



# Vector<sup>®</sup> Multi-Cook Oven

Deluxe Control

VMC-F3E  
VMC-F4E



Structured Air Technology<sup>®</sup>

MN-46896-EN

REV.02  
10/22

EN



# Manufacturer's Information

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P.O. Box 450  
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Menomonee Falls, WI 53052

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**Original instructions** The content in this manual is written in American English.

# Alto-Shaam 24/7 Emergency Repair Service

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<b>Call</b>	Call 800-558-8744 to reach our 24-hour emergency service call center for immediate access to local authorized service agencies outside standard business hours. The emergency service access is provided exclusively for Alto-Shaam equipment and is available throughout the United States through Alto-Shaam's toll free number.
<b>Availability</b>	Emergency service access is available seven days a week, including holidays.

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# The Meaning of Signal Words

This manual contains signal words where needed. These signal words must be obeyed to reduce the risk of death, personal injury, or equipment damage. The meaning of these signal words is explained below.

**DANGER**

Danger indicates a hazardous situation which, if not avoided, will result in serious injury or death.

**WARNING**

Warning indicates a hazardous situation which, if not avoided, could result in serious injury or death.

**CAUTION**

Caution indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**NOTICE**

Notice indicates a situation which, if not avoided, could result in property damage.



**NOTE:** Note indicates additional information that is important to a concept or procedure.

# Safety Precautions

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## Before you begin

Read and understand all instructions in this manual.

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## Electrical precautions

Obey these electrical precautions when using the appliance:

- If applicable, connect the appliance to a properly grounded outlet. Do not use the appliance if it is not properly grounded. Consult an electrician if there is any doubt that the outlet used is properly grounded.
  - Keep the cord away from hot surfaces.
  - Do not attempt to service the appliance or its cord and plug.
  - Do not operate the appliance if it has a damaged cord or plug.
  - Do not immerse the cord or plug in water.
  - Do not let the cord hang over the edge of a table or counter.
  - Do not use an extension cord.
- 

## Usage precautions

Obey these usage precautions when using the appliance:

- Only use this appliance for its intended use of heating or cooking.
  - Always keep liquids, or foods that can become liquid when heated, level and at or below eye level where they can be seen.
  - Use utensils and protective clothing such as dry oven mitts when loading and unloading the appliance.
  - Use caution when using the appliance. Floors adjacent to the appliance may become slippery.
  - Do not cover or block any of the openings of this appliance.
  - Do not cover racks or any other part of this appliance with metal foil.
  - Do not use this appliance near water such as a sink, in a wet location, near a swimming pool, or similar locations.
  - Do not unplug or disconnect the appliance immediately after cooking. The cooling fans must stay on to protect electrical components.
- 

## Maintenance precautions

Obey these maintenance precautions when maintaining the appliance:

- Obey precautions in the manual, on tags, and on labels attached to or shipped with the appliance.
- Only clean the appliance when oven is OFF.
- Do not store the appliance outdoors.
- Do not clean the appliance with metal scouring pads.
- Do not use corrosive chemicals when cleaning the appliance.
- Do not use a hose or water jet to clean the appliance.
- Do not use the appliance cavity for storage.
- Do not leave flammable materials, cooking utensils, or food inside the appliance when it is not in use.
- Do not remove the top cover or side panels. There are no user-serviceable components inside.

**Operator training**

Before using the appliance:

- Read and understand the operating instructions contained in all the documentation delivered with the appliance.
  - Know the location and proper use of all controls.
  - Keep this manual and all supplied instructions, diagrams, schematics, parts lists, notices, and labels with the appliance if the appliance is sold or moved to another location.
  - Contact Alto-Shaam for additional training if needed.
- 

**Operator qualifications**

Only trained personnel are permitted to use the appliance. They must meet the following qualifications:

- Have received proper instruction on how to use the appliance
- Are familiar with commercial kitchens and commercial appliances

The appliance must not be used by:

- Persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision concerning use of the appliance by person responsible for their safety.
  - People impaired by drugs or alcohol.
- 

- Children should be supervised to ensure that they do not play with the appliance.
  - Children shall neither clean nor maintain the appliance.
- 

**Condition of appliance**

Only use the appliance when:

- All controls operate correctly
  - The appliance is installed correctly
  - The appliance is clean
  - The appliance labels are legible
- 

**Servicing the appliance**

- Only trained personnel are permitted to service or repair the appliance. Repairs that are not performed by an authorized service partner or trained technician will void the warranty and relieve Alto-Shaam of all liability. Original manufacturer's replacement parts may be substituted; however, these parts must be of equal quality and specifications as those provided by Alto-Shaam.
  - To prevent serious injury, death or property damage, have the appliance inspected and serviced at least every twelve (12) months by an authorized service partner or trained technician.
  - Contact Alto-Shaam for the authorized service partner in your area.
- 

**Sound power**

The A-weighted sound pressure level is below 70 dB(A).

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## Personal Protective Equipment (PPE)

Wear the following Personal Protective Equipment (PPE) while cleaning the appliance:

- Protective gloves
  - Protective clothing
  - Eye protection
  - Face protection
- 

## Service Technician Training

Only trained personnel are permitted to service or repair the appliance. Service technicians must be knowledgeable in current codes and standards as stated by the appropriate agencies, such as:

- The National Fire Protection Association (NFPA)
- National Electrical Code (NEC)
- The Service Technician's employer

# How to Turn On and Turn Off the Oven

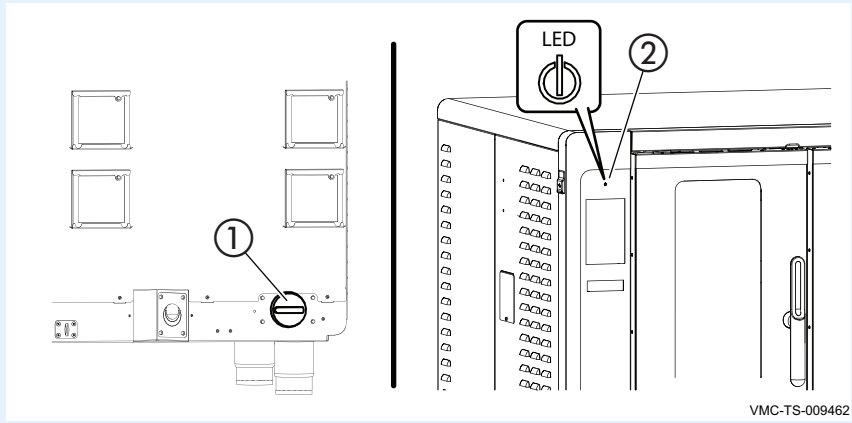
## Before you begin

The oven must be connected to electric power.

## Turning on the oven

To turn on the oven, do the following.

Step	Action
1.	<p><b>Set</b> the main disconnect switch ① to the ON position.</p> <p><b>Touch</b> the ON/OFF button ②.</p> <div data-bbox="597 621 1338 722" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><b>i NOTE:</b> The main disconnect switch is meant to be used during service operations. For every day operation, it may be left in the ON position.</p> </div> <div data-bbox="539 739 1386 1159" style="text-align: center;"> <p>The diagram consists of two parts. On the left, a close-up of the main disconnect switch is shown with a circled '1' pointing to it. On the right, a view of the oven control panel is shown with a circled '2' pointing to the ON/OFF button. The button is labeled 'LED' and has a power symbol. The oven door is open, showing the interior racks. The reference code 'VMC-TS-009462' is located at the bottom right of the diagram.</p> </div>
2.	<p><b>Touch and hold</b> the ON/OFF button until the Shut down options screen displays.</p> <p><b>Touch</b> "Shut down" to turn off the oven.</p> <p>The oven activates the blowers for the cool-down process. The cool-down process is complete when the oven deactivates the blowers and the display screen turns off.</p>



The oven is now on.

## Turning off the oven

To turn off the oven, do the following.



The oven is now off.

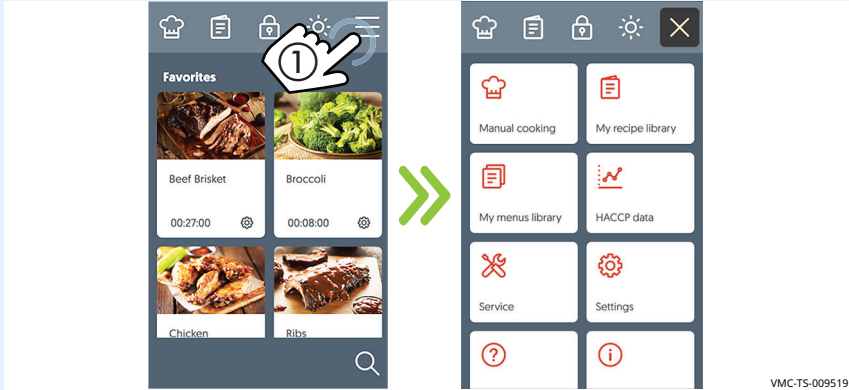
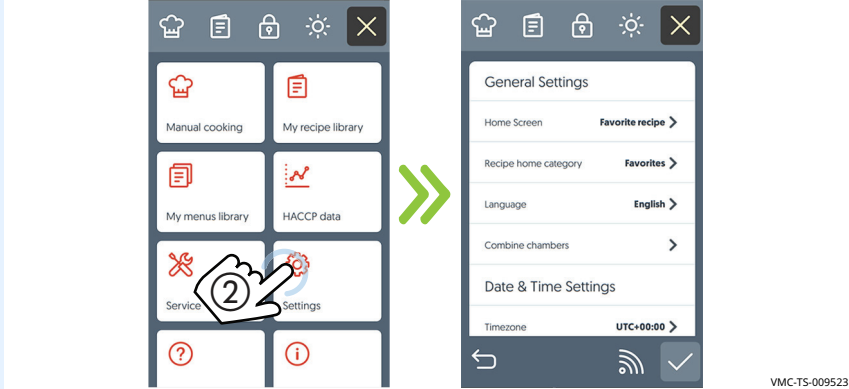
# How to View and Set up Network Connections

## Before you begin

- The facility must have WIFI.
- The oven will only recognize networks that require a password to connect.
- Do not connect to a guest network.

## Procedure

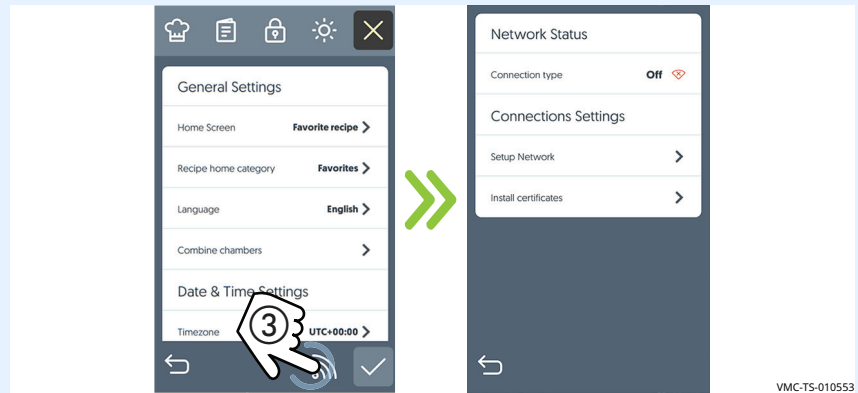
To set up WIFI, do the following.

Step	Action
1.	<p><b>Touch</b> the menu icon ①. The menu screen displays.</p>  <p style="text-align: right; font-size: small;">VMC-TS-009519</p>
2.	<p><b>Touch</b> the settings icon ②. The general settings screen displays.</p>  <p style="text-align: right; font-size: small;">VMC-TS-009523</p>

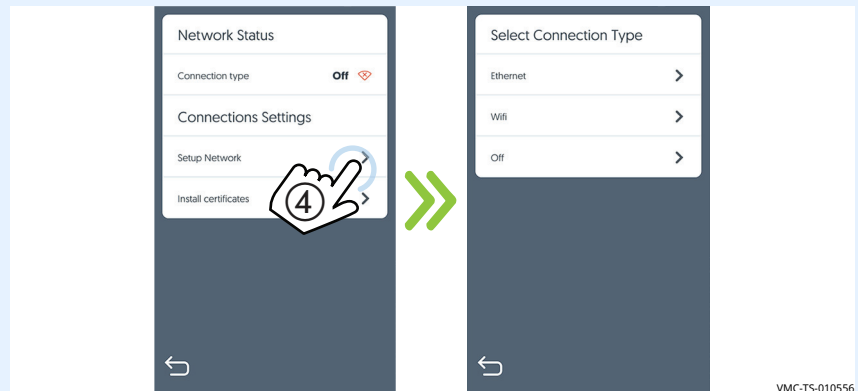
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3. **Touch** the WIFI icon ③. The Network Status screen displays.



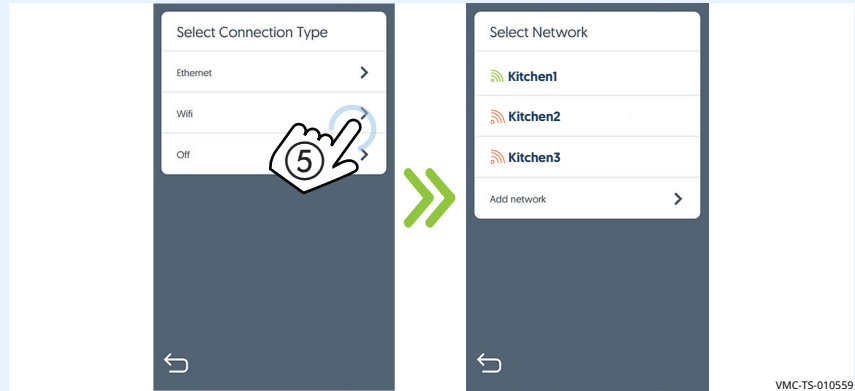
4. **Touch** the Setup Network icon ④. The Select Connection Type screen displays.



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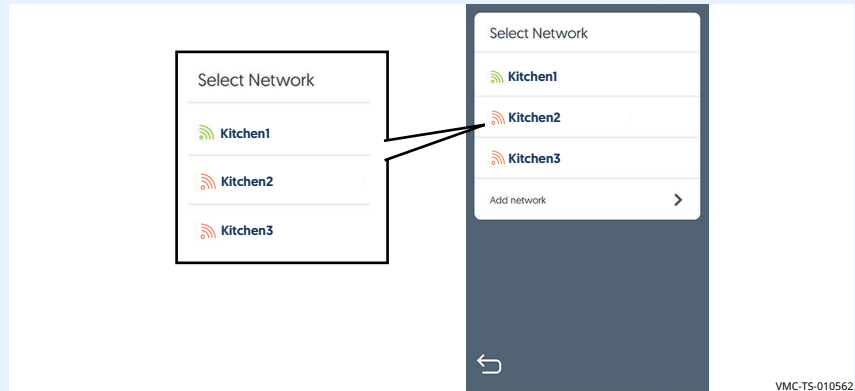
5. **Touch** the “Wifi” icon ⑤.



The available networks will show on the screen. The color of the network icon indicates the strength of the signal for each network.

- Green = strong
- Yellow = medium
- Red = weak

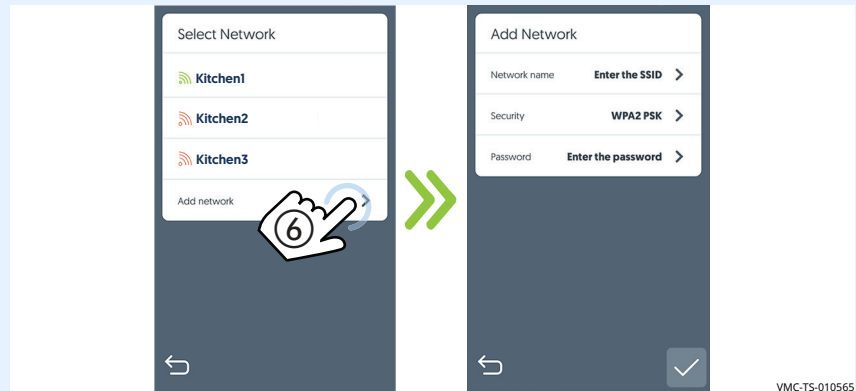
If the network to be used is not displayed, continue with step 6.



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6. If the network is not available, **touch** the “Add network” icon ⑥.



**Enter** the SSID using the keypad. Then, **touch** the arrow key.

**Enter** the security type. Then, **touch** the check mark.

**Enter** the password using the keypad. Then, **touch** the arrow key.

**Touch** the check mark when finished.

## Result

The procedure is now complete.

# How to Set up an Ethernet Connection

## Before you begin

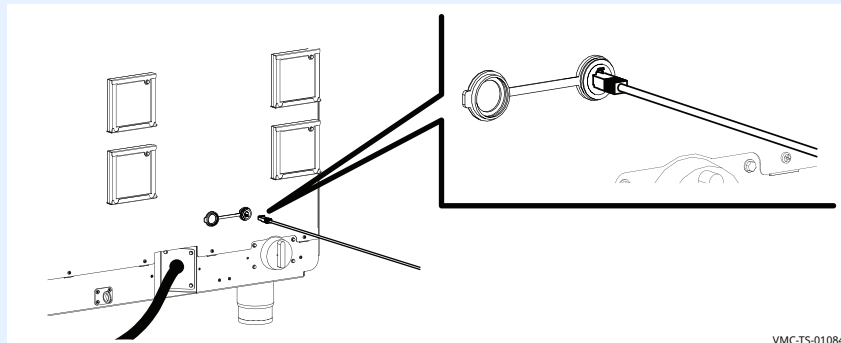
- The facility must have an Ethernet port.
- You will need an Ethernet cable.

## Procedure

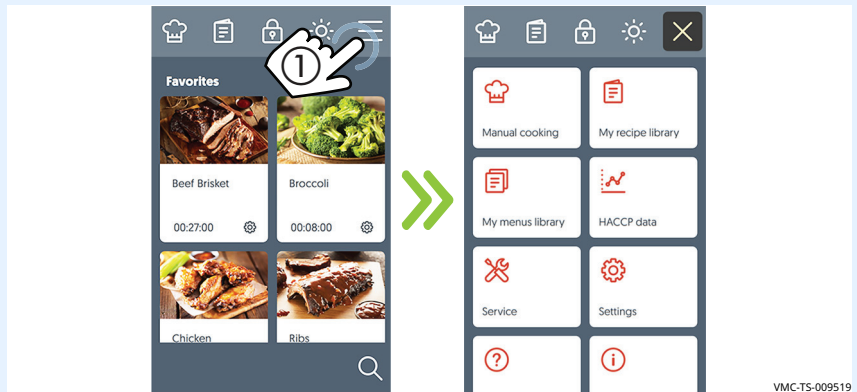
To set up an Ethernet connection, do the following.

Step	Action
------	--------

- |    |   |
|----|---|
| 1. | <b>Plug</b> the Ethernet cord into the Ethernet port on the oven and the wall outlet. |
|----|---|



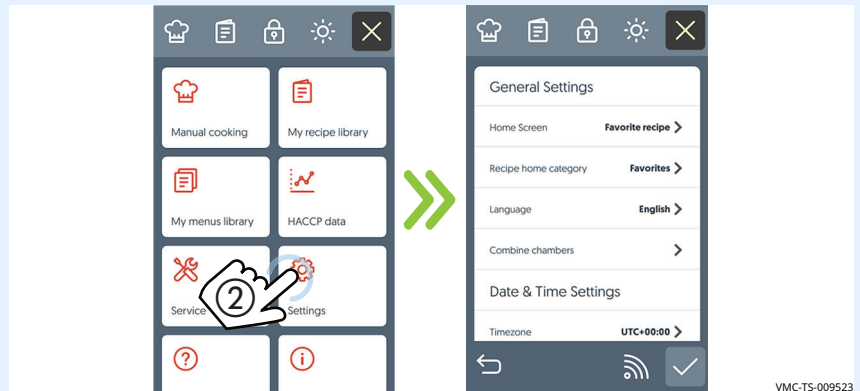
- |    |   |
|----|---|
| 2. | <b>Touch</b> the menu icon ①. The menu screen displays. |
|----|---|



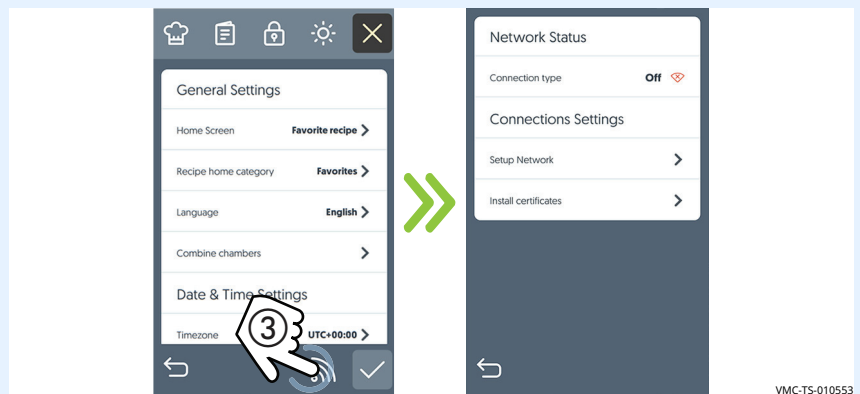
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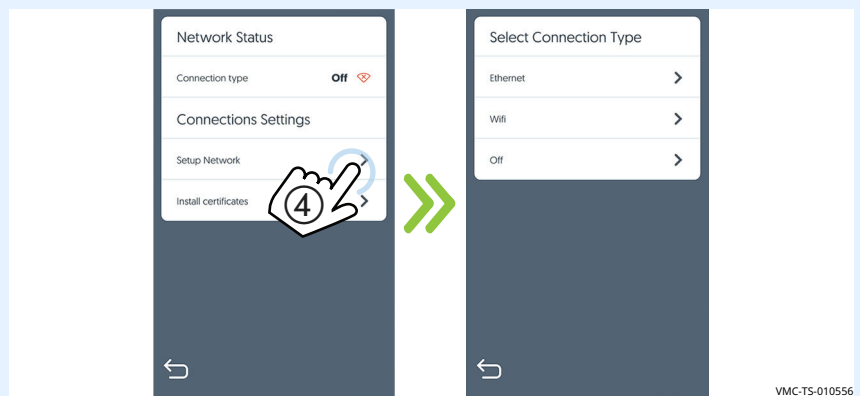
3. **Touch** the settings icon ②. The general settings screen displays.



4. **Touch** the WIFI icon ③. The Network Status screen displays.



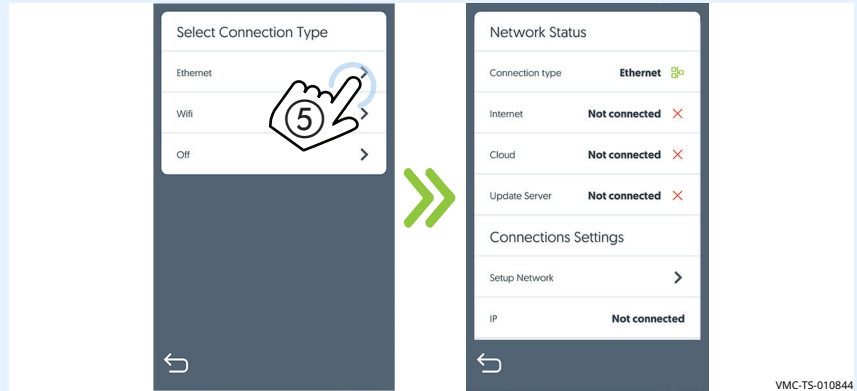
5. **Touch** the Setup Network icon ④. The Select Connection Type screen displays.



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6. **Touch** the “Ethernet” icon ⑤.

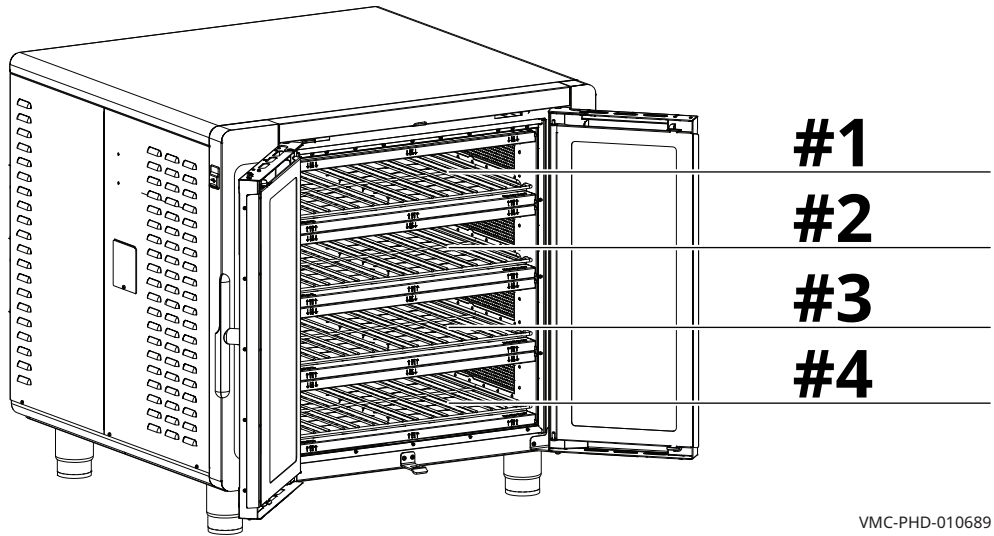


**Result**

The Ethernet connection is now set up.

# Chamber Identification

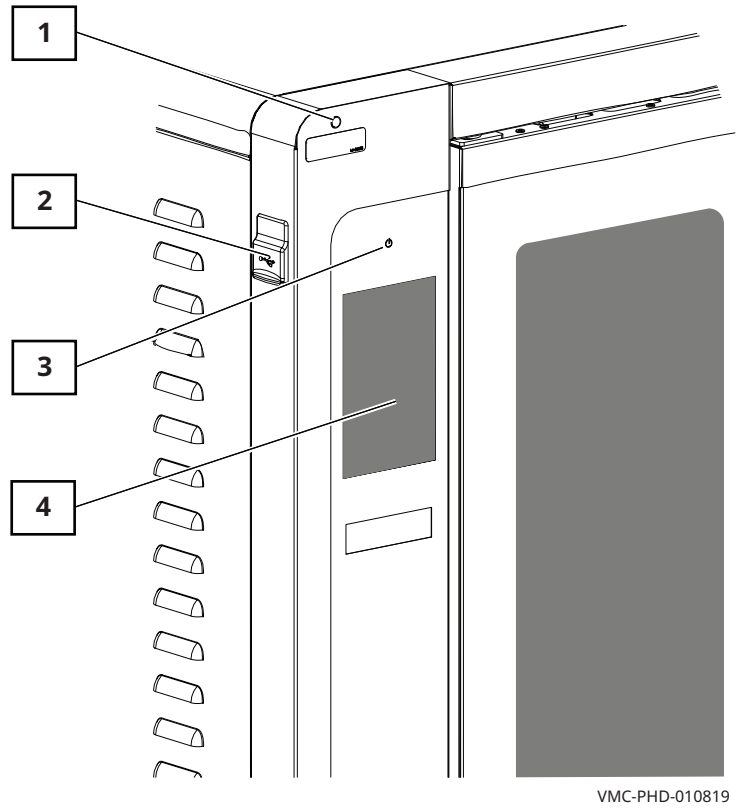
Components will be identified in accordance with the chamber numbering illustrated here. See topic *Variable Frequency Drive (VFD)* for VFD numbering.



