NV75K5541RS Training Manual
Jan. 2016

System Cooking Business Team

SAMSUNG Electronics

SAMSUNG DIGITall
everyone's invited

Agenda

1-1. Safety Precaution

Follow these special safety precautions during repair or inspection.

1. All repairs should be done in accordance with the procedures described in this manual. This product complies with Federal Performance Standard 21 CFR Subchapter J(DHHS).
2. Check all grounds.
3. Do not power the OVEN from a “2 - prong” AC cord. Be sure that all of the built – in protective devices are replaced. Restore any missing protective shields.
4. When reinstalling the chassis and its assemblies, be sure to restore all protective devices including nonmetallic control knobs and compartment covers.
5. Make sure that there are no cabinet openings through which people --particularly children --might insert objects and contact dangerous voltages.
6. Service technicians should remove their watches while repairing an OVEN.
7. Design Alteration Warning:
   Use exact replacement parts only, i.e., only those that are specified in the drawings and parts lists of this manual. Never alter or add to the mechanical or electrical design of the OVEN. Any design changes or additions will void the manufacturer’s warranty.

Always unplug the unit’s AC power cord from the AC power source before attempting to remove or reinstall any component or assembly.

1-1. Safety Precaution

8. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
9. Some semiconductor (“solid state”) devices are easily damaged by static electricity. Such components are called Electro statically Sensitive Devices (ESDs). Examples include integrated circuits and field effect transistors. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground.
10. Always connect a test instrument’s ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument’s ground lead last.
11. Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

NOTE: Connect the oven to a 20 A. When connecting the oven to a 15 A, make sure that circuit breaker can operate.

12. Never touch any circuit wiring with your hand nor with uninsulated tool during operation.

General Specification

- Dual cook mode
- Full size inner glass
- Pop-up dial & Touch glass
- Large capacity
- Precise temperature control
- Energy Efficiency A grade

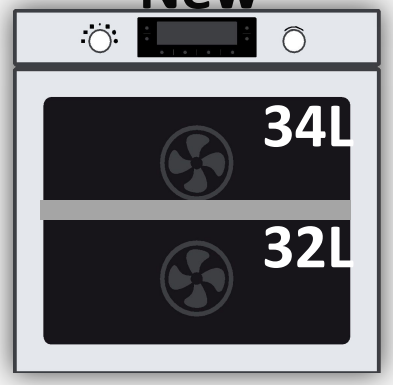
2-1. Features

Concept : Dual cook mode

Up to 75L

1 Half Loading 2 Dual Cooking 3 Whole Cavity

New



Bigger upper cavity size!

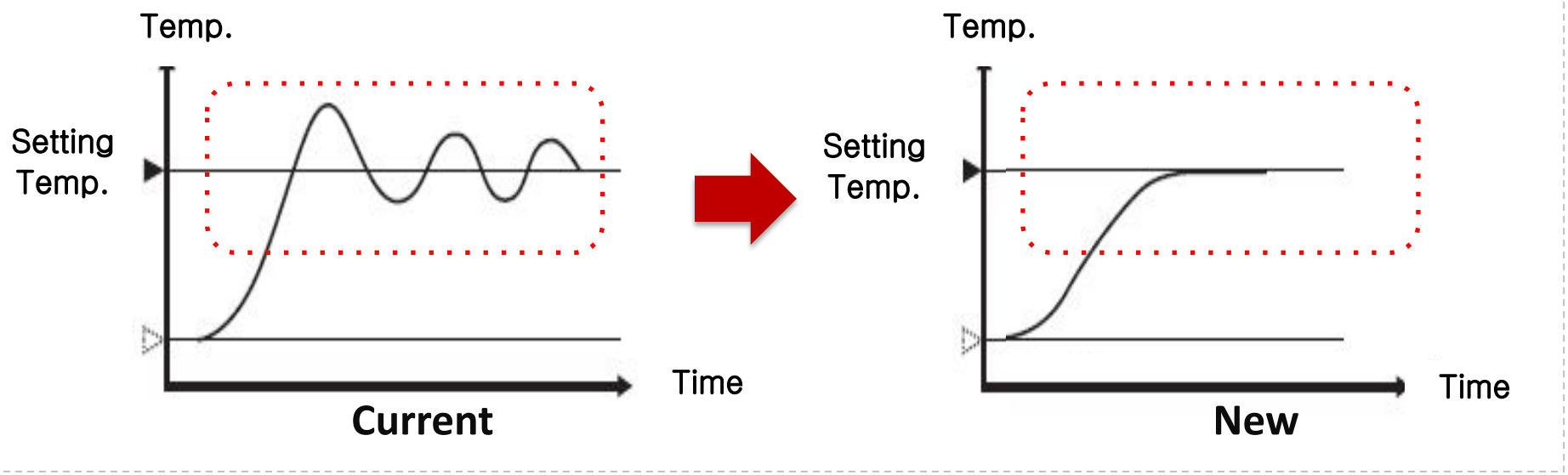
Has a massive 75 liter capacity.

So, for family meals or parties, you can cook multiple dishes at once, like trays of cookies or casserole dishes.

2-2. Features

Concept : Precise temperature control

Always precisely the right cooking temperature for optimal results.

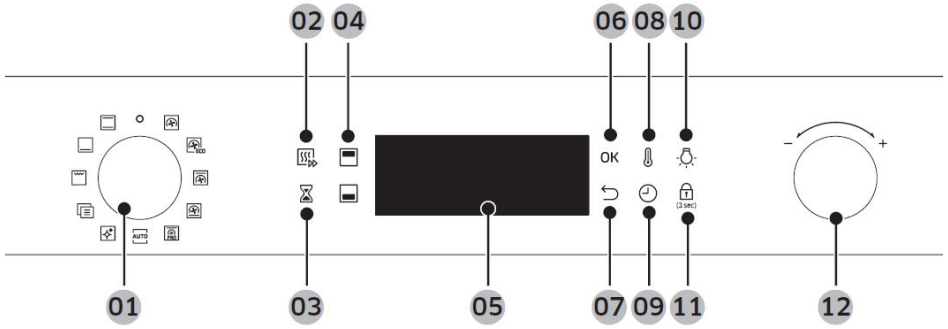


As professional chefs know, having a consistent oven temperature is essential for perfectly cooked meals - from moist cakes to tender meats.

The Precise temperature control feature monitors and adjusts heat levels during cooking to maintain an extremely precise temperature. and eliminate over or under-cooked food.

So you can be sure your dishes are cooked exactly how you want – every time.

2-3. Control Panel

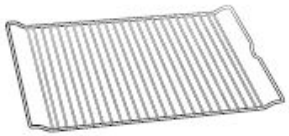


01 Mode selector	Turn to select a cooking mode or function.
02 Fast preheat	Fast Preheat heats the oven fast to a set temperature. • Press to toggle on or off the Fast Preheat option. • Available only with Single mode. • Disabled for temperatures set at less than 100 °C.
03 Timer	Timer helps you check the time or operating duration while cooking.
04 Upper/Lower Compartment	The indicators turn on when the divider is inserted. You can choose Upper or Lower for your recipe.
05 Display	Shows necessary information of selected modes or settings.
06 OK	Press to confirm your settings.
07 Back	Cancel current settings, and return to the main screen.
08 Temperature	Use to set the temperature.
09 Cooking time	Press to set the cooking time.
10 Oven light	Press to turn the internal light on or off. The oven light turns on automatically when the door is open or when the oven operation starts. And it turns off automatically after a certain period of inactivity in order to save power.
11 Child lock	To prevent accidents, Child lock disables all controls. Hold down for 3 seconds to activate, or hold down for 3 seconds again to deactivate the lock on the control panel.

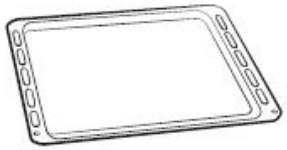
2-4. Accessory

Availability of accessories with an asterisk (*) depends on the oven model.

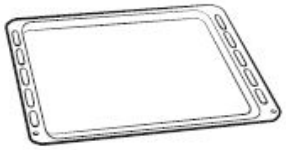
Wire rack



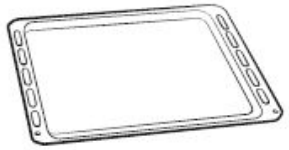
Wire rack insert *



Baking tray *

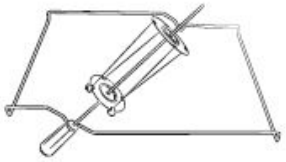


Universal tray *

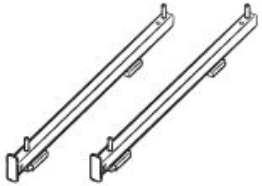


Extra-deep tray *

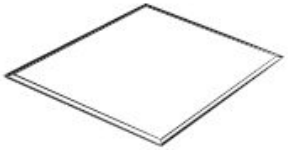
Rotisserie spit *



Rotisserie spit and Shashlik *



Telescopic rail *



Divider

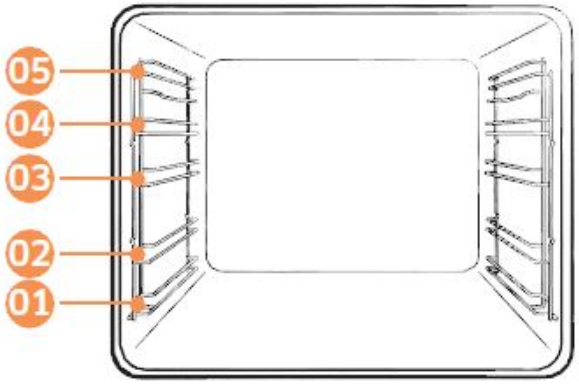
2-4. Accessory

Availability of accessories with an asterisk (*) depends on the oven model.

Part Name	Use of accessory
Wire rack	The wire rack is designed for grilling and roasting.
Wire rack insert *	The wire rack insert is used with the tray, and prevents liquid from dropping onto the bottom of the oven.
Baking tray *	The baking tray (depth: 20 mm) is used to bake cakes, cookies, and other pastries.
Universal tray *	The universal tray (depth : 30 mm) is used for cooking and roasting. Use the wire-tray insert to prevent liquid from dropping onto the bottom of the oven.
Extra-deep tray *	The extra-deep tray (depth: 50 mm) is used for roasting with or without the wire-tray insert.
Rotisserie spit *	The rotisserie spit is used for grilling food such as chicken. Use the rotisserie spit only in Single mode at level 4 where the spit adapter is available. Unscrew the spit handle to remove while grilling.
Rotisserie spit and Shashlik *	Put the tray at rack position 1 to collect cooking juices, or on the bottom of the oven for a large serving of meat. It is recommended to use the spit accessories for meat under 1.5 kg.
Telescopic rails *	Use the telescopic rail plate to insert the tray as follows: 1. Stretch the rail plate out from the oven. 2. Put the tray on the rail plate and slide the rail plate into the oven. 3. Close the oven door.
Divider	The divider is designed to separate the oven in two compartments. Use the divider with Dual cook mode.

2-4. Accessory

Level of side runners



01 Level 1
02 Level 2
03 Level 3
04 Level 4
05 Level 5

Insert the accessory to the correct position inside of the oven.

• Allow at least a 1 cm space from the accessory and the bottom of the oven, and from any other accessory.

• Take caution in removing cookware and/or accessories out of the oven. Hot meals or accessories can cause burns.

• The accessories may be deformed while they are gaining heat. Once they have cooled down, they will recover their original appearance and performance.

2-5. Specifications

Basic Information	BASIC MODEL	NEW MODEL
Model Name	NV75J5540RS	NV75K5541RS
Model Type Install	Single Built-in	Single Built-in
Design	Grand Arche	Grand Arche
Main sales point	Dual cook mode	Dual cook mode
Oven Features	**BASIC MODEL**	**NEW MODEL**
Cavity Interior	Enamel	Enamel
Oven Colors	STSS	STSS
Oven Doors	Triple	Triple
Door Opening	Drop Down, Soft Close	Drop Down
Oven Light	2EA	2EA
Oven Light Position	Top, Side	Top, Side
Control Method	Pop-up dial & Touch glass	Pop-up dial & Touch glass
Cleaning Method	Catalytic, Steam	Catalytic, Steam
Grill Heater Type	Swing	Swing

2-5. Specifications

Electric Features	BASIC MODEL	NEW MODEL
Upper Grill (In/Out)	1600W / 1100W	1600W / 1100W
Bottom	1100W	1100W
Convection	1200W / 1200W	1200W / 1200W
Steam Generator	-	-
Cooking Mode	**BASIC MODEL**	**NEW MODEL**
Single Mode 1. Convection	Yes	Yes
2. Conventional	Yes	Yes
3. Top heat + convection	Yes	Yes
4. Bottom heat + convection	Yes	Yes
5. Large grill	Yes	Yes
6. Eco grill	Yes	Yes
7. Fan grill	No	No
8. Bottom heat	Yes	Yes
9. Pro-Roasting	Yes	Yes
10. Intensive cook	No	No
11. Eco convection	Yes	Yes

2-5. Specifications

Cooking Mode		BASIC MODEL	NEW MODEL
Upper Mode	1. Convection	Yes	Yes
	2. Top heat + convection	Yes	Yes
	3. Large grill	Yes	Yes
	4. Eco grill	No	No
	5. Fan grill	No	No
Lower Mode	1. Convection	Yes	Yes
	2. Bottom heat + convection	Yes	Yes
	3. Bottom heat	Yes	Yes

2-5. Specifications

Oven function	BASIC MODEL	NEW MODEL
Auto cook	Yes (50EA)	Yes (50EA)
Fast Preheating	Yes	Yes
Crispy	No	No
Clock	Yes	Yes
Cooking time	Yes	Yes
End time & Delay end	Yes	Yes
Timer	Yes	Yes
Oven Temp	Yes	Yes
Child Lock	Yes	Yes
Oven Light On/Off	Yes	Yes
Sound On/Off	Yes	Yes
Pyrolytic Cleaning	Yes	Yes
Steam Cleaning	Yes	Yes
Catalytic Cleaning	No	No
Descaling	No	No
Language Option	No	No
Wi-Fi	No	No
Favourites	No	No
Meat Probe Cooking	No	No

2-5. Specifications

Accessory	BASIC MODEL	NEW MODEL
Divider	1EA	1EA
Wire rack	1EA	1EA
Wire rack insert	-	1EA
Baking tray	-	-
Universal tray	2EA	1EA
Extra-deep tray	-	-
Rotisserie spit	-	-
Shashlik	-	-
Telescopic rails	Yes	Yes
Meat probe	-	-
Model information	**BASIC MODEL**	**NEW MODEL**
Power Source	230-240V~ 50Hz	230-240V~ 50Hz
Output Power	3650 – 3950W	3650 – 3950W
Oven Capacity	75L	75L
Energy Class	A	A
Oven Weight (Net / Gross)	41.3kg / 44.1kg	41.0kg / 43.7kg
Oven Outside Dimension (W x H x D)	595 x 595 x 566	595 x 595 x 566

3-1. How to install the oven

IMPORTANT

Any electrical installation work must be carried out by a qualified electrician / competent person. The oven must be installed according to the instructions supplied.

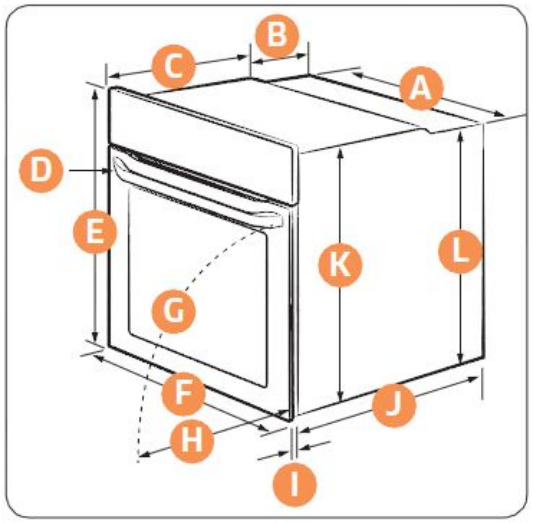
Safety Instructions for the Installer

Protection against access to live parts must be guaranteed by the installation.

The unit in which the appliance is fitted must satisfy the requirements of DIN 68930 in respect of stability. This oven must be installed by qualified personnel to the relevant Standards.

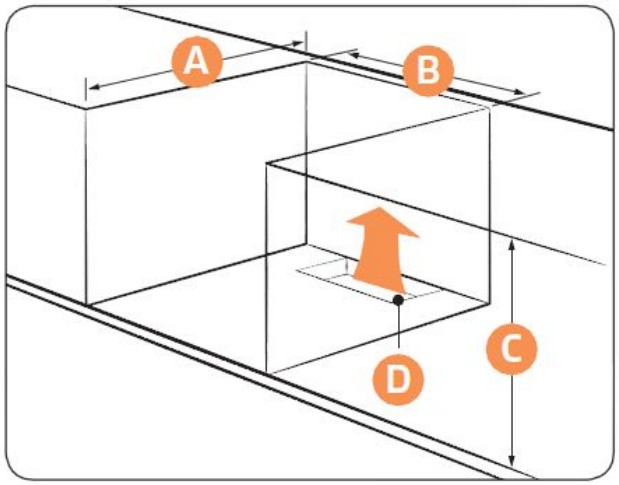
This oven is heavy. Take care when moving it. Remove all packaging, both inside and outside the oven before using the oven. Do not attempt to modify the oven in any way.

3-2. The work in the low cabinet



Oven (mm)

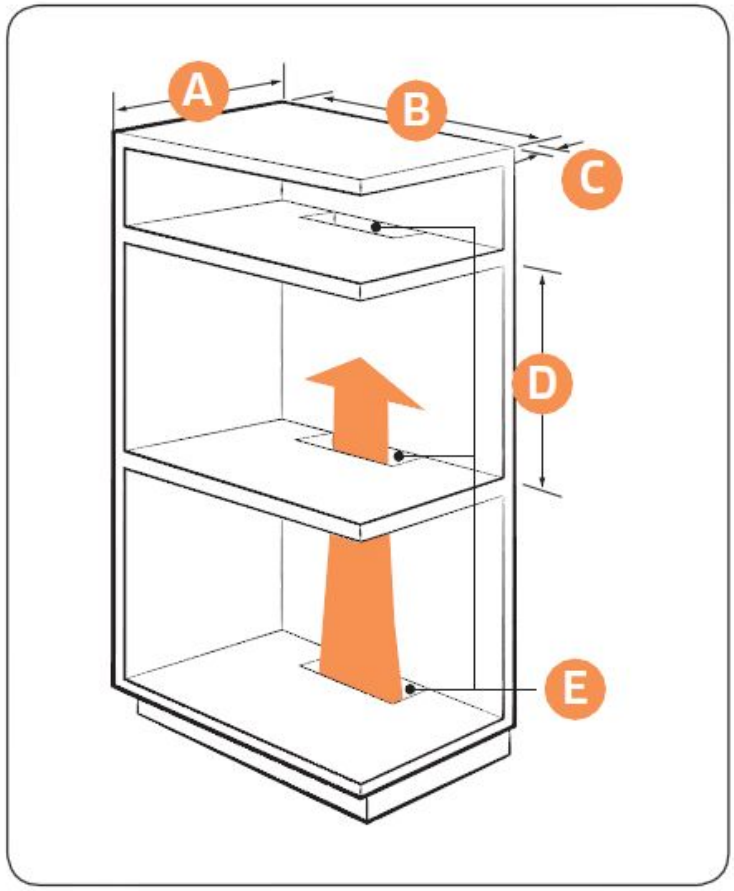
A	560	G	Max. 476
B	175	H	Max. 464
C	370	I	21
D	Max. 50	J	545
E	595	K	572
F	595	L	550



Under-sink cabinet (mm)

