DIAGNOSTIC MANUAL

Wall Oven

OB76 Version 3
models

NZ AU

Fisher&Paykel

CONTENTS

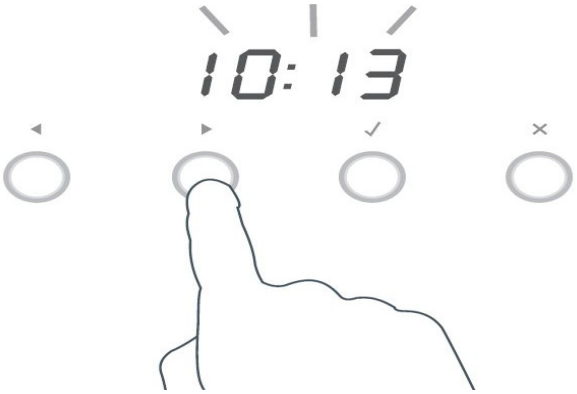
1 OPERATION

1.1 Setting the Clock

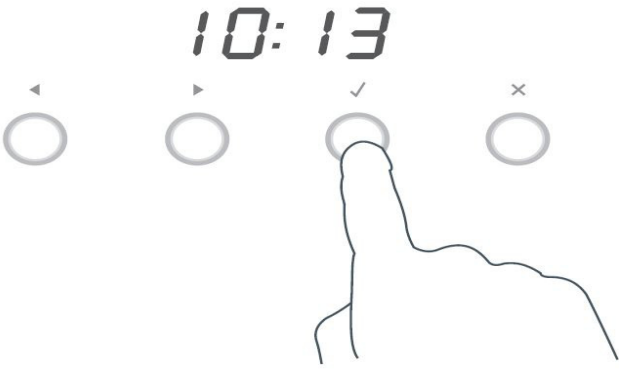
1.Power the oven on at the wall, the clock will start to flash 24 hr

2.Press the right scroll > button on the clock to change between 24 Hr and 12 Hr, then press the tick button to confirm.

3.Press the right and left scroll < > buttons to set the time of day.



4.Press the tick button to confirm



1.2 User Preference Settings

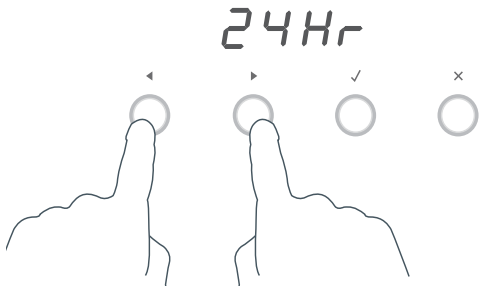
In the user preference setting, the oven can be changed to do the following:

- display the temperature in degrees Celsius or Fahrenheit
- give audio feedback (tones and beeps) or operate quietly
- display time as 12-hr or 24-hr
- operate with the display off
- have its lights on or off during cooking
- operate in Sabbath setting (see 'Sabbath setting' following).

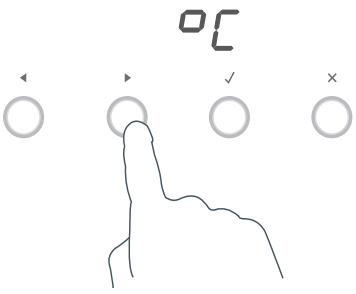
Note: You cannot change the user preference settings when your oven is operating or set for automatic cooking.

How to change preference settings

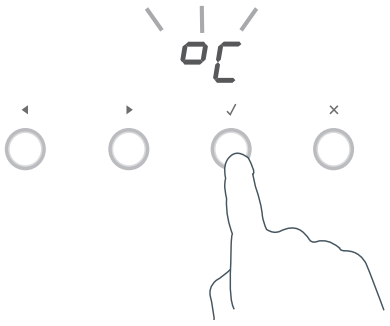
1 Check the function dial(s) are set to OFF and the display shows the time of day.
- If you're unsure, press the cancel × button twice.



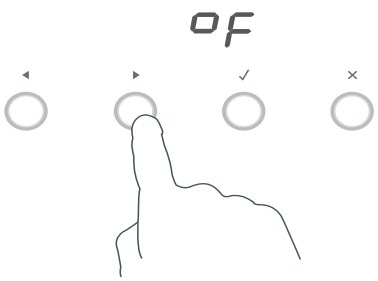
2 Press and hold the scroll ◂ ▸ buttons together for 3 seconds to enter the user preference menu.

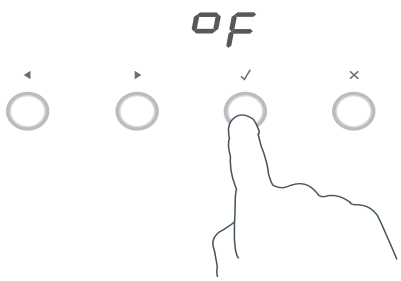


3 Press the right scroll ▸ button to scroll to the setting you want to change. Refer to the following table.



4 Press the select ✓ button to select the particular setting.
- The display will flash.





5 Press the right scroll ▸ button to scroll through the options for that particular setting. Refer to the table below.

6a Press the select ✓ button to save the new option .

6b For all options except 'Display off' : press the cancel × button to quit the user preference menu.

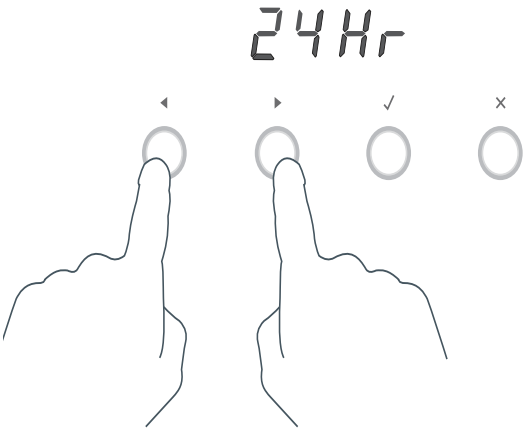
Setting	Default option	Alternative option(s)	
TIME SCALE & 'DISPLAY OFF' OPTION *Select between 24-hr or 12-hr clock display (and set the clock) or set 'Display off' option if you only need the basic functionalities of your oven.*	**24 HR** 24Hr	**12 HR** 12Hr	**DISPLAY OFF **** oFF
TEMPERATURE SCALE *Select between degrees Celsius or Fahrenheit.*	**CELSIUS** oC	**FAHRENHEIT** oF	
AUDIO FEEDBACK *Turn the beeps and tones on or off.**	**BEEPS/TONES ON** bPon	**BEEPS/TONES OFF** bPoF	
OVEN LIGHTS *Have the light off during cooking if you want to save power or want the food you cook to be a surprise for others!*	**LIGHTS ON DURING COOKING** Lton	**LIGHTS OFF DURING COOKING** LtoF	
SABBATH SETTING	**SABBATH OFF** SboF	**See 'Sabbath setting' for instructions.**	

* The timer tone and alert beeps will sound even if you save the **BEEPS/TONES OFF** option.
** With this option saved, you can still use the oven, meat probe and timer. The display will remain otherwise unlit. Any automatic or timer functions will be cancelled when this option is selected. To quit this option and enable the display, press and hold the cancel × button.

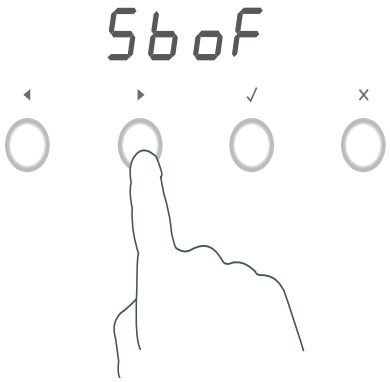
While your oven is in Sabbath setting

- The display, dial halos and indicators will be unlit, the buttons will be unresponsive.
- No tones or beeps will sound.
- No alert codes or temperature changes will be displayed.
- The oven lights will stay on. If you want the oven lights to be off during Sabbath setting, first select the 'Lights off' option as described in 'User preference settings', and only then set Sabbath setting.
- **Bake** is the only function available in Sabbath setting.