VMC-PHD-010689

COMPONENTS

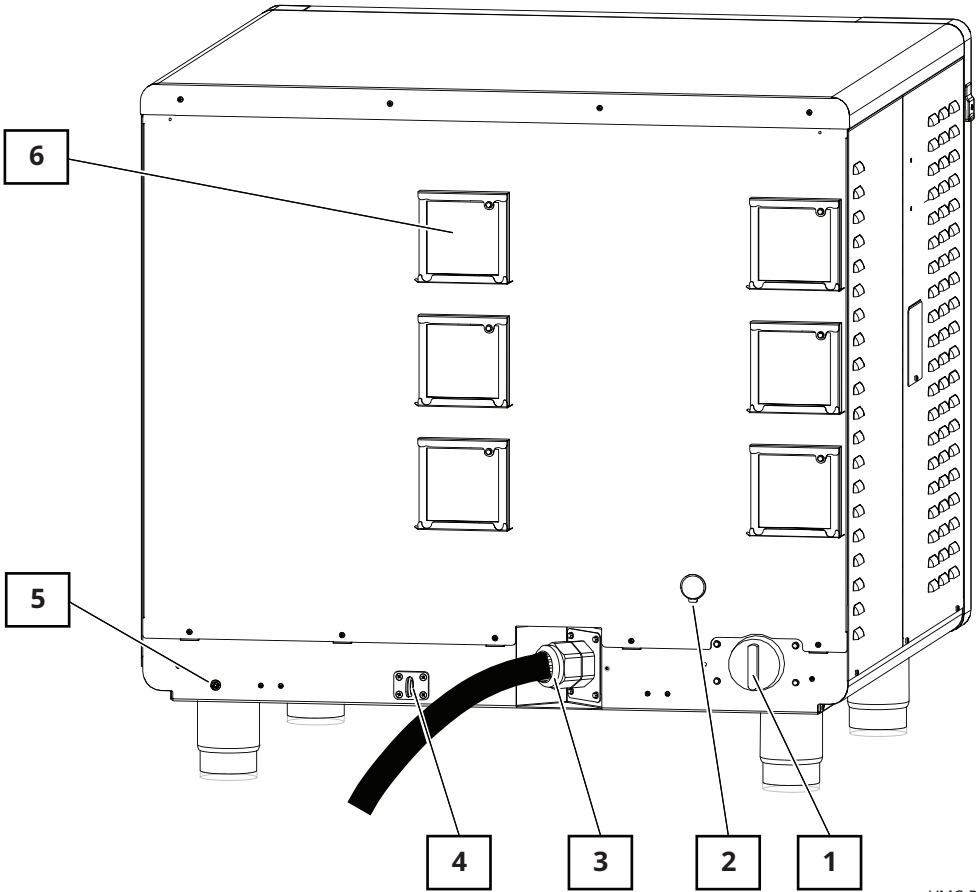
# Front Panel Identification



VMC-PHD-010819

Ref.	Description
1	Check fan indicator light
2	USB port
3	ON/OFF button
4	Control panel display

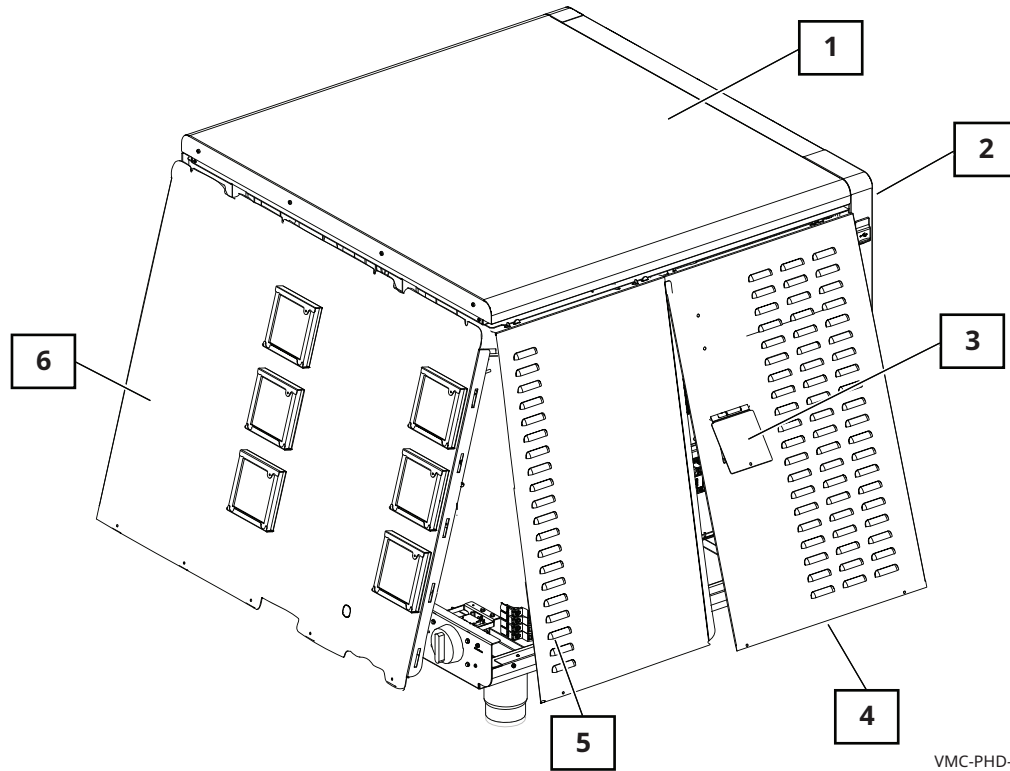
# Back Panel Identification



VMC-PHD-010695

Ref.	Description
1	Main disconnect switch
2	Ethernet port
3	Electrical supply cord
4	Tether ring
5	Equipotential-bonding terminal
6	Cooling fans/filters

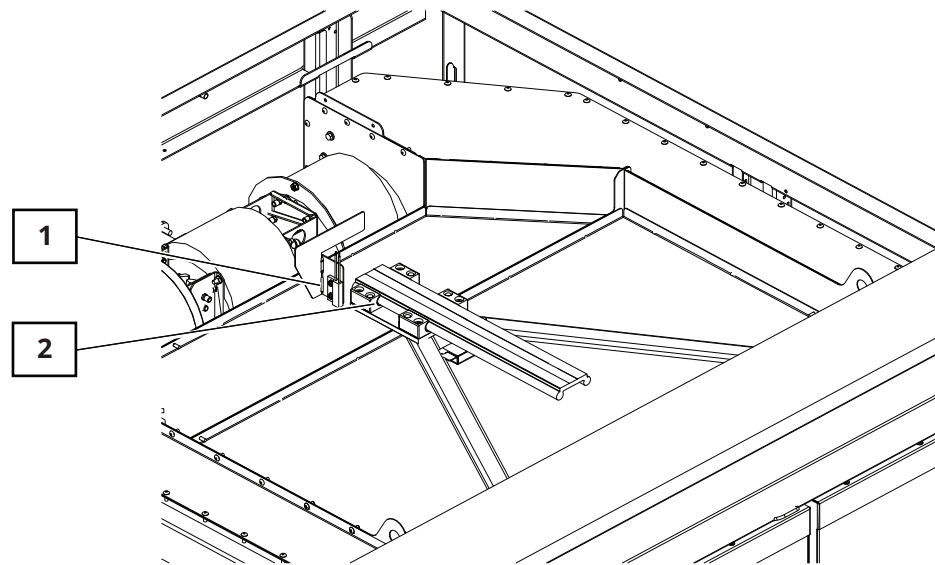
# Component Access Panels Identification



VMC-PHD-010698

Ref.	Description	Provides access to
1	Top panel	Door drive and door switch
2	Control panel	Interface board, display, WiFi antenna
3	Circuit breaker access panel	Circuit breakers
4	Left front service panel	Electric chassis components, control panel components, and thermocouples
5	Left back service panel	Electric power components
6	Rear service panel	External fans, heaters, blowers, motors and electric power components

# Top Panel Component Identification

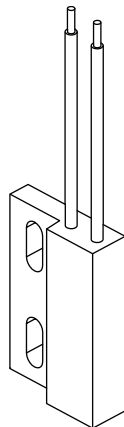


VMC-PHD-010701

Ref.	Description
1	Door switch
2	Door closure mechanism

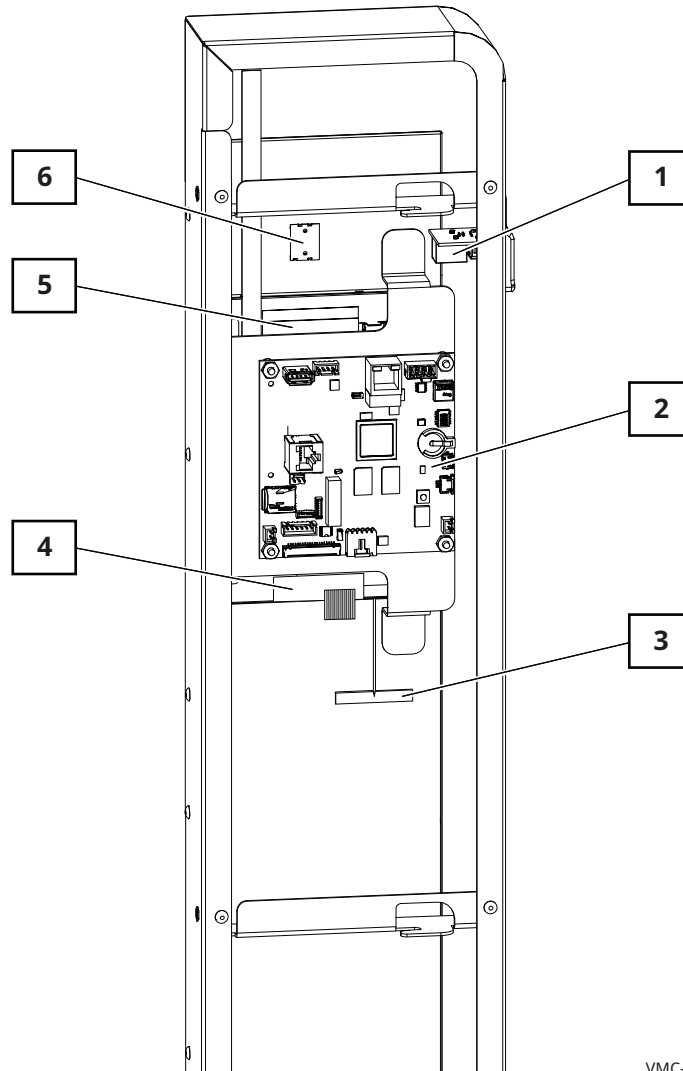
## Door Switch

- **Door closed** 0 Ohms; 0 VDC across terminals 1 and 2 of connector P3 on the control board.
- **Door open** Infinite Ohms; 8 VDC across terminals 1 and 2 of connector P3 on the control board.



VMC-PHD-010704

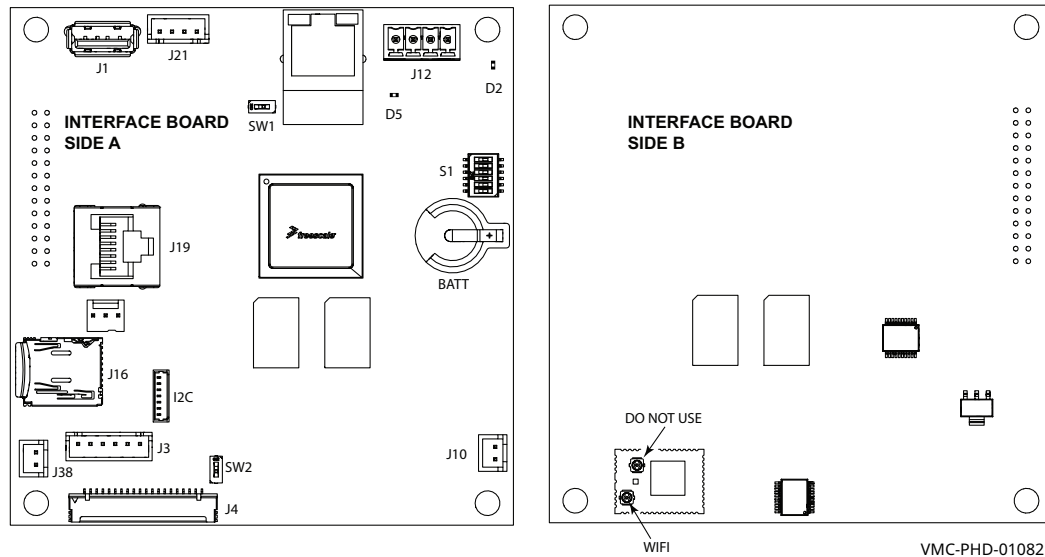
# Control Panel Component Identification



VMC-PHD-010822

Ref.	Description
1	USB port
2	Interface board
3	WiFi antenna (not serviceable)
4	Capacitive touch controller board (not serviceable)
5	Liquid Crystal Display (LCD) (not serviceable)
6	ON/OFF board (not serviceable)

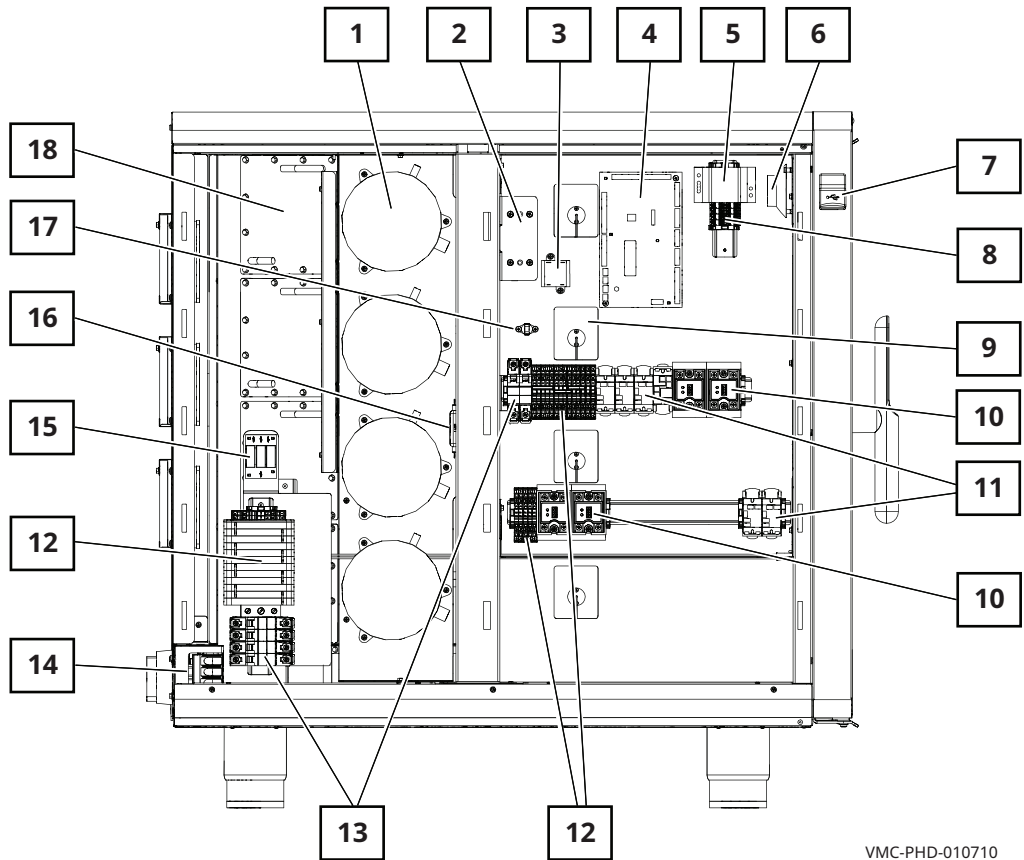
# Interface Board



VMC-PHD-010825

Ref.	Description
<b>BATT</b>	Clock battery
<b>I2C</b>	Capacitive touch cable
<b>J1</b>	USB connections
<b>J3</b>	Display back light
<b>J4</b>	LCD interface
<b>J10</b>	Speaker
<b>J12</b>	12VDC power
<b>J16</b>	8GB microSD card
<b>J21</b>	ON/OFF board
<b>J38</b>	Speaker
<b>J54</b>	RS 485/232 LVIO
<b>S1</b>	DIP switches (all off)
<b>SW1</b>	DIP switch (off)
<b>SW2</b>	DIP switch (off)
<b>WiFi</b>	WiFi antenna (conductor closest to the edge of the board)

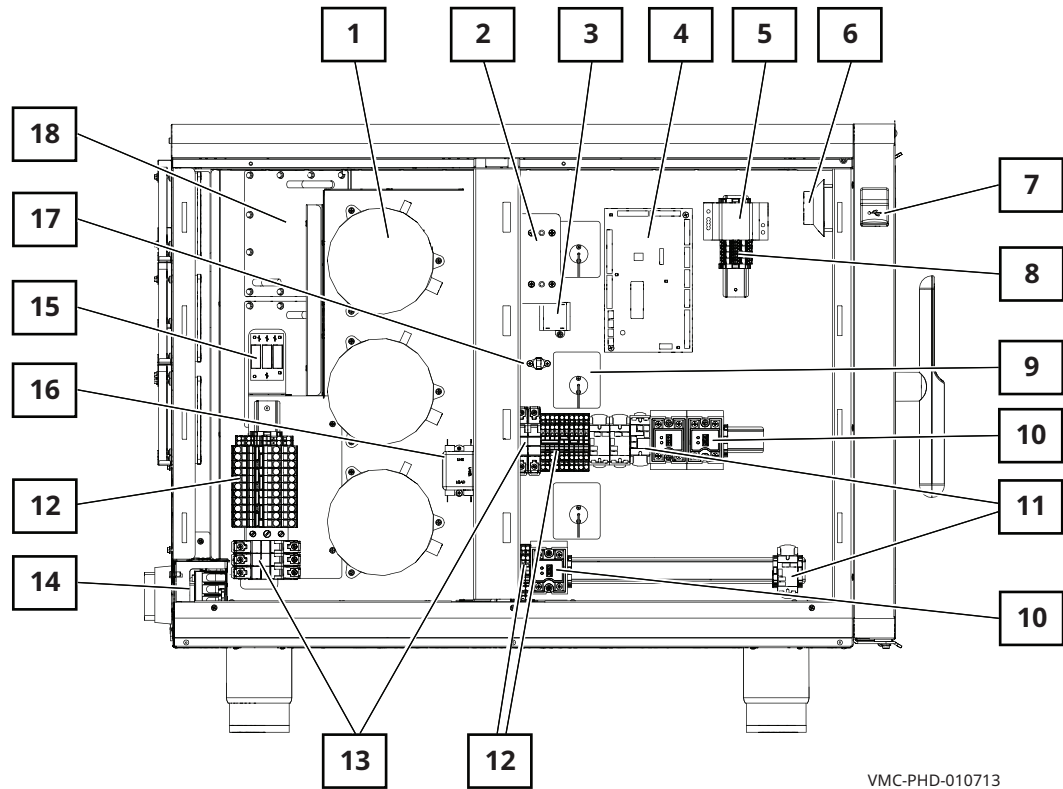
# F4—Electrical Component Identification



VMC-PHD-010710

Ref.	Description	Ref.	Description
1	Variable Frequency Drive (VFD)	10	Solid State Relay (SSR)—Dual
2	High limit switches	11	Relays
3	Transformer	12	Terminal blocks
4	Control board	13	Circuit breakers
5	12VDC power supply	14	Main disconnect switch
6	Speaker	15	WYE filter (CE only)
7	USB port	16	Line filter (CE only)
8	Terminal blocks	17	Switch—Check fans light 1 of 2
9	Chamber air temperature probe	18	Chamber heating element

# F3—Electrical Component Identification



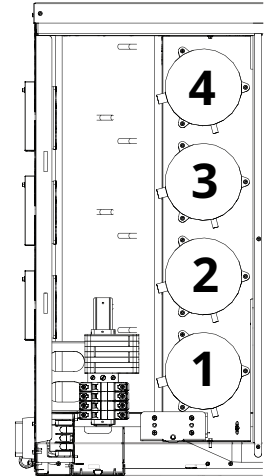
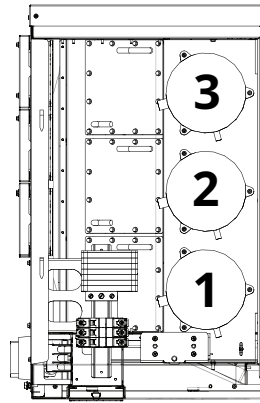
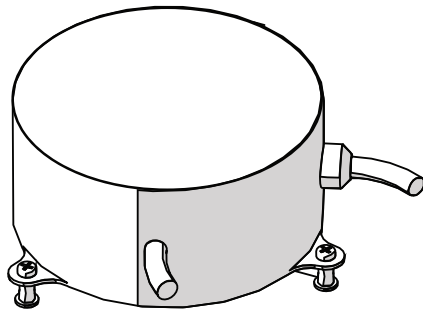
VMC-PHD-010713

Ref.	Description	Ref.	Description
1	Variable Frequency Drive (VFD)	10	Solid State Relay (SSR)—Dual
2	High limit switches	11	Relays
3	Transformer	12	Terminal blocks
4	Control board	13	Circuit breakers
5	12VDC power supply	14	Main disconnect switch
6	Speaker	15	WYE filter (CE only)
7	USB port	16	Line filter (CE only)
8	Terminal blocks	17	Switch—Check fans light 1 of 2
9	Chamber air temperature probe	18	Chamber heating element

# Variable Frequency Drive (VFD)



**WARNING:** Electric shock hazard.  
Do not disassemble the VFD.

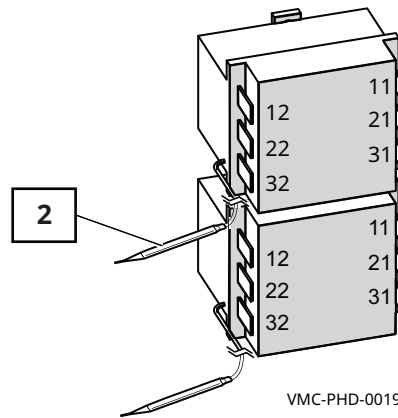
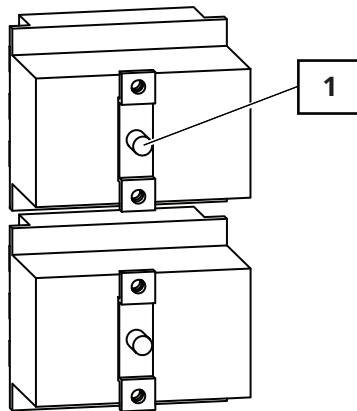


VMC-PHD-003618

# High Limit Switches

Resettable

Contacts open at 572°F (300°C)



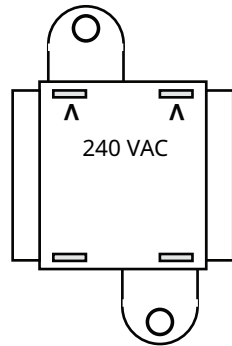
VMC-PHD-001987

Ref.	Description
1	Reset button
2	Temperature bulb

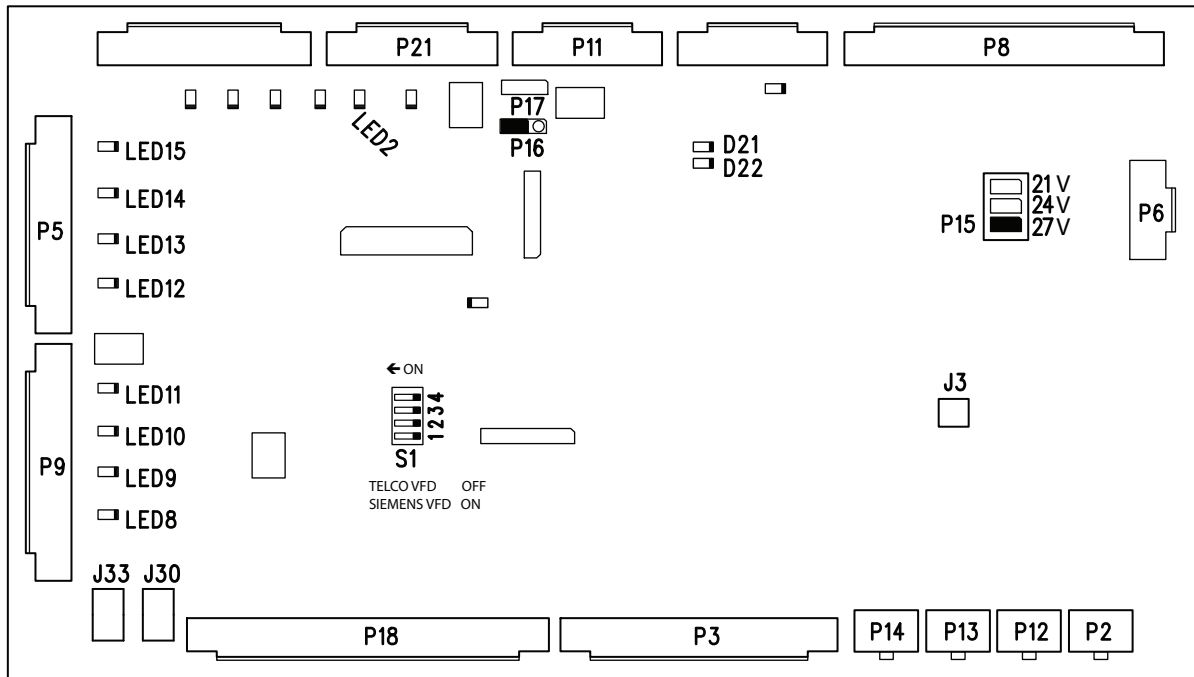
## 12VAC Transformer

The transformer provides a voltage signal to the control board. The signal allows the control board to determine the incoming line voltage.

- Primary: 1700 Ohms
- Secondary: 6 Ohms



# Control Board (CB)

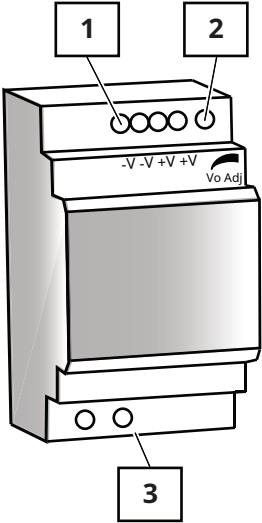


VMC-PHD-001947

Ref.	Description	Ref.	Description	Ref.	Description
<b>P2</b>	Drive 1 communication	<b>P15</b>	Jumper	<b>LED 9</b>	Chamber 2 call for heat
<b>P3</b>	Input signals	<b>P16</b>	Jumper	<b>LED 10</b>	Chamber 3 call for heat
<b>P5</b>	Lights	<b>P17</b>	Not used	<b>LED 11</b>	Chamber 4 call for heat
<b>P6</b>	Input from 12VDC power supply	<b>P18</b>	Input from switches	<b>LED 12</b>	Chamber 1 light
<b>P8</b>	Thermocouple inputs	<b>P21</b>	Output to blower/fan relay RL1	<b>LED 13</b>	Chamber 2 light
<b>P9</b>	Heater control signal to SSRs	<b>J3</b>	Speaker	<b>LED 14</b>	Chamber 3 light
<b>P11</b>	Communication to UI board	<b>J30</b>	AC input from the transformer	<b>LED 15</b>	Chamber 4 light
<b>P12</b>	Drive 2 communication	<b>J33</b>	AC input from the transformer	<b>D21</b>	RS485 communication
<b>P13</b>	Drive 3 communication	<b>LED 2</b>	Cooling fan power	<b>D22</b>	RS485 communication
<b>P14</b>	Drive 4 communication	<b>LED 8</b>	Chamber 1 call for heat	<b>S1</b>	Chamber VFD selection Telco VFD set to OFF Siemens VFD set to ON

# 12VDC Power Supply

Supplies DC voltage to the control board and the ON/OFF switch.