A	Min. 550
B	Min. 560
C	Min. 600
D	Min 460 x Min. 50

3-3. The work in the high cabinet

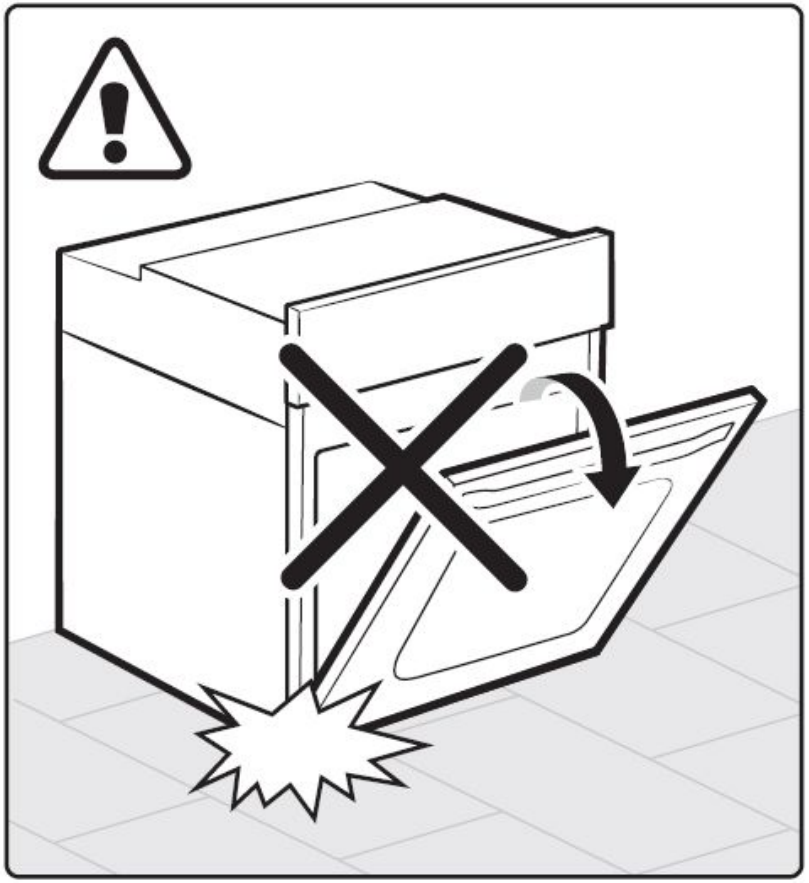


Built-in cabinet (mm)

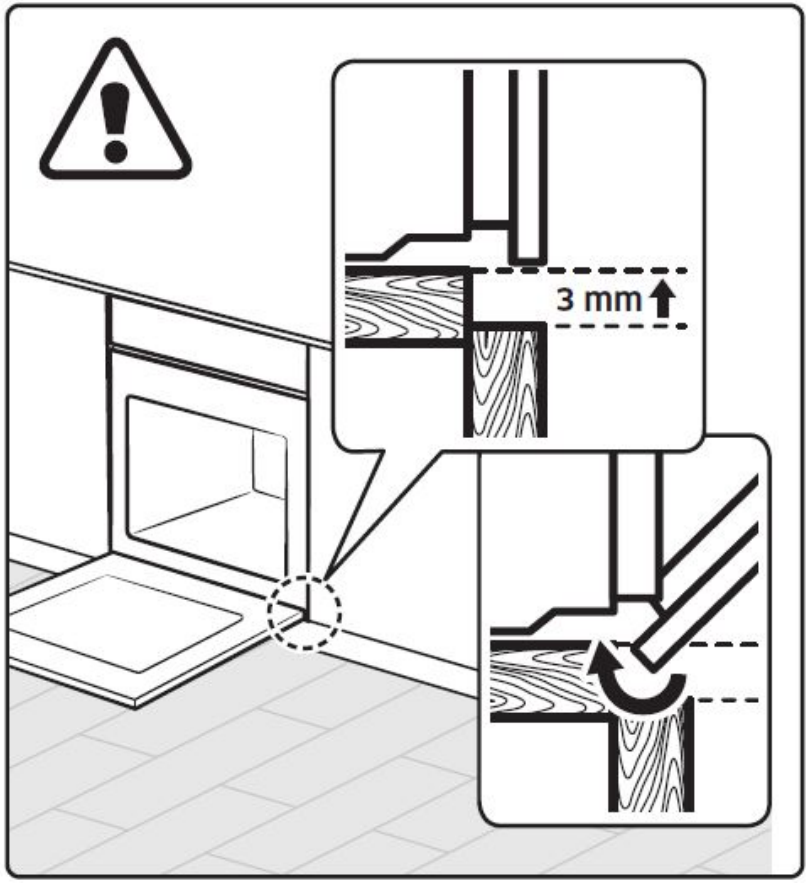
A	Min. 550
B	Min. 560
C	Min. 60
D	Min. 590 - Max. 600
E	Min 460 x Min. 50

3-4. Caution during installation

Do not open the oven door on the floor.



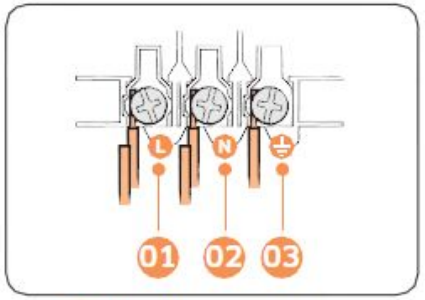
Secure at least 3 mm of gap in the picture so that the door opens and closes smoothly.



3-5. Power connection

- Connecting the oven to the power supply (H05VV-F, H05RR-F, Min 1.5m, 1.5~2.5 mm^2)
- Connections

Electrical connections must be made as per the connection plate fixed to the back of the appliance, by an electrical fitter who must ensure that the appliance has been connected up in accordance with fitting instructions and local regulations.
Where the appliance is not connected to the mains electricity supply by a plug, an omni polar cutout device (with a contacts gap of at least 3 mm) must be fitted on the supply side of the connection to meet safety requirements.



01 BROWN or BLACK
02 BLUE or WHITE
03 YELLOW and GREEN

NOTE: When power is connected, the electronics of the oven are initialized; this neutralizes the lighting for a few seconds. The electric cable (H05 RR-F or H05VV-F) must be long enough for it to be connected to the built - in oven standing on the floor in front of its unit.
Open the back cover of the oven at the bottom (using a flat - bladed screwdriver), completely unscrew the connection (⏚)v and the cable clamp before fitting the conducting wires into the appropriate terminals.

- The earth wire must be connected to the terminal of the oven.

If the oven is connected to the power supply by a plug, this must remain accessible once the oven has been fitted.
We cannot accept any liability in the event of an accident resulting from non - existent or faulty earthgrounding.

4-1. Cooking Mode

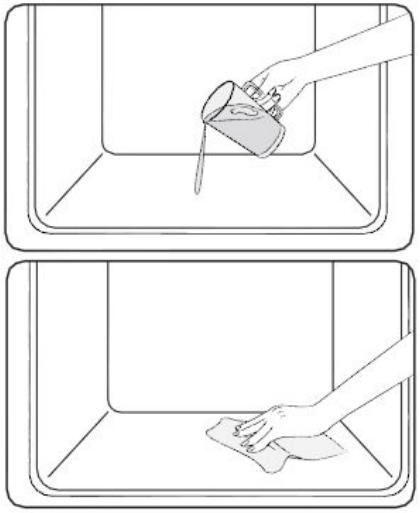
Cooking Mode	Use of cooking mode
Convection	The rear heating element generates heat, which is evenly distributed by the convection fan. Use this mode for baking and roasting on different levels at the same time.
Conventional	The heat is generated from the top and bottom heating elements. This function should be used for standard baking and roasting for most types of dishes.
Top heat + convection	The top heating element generates heat, which is evenly distributed by the convection fan. Use this mode for roasting that requires a crispy top (for example, meat or lasagne).
Bottom heat + convection	The bottom heating element generates heat, which is evenly distributed by the convection fan. Use this mode for pizza, bread, or cake.
Large grill	The large-area grill emits heat. Use this mode for browning the tops of food (for example, meat, lasagne, or gratin).
Eco grill	The small-area grill emits heat. Use this mode for food that requires less heat, such as fish and filled baguettes.
Bottom heat	The bottom heating element generates heat. Use this mode at the end of baking or cooking to brown the bottoms of a quiche or pizza.
Pro-Roasting	Pro-Roasting runs an automatic pre-heating cycle until the oven temperature reaches 220 ° C. Then, the top heating element and the convection fan start operating to sear food such as meat. After searing, the meat will be cooked at low temperatures. Use this mode for beef, poultry, or fish.
Eco convection	Eco Convection uses the optimized heating system to save energy while cooking. The cooking times slightly increases, but the cooking results remain the same. Note that this mode does not require preheating.

4-2. Special Function

Special Function	Use
Fast preheat	Enable this option to fast preheat the oven up to a set temperature.
Keep warm	Use this only for keeping foods warm that have just been cooked.
Plate warm	Use this for warming dishes or ovenware.

4-3. Steam Cleaning

Steam cleaning is useful for cleaning light soiling with steaming.



1. Pour 400 ml (3/4 pint) of water onto the bottom of the oven and close the oven door.
2. Select the steam cleaning function.
3. Steam cleaning use about 26min.
   Make sure do not open the door during the cleaning cycle.
4. Use a dry cloth to clean inside the oven.

※ CAUTION & INFORMATION

1. Do not open the door before the cycle is complete. The water inside the oven is very hot, and it can cause a burn.
2. If the oven is heavily soiled with grease, for example, after roasting or grilling, it is recommended to remove stubborn soils manually using a cleaning agent before activating Steam cleaning.
3. Leave the oven door ajar when the cycle is complete.
   This is to allow the interior enamel surface to dry thoroughly.
4. While the oven is hot inside, auto cleaning is not activated. Wait until the oven cools down, and try again.

5-1. Information Codes

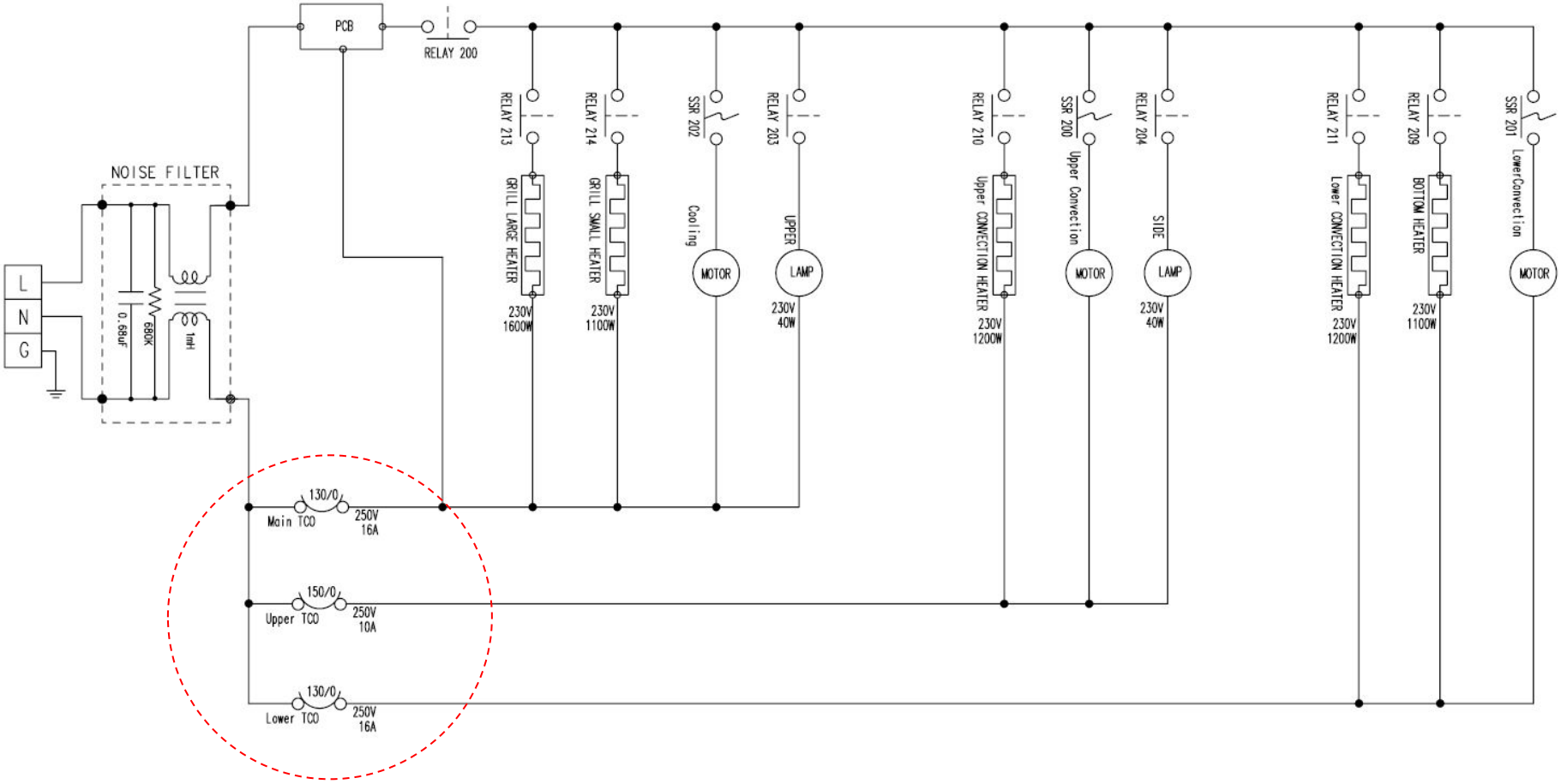
Change the current time to 0:00 and press [Timer] and [Back] key for 5 seconds at the same time.
You can check the recent 5 information codes in the display.
But, if the oven turns off, the stored information codes are deleted. [Timer] and [Back] key for 5 seconds at the same time to return to 'normal display mode'.

Code	Meaning
C-d1	Door lock malfunctions
C-20	Sensor malfunctions
C-21	
C-22	
C-F1	Only occurs during EEPROM Read/ Write
C-F0	If there is no communication between the main PCB and sub PCB
C-F2	Occurs when a communication problem is maintained between the Touch IC <-> Main or Sub micom

Code	Meaning
C-d0	Button problem Occurs when a button is pressed and held for a period of time.
-dC-	If the divider is removed during cooking in Dual cook mode. If the divider is inserted during cooking in Single cook mode.
S-01	Safety shutoff Oven has continued operating at a set temperature for an extended time. • Under 105 °C - 16 hours • From 105 °C to 240 °C - 8 hours • From 245 °C to Max - 4 hours

5-2. Thermo cut-out

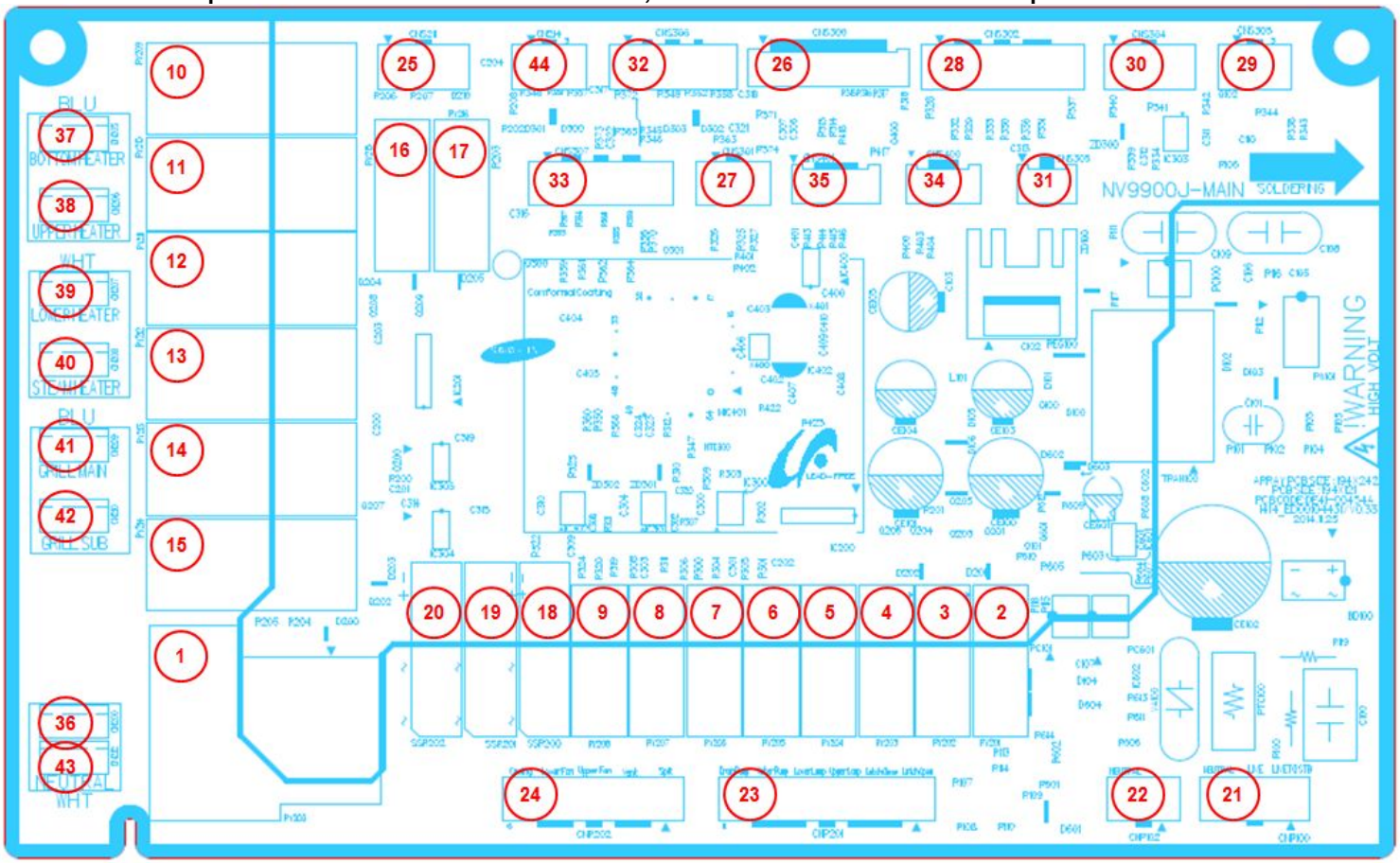
Two pieces of thermo cut-out are mounted in order to monitor abnormal operation of the oven and make the oven stop safely.



5-3. PCB

The operating power of Main PCB performs stable operation at a large range of Input Power from 100V to 270V with applied to SMPS circuits.

Also, it automatically makes power off in SMPS against abnormal operation and parts short of PCB inside. When problem occur inside SMPS, the fuse is shorted and protects circuits.



5-3. PCB

No	Parts Number	Parts Name	NV75K5541RS
1	RY200	Source Relay	O
2	RY201	Latch Open Relay	O
3	RY202	Latch Close Relay	O
4	RY203	Upper Lamp Relay	O
5	RY204	Lower Lamp Relay	X
6	RY205	Water Pump Relay	X
7	RY206	DRAIN Relay	X
8	RY207	SPIT Relay	X
9	RY208	VENT Relay	X
10	RY209	BOTTOM HEATER Relay	O
11	RY210	UPPER HEATER Relay	O
12	RY211	LOWER HEATER Relay	X
13	RY212	STEAM HEATER Relay	X
14	RY213	GRILL MAIN Relay	O
15	RY214	GRILL SUB Relay	O
16	RY215	WATER VALVE-DC Relay	X
17	RY216	Model Option Relay	X
18	SSR200	UPPER FAN Relay	X
19	SSR201	LOWER FAN Relay	O
20	SSR202	COOLING Relay	O
21	CNP100	Power Connector (LED Model) MAIN-STB power Connecting (LCD Model)	O
22	CNP102	Power Connector (LCD Model)	X

5-3. PCB

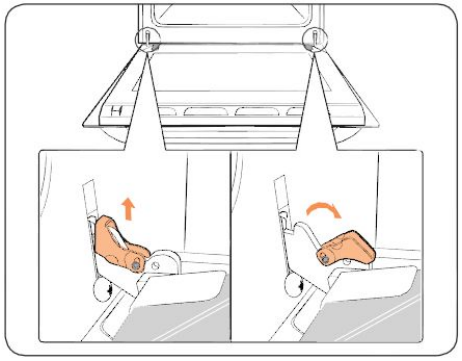
No	Parts Number	Parts Name	NV75K5541RS
23	CNP201	RELAY Connector - AC	O
24	CNP202	RELAY Connector - AC	O
25	CNS211	RELAY Connector - DC	X
26	CNS300	SUB PBA Connector	O
27	CNS301	MEAT PROBE Connector	O
28	CNS302	LATCH MODULE & DOOR SENSING Connector	O
29	CNS303	STEAM TEMP Connector	X
30	CNS304	VAPOR SENSOR Connector	X
31	CNS305	DOOR Sensing Connector	O
32	CNS306	Divide & Temp Sensor Connector	O
33	CNS307	WATER&STEAM LEVEL SENSING Connector	X
34	CNS400	RENESAS ON Board Writing Connector	O
35	CNS401	SMART TEST Connector	O
36	CN200	NEUTRAL Terminal Tab	O
37	CN205	BOTTON HEATER Terminal Tab	O
38	CN206	UPPER HEATER Terminal Tab	O
39	CN207	LOWER HEATER Terminal Tab	X
40	CN208	STEAM HEATER Terminal Tab	X
41	CN209	GRILL MAIN Terminal Tab	O
42	CN210	GRILL SUB Terminal Tab	O
43	CN212	NEUTRAL Terminal Tab	O
44	CN214	Model Option Connector	X

※ Tools for Removal and reassembly

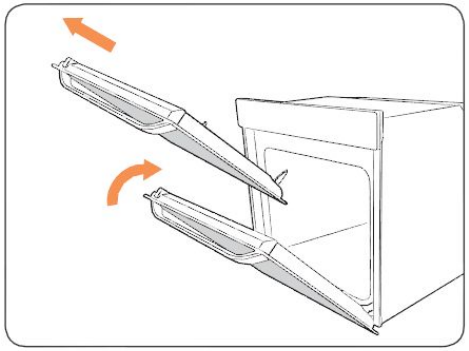
Tools	
	1. Tool : Nut Driver 2. Type : 7mm 3. Remarks : Heater bracket Nut
	1. Tool : Nut Driver 2. Type : 9mm 3. Remarks : Convection Fan Nut
	1. Tool : Longnose 2. Remarks : TCO, Tube clamp
	1. Tool : Driver 2. Type : (+), (-)

6 - 1 Replacement of Door Assembly

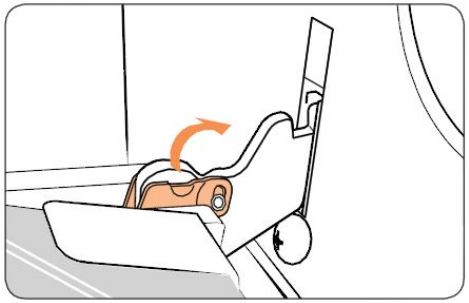
※ Do not remove the door glass unless for cleaning purposes.



