

SERVICE DATA SHEET

Electric Range with PUX Electronic Oven Control

NOTICE - This service data sheet is intended for use by persons having electrical and mechanical training and a level of knowledge of these subjects generally considered acceptable in the appliance repair trade. The manufacturer cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.

SAFE SERVICING PRACTICES

To avoid the possibility of personal injury and/or property damage, it is important that safe servicing practices be observed. The following are examples, but without limitation, of such practices,

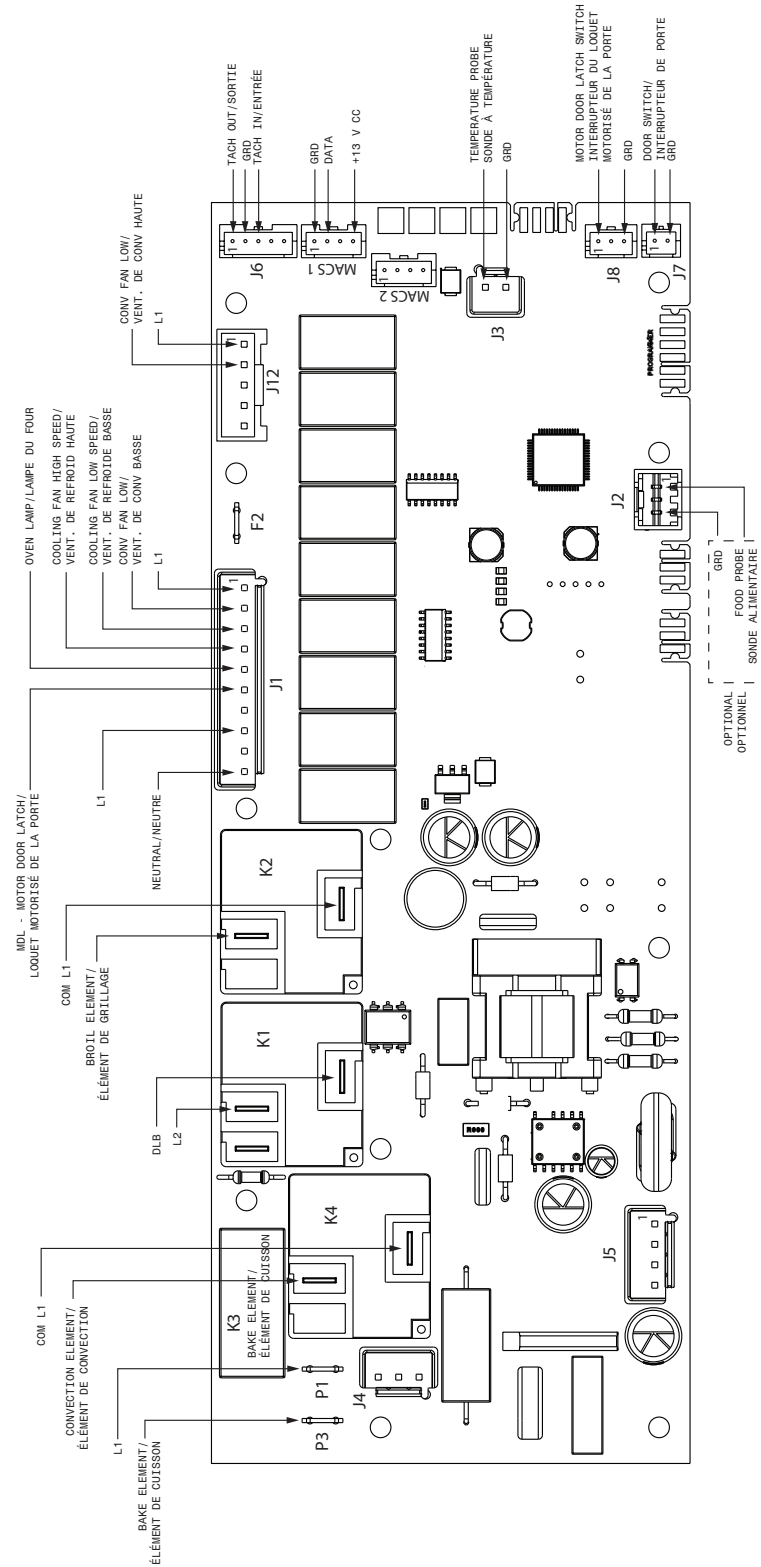
- Before servicing or moving an appliance remove power cord from electrical outlet, trip circuit breaker to OFF, or remove fuse.
- Never interfere with the proper installation of any safety device.
- GROUNDING:** The standard color coding for safety ground wires is **GREEN** or **GREEN WITH YELLOW STRIPES**. Ground leads are not to be used as current carrying conductors. **It is extremely important that the service technician reestablish all safety grounds prior to completion of service. Failure to do so will create a potential safety hazard.**
- Prior to returning the product to service, ensure that:
 - All electric connections are correct and secure.
 - All electrical leads are properly dressed and secured away from sharp edges, high-temperature components, and moving parts.
 - All uninsulated electrical terminals, connectors, heaters, etc. are adequately spaced away from all metal parts and panels.
 - All safety grounds (both internal and external) are correctly and securely reassembled.