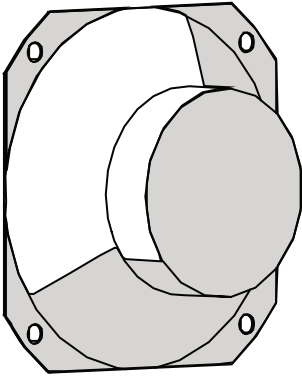


VMC-PHD-001935

Ref.	Description
1	12VDC terminals
2	12VDC adjustment
3	90-264 VAC input

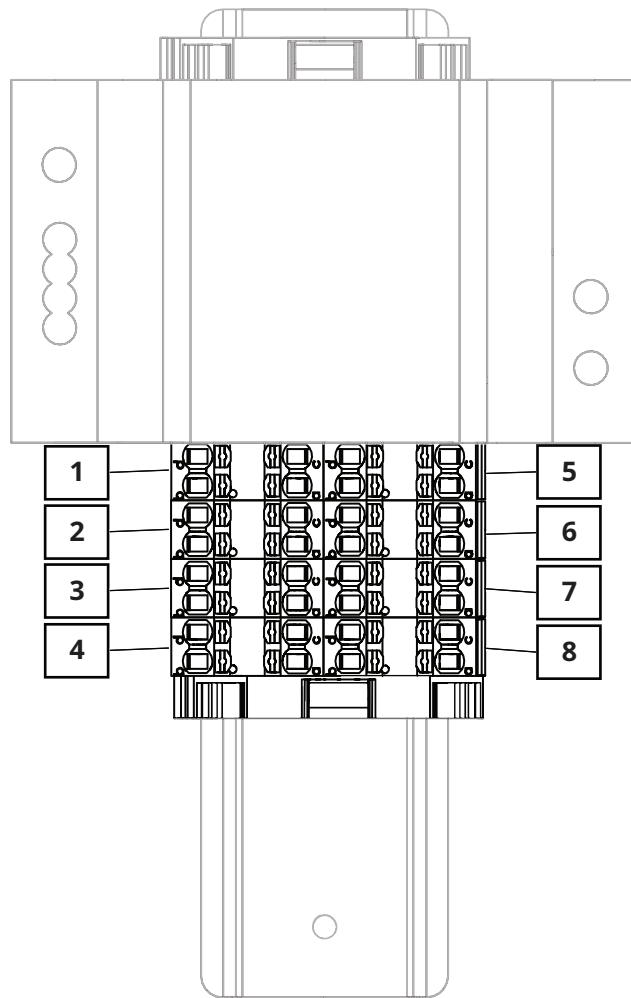
# Speaker

8 Ohms



VMC-PHD-001995

# Terminal Blocks



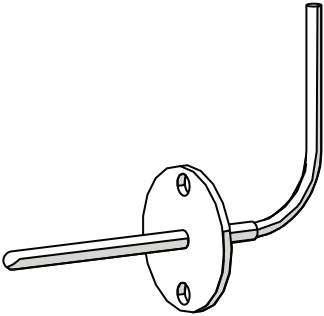
VMC-PHD-010716

Ref.	Description
1	TB 67 Light 1
2	TB 69 Light 3
3	TB 63 Light 1
4	TB 65 Light 3
5	TB 68 Light 2
6	TB 70 Light 4 F4
7	TB 64 Light 2
8	TB 66 Light 4 F4

# Chamber Air Temperature Probe

K Type Thermocouple

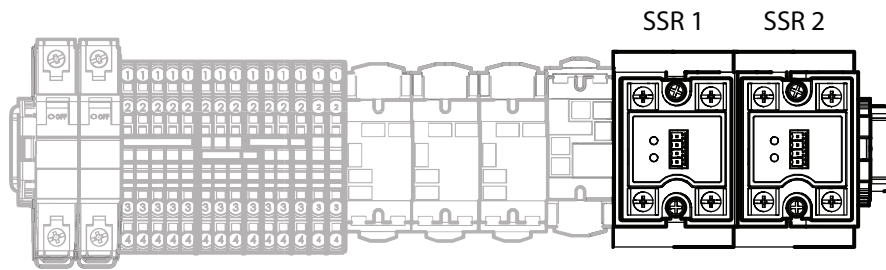
100°C	4.096 mV	100°F	1.521 mV
200°C	8.138 mV	200°F	3.820 mV
300°C	12.209 mV	300°F	6.094 mV



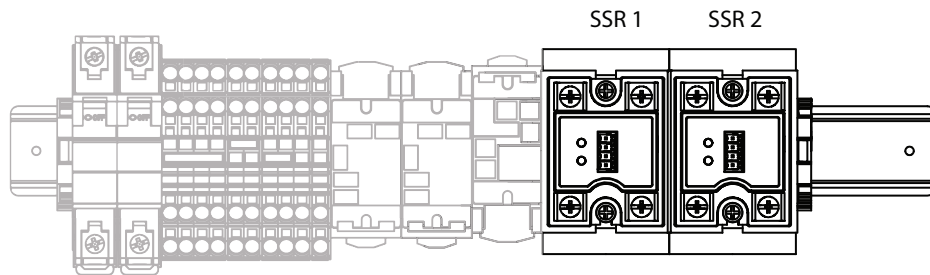
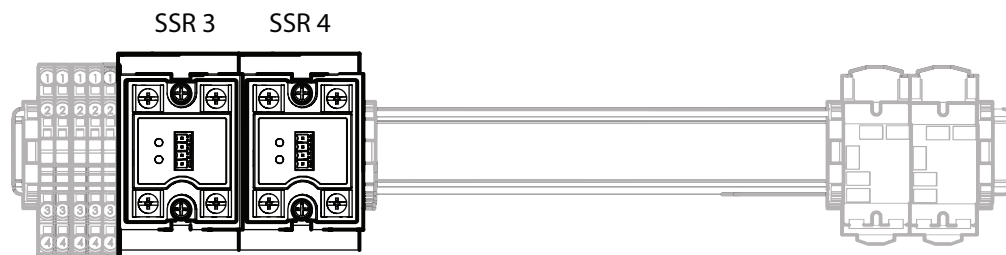
VMC-PHD-001991

100°C = 4.096 mV	100°F = 1.521 mV
200°C = 8.138 mV	100°F = 3.820 mV
300°C = 12.209 mV	100°F = 6.094 mV

# Solid State Relay (SSR) F4



F4

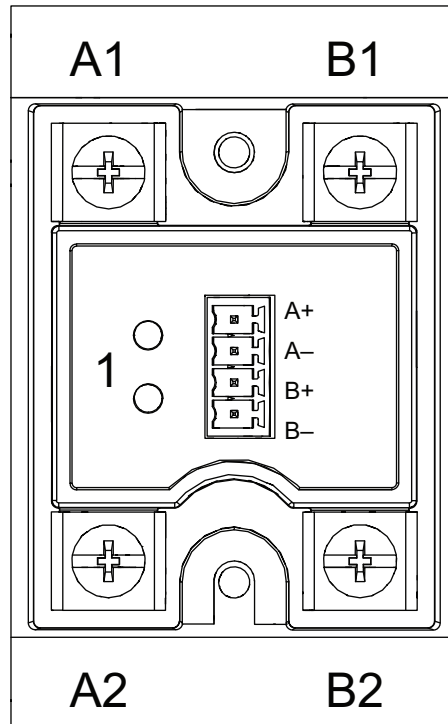


F3



VMC-PHD-010719

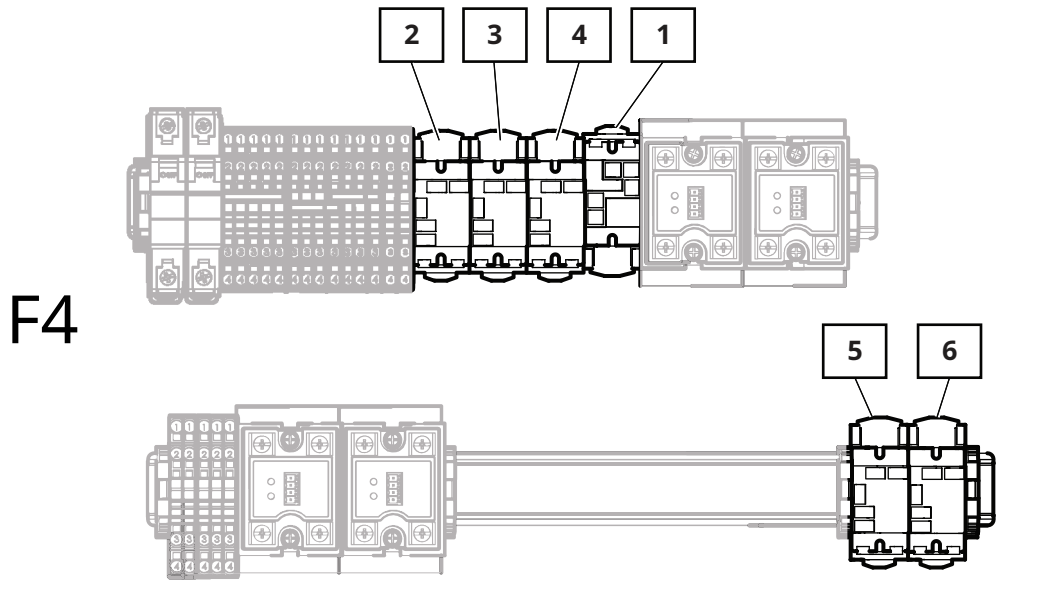
## Solid State Relay—Duel (SSR)



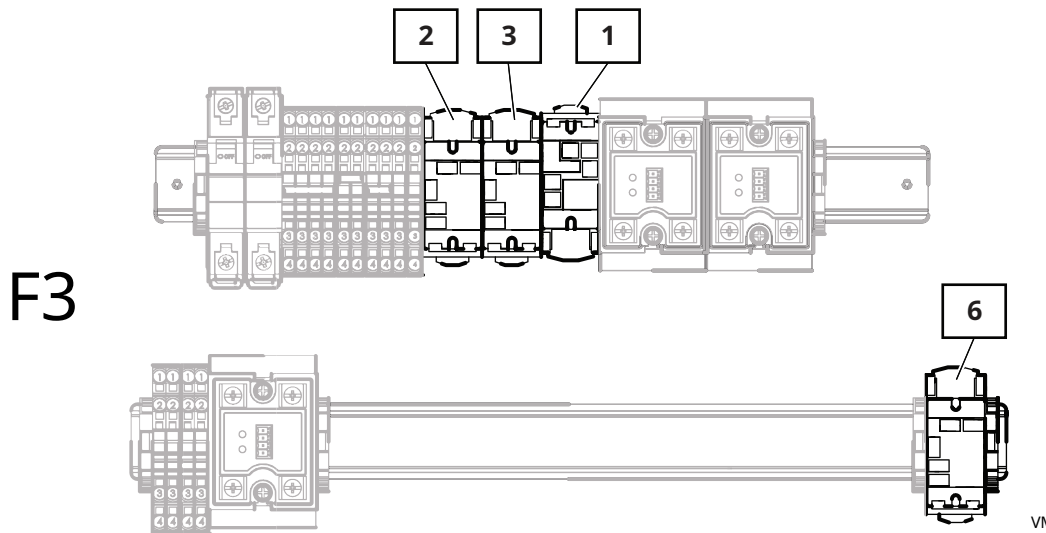
VMC-PHD-010722

Ref.	Description
<b>A1</b>	A1 terminal, AC line voltage into the SSR
<b>A2</b>	A2 terminal, AC load voltage to heating element A
<b>B1</b>	B1 terminal, AC line voltage into the SSR
<b>B2</b>	B2 terminal, AC load voltage to heating element B
<b>A+</b>	A+ terminal, DC control voltage from the control board to the SSR
<b>A-</b>	A- terminal, DC control voltage from the control board to the SSR
<b>B+</b>	B+ terminal, DC control voltage from the control board to the SSR
<b>B-</b>	B- terminal, DC control voltage from the control board to the SSR
<b>1</b>	Call for heat indicator lights

# Relays



F4

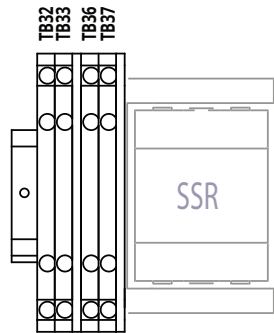
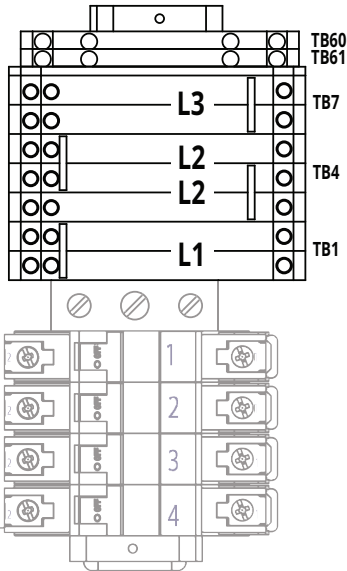
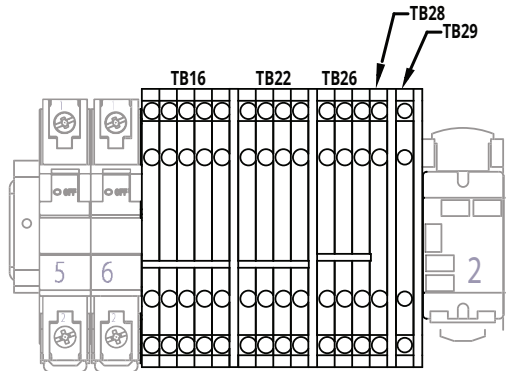


F3

VMC-PHD-010725

Ref.	Description	Coil Voltage	Function
1	Relay 1 (RL 1)	12 VDC	Power to cooling fans and VFD 1
2	Relay 2 (RL 2)	240 VAC	Power to VFD 2
3	Relay 3 (RL 3)	240 VAC	Power to VFD 3
4	Relay 4 (RL 4)	240 VAC	Power to VFD 4
5	Relay to over temperature (RL-OT)	240 VAC	Signal to CB, high limit switch is open
6	Relay check cooling fans	240 VAC	Signal to CB, check fan indicator light switch is closed

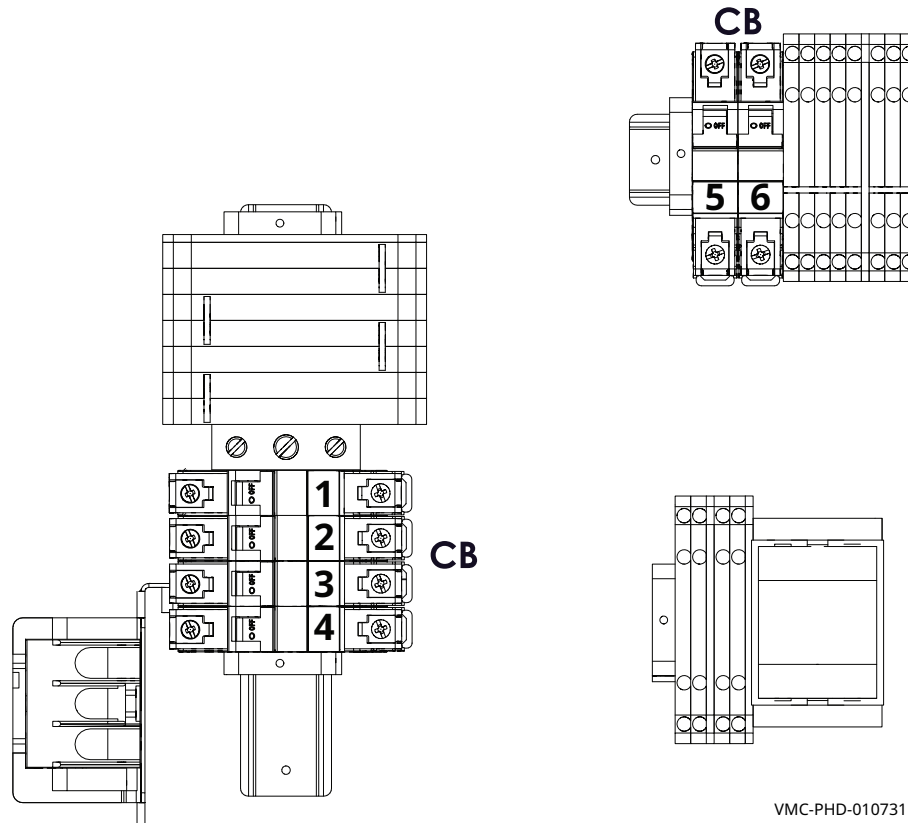
# Terminal Blocks



VMC-PHD-010728

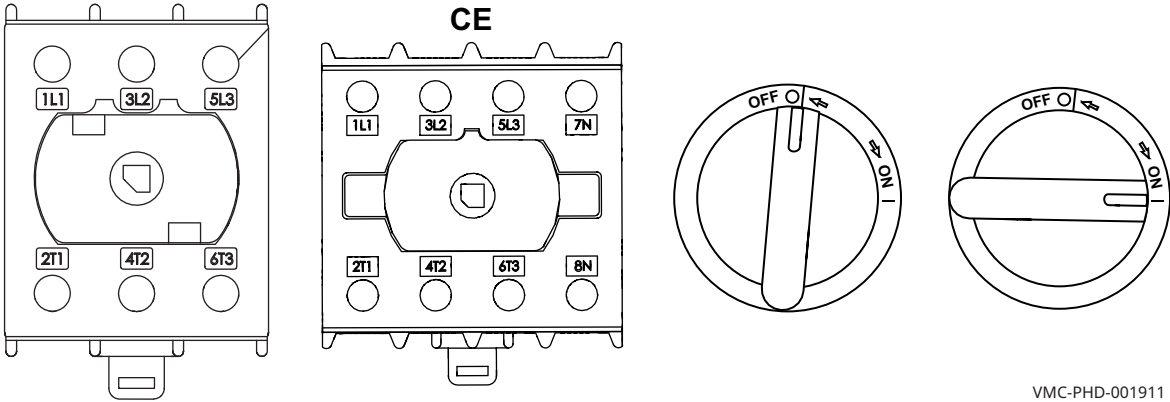
Ref.	Description	Ref.	Description
<b>TB1</b>	Line 1 after disconnect switch	<b>TB29</b>	Ground
<b>TB4</b>	Line 2 after disconnect switch	<b>TB32</b>	Line voltage to SSR 1 and SSR 2
<b>TB7</b>	Line 3 after disconnect switch	<b>TB33</b>	Line voltage to SSR 3 and SSR 4
<b>TB16</b>	Line voltage after circuit breaker 5	<b>TB36</b>	Line voltage to SSR 5 and SSR 6
<b>TB22</b>	Line voltage after circuit breaker 6	<b>TB37</b>	Line voltage to SSR 7 and SSR 8
<b>TB26</b>	Line voltage after relay (RL 1)	<b>TB60</b>	Switches—Check fans indicator light
<b>TB28</b>	Line voltage after relay (RL 2)	<b>TB61</b>	Switches—Check fans indicator light

# Circuit Breakers



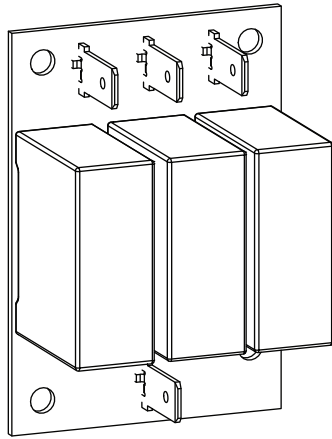
Ref.	Description	Ref.	Description
1	Chamber 1 heating elements	4	Chamber 4 heating elements (F4 only)
2	Chamber 2 heating elements	5	Control voltage
3	Chamber 3 heating elements	6	Control voltage

# Main Disconnect Switch



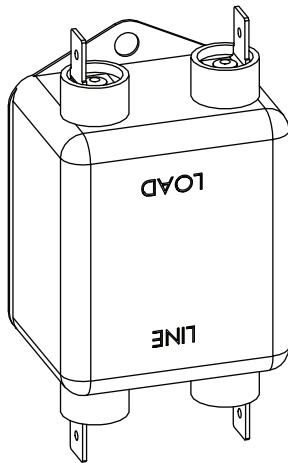
VMC-PHD-001911

## WYE Filter (CE Only)



VMC-PHD-010734

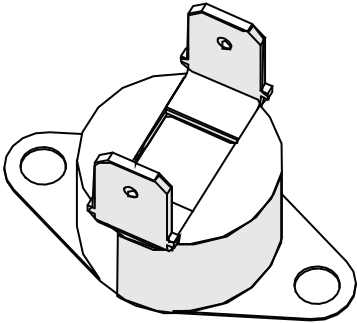
## Line Filter (CE Only)



VMC-PHD-010737

# Check Fans Indicator Light Switch 1 of 2

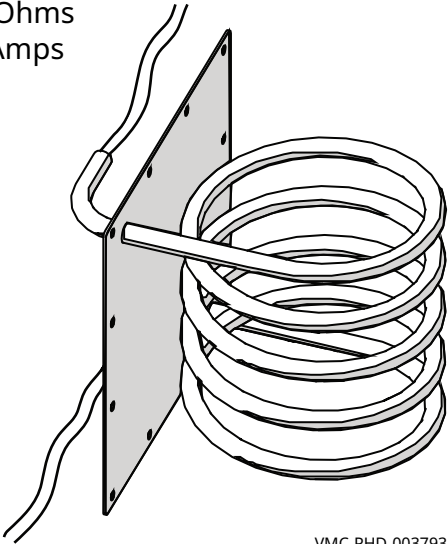
- The contacts close at or above 130°F (54°C)



VMC-PHD-001903

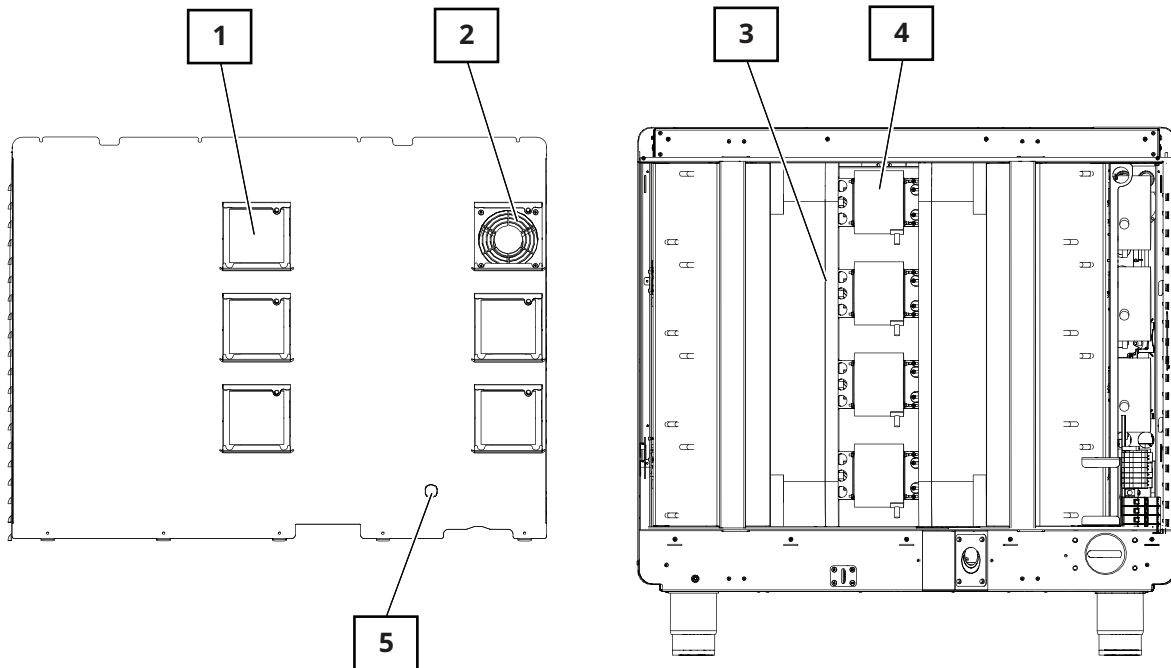
# Chamber Heating Element

26 Ohms  
9 Amps



VMC-PHD-003793

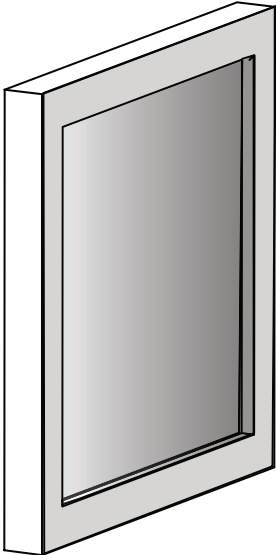
# Back Panel Component Identification



VMC-PHD-010740

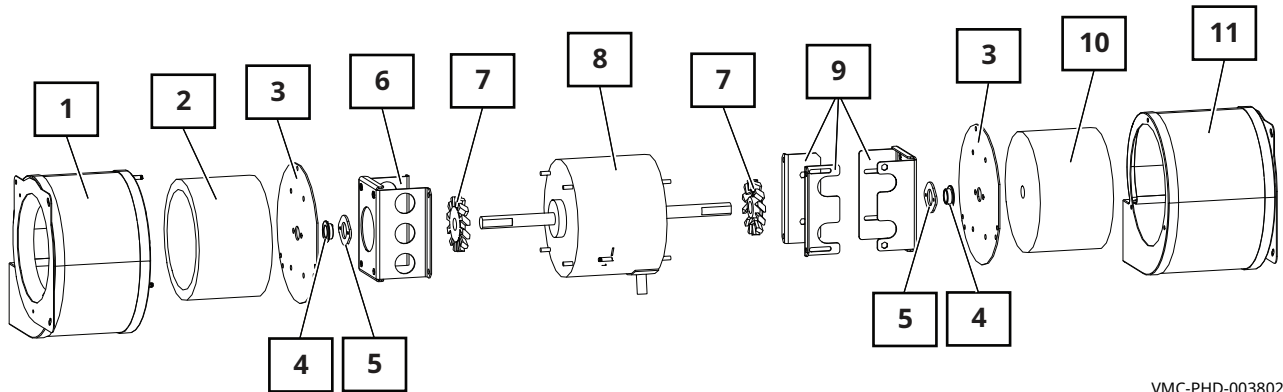
Ref.	Description
1	Filters
2	Blower motors
3	Cooling fans
4	Check fans indicator light switch 2 of 2
5	Ethernet port (optional)

# Filter—Cooling Air



VMC-PHD-002015

# Blower Motor Assembly



VMC-PHD-003802

Ref.	Description	Ref.	Description
1	Blower housing, left side	7	Radial blower wheel, 12-blade
2	Wheel, blower, left side	8	Motor, double shaft
3	Plate, motor mounting	9	Bracket, adjustable, motor mount
4	Bushing	10	Wheel, blower, right side
5	Plate, seal retainer	11	Blower housing, right side
6	Bracket, motor mount, left side	—	—

## Cooling Fans

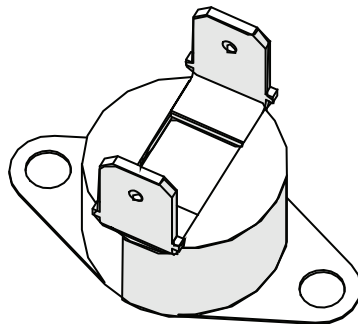
- Impedance protected
- 240 Volt
- 581 Ohm



VMC-PHD-002011

## Check Fans Indicator Light Switch 2 of 2

- The contacts close at or above 130°F (54°C)



VMC-PHD-001903

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# Maintenance Schedule

## Requirements

- See topic *How to Clean the Oven*.
- Make sure the oven is cooled down and off—inside of chamber 140°F (60°C) or less.

## Daily

For daily maintenance, do the following.

- **Remove** any spills with disposable paper wipes or a damp cloth.
- **Wipe** the outside of the oven with a damp cloth.
- **Check** the screen for cracking or peeling. Contact Technical Service if needed.

## Weekly

For weekly maintenance, do the following.

- **Restart** the oven to reboot the screen.
- **Clean** the entire oven. **Make sure** to use a non-abrasive nylon scrub pad.
- **Inspect** and clean the grease filters (if equipped)
- Do not spray the cleaner directly into the fan openings located in the rear of the oven.

## Monthly

For monthly maintenance, do the following.

- **Inspect** and clean the cooling fan filters.

## Yearly

For yearly maintenance, do the following.



**NOTE:** Must be performed by a qualified professional.

- **Remove** the convection element(s) and inspect the return air path for grease buildup. **Remove** any grease buildup.
- **Inspect** the catalyst for any signs of degradation (Vector H Series models only).
- **Inspect** the heater flange area for grease leakage.
- **Inspect** the motor flange area for grease leakage.
- **Inspect** the door gaskets for correct shape and seal.
- **Inspect** the inner and outer door window panes for cracking or chipping.

- **Check and tighten** all wire connections.
- **Check and tighten** all display, interface and control board connections.
- **Check and tighten** the door hinges.

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- **Record** the software versions and update if necessary.
  - **Record** the amp draw of all elements on the service screen individually.
  - **Record** the incoming supply line voltage.
- 

- **Test** each chamber fan for correct operation.
- **Test** each chamber heater for correct operation.
- **Test** the chamber lights.

# How to Clean the Oven

## Before you begin

**WARNING:** Burn hazard.

Wear eye protection and hand protection while cleaning the oven.

Do not spray cleaner into the oven while the blowers are running.

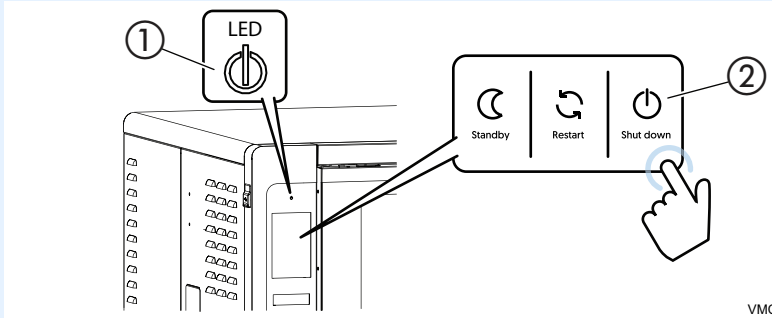
Allow the oven, racks, and jet plates to cool before cleaning the oven.

**NOTICE** Do not spray any opening inside the oven with water or cleaning solution.

Do not use steel pads, wire brushes, or scrapers when cleaning.

## Daily cleaning procedure

For daily cleaning, do the following.

Step	Action
1.	<p><b>Touch and hold</b> the ON/OFF button ① until the Shut down options screen displays.</p>  <p>The diagram shows a side view of the oven control panel. A callout box labeled '1' points to the power button. Another callout box labeled '2' points to the 'Shut down' option on a touch screen that also includes 'Standby' and 'Restart' options. A hand icon is shown touching the 'Shut down' option.</p> <p style="text-align: right;">VMC-TS-010640</p> <p><b>Touch</b> "Shut down" ②.</p> <p>The oven activates the blowers for the cool-down process. The cool-down process is complete when the oven deactivates the blowers and the display screen turns off. When the cool-down process is complete, it is safe to clean the oven.</p>
2.	<b>Remove</b> any spills with disposable paper wipes or a damp cloth.
3.	<b>Wipe</b> the outside of the oven with a damp cloth.
4.	<b>Wipe</b> the outside of the oven with a stainless steel cleaner.

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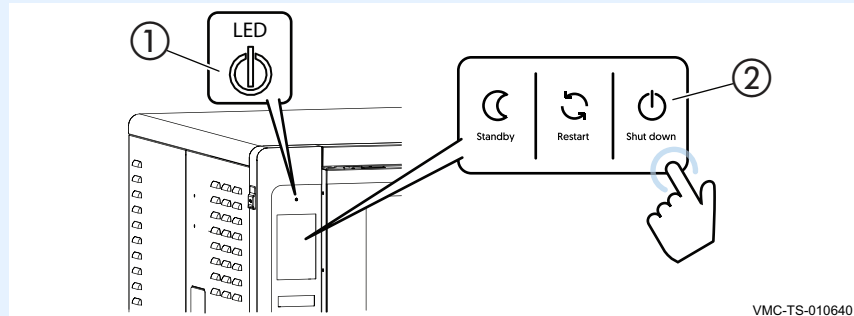
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## Monthly or as needed cleaning procedure

For the monthly cleaning or as needed if the oven is dirty, do the following.