1. Open the door and flip open the clips at both hinges.



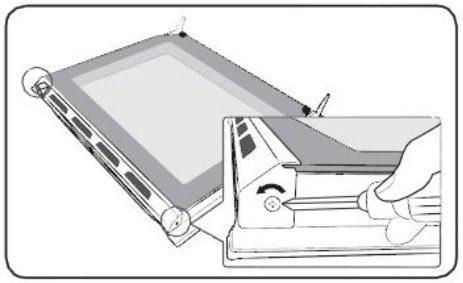
2. Close the door approximately 70°.
   Hold the oven door by the sides using both hands, and lift and pull upwards until the hinges are removed.

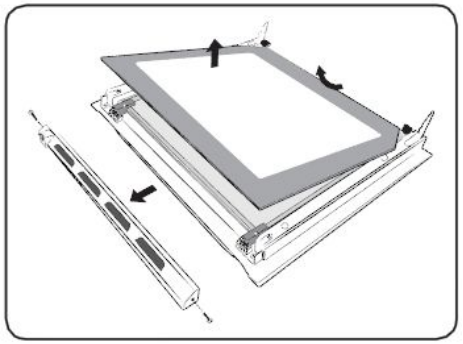


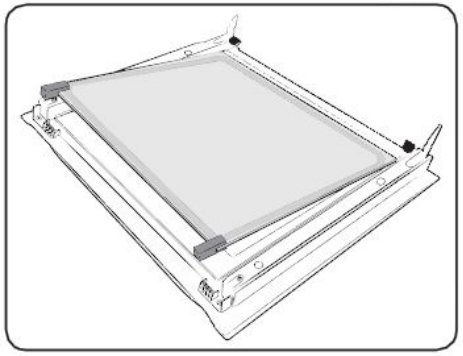
3. Clean the door with soapy water and a clean cloth.

4. When done, follow steps 1 to 2 above in the reverse order to reinstall the door. Make sure the clips are hinged on both sides.

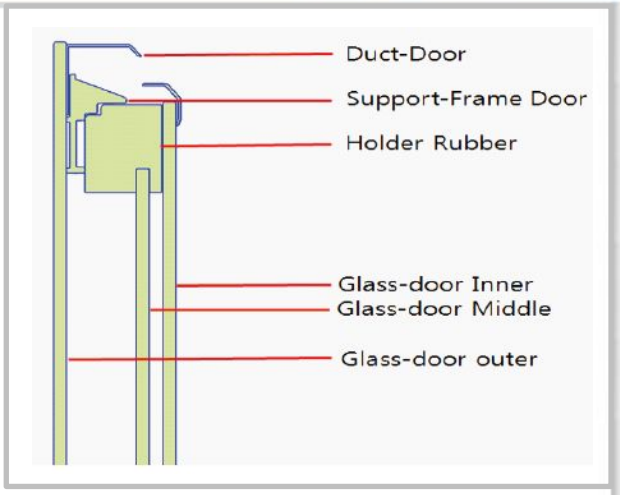
6 - 2 Replacement of Door Glass (3Glass)







1. Use a screwdriver to remove the screws on the left and right sides.



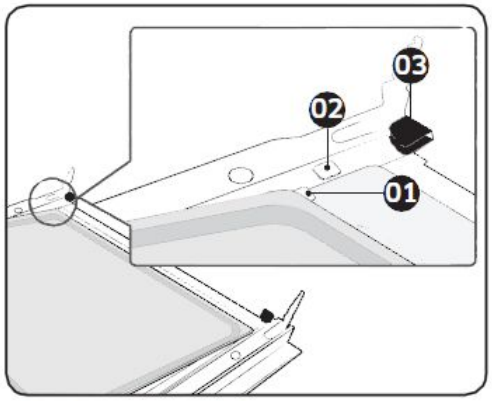
2. Detach the duct-door in the arrow directions.

3. Remove the inner-glass from the door.

4. Remove the middle glass from the door in the arrow direction.

5. Clean the glass with soapy water and a clean cloth.

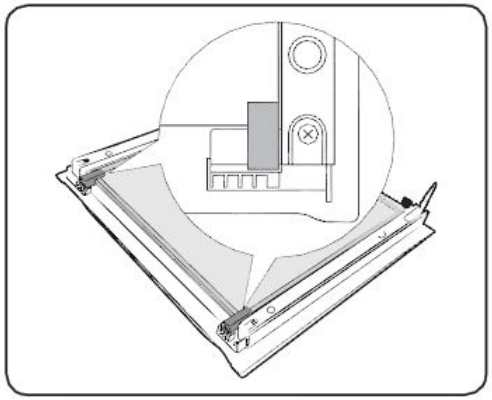
6 - 2 Replacement of Door Glass (3Glass)



01 Support clip 1
02 Support clip 2
03 Support clip 3

6. When done, reinsert the sheets as follows.

※ Insert sheet 2 between support clip 1 and 2, and sheet 1 into support clip 3 in this order.

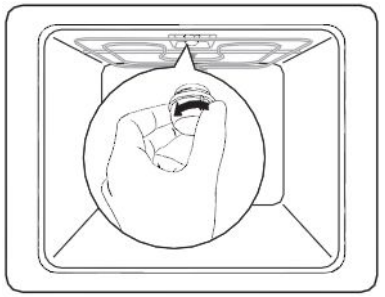


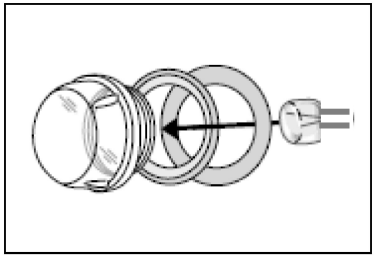
7. Check if the holder rubbers fit into and secure the glass sheet properly.

8. Follow steps 1-2 above in the reverse order to reinstall the duct-door.

6 - 3 Replacement of the oven light (TOP)

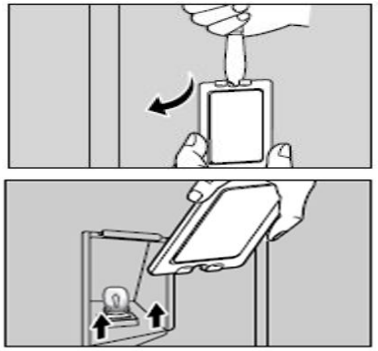
1. Take off the cap by turning counterclockwise.
2. Remove the metal ring and the sheet ring and clean the glass cap.
3. If necessary, replace the bulb with 25-40 watt, 220-240 V, 300 °C heat - resistant oven light bulb.
4. Fit the metal and the sheet ring to the glass cap.
5. When done, follow step 1 above in the reverse order to reinsert the glass cap.



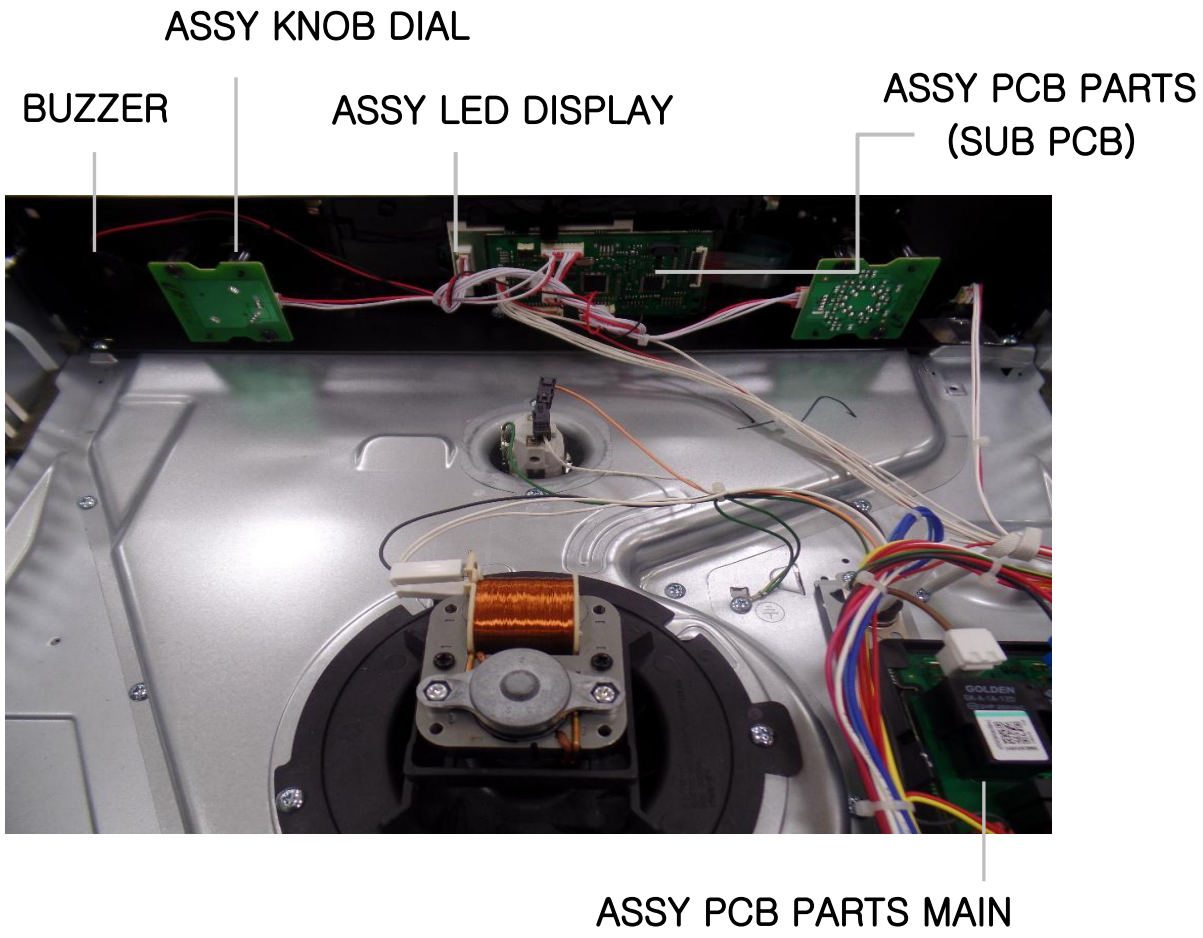


6 - 3 Replacement of the oven light (Side)

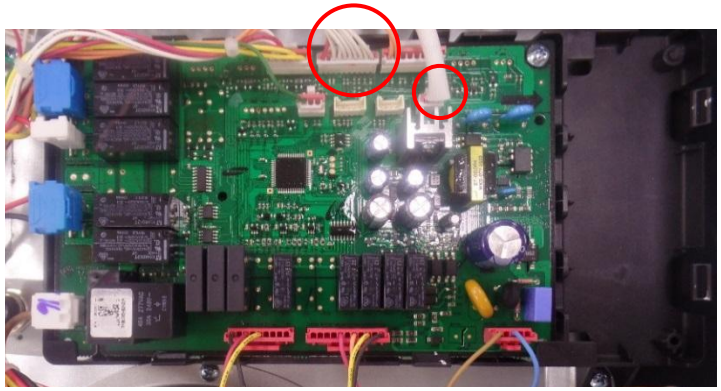
1. To remove the light cover, hold the lower end with one hand, insert a flat head driver between the glass and the frame and pop out the cover.
2. If necessary, replace the bulb with 25-40 watt, 220-240 V, 300 °C heat - resistant oven light bulb.
3. Reinsert the light cover.



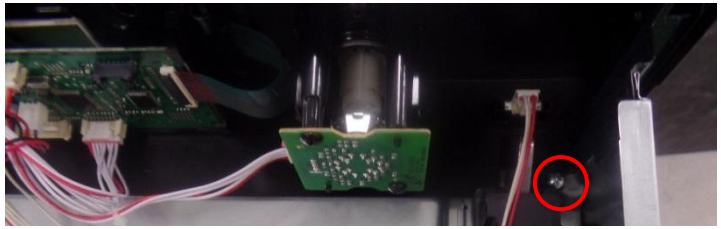
6 - 4 Replacement of Assy Control Box



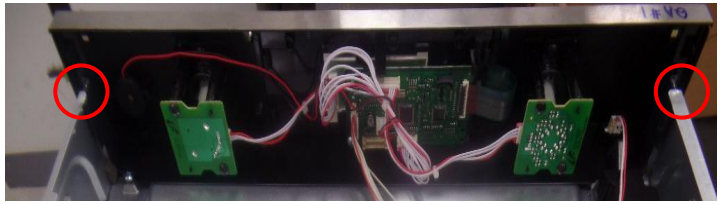
6 - 4 Replacement of Assy Control Box



1. Remove some connectors from circled part in the picture.



2. Remove 1 screw from the Control Box.

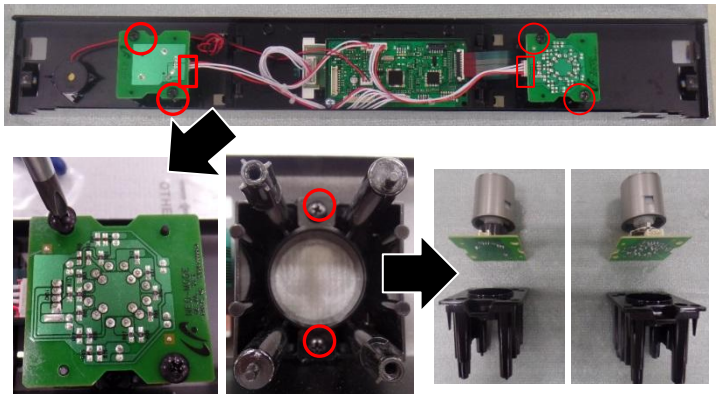


3. Remove two screws at both sides of assy control box and lift up assy control box and pull forward to separate.

6 - 4 Replacement of Assy Control Box

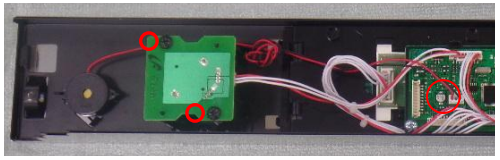
※ Parts with Control-box

□ Separate Knob Dial & Holder



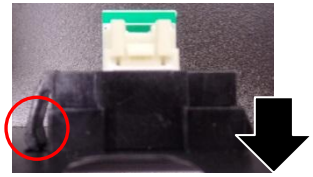
1. Remove 4 Screws in Knob PBA and Connectors.
2. Pick-up the Knob PCB.
3. Remove 4 Screws in Holder Knob (L/R).
4. Pick-up the Holder.

□ Separate Assy-Buzzer



1. Remove Connector
2. Bending Bracket straightly.
3. Remove 4 Screws in Holder Knob.
4. Pick-up the Assy-Buzzer.

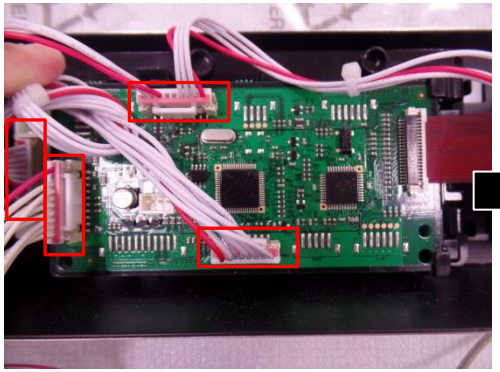
□ Separate TMR-Sensor



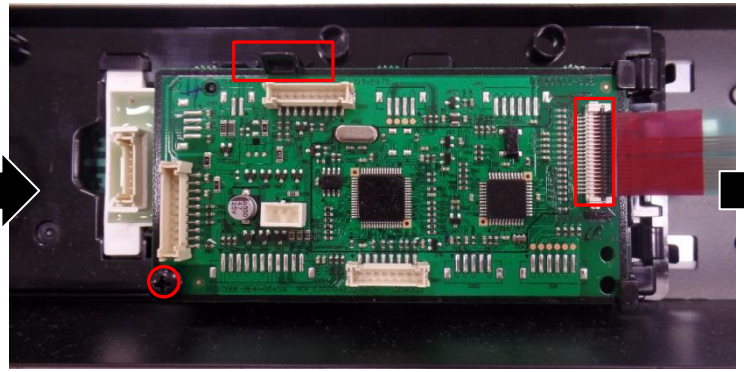
1. Push Hook and Pull

6 - 4 Replacement of Assy Control Box

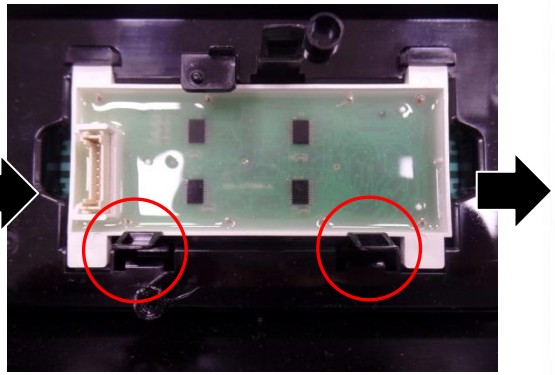
□ Separate Main PCB & Module



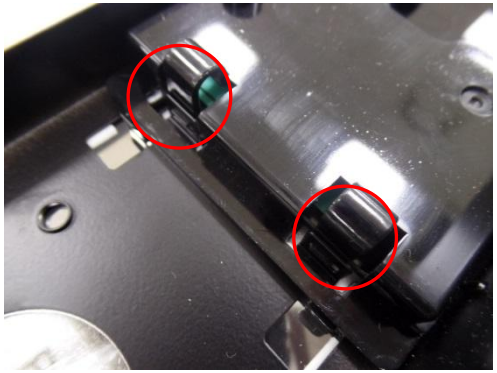
1. Remove all Connectors.



