



Fast Track Troubleshooting

Model:
WF361**
WF363**
WF365**

Bulletins:

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.

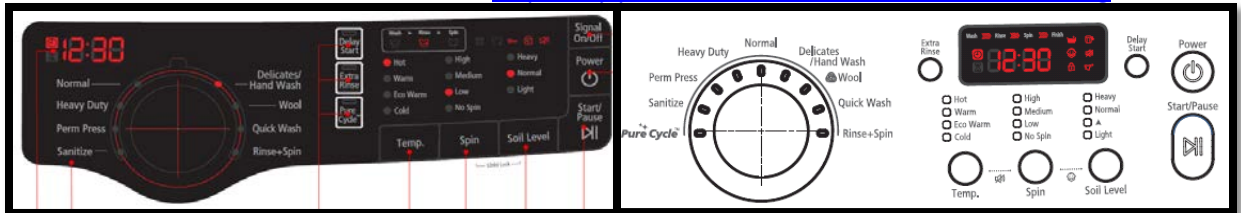
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Support Information:

HELP: 1-888-751-4086 (Tech Sup. – ASC/SSD)
 1-866-894-0637 (Tech Sup. - FE/ME)

GSPN: http://service.samsungportal.com/EP/web/portal/jsp/EP_Default1.jsp

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



Test Type	Function	WF361	WF363	WF365
Quick Test Mode	-	(Soil + Spin + Power)	(Soil + Spin + Power)	(Soil + Spin + Power)
	Water Valve Test	Temp	Temp	Temp
	Door Lock	Spin	Spin	Spin
	Heater	Soil	Soil	Soil
	Drain Pump	Signal	Signal	Delay Staart
	EEPROM Clear	Delay Start + Power (Power Off)	Delay Start + Power (Power Off)	Delay Start + Power (Power Off)
Service Mode Power has to be on!	-	Extra Rinse + Signal	Steam + Signal	Delay Start + Spin
	Cycle Count	Signal	Signal	Temp+Spin
	Version	Soil	Soil	Soil
	Board Input Test (Move Jog dial to check LED)	Extra Rinse	Steam	Steam
	Diagnostic error code CHK (In Service mode press)	Spin(d) -> CCW	Spin(d) -> CCW	Spin(d) -> CCW

QUICK Test Mode

- 1.. All LED's light up and it sends out Beep Sound when it enters into the Quick Test Mode. (Including 6-Segment)
2. Displays software version for a sec and Clear EEprom. (Ex. If S/W Version is 49, 6-Segment will display dE49)
3. When the version is displayed, turn the Jog-Dial so that the version disappears..

EEPROM Clear Check

All Memory will be cleared including Fault codes

How to Enter: * With the Power off*

-Press **Delay Start** Key, and **Power** Key at the same time. Good = Good , Fail = Fail

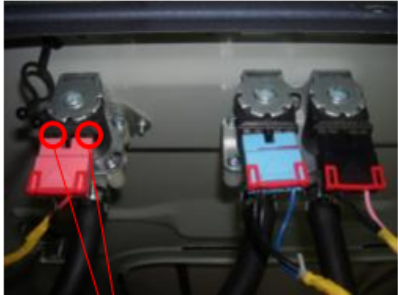
Diagnostic error code check

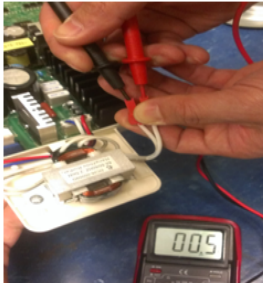
1. Activate the Service Mode first.
2. Press the **“Spin”** key to start Diagnostic Code Check Mode Code “d” will start flashing
3. To cycle through the diagnostic codes (d1,d2,d3~??), turn the Rotary Cycle Selector in one direction (either Clockwise or Counterclockwise).
4. Now, when turning the Rotary Selector Key in the same direction, it shows diagnostic codes from the latest (d1).
5. When turning it in the opposite direction, it shows the diagnostic codes in the reverse order. Ex) When it stops at d5 and turns backward, it shows from d4 down to “d”. Refer to Diag Code.