OVEN CALIBRATION

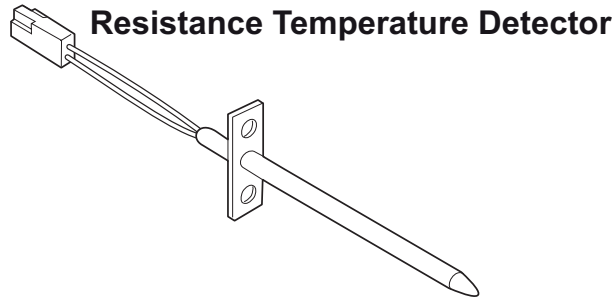
Refer to the Use and Care Manual for calibration instructions.

Note: Changing calibration affects all baking modes. The adjustments made will not change the self-clean cycle temperature.

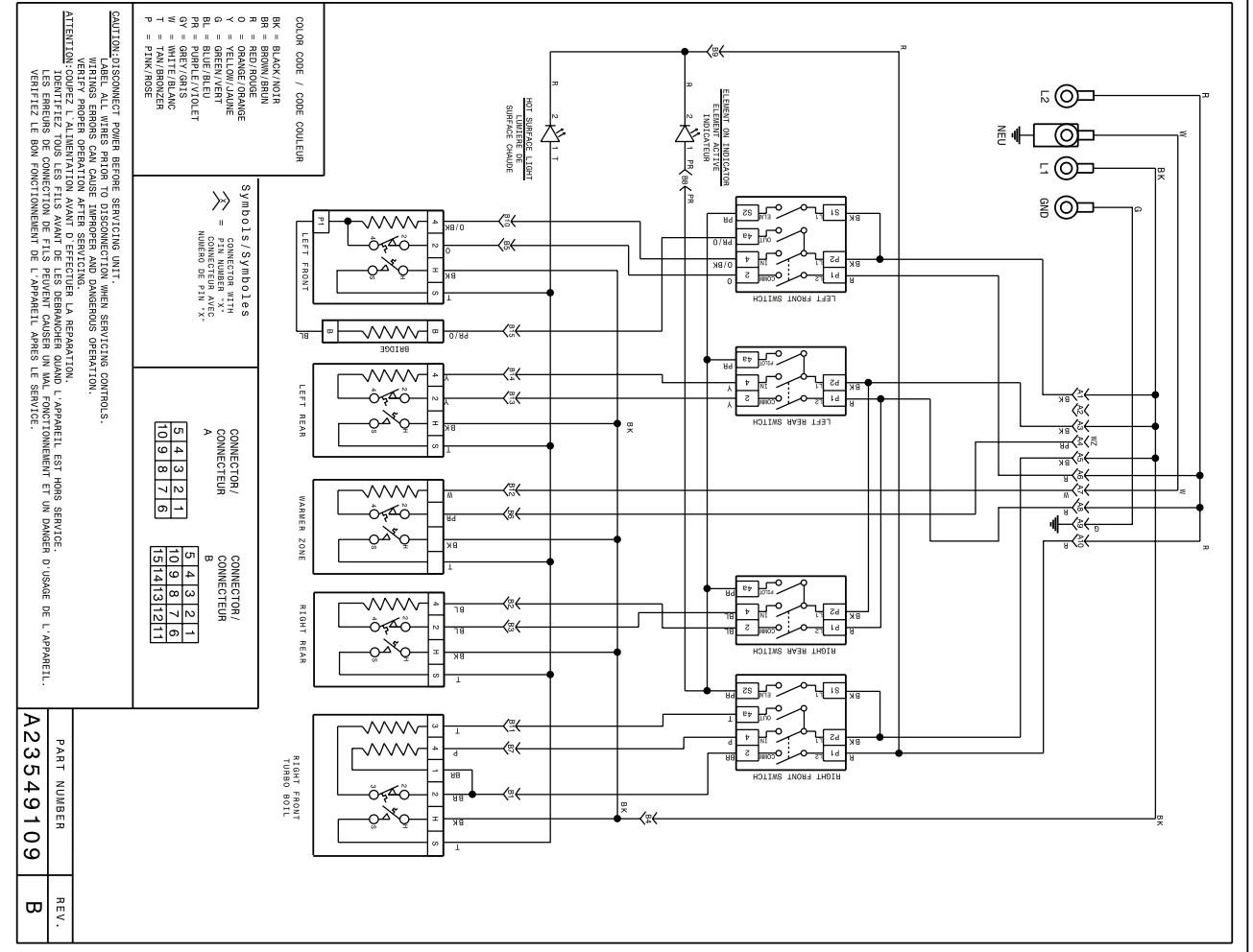
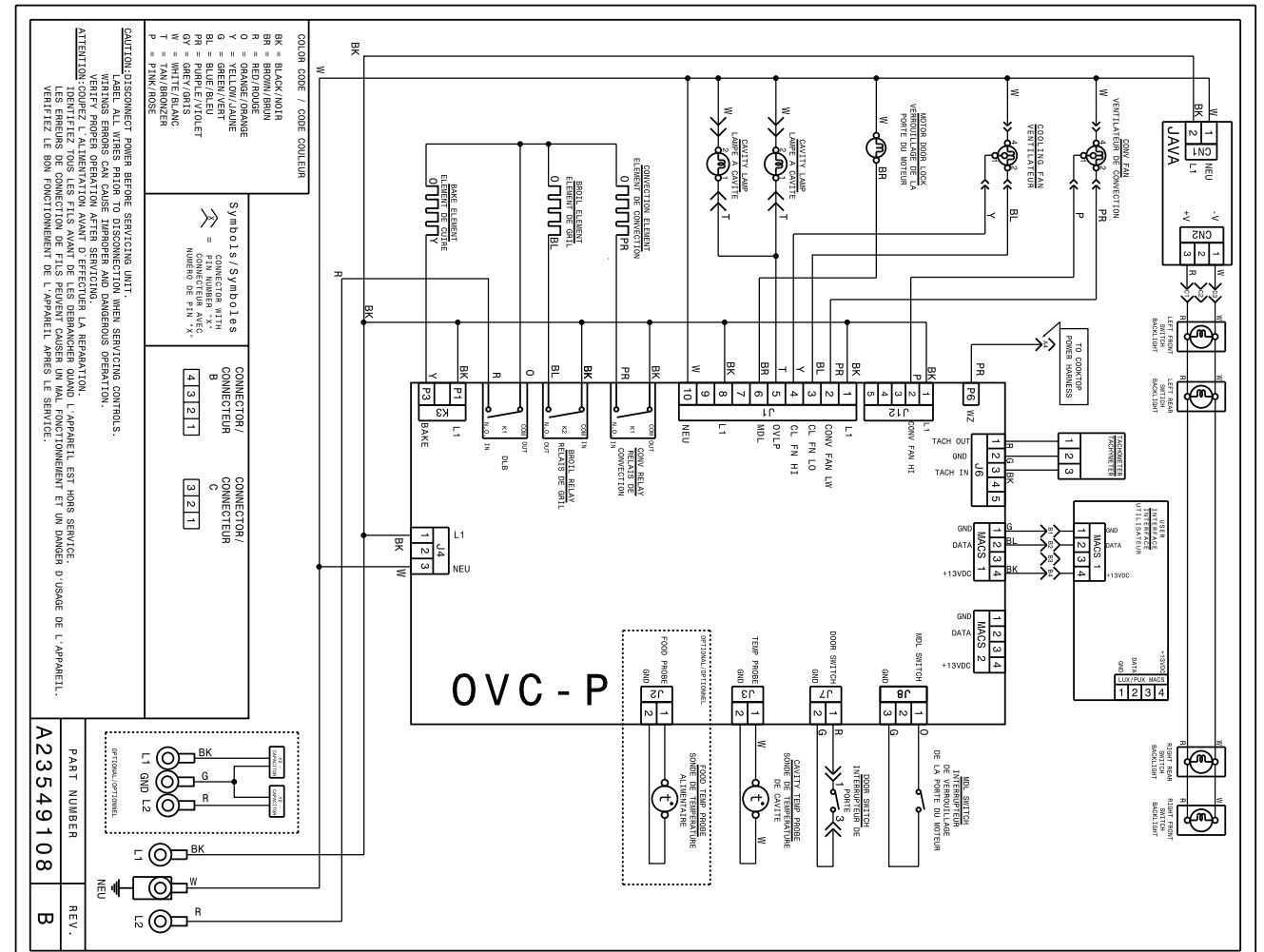
ELECTRONIC OVEN CONTROL (EOC) RELAY BOARD



