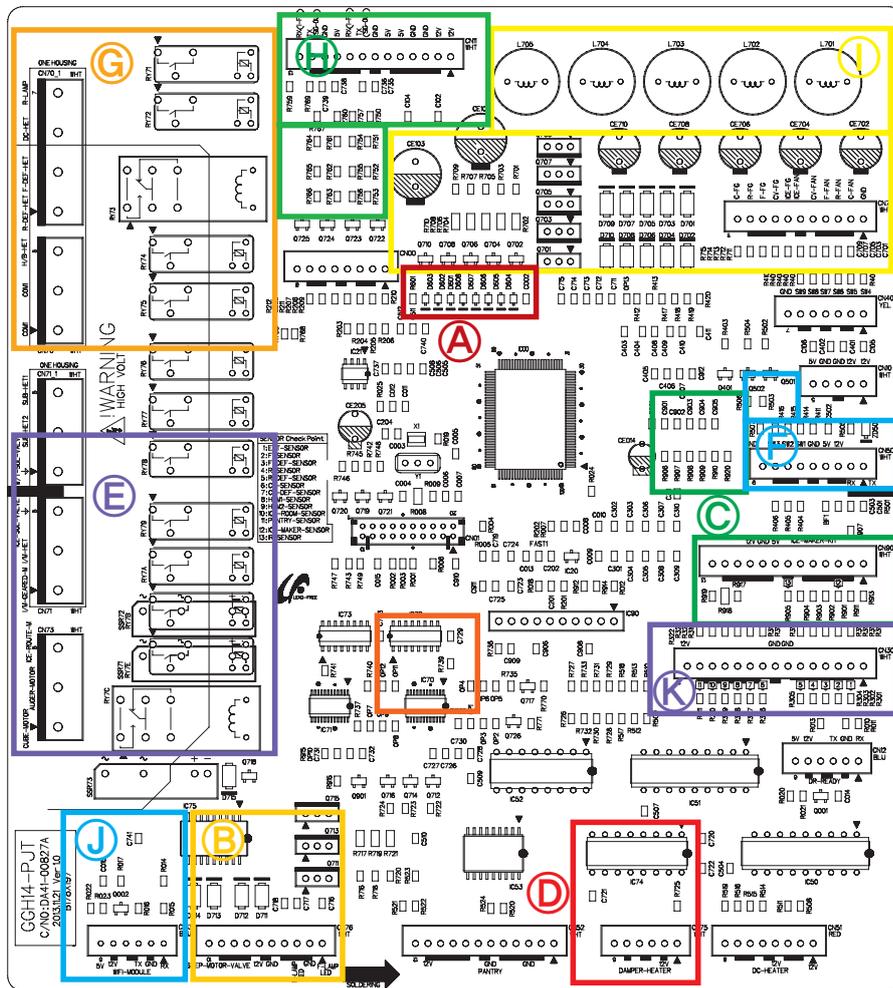
PRECAUTIONS(SAFETY WARNINGS)

4-5-9. When the Wi-Fi does not work properly



5. PCB DIAGRAM

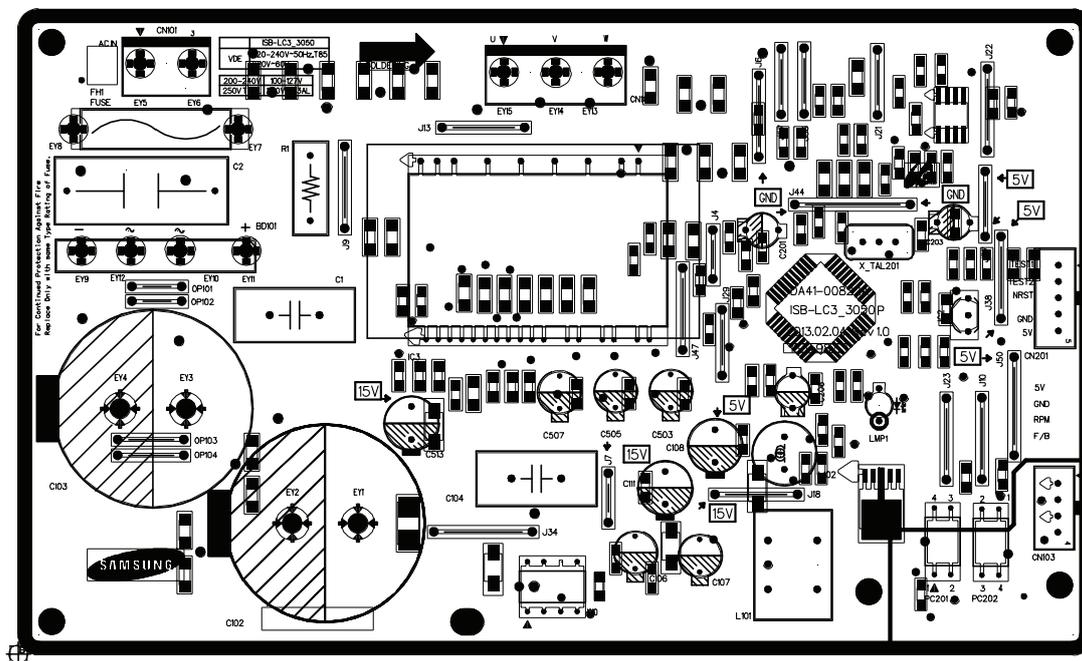
5-1. PBA Layout with part position



- A. Diode option setting.
- B. Step valve & LED Room lamp controlling circuit.
- C. Ice maker kit control
- D. Damper & Damper heater control
- E. dispenser controlling part
- F. Display in fridge communication and Door switch sensing.
- G. Defrost Heater, residual water valve controlling part
- H. DC voltage supply circuit and Dispenser display control circuit.
- I. Fan and pump Motor driving circuit : It supplies to various types of motors.
- J. Inverter Comp driving signal section.
- K. By receiving various sensor signals, it sends them to MICOM after removing noise.