Board Input Test Chart

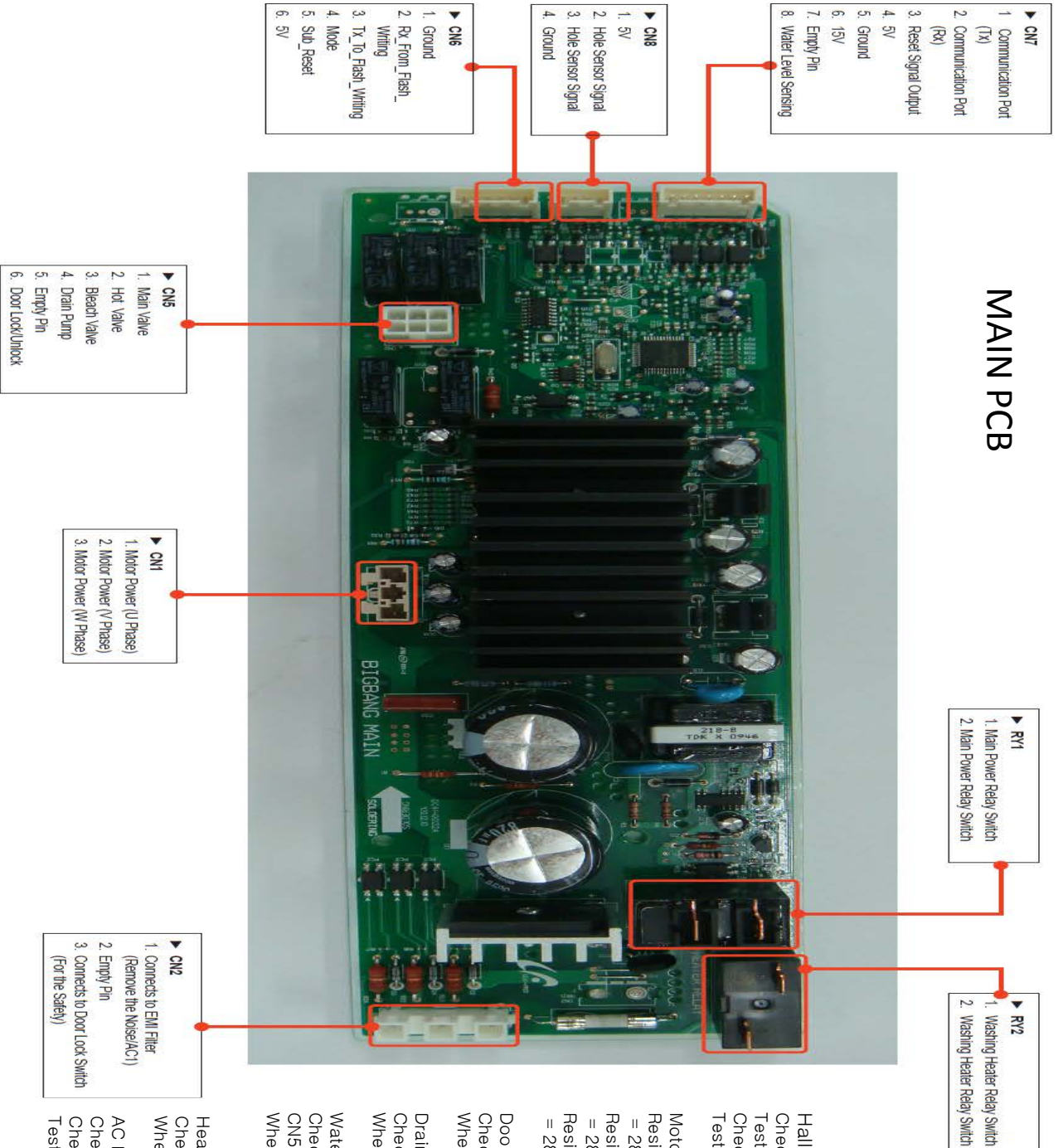
LED	1 st LED is on	2 nd LED is on	3 rd LED is on	4 th LED is on	5 th LED is on
Display	Water temp. (°C)	Water temp. (°F)	Door status (OP:open, CL:close)	Door lock S/W status (UL:unlock LO:lock)	Water Frequency