How to set Sabbath setting



1 Press and hold the scroll ◂ ▸ buttons together for 3 seconds to enter the user preference menu.



2a Press the right scroll ▸ button to scroll to the Sabbath setting.

2b Press the select button to select Sabbath setting.

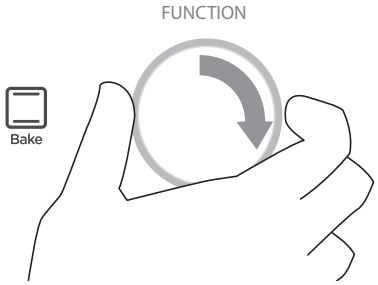
- The default option is 'Sabbath off'.

3 Press the select ✓ button to activate the option.

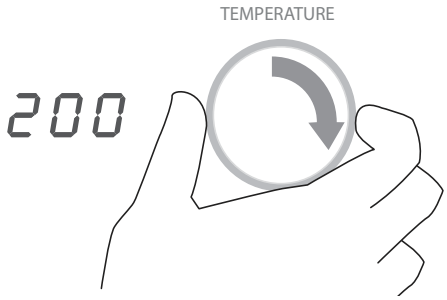
- The display will flash 1:00.

4a Press the scroll ◂ ▸ buttons to set the time (hrs). You may set the time for up to 99 hours.

4b ***Double oven models only:***
Select the oven(s) you wish to use by pressing the UPPER or LOWER oven selector button



5 Turn the function dial to **Bake.**



6a Adjust the temperature.

6b ***Double oven models only:***
If required, repeat the process for the second oven (by pressing UPPER or LOWER at step 4b)

7 Press the select ✓ button to activate.

The display, indicators and dial halos will be unlit and unresponsive, but the oven will be on until the time set elapses or you quit Sabbath setting.

To quit Sabbath setting

Press and hold the cancel × button until the time of day appears in the display and the oven(s) turn off.

2 OVEN MODE ELEMENTS & FAN PROFILES

OB76 oven mode operation with fan profiles:

	Stage	Oven Fan 35W	Cooling Fan 60W	Lights 60W	Vent Fan 18W	Grill Outer Element 1500W	Grill Inner Element 2900W	Bake	Fan Element 2500W
Bake	preheat	X	X	X			X	X	
	Cook		X	X		X(67%)		X	
Fan Bake	preheat	X	X	X			X	X	
	Cook	X	X	X	X	X (67%)		X	
Fan Forced	preheat	X	X	X			X	X	
	Cook	X	X	X	X				X
Grill	Cook		X*	X	X		X		
Maxi Grill	Cook		X*	X	X	X	X		
Fan Grill	Cook	X	X*	X	X	X	X		
Pasrty Bake	preheat	X	X	X			X(90%)	X	
	Cook <210 ºC	X	X	X	X			X	
	Cook >210 ºC	X	X	X	X	X(40%)		X	
Roast	preheat (20min)	X	X*	X	X	X	X		
	Cook		X	X		X(67%)		X	
Classic Bake	preheat	X	X	X			X(90%)	X	
	cook < 210 ºC		X	X	X			X	
	>210 ºC		X	X	X	X(40%)		X	
Warm	Cook		X	X	X	X(67%)		X	
Self Clean	<250 ºC		X		X		X	X	
	>250 ºC #		X*		X		X	X(50%)	
	>250 ºC #		X*		X	X(50%)	X		

* = means cooling fan at high speed
# = means these 2 profiles alternate every 30 seconds.

3 PYROLYTIC SELF CLEAN CYCLE

Duration:	4 or 5hr option
Pyro Temp:	440 ºC
Heat-up time:	55 minutes approx.
Holding time:	145/205 minutes approx
Cool-down time:	40 minutes

If a Self-Clean Cycle will not start, check that there are no meat probes inserted and that the control knobs of the cavity that is not being cleaned (in a double oven) are in the 'OFF' position. The oven self-clean mode operates by heating the oven to a temperature of approximately 430 ºC.

This burns off and breaks down soil and grease deposits. The ash residue that remains can simply be removed from the cool oven with a damp cloth or sponge.

To Start a Self-Clean Cycle:

- Turn the oven mode dial until 'Self Clean' icon appears lit on the control panel
- The display will flash '0:00' .
- Press the right scroll > button on the clock once to select the self clean cycle.
- The display will flash 5 hours, or press the right scroll > button to select the light clean option of 4 hours.
- The temperature display will be blank, as the temperature can not be adjusted.
- Press the tick button on the clock to start the self clean cycle.
- The time will start to count down.

How the Self Clean Cycle Operates:
The Grill inner element and the vent fan operate during the Self-Clean Cycle. Additionally, during the first fifteen seconds of each minute the bake element is on and during the third fifteen seconds of each minute the Grill outer element is on.
The cooling fan for the cavity being cleaned will be on high speed. The cooling fan for the other cavity will be on low speed.
During the Self-Clean Cycle in a double oven, the cavity not being cleaned cannot be operated in any mode.
The oven heats for its cleaning temperature and maintains this temperature for between approximately 2½ and 3½ hours into the cycle, depending on clean cycle selected.

The elements then turn off and the cool down period commences. When the temperature reduces to 180°C the door will unlock.

When the self-clean cycle has finished, the product will emit a long tone and after a few seconds the display will show the time of day.

At the completion of the self-clean cycle, there may be grey ash deposited on the inside of the oven. The amount of ash is dependent on the amount of soil in the oven before cleaning. To remove the ash, wait until the oven has completely cooled. The bulk of the ash is easily removed with a small brush or dry cloth, then by wiping over with a damp cloth.

The self-clean mode can be cancelled at any time by pressing the X button on the clock, This will take approx 40 minutes. Do **NOT** turn off the mains power supply to the oven (wall switch).

Turning off the power while the oven is too hot may damage the oven and its surrounding cabinetry, as the cooling fans will be shut down, This will cause the cavity temperature to increase and will trip the non resettable thermal limiters, meaning the product will need to be removed from the joinery to replace them.

4 DIAGNOSTICS

4.1 Entering the Technician Mode

NOTE: The OB76 oven uses the GOEP Electronic Platform controller, which is a universal controller used in other OB models. Ensure correct model ID is selected for the model you are working on.

To enter the mode:

1. Ensure all oven modes and temperature displays are set to OFF.
2. Ensure no cooking auto functions are set.
3. Enter the Technician Mode by pressing and holding the “Cancel Button” (X) on the clock for approx 4 seconds, then release button
4. Then press the “OK Button” (√) once on the clock.
5. Push & hold the < > buttons together for 4 seconds.

The display will then show the word “wait” as it does a self check between the user interface (UI) and power board (PB).

6. To scroll through the five sub menu’s use the < > buttons.
7. To enter a sub menu press the “OK” (√) button.
8. To exit a sub menu press the (X) button.

4.2 Technician Mode Navigation

Once in technician mode there are 5 menus to choose from:

Menu 1: Elements

This is the functional menu, which allows individual components to be test run.

- To scroll to each component use the <> Buttons
- To turn the component on and off use the “OK Button”(√)

Symbol	Component	Wattage (W)
UI	Upper Inner Element	
Uo	Upper Outer Element	
LI	Lower Inner Element	
Lo	Lower Outer Element	
FE	Fan Element	
CF	Cavity Fan	
LF	Low Speed Cooling Fan	
HF	High Speed Cooling Fan	
ro	Rotisserie motor	
Lt	Lights	
UV	Upper Vent actuator	
LV	lower vent actuator	
LC	Lock Motor 1. Door Switch must be in the closed position 2. Short delay and LCD will display "ON" 3. Will show "of" when turned off	

Menu 2: Model ID

This menu will show the model ID of the product, to enter press the "OK Button"(√)
A number will be displayed, and will scroll in the display, ensure the correct region is set as there are different cooking profiles for different models.