Step	Action
------	--------

- |    |  |
|----|--|
| 1. | <b>Touch and hold</b> the ON/OFF button ① until the Shut down options screen displays. |
|----|--|



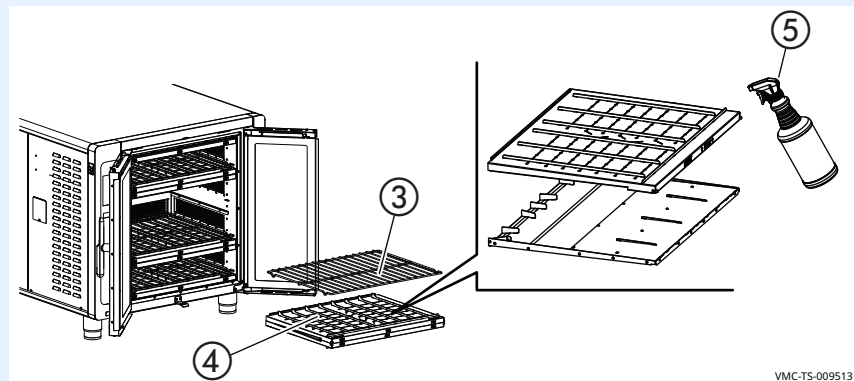
**Touch** “Shut down” ②.

The oven activates the blowers for the cool-down process. The cool-down process is complete when the oven deactivates the blowers and the display screen turns off. When the cool-down process is complete, it is safe to clean the oven.

- |    |   |
|----|---|
| 2. | <b>Remove</b> the cooking racks ③ and jet plates ④. |
|----|---|



**CAUTION:** Personal injury hazard.  
Use hand protection when handling the jet plates.



- |    |                                 |
|----|---------------------------------|
| 3. | <b>Separate</b> the jet plates. |
|----|---------------------------------|

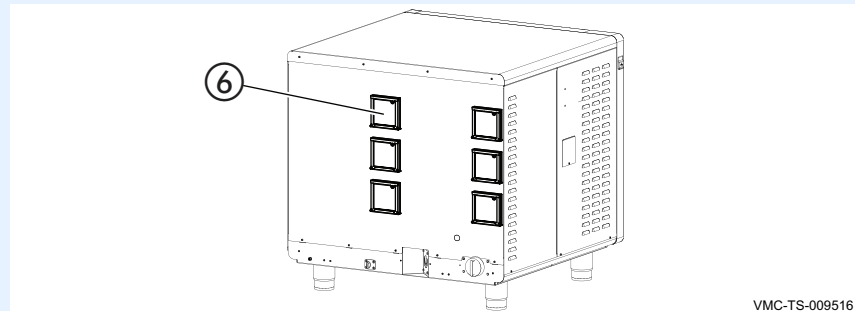
- |    |   |
|----|---|
| 4. | <b>Spray</b> the cooking racks and jet plates with Alto-Shaam non-caustic oven cleaner ⑤, CE-46828. Follow safety instructions on cleaner bottle. Let the cleaner work for 3–5 minutes. <b>Scrub</b> with a non-abrasive scrub pad. <b>Rinse</b> with water. <b>Wipe</b> with a soft cloth. |
|----|---|

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5. **Spray** the interior surfaces of the oven with Alto-Shaam non-caustic oven cleaner, CE-46828. Let the cleaner work for 3–5 minutes. **Scrub** with a non-abrasive scrub pad. **Remove** any residue with a water-soaked towel.
6. **Remove** the cooling fan filters ⑥. Clean with a mild cleaner and rinse with hot water.

**NOTE:** Replace the cooling fan filters at least once a year.



7. **Re-install** the cooling fan filters.
8. **Clean** the door glass with Windex® or equivalent glass cleaner.
9. **Re-install** the jet plates and cooking racks.

**NOTE:** Make sure the jet plates are installed correctly. The nozzles on the jet plates should be pointing towards the food.

10. **Spray** the exterior of the oven with stainless steel polish. **Wipe** the exterior of the oven with a non-abrasive scrub pad.

**NOTICE** Use only non-caustic cleaners.  
Do not spray directly into the fan openings on the rear of the oven.  
Do not use cleaners that contain sodium hydroxide (lye) or phosphorus.

**Result**

The oven is now clean.

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# Error Codes

Code	Description	Parameters that trigger the error	Possible Cause(s)
E-3	Motor error	No cavity motor rotation detected for greater than 30 seconds.	<ol style="list-style-type: none"> <li>1. Connection between Variable Frequency Drive (VFD) and control board</li> <li>2. Connection between fan motor and VFD</li> <li>3. Fan motor</li> <li>4. VFD</li> <li>5. Control board</li> </ol>
E-10	Sensor short	Short circuit detected on sensor wires.	<ol style="list-style-type: none"> <li>1. Sensor connection</li> <li>2. Sensor</li> <li>3. Control board</li> </ol>
E-11	Sensor open	Cavity air sensor reading > 650°F (343°C).	<ol style="list-style-type: none"> <li>1. Sensor connection</li> <li>2. Sensor</li> <li>3. Control board</li> </ol>
E-30	Unit under temperature	Cavity temperature remains 25°F (14°C) below target for more than 90 minutes.	Troubleshoot heating element
E-31	Electronics over temperature	Control board temperature exceeds 158°F (70°C) and/or interface board temperature exceeds 184°F (84°C).	<ol style="list-style-type: none"> <li>1. Cooling fan filters blocked or dirty</li> <li>2. Cooling fan not operating</li> <li>3. Installation clearance requirements not met</li> </ol>
E-87	Gas lockout	Loss of flame three times within 5 minutes.	Lack of fuel pressure.
E-88	Ignition module/valve failure	Two, 4-second tries for light at the ignition module with a 30-second delay between.	<ol style="list-style-type: none"> <li>1. Valve status is not open after call for heat.</li> </ol>
E-90	Gas combustion blower speed failure	Blower RPM is outside +/- 10% of expected RPMs at start of call for heat, or post-ramping when the end speed is reached.	<ol style="list-style-type: none"> <li>1. Power supply cable is not connected to blower motor.</li> <li>2. Speed control cable is not connected to blower motor.</li> <li>3. Blower motor is blocked, rotation is impeded, or motor is faulty.</li> <li>4. Faulty PWM daughter board.</li> </ol>
E-94	Interface Board - Control Board communication error	No signal transfer for more than 5 seconds between the interface board and the control board.	<ol style="list-style-type: none"> <li>1. Connection of modbus cable</li> <li>2. Modbus cable</li> <li>3. Control board</li> <li>4. Interface board</li> </ol>
E-108	Bi-metal thermostat open	Open circuit detected across bi-metal switch.	<ol style="list-style-type: none"> <li>1. Cooling fan filters blocked or dirty</li> <li>2. Cooling fan not operating</li> <li>3. Connection between bi-metal switch and control board</li> <li>4. Installation clearance requirements not met</li> <li>5. Bi-metal switch</li> </ol>
E-109	High limit error <b>Note:</b> Contact an authorized Alto-Shaam service partner.	Open circuit detected across high limit switch.	<ol style="list-style-type: none"> <li>1. Jet plate(s) improperly installed</li> <li>2. Cavity fan not operating</li> <li>3. Optional grease filters blocked with debris</li> <li>4. Heat relay(s) stuck closed</li> <li>5. Connection between high limit switch and control board</li> <li>6. High limit switch</li> </ol>

# The Oven will not Power Up

## Before you start

- Remove the circuit breaker service panel on the left side of the oven.
- Move the circuit breakers to the OFF position, then move the circuit breakers to the ON position and retry operation. If the oven still does not power up, follow the troubleshooting procedure below.



**WARNING:** Electric shock and arc flash hazard.

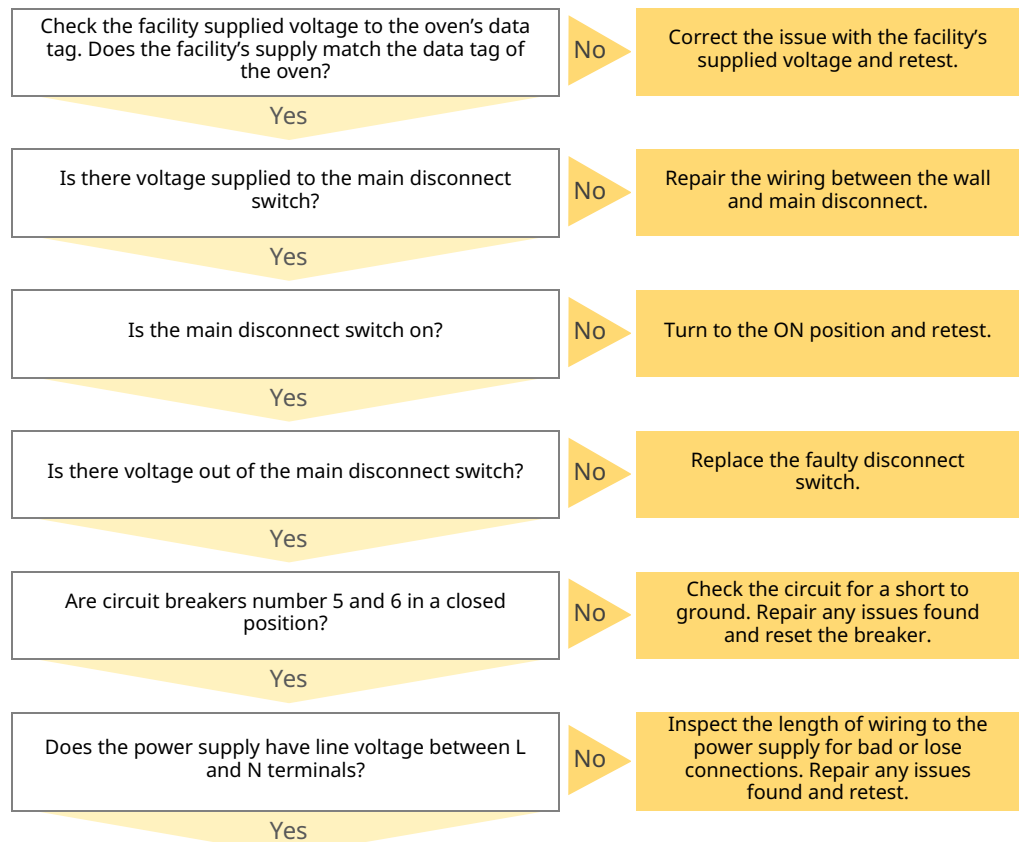
Use caution when measuring line voltage.

Wear Personal Protective Equipment (PPE).

### NOTICE

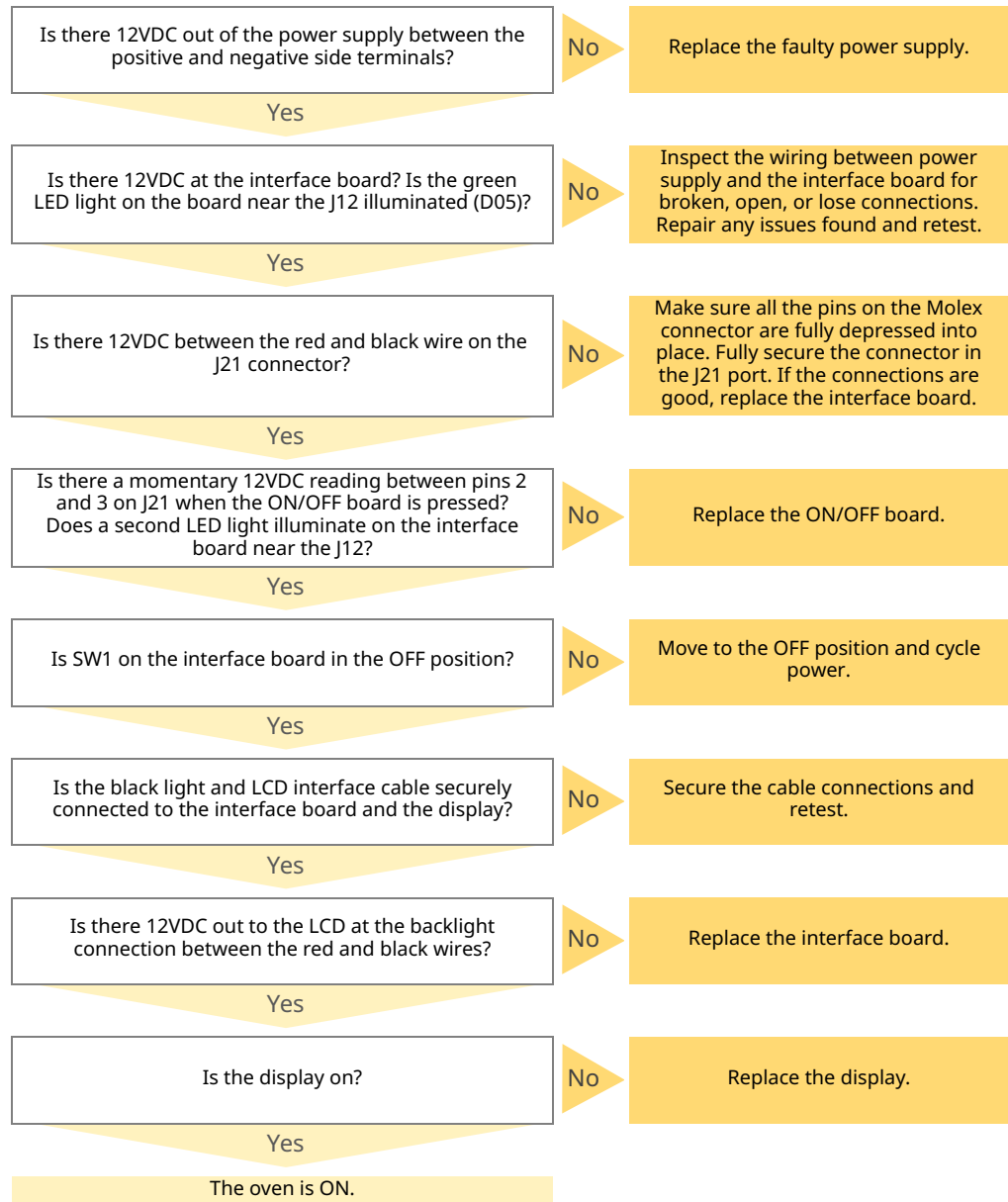
Do not operate the oven in a cooking mode for an extended period of time with the top panel removed. Damage to the electronics may occur without adequate cooling airflow.

An auxiliary fan must be used if the oven will be operated in a cooking mode for an extended period of time with the top panel removed.



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# The Oven does not Heat

## Before you start

- Read and follow the steps described in the topic *The Chambers do not Heat—Element Control Voltage*.
- At the main disconnect switch, determine which phase connects directly to the heating element, and which phase connects to the L1 terminal of the SSR.
- Remove the service panel.



**WARNING:** Electric shock and arc flash hazard.

Use caution when measuring line voltage.

Wear Personal Protective Equipment (PPE).




**NOTE:** The chamber blower fans must operate if the blower fans do not operate. See topic *Chamber Blower Fans do not Operate*.

### NOTICE

Do not operate the oven in a cooking mode for an extended period of time with the top panel removed. Damage to the electronics may occur without adequate cooling airflow.

An auxiliary fan must be used if the oven will be operated in a cooking mode for an extended period of time with the top panel removed.

Step	Action
1.	<b>Navigate</b> to the service screen.
2.	<b>Enter</b> the pass code 6702.
3.	<b>Touch</b> the check mark.
4.	<b>Scroll</b> to the chamber to be tested.
	 <b>NOTE:</b> The button to the right of the chamber number will expand and collapse the selection list. When the button is gray, the button is active. When the button is white, the button is inactive.
5.	<b>Expand</b> the selection list.
6.	<b>Read</b> the temperature sensor value.
7.	<b>Select</b> the arrow to the right of the target temperature.

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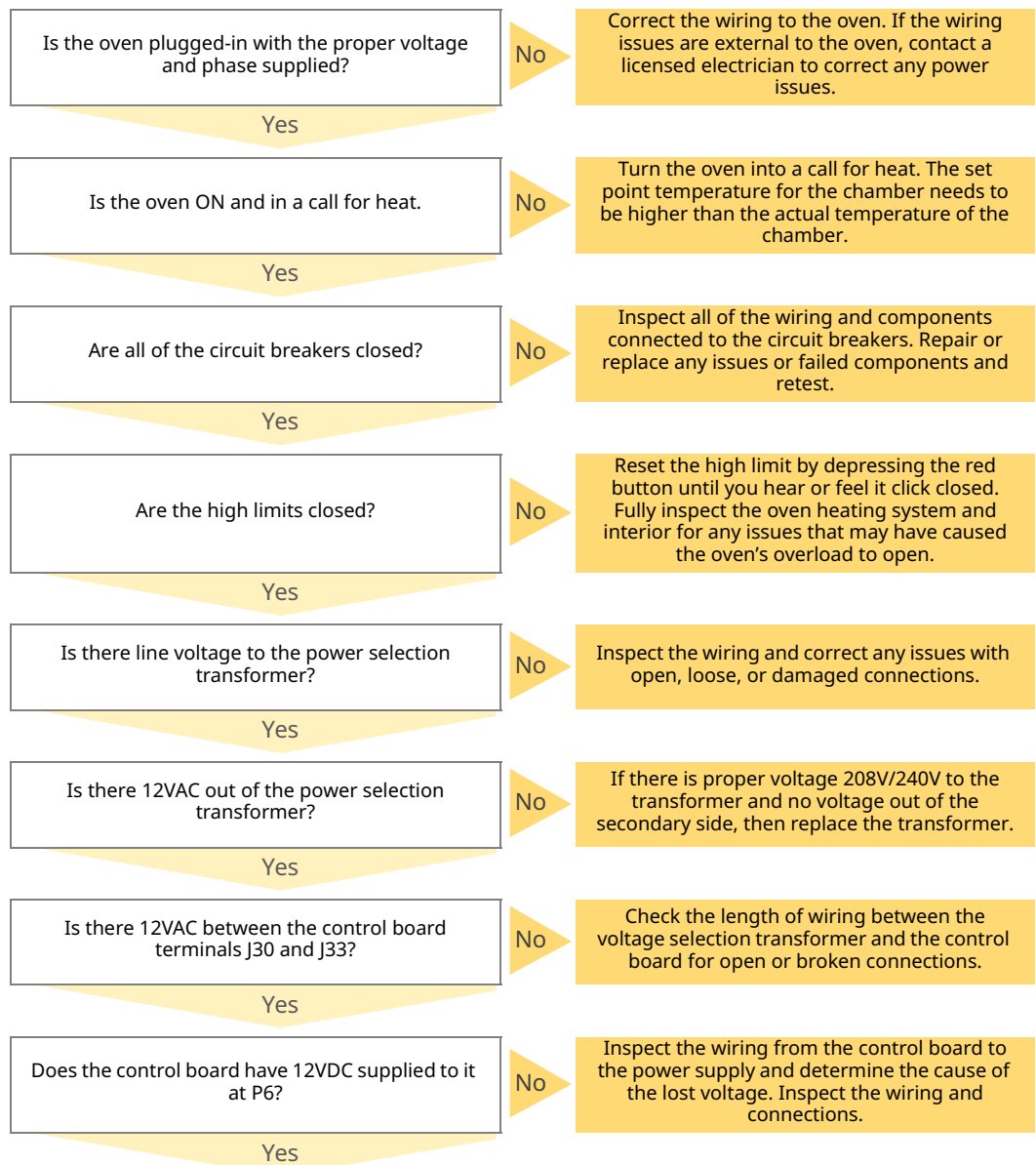
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8. **Enter** a value higher than the temperature sensor value.  
**Touch** the check mark.

9. **Select** the button to the right of the heater.

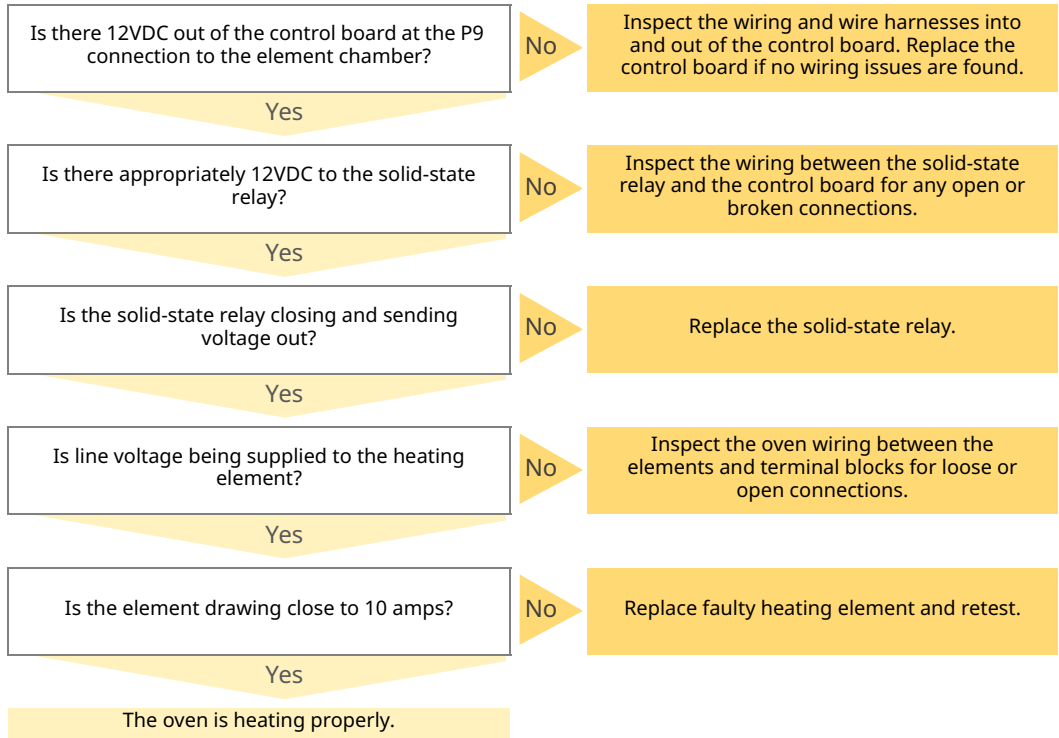


**NOTE:** The button will move to the right and turn gray. The convection fan button will also move to the right and turn gray.



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# Chamber Blower Fans do not Operate

## Before you start

- Put the oven into a heating mode.
- Remove the service panel.
- Locate the circuit breakers and reset any tripped circuit breaker as required.



**WARNING:** Electric shock and arc flash hazard.



Use caution when measuring line voltage.

Wear Personal Protective Equipment (PPE).

### NOTICE

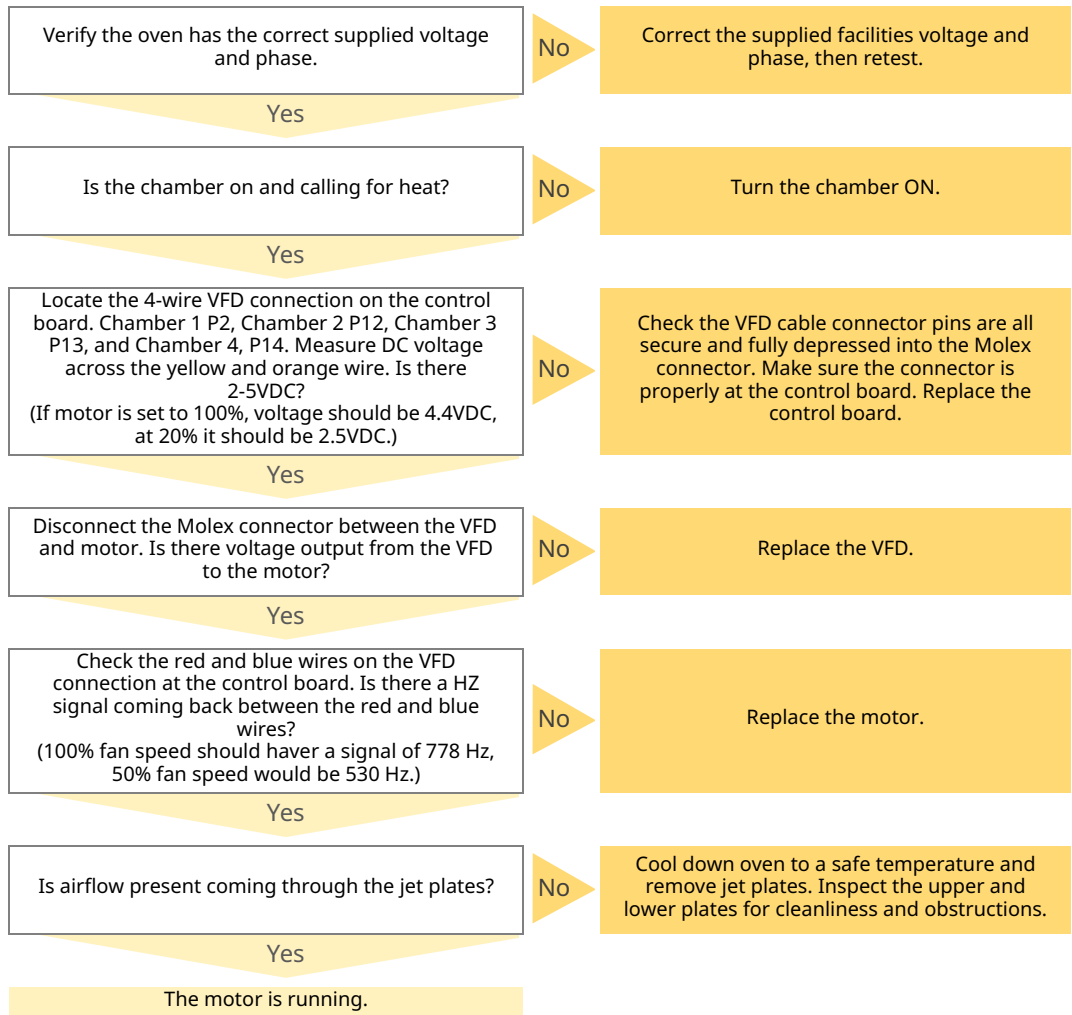
Do not operate the oven in a cooking mode for an extended period of time with the top panel removed. Damage to the electronics may occur without adequate cooling airflow.

An auxiliary fan must be used if the oven will be operated in a cooking mode for an extended period of time with the top panel removed.

Step	Action
1.	<b>Navigate</b> to the service screen.
2.	<b>Enter</b> the pass code.
3.	<b>Touch</b> the check mark.
4.	<p><b>Scroll</b> to the chamber to be tested.</p> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> The button to the right of the chamber number will expand and collapse the selection list. When the button is gray, the button is active. When the button is white, the button is inactive.</p> </div>
5.	<b>Expand</b> the selection list.
6.	<p><b>Touch</b> the button to the right of convection fan.</p> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p> <b>NOTE:</b> The button will move to the right and turn gray.</p> </div>

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# Chamber Lights do not Illuminate

## Before you start

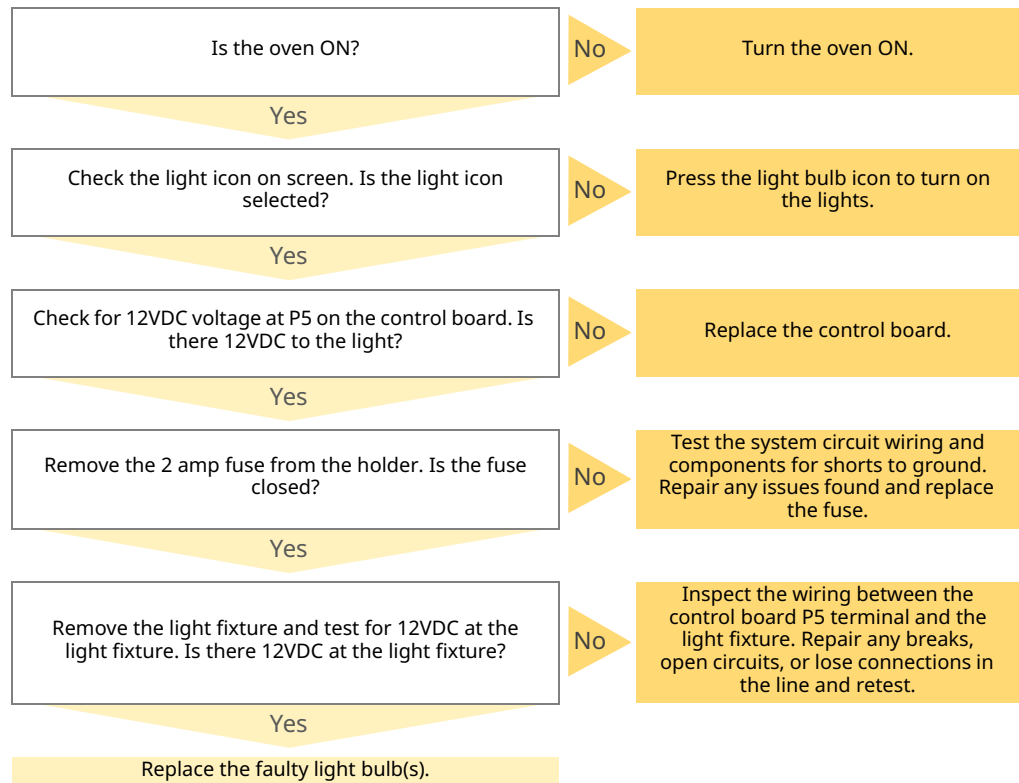
Remove the service panel.



**WARNING:** Electric shock and arc flash hazard.  
Use caution when measuring line voltage.  
Wear Personal Protective Equipment (PPE).

### NOTICE

Do not operate the oven in a cooking mode for an extended period of time with the top panel removed. Damage to the electronics may occur without adequate cooling airflow. An auxiliary fan must be used if the oven will be operated in a cooking mode for an extended period of time with the top panel removed.