RTD SCALE	
Temperature °F (°C)	Resistance (ohms)
32 ± 1.08 (0 ± 0.6)	500 ± 1.17
176 ± 2.09 (80 ± 1.16)	654.5 ± 2.21
392 ± 3.60 (200 ± 2.00)	879.3 ± 3.68
464 ± 4.10 (240 ± 2.28)	952.4 ± 4.14
572 ± 4.86 (300 ± 2.70)	1060.3 ± 4.81
1022 ± 8.01 (550 ± 4.45)	1487.4 ± 7.28



IMPORTANT
DO NOT REMOVE THIS BAG
OR DESTROY THE CONTENTS
 WIRING DIAGRAMS AND SERVICE
 INFORMATION ENCLOSED
REPLACE CONTENTS IN BAG



ELECTRONIC OVEN CONTROL (EOC) FAULT CODE DESCRIPTIONS		
Fault Code	Description of Error Code	Suggested Corrective Action
F001, F002, F004, F005	Touch failure	Disconnect power, wait 30 seconds and reapply power. If fault returns upon power-up replace the oven user interface board.
F003	The oven user interface board is incorrectly configured.	Replace the oven user interface board. Make sure to install the latest revision available for this model.
F010	Oven temperature runaway: the detected oven temperature is higher than the maximum safe operating temperature.	1. If oven is overheating, disconnect power. Check oven temperature probe (RTD) and replace if necessary. 2. If the oven temperature probe is good and if oven continues to overheat when power is reapplied, replace the oven relay board.
F011	Stuck key: control detects that a key is continuously pressed for 30 seconds or more. If a key was pressed inadvertently for a long time this error code will be displayed.	1. Make sure there is nothing (water, utensils) in contact with the keyboard. The fault code should go away once the key is released and the Stop key is pressed. If the F011 error comes back when a key is pressed it means the error condition is still there. If the F011 error does not come back it means the error condition is gone and the oven can be used. 2. If the fault code cannot be cleared, the board/springs alignment within the mechanical enclosure maybe affected. Reinstall the board within the enclosure. 3. If reinstalling the board did not fix the problem replace the oven user interface board.
F012	Keyboard configuration alarm: the oven user interface board received a key code that does not match the key map from the touch micro controller.	1. Verify the unit has the proper configuration is loaded, based on the model number and parts catalog. 2. If problem persists, replace the oven user interface board.
F013	Data written to non-volatile memory has failed verification.	Disconnect power, wait 30 seconds and reapply power. If fault returns upon power-up replace the oven user interface board.
F015	Keyboard error	Disconnect power, wait 30 seconds and reapply power. If fault returns upon power-up replace the oven user interface board.
F017	The oven user interface board is unable to configure the touch.	1. Disconnect power to the unit, wait 30 seconds, then reapply power. 2. Verify the unit has the proper oven user interface board and configuration, based on the model number and parts catalog. 3. If fault persists, replace the oven user interface.
F018	Oven relay board failure (wiggler)	Replace the oven relay board.
F019	The oven user interface board is unable to configure the oven relay board.	1. Disconnect power to the unit, wait 30 seconds, then reapply power. 2. If fault returns, verify connection between the oven user interface board and the oven relay board (MACS1 or MACS2 connector). 3. Verify the unit has the proper oven user interface board and oven relay board, based on the model number and parts catalog. 4. If fault persists, replace oven user interface board. 5. If fault persists, replace the relay board.
F020	Communication failure between the oven user interface board and the cooktop user interface.	1. Disconnect power, wait 30 seconds and reapply power. Check if error condition is still there. 2. Test wiring harness between oven user interface board and cooktop user interface (connector MACS1 or MACS2). 3. If wiring harness is good replace oven relay board. 4. If the problem persists replace the oven user interface.
F022	Communication failure between the oven user interface board and the oven relay board.	1. Disconnect power, wait 30 seconds and reapply power. Check if error condition is still there. 2. Test wiring harness between oven user interface board and oven relay board (connector MACS1 or MACS2). 3. If wiring harness is good replace oven relay board. 4. If the problem persists replace the oven user interface.
F023	Communication failure between the oven user interface microcontroller and the touch microcontroller	1. Disconnect power, wait 30 seconds and reapply power. Check if error condition is still there. 2. If the problem persists replace the oven user interface.
F025, F027	The communication between the oven user interface and the oven relay board cannot be initiated.	1. Disconnect power to the unit, wait 30 seconds, then reapply power. 2. If fault returns, verify connection between the oven user interface board and the oven relay board (MACS1 or MACS2 connector). 3. Verify the unit has the proper oven user interface board and oven relay board, based on the model number and parts catalog. 4. If fault persists, replace relay board. 5. If fault persists, replace the oven user interface board.