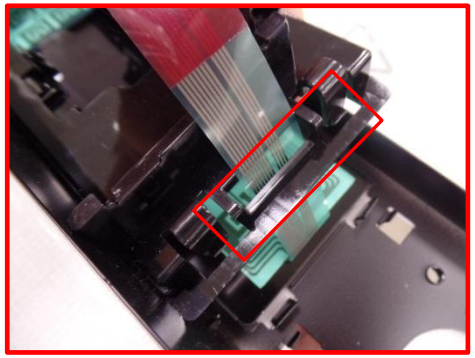
2. Remove Screw and Tail of Membrane (Open cover and pull) and Pick up PCB-Sub (unlocking hook)



3. Pick up Module (unlocking hook)



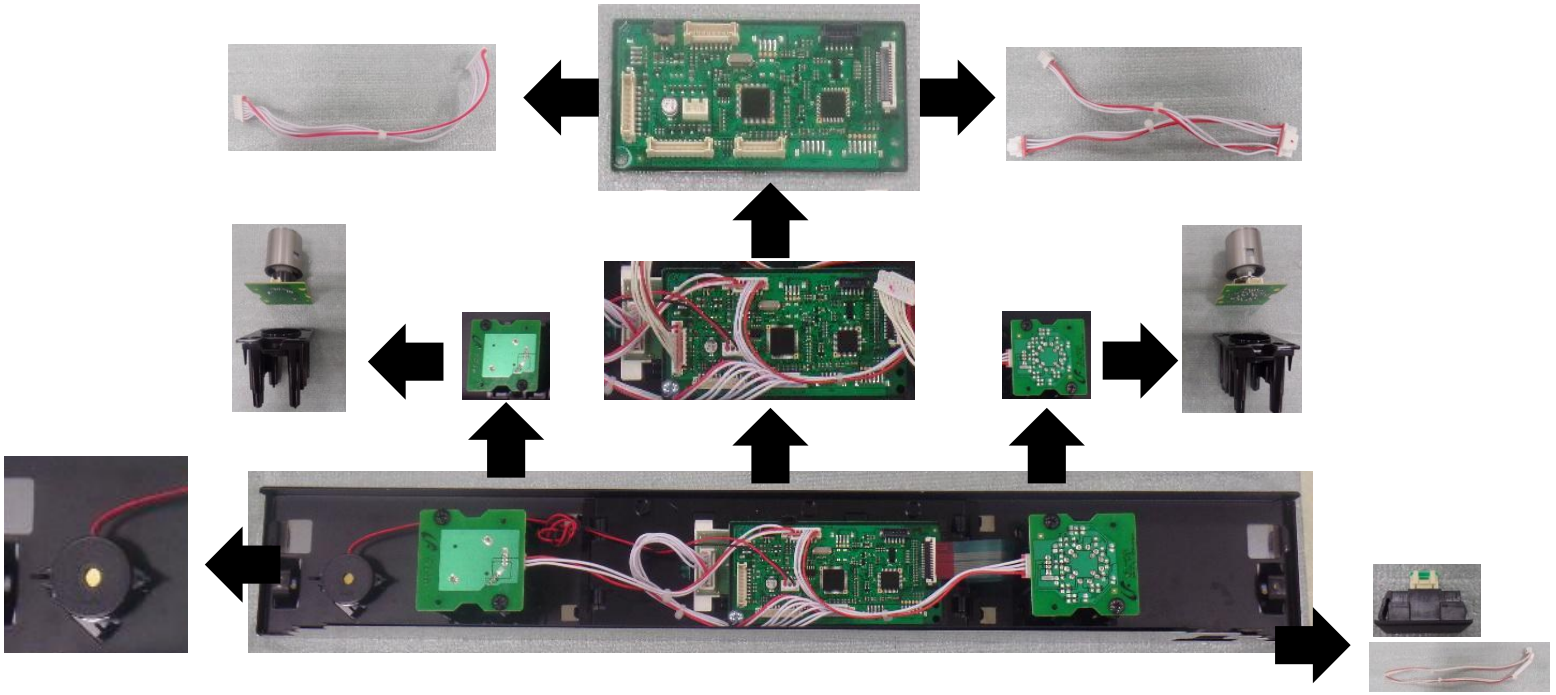
4. Unlocking Hook (Left/Right 4points) and Pick up holder



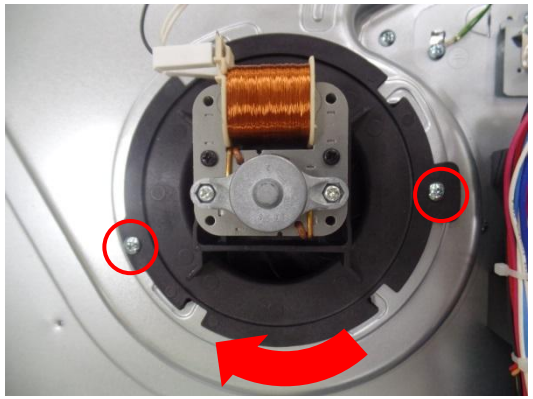
When re-assembly,
Tail of Membrane must be through Holder's rectangle hole

6 - 4 Replacement of Assy Control Box

※ Parts with Control-box



6 – 5 Replacement of Motor fan cooling

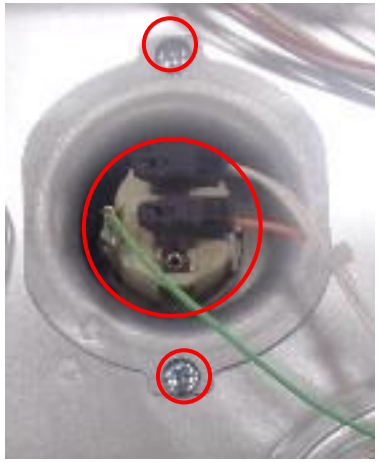


1. Remove the Motor Connector.

2. Remove 2 screws.

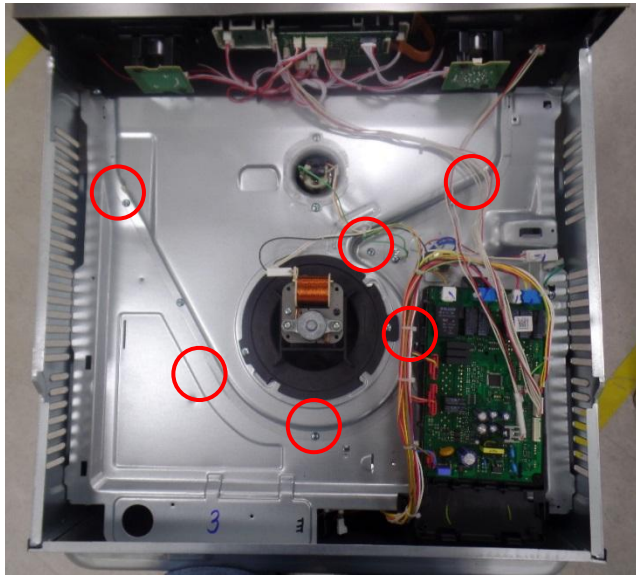
3. Turn the Motor toward Clockwise to separate.

6 - 6 Replacement of Assy cover Air



1. Remove Assy Control Box.

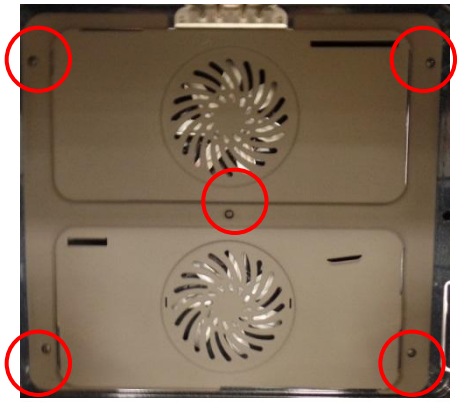
2. Remove 2 Screws to Separate Bracket Pipe.



3. Remove connectors. (Motor, Lamp)

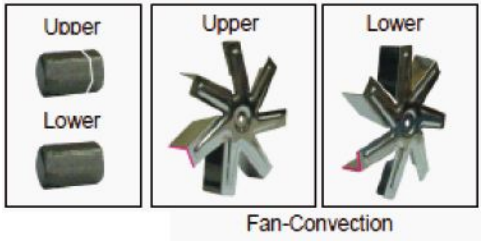
4. Remove 6 Screws From Bracket Upper.

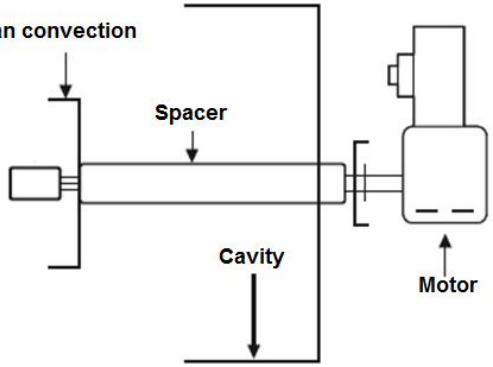
6 - 7 Replacement of Motor Convection

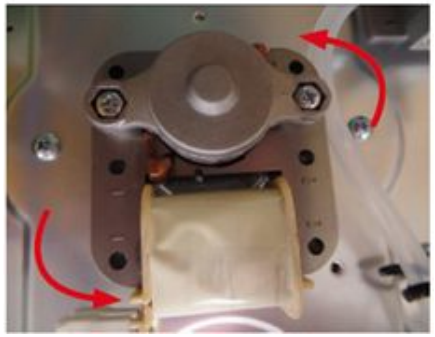


1. Remove 5 screws at the back inside cavity to separate the cover casing.

2. Turn Nut hexagon cap to releas convection.
   - Upper : Counter clockwise
   -





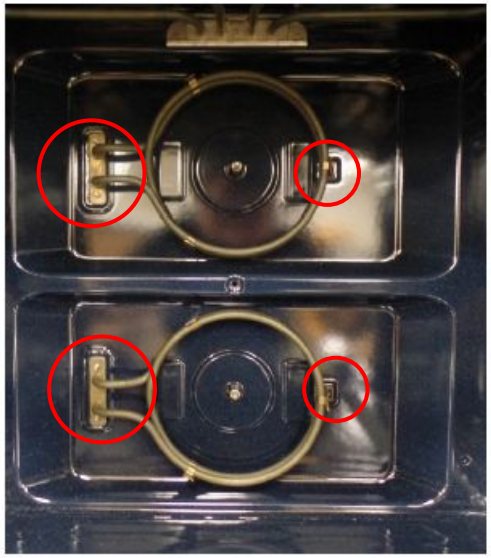


3. Turn Convection Motor to the Counter-Clockwise to release a motor convection.

6 - 8 Replacement of Convection heater

1. Remove 2 Connectors from the heater.

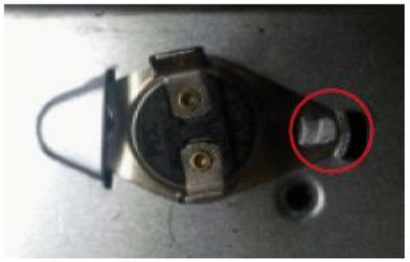
2. Remove two screws securing heater at the rear.



3. Remove convection heater.

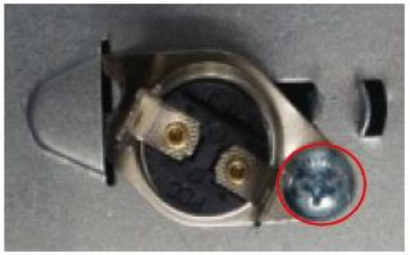
※ 2 convection heater can be removed with same way.
※ There are 2 points for each heater : Remove the left side first.

6 - 9 Replacement of Thermostat

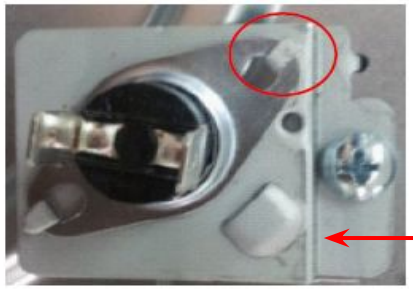


Remove the 2 connectors from the thermostat and remove the thermostat.
(There could be different structure to fix it, please refer to below types)

1. BKT-Bending type



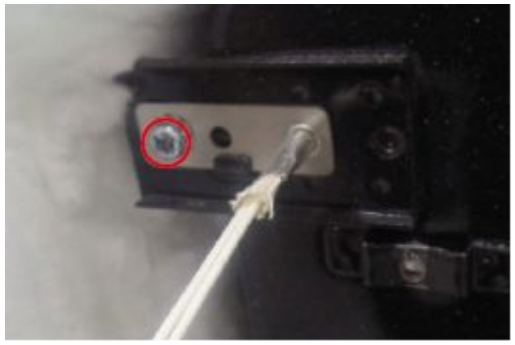
2. Screw type



3. BKT-bending type with BKT-TCO

4. Screw type with BKT-TCO

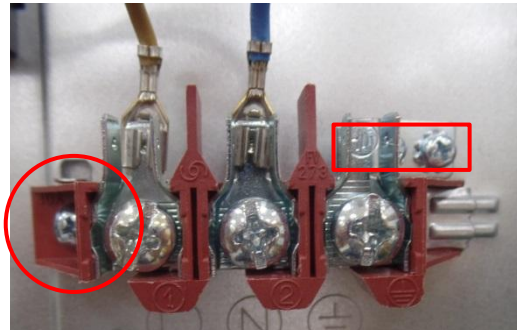
6 - 10 Replacement of Sensor thermistor



1. Remove the connector from the sensor thermistor.

2. Remove the 1 screw.

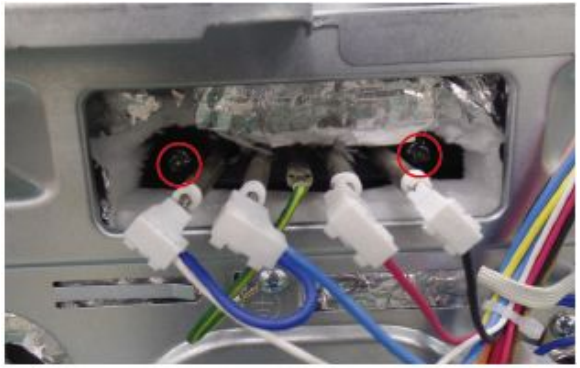
6 - 11 Replacement of Terminal block



1. Remove the connectors from the terminal block.

2. Remove the 3 screws on it.

6 - 12 Replacement of Heater Grill

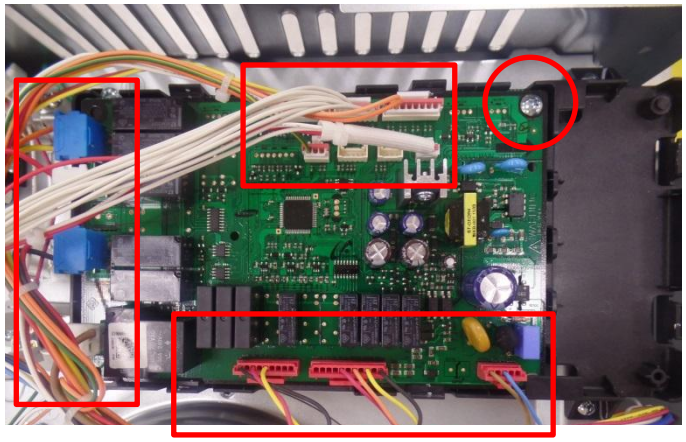


1. Remove 4 Connectors and Ground Wire.

2. Remove each nut flange at right and left sides.

3. Turn the nut circular of inside cavity to the counter-clockwise to release, pull heater grill forward to separate.

6 - 13 Replacement of PCB Main

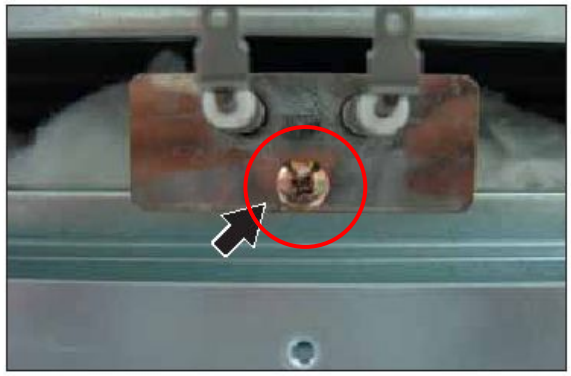


1. Remove the all connectors from the PCB.

2. Remove a screw.

3. Remove the 2 hook and separate PCB from the holder.

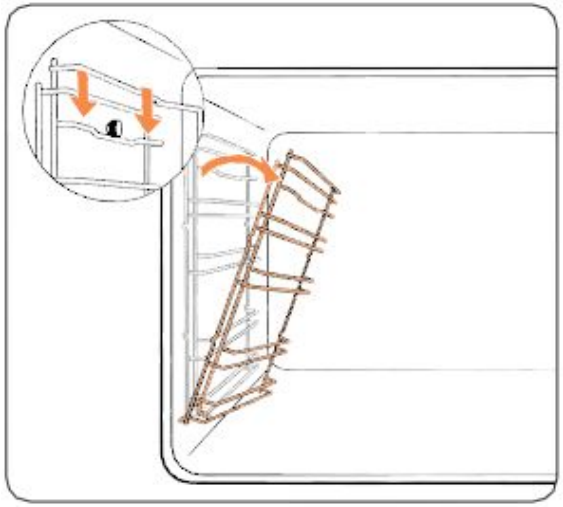
6 - 14 Replacement of Heater Bottom



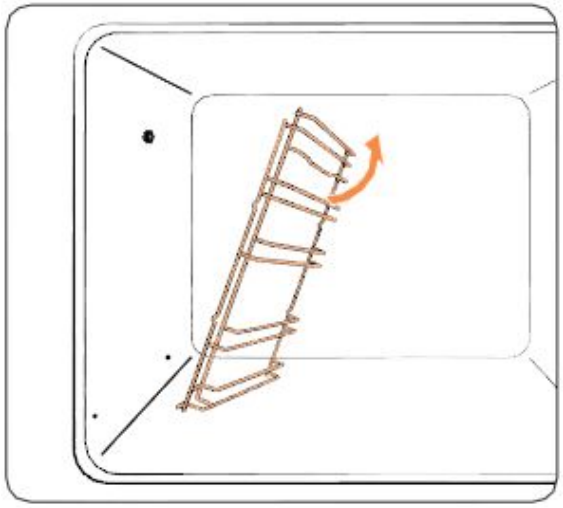
1. Remove one screw and pull forward to separate it.

※ Heater should be located above the cover bottom heater.
Do not assembly the bottom heater under
the cover bottom heater

6 - 16 Replacement of Side runners



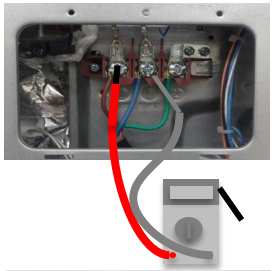
1. Press the top line of the left side runner, and lower by approximately 45 º.

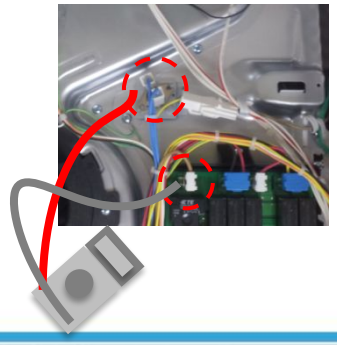


2. Pull and remove the bottom line of the left side runner.

3. Remove the right side runner in the same way.

7-1 Power Failure





Check wire connection status

Good : Connected

No → Check the wiring and connect

Yes

Check Terminal block voltage

Good : 230~240V

No → Check the circuit breaker

Check the main power

Yes

Check the TCO MAIN status

Good : Connected

No → Replace the TCO

Yes

Check the input voltage of PCB SMPS

Good : 230~240V

No → Check the faculty of wire connection

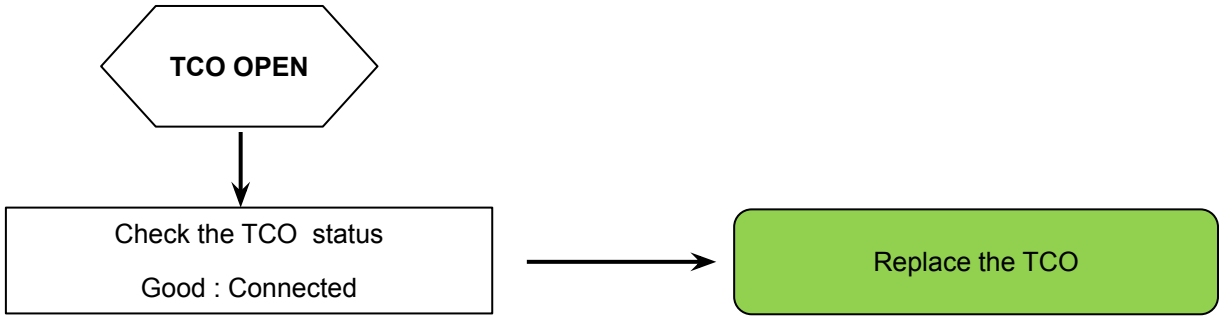
If it has problem, replace the wire harness

Yes

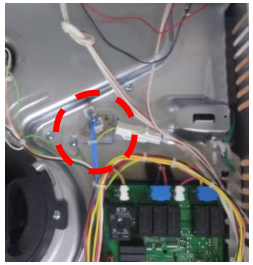
Check the PCB Main and Display PCB

If it has problem, replace the PCB

7-2 TCO Open



※ Ex) TCO MAIN



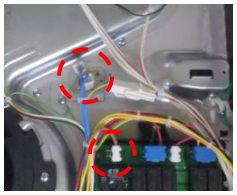
※ Remove the 2 connectors from the TCO and remove the TCO.

