



Model:
NE595N



Bulletins:

Fast Track Troubleshooting

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Support Information:

HELP: 1-888-751-4086 (Tech Sup. – ASC/SSD)

1-866-894-0637 (Tech Sup. - FE/ME)

GSPN: <http://gspn3.samsungcsportal.com/main.jsp>

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Oven sensor resistance (Temperature vs. Sensor resistance)

Ro = 1000 Ohms (0°C), RP = 2757 Ohms, Up = 5V, a = 0.00375

degree F	degree C	ohms	degree F	degree C	ohms
0	-17.8	932.12	113	45	1170.17
14	-10	961.86	122	50	1188.93
23	-5	980.95	212	100	1374.93
32	0	1000.00	302	150	1558.01
41	5	1019.02	392	200	1738.06
50	10	1038.02	482	250	1915.39
59	15	1056.99	572	300	2089.69
68	20	1075.92	662	350	2261.07
77	25	1094.83	752	400	2429.52
86	30	1113.71	842	450	2595.05
95	35	1132.56	932	500	2757.65
104	40	1151.38	1000	538	2878.57

Diagnostic Mode – Will let you see the error codes

1. Press Clock AM/PM pad.



2. Press Clock AM/PM pad again.

3. Press a number 1, 2, 3, 4 pad.



4. Press Start/Set pad.



5. Press Custom Cook and number 0 pads at the same time for 2 seconds. Error codes are displayed.



6. Press number 0 pad, the last 5 error codes can be checked. But, if the oven turns off, the stored error codes are deleted.

7. Press Clear/Off pad to return to normal display mode.

FIGURE	TESTS MEASURE	RESULTS
Sensor-Top	* Check whether the resistance values of sensor are correct. * Check whether wire or housing has been loosen or disconnected.	Approx * at the room temperature :7.65KΩ ~ 9.34KΩ
Coil-Working	* Check whether the resistance values are correct.	Approx * at the room temperature :0.01~1Ω

Failure code	CAUSE	SOLUTION
E-27	Oven sensor opened (over 2950Ω)	1. Disconnect power. Open the back cover. Disconnect sensor harness from control Measure sensor resistance :1080Ω at the room temperature → If there are any problems, replace oven sensor. 2. If there is not any problem with oven sensor, Please check whether there is a damaged thermal or wire on harness. 3. Check resistance of oven sensor connector on main PCB (Normal:2850Ω)
E-28	Oven sensor shorted. (Under 930Ω)	
E-08	Oven heating error	
E-0A	Oven heating over	1. Disconnect power. Open the back cover. Disconnect sensor harness from control. Measure sensor resistance:1080Ω at the room temperature → If there are any problems, replace oven sensor. 2. Check the broil, bake and convection heater. Check the resistance of the each heater. 3. Check whether DLB of Main PCB, Broil, Bake and Convection heater relay are being worked normally. 4. Check whether there is any disconnection of harness which is linked with main PCB on sub PCB. 5. Check the resistance of oven sensor connector on main PCB. (Normal : 2850Ω)
- SE -	Shorted key	1. Check whether cable of keypad has been inserted into connector of Sub PCB. 2. Check whether between Sub PCB and connector or keypad and cable have a short circuit. 3. If there is not a problem occurred with connector on Sub PCB and cable of keypad, replace the Sub PCB.
E-0E	Door locking error	1. Disconnect power. Open the back cover. Check whether harness has been connected with door lock switch and motor. 2. Confirm whether resistance value of door lock motor is to be normal one or not. 3. With operating door lockout, measure a voltage of connector on harness which is linked with door lock motor. (Normal Voltage : AC 120V) 4. Check whether door locking switch is being worked normally.
E-27	Oven sensor opened (over 2950Ω)	1. After 20 seconds from starting to work of oven, buzzer is beeping 10 times long and then finally it displays "E-27" or "E-28" as Error message. 2. If a series of function for error is not performed at all, please make sure through the method of 4-1 on 34 page.
E-28	Oven sensor shorted. (Under 940Ω)	