PRECAUTIONS(SAFETY WARNINGS)

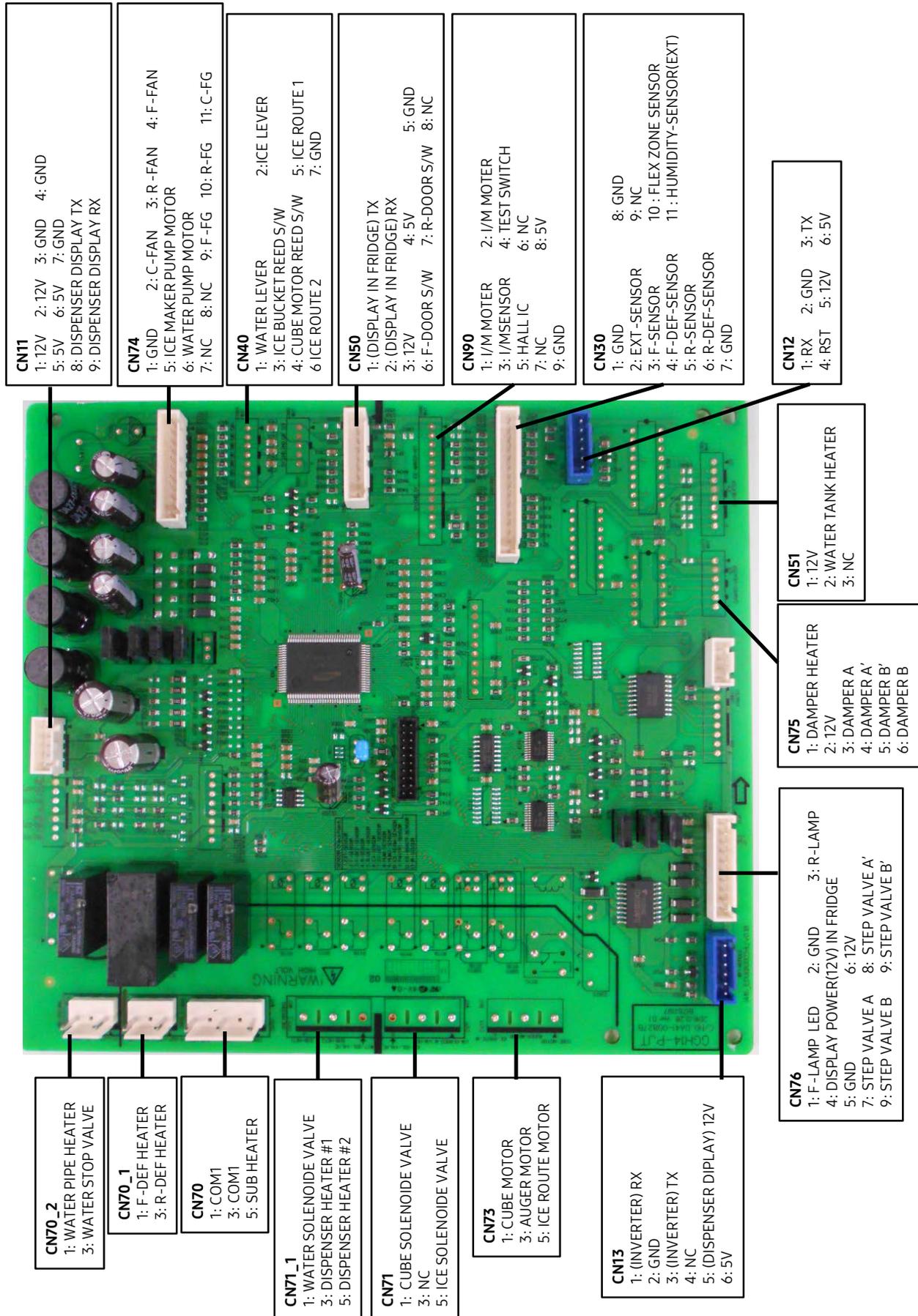
5-2. PBA Layout with part position (LC3_3050 Inverter PBA)



1. PCB Power Supply : From the AC Input Voltage(115V/220V), it supplies DC 15V and 5V to the Inverter circuit for the Compressor control.
2. COMP Driving / Feedback Circuit
It receives the COMP operation signals from the Main PBA and feedbacks the inverter errors to the Main PBA.
3. Micom (MN103SFC2D)
4. BOOTSTRAP Charger : It is an independent power circuit for the driving of the IPM High-Phase IGBT.
5. Current Pickup Circuit : It pickups the currents taken by the Shunt resistance and does the PWM DUTY control.
6. IPM (FNB40560)

PRECAUTIONS(SAFETY WARNINGS)

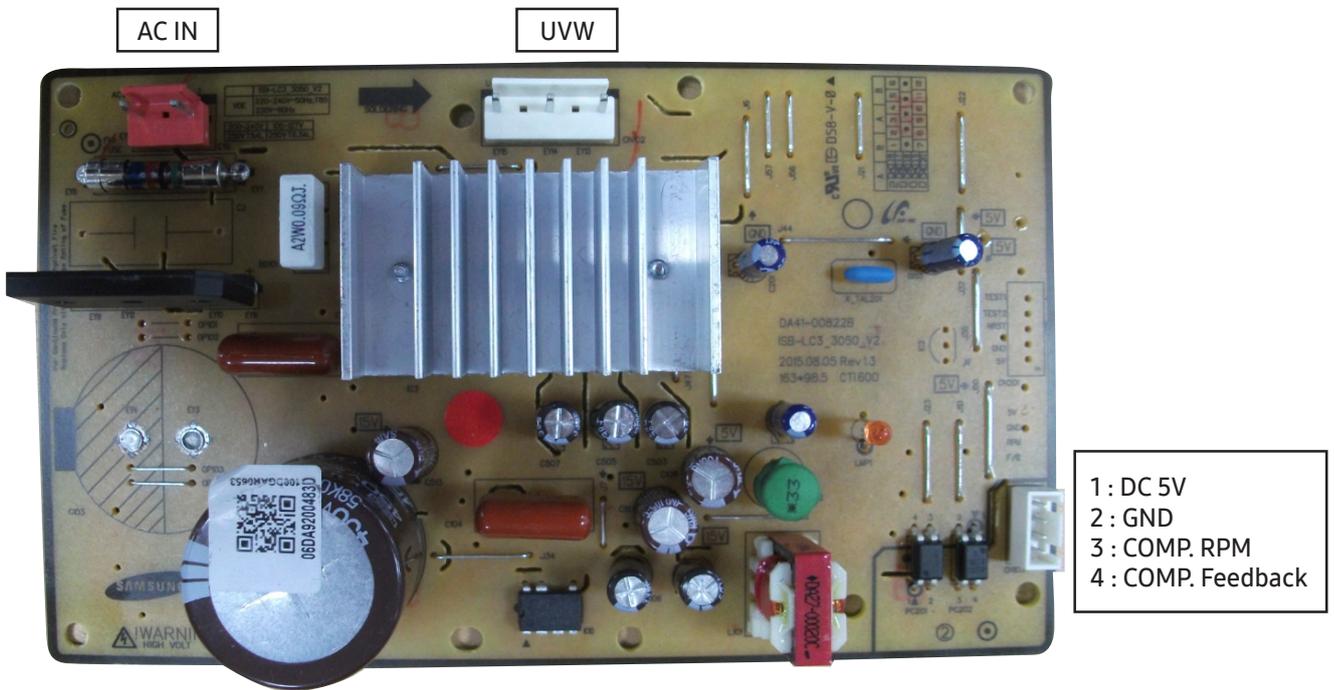
5-3. Connector Layout with part position (Main Board)