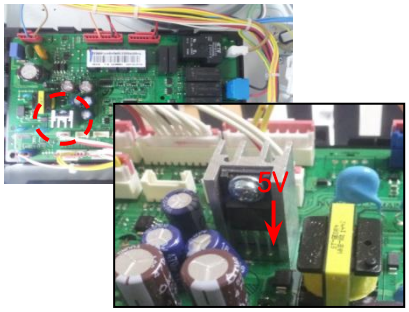
(There could be different structure to fix it, please keep the original structure)

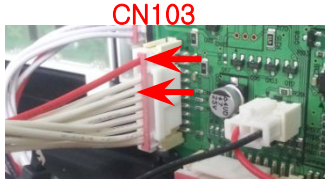
※ TCO & Related parts

No	TCO	Related Parts
1	TCO MAIN	PCB Main, Cooling Motor, Top Lamp, Grill Heater Inner/Outer
2	TCO UPPER	Upper Convection Heater, Upper Convection Motor, Side Lamp, (Optional) Spit Motor
3	TCO LOWER	Lower Convection Heater, Lower Convection Motor, Bottom Heater

7-3 PCB Failure







PCB FAILURE

Check the SMPS Input voltage
Good : 230~240V

No → Check the parts related power (Circuit breaker, TCO, Wiring etc)

Yes

Check the SMPS Output DC voltage
Good : 5V (DC)

No → SMPS Problem : Replace the PCB Main

Yes

Check the Main & Sub PCB DC signal(CNS300)
Good : 12V(PIN1), 5V(PIN3)

No → PCB Main Problem : Replace the PCB Main

Yes

Check the DC signal on PCB Sub(CN103)
Good : 12V(PIN1), 5V(PIN3)

No → Replace the communication Wire-harness

Yes

PCB Sub Problem : Replace the PCB Sub

7-4 Failure of heating elements

FAILURE OF HEATER

Check wire connection status with the heater
Good : Connected

No → Check the wiring and connect

Yes

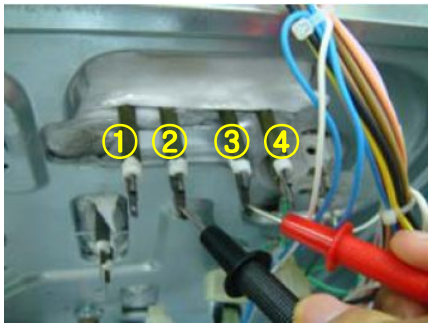
Check the resistance of heater parts
Good : about 10~150Ω
※ For Grill heater please check the resistance between 1 and 4, 2 and 3 in the picture

No → Replace the Heater parts

Yes

Check the Relay operation on PCB Main
Replace the PCB Main

※ Ex) Grill heater



7-5 Failure of Motor parts

FAILURE OF MOTOR

Check wire connection status with Motor parts

No → Check the wiring and connect

Yes

Check the TCO status
Good : Connected

No → Replace the TCO

Yes

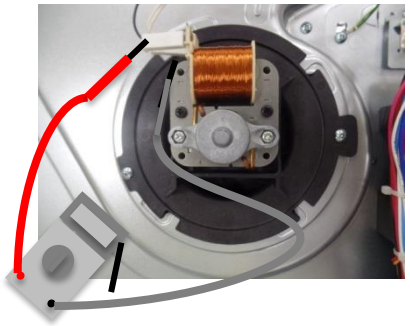
Check the resistance of Motor parts
Good : about 100~350Ω

No → Replace the Motor parts

Yes

Check the Relay operation on PCB Main
Replace the PCB Main

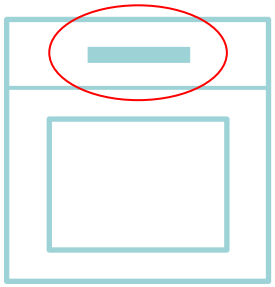
※ **Ex) Motor**

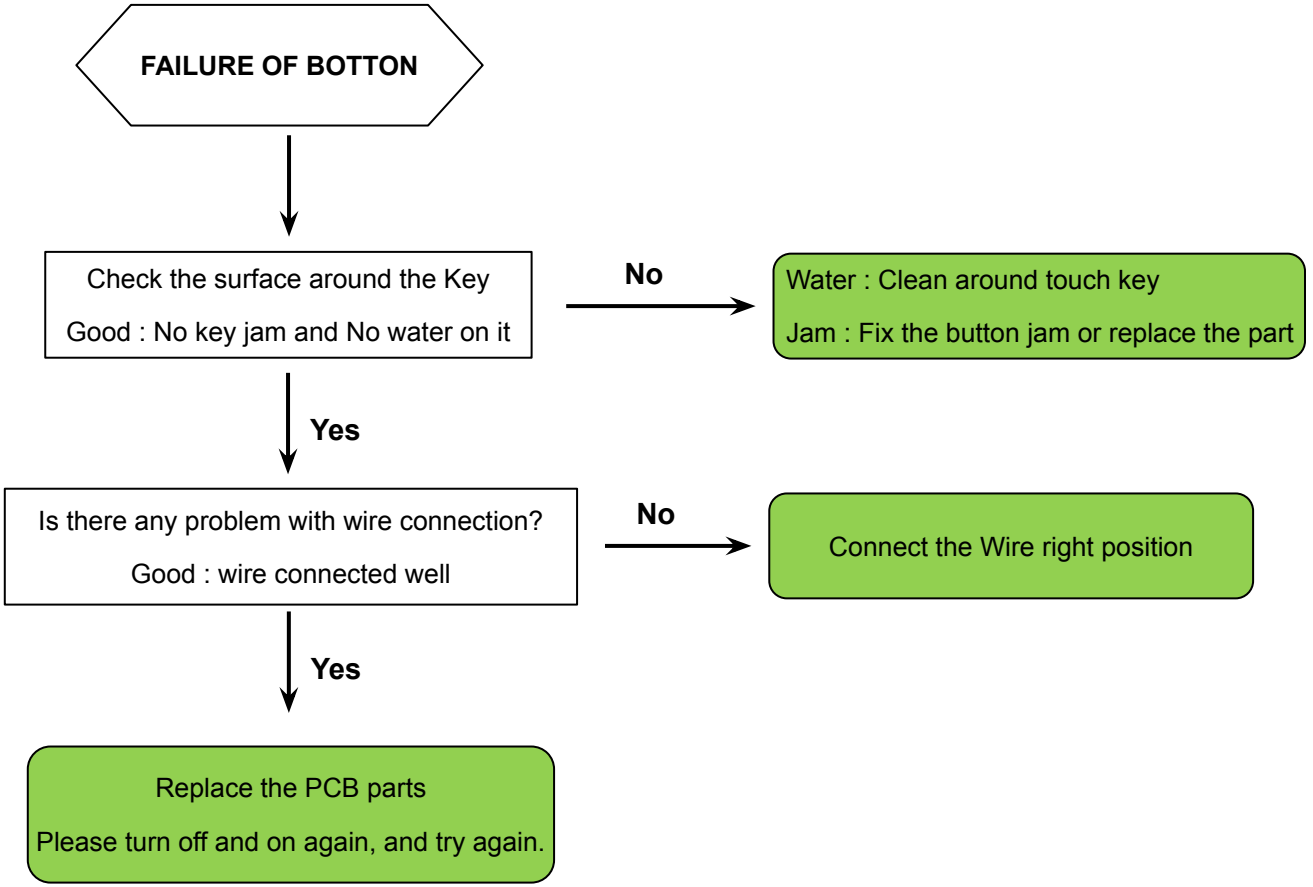


7-5 Information Code

Code	Meaning	Action
C-d1	Door lock malfunctions	Turn off the oven and then restart. If the problem continues, turn off all power for 30 seconds or more and then reconnect. If the problem is not fixed, please contact a service centre.
C-20	Sensor malfunctions	
C-21		
C-22		
C-F1	Only occurs during EEPROM Read/ Write	
C-F0	If there is no communication between the main PCB and sub PCB	
C-F2	Occurs when a communication problem is maintained between the Touch IC <-> Main or Sub micom	Turn off the oven and then restart. If the problem continues, turn off all power for 30 seconds or more and then reconnect. If the problem is not fixed, please contact a service centre.
C-d0	Button problem Occurs when a button is pressed and held for a period of time.	Clean the buttons and make sure there is no water on/around them. Turn off the oven and try again. If the problem continues, contact a local Samsung service centre.
-dC-	If the divider is removed during cooking in Dual cook mode. If the divider is inserted during cooking in Single cook mode.	The divider must not be removed during cooking in Dual cook mode. Turn off the oven and then restart. If the problem continues, turn off all power for 30 seconds or more and then reconnect. If the problem is not fixed, please contact a service centre.
S-01	Safety shutoff Oven has continued operating at a set temperature for an extended time. • Under 105 °C - 16 hours • From 105 °C to 240 °C - 8 hours • From 245 °C to Max - 4 hours	This is not system failure. Turn off the oven and remove food. Thenm try again normally.

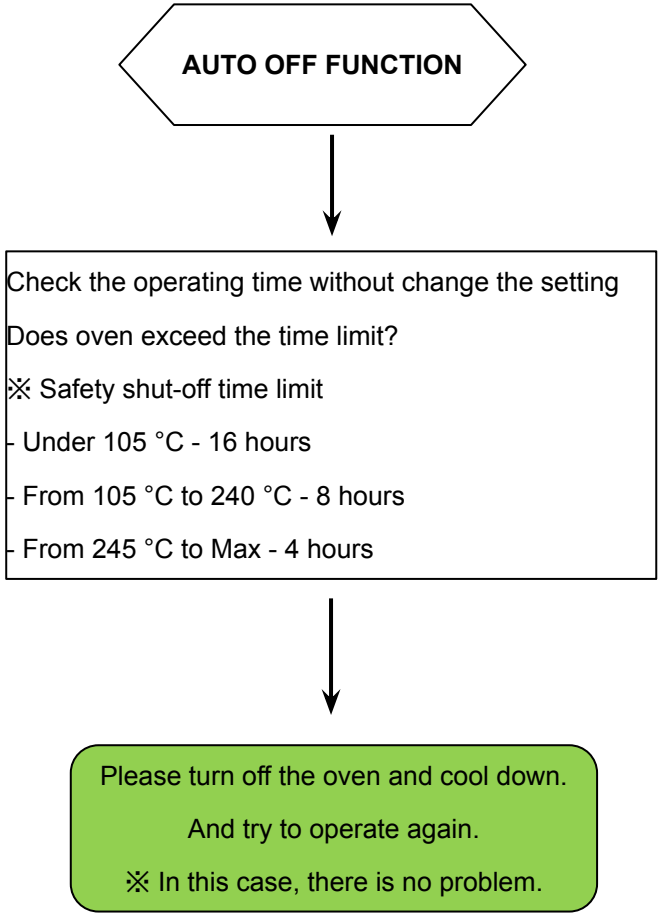
7-6 C-d0 : Failure of Button(Key)



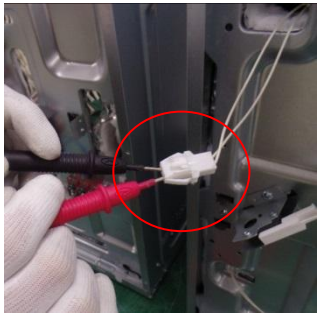


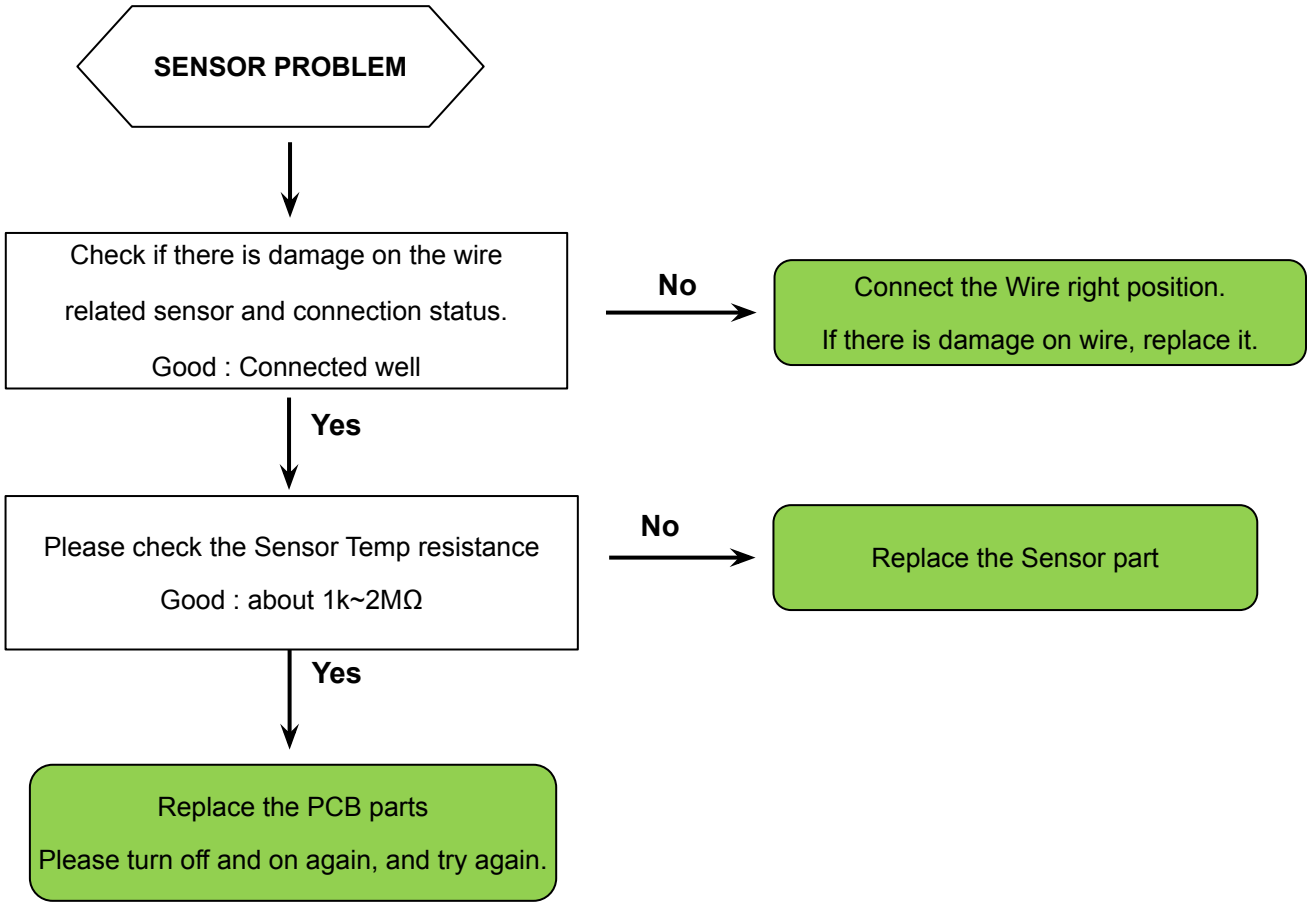
7-7 S-01 : Auto off function for safety

※ S-01 is not from product problem, it is automatic oven off function for safety.

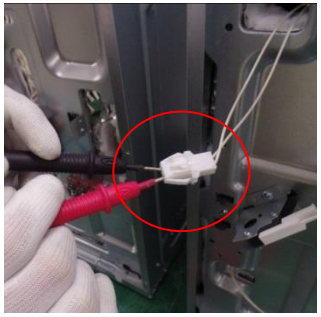


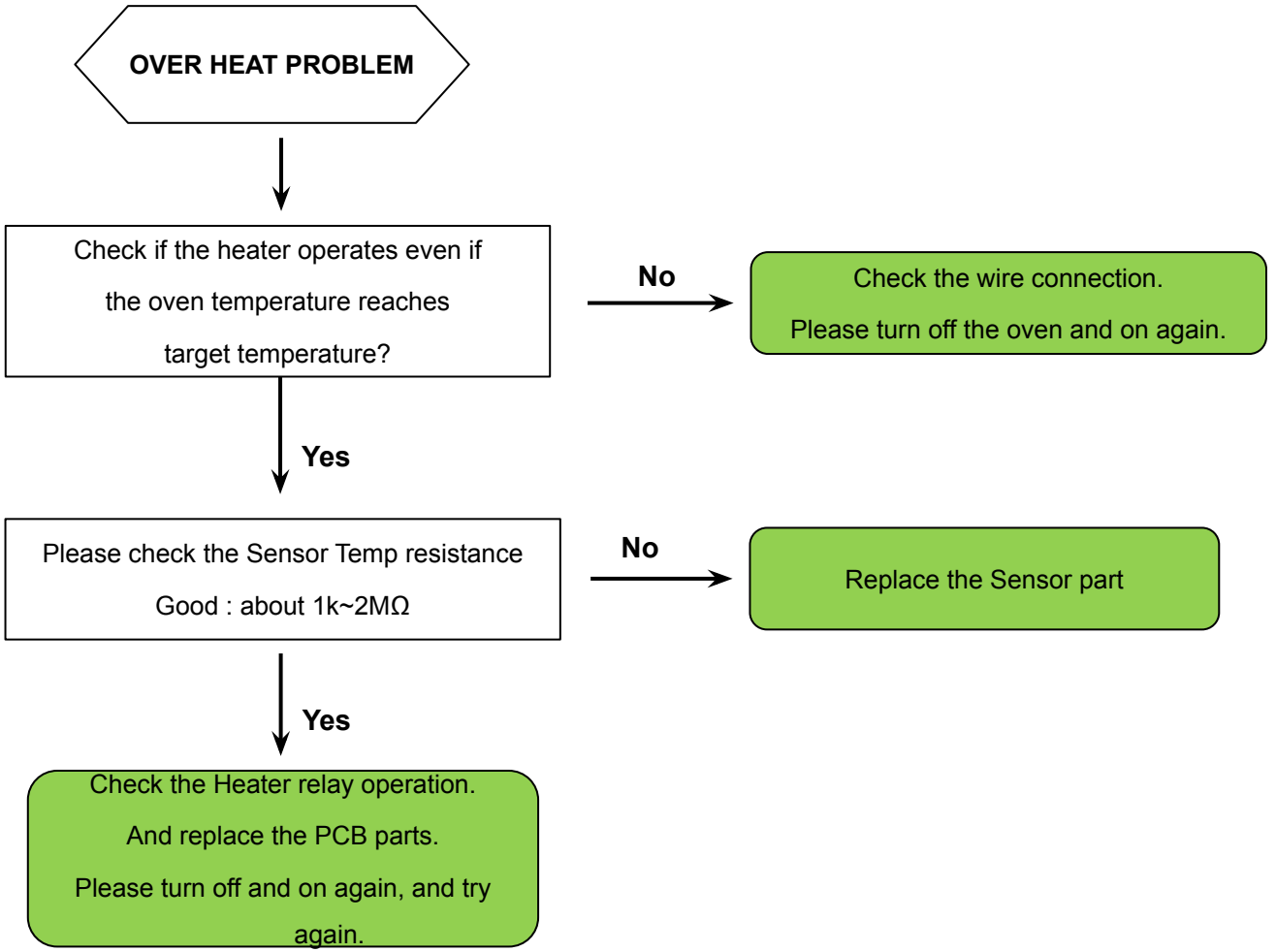
7-8 C-20 : Sensor problem



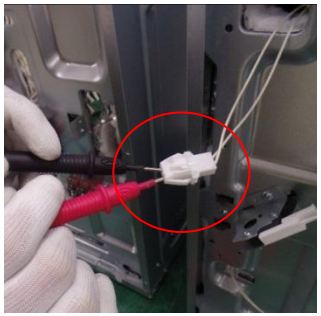


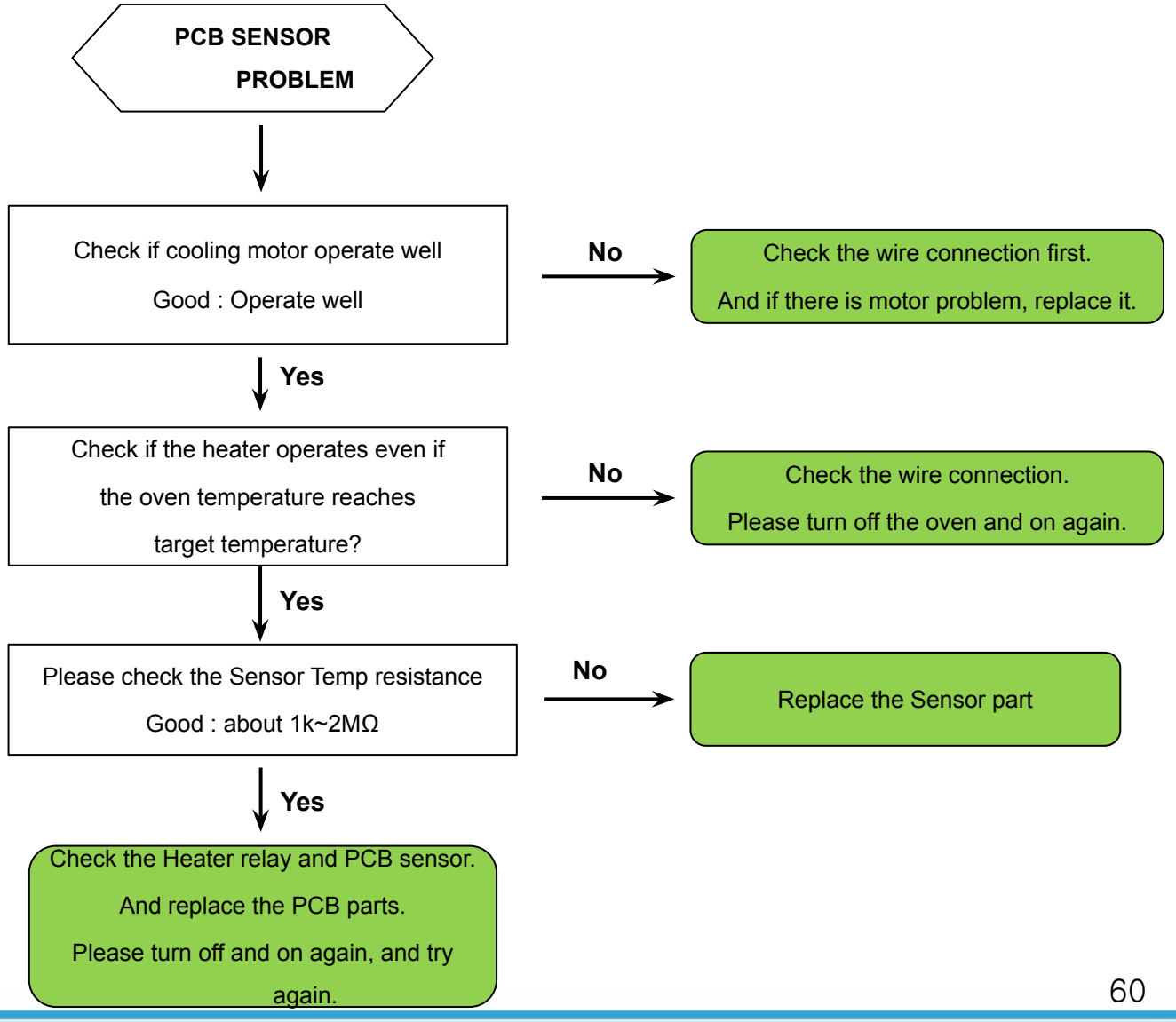
7-9 C-21 : Over heating problem





7-10 C-22 : PCB Sensor problem





7-11 C-d1 : Door lock problem (Pyrolytic Model only)

DOOR LOCK PROBLEM

Check if there is barrier for operating of Door lock Motor
Good : No barrier

No → Remove the barrier around the Door lock motor

Yes

Check the connector status for the door lock motor and CNP201, CNS305 on PCB MAIN
Good : Connected

No → Connect the Wire right position. If there is damage on wire, replace it.