Troubleshooting

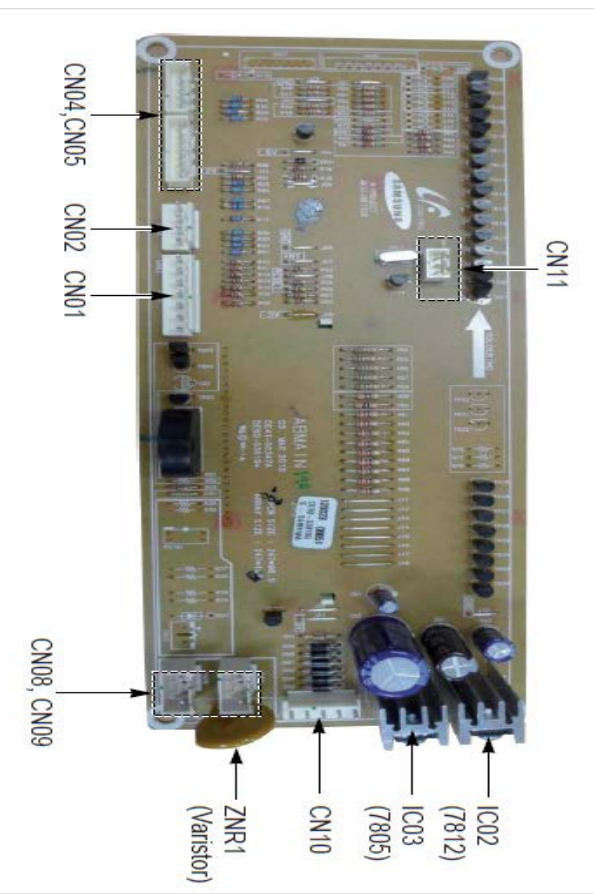
Error Code	Solution
	Top Sensor Open Error (Sensor-Top) It occurs due to a defective sensor, misplaced wires, a defective PCB and when A/D value that MICOM senses rises over 252. Also, it may occur when the ambient temperature falls under -10°C.
	Top Sensor Short Error (Sensor-Top) It occurs due to a defective sensor, misplaced wires, a defective PCB and when A/D value that MICOM senses falls under 10.
	IGBT Sensor Open Error (Assy-Inverter Module) It occurs due to a defective sensor, misplaced wires, a defective PCB and when A/D value that MICOM senses rises over 239. Also, it may occur when the ambient temperature falls under -10°C.
	IGBT Sensor Short Error (Assy-Inverter Module) It occurs due to a defective sensor, misplaced wires, a defective PCB and when A/D value that MICOM senses falls under 10.

Error Code	General Function	Solution
	Touch Button Short Error	It occurs when the control panel's sensor field is shorted more than 10 seconds. ex: No.1 Place a damp cloth on the control panel. No.2 Liquid boils over and lands on the control panel. No.3 More than one key is pressed more than 10 seconds. No.4 Defective Assy-Touch PCB
	Low Voltage Error	It occurs when the DC 12V is dropped under 9V. It may occurs due to defects of PCB or wiring.
	Over Temperature Error	It occurs when the temperature of the Top Sensor rises very highly. (Estimated temperature of ceramic glass's surface is more than 250°C.) ex: Place a empty cookware on the burner and operate the induction cooktop.
	Pan Detection Error	It occurs when the cookware is unsuitable or too small or no cookware has been placed on the cooking zone. If the suitable cookware is placed again, the induction cooktop will operate normally.
	DC Motor Locking Error	It occurs when the DC Motor cannot operate due to defects of PCB, wiring or some disturbance on motor blade.
	Communication Error (Oven Main PCB has some problem)	Cause 1 : Instantaneous electrical noise affect MICOM signal. → After re-connecting power plug, can use normally. Cause 2 : Power plug of 120V is loosely connected with outlet. → Cooktop display use 240V(L1&L2), and Oven display use 120V(L&N) If Oven have no power, Cooktop display will show this error code. Check your power plug pin & outlet. Cause 3 : LVT of oven pcb is damaged or LVT connector is disconnected. → Re-connect LVT connector or replace Oven main PCB.
	Touch signal not entered.	Cause 1. Communication wire harness is loosely connected with connector. → Check the wire harness connection Cause 2 . Touch film tail is not insert fully. → check the touch film tail at left and right side connector.
	UART communication Error	Cause 1. Did not get a communication signal between each channel of inverter pcb. check the inverter PCB wire harness or resistance value of IGBT (short or open) → replaced wire harness or inverter pcb Cause 2. LVT of oven pcb is damaged or LVT connector is disconnected. → RE-connect LVT connector or replace oven main PCB.
	Communication Error	It occurs when Touch IC can't communicate with each inverter channel. (channel : 00~03)
	Communication Error	It occurs when Touch IC can't communicate with pcb sub.

SYMPTOM	DIAGNOSIS	REMEDY
Oven not operating (No power, No display)	* Measure an input voltage. (240/120V or 208/120V) * Measure an input voltage of terminal block.	* check circuit breaker. * Make sure that the state of wire is connected with Terminal block.
	* Measure voltage of connector(CN08,CN09) on main PCB L1~N : 120V * Measure secondary voltage of Low Voltage Transformer. 13.5V and 7V	* Replace of repair if harness has been loosen or disconnected. * Replace if resistance of Low voltage transformer primary coil is over MΩ. (Thermal Fuse out)
	* Make sure that the relay on sub PCB is being worked normally.	* After confirming whether harness has been inserted into relay on sub PCB or not, take action follow as; - Replace or repair harness. - Replace or repair sub PCB.
	* Measure resistance both ends of terminal on thermostat. (normal : 0 ohms) * Check whether harness is connected terminal on thermostat has been loosen or disconnected. * Measure voltage regulator (IC02,IC03) on main PCB. - IC02 : 7812(DC 12V) - IC03 : 7805(DC 5V)	* Replace the thermostat. * Replace or repair harness. * Replace or repair after confirming the state of working of sub PCB.

