

SAMSUNG

Model: WA40J3000



Fast Track Troubleshooting

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

Bulletins:

Publication #DR WA40J3000
Production date: 5-13-15

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>

PLUS ONE: <http://my.plus1solutions.net/clientPortals/samsung>

Check Errors First before entering test mode

* Entering Test mode will delete any stored errors

Error Code Check

**When power is on Hold TEMP 3
Seconds**

Activating or disable the Child Lock function

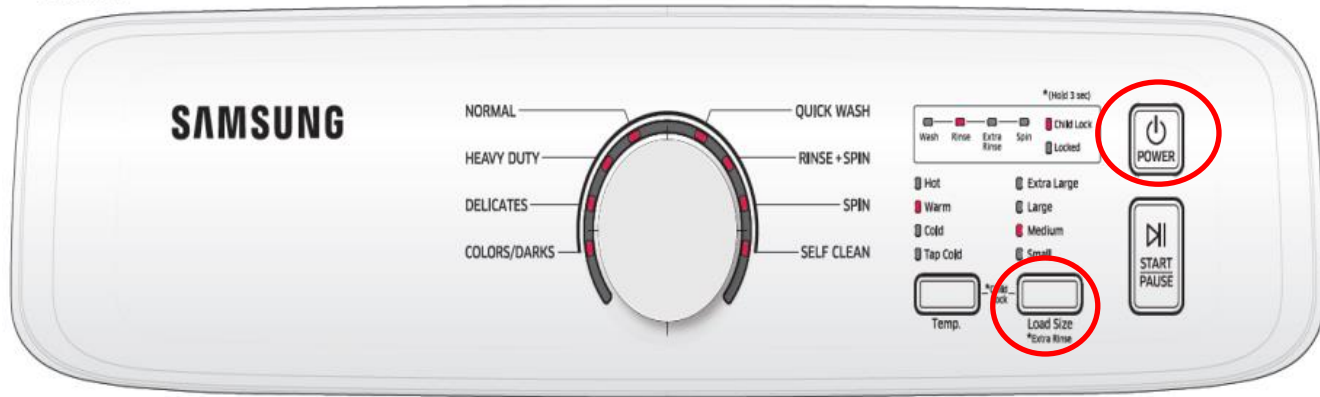
Press and hold the Temp. and Load Size buttons simultaneously for approximately 3 seconds.

- When you activate the Child Lock function, the “Child Lock” lamp blinks

TEST MODE:

WITH POWER **OFF** - PRESS: **Load Size + POWER**

Washer



TEST	FUNCTION test	PRESS
1	Water Valve Test	TEMP
2	Door Lock / Unlock	TEMP + Start
3	Pump Test	Load Size + Start
4	Motor On / Off	Set to Delicates
5	Spin Test	Set to Colors/Darks
6	SW Version	Set to Normal
7	Model Option	Set to Heavy Duty

1. All LED's light up and it sends out Beep Sound when it enters into the Test Mode, and the memory will clear EEPROM. (including any errors that were saved)

2. Press the Start key to bypass LED light up, it would displays software version after on normal mode.

3. Press the Temp key, test the Water Valve.

4. Press the Temp and Start key, test the Door Lock.

5. Press the Load Size and Start key, test the Pump.

6. Turn the Jog-Dial to

1) Normal course :Display the MCU SW version.

2) Heavy Duty Course : Display the Model Option.

3) Delicates course : Test the Motor On/Off.

4) Colors/Darks course : Test the Spin.

Error Codes



Error Code Check

Hold TEMP 3 Seconds



Errors Displayed as blinking LED's

Door Code	Communication Code	Switch Code (Main Relay Code)	Water Level Sensor	Water Supply Code
Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small
Water Leakage Code	Overflow Code	Drain Code	Unbalance Code	Motor Driving Code & TMR Sensor Code
Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small
Mems PBA Code Detected	Door Code	Door Code	Temperature Sensor Code	Water Supply Code
Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small	Hot Warm Cold Tap Cold Extra Large Large Medium Small

☐ Unit keeps running non stop -
If you have this issue with this unit replace the Main PCB, software in the board has changed it will correct this symptom.