Note: If changing a power board or clock module, always check that the correct model ID is set.
Following model IDs are available:
0 – no model set
1 – Reserved for OB2
2 – Reserved for OB2
3 – OB76 Single Cavity
4 – OB76 Double Cavity

Menu 3: Software Version

This menu will show the software version of the electronics, it will scroll through the User Interface (UI) and power board (Pb) software and will advise the following:

ww.xx.yy.zz

The individual identifiers describe:

ww:
Safety version. Increments on approved changes to the safety critical software section. A change will result in a new checksum for the safety critical program code.

xx:
Major functional software version. Increments on production releases that added major functionality such as support for new products.

yy:
Minor functional software version. Increments on all other production releases that are not classified as major.

zz:
Development version. Increments on internal releases.

Menu 4: Demo Mode

To enter this sub menu press the “OK” (√) button.

If set to on, the oven heating elements and the cooling fans will stay off, but the lights and display function will operate, which is ideal in a retail shop.

This setting survives the power being switched off, and has to be manually switched off before the oven will resume normal operation.

Menu 5: Life Test

Note: This menu is not used in the field. It is used for factory use only.

5 FAULT DIAGNOSTICS

All errors of the Power Boards and the Clock Board are displayed using the seven segment digits on the Clock Board display.

In the double models the upper cavity power board is the master board, the lower cavity power board is the slave board.

There are two types of fault codes,
A – Alert codes: These are customer errors which can be solved by generally letting the product cool down, or powering it off then on at the wall. These codes will show the letter A, followed by a number.

Example: (Fault)	F 2 01 |----------	F means fault, which typically requires a technician.
	|----------	1 means that the error occurred on the Clock Board. 2 means the error occurred on the Power Board.
	|----------	xx is the type of the error. In this case “01” means initialisation error. No clock board found.
Example: (Alert)	A1 ----------	A indicates an alert, followed by a number, which tells the user the kind of alert and what to do next (“1” means over-temperature).

5.1 User Alert Codes

User alerts can be rectified in some cases by the customer.

	Possible Cause	What to Check
A1	The oven has overheated : The temperature around the power board is too hot. The temperature around the clock board is too hot	• Power Board, Clock Board or cavity over-temperature. • Let the oven cool down, the alert should clear itself. • If this alert happens frequently, check the cooling fan(s) for proper operation. Make sure the oven is not used in a hot environment and that it can emit its heat properly. • Replace the cavity temperature sensor. • Replace the Power Board. • Replace the Clock Board.
A2	Door lock error: the door cannot be locked after a self clean cycle has been started.	Door can not be locked • Make sure the door and the lock system are properly aligned, so the lock can engage into the door. • Check/replace thermal limiter(s) which may have cut power to the lock motor. • Check whether the lock motor turns. • Check the lock/unlock switches + connector to the power board. • Check the lock/unlock relay on the power board. • Replace the lock system. • Replace the power board.
A3	Door lock error: the door cannot be unlocked after a self clean cycle has finished.	Door can not be unlocked • Refer to the procedure above (Door cannot be locked “A2”) • You might need the press the door while unlocking, so the door lock can disengage.

5.2 Failure Alerts

Clock Board Faults

	Error	Description & Possible Solution
F1	01	Initialisation error. No master power board found. • Check model ID is set correctly for the model you are working on. • Check harness connections to master power board. • Replace master power board.
	02	Initialisation error. No slave power board found. • Check model ID is set correctly for the model you are working on. • Check the harness connections at the slave power board. • Replace the slave power board.
	03	General software error. • Try powering the oven off and on. If the problem persists, replace the Clock Board.
	04	Communication error. The master power board does not respond in time or at all. • Check connection to master power board. • If the problem persists, replace Power Board.
	05	Communication error. The slave power board does not respond in time or at all. • Check connection to slave power board. • If the problem persists, replace the slave power board.
	06	Unknown model ID. The clock board does not support the model ID set on the power board. • Turn product off and back on at the wall, check the model ID via tecnician mode. • If the problem persists, replace clock module and set the correct model ID.
	16 18	Crystal Oscillator fault. This can occur during baking with a lot of condensation. • Let the oven cool down and dry out. Then power the oven off and on. • If the problem persists, replace the Clock Board.
	10 11 12 13 14 15 17 19 20 21	Critical software/hardware fault. • Try powering the oven off and on. If the problem persists, replace the clock board.

Power Board Faults

2 = Master Power Board (upper cavity)
3 = Slave Power Board (lower cavity)

Type	Error	Description & Possible Solution
F2/3	01	Initialisation error. No Clock Board found. • Check connection to Clock Board. • Replace Clock Board.
	02	Unknown Model ID. The Power Board does not support the Model ID that is tried to be set through Technician Mode or restored by the old Clock Board (when Power Board is being replaced). • Make sure you are setting the correct Model ID. • If the problem persists, try another power board spare that may have a later version of software in it. • Once the oven is working again, check via Technician Mode that the Model ID is correctly set.
	03	General software error. • Try powering the oven off and on. If the problem persists, replace the Power Board.
	04	Communication error. The Clock Board does not respond in time or at all. • Check connection to Clock Board. • If the problem persists, replace Clock Board.
	05	Door lock mechanisim error. • Check lock mechanisim for obstruction. • Check alignment of lock slot in door.
	07	Self Clean Door fault. The door was opened during a self clean cycle. • Make sure the user did not try opening the door during self clean. • Check the door switch and its connection to the Power Board. • Replace the door switch. • Replace the power board.
	13 14	Cavity temperature sensor found to be open/short circuit. • Check the harness of the cavity sensor to the power board + connector. • Replace the cavity sensor (plug into board before replacing). • Replace the power board.
	16	Cavity not heating up (sensor sees no change in temperature). Use Bake function from cold to evaluate this fault, it takes at least 10 minutes to fault out when no change in temperature is seen. • Check with customer how/when the fault occurred. Certain load configurations could trip this fault. • Check/replace thermal limiter(s) which may have cut power to the heating elements. • Check each heating element via technician mode to ensure they are operating. • Replace the power board. • Replace the cavity sensor.
	17	Door lock is not in its unlocked position. • Check/replace thermal limiter(s) which may have cut power to the lock motor. • Check whether the lock motor turns. • Check the lock/unlock switches + connector to the power board. • Check the lock/unlock relay on the power board. • Replace the lock system. • Replace the power board.

Type	Error	Description & Possible Solution
F2/3	20 22	Crystal Oscillator fault. This can occur during baking with a lot of condensation. • Let the oven cool down and dry out. Then power the oven off and on. • If the problem persists, replace the Power Board.
	10 11 12 15 18 19 21 23 24 25	Critical software/hardware fault. • Try powering the oven off and on. If the problem persists, replace the Power Board.

6 TROUBLESHOOTING

Symptom: Oven Under Cooking

POSSIBLE CAUSES:
- Incorrect oven use
- Incorrect temperature scale used
- Faulty temperature sensor
- Faulty oven element
- Faulty oven cavity fan
- Blown thermal limiter
- Faulty power module

DIAGNOSIS:
- Check that the oven is being operated correctly.
- Ensure the oven door closes and seals correctly.
- Ensure the correct temperature scale has been set. (°F or °C).
- Check that the correct oven mode has been selected.
- Check temperature sensor
- Check for tripped thermal limiters.
- Check oven elements in diagnostics
- Check oven cavity fans in diagnostics
- Replace the power module if no other faulty components can be found
- Check door switch

Symptom: Baking Burns on Top

POSSIBLE CAUSES:
- Incorrect oven use
- Incorrect temperature scale used
- Faulty temperature sensor
- Faulty oven element
- Faulty oven cavity fan
- Faulty power module

DIAGNOSIS:
- Check that the oven is being operated correctly.
- Ensure the correct temperature scale has been set. (°F or °C).
- Check that the correct oven mode has been selected.
- Check temperature sensor
- Check oven elements in technician mode
- Check oven cavity fan in technician mode.
- Replace the power module if no other faulty components can be found.