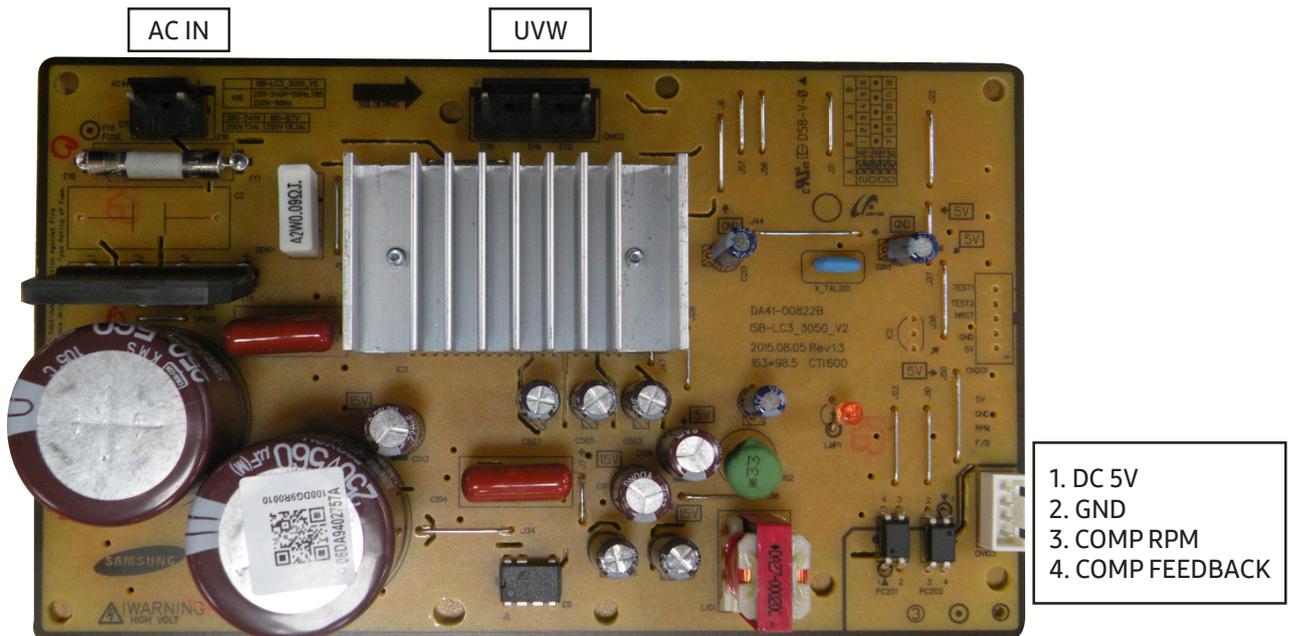
PRECAUTIONS(SAFETY WARNINGS)

5-4. Connector Lay out with part position (LC3_3050 Inverter PBA)