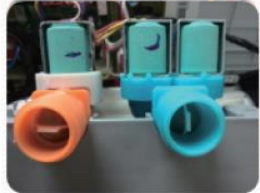
ATC (Auto Temperature Control)

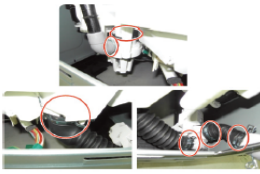
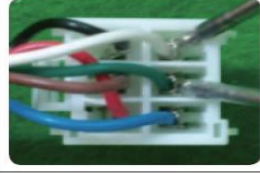
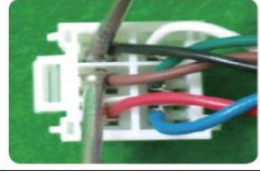
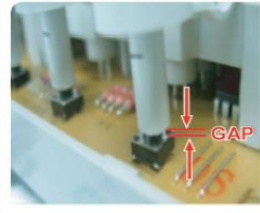
ATC is the control function that the washer controls water temperature with temperature sensor (thermistor). Because there are numerous water temperatures depending on the customer's environments (cold areas, warm areas, various water temperatures, settings of heater temperature, etc.), ATC function in our washer maintains the certain level of wash temperature to output the best washing performance at each cycle.

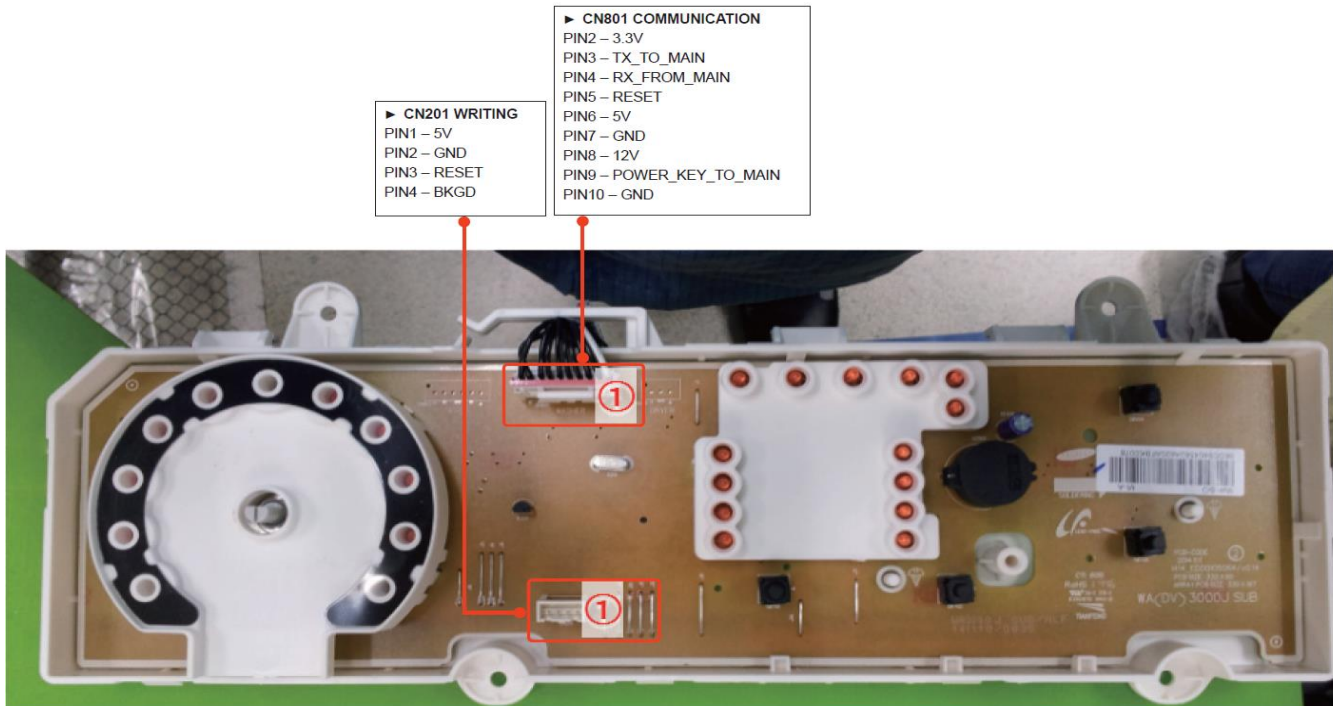
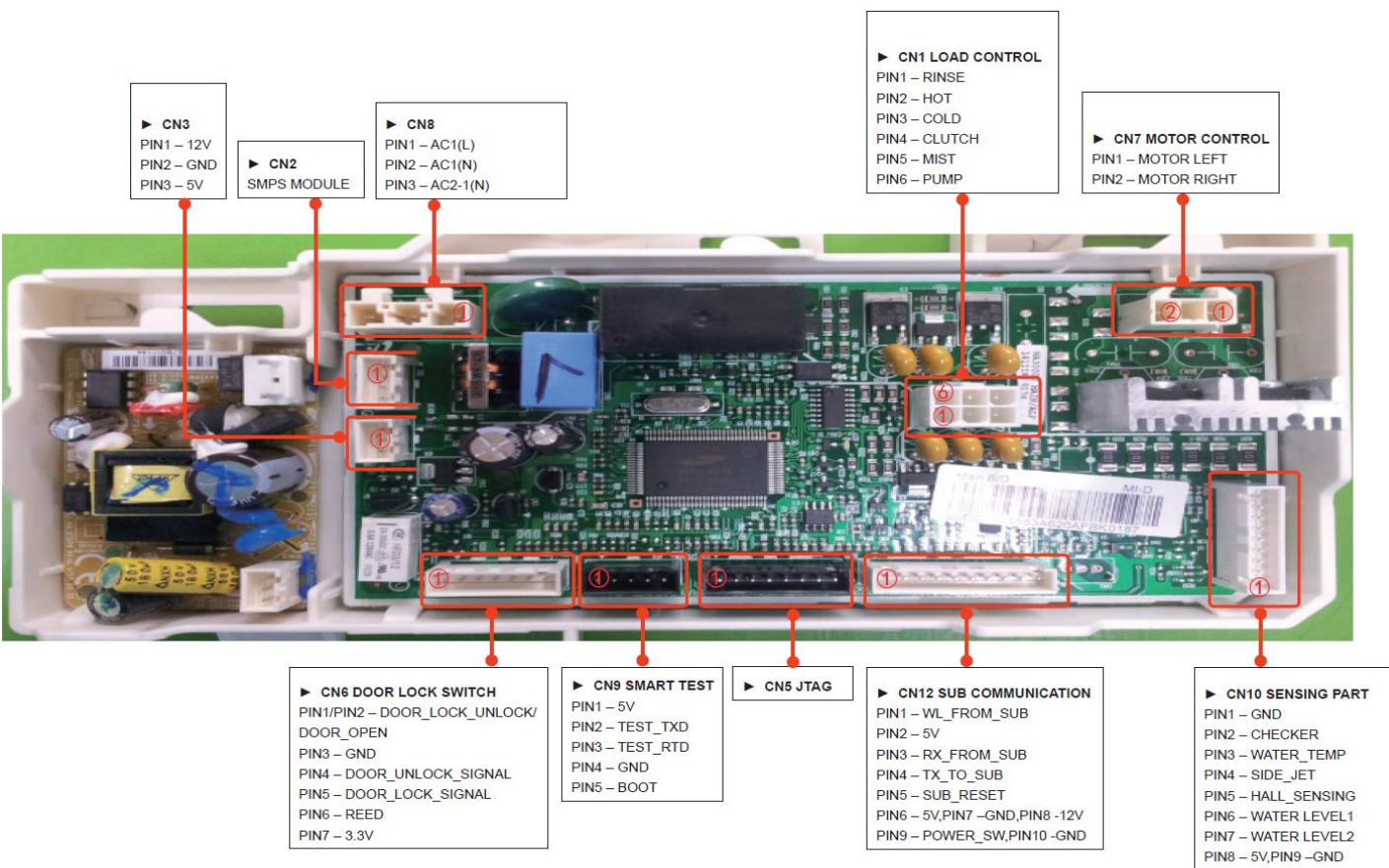
If you select normal cycle, this cycle is the regulation and UL cycle. Since new washers must reduce the amount of energy usage as a first priority, customers will notice more cold water entering the washer. But, this is normal, not a problem.