Symptom: Oven Works But No Display

POSSIBLE CAUSES:
- Oven is set to “Display OFF” mode.

DIAGNOSIS:
- Hold “Cancel” button (X) down for more than 2 seconds to clear.

Symptom: Baking Burns on the Bottom

POSSIBLE CAUSES:
- Incorrect oven use
- Incorrect temperature scale used
- Faulty temperature sensor
- Faulty oven element
- Faulty oven cavity fan
- Faulty power module

DIAGNOSIS:
- Check that the oven is being operated correctly
- Ensure the correct temperature scale has been set (°F or °C)
- Check that the correct oven mode has been selected.
- Check temperature sensor
- Check oven element in diagnostics
- Replace the power module if no other faulty components can be found.

Symptom: Oven seems to operating Normally but Not heating

POSSIBLE CAUSES:
- Faulty oven door switch or door not closed
- Tripped thermal limiter
- Faulty temperature sensor
- Faulty oven element
- Faulty power module

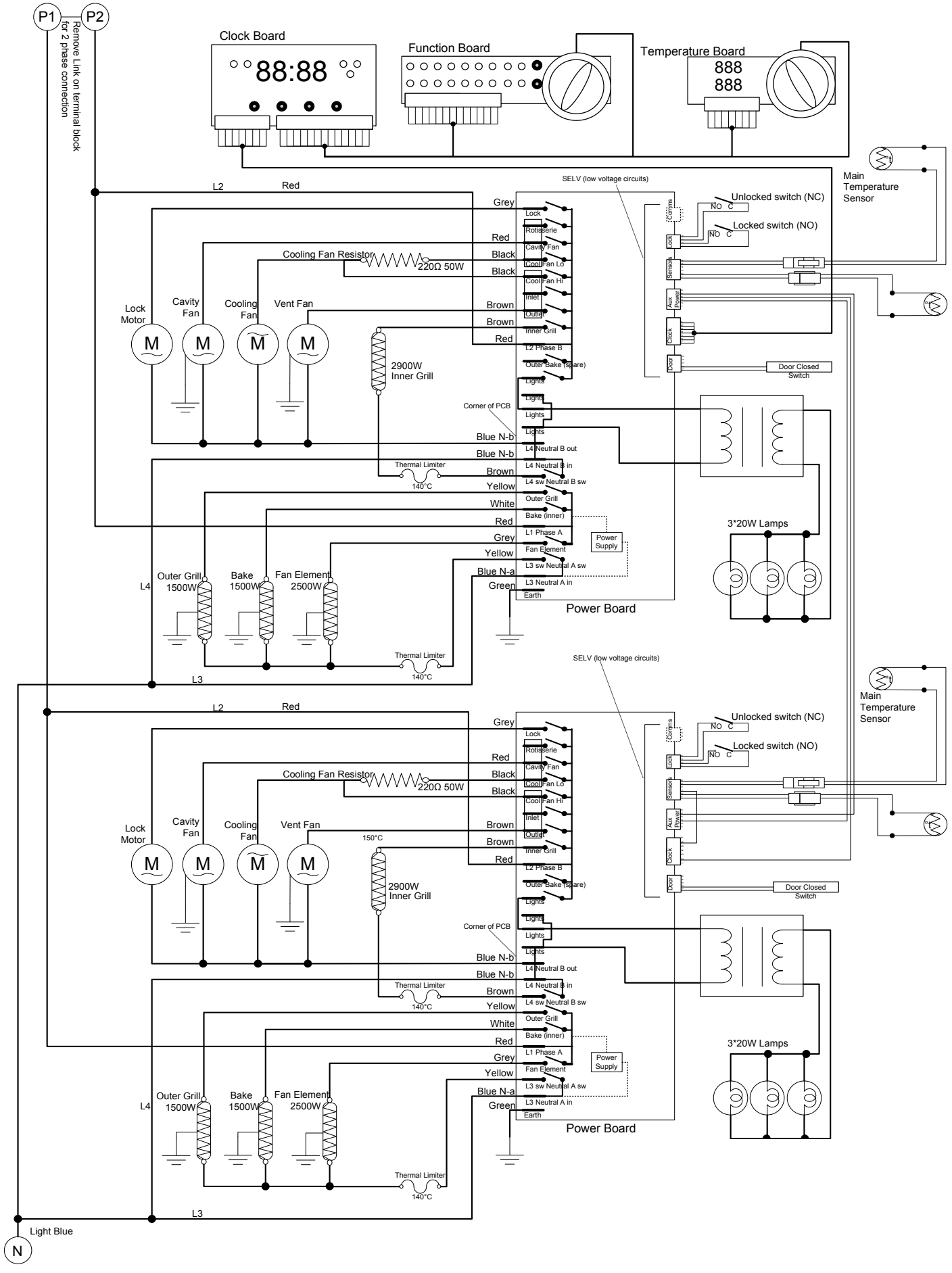
DIAGNOSIS:
- Check to see if the door switch is operating correctly
- Check for tripped thermal limiters.
- Check temperature sensor
- Check oven element in diagnostics
- Replace the power module if no other component faults can be found.

Symptom: Oven heats slowly or Fails to reach Preset Temp

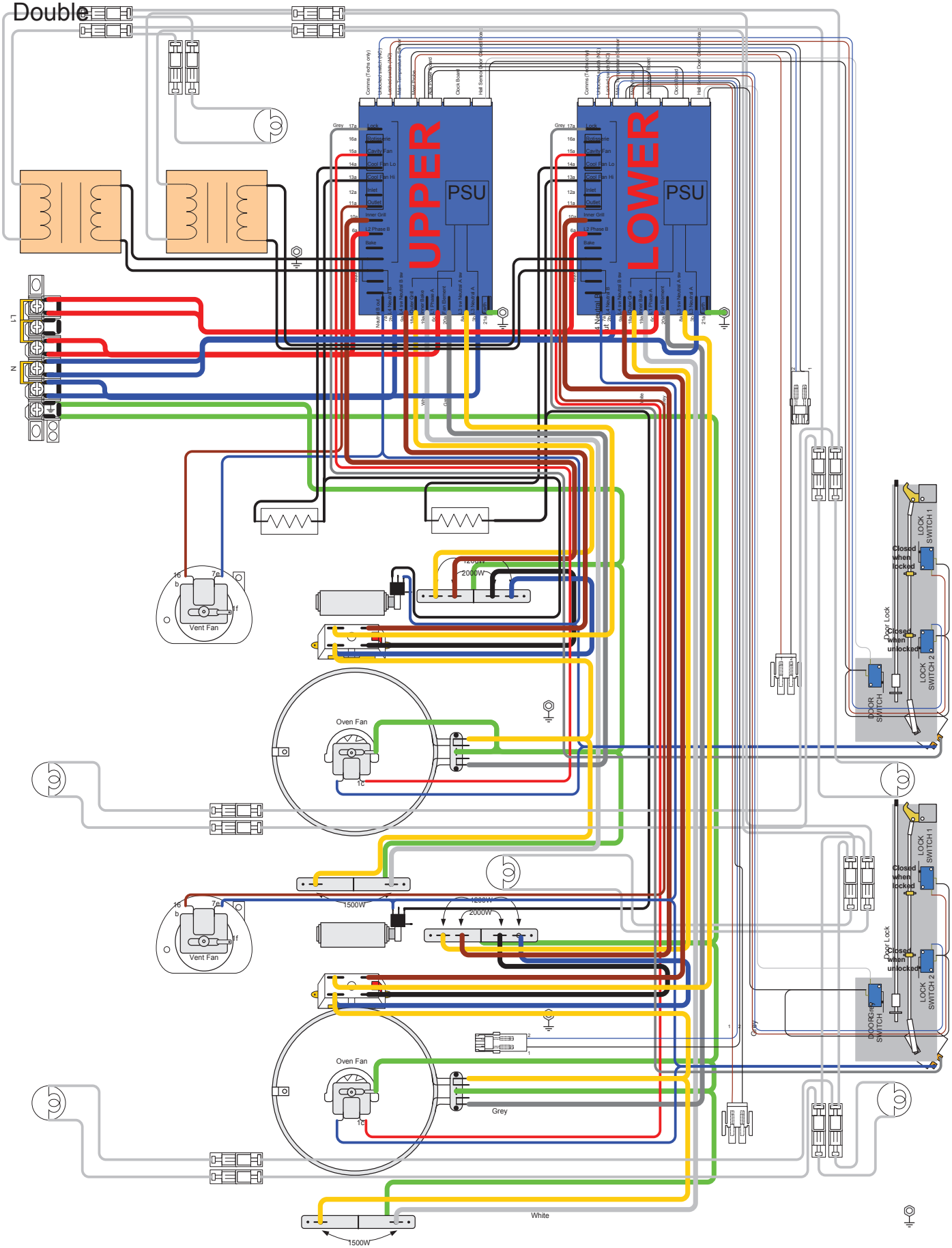
POSSIBLE CAUSES:
- Incorrect oven use
- Faulty door switch
- Low supply voltage
- Faulty temperature sensor
- Faulty oven element / fan
- Faulty power module