5-4-1. 220V

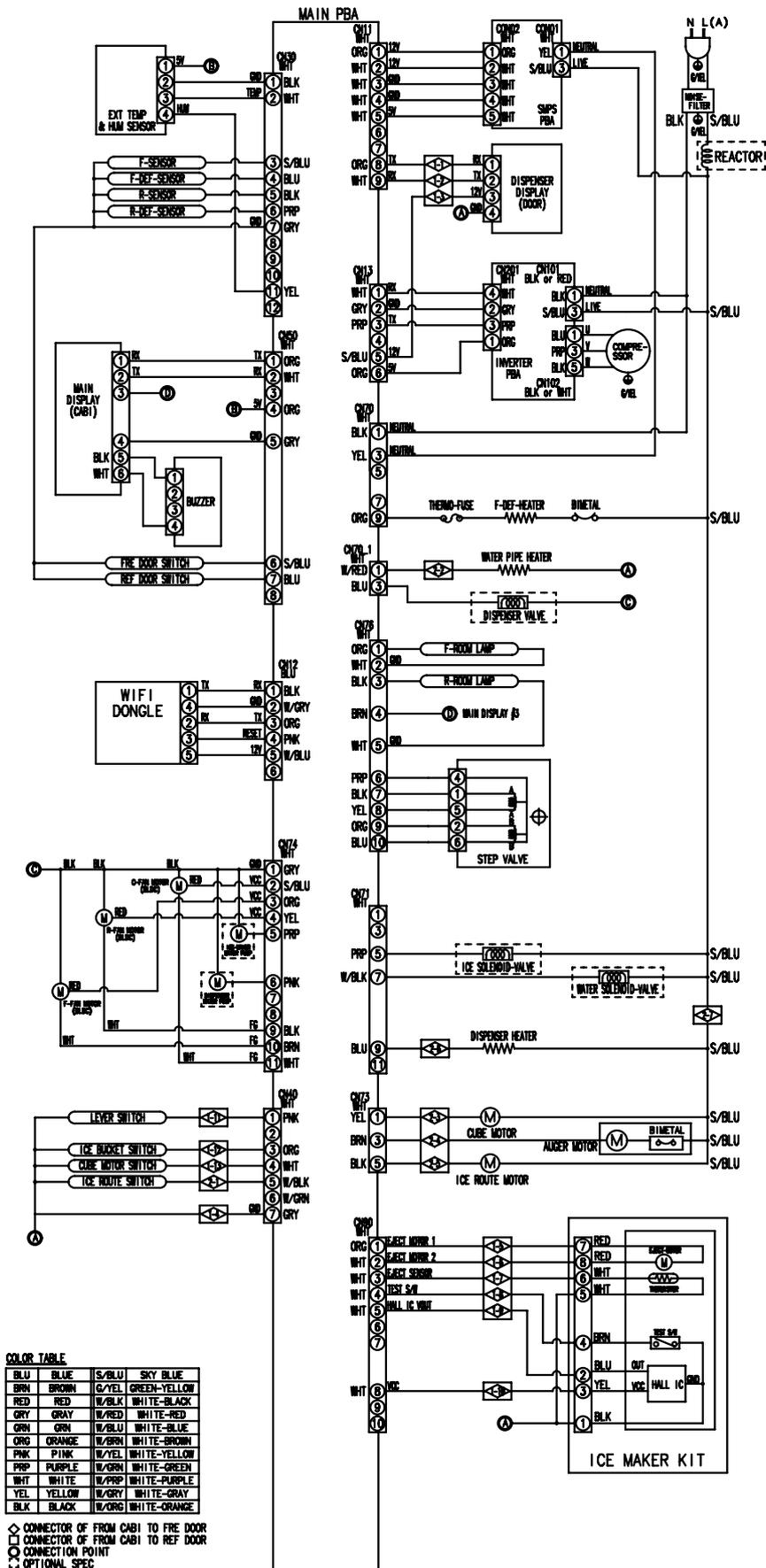


5-4-2. 110V



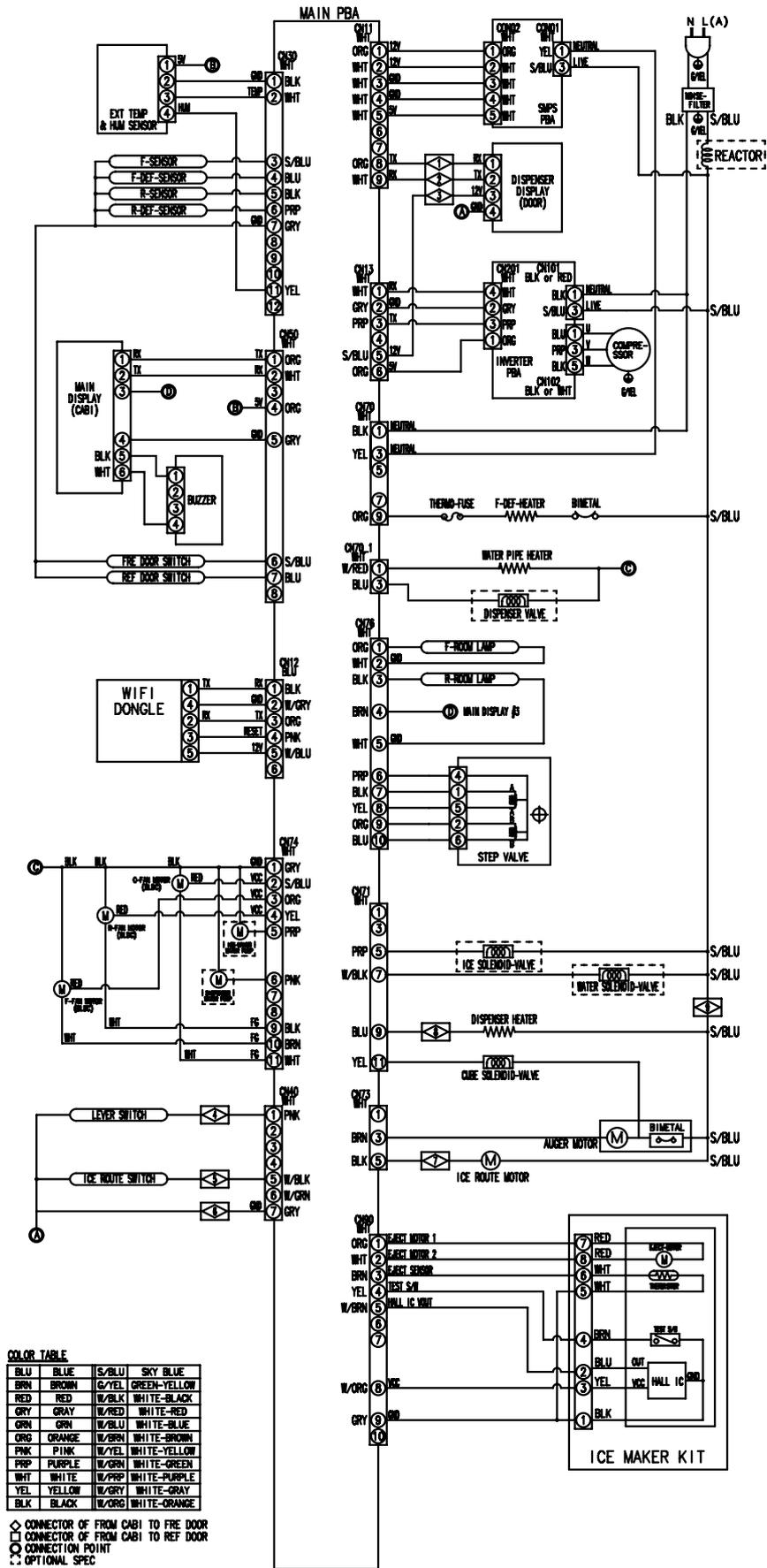
6. WIRING DIAGRAM

6-1. Model : 2 Door, In-Door Ice Maker (RS68N82*, RS68N83*, RS6GN82*, RS6GN83*)