# The Check Fan Indicator Light is Illuminated

**Before you start**

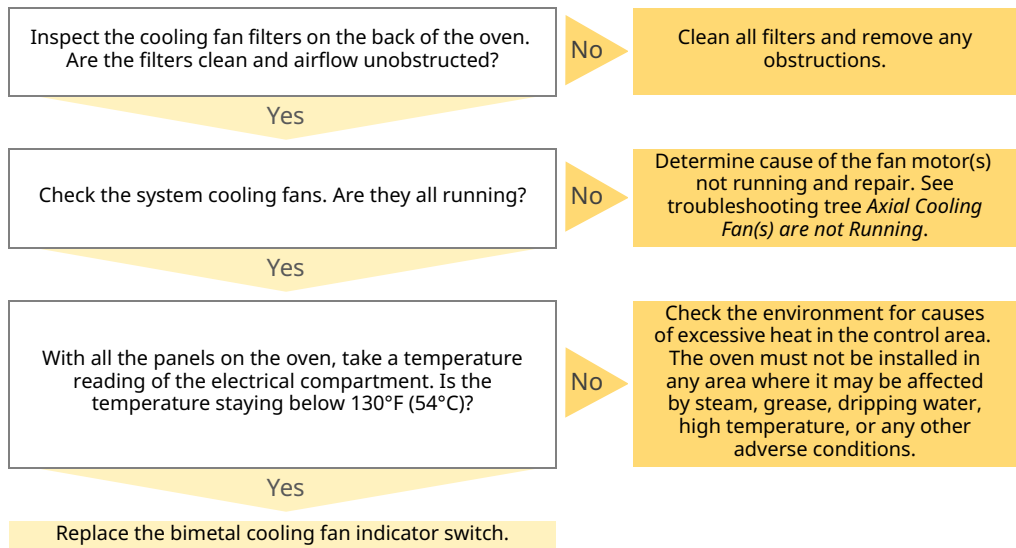
- Put the oven into a heating mode.
- Remove the service panel.



**WARNING:** Electric shock and arc flash hazard.  
Use caution when measuring line voltage.  
Wear Personal Protective Equipment (PPE).

**NOTICE**

Do not operate the oven in a cooking mode for an extended period of time with the top panel removed. Damage to the electronics may occur without adequate cooling airflow.  
An auxiliary fan must be used if the oven will be operated in a cooking mode for an extended period of time with the top panel removed.



# Door Handle Light does not Illuminate

## Before you start

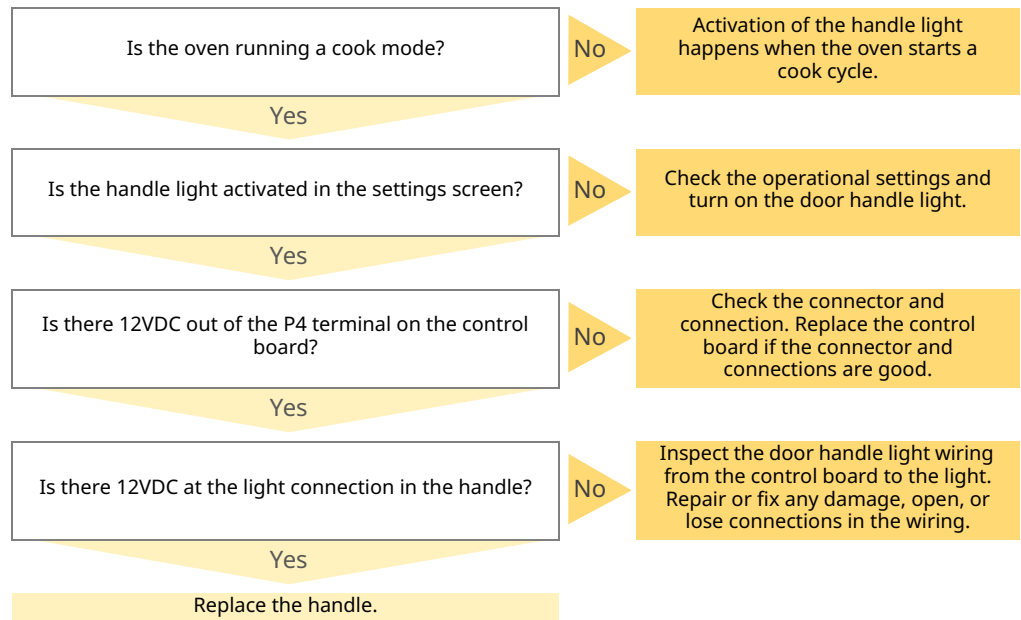
Remove the service panel.



**WARNING:** Electric shock and arc flash hazard.  
Use caution when measuring line voltage.  
Wear Personal Protective Equipment (PPE).

### NOTICE

Do not operate the oven in a cooking mode for an extended period of time with the top panel removed. Damage to the electronics may occur without adequate cooling airflow. An auxiliary fan must be used if the oven will be operated in a cooking mode for an extended period of time with the top panel removed.



# Axial Cooling Fan(s) are not Running

**Before you start**

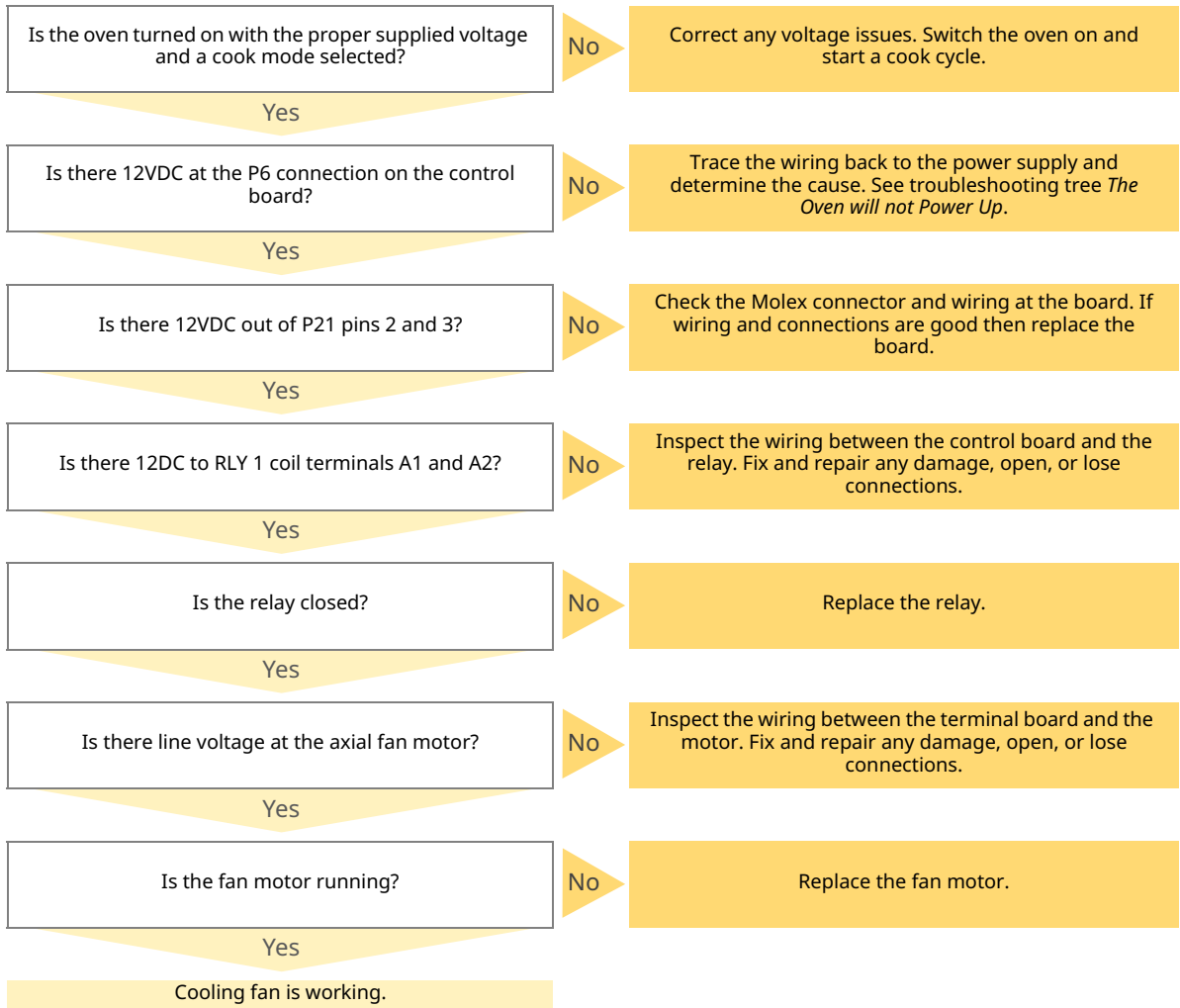
- Put the oven into a heating mode.
- Remove the top service panel.



**WARNING:** Electric shock and arc flash hazard.  
Use caution when measuring line voltage.  
Wear Personal Protective Equipment (PPE).

**NOTICE**

Do not operate the oven in a cooking mode for an extended period of time with the top panel removed. Damage to the electronics may occur without adequate cooling airflow.  
An auxiliary fan must be used if the oven will be operated in a cooking mode for an extended period of time with the top panel removed.



# How to Test the Convection Fan Motors

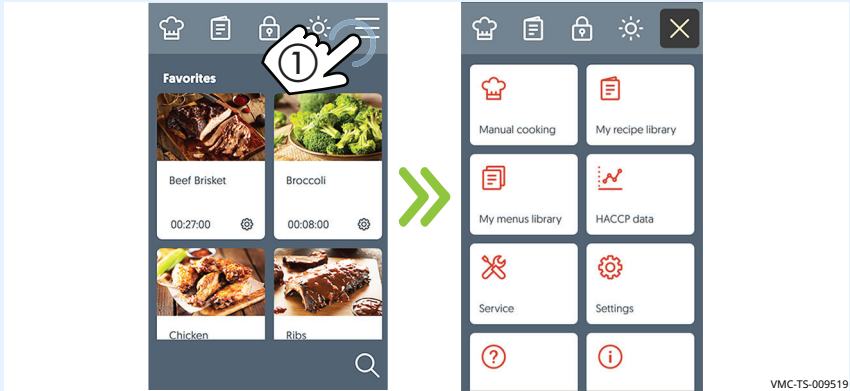
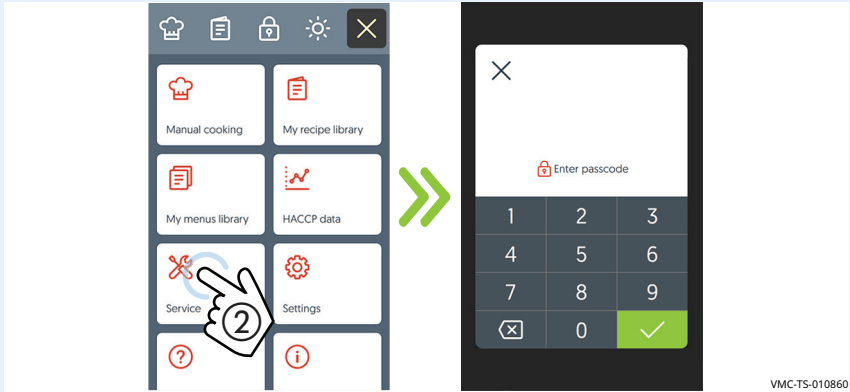
## Before you begin

The oven must be connected to electric power.

## Procedure

To test the convection fan motors, do the following.

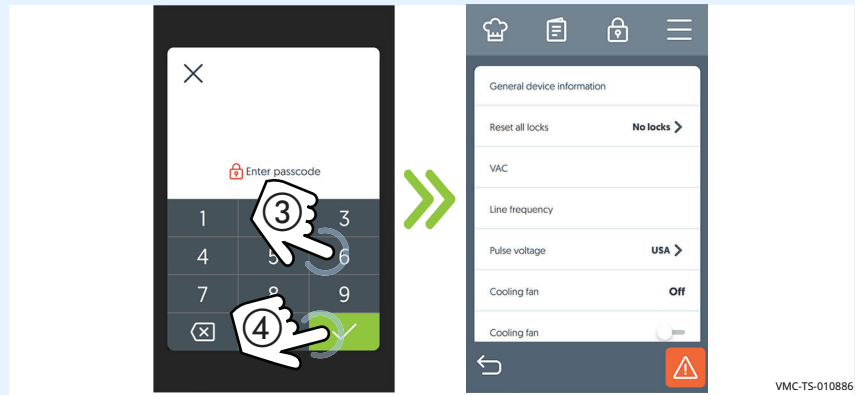
**NOTICE** Do not turn on the heaters during this test. Damage to the oven may occur.

Step	Action
1.	<p><b>Touch</b> the menu icon ①. The user menu screen displays.</p>  <p style="text-align: right;">VMC-TS-009519</p>
2.	<p><b>Touch</b> the service icon ②. The enter pass code screen displays.</p>  <p style="text-align: right;">VMC-TS-010860</p>

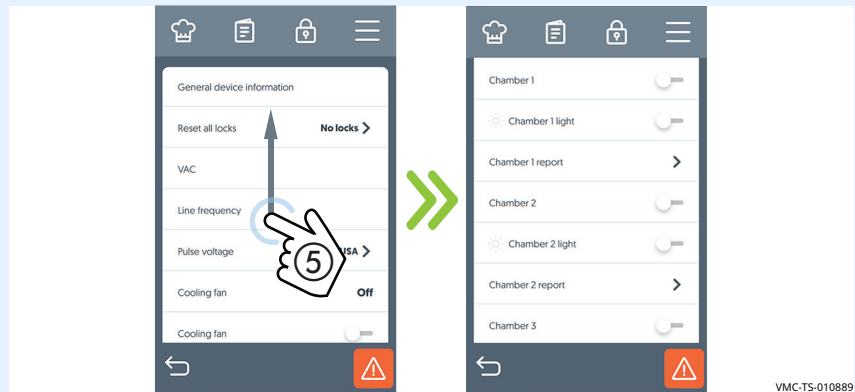
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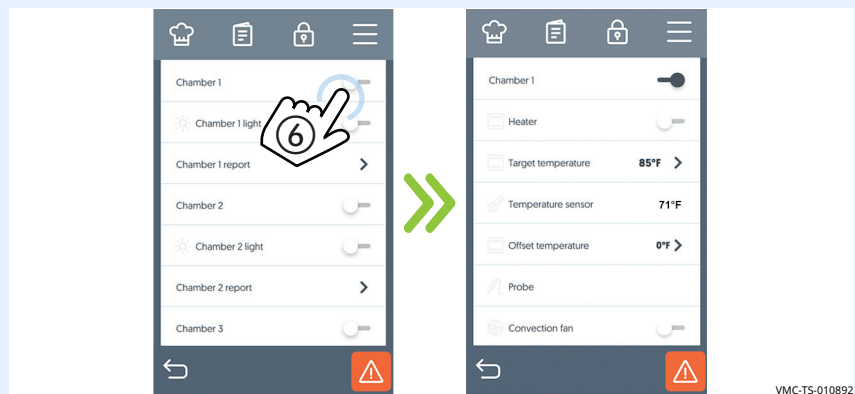
3. **Enter** the pass code 6702 ③.  
**Touch** the check mark ④. The general device screen displays.



4. **Scroll** ⑤ to the chamber selection buttons.



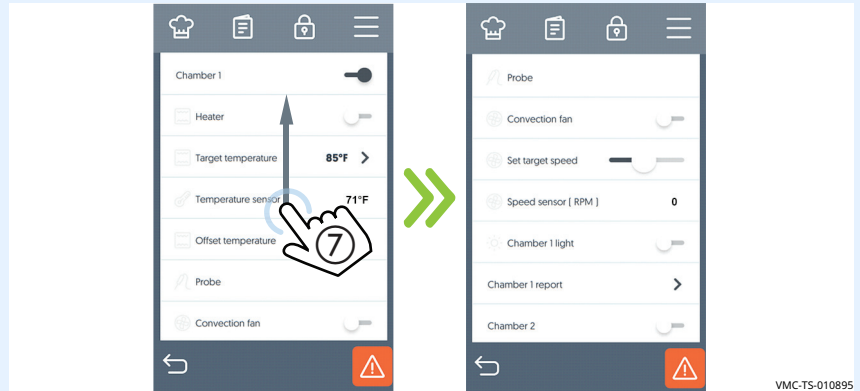
5. **Touch** the button ⑥ of the chamber to be tested. The chamber options are displayed.



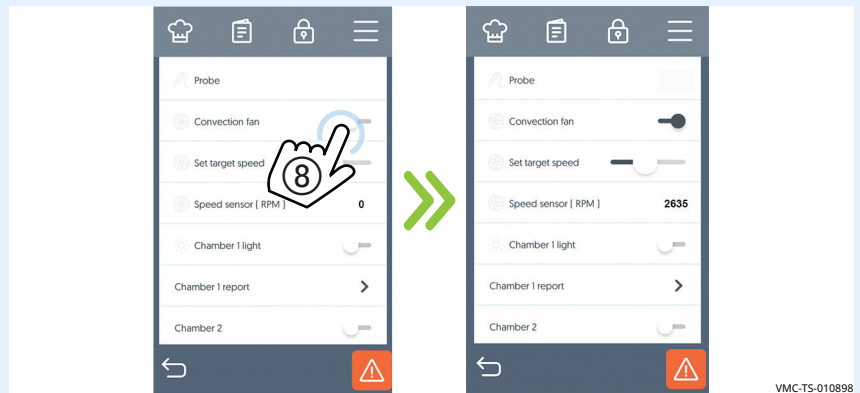
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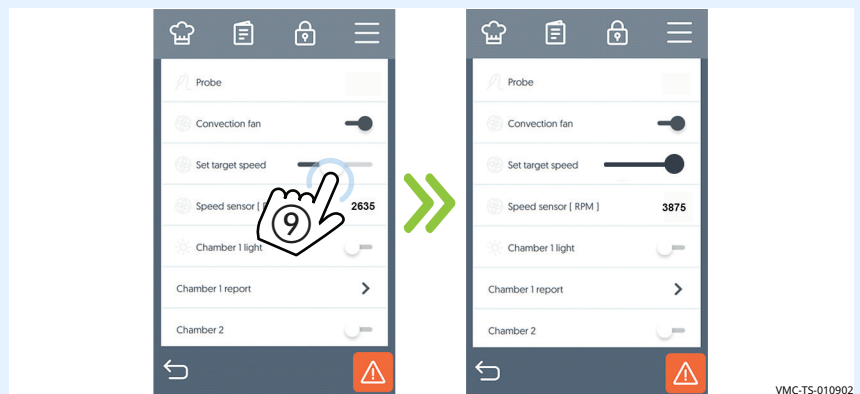
6. **Scroll** ⑦ until the convection fan button is displayed.



7. **Touch** the convection fan button ⑧. The speed sensor will display an RPM value.



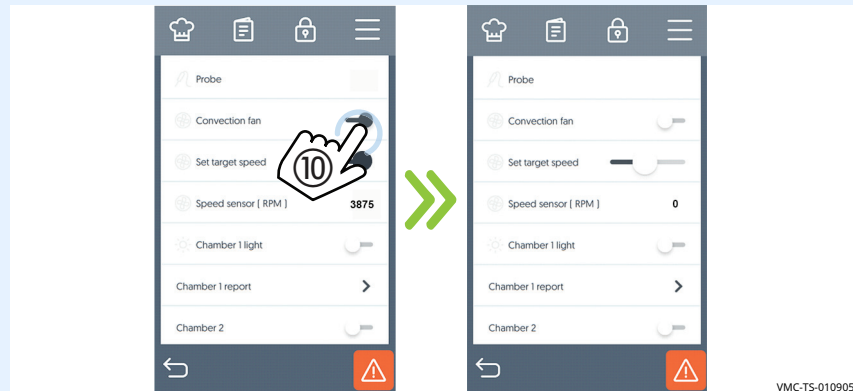
8. **Move** the Set target speed button ⑨ to change the motor RPM. If the blower speed changes, the system is working.



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9. **Touch** the convection fan button ⑩ to stop the Convection fan motor.



## Result

The convection fan motor has now been tested.

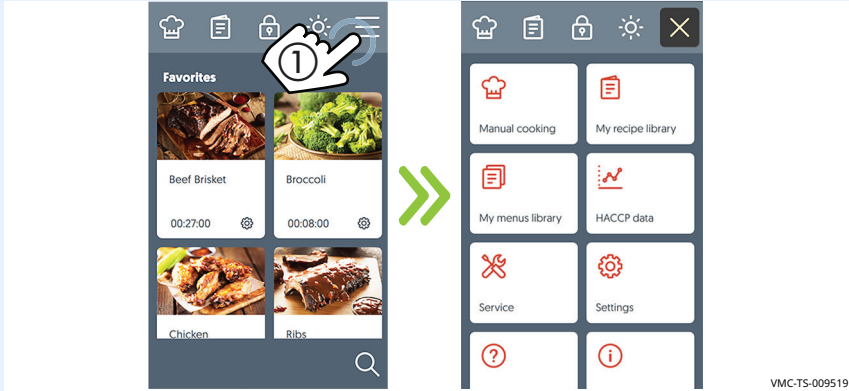
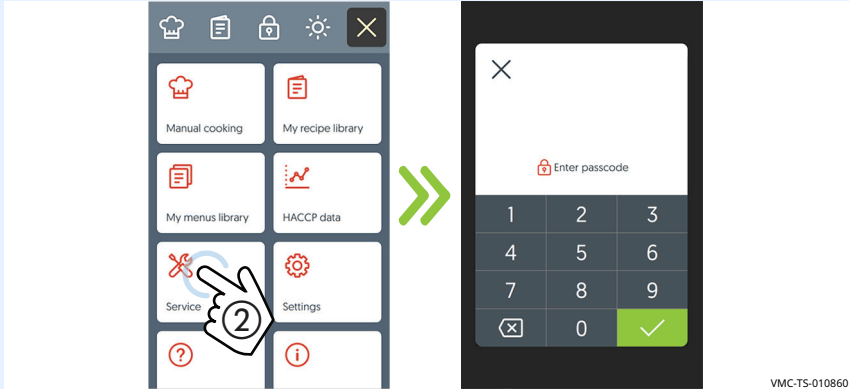
# How to Test the Cooling Fans

## Before you begin

- The oven must be connected to electric power.
- Make sure the top cover and side panels are installed when conducting this test.

## Procedure

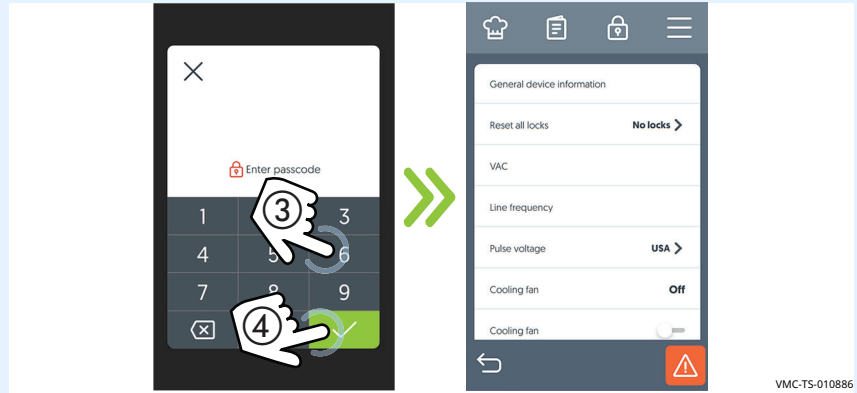
To test the cooling fans, do the following.

Step	Action
1.	<p><b>Touch</b> the menu icon ①. The User Menu screen displays.</p>  <p style="text-align: right;">VMC-TS-009519</p>
2.	<p><b>Touch</b> the Service icon ②. The enter pass code screen displays.</p>  <p style="text-align: right;">VMC-TS-010860</p>

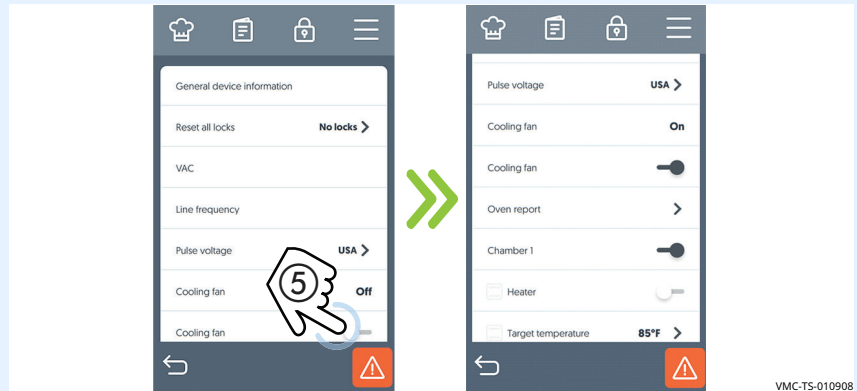
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3. **Enter** the pass code 6702 ③.  
**Touch** the check mark ④. The general device information screen displays.



4. **Touch** the cooling fan button ⑤. The cooling fans turn on.  
See topic *The Cooling Fans do not Operate*. if the fans do not operate.  
**Touch** the cooling fan button to turn the cooling fans off.



## Result

The cooling fans have now been tested.

# How to Test the Heaters

## Before you begin

- The oven must be connected to electric power.
- Remove the right side panel.

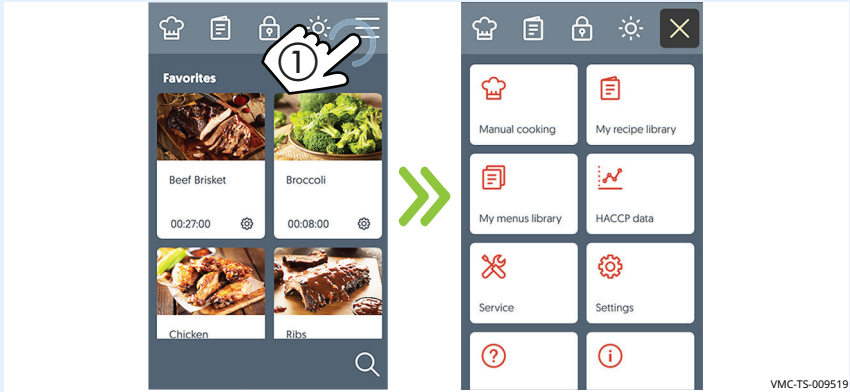
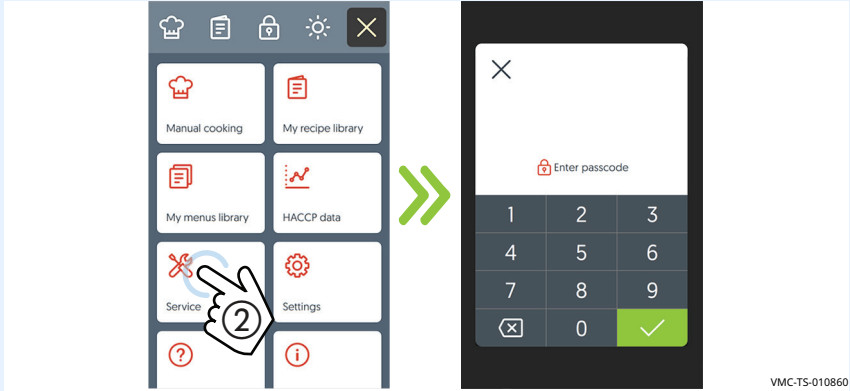
## Procedure

To test the heaters, do the following.

### NOTICE

Do not operate the oven in a cooking mode for an extended period of time with the top panel removed. Damage to the electronics may occur without adequate cooling airflow.

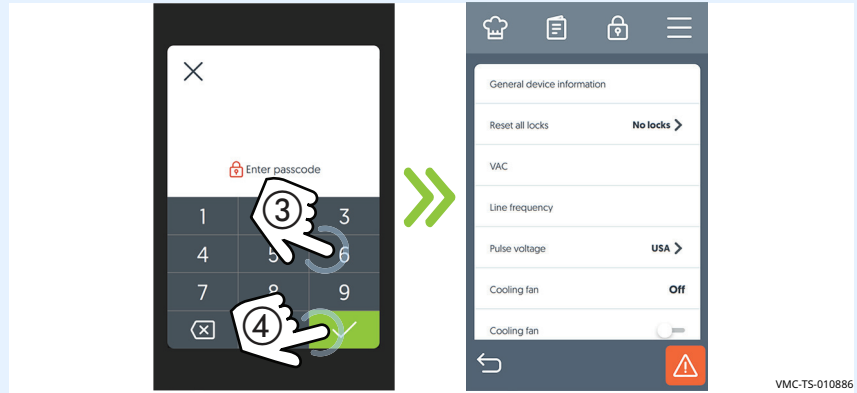
An auxiliary air fan must be used if the oven is to be operated in a cooking mode for an extended period of time with the top panel removed.