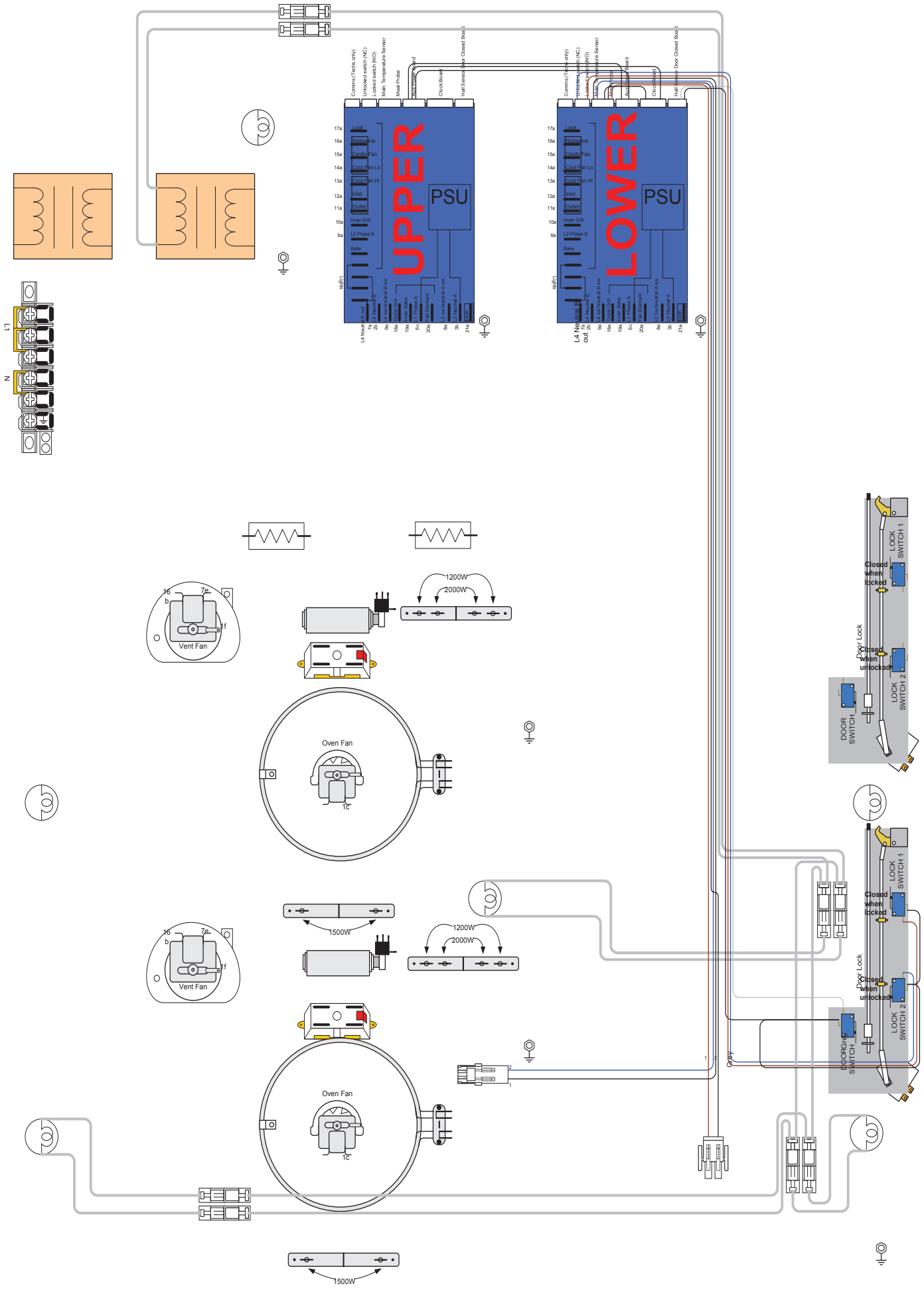
DIAGNOSIS:
- Ensure the oven door closes and seals correctly.
- Check door switch
- Check temperature sensor
- Check oven element in diagnostics
- Replace the power module if no other component faults can be found.