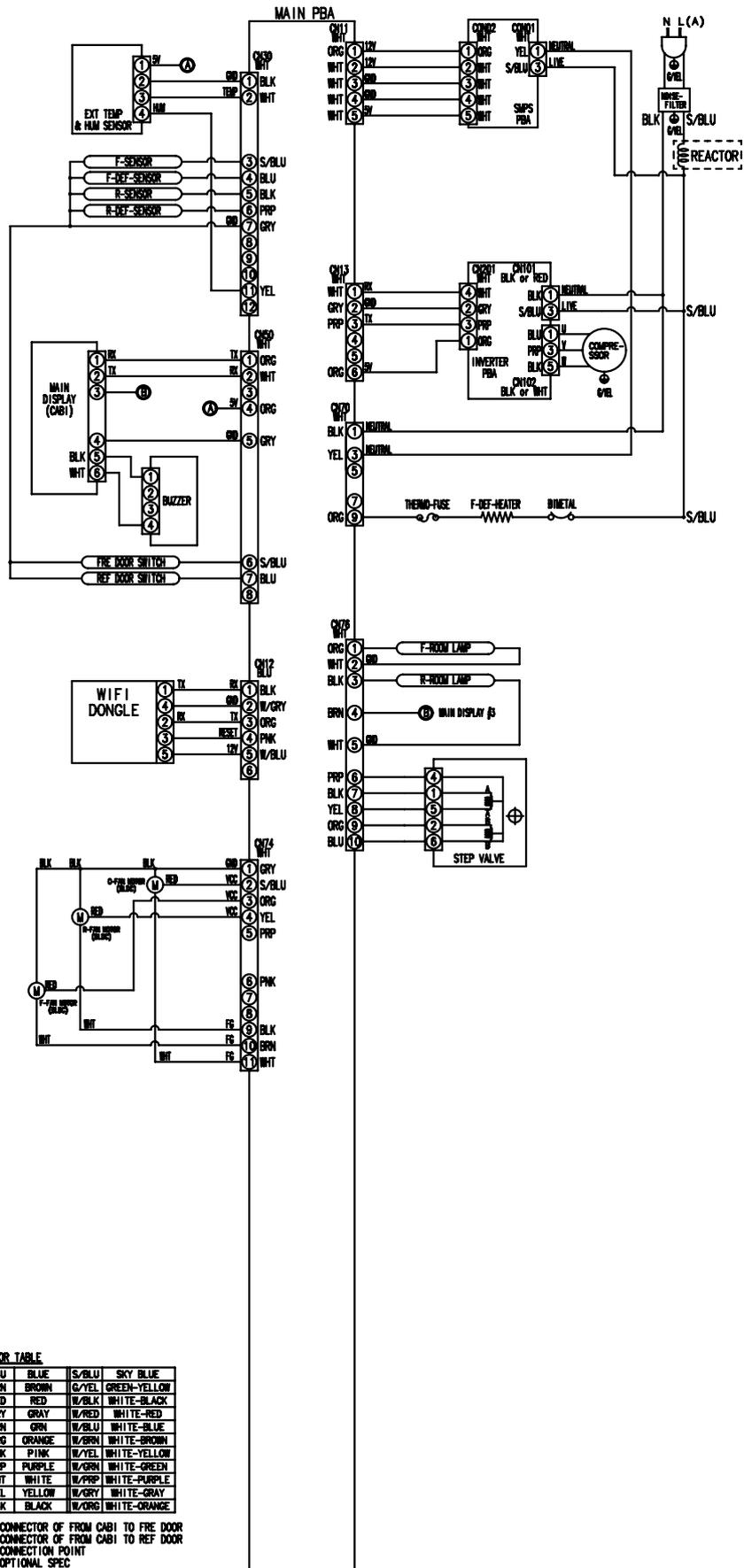
WIRING DIAGRAM

6-2. Model : 2 Door, In-Cabi Ice Maker (RS67N82*, RS67N83*)



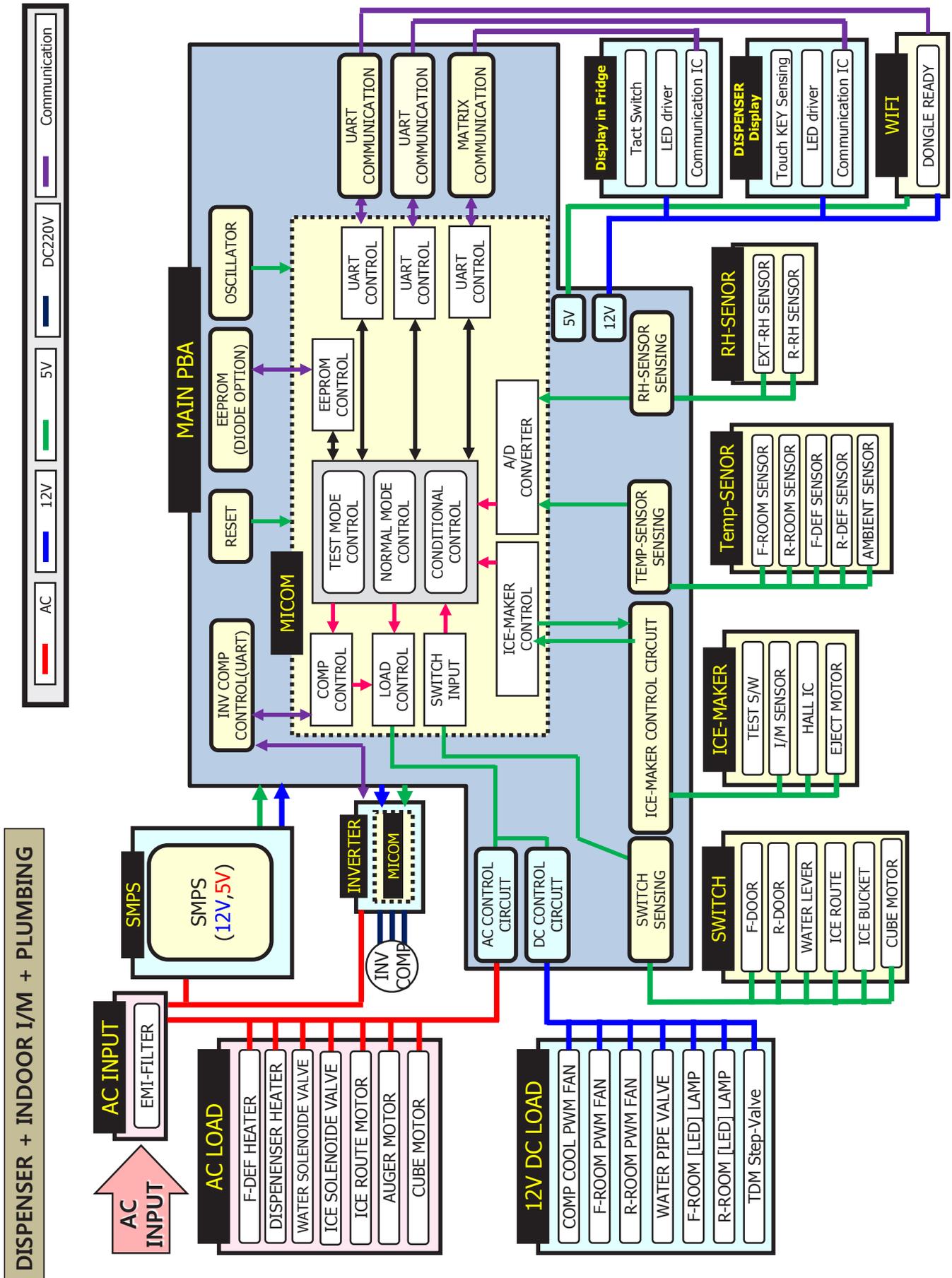
WIRING DIAGRAM

6-3. Model : 2 Door, Basic (RS66N81*)