In this regulation cycle, Hot temperature is similar to acceptable adult bath-water temperature and warm temperature is similar to comfortable swimming-pool water temperature.

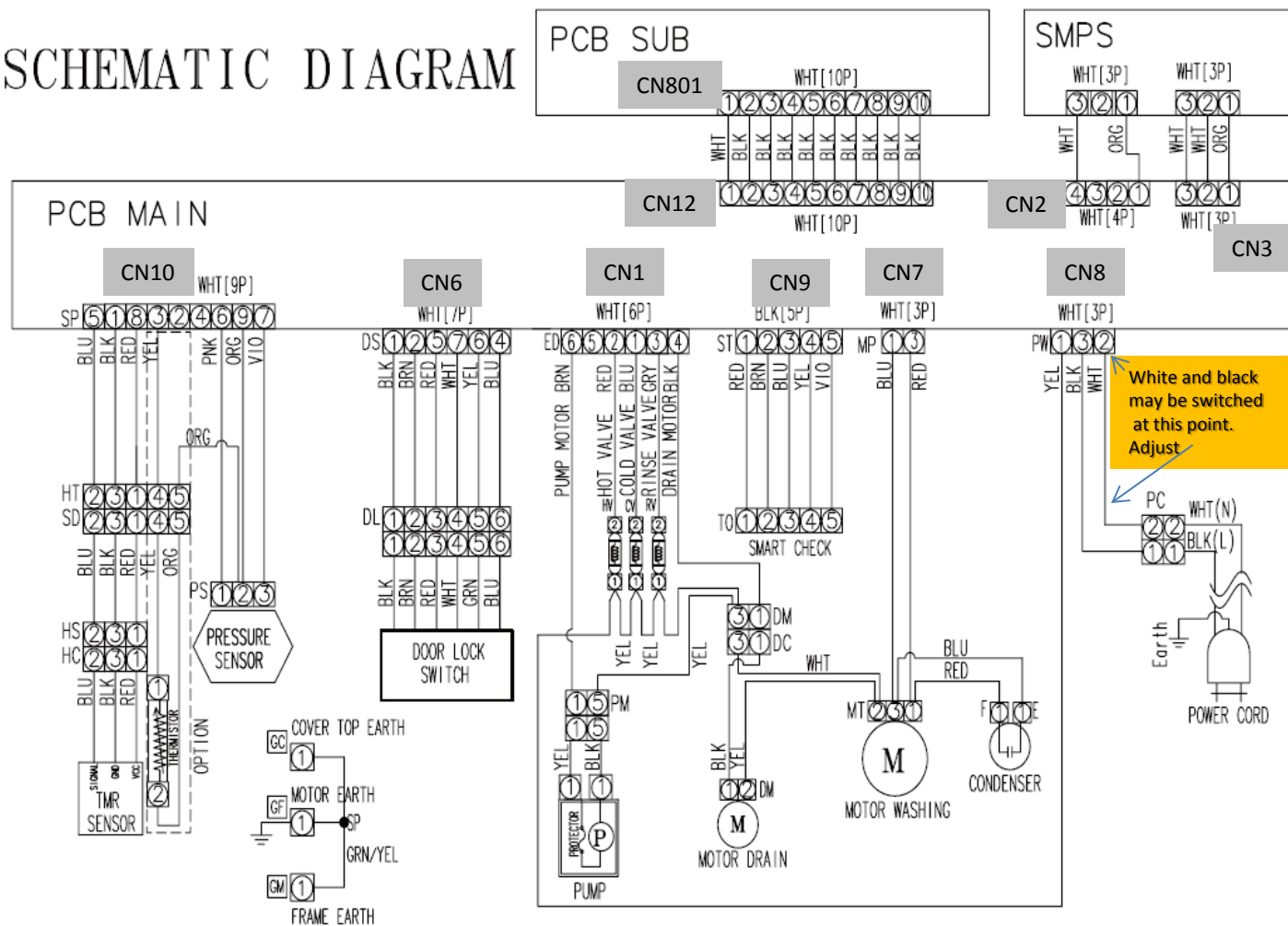
If customers want to wash clothes in specific water temperatures, customers should choose a different cycle at each temperature (Hot/Warm).