F028, F029	The communication between the oven user interface microcontroller and the touch microcontroller cannot be initiated.	1. Disconnect power to the unit, wait 30 seconds, then reapply power. 2. Verify the unit has the proper oven user interface board and configuration, based on the model number and parts catalog. 3. If fault persists, replace the oven user interface.
F030	Open oven temperature sensor (RTD)	1. Check probe circuit wiring for possible open or short condition. 2. Verify RTD resistance at room temperature (compare to probe resistance chart). If resistance does not match the chart, replace the RTD probe. 3. If the problem persists replace the oven relay board.
F031	Shorted oven temperature probe (RTD)	3. If the problem persists replace the oven relay board.
F033	Meat probe temperature sensor shorted or too hot	1. The error is triggered if the meat probe sees a temperature in excess of 392°F. Make sure the meat probe was not used in such way that it could have seen such temperature. If the tip of the probe is not inserted in the meat it will see the cavity temperature, which can be higher than 392°F (depending on the setpoint) and trigger the alarm. 2. When the meat probe is connected to the socket inside the oven cavity, if the meat probe is not fully inserted into the socket it may short the contacts and cause the error. Make sure the probe is inserted as much as it can. 3. Verify meat probe resistance at room temperature. Compare to meat probe resistance chart. If the meat probe does not match the chart, replace it. 4. If the above steps failed to correct the problem, replace the oven relay board.
F45 (F47)	Cooling Fan Speed low in Upper (Lower) cavity. (Microcombi will display F45 for lower cavity)	1. Check if cooling fan blades are blocked. 2. Confirm tachometer harness is connected on fan and oven control. 3. Replace cooling fan/ replace oven control.
F46 (F48)	Cooling Fan Speed High in Upper (Lower) cavity. (Microcombi will display F46 for lower cavity)	1. Check for mechanical obstruction in the air path. 2. Replace cooling fan/ replace oven control.
F050	A/D Out of Range: the oven relay board is unable to read the status of the switches (door, MDL)	1. Clear error, cycle power a couple of times and check if error is back, if so replace power board. 2. If error persists, replace door switch plunger/s and reseat harness. 3. If error persists, check MDL and harness.
F090	MDL mechanism failure. The oven control does not see the MDL running.	1. Disconnect power to the unit, wait 30 seconds, then reapply power. Try again to make the door lock or unlock (ex: initiate a lockout or a clean cycle). Check if the MDL motor is running or not. If it is not running, test the wiring between the MDL and the oven relay board. If the wiring is good, check if there is 120VAC at the motor when it is expected to run to see if the failure originates from a bad motor (120VAC present but not turning) or a problem with the relay board (J20 pin 10 on the oven relay board is the output to the Lock Motor). The lock motor can also be tested by applying 120VAC directly to the motor (unplug it from the relay board first). If the lock motor does not run when 120VAC is applied replace the lock motor assembly. If the relay board that does not provide 120VAC to the lock motor, replace the oven relay board. 3. If the Lock Motor is running but the oven control cannot find the locked or unlocked position (ex: motor turns continuously until F90 fault code is generated) the lock switch needs to be verified. Check wiring between lock switch and oven relay board. Verify with ohmmeter if the switch makes contact properly (verify continuity with ohmmeter when the switch is pressed). If the lock switch is defective replace the motor lock assembly. 4. If all above steps failed to correct the situation, replace the oven relay board.
F095	MDL mechanism failure. The Motor Door Lock does not stop running or the Lock Switch sends an invalid signal.	1. The problem can be caused by a faulty lock switch or by a defective oven relay board. If the MDL is always running (as if the relay controlling it is stuck closed) replace the oven relay board. 2. If the motor is not always running replace the motor lock assembly.
F096	The oven door has been detected open during a self-clean cycle.	1. This error occurs if the door switch has lost its contact during a self-clean cycle. Make sure the oven door closes well and fully presses on the door switch plunger when the door is locked, and no one attempted to pull on the oven door during the self-clean cycle. 2. Test continuity of wiring between the door switch and the oven relay board, make sure the door switch is well connected. With an ohmmeter, verify the switch is closed when the plunger is pressed. If the door switch is found to be defective replace the door switch. 3. If the switch and wiring are good and the problem persists, replace the oven relay board.