Step	Action
1.	<p><b>Touch</b> the menu icon ①. The user menu screen displays.</p>  <p style="text-align: right;">VMC-TS-009519</p>
2.	<p><b>Touch</b> the service icon ②. The enter pass code screen displays.</p>  <p style="text-align: right;">VMC-TS-010860</p>

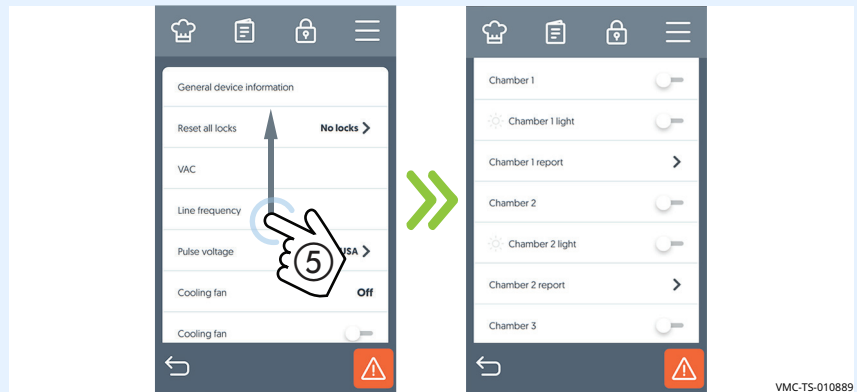
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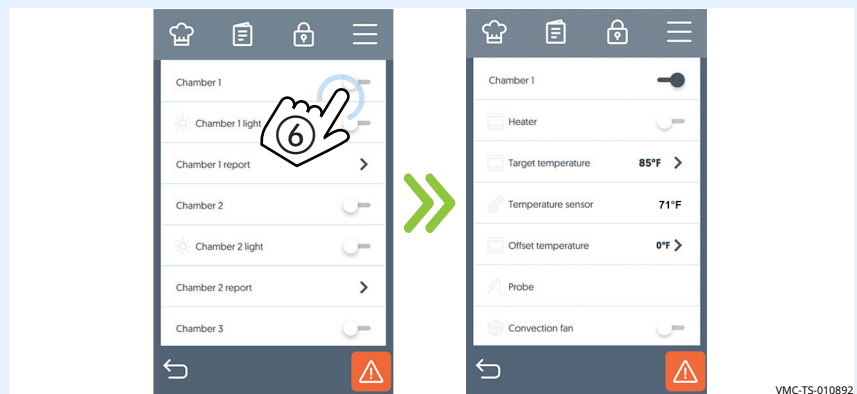
3. **Enter** the pass code 6702 ③.  
**Touch** the check mark ④. The general device information screen displays.



4. **Scroll** ⑤ to the chamber selection buttons.



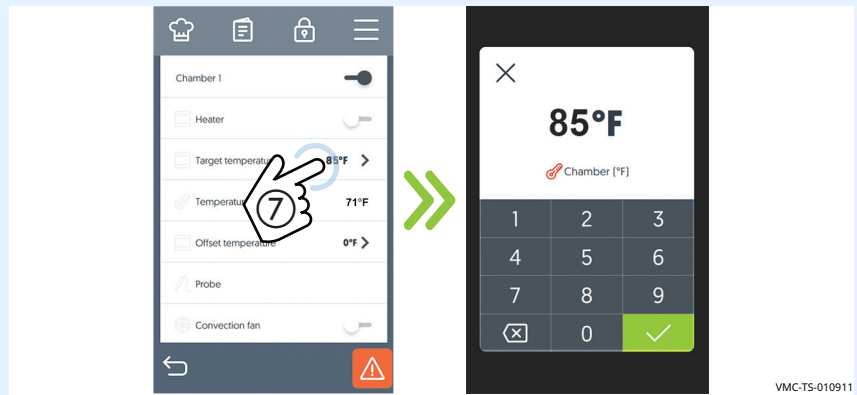
5. **Touch** the button ⑥ of the chamber to be tested. The chamber options are displayed.



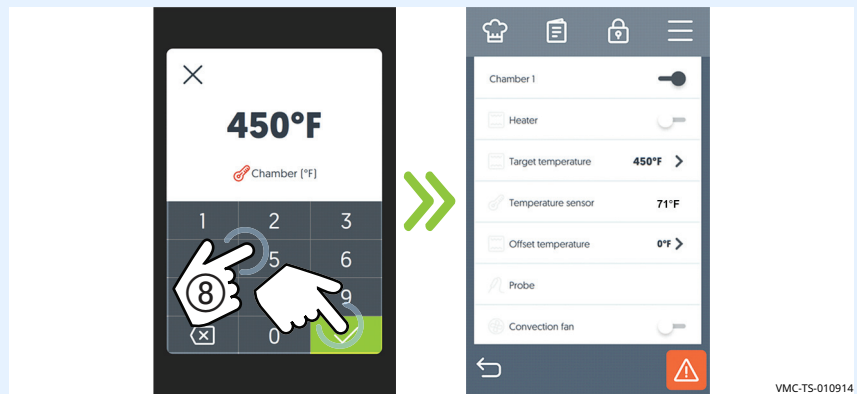
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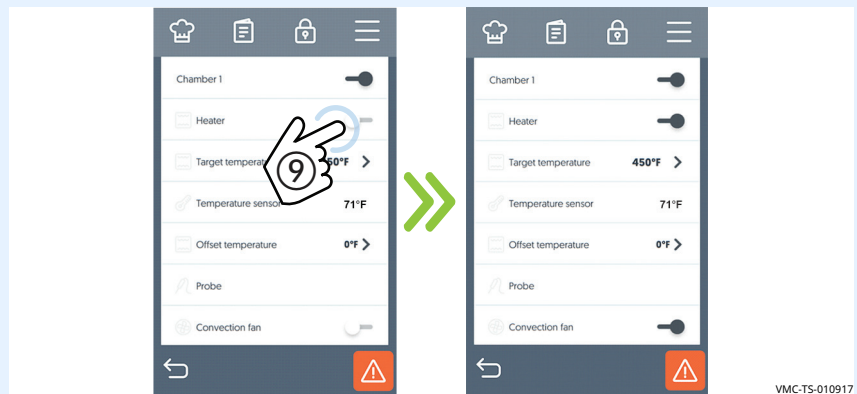
6. **Touch** the target temperature setting ⑦. The select temperature screen displays.



7. **Select** a temperature higher than the current chamber temperature ⑧. Touch the check mark. The target temperature is displayed.



8. **Touch** the heater button ⑨. The heater and convection fan buttons will turn gray. The chamber's heater is on.



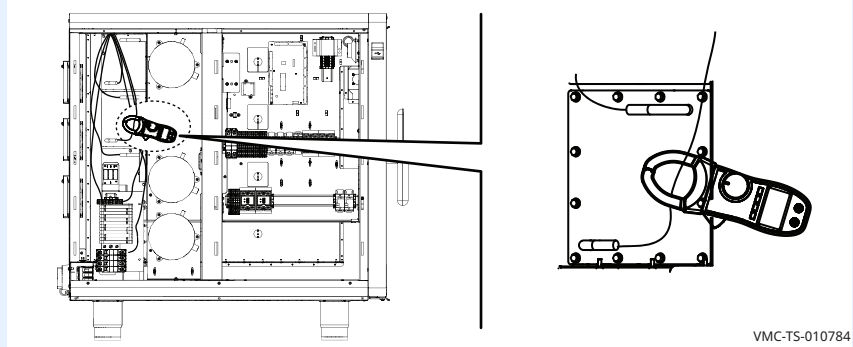
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9. **Measure** the amp draw while the heater is on. The amperage draw of a functioning heater element is 10-15 amps.

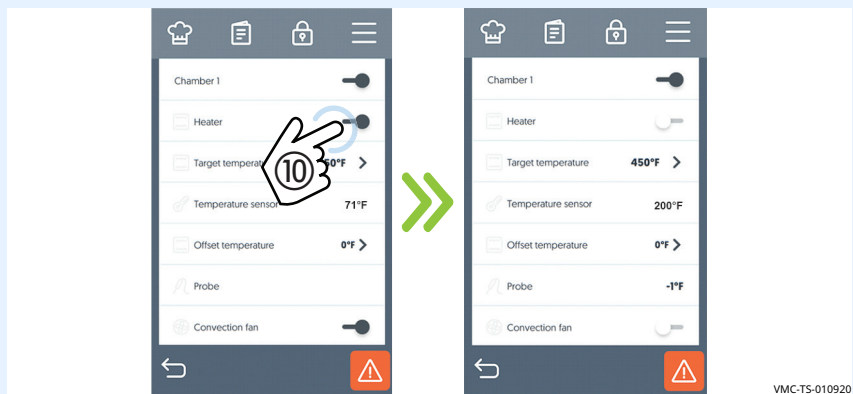


**WARNING:** Electric shock hazard. Wear PPE and use best practices when measuring live voltage.



VMC-TS-010784

10. **Touch** the heater button **10** to stop the heater. The heater and convection fan buttons will turn white.



VMC-TS-010920

11. **Cool** the oven.

12. **Re-install** the side panel.

## Result

The heaters have now been tested.

# How to Calibrate a Chamber Thermocouple

## Before you begin

- The oven must be connected to electric power.
- Make sure you have a multimeter with a thermocouple attachment.
- Make sure the jet plates are installed.
- You will need to know the service pass code.

## Procedure

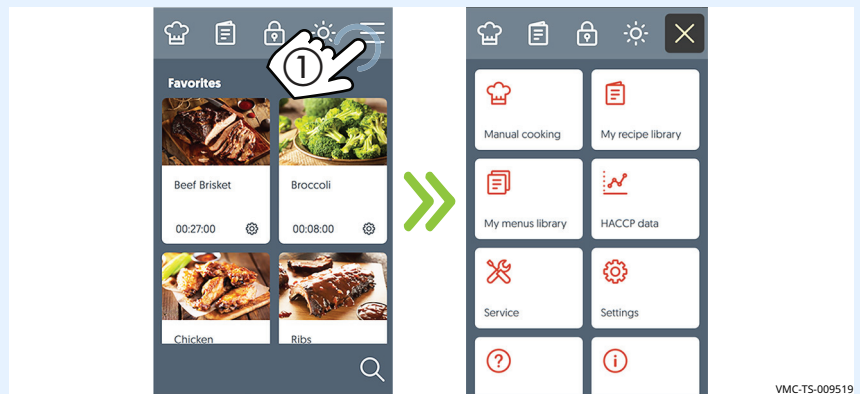
To calibrate a chamber thermocouple, do the following.

### NOTICE

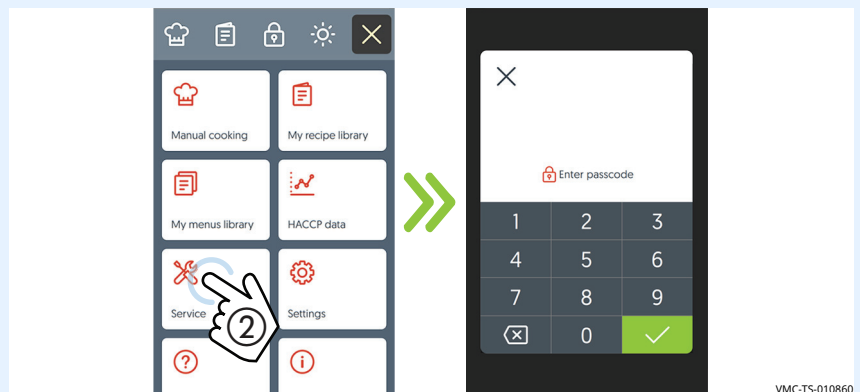
Do not operate the oven in a cooking mode for an extended period of time with the top panel removed. Damage to the electronics may occur without adequate cooling airflow. An auxiliary air fan must be used if the oven is to be operated in a cooking mode for an extended period of time with the top panel removed.

### Step Action

1. **Touch** the menu icon ①. The user menu screen displays.



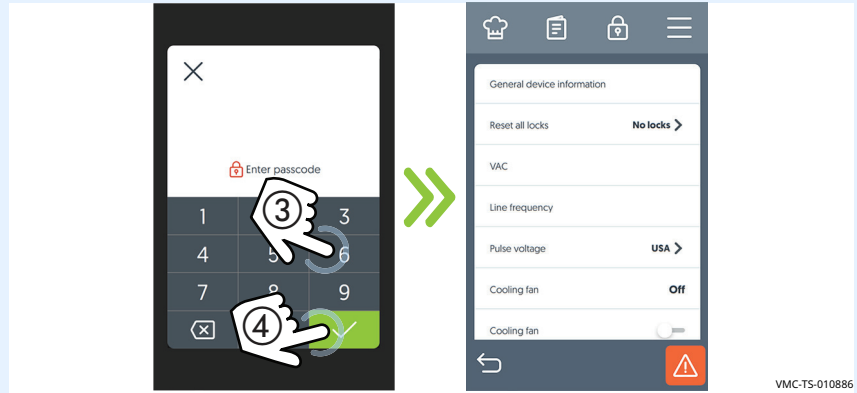
2. **Touch** the service icon ②. The enter pass code screen displays.



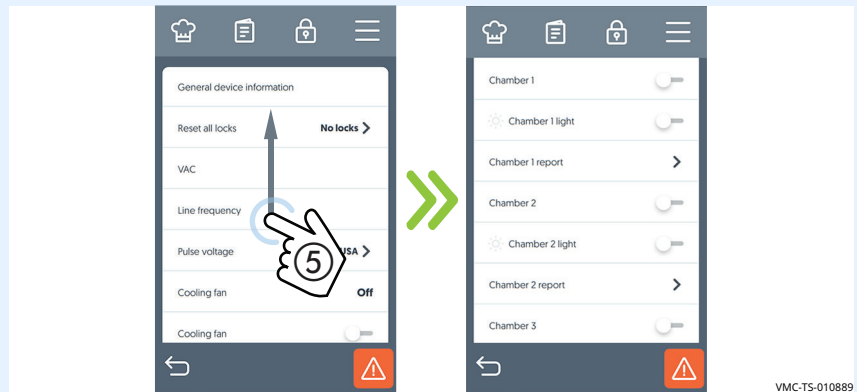
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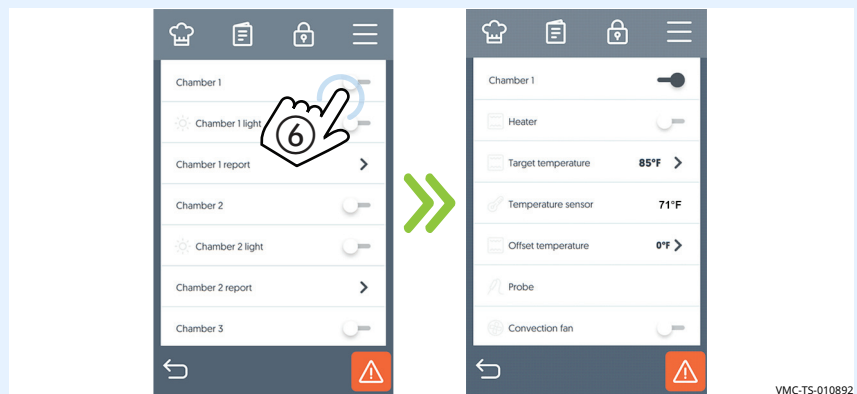
3. **Enter** the pass code 6702 ③.  
**Touch** the check mark ④. The general device information screen displays.



4. **Scroll** ⑤ to the chamber selection buttons.



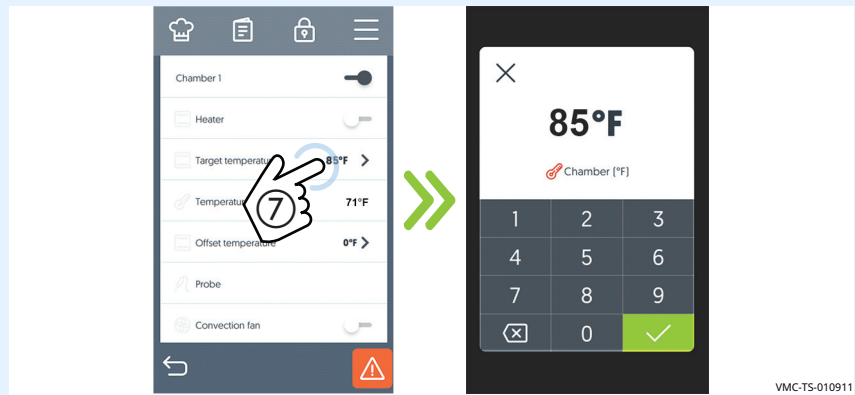
5. **Touch** the button ⑥ of the chamber to be tested. The chamber options are displayed.



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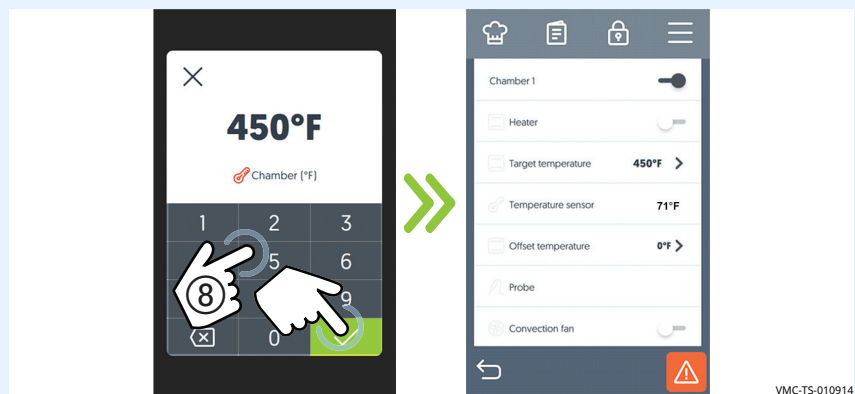
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6. **Touch** the target temperature setting ⑦. The select temperature screen displays.



**Enter chamber temperature**

7. **Enter** a temperature higher than the current chamber temperature ⑧. **Touch** the check mark. The target temperature is displayed. **Repeat** for all chambers. **Set** all chambers to the same temperature.



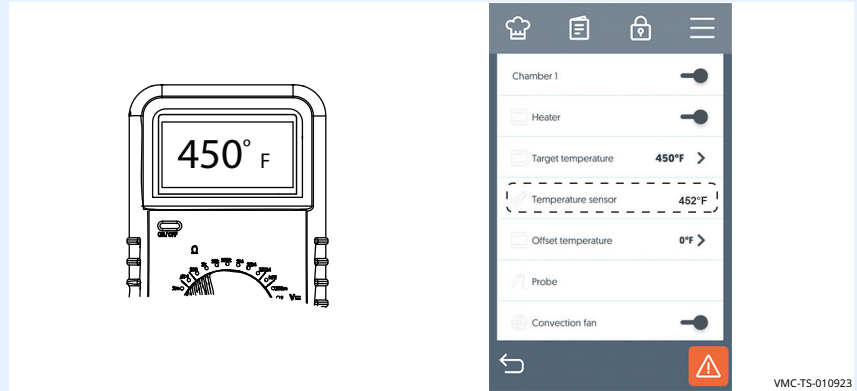
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### Insert the thermocouple

8. **Insert** the thermocouple from the multimeter into the heated oven. Allow the multimeter to stabilize.

**Compare** the reading from the multimeter's thermocouple with the temperature sensor reading displayed on the screen.



### Calibrate the offset

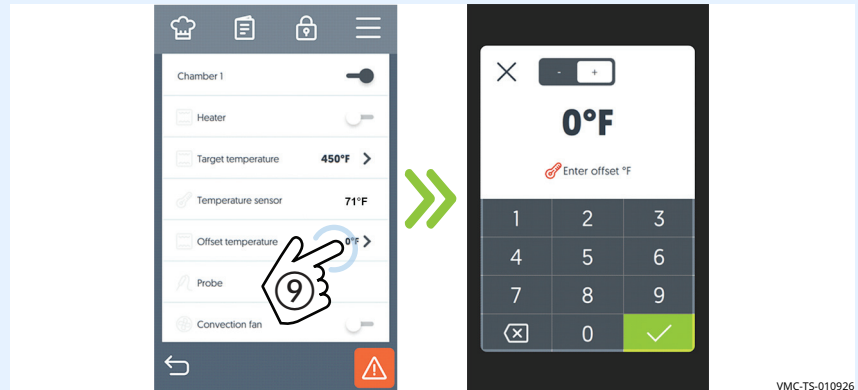
9. **Calibrate** the offset number. Subtract the smaller value from the larger value. This is the offset. If the value measured by the multimeter was the larger value, the offset will be positive "+". If the value measured by the multimeter was the smaller value, the offset will be negative "-".

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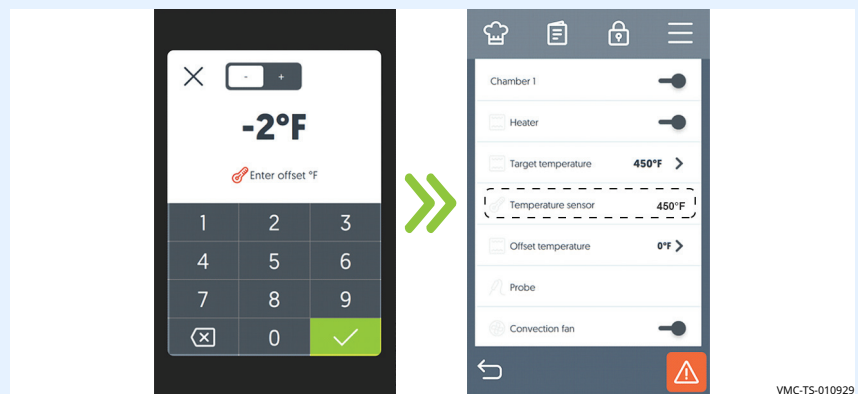
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10. **Enter** the offset. To do so:

**Touch** the “>” icon ⑨ for the chamber offset temperature that needs to be calibrated. The Enter offset screen displays.



**Enter** the value calibrated in step 10 and press the check mark. The multimeter temperature and the temperature sensor should show the same reading.



11. **Repeat** the procedure for the remaining chambers.

12. **Cool** the oven.

## Result

The chamber thermocouples have now been calibrated.

# How to Test the Probe

## Before you begin

**Make sure** you have:

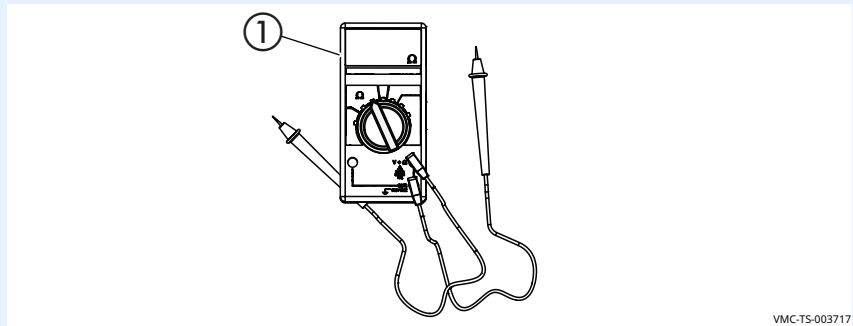
- Multimeter
- Container of ice water

## Procedure

To test the probe, do the following.

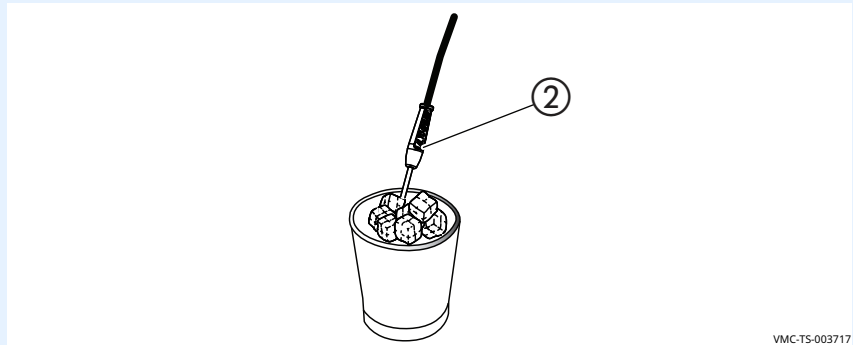
Step	Action
------	--------

- |    |                                      |
|----|--------------------------------------|
| 1. | <b>Set</b> the multimeter ① to ohms. |
|----|--------------------------------------|



- |    |  |
|----|--|
| 2. | <b>Insert</b> the probe ② into a container of ice water. |
|----|--|

**i** **NOTE:** Stir the water with the probe to ensure an accurate measurement.

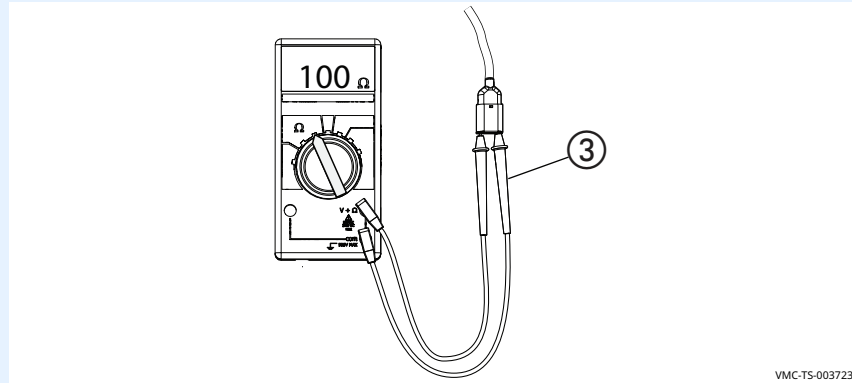


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3. **Insert** the meter leads ③ into the probe connector. The measurement should be between 99 and 101 ohms at 32°F (0°C).

**NOTE:** If the measurement is not between 99 and 101 ohms, replace the faulty probe.

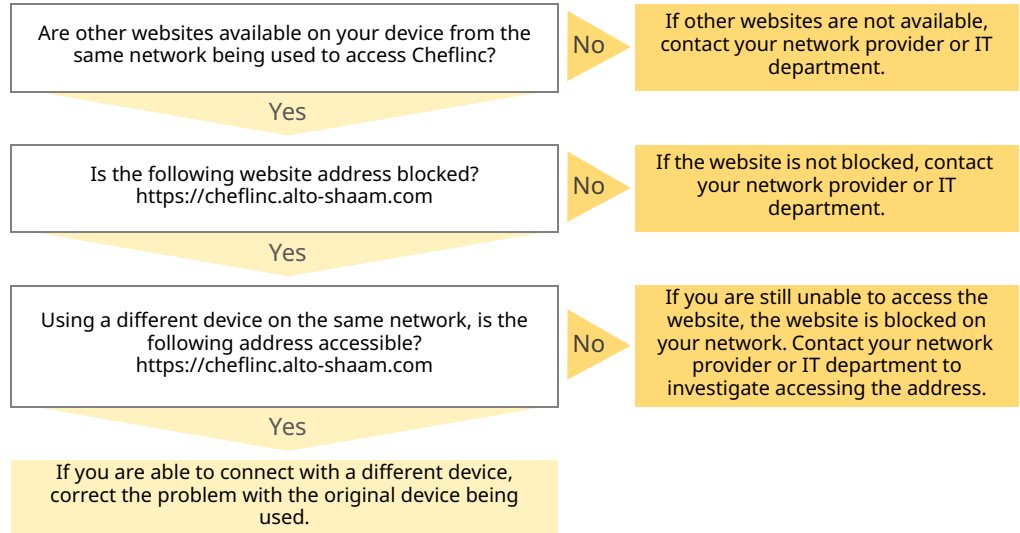


VMC-TS-003723

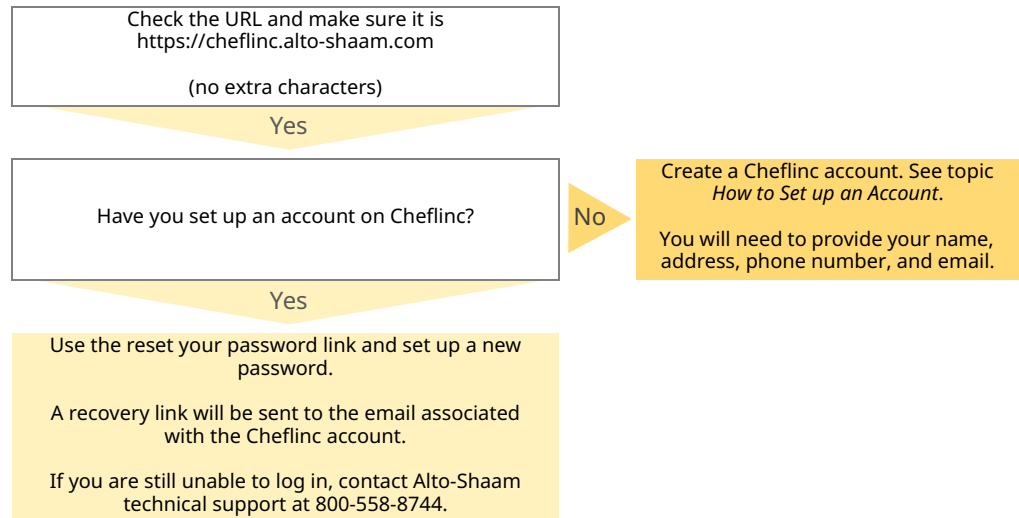
## Result

The probe has now been tested.