Symptom	Check Code	Countermeasure	Troubleshooting Procedure	Measurement Picture
Water Level Sensor	▶ Tap Cold LED Flash	Check if the water level sensor is defective. Check if the water level sensor terminal is properly connected. Check if the water level sensor hose is broken. This may occur when the main PCB is defective.	- Check the water level sensor terminal connections. - Check the part code of the water level sensor, because if an incorrect part is used, an abnormal operation may occur. (Abnormal operation) - If the water level sensor is defective, replace it. - If no problems were found for all of the procedures above, replace the PBA.	 ▶ Check the water level sensor frequency. - Check it after the water level sensor and the connector are connected. ☒ Checking Part : Blue Color Wire Oragne Color Wire - Frequency: Approx. 26.4 KHz without water (Min 25.9KHz)
Washing Motor Defect	▶ Hot&Cold LED Flash	This may occur when the washing motor is defective. Check if the washing Motor Rotor/State is defective or not. This may occur when the main PCB is defective.	- Check the motor connector terminal connections. - Check if the Motor Cover State is damaged. - Check if the coil is broken due to moisture from any alien substance. - If the PBA control circuit is defective, replace the PBA.	 ▶ Check the motor Winding Coil Plug out the connector and read resistances: Pin1 between pin2: $5.4 \pm 10\%$ Ω Pin 2 between pin3: $5.4 \pm 10\%$ Ω
Water Supply Code	▶ Extra Large LED Flash	This may occur when the water supply valve is defective.	If the water supply valve is broken, replace the valve.	 Measure the resistance of the water supply valve. - Resistance : $0.9K\Omega$ to $1.1K\Omega$ between the terminals of the Water Supply Valve.
Water Supply Code	▶ Hot&Small LED Flash	This may occur when the main PCB is defective. This may occur due to frozen water.	- Check if the water supply is blocked due to an alien substance in the valve or check if the water is supplied to the machine. If a problem is found, take the appropriate countermeasure. - Check if the water supply is blocked due to the water being frozen. - If the PBA Relay malfunctions, replace the PBA.	 Check whether there is foreign material in the Water supply valve filter.
Drain Code	▶ Small LED Flash	This may occur when the drain pump is defective. This may occur due to frozen water. Check if there is any alien substance inside the draining pump. This may occur when the main PCB is defective.	- Check if there is any alien substance inside the draining pump motor. - Check the natural drain in the same manner. - Check if there are any incorrect connections or broken wires. - If the machine malfunctions intermittently when the wash tub water temperature is high, replace the pump. - If the motor stops due to the water being frozen in winter, remove the frozen water referring to the relevant repair procedures.	 Check the drain pump resistance. (Resistance : $13.5 \sim 16.5\ \Omega$)
Communication Code	▶ Warm LED Flash	The signals between the sub and main PBAs are not sensed. Incorrect wire connections between the sub and main PBAs.	- Check the wire connections and terminal contacts between the sub and main PBAs. - Check for disconnected wires. - Check whether the sub PBA is short-circuited because of moisture. - If the main PBA's communication circuit is faulty, replace it.	