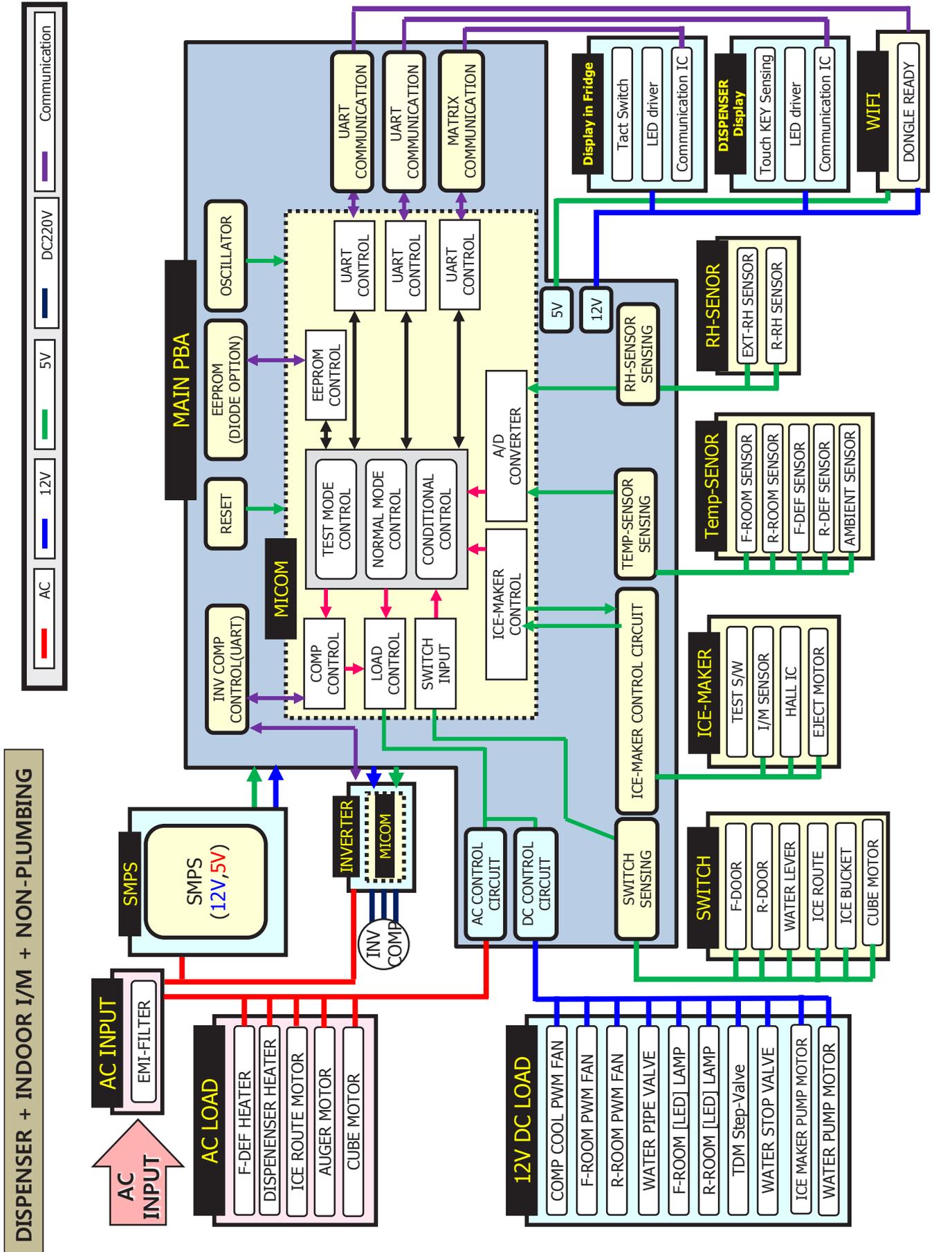
7. BLOCK DIAGRAM

7-1. DISPENSER + INDOOR I/M + PLUMBING



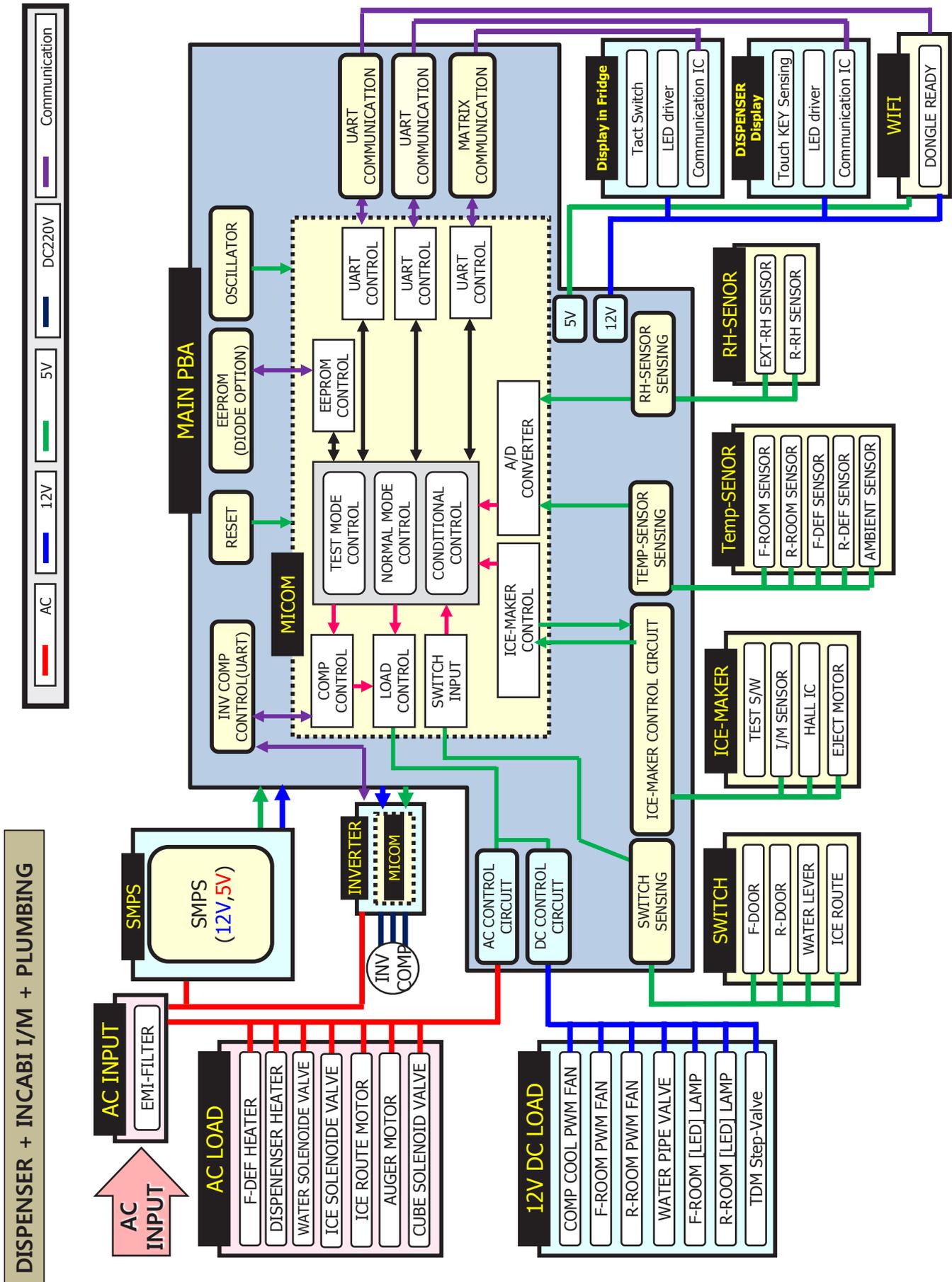
BLOCK DIAGRAM

7-2. DISPENSER + INDOOR I/M + NON-PLUMBING



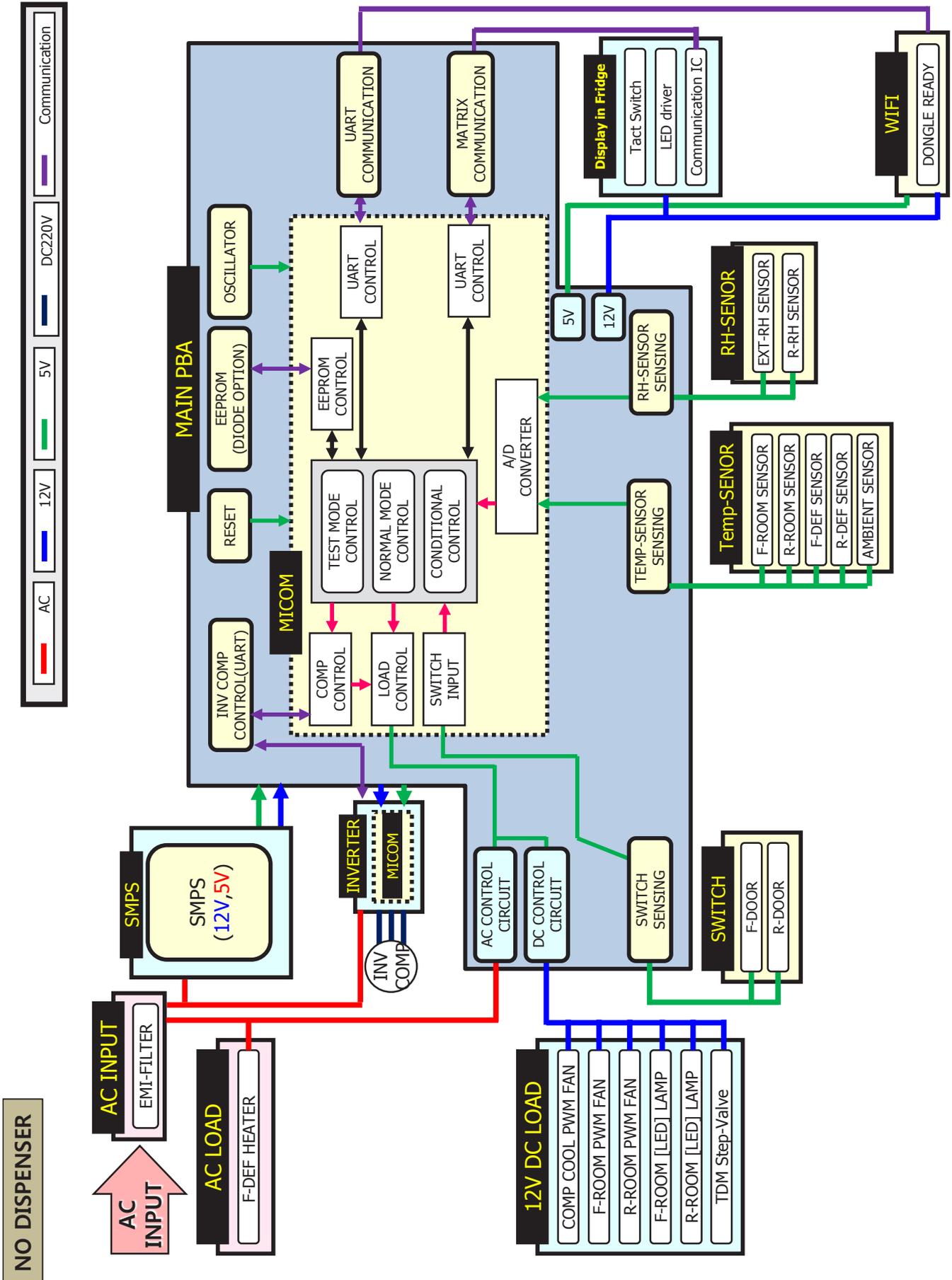
BLOCK DIAGRAM

7-3. DISPENSER + INCABI I/M + PLUMBING



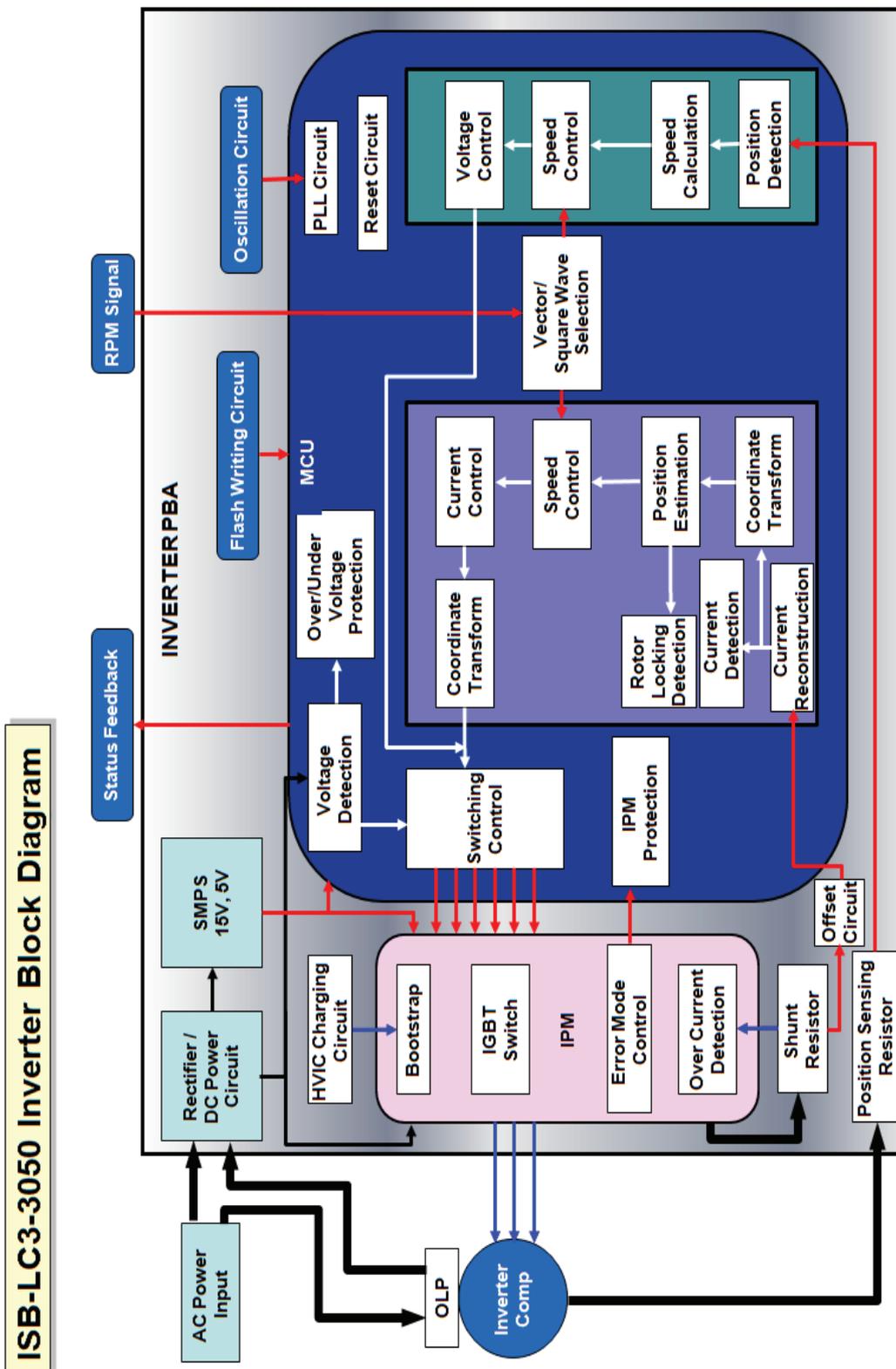
BLOCK DIAGRAM

7-4. NO DISPENSER



BLOCK DIAGRAM

7-5. Inverter Block Diagram



8. MODEL CODE TABLE

Digit	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Type		Capacity	Series I	Year	Series II	Exterior Option	Interior Option	Energy	Color		/		
Model Code	R	S	6	8	N	8	6	7	1	S	L	/	E	U

6 (600L ↑)	8	I&W Disp. / Indoor I/M	N	2018	8	RS8000NC	9 (F-hub)	2Door+ Family hub	7	3 Door	2	EU: A+++	SL	ALF	