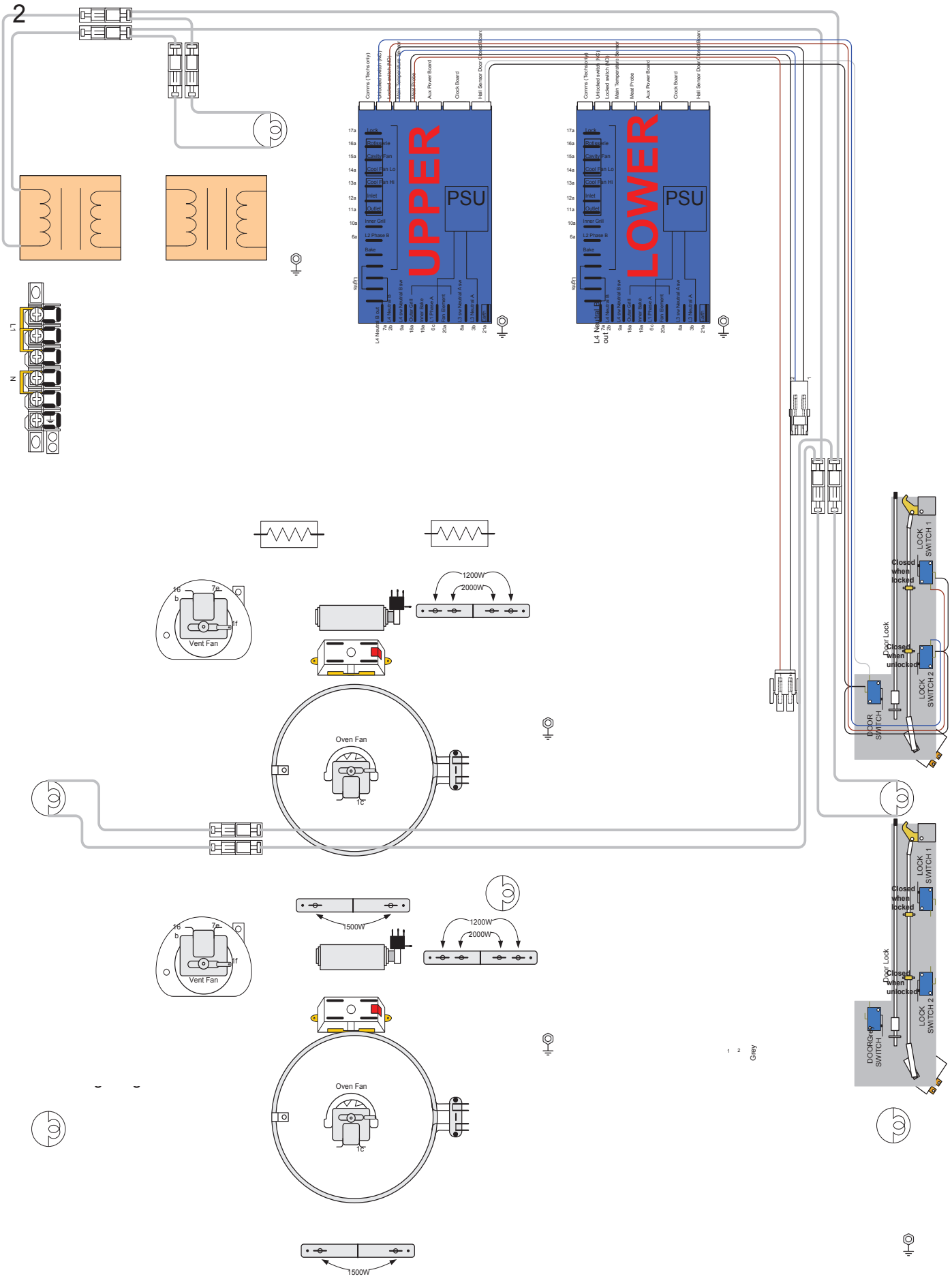
7 WIRING DIAGRAMS

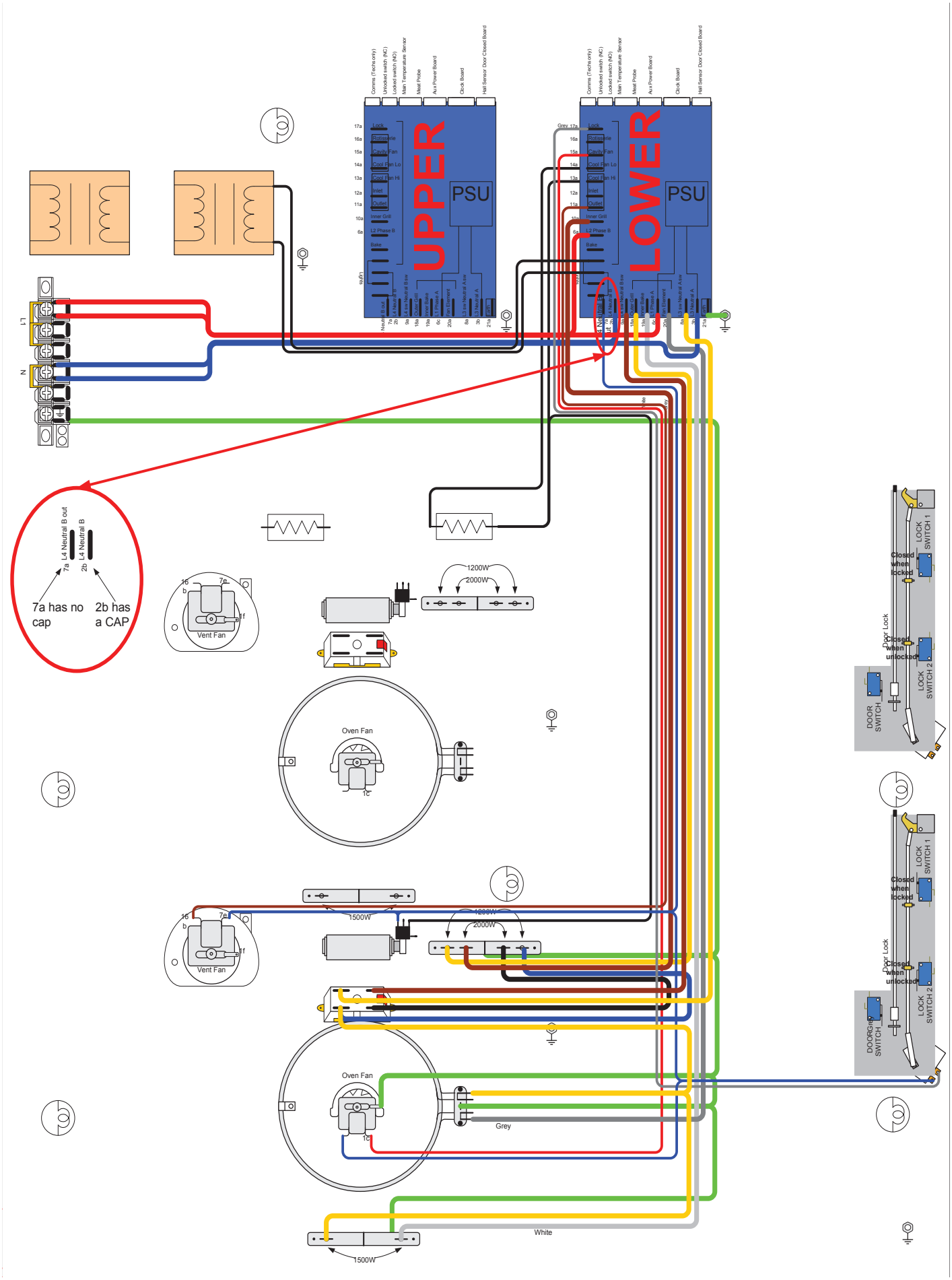


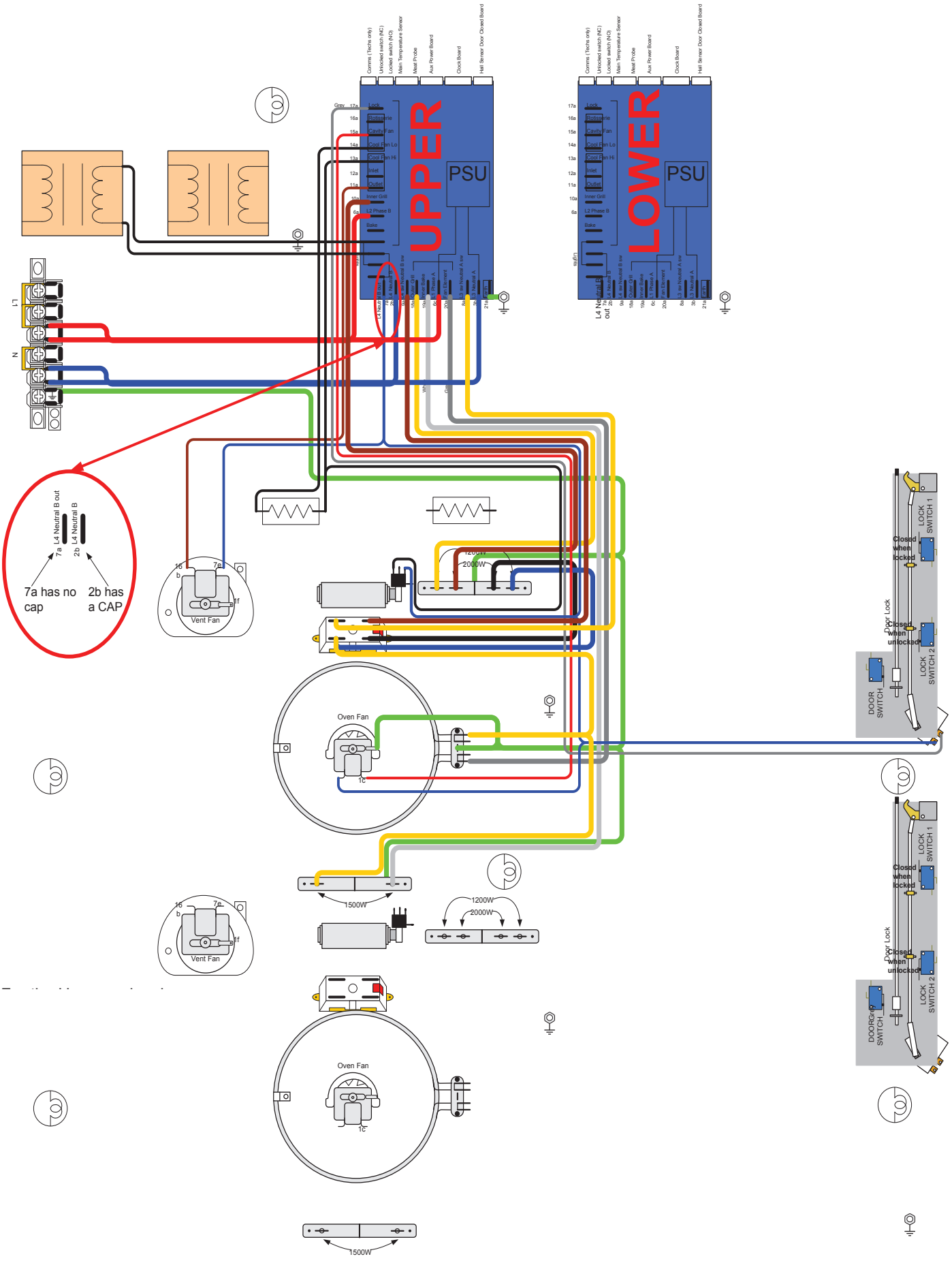
Double

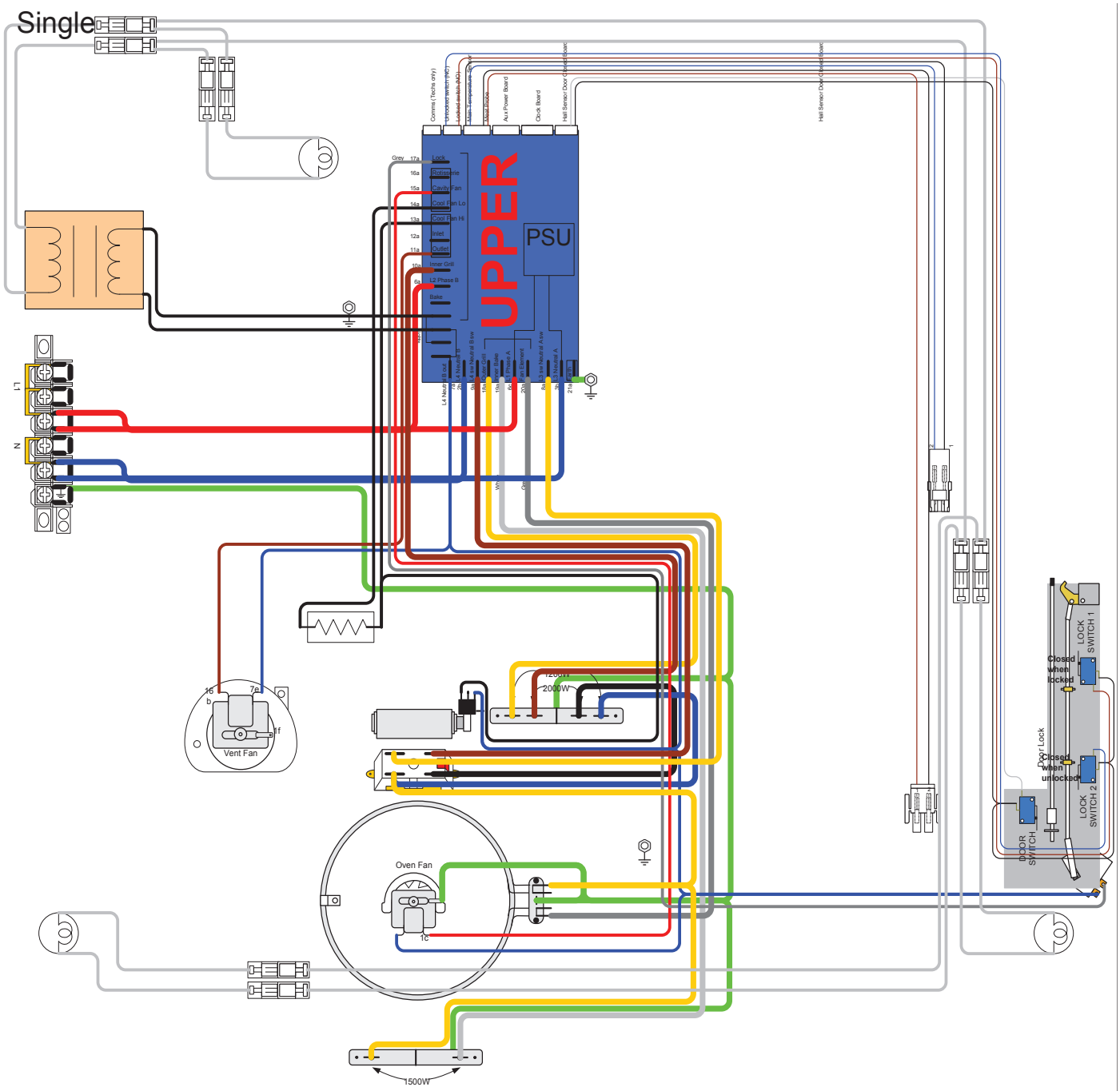

UPPER
PSU
LOWER
PSU
Vent Fan
Vent Fan
Oven Fan
Oven Fan
2000W
1500W
1200W
2000W
1500W
Grey
White
LOCK SWITCH 1
LOCK SWITCH 2
DOOR SWITCH
Closed when locked
Closed when unlocked
Door Lock