Symptom	Diagnosis	Remedy	Symptom	Diagnosis	Remedy
It has smell or smoke when oven has been started initially.	* This is in normal state.	* It has smell or smoke with burning dirt in oven or a foreign substance when oven has been working initially. * Ventilate after getting self cleaning mode to work.	The self-cleaning feature will not operate when warming center or warming drawer is on.	* This is in normal state.	* The self-cleaning feature will not operate when warming center or warming drawer is on
LED display is a little bit dim partially or invisible entirely.	* LED display is inferior.	* Replace main PCB.	Keypad is not worked normally in partially or entirely.	* Make sure that keypad cable on main PCB is in normal state.	* Replace after confirming whether it has been loosen or disconnected.
There is not buzzer beep sound when keypad is being worked.	* Check the state of buzzer on main PCB and whether PCB pattern have a short circuit or has been open.	* Replace or repair main PCB.		* Make sure connector (CN06) on main PCB or PCB pattern.	* Replace or repair after confirming whether keypad cable has been loosen or Disconnected.
Cooktop is not working or being occurred a abnormal working.	* Make sure that Radiant element or Infinite switch corresponded RR(Right Rear), RF(Right Front), LR(Left Rear), LF(Left Front).	* Replace Infinite switch or Radiant element.	Oven lamp is not working.	* Check the oven lamp relay and connector (CN01).	* Replace or repair if harness has been loosen or disconnected. * Replace oven lamp relay(Ry09) or Resource relay.(Ry01) * Replace sub PCB.
				* Measure the resistance value of both ends of lamp terminal.	* Replace lamp if it has been disconnected.(120V / 40W)
Convection fan is not rotated.	* Check whether Convection fan relay on main PCB and connector(CN01) is in normal.	* Replace or repair Relay. * Replace or repair connector.	Oven temperature is risen slowly	* Replace after checking whether there is any problem with oven sensor. (1080Ω at the Room temperature)	
	* Make sure whether harness between Connector on main PCB and connector(CN04, CN05) on main PCB has been connected normally.	* Replace or repair harness. * Replace or repair connector. * Replace sub PCB.		* Repair and replace harness.	
				* After taking out terminal from each heater, measure resistance of heater and then replace that if it is not a normal resistance value.	
				* Replace or repair relay. * Replace or repair sub PCB.	
Oven temperature is risen fast.			Oven temperature is risen fast.	* Replace or repair it if relay on sub PCB or main have a short circuit.	
				* Replace or repair harness.	
				* Replace heater is in a abnormal state.	

Main PCB



Explain of the function of primary parts.