		Recessed Handle							Plumbing		6	1	EU: A++	S9	Matte DOI
	S (only for SEG)	7	I&W Disp. / Normal I/M					7	3Door		5	2 Door	0	EU: A+	B1
			Half Bar Handle							Non Plumbing	4			WW	Snow White
	6	6	Non Disp. / Twist I/M					6	3Door	3					
			Half Bar Handle							Plumbing	2				
	3	3	2Door					3	2Door	1 (7 series only)					
			Non Plumbing							Non Plumbing	0 (6 series only)				
	2	2	2Door					2	2Door						
			Plumbing							Plumbing					
	1	1	2Door					1	2Door						
			Basic							Basic					

Series (Digit 4)

Option	I &W Dispenser	Ice Maker	Handle
8	○	Indoor I/M	Recessed Handle
7	○	Normal I/M	Half Bar Handle
6	-	Twist I/M	Half Bar Handle

Exterior option (Digit 7)

Option		Plumbing/ Non Plumbing		Display
		F-hub	9	Plumbing
3 Door	7	Non Plumbing	Hidden Display	
	6	Plumbing	Hidden Display	
2 Door	3	Non Plumbing	Hidden Display	
	2	Plumbing	Hidden Display	
	1	-	Hidden Display	

Interior option (Digit 8)

Option		Ice Maker	FlexZone	Metal Cooling	No. of Drawer(F,R)	Wine rack	Deco	Dairy bin
		3 Door	7	Indoor I/M	○	○	EZ Slide 1ea +2 Box	○
	6	Indoor I/M	-	○	EZ Slide 1ea +2 Box	○	○	○
	5	Indoor I/M	-	-	EZ Slide 1ea +2 Box	○	○	○
2 Door	4	Indoor I/M	-	○	2 Box	○	○	○
	3	Indoor I/M	-	-	2 Box	○	○	○
	2	Indoor I/M	-	-	2 Box	-	-	○
	1	Normal I/M	-	-	2 Box / 2 Box	-	-	○
	0	Twist I/M	-	-	2 Box / 2 Box	-	-	○

Energy option (Digit 9)

Option	EU
2	A+++
1	A++
0	A+



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