ELECTRONIC OVEN CONTROL (EOC) FAULT CODE DESCRIPTIONS		
Fault Code	Description of Error Code	Suggested Corrective Action
F097	MDL invalid state	1. This error occurs when the motor door lock can't find home position. Cycle the power for 30 seconds. 2. If the error persist change OVC
F098	Magnetron case sensor probe shorted	1. This error occurs when the NTC sensor located on the magnetron fails. Replace NTC sensor. 2. Verify magnetron cooling fan functionality. If cooling fan fails, replace cooling fan. 3. If problem persists, replace magnetron.
F099	Magnetron case sensor probe open	This error occurs when the NTC sensor located on the magnetron fails. Replace NTC sensor. 1. Verify magnetron cooling fan functionality. If cooling fan fails, replace cooling fan. 2. If problem persists, replace magnetron.
F100	Magnetron case sensor temperature over-temp limit	1. This error occurs when the NTC sensor located on the magnetron detects a temperature above the limit. Turn off the microwave and wait for the temperature to cool down. 2. Replace NTC sensor. 3. Verify magnetron cooling fan functionality. If cooling fan fails, replace cooling fan. 4. If problem persists, replace magnetron.
F101	Magnetron auto power limit active (based on temperature overtemp)	1. This error occurs when the NTC sensor located on the magnetron detects a temperature above the limit and the magnetron self powered OFF. Turn off the microwave and wait for the temperature to cool down. 2. Replace NTC sensor. 3. Verify magnetron cooling fan functionality. If cooling fan fails, replace cooling fan. 4. If problem persists, replace magnetron.
F102	Magnetron auto power limit active (based on runtime limit exceeded)	1. This error occurs when the magnetron detects a running time above the maximum allowed time limit and the magnetron self powered OFF. Turn off the microwave and wait for the temperature to cool down. 2. If problem persists, replace magnetron.
F104	Loss of communication between GPU and OUI.	This error occurs when the communication between the GPU-OUI or OUI-GPU is lost. 1. Test the GPU connection and secure ribbons. 2. Cycle power to reestablish communication. 3. If problem persists, replace oven control.
F105	Wake Up procedure failure between OUI and GPU. This error occurs when the OUI can't communicate with the GPU at power up.	1. Cycle the power for 30 seconds 2. If problem persist, replace oven control (OUI and GPU).
F106	GPU configuration error. This error occurs when the configuration on the GPU fails to startup.	1. Cycle the power for 30 seconds 2. If problem persist, replace oven control (OUI and GPU).
F107	Loss of Communication Between OUI and NIU. This error occurs when the NIU stops communicating with the OUI.	Replace electronic controls (OUI-GPU-NIU)
F108	(Connection Fail – try again). NIU provisioning failed. (This error can occur only in manufacturing – not at user end). The GPU will display " Connection failed – Try again" instead of error message. This error occurs when the onboarding process failed on the NIU.	1. Verify that the network is available and connected to the Internet. 2. Cycle the power for 30 seconds and try to finalize the onboarding process again. 3. Follow screen instructions.
F109	OTA failed. This error occurs when the NIU is unable to complete an update over the network.	1. Verify that the home network is available and connected to the internet. 2. Verify that the appliance is connected to the Internet. 3. Follow the screen instructions. 4. Cycle the power and try to finalize the update. 5. If problem persists, call the brand's customer service. See Use and Care manual for contact information.
F110	NIU Serialization failed. (This error can occur only in manufacturing – not at user end). The GPU will display " Serialization Failed – Try again" instead of error message. This error occurs when the serialization process failed on the NIU.	1. Verify that the appliance is connected to the network and NIU MAC address is visible on the network. 2. Cycle the power for 30 seconds 3. Try to serialize the NIU again.
F111	Touch screen error from GPU. This error occurs when the GPU touch screen becomes irresponsive or malfunctions.	1. Cycle the power for 30 seconds. 2. If the error persists, replace GPU/OUI (electronic control board)

CIRCUIT ANALYSIS MATRIX MATRICE D'ANALYSE DE CIRCUIT	EOC Relays (Ralais du regulateur electronique du four)					Door Switch Contacts COM-NO Interrupteur porte COM-NO
	L1 to Bake (cuisson)	L1 to Broil (gril)	L1 to Conv Fan (ventilateur a convection)	L1 to Motor Door Latch (verrouillage du moteur de la porte)	L1 to Oven Lamps (Lampe du four)	
Bake/ Bake Time (Cuisson/durée minutée)	X*	X*	X'			
Convection Bake (Conv/cuisson rapide)	X*	X*	X			
Broil (Gril)		X				
Self-Clean (Nettoyage)	X*					
Locking (Verrouillage)				X		
Unlocking (Déverrouillage)				X		
Door Open (Porte ouverte)					X	O
Door Closed (Porte fermée)					O	X
Oven Lamps(ON) (Lampe du four)					X	

Notes: **X** = Circuit contact closed. **O** = Circuit contacts open. * = Cycles as needed. **X'** = During preheat.
Remarque: **X** = ontrôlez les circuits indiqués. **O** = Contacts de circuit ouverts. * = Cycles selon les besoins. **X'** = Pendant le préchauffage.