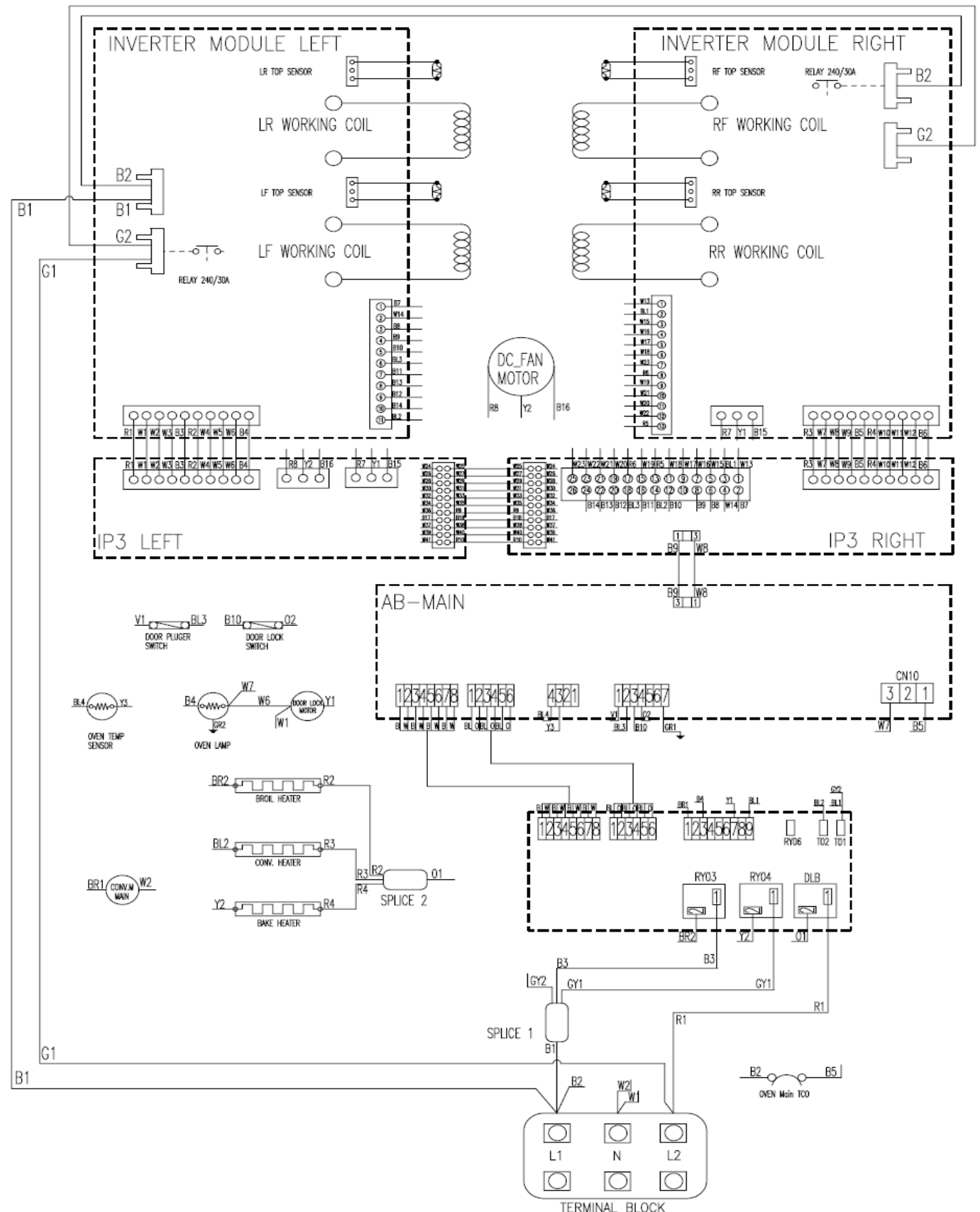
CN01	This is connector which is connected with Door plunger switch and Door lock switch. (COM-NO)
CN02	This is connector which is connected with oven sensor.
CN04,CN05	This connector is to get all operating of relay on sub PCB to be connected.
CN08,CN09	This is to supply power with primary on Low voltage transformer, and AC120V with main PCB through harness. It won't be problem even though CN08 and CN09 has been changed when you insert housing.
CN10	This is connector which take a role of supplying secondary voltage of Low voltage transformer with Main PCB.
CN11	This is connector which is detect operating of Cook-top.
ZNR1	This is the element to protect main PCB, getting varistor to work if over voltage is supplied with varistor.
IC02	This is to supply DC12V with main PCB by voltage regulator.
IC03	This is to supply DC5V with main PCB by voltage regulator.

Touch PCB



Explain of the function of primary parts.

CN101	This is connector which connect Inverter module.
CN102	This is connector which connect PCB's left side.
CN103	This consist of 16 pin and take a role of getting a cable on Touch Film to connect with Right touch PCB.
CN104	This is connector which connect Oven.
CN105	This is connector for Main MCU writing.
CN106	This is connector for Right touch IC writing.
CN107	This is connector for Right Inverter MCU IC writing.
CN108	This is connector which is connected Inverter Right Front MCU for writing.
CN109	This is connector which is connected Inverter Right RearMCU for writing.
CN301	This is connector which is connected PCB's Right side.
CN302	This consist of 16 pin and take a role of getting a cable on Touch Film to connect with Left touch PCB.
CN303	This take a role of control of Cook-top Fan motor's Low mode.
CN304	This take a role of control of Cook-top Fan motor's Low mode.
CN305	This is connector for Left touch IC writing.
CN306	This is connector for Left Inverter MCU IC writing.
CN307	This is connector which is connected Inverter Left Front MCU for writing.
CN308	This is connector which is connected Inverter Left Rear MCU for writing.
RY301	This is relay for control of Cook-top Fan motor's Low mode.



INDUCTION ELEMENTS		
COMPONENTS	INPUT	WATTAGE
RF INDUCTION ELEMENT	240V	2200
RR INDUCTION ELEMENT	240V	1400
LF INDUCTION ELEMENT	240V	2000
LR INDUCTION ELEMENT	240V	1600

OVEN HEATING ELEMENTS		
COMPONENTS	INPUT	WATTAGE
BAKE	240V	2400W
BROIL	240V	3800W
CONVECTION	240V	800W