Yes

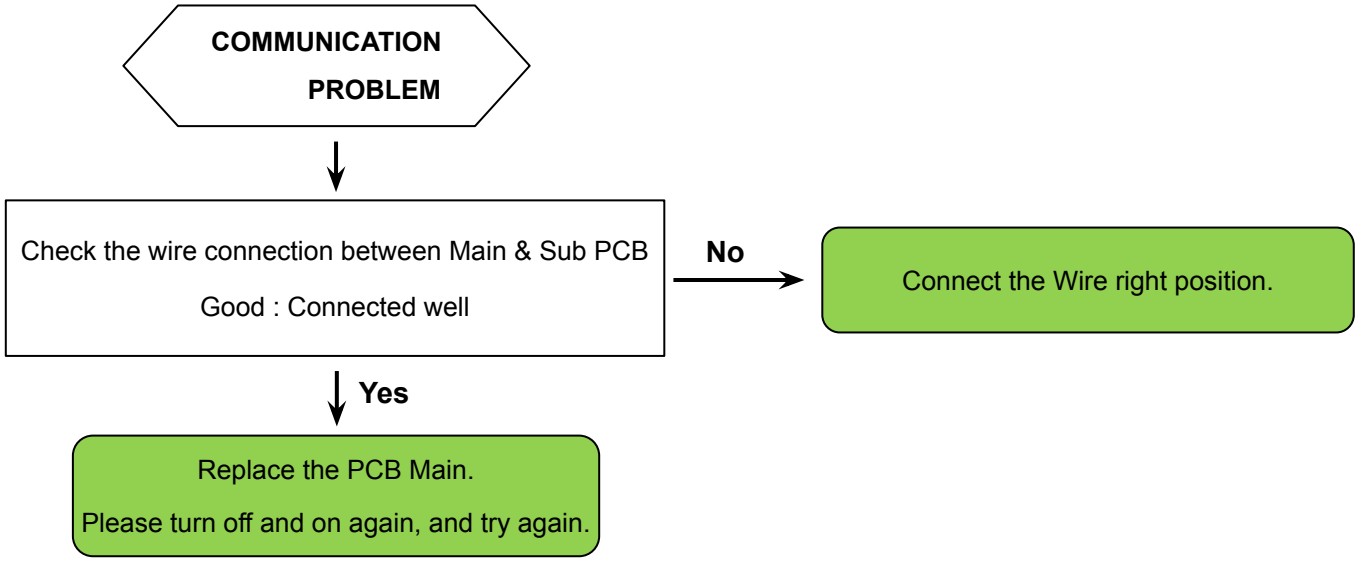
Please check the resistance of Motor Coil.
Good : about 7k~10kΩ

No → Replace the Door lock Motor.

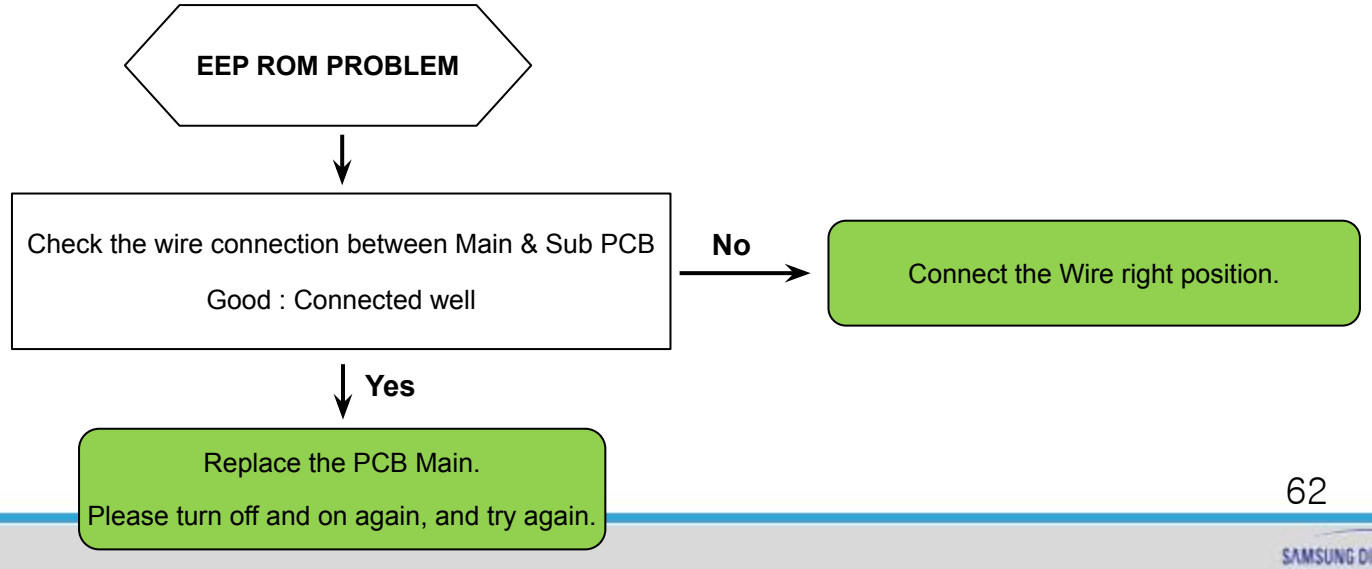
Yes

Replace the PCB Main.
Please turn off and on again, and try again.

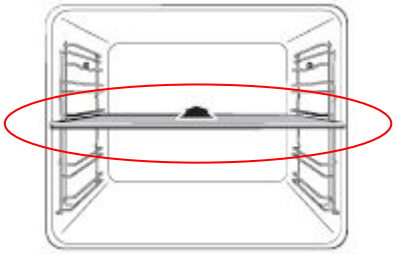
7-12 C-F0 : Communication Problem



7-13 C-F1 : EEP-ROM Problem



7-14 –dC- : Partition Problem



PARTITION PROBLEM

Check if the partition is removed during cooking in Dual cook mode.

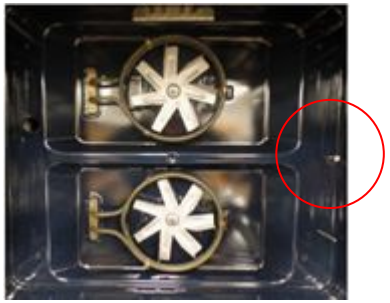
Yes → Insert the partition for Dual cook mode.

No

Check if the partition is inserted during cooking in Single cook mode.

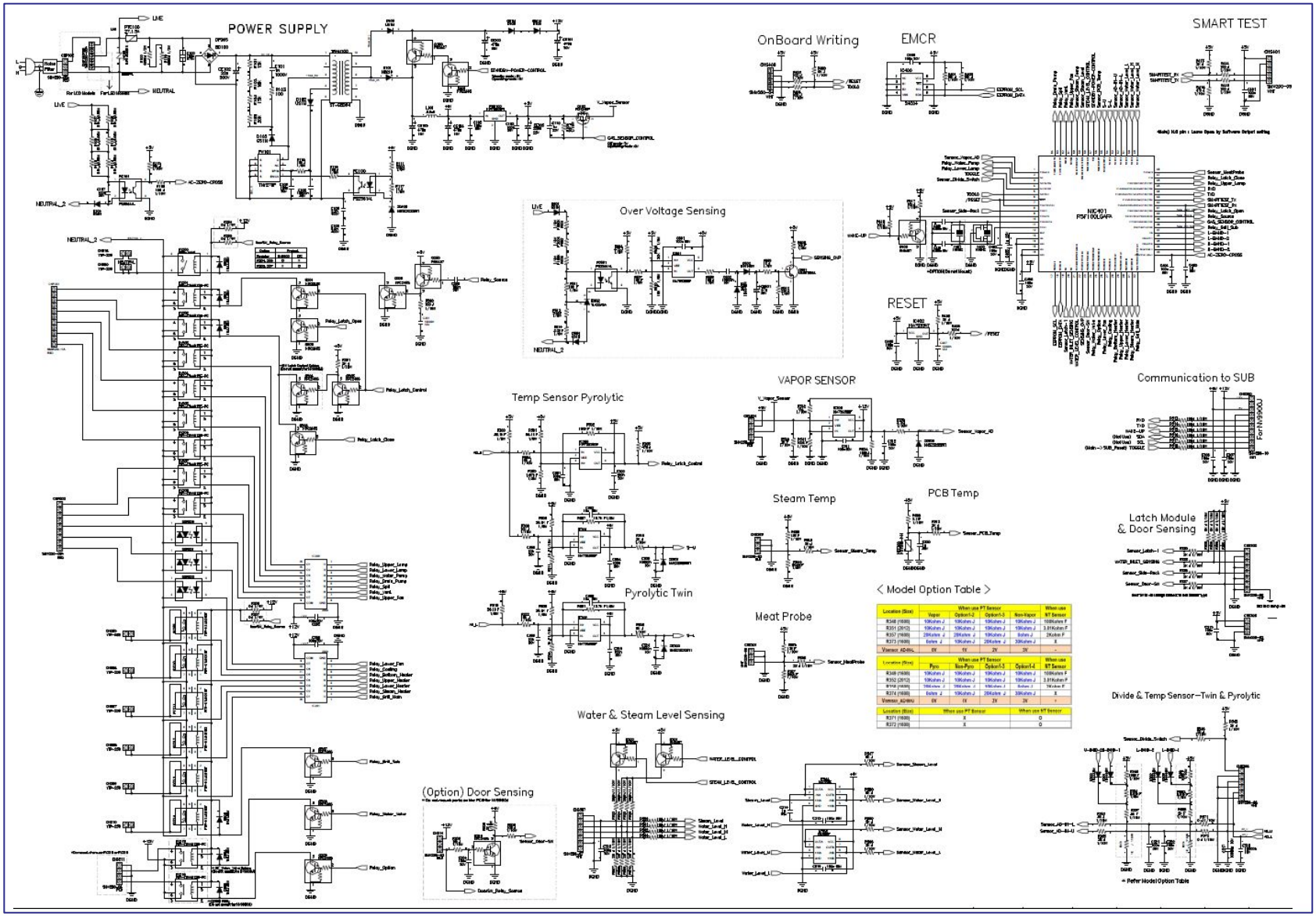
Yes → Remove the partition for Single cook mode.

No

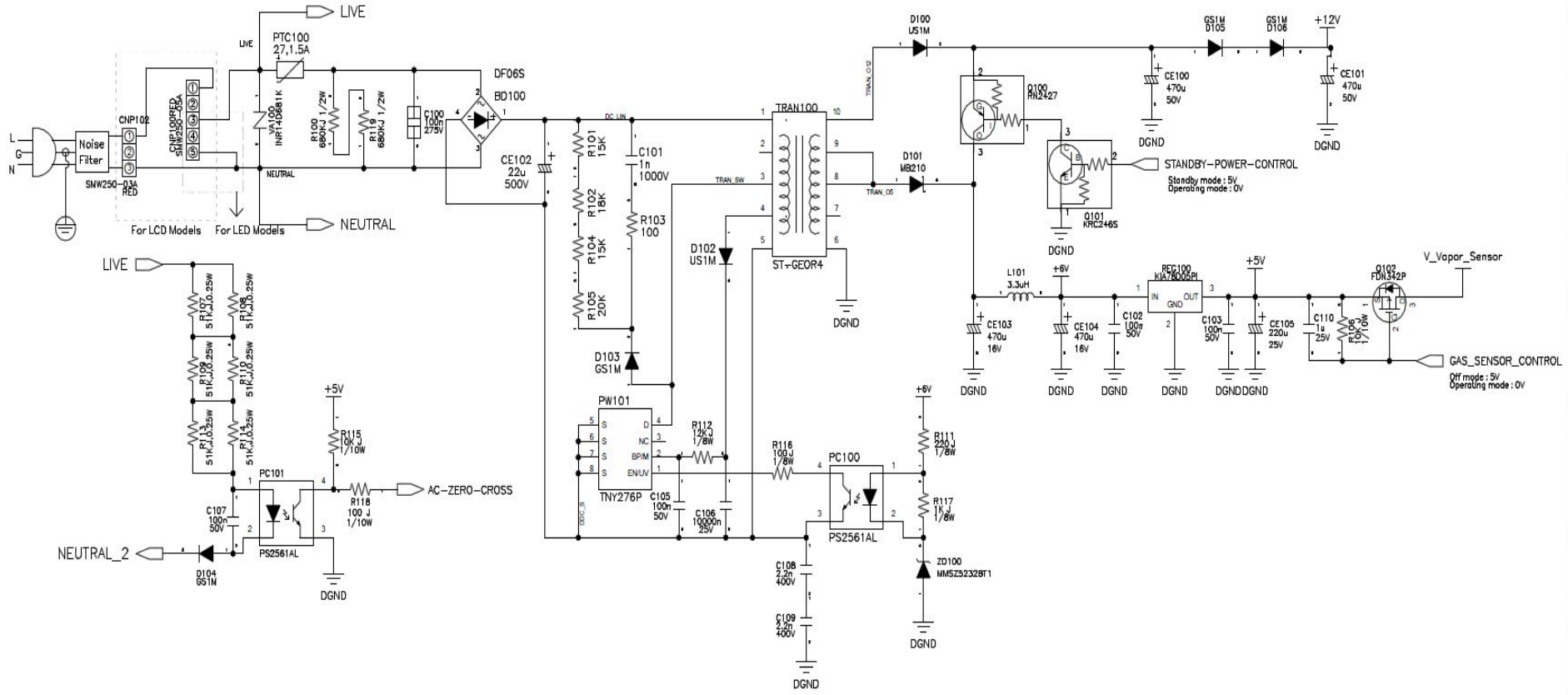


Is there Jam with Partition Switch?
Fix the Partition Switch Jam problem.
(Remove the Barrier or Replace the part)

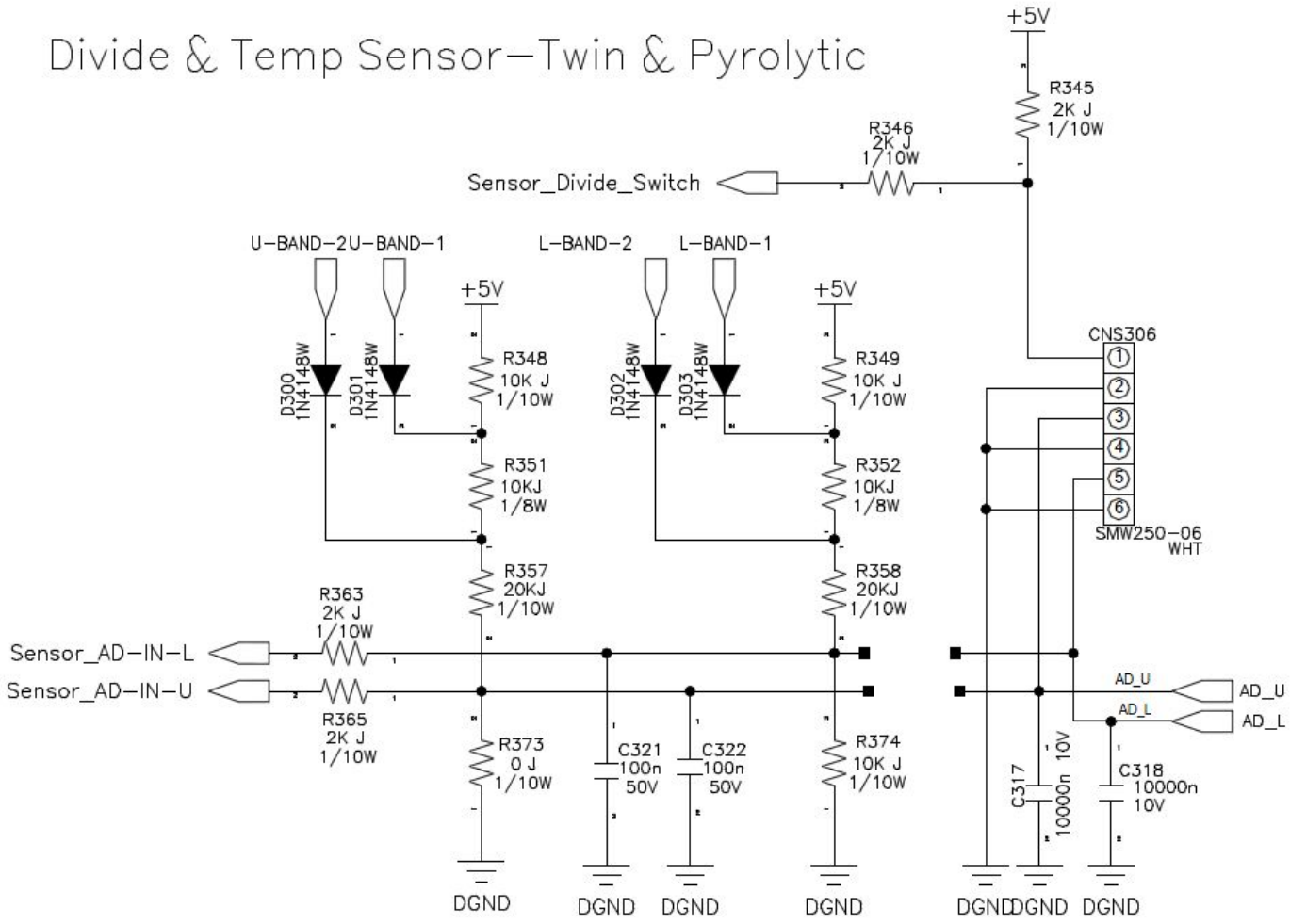
8-1 Main PCB


POWER SUPPLY
OnBoard Writing
EMCR
SMART TEST
Over Voltage Sensing
RESET
VAPOR SENSOR
Communication to SUB
Temp Sensor Pyrolytic
Steam Temp
PCB Temp
Latch Module & Door Sensing
Pyrolytic Twin
< Model Option Table >
Meat Probe
Water & Steam Level Sensing
Divide & Temp Sensor-Twin & Pyrolytic
(Option) Door Sensing