Components Check

Door Lock S/W	Water Level Sensor	Water Valve
		
1. Check the door switch resistance. 2. Check the resistance after the power is off. 3. The resistance across No.1 and No.3 of the Door Lock Switch must be approximately 40 to 57Ω.	1. Check the water level sensor frequency. 2. Check it after the water level sensor and the connector are connected. 3. Frequency: Approx. 26.4 kHz with no load.	1. Check the resistance for the water supply valve. Resistance : 1.0k to 1.2kΩ 2. Check whether there is foreign material in the water supply valve diaphragm. 3. If above test is ok, activate the "water valve test" and check the voltage of each valve for 110V. If voltage is NG change main PCB.

Drain Motor	Drum Motor	Reactor
		
Resistance : Approximately 174Ω between the terminals for the Water Supply Valve.	Plug out the connector and read resistances at any two of the three terminals on Motor : Should be 15 Ω	Check resistance approximately 0.5Ω If no resistance is found the reactor is bad and the unit will not turn on

MAIN PCB



Hall Sensor Check

Check Voltage at Pin #4 and #3 of CN8
 Tester Check = DC0.6V or 1.3V
 Check Voltage at Pin #4 and #2 of CN8
 Tester Check = DC0.6V or 1.3V

Motor Check

Resistance at Pin #1 of CN1 and R1-GND = 280KΩ or 470KΩ
 Resistance at Pin #2 of CN1 and R1-GND = 280KΩ or 470KΩ
 Resistance at Pin #3 of CN1 and R1-GND = 280KΩ or 470KΩ

Door Lock Check

Check Voltage at Pin #1 of CN2 and Pin #6 of CN5
 When Door Lock = AC 120V

Drain Motor Check

Check Voltage at Pin #1 of CN2 and Pin #4 of CN5
 When Drain Pump operates = AC 120V

Water Valve Check

Check Voltage at Pin #1 of CN2 and Pin #1,2,3 of CN5
 When Drain Pump operates = AC 120V

Heater Relay Check

Check Voltage at Pin #1 of CN2 and Pin #1 of RY2
 When Heater Relay operates = AC 120V