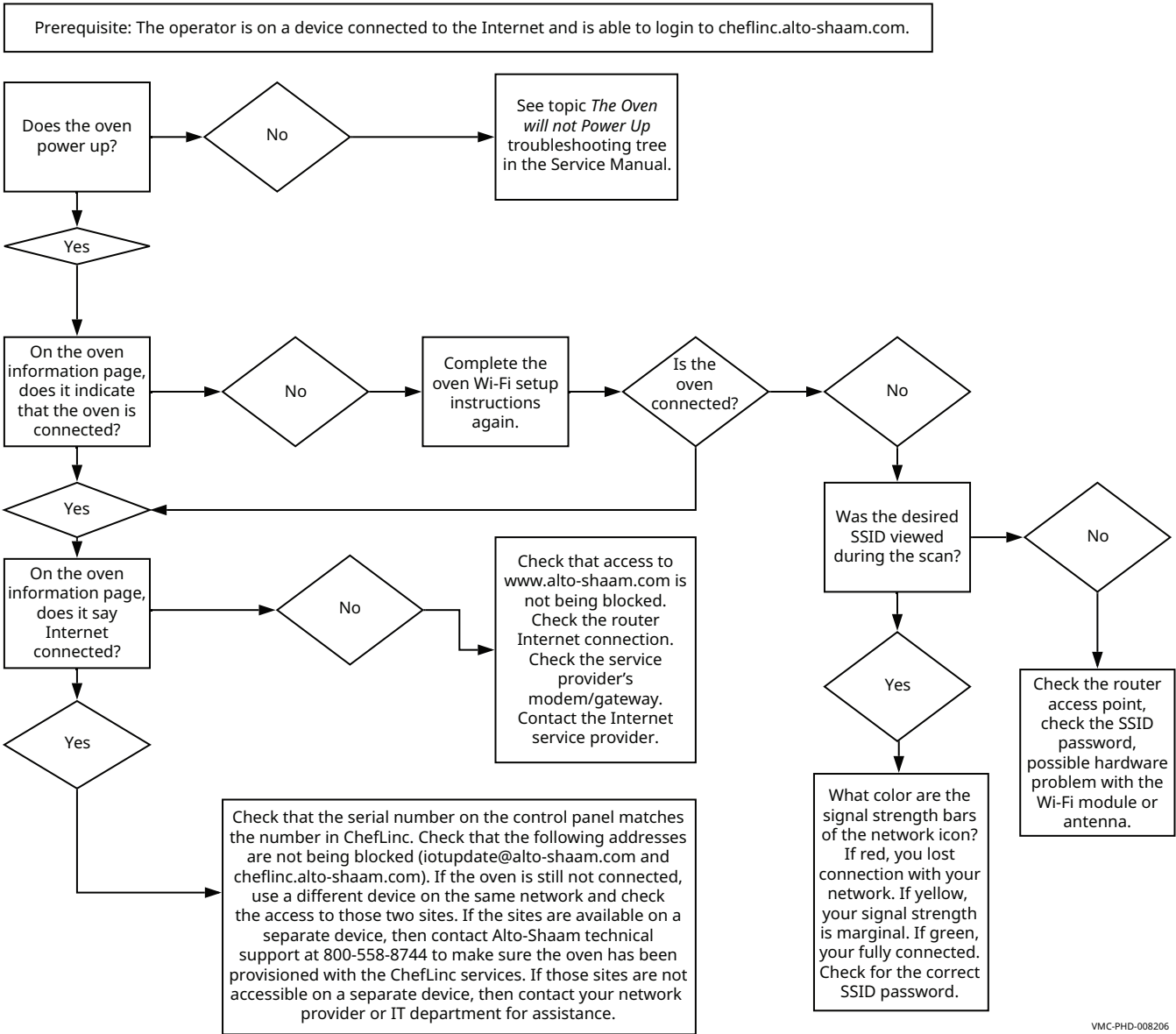
# Cheflinc.alto-shaam.com is Not Available on Your Device



# Cannot Connect to cheflinc.alto-shaam.com

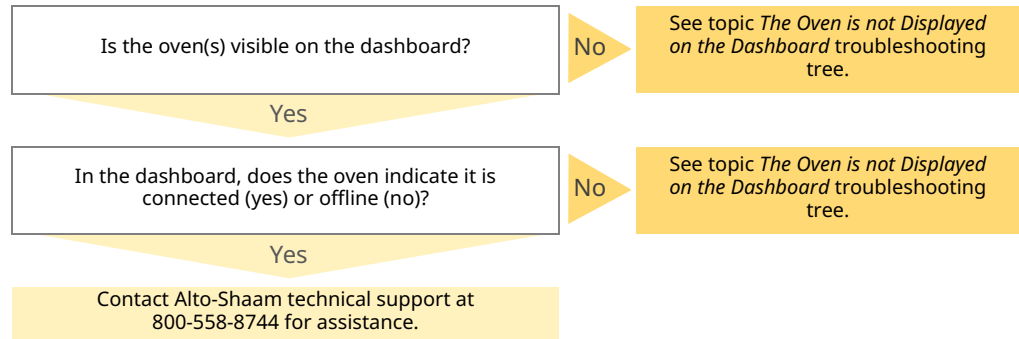


# The Oven is not Displayed on the Dashboard



VMC-PHD-008206

# Unable to Assign Recipes from the Dashboard to Ovens in the Field



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# Removing and Installing the Blower Motor

## Before you begin

- The oven must be disconnected from electric power.
- Have a replacement blower motor.

## Procedure

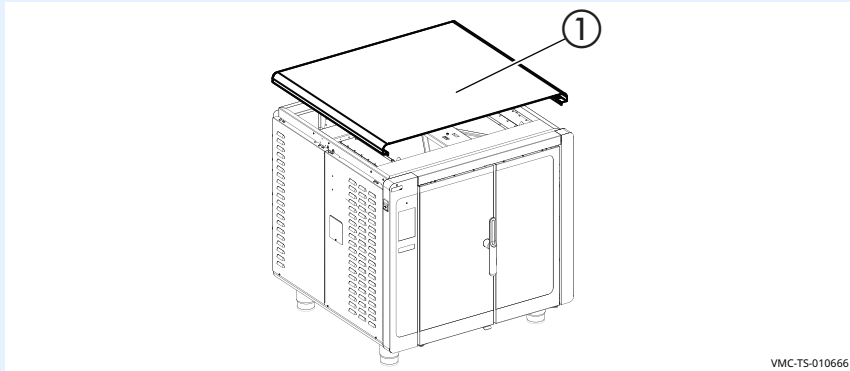
To remove and install the blower motor, do the following.

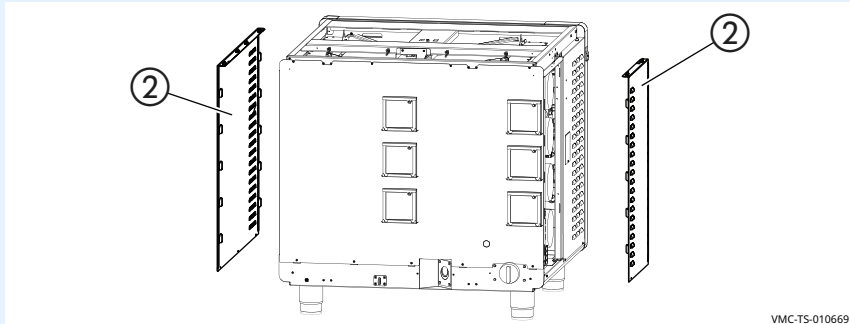


**WARNING:** Electric shock hazard.

Disconnect the oven from electric power before servicing the appliance.

Step	Action
1.	<b>Remove</b> the top panel ①.
	
2.	<b>Remove</b> the side panels ②.
	

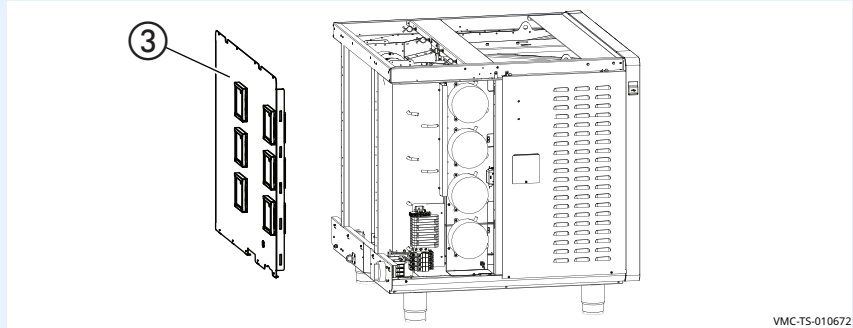


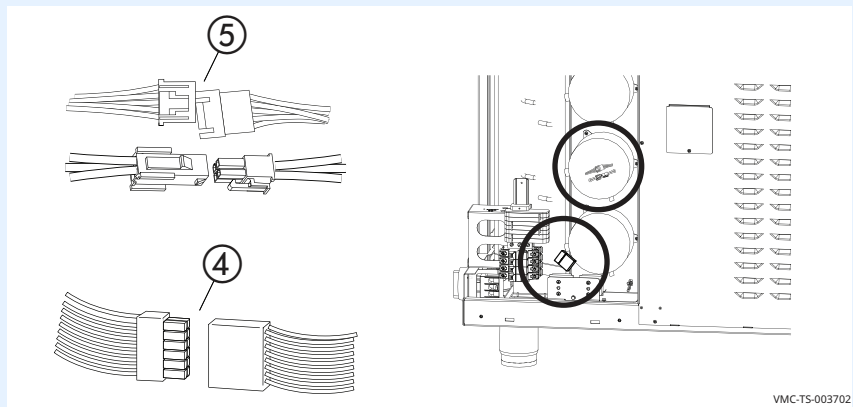
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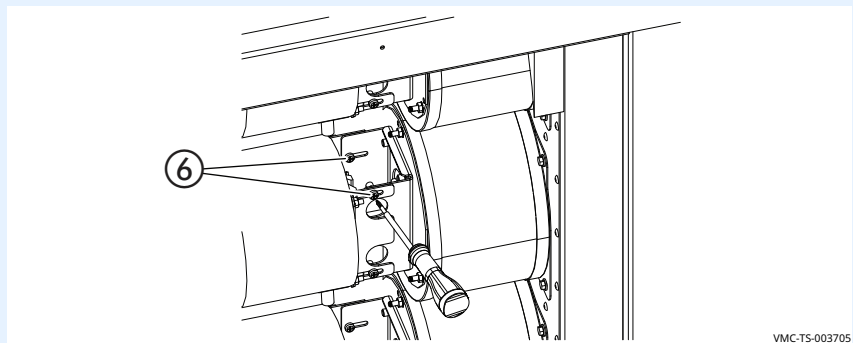
3. **Remove** the back panel ③.



4. **Disconnect** the fan wire connector ④.  
**Disconnect** the blower motor wire connectors ⑤.



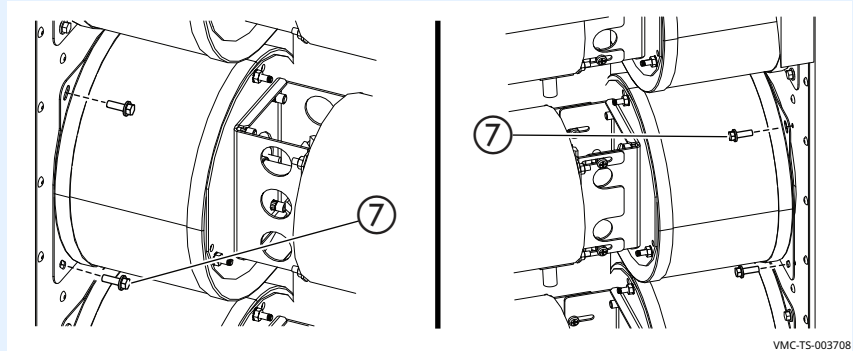
5. **Cut** the insulation around the motor.  
**Loosen** the motor mount adjustment screws ⑥.



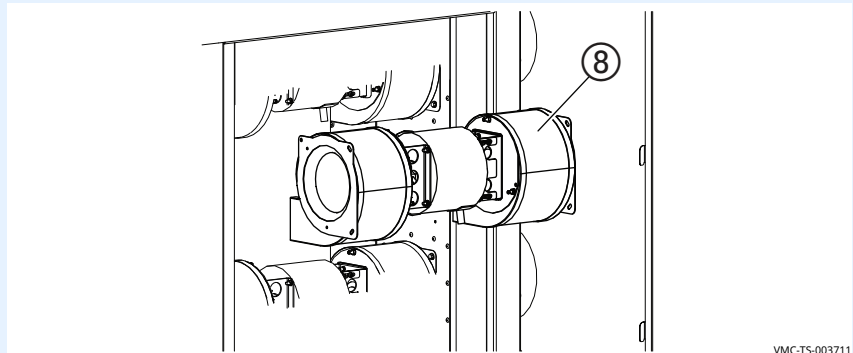
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6. **Remove** the fan mount screws ⑦.



7. **Remove** the motor assembly ⑧ from the oven.  
**Install** the new motor assembly.



8. **Re-install** the fan mount screws ⑦.
9. **Tighten** the motor mount adjustment screws.  
**Re-install** the insulation around the motor. Tape all the seams in the insulation.
10. **Re-connect** the motor wire connectors.
11. **Re-install** the back, sides, and top panels.
12. **Connect** electric power to the appliance and test all functions.

**Result**

The blower motor assembly has been replaced.

# Removing and Installing a Heater Element

## Before you begin

- The oven must be disconnected from electric power.
- Have a replacement heater element.

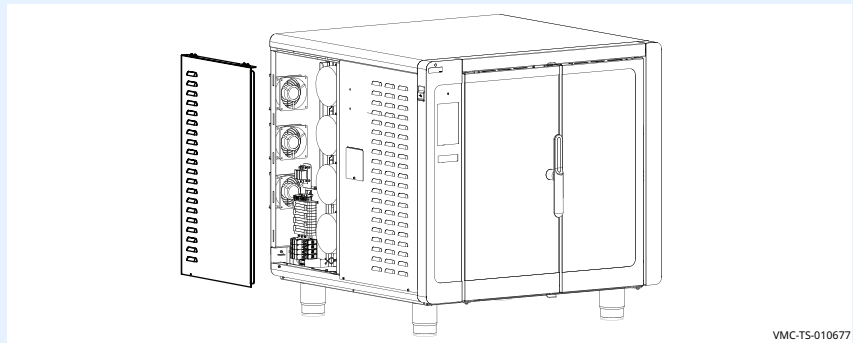
## Procedure

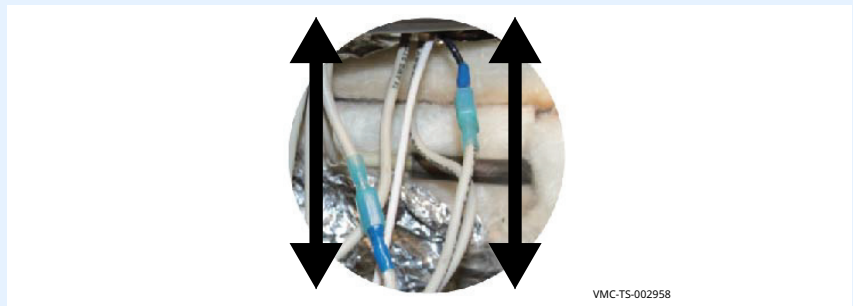
To remove and install a heater element, do the following.



**WARNING:** Electric shock hazard.  
Disconnect the appliance from electric power before servicing the appliance.

Step	Action
1.	<b>Remove</b> the side service panel.
 <small>VMC-TS-010677</small>	
2.	<b>Disconnect</b> the heater element wires.
 <small>VMC-TS-002958</small>	

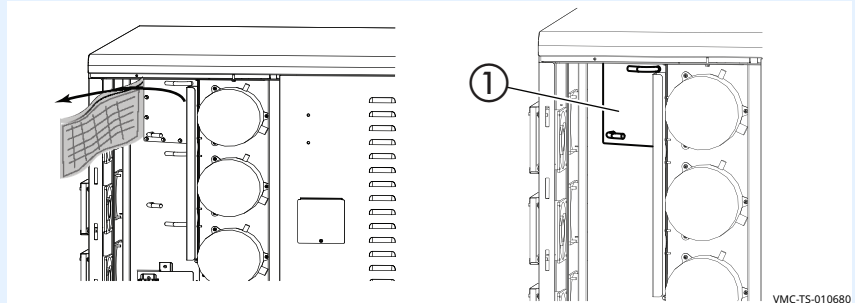


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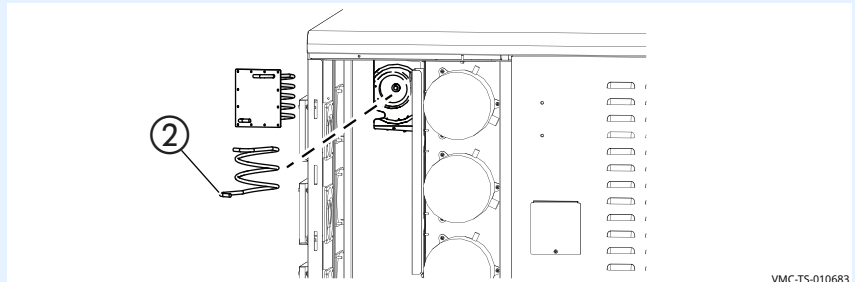
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3. **Cut** the insulation around the heater element panel.  
**Move** the insulation away from the heater element panel.  
**Remove** the heater element panel ①.



VMC-TS-010680

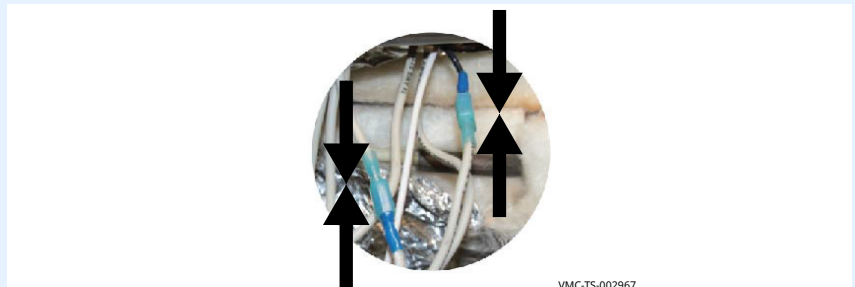
4. **Remove** the heater element ② from the oven.  
**Install** the new heater element into the oven.



VMC-TS-010683

5. **Re-install** the heater element panel.  
**Re-install** the insulation over the heater element panel. Tape all the seams in the insulation.

6. **Re-connect** the heater element wires.



VMC-TS-002967

7. **Re-install** the side service panel.  
**Connect** electric power to the appliance and test all functions.

**Result**

The heater element has been replaced.

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# VMC-FID 3 208-240V 60HZ 3PH

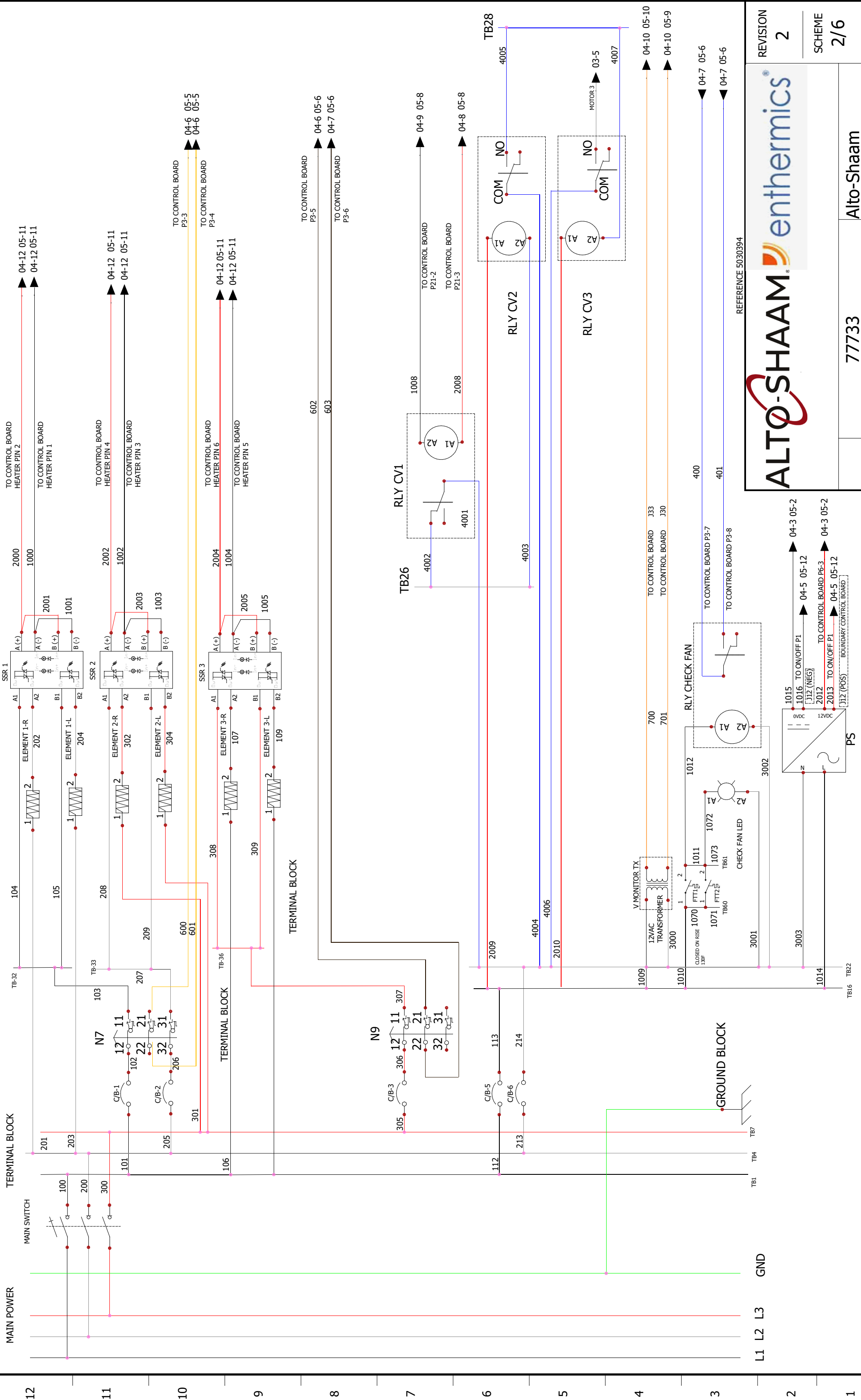
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MAIN & BRANCH CIRCUIT	PG 02
DRIVE, MOTOR, COOLING FAN	PG 03
SIMPLE CONTROL	PG 04
DELUXE CONTROL	PG 05
LEGEND	PG 06



REV.	DATE	NAME	ECO	CHANGES	REVISION
2	6/12/2020	montev	181775	Update Legend and wire connection	2
1	4/13/2020	montev	181516	F-199 Feedback	PAGE
0	1/2/2020	montev	01/27/18	NPD	1/6
					Alto-Shaam
77733 DUAL SSR VMC-FID 3 208-240V 60Hz 3PH					



REFERENCE 5030394

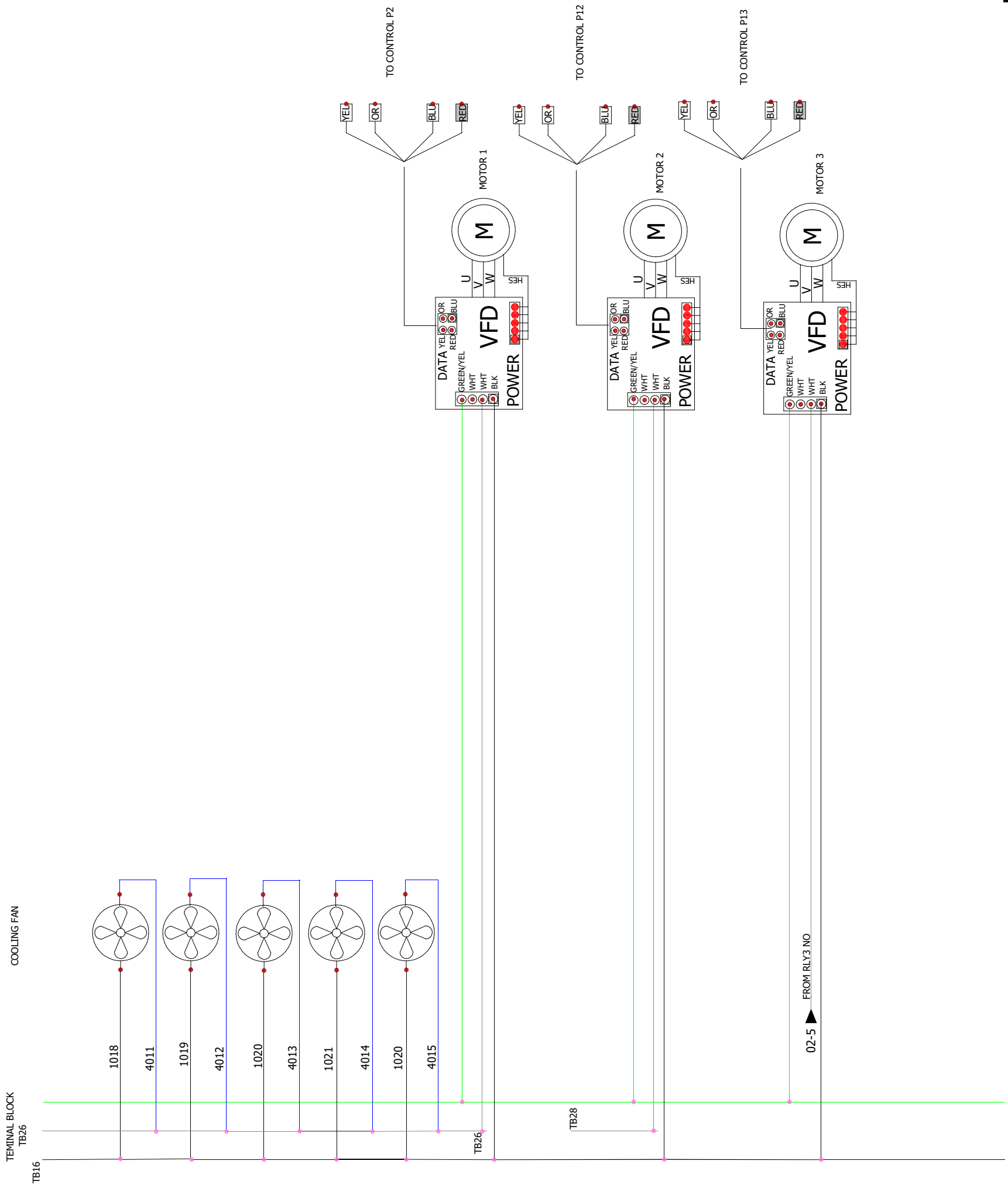


REVISION 2

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COOLING FAN

TERMINAL BLOCK  
TB26

TB16

1018

4011

1019

4012

1020

4013

1021

4014

1020

4015

TB26

TB28

02-5

FROM RLY3 NO

GND

TO CONTROL P2

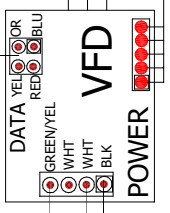
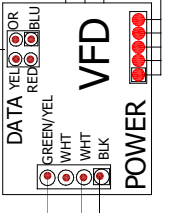
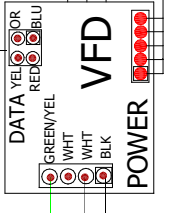
TO CONTROL P12