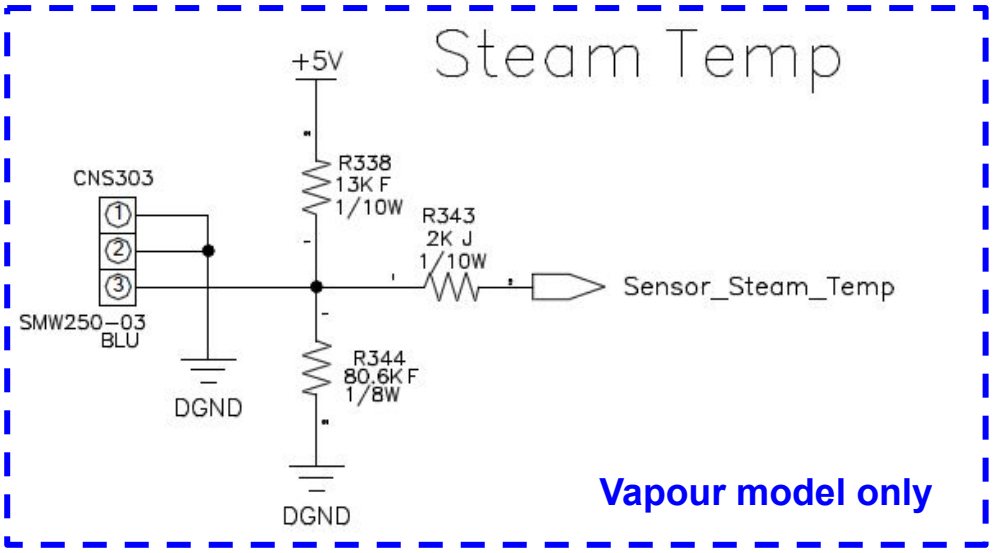
8-2 SMPS Diagram

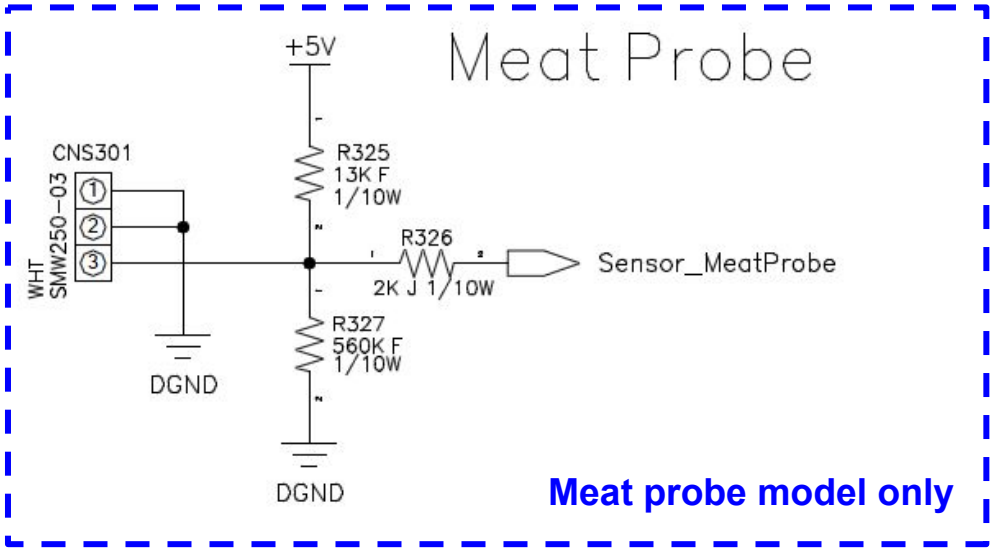


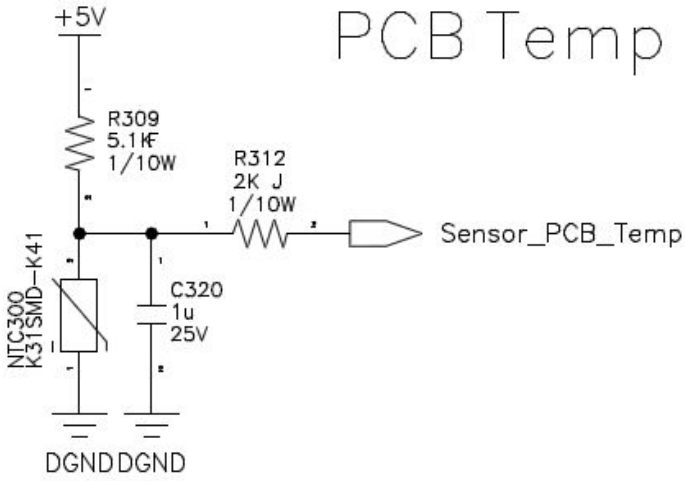
8-3 Divider & Temp Sensor



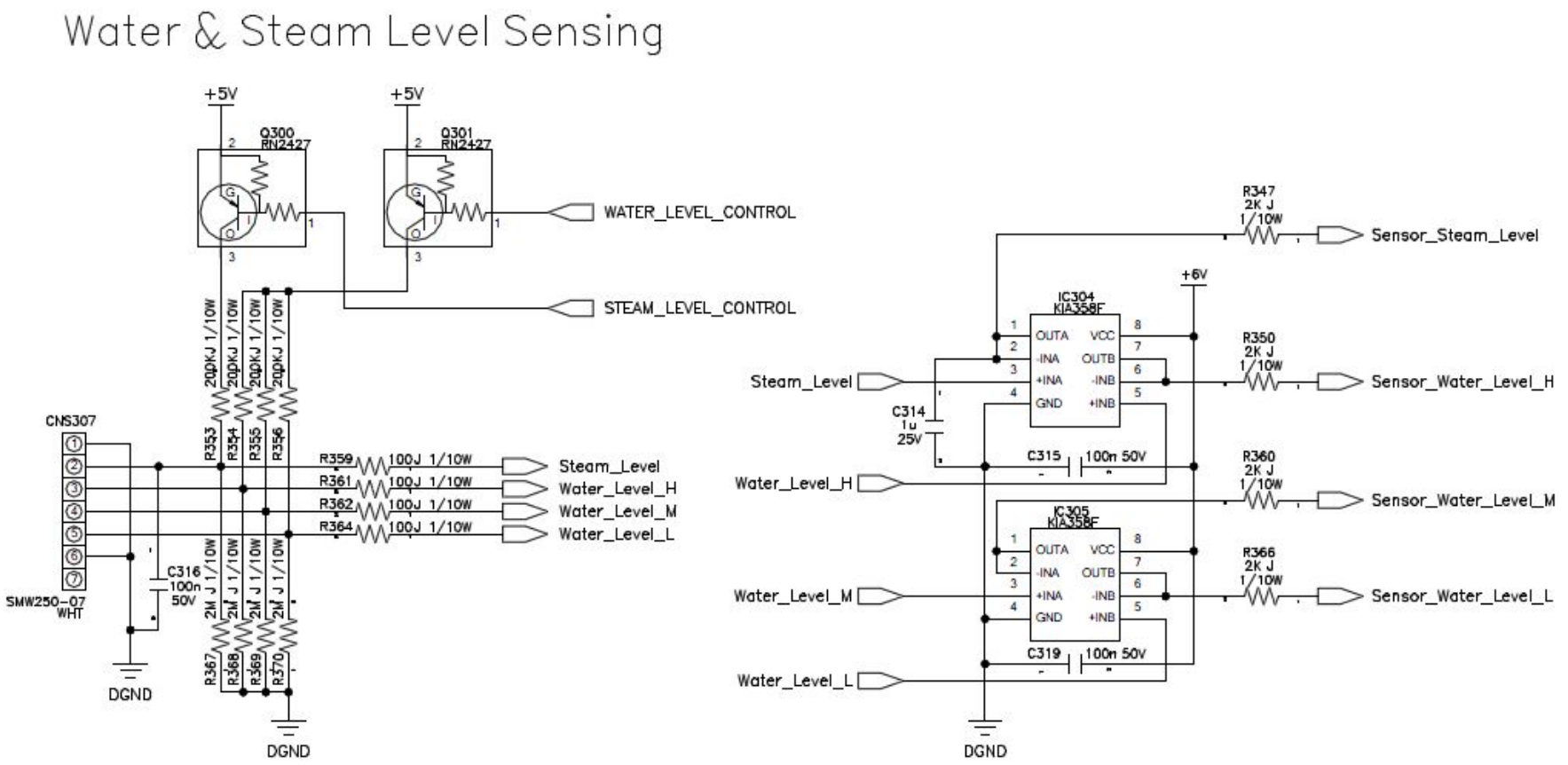
8-4 Probe & Steam & PCB Temp



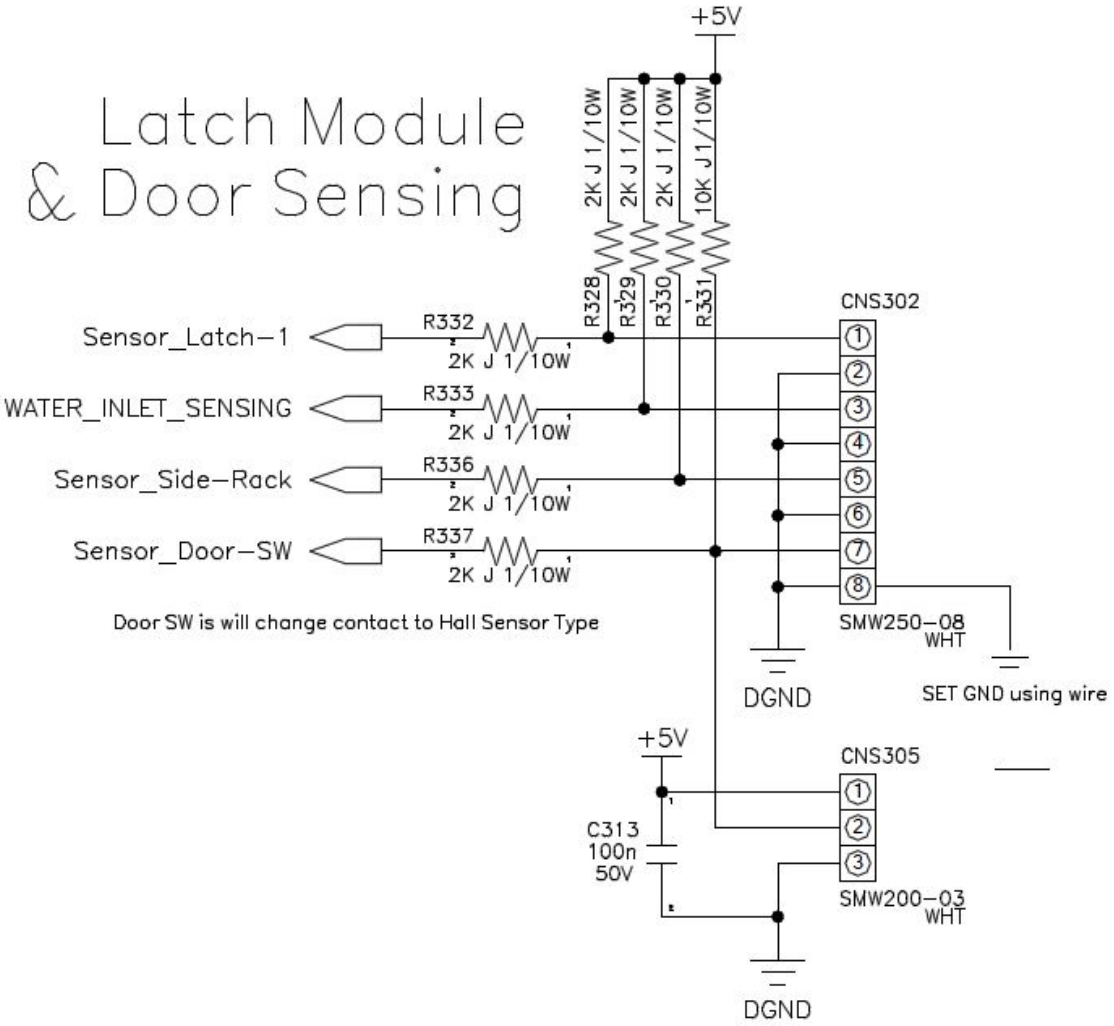




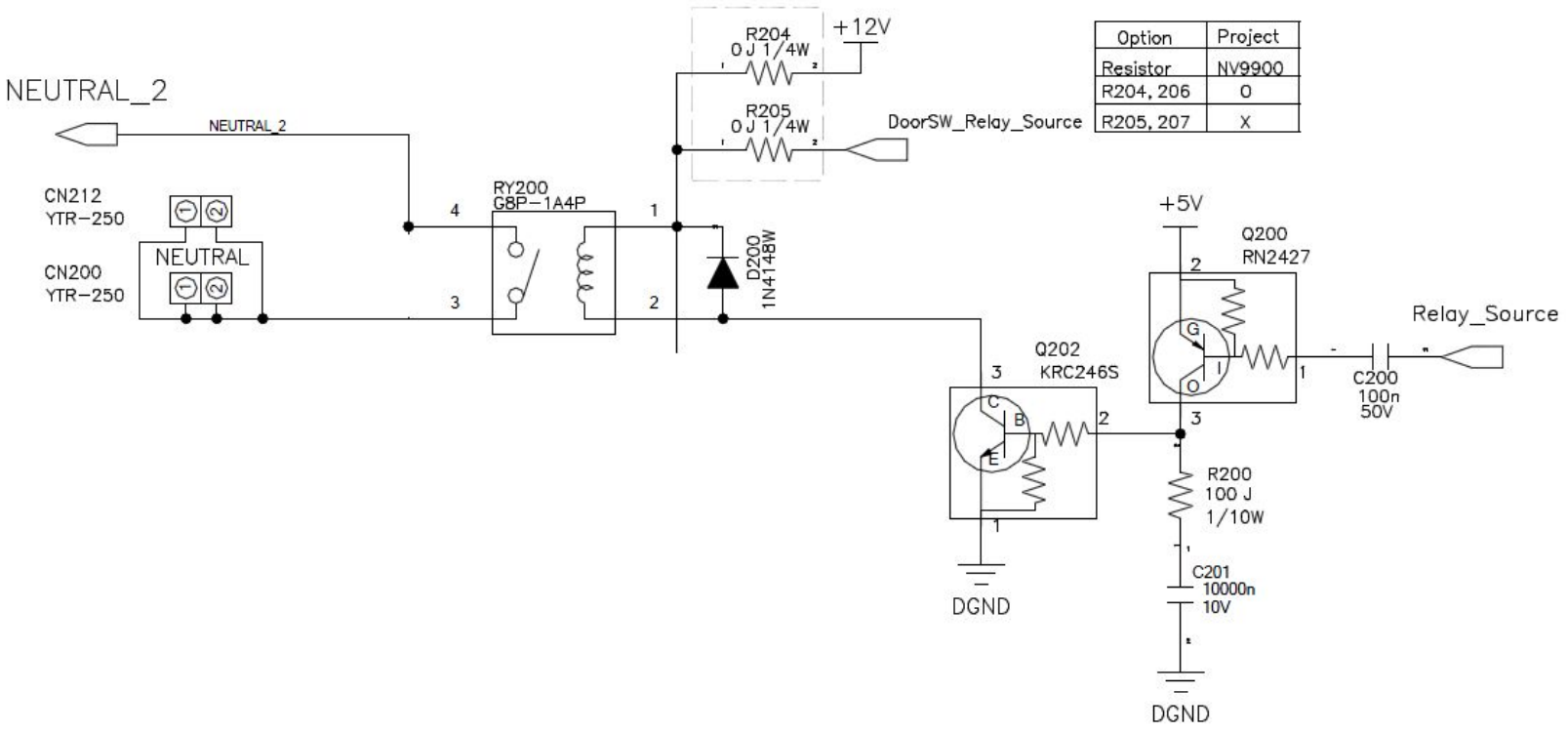
8-5 Water & Steam Level Sensing(Vapour model only)