Symptom	Check Code	Countermeasure	Troubleshooting Procedure	Measurement Picture
Water Leakage Code Hot Extra Large Warm Large Cold Medium Tap Cold Small	► Large LED Flash	This may occur when an alien substance is in the DV Case. This may occur due to a defect of the product's internal hose or from the part assembly.	- Since this occurs when an alien substance is in the Draining Bellows, for natural draining, remove the alien substance. - If the drain motor is defective, replace the motor. - Check if the water leaks from the tub connection part.	 Check if there is any alien substance in the Draining Bellows. ☞ Check if there is any alien substance such as underwear wire, coins, etc.
Unbalance Code Hot Extra Large Warm Large Cold Medium Tap Cold Small	► Hot&Warm LED Flash	This may occur due to the laundry being unevenly distributed.	- Check the laundry type and check if the laundry load is unbalanced. - Make sure to check if there is any laundry present that absorbs a lot of water even if its volume is small and explain the problem comprehensively, if necessary.	
Mems PBA Detected Hot Extra Large Warm Large Cold Medium Tap Cold Small	► Hot&Tap Cold LED Flash	This may occur due to disconnection. This may occur when the Mems PBA is defective.	- Check wire connections. - Replace the Mems PBA. - Replace Mems PBA because of the main PBA wire disconnection Code or PBA silver nano part malfunction.	
Overflow Code Hot Extra Large Warm Large Cold Medium Tap Cold Small	► Medium LED Flash	This may occur when the water level sensor is defective. This may occur when water is supplied continuously due to freezing or foreign materials in the water supply valve.	The water level sensor is replaced.	
Door Code Hot Extra Large Warm Large Cold Medium Tap Cold Small	► Hot LED Flash	This may occur when the door switch is defective. This may occur when the main PCB is defective.	- Check if these LED flash during the boiling course. - As these LED flash because the door is opened, close the door. - Since 120V power is connected, check if the power cord is disconnected or check the insulation status and repair it if necessary. - If the main PBA door detection circuit is defective, replace it.	 1. Check the resistance for Reed SW (Checking Part :White-Green Wire) - Resistance: Approx 0.2Ω between the terminals of Reed SW.
Door Code Hot Extra Large Warm Large Cold Medium Tap Cold Small	► Hot&Large LED Flash			 2. Check the resistance for Motor (Checking Part : Black-Brown Wire) - Resistance: 33Ω to 46Ω between the terminals of Motor.
Door Code Hot Extra Large Warm Large Cold Medium Tap Cold Small	► Hot&Extra Large LED Flash	The door lock switch unit is not inserted. The door lock switch unit is damaged. The wire is disconnected. The door lock switch unit is defective.	- Check whether the door lock switch unit is inserted. - Check whether the door lock switch unit is damaged. - Check the disconnection of the wire. - If the door lock switch unit is defective, replace it. - If the main PCB is defective, replace it.	 Lock
Door Code Hot Extra Large Warm Large Cold Medium Tap Cold Small	► Hot Large LED Flash	This may occur due to a defect of the main PCB.		 Unlock 3. Check the resistance for Lock/Unlock Contact (Checking Part : Lock White-Red Wire Unlock White-Blue Wire) - Resistance: Resistance: Approx 0.2Ω between the terminals of Contact. ☞ Check the Door Lock/Unlock state.
Switch Code (Main Relay Code) Hot Extra Large Warm Large Cold Medium Tap Cold Small	► Cold LED Flash	The Power button is continually pressed. A button other than the Power button is continually pressed.	- Check whether either the Power switch or a tact switch is continually pressed. - Check whether the service PBA holding screws are fastened too tight. If they are fastened too tight, loosen them a little. - If the main PBA switching IC on/off Code has occurred, replace the main PBA. - The "Cold LED " flashes if the main relay connections are incorrect. Check the connections. If there is no flashing in the connections, replace the main PBA.	 GAP Check the contact between the control panel buttons and their corresponding tact switch. - There must be a gap between a control panel button and its corresponding micro switch. ☞ Otherwise, an Code occurs after approx. 30 seconds has passed.
Temperature Sensor Code Hot Extra Large Warm Large Cold Medium Tap Cold Small	► Hot&Medium LED Flash	- Heater fault - Thermistor fault - Poor physical connection	- Check whether Thermistor is inserted. - Check whether Thermistor is damaged. - Check the disconnection of the wire. - If Thermistor is defective, replace it. - If the main PCB is defective, replace it.	 Check Resistance for Thermistor (Checking part : Pin #3 and #9 of CN10) •Resistance : Approx 47kΩ (at 25°C) between the terminals of Thermistor.



SCHEMATIC DIAGRAM



REFERENCE INFORMATION

BLK	BLACK
BLU	BLUE
GRN	GREEN
GRY	GRAY
NTR	NATURAL
ORG	ORANGE
PNK	PINK
RED	RED
SKYBLU	SKYBLUE
VIO	VIOLET
WHT	WHITE
YEL	YELLOW