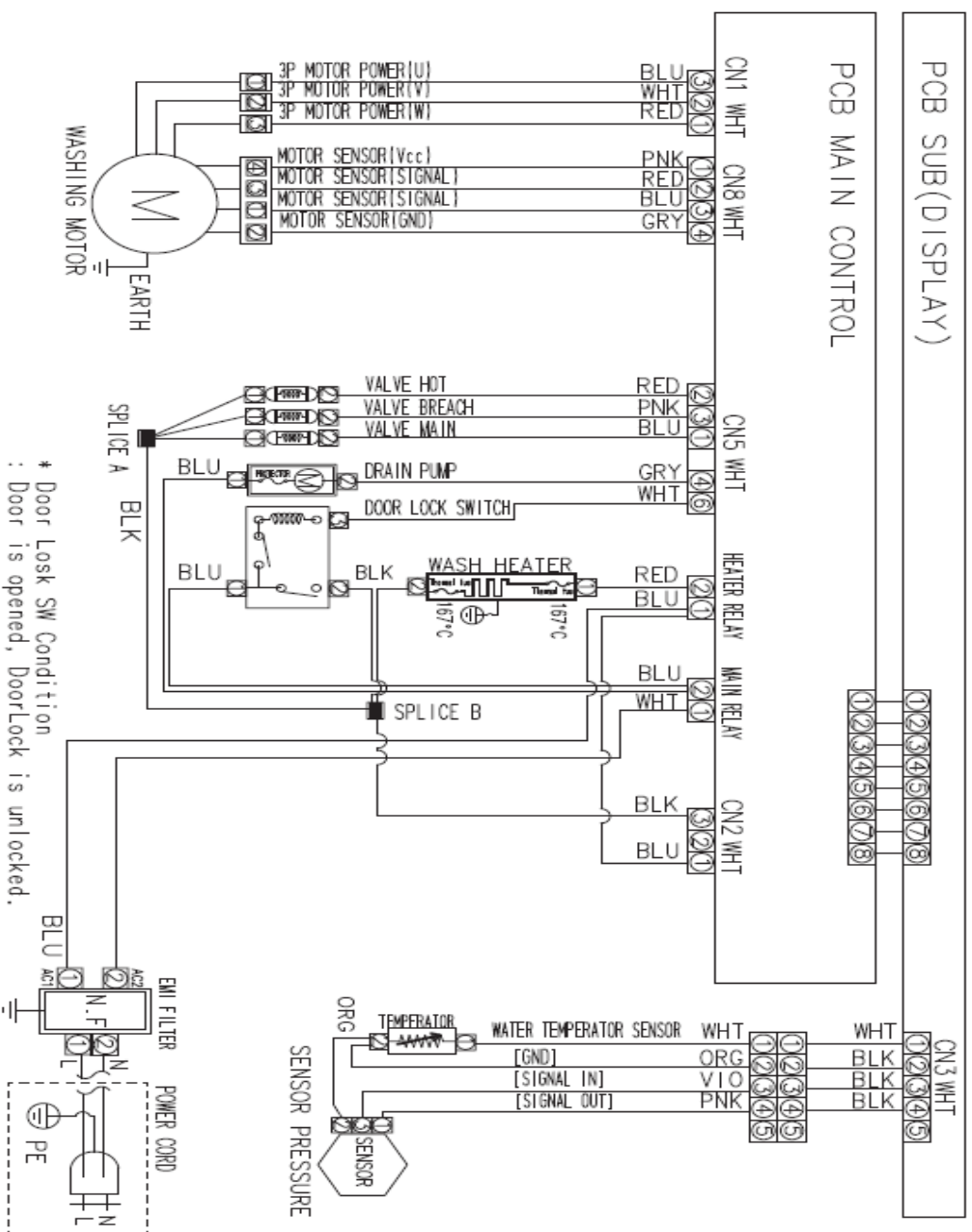
AC Power Check

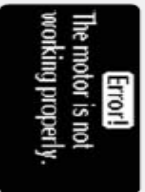
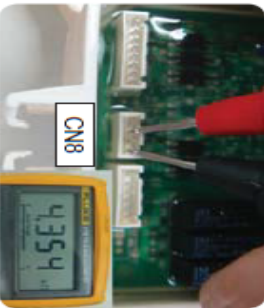
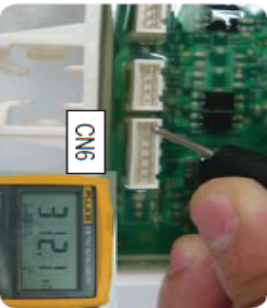
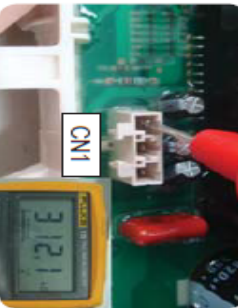
Check Voltage at Pin #1 and #3 of CN2
 Check Voltage at Pin #1 of CN2 and Pin #1 of RY1
 Tester Check = AC 120V

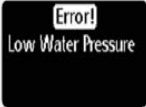
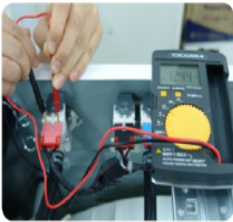
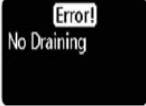
■ REFERENCE INFORMATION

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

SCHEMATIC DIAGRAM



Error Type	Error Mode		Causes	Corrective Actions	Description of Photo
	LED	LCD			
Water Level Sensor	1E		- Water level sensor fault - Incorrect connections of the water level sensor terminal - The hose part for the water level sensor is folded. - Main PCB fault	- Check the water level sensor terminal connections and contacts. - An error occurs if an incorrect water level sensor is used. Make sure to check the material code: (Abnormal operation) - If the water level sensor is faulty, replace it. - If the error persists despite taking the action above, replace the PBA.	 Check the water level sensor frequency. - Check it after the water level sensor and the connector are connected. - Frequency: Approx. 26.4 KHz with no load
Washing Motor Error and Hall Sensor Error (Continued)	3E E3 bE		- Washing motor fault - Washing motor hall sensor fault - Incorrect connections of the washing motor/hall sensor connector - Washing motor rotor and stator fault - Main PCB fault	- Check the motor connector terminal connections and contacts. 3E is displayed because overloading occurs due to too much laundry. - If the hall sensor terminal is faulty, replace the hall sensor. - Check whether the stator of the motor cover is damaged. - Check for coil disconnections due to foreign material. - If the PBA control circuit is faulty, replace the PBA.	 ► Check 1 Check the resistance on the main PCB. (Between CN8 pins 2 and 4, 3 and 4 of the four pins) - Resistance: Approx. 3 to 5 kΩ - Check the voltage when the power is on.  ► Check 2 Check the resistance on the main PCB. (Between CN6 pin 1 and CN1 pin 1,2,3) - CN6: 6PIN, CN1: 3PIN - Resistance: Approx. 260 to 350 kΩ. 