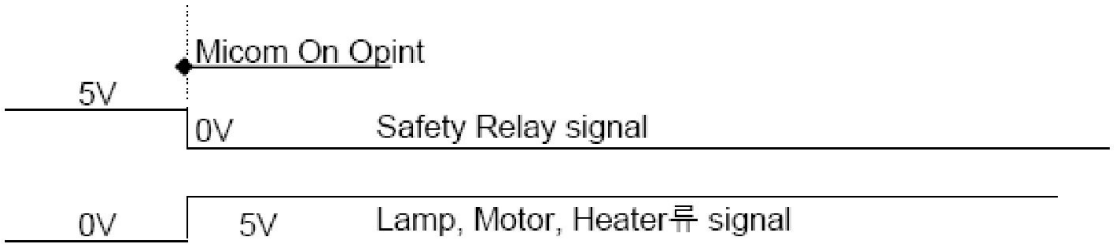


8-6 Latch Module & Door Sensing



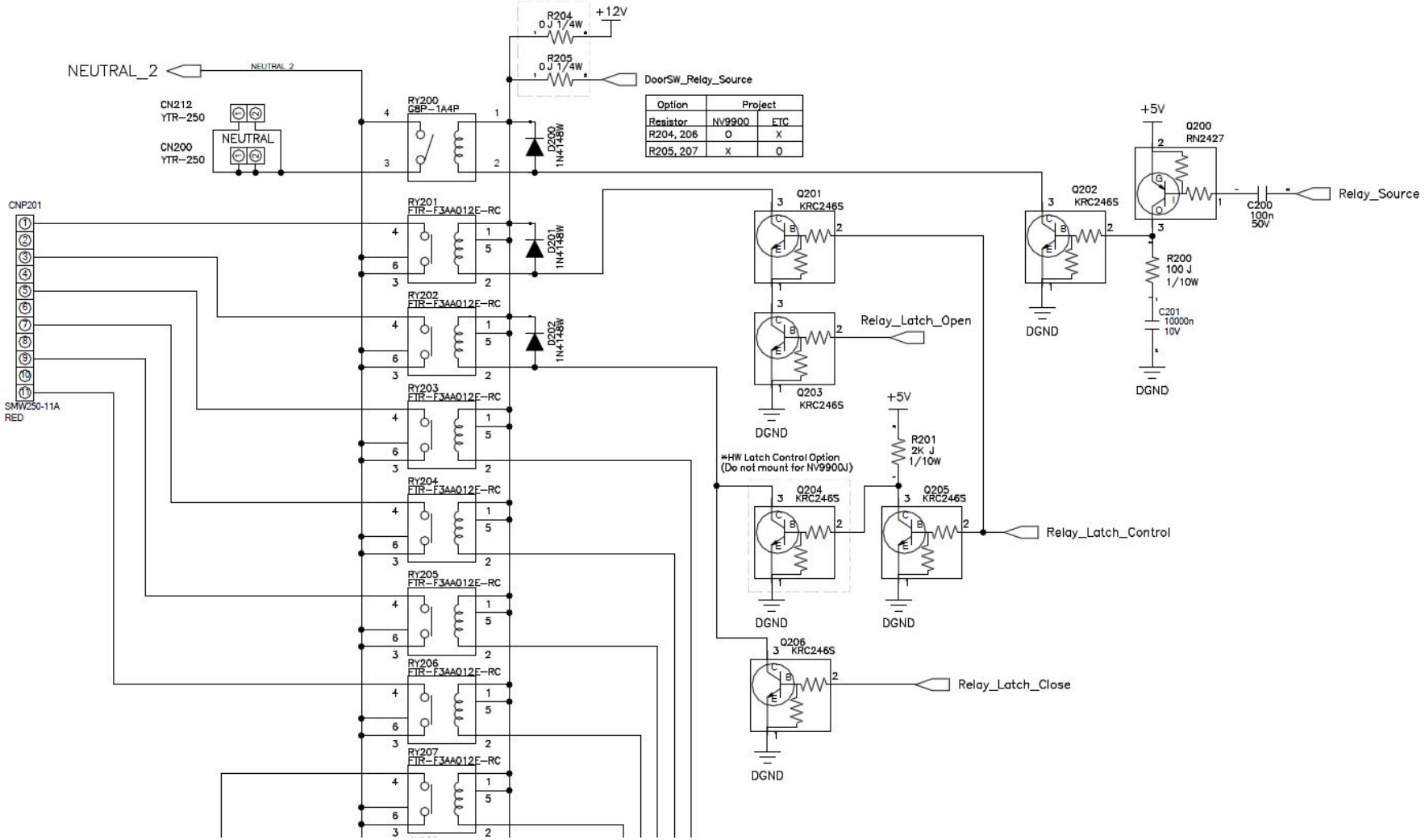
8-7 Safety Relay Diagram





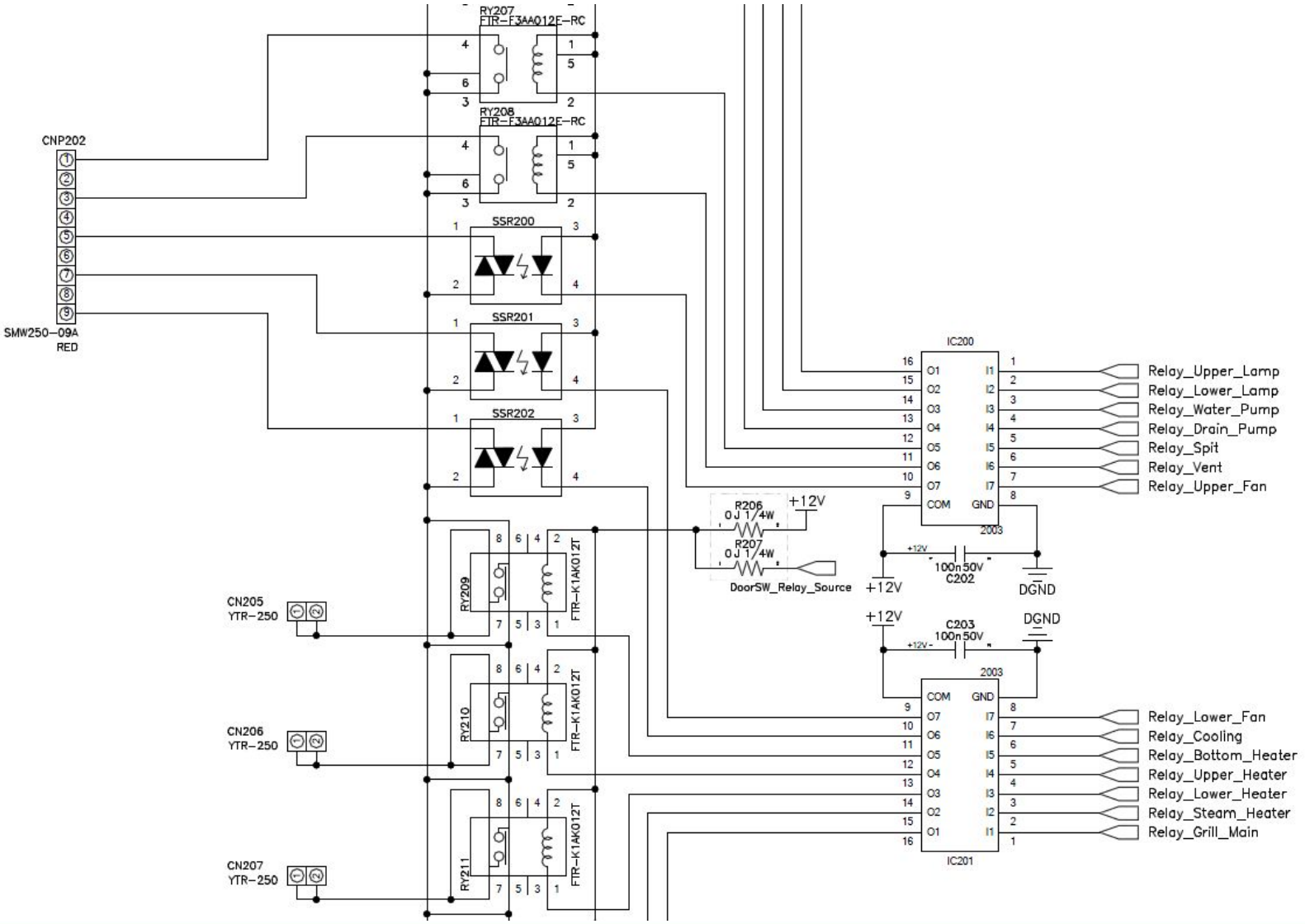
** Safety Relay generates 5V while off, 0V while on so that it generates reverse signal from other relays.

8-8 Relay Operation Diagram

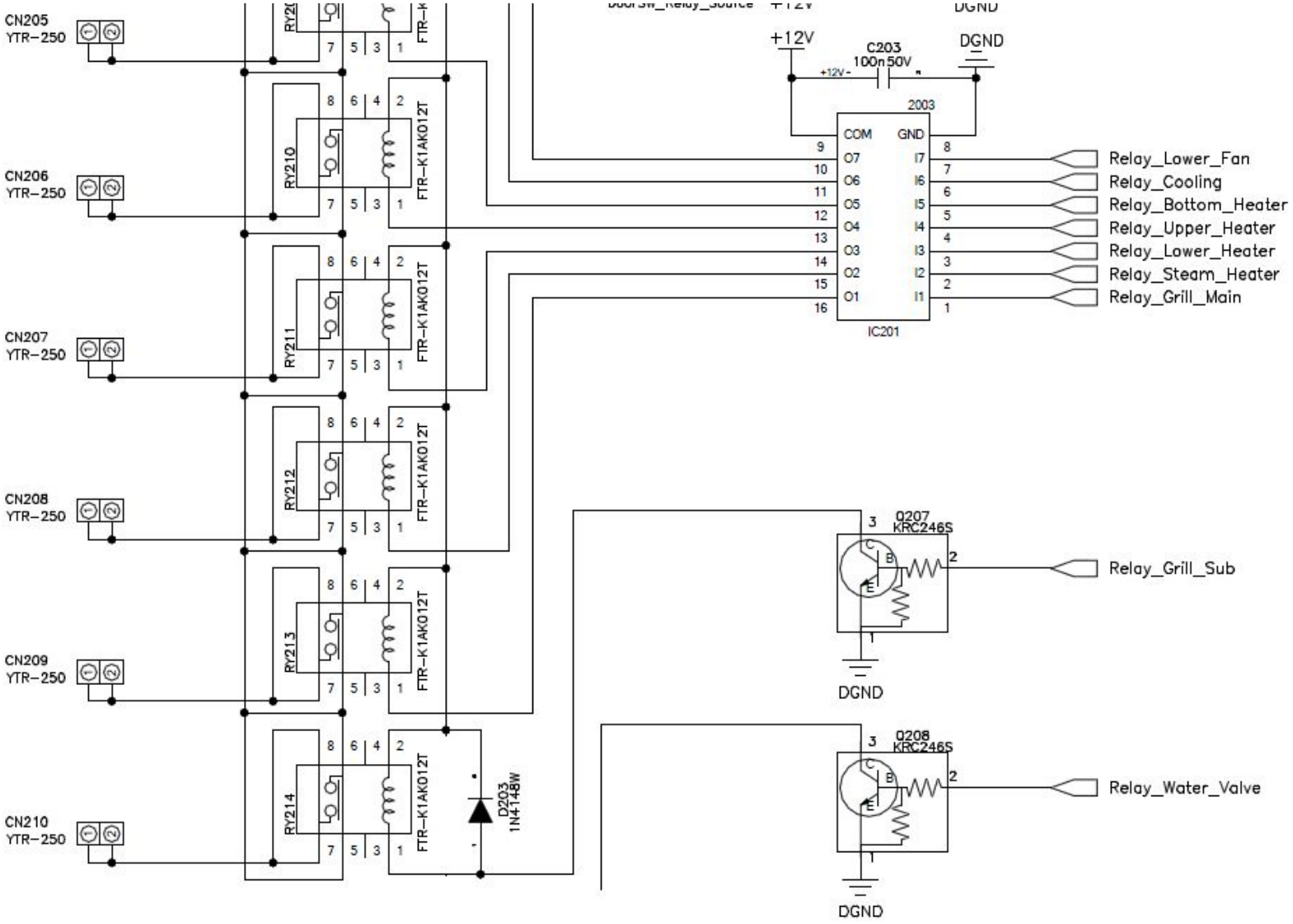


Option	Project	
Resistor	NV9900	ETC
R204, 206	O	X
R205, 207	X	O

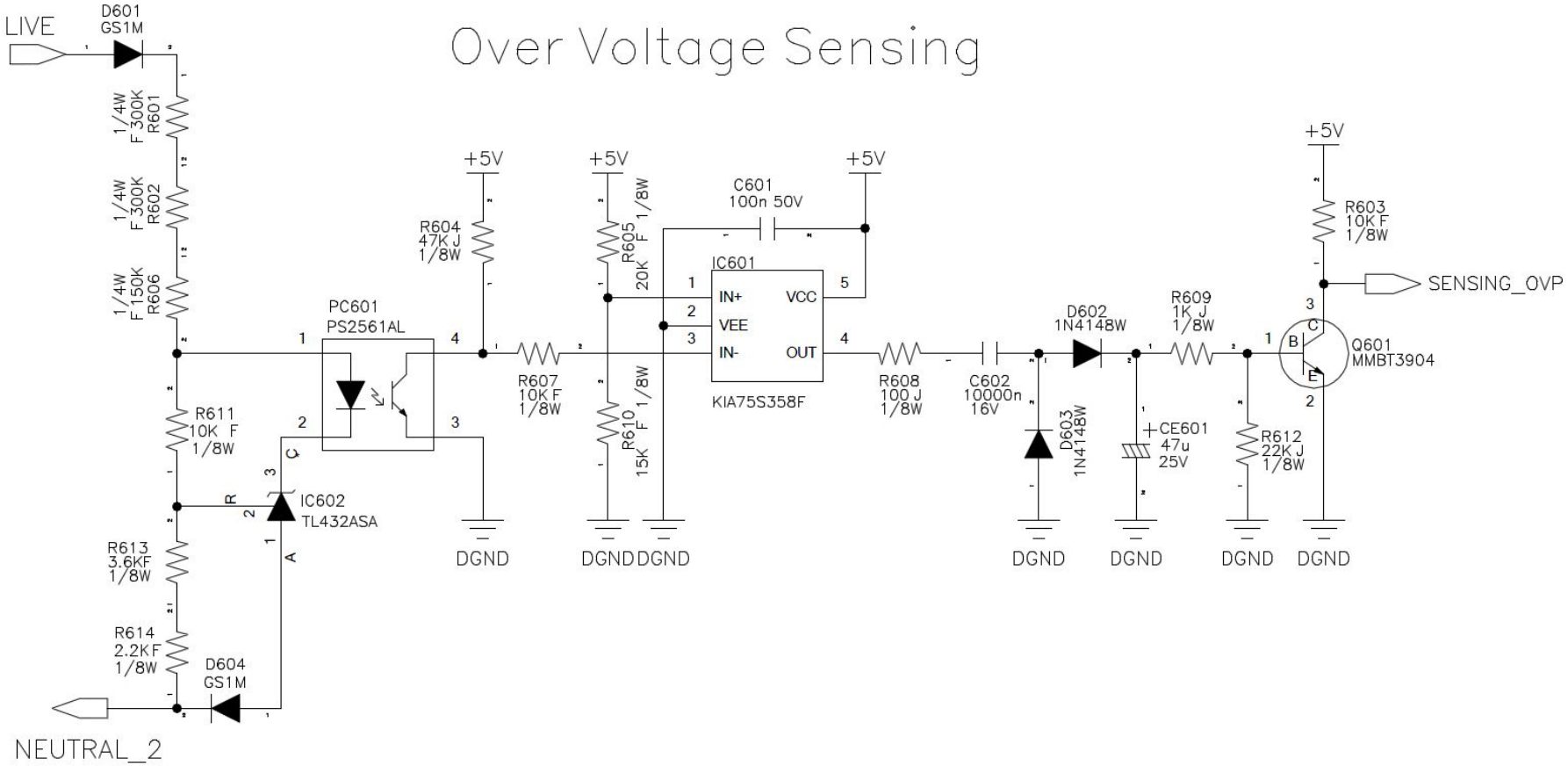
8-8 Relay Operation Diagram



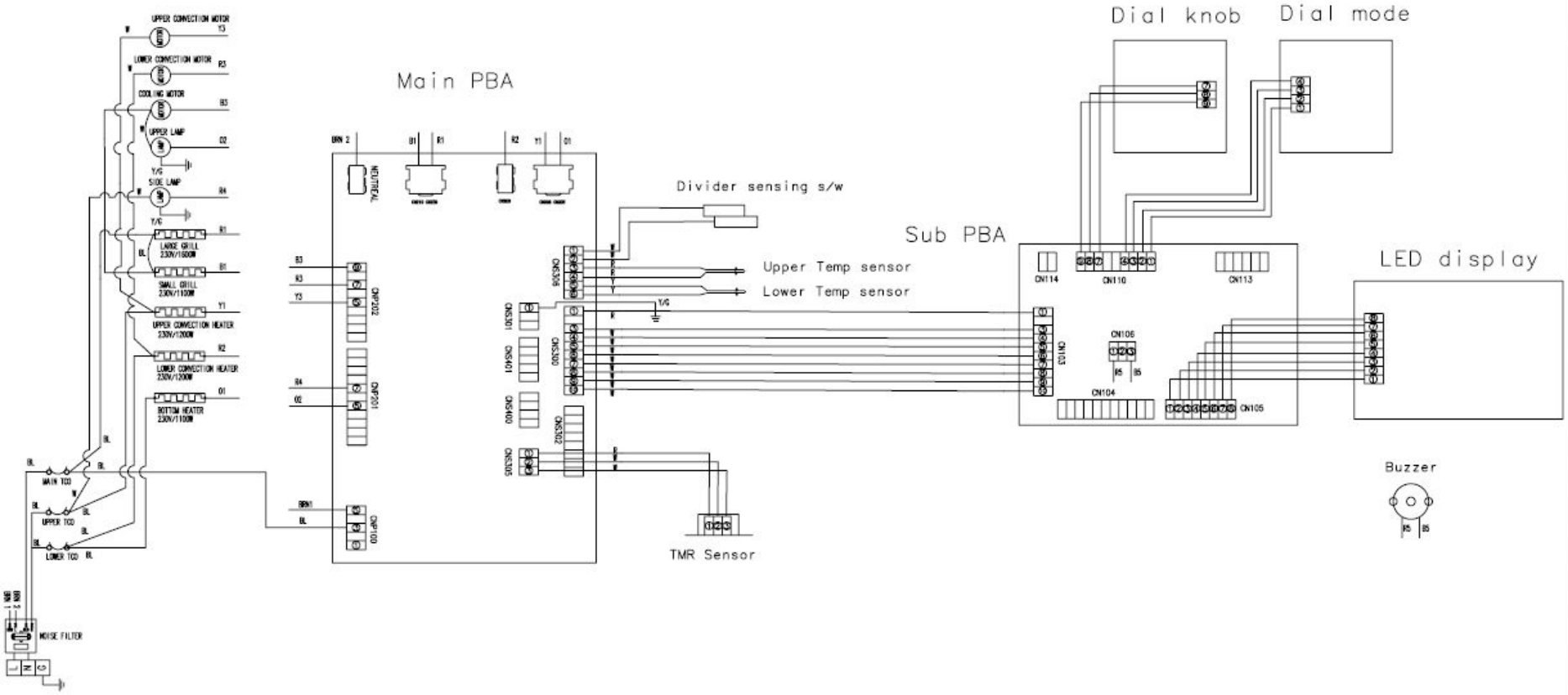
8-8 Relay Operation Diagram



8-9 Over Voltage Protection(OVP model only)



9. Wiring Diagram



10. Nomenclature

1st	2nd	3rd	4th	5th		6th		7th		8th		9th		10th		11th	12th
Product		cavity		Year		Grade		Type		Cleaning		Control		runner		Color	
N	V	65	65L	B	2009	9	Premium (1,000€↑)	9	Real Steam	9	Clean Air Pyro	0	Basic (NV9900J)	S	Runner 3	S	/
		66	66L	C	2010	7	Best (€800~999)	7	Vapor	7	Pyrolytic	1	W/O Guliding lighting + Dual Cook	U	Runner 2	B	
		70	70L	D	2011	5	Better (€600~799)	5	Dual Cook	5	Catalytic 3D			R	Runner 1	W	
		73	73L	E	2012	3	Good (€400~599)	3	Dual Fan	4	Catalytic 1D			B	0		
		75	75L	F	2013	2	Value (~€399)	1	Single Fan	3	Steam Clean						
		80	80L	H	2014	1	Value_low (~€349)			1	No Clean						
		82	82L	J	2015												
				K	2016												
				L	2017												
				M	2018												

11. Q & A

11-1. Checkpoints before service request

Symptom	Checkpoints
Oven fails to power on	Check whether the main circuit breaker is off or an electricity failure.
Voltage of the place for use	PCB stably works in a range of 100V~250V, but it may cause low performance and failures if there are voltage changes of a heater and a motor.
Temperature of the place for use	Temp sensor works at -5℃ above, but it may affect its accuracy according to the ambient temperature. The range of 15~30℃ for use is recommended.
Information codes	Recent 5 information codes are stored. Change the current time to 0:00 and press [Timer] and [Back] key for 5 seconds at the same time. You can check the recent 5 information codes in the display. But, if the oven turns off, the stored information codes are deleted. [Timer] and [Back] key for 5 seconds at the same time to return to 'normal display mode'.
Demo Mode	Change the current time to 0:00 and press [Timer] and [OK] key for 5 seconds at the same time. [Timer] and [OK] key for 5 seconds at the same time to return to 'normal display mode'.

11-2. Customer check points and action

Problem	Cause	Action
The buttons cannot be pressed properly.	• If there is foreign matter caught between the buttons	• Remove the foreign matter and try again.
	• Touch model: If there is moisture on the exterior	• Remove the moisture and try again.
	• If the lock function is set	• Check whether the lock function is set.
The time is not displayed.	• If there is no power supplied	• Check whether there is power supplied.
The oven does not work.	• If there is no power supplied	• Check whether there is power supplied.
The oven stops while in operation.	• If it is unplugged from the power socket	• Reconnect the power.
The power turns off during operation.	• If continuous cooking takes a long time	• After cooking for a long time, let the oven cool.
	• If the cooling fan does not work	• Listen for the sound of the cooling fan.
	• If the oven is installed in a place without good ventilation	• Keep the gaps specified in the product installation guide.
	• When using several power plugs in the same socket	• Use a single plug.
There is no power to the oven.	• If there is no power supplied	• Check whether there is power supplied.

11-2. Customer check points and action

Problem	Cause	Action
The oven exterior is too hot during operation.	• If the oven is installed in a place without good ventilation	• Keep the gaps specified in the product installation guide.
The door cannot be opened properly.	• If there is food residue stuck between the door and product interior	• Clean the oven well and then open the door again.
The interior light is dim or does not turn on.	• If the lamp turns on and then off	• The lamp automatically turns off after a certain amount of time to save power. You can turn it on again by pressing the oven light button.
	• If the lamp is covered by foreign matter during cooking	• Clean the inside of the oven and then check.
Electric shock occurs on the oven.	• If the power is not properly grounded • If you are using a socket without grounding	• Check whether the power supply is properly grounded.
There is water dripping.	• There may be water or steam in some cases depending on the food. This is not a product malfunction.	• Let the oven cool and then wipe with a dry dish towel.
There is steam through a crack in the door.		
There is water remaining in the oven.		
The brightness inside the oven varies.	• The brightness changes depending on power output changes.	• Power output changes during cooking are not malfunctions, so there is no need to worry.

11-2. Customer check points and action

Problem	Cause	Action
Cooking is finished, but the cooling fan is still running.	• The fan automatically runs for a certain amount of time to ventilate inside the oven.	• This is not a product malfunction, so there is no need to worry.
The oven does not heat.	• If the door is open	• Close the door and restart.
	• If oven controls are not correctly set	• Refer to the chapter on oven operation and reset the oven.
	• If the household fuse has been blown or the circuit breaker has been tripped.	• Replace the fuse or reset the circuit. If it happens repeatedly, call an electrician.
Smoke comes out during operation.	• During initial operation	• Smoke may come from the heater when you first use the oven. This is not a malfunction, and if you run the oven 2-3 times, it should stop happening.
	• If there is food on the heater	• Let the oven cool sufficiently and remove the food from the heater.
There is a burning or plastic smell when using the oven.	• If using plastic or other containers that are not heat-resistant	• Use glass containers suitable for hot temperatures.

11-2. Customer check points and action

Problem	Cause	Action
The oven does not cook properly.	• If the door is often opened during cooking	• Do not frequently open the door unless you are cooking things that need to be turned. If you frequently open the door, the interior temperature will be lower and this may affect the results of your cooking.
Steam cleaning does not work.	• This is because the temperature is too high.	• Let the oven cool and then use.
Dual cook mode does not work.	• If the divider is not properly assembled	• Insert the divider correctly and use.
Single cook mode does not work.	• If the divider is inserted in the oven.	• Take out the divider and use.

Thank You