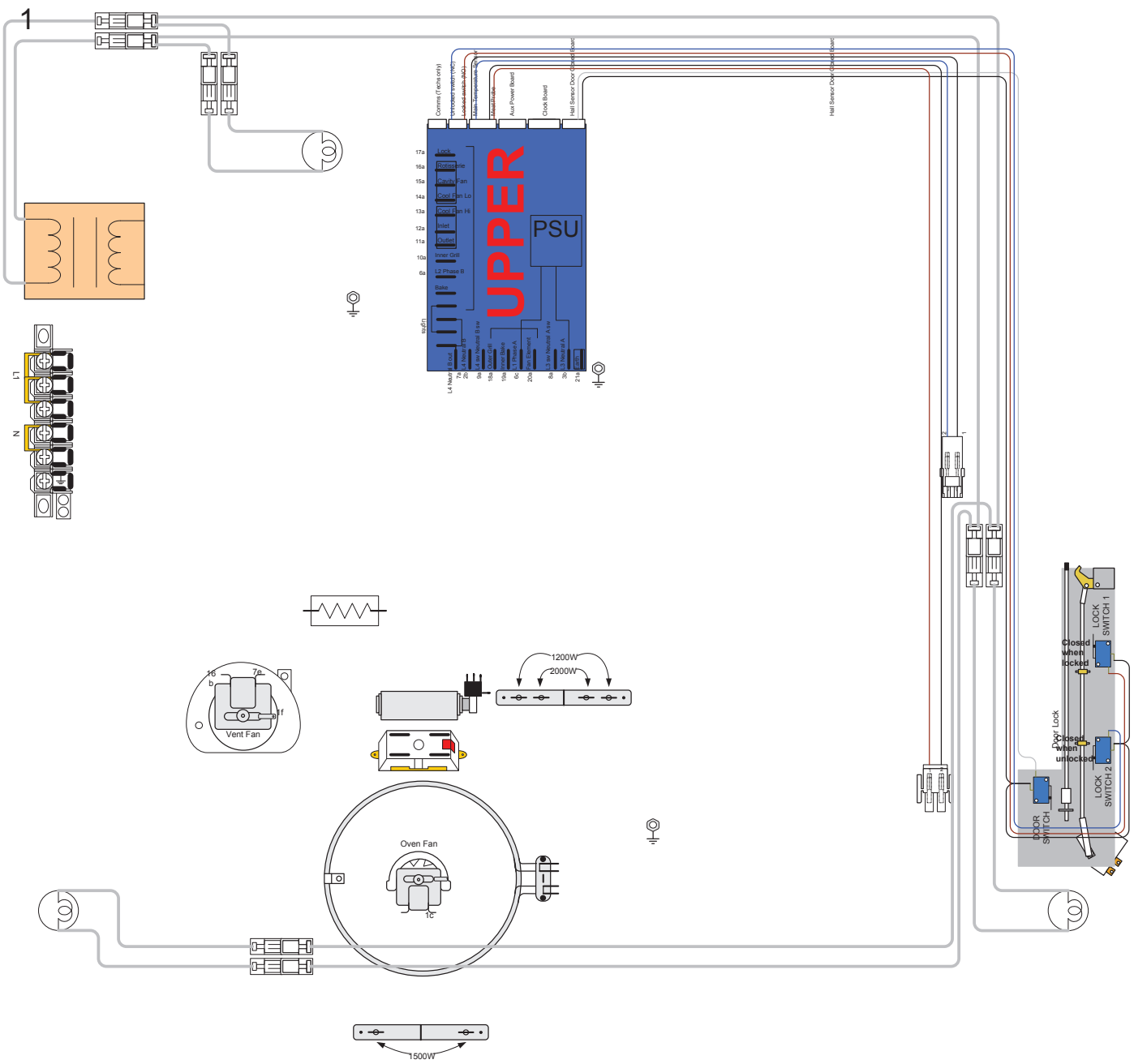

UPPER
PSU
LOWER
PSU
L1
N
Vent Fan
Oven Fan
1200W
2000W
1500W
LOCK SWITCH 1
LOCK SWITCH 2
DOOR SWITCH
Closed when locked
Closed when unlocked
Door Lock

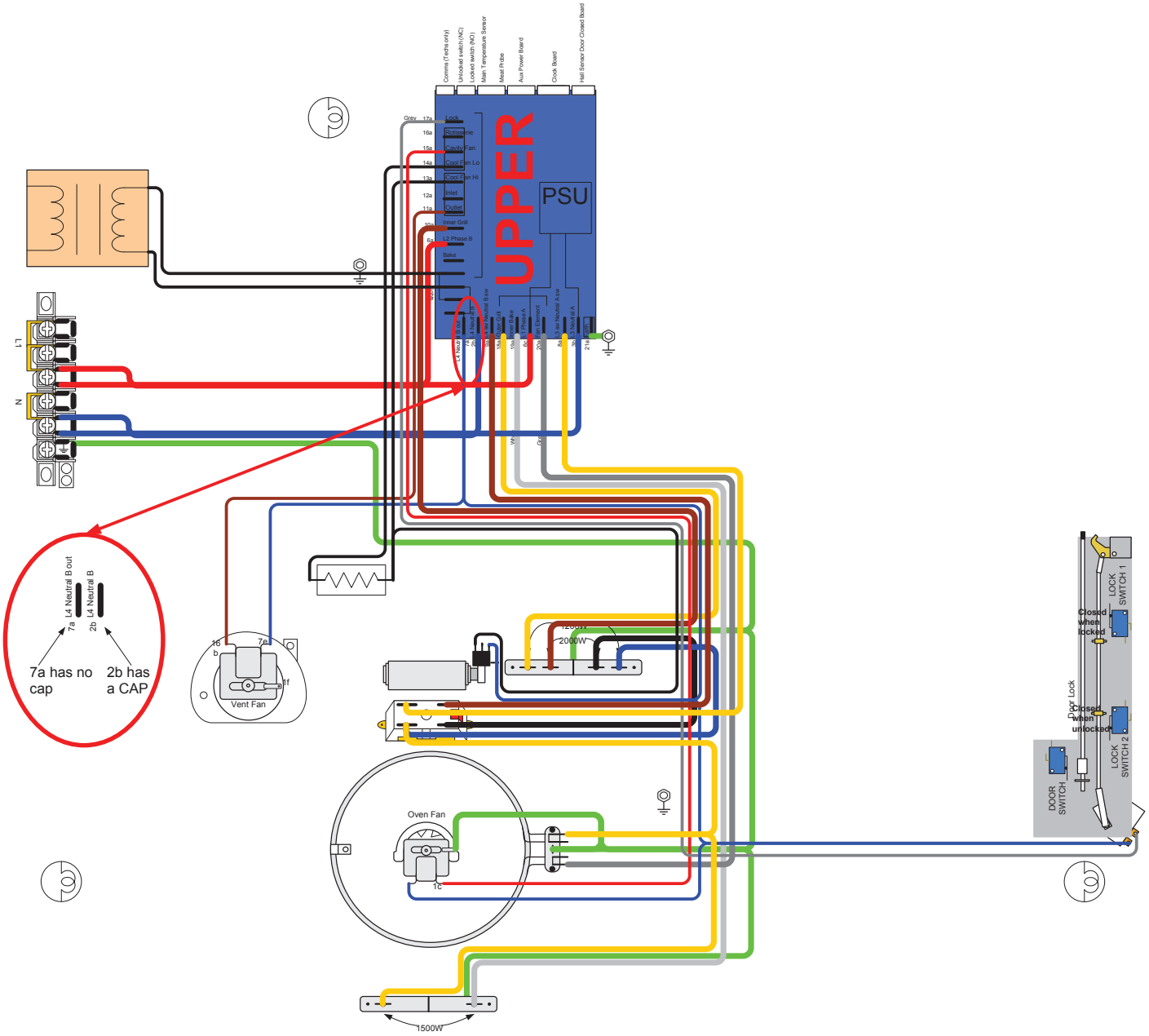

2
UPPER
PSU
LOWER
PSU
L1
N
Vent Fan
Oven Fan
1200W
2000W
1500W
LOCK SWITCH 1
LOCK SWITCH 2
DOOR SWITCH
Closed when locked
Closed when unlocked
Door Lock
Grey


UPPER
LOWER
PSU
L1
N
L4 Neutral B out
L4 Neutral B
7a has no cap
2b has a CAP
Vent Fan
Oven Fan
1200W
2000W
1500W
Grey
White
LOCK SWITCH 1
LOCK SWITCH 2
DOOR SWITCH
Door Lock
Closed when locked
Closed when unlocked


UPPER
PSU
LOWER
PSU
L1
N
7a L4 Neutral B out
2b L4 Neutral B
7a has no cap
2b has a CAP
Vent Fan
Vent Fan
Oven Fan
Oven Fan
1500W
1200W
2000W
1500W
DOOR SWITCH
LOCK SWITCH 1
LOCK SWITCH 2
Door Lock
Closed when locked
Closed when unlocked


Single
UPPER
PSU
Grey
17a
16a
15a
14a
13a
12a
11a
10a
6a
Lock
Rotisserie
Cavity Fan
Cool Fan Lo
Cool Fan Hi
Inlet
Outlet
Inner Grill
L2 Phase B
Bake
Comms (Techs only)
Aux Power Board
Clock Board
Hall Sensor/ Door Closed Board
L1
N
Vent Fan
2000W
1200W
Oven Fan
1500W
LOCK SWITCH 1
LOCK SWITCH 2
DOOR SWITCH
Closed when locked
Closed when unlocked
Door Lock


1
UPPER
PSU
Comms (Tech's only)
Controller switch (NC)
Lockout switch (NO)
Door Temperature Sensor
Meat Probe
Aux Power Board
Clock Board
Hall Sensor Door (Closed) Board
Lock
Rotisserie
Cavity Fan
Cool Fan Lo
Cool Fan Hi
Inlet
Outlet
Inner Grill
L2 Phase B
Bake
L4 Neutral B
L4 Neutral B sw
Outer Grill
Inner Bake
L1 Phase A
Broil Element
L3 sw Neutral A sw
L3 Broil A
L7
N
Vent Fan
1200W
2000W
Oven Fan
1500W
LOCK SWITCH 1
Closed when locked
Door Lock
Closed when unlocked
LOCK SWITCH 2
DOOR SWITCH


UPPER
PSU
L1
N
L4 Neutral B out
L4 Neutral B
7a has no cap
2b has a CAP
Vent Fan
2000W
Oven Fan
1500W
LOCK SWITCH 1
Closed when locked
Door Lock
Closed when unlocked
LOCK SWITCH 2
DOOR SWITCH

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