Error Type	Error Mode		Causes	Corrective Actions	Description of Photo
	LED	LCD			
Unbalance Error	dc		- Motor hall sensor fault - Caused by the laundry contents	- Check the type of laundry. Check whether it may cause an unbalanced situation. - Educate the consumer in this case is to press pause reposition the load or remove a few items. Press start to continue and complete the wash cycle.	-
Washing Motor Error and Hall Sensor Error	3E E3 bE				 ► UNIVERSAL MOTOR Check the Resistance of No.1 and No. 4 of the wire pin on the side of the TACHO SENSOR. Resistance: Approximately 40 to 45 Ω (Normal)
					 ► THREE PHASE MOTOR Measure the Resistance of No.2 and No. 3 of the wire pin on the side of the HALL SENSOR. - The revolution of the drum needs to be reproduced. (Turn the drum by hand.) - Resistance: Approximately 3 to 12V (Voltages may differ depending on the speed of the revolutions.)
Water Supply Error	nF		- Water supply value fault - Main PCB fault - Freezing in the winter season	- If the water supply valve has a wire disconnected, replace it. - Check whether the water supply valve is clogged with foreign material and whether water is supplied continually. - Check whether no water is supplied because of freezing in the winter season. - If the PBA relay operates abnormally, replace the PBA.	  - Check the resistance for the water supply valve. - Resistance: 1.0 kΩ to 1.2 kΩ between the terminals of the Water Supply Valve. - Check whether there is foreign material in the water supply valve diaphragm.
Drain Error	nd		- Drain pump fault - Freezing in the winter season - Foreign materials in the drain pump - Main PCB fault	- Check whether the revolutions of the drain pump motor are restrained by foreign material. - Check the foreign material in hose-drain for the natural drain process. - Check the wire connectors on Main PCB and Drain Pump ASSY. The connector or wire may have poor physical connection. - If the drain pump operates abnormally or intermittently when the temperature of the water in the tub is high. - If the motor revolutions are restrained due to freezing in the winter season,	 ► DRAIN MOTOR Resistance: Approximately 6.3 Ω between the terminals for the Water Supply Valve.
				- If the drain pump operates abnormally or intermittently when the temperature of the water in the tub is high. - If the motor revolutions are restrained due to freezing in the winter season,	 ► DRAIN PUMP Resistance: Approximately 14.2 Ω between the terminals for the Water Supply Valve.

Error Type	Error Mode		Causes	Corrective Actions	Description of Photo
	LED	LCD			
Water Supply Error	nF	Error! Low Water Pressure	- Water supply value fault - Main PCB fault - Freezing in the winter season	- If the water supply valve has a wire disconnected, replace it. - Check whether the water supply valve is clogged with foreign material and whether water is supplied continually. - Check whether no water is supplied because of freezing in the winter season. - If the PBA relay operates abnormally, replace the PBA.	  - Check the resistance for the water supply valve. - Resistance: 1.0 kΩ to 1.2 kΩ between the terminals of the Water Supply Valve. - Check whether there is foreign material in the water supply valve diaphragm.
Drain Error	nd	Error! No Draining	- Drain pump fault - Freezing in the winter season - Foreign materials in the drain pump - Main PCB fault	- Check whether the revolutions of the drain pump motor are restrained by foreign material. - Check the foreign material in hose-drain for the natural drain process. - Check the wire connectors on Main PCB and Drain Pump ASSY. The connector or wire may have poor physical connection. - If the drain pump operates abnormally or intermittently when the temperature of the water in the tub is high. - If the motor revolutions are restrained due to freezing in the winter season, check the method to remove the freezing and remove as directed.	  ▶ DRAIN MOTOR Resistance: Approximately 6.3 Ω between the terminals for the Water Supply Valve. ▶ DRAIN PUMP Resistance: Approximately 14.2 Ω between the terminals for the Water Supply Valve.
Communication Error	-	Error! Electronic Control Problem	- 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.	-
Switch Error (Main Relay Error)	E2 Sr	Error! A button is either stuck or is being pressed continuously.	- The Power button is continually pressed. - A button other than the Power button is continually pressed. - Main PCB relay fault	- 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 error has occurred, replace the main PBA. - The "E2" error occurs if the main relay connections are incorrect. Check the connections. If there is no error in the connections, replace the main PBA.	  - 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 error occurs after approx. 30 seconds has passed.

Error Type	Error Mode		Causes	Corrective Actions	Description of Photo
	LED	LCD			
Door Error	dS	Error! Door is open.	- Door switch fault - Drain pump fault - Dry duct fan motor fault. - Main PCB fault	- If a dS error occurs, check whether it occurs during the Boil cycle. - If it is detected that the door is open, close the door. - The 220V is directly connected to the door. Check and repair the power wire connections and insulation state. - Check the door switch. Replace if faulty. - Check the main PBA door sensing circuit. Replace if faulty.	 ► TYPE 1 Check the door switch voltage. Check the voltage after the power is on. (That is, check the door switch when the power button is turned on and no operating key is pressed.)
	dL	Error! The door was unlocked while the washer was running.			
	LO	Error! The door will not unlock.			 ► TYPE 2 The resistance across No. 3 and No. 5 of the DOOR LOCK SWITCH must be approximately 949 Ω.
	FL	Error! The washer door would not lock.			 ► TYPE 3 Check the door switch resistance. Check the resistance after the power is off. The resistance across No.1 and No.3 of the Door Lock Switch must be approximately 40 to 57Ω.
Heater Error	Hr	Error! Water Temperature Control Problem	- Heater fault - A fault of the red temperature sensor at the center of the dry heater - Steam function fault - Freezing in the winter season	- Check for wires are disconnected in the washing heater. Replace if faulty. - An Hr error occurs. - If the dry heater or air refresh heater overheating sensor is faulty, replace it. - An Hr error occurs. - Check the steam heater. Replace if it is faulty. - An Hr error occurs.	-
Water Leakage Error	LE	Error! Water Leakage Problem	- Check for any leakage. - Foreign material in the DV case - Fault of a hose or incorrect part engagement in the product	- Check for any leakage on the base, Hose, Valve and Tub connections and take any required action. - During natural draining, this error occurs when the drain bellows are clogged with foreign material. Remove the foreign material. - Check the drain motor operation. Replace if it does not operate normally.	 ► DRAIN PUMP TYPE (Automatic Drainage) Check whether there is any foreign material in the bellows.  ☑ Check for any foreign material, such as underwear wires or coins.
Overflow Error	OE	Error! Water Supply Problem	- Water level sensor fault - Freezing in the winter season	- If the water level sensor has a functional error, replace it. - Check the hose. This error occurs if it is torn or has a hole. - This error occurs if water is frozen in the winter season. Use hair dryer to defrost hose. Consider relocating the unit to warmer location.	 Check the hose connected to the water level sensor. ☑ Check whether the hose is folded, cut, or damaged.
Temperature Sensor Error	tE	Error! Temperature Sensor Problem	- Washing temperature sensor fault - Dry temperature sensor fault - Faulty and incorrect connections of the dry condensing sensor - Main PCB fault - Freezing in the winter season	- Check the connections for the washing heater temperature sensor connector. - If the washing heater temperature sensor has a functional error, replace it. - A tE error occurs. - Check the connections for the dry heater temperature sensor connector. - If the dry heater temperature sensor has a functional error, replace it. - Check the connections for the duct condensing temperature sensor connector. - If the duct condensing temperature sensor has a functional error, replace it.	-