TO CONTROL P13

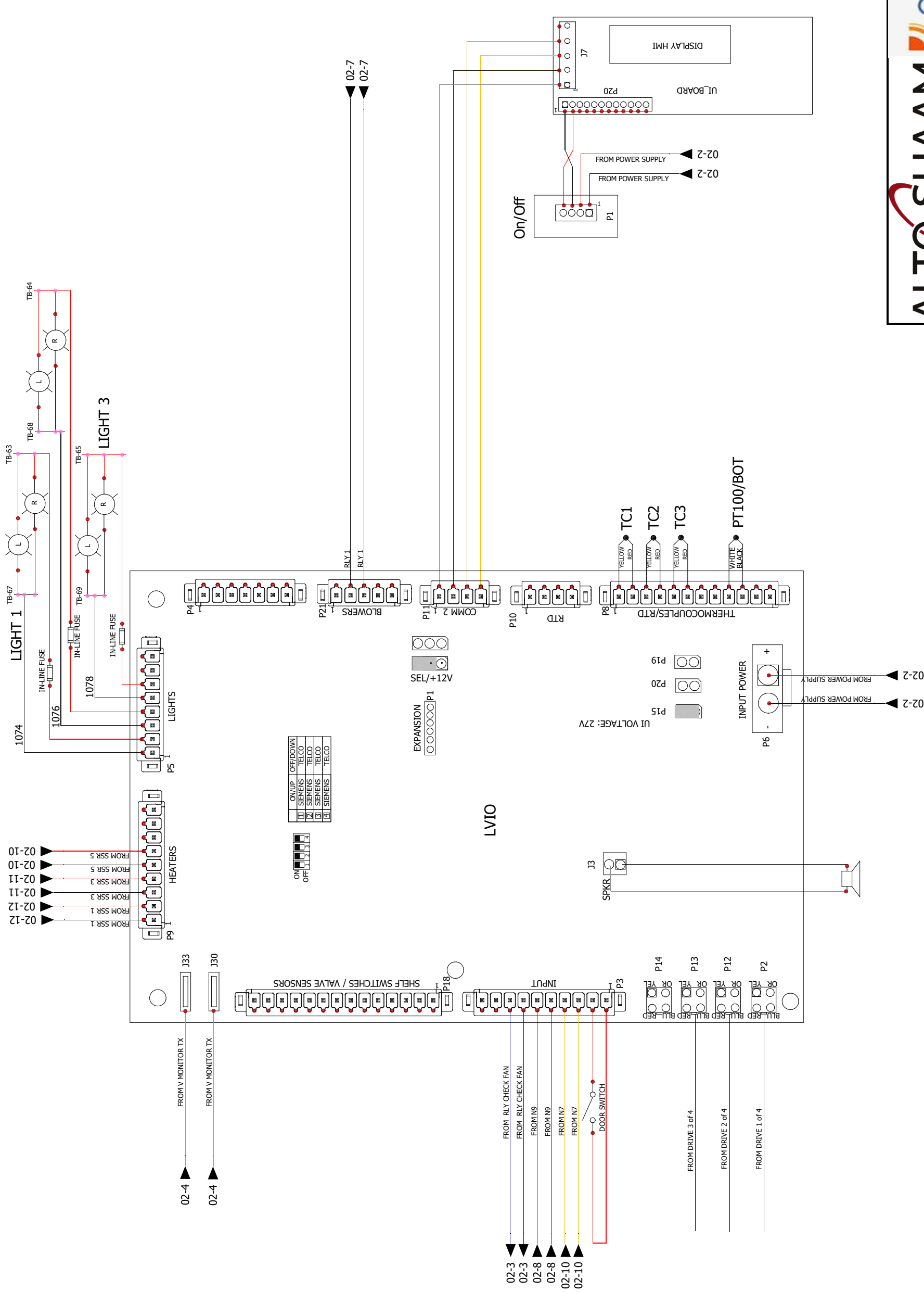
MOTOR 1

MOTOR 2

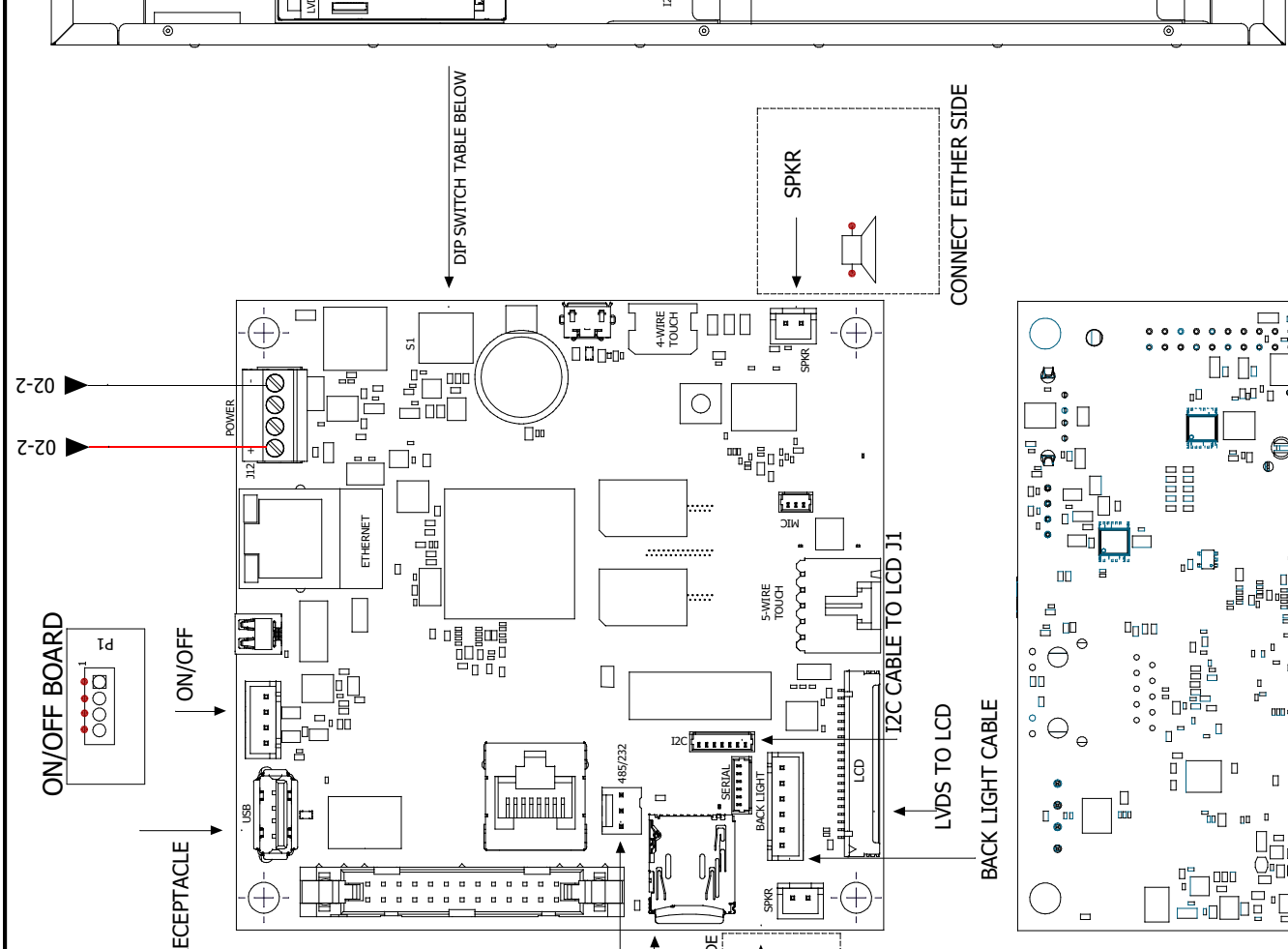
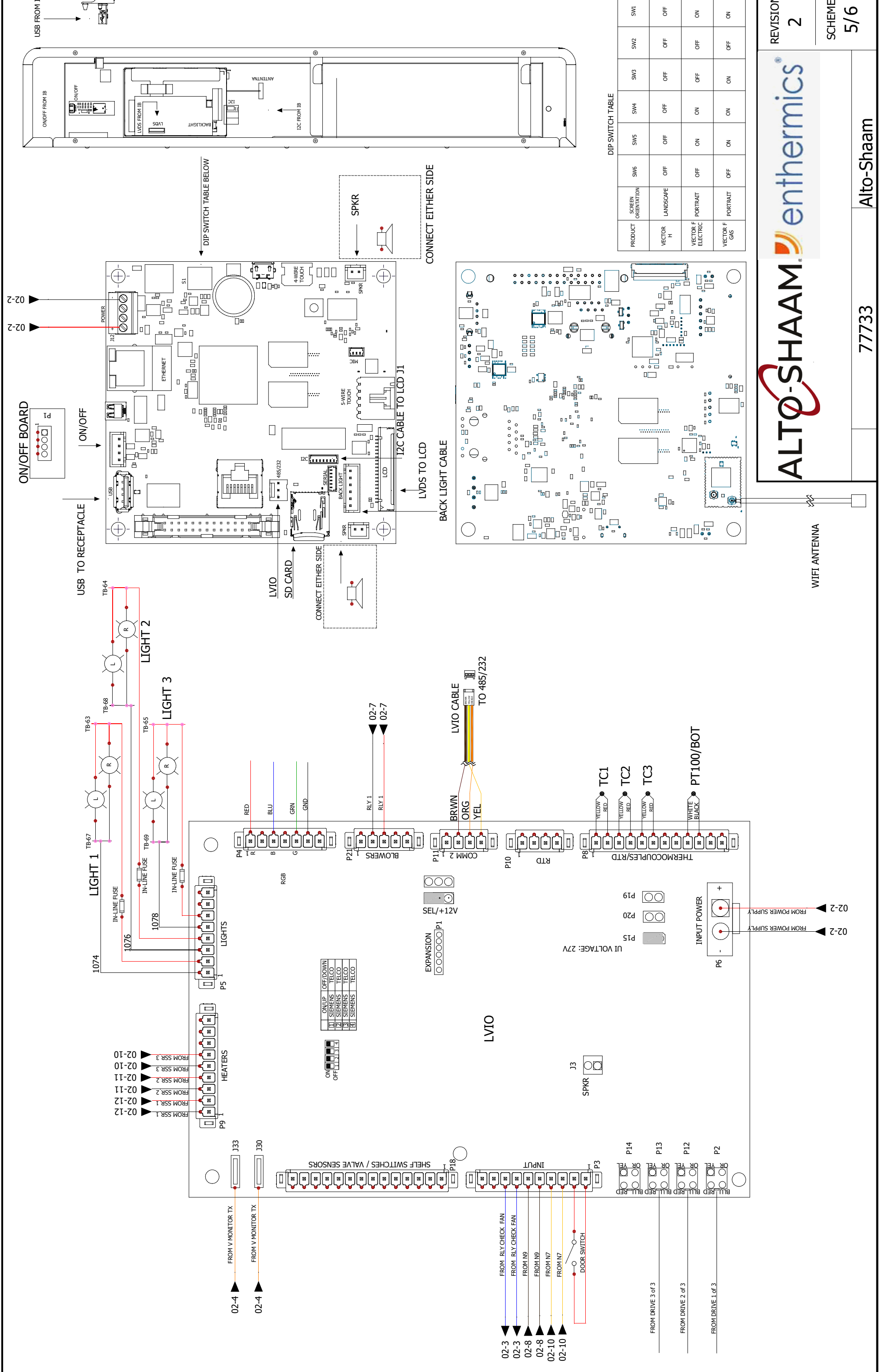
MOTOR 3



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**DIP SWITCH TABLE**

PRODUCT	VECTOR H	VECTOR F ELECTRIC	VECTOR F GAS
SCREEN ORIENTATION	LANDSCAPE	PORTRAIT	PORTRAIT
SW1	OFF	ON	ON
SW2	OFF	OFF	OFF
SW3	OFF	OFF	ON
SW4	OFF	ON	ON
SW5	OFF	ON	ON
SW6	OFF	OFF	OFF

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**REVISION 2**

**SCHEME 5/6**

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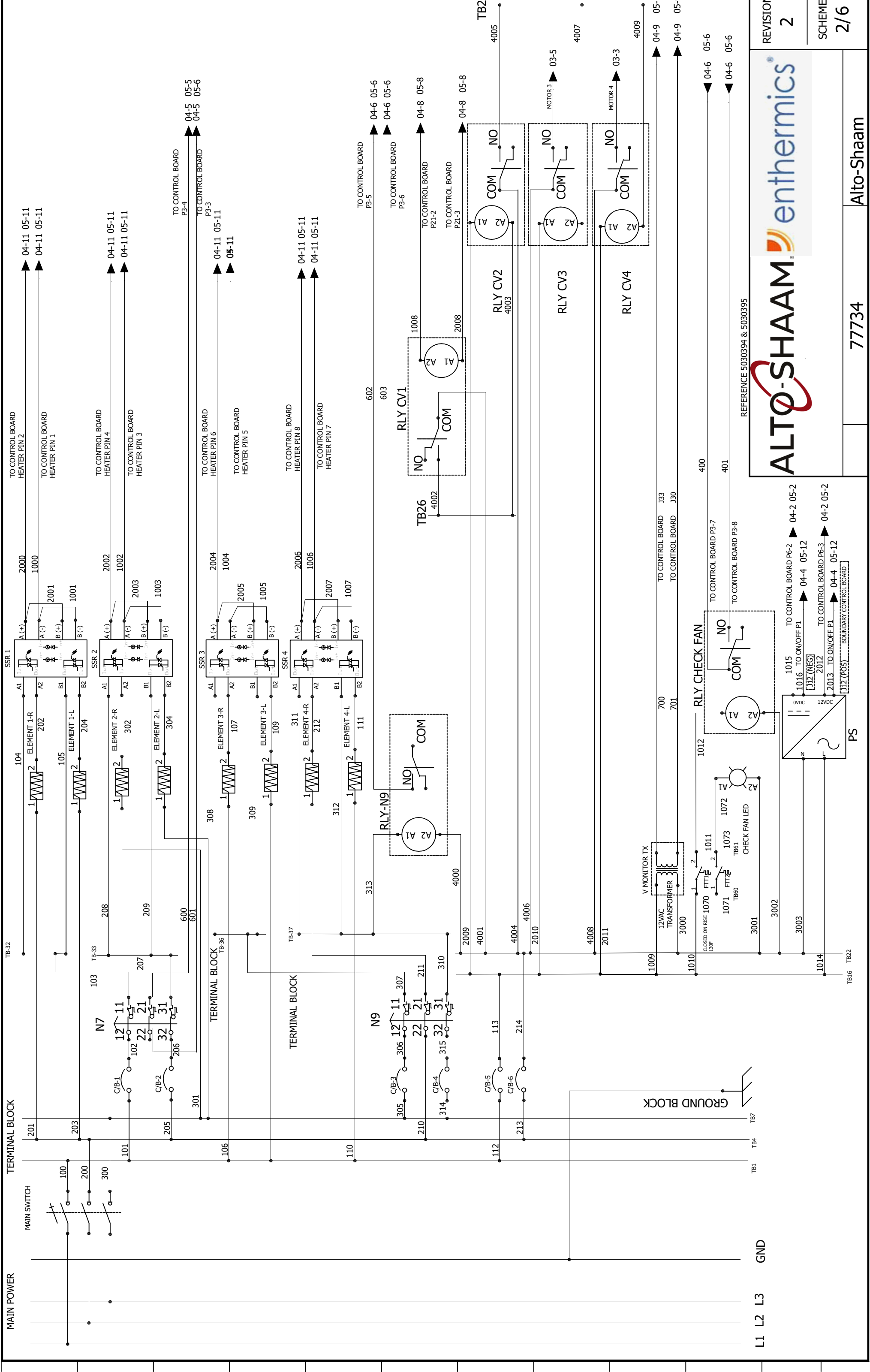
**WIFI ANTENNA**

USB FROM IB

## LEGEND

B1 = H2O PROBE LOW	E43 = CONV ELEMENT SET	K42 = CONV CONTACTOR	PS = POWER SUPPLY	Y3 = CLEAN VALVE
B2 = H2O PROBE HIGH	EL = ELEMENT	K43 = CONV CONTACTOR	PSW = PRESSURE SWITCH	Y4 = CLEAN PUMP
B3 = WATER PROBE	FA = FAN	K44 = CONV CONTACTOR	RLY = RELAY	Y5 = HAND SHOWER
B4 = BOILER PROBE	FE = BOILER FUSE	K45 = CONV CONTACTOR	RV = STEAM RELIEF VALVE	---
B5 = STEAM BY-PASS PROBE	FST = CONV FUSE	K50 = MOTOR CONTACTOR LOW	S7 = REED SWITCH	---
B10 = FOOD PROBE	FSW = FILTER SWITCH	K51 = MOTOR CONTACTOR LOW	SMK = SMOKER	---
B11 = MULTI-POINT PROBE	FTT = COOLING FAN THERMOSTAT	K60 = MOTOR CONTACTOR LOW	SMO = STEAM MOTOR	---
BLWR = GAS CONV BLOWER	FU = FUSE	K61 = MOTOR CONTACTOR LOW	SPI = SPARK IGNITOR	---
C/B = CIRCUIT BREAKER	G. PUMP = GREASE PUMP	K77 = MASTER CONTACTOR	SSR = SOLID STATE RELAY	---
CAB = CABLE	GND = GROUNDING	K78 = MASTER CONTACTOR	SV = STEAM VALVE	---
CB = CONTROL BOARD	GU = HALOGEN LIGHT	LED = LIGHT IMITTING DIODE	TM = TERMINAL	---
CC = CATALYTIC CONVERTER	HIS = HOT SURFACE IGNITOR	LF = LINE FILTER	TB = TERMINAL BLOCK	---
CH = CONV HEATER	IB = INTERFACE BOARD	LQ. PUMP = LIQUID PUMP	TX = TRANSFORMER	---
CV = CONVECTION	IM = IGNITION MODULE	LWR = LOWER	UPP = UPPER	---
E1 = BOILER ELEMENT SET	K1 = BOILER CONTACTOR	MO = MOTOR	VFD = VARIABLE FRENCY DRIVE	---
E2 = BOILER ELEMENT SET	K2 = BOILER CONTACTOR	N7 = HIGH LIMIT	Y1 = STEAM VALVE	---
E3 = BOILER ELEMENT SET	K3 = BOILER CONTACTOR	N8 = BOILER TEMP PROBE	Y2 = MIXED WATER VALVE	---
E41 = CONV ELEMENT SET	K40 = CONV CONTACTOR	N9 = HIGH LIMIT		
E42 = CONV ELEMENT SET	K41 = CONV CONTACTOR	OB = OPTION BOARD		





REFERENCE 5030394 & 5030395

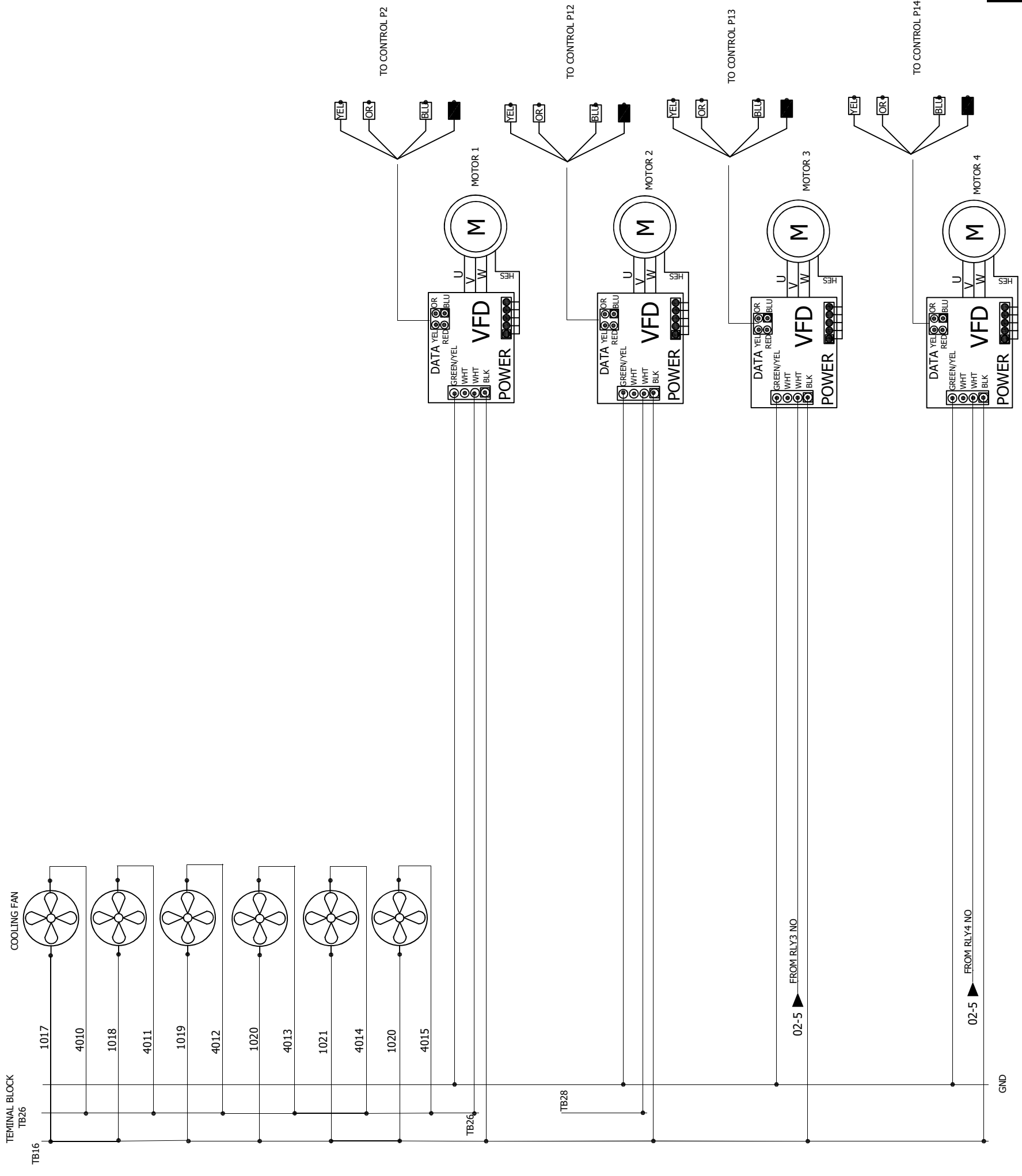


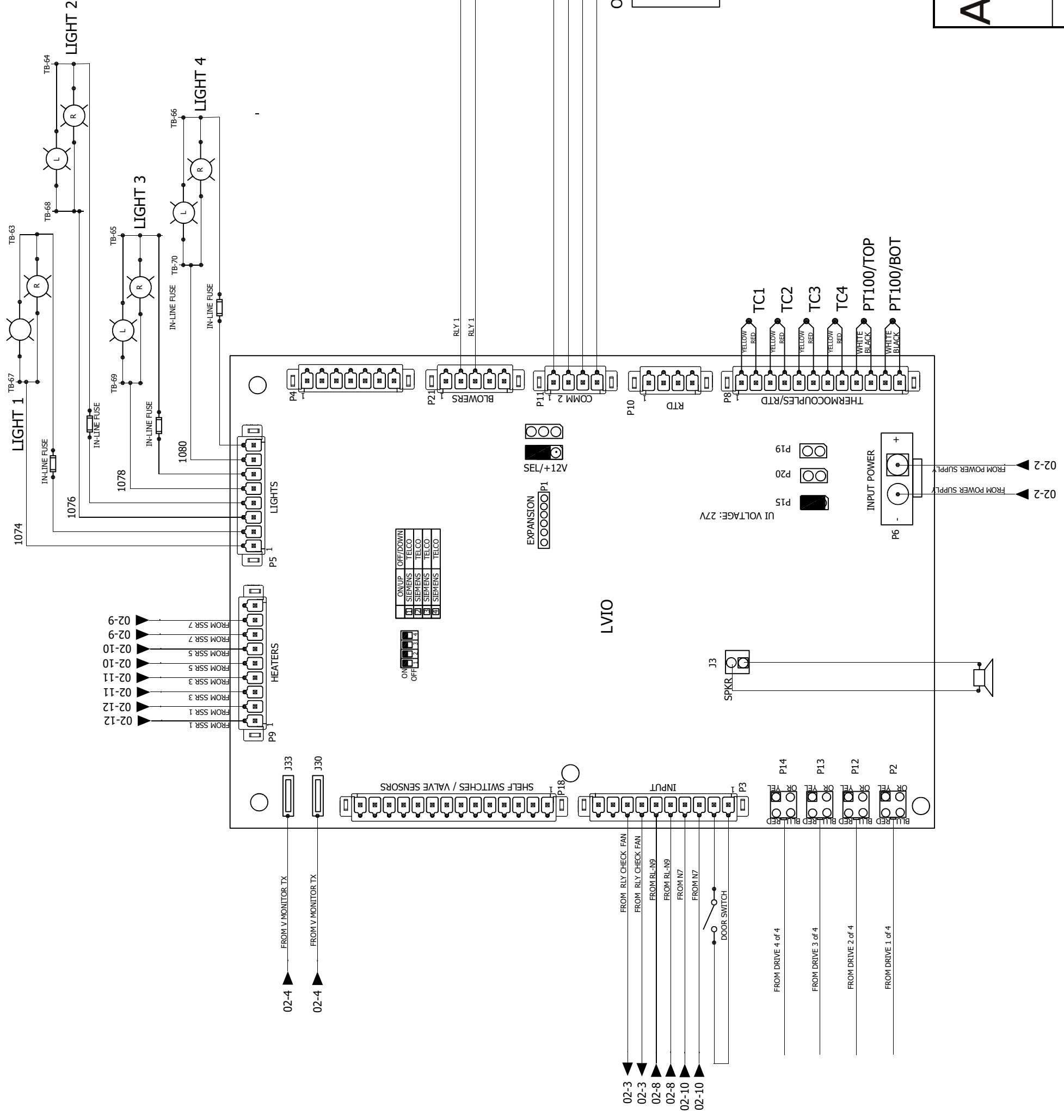
REVISION 2  
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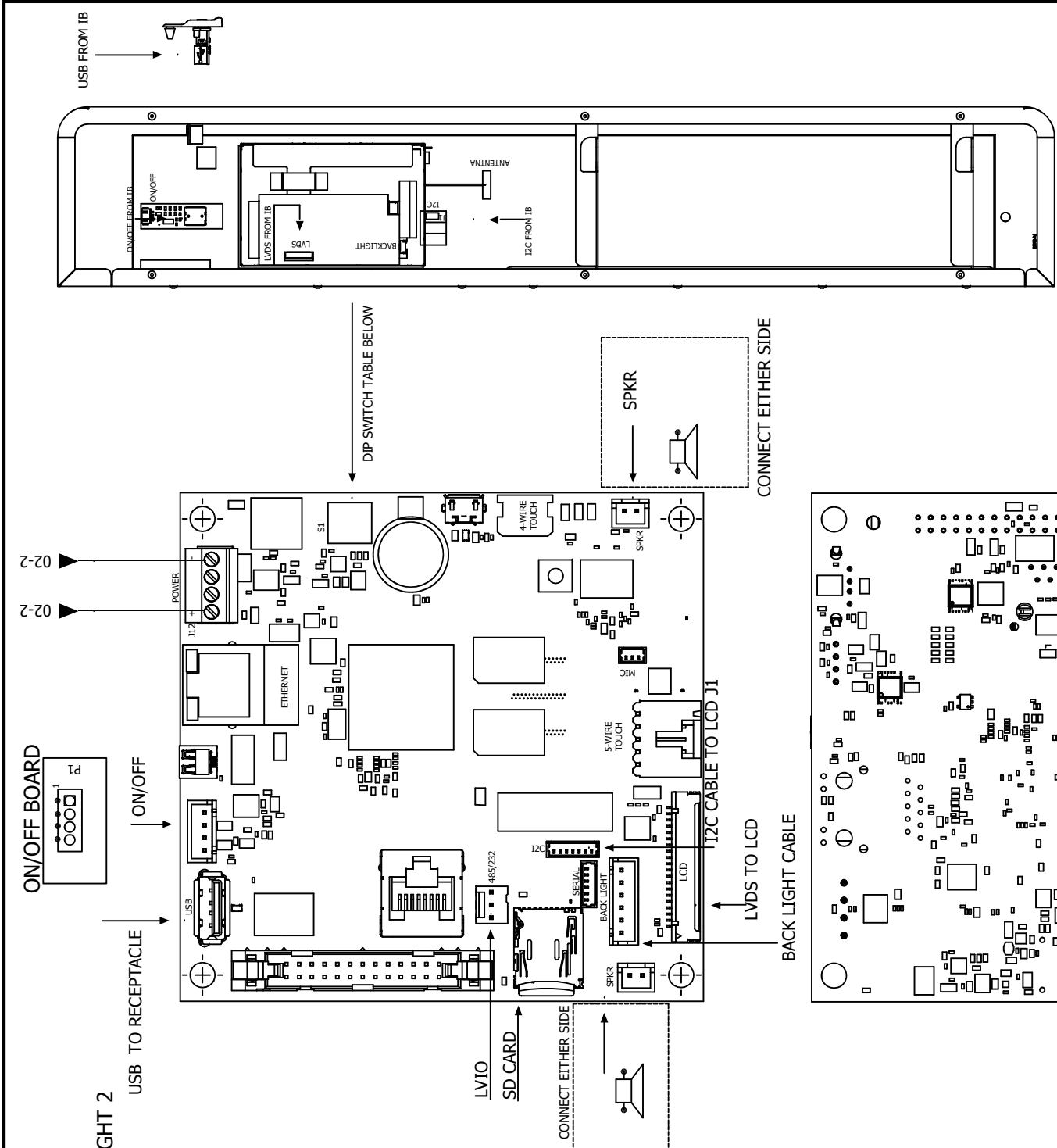
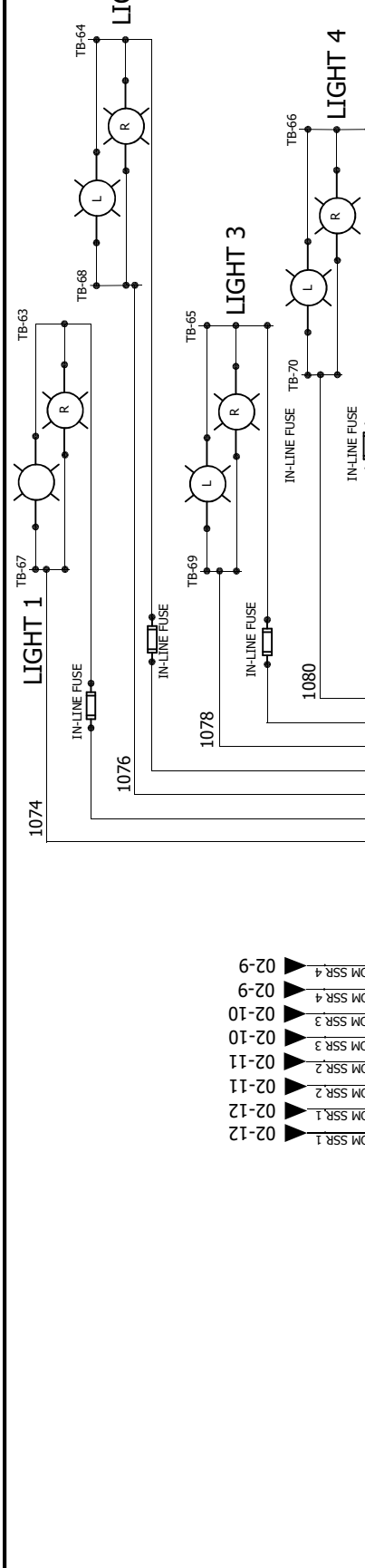
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L1 L2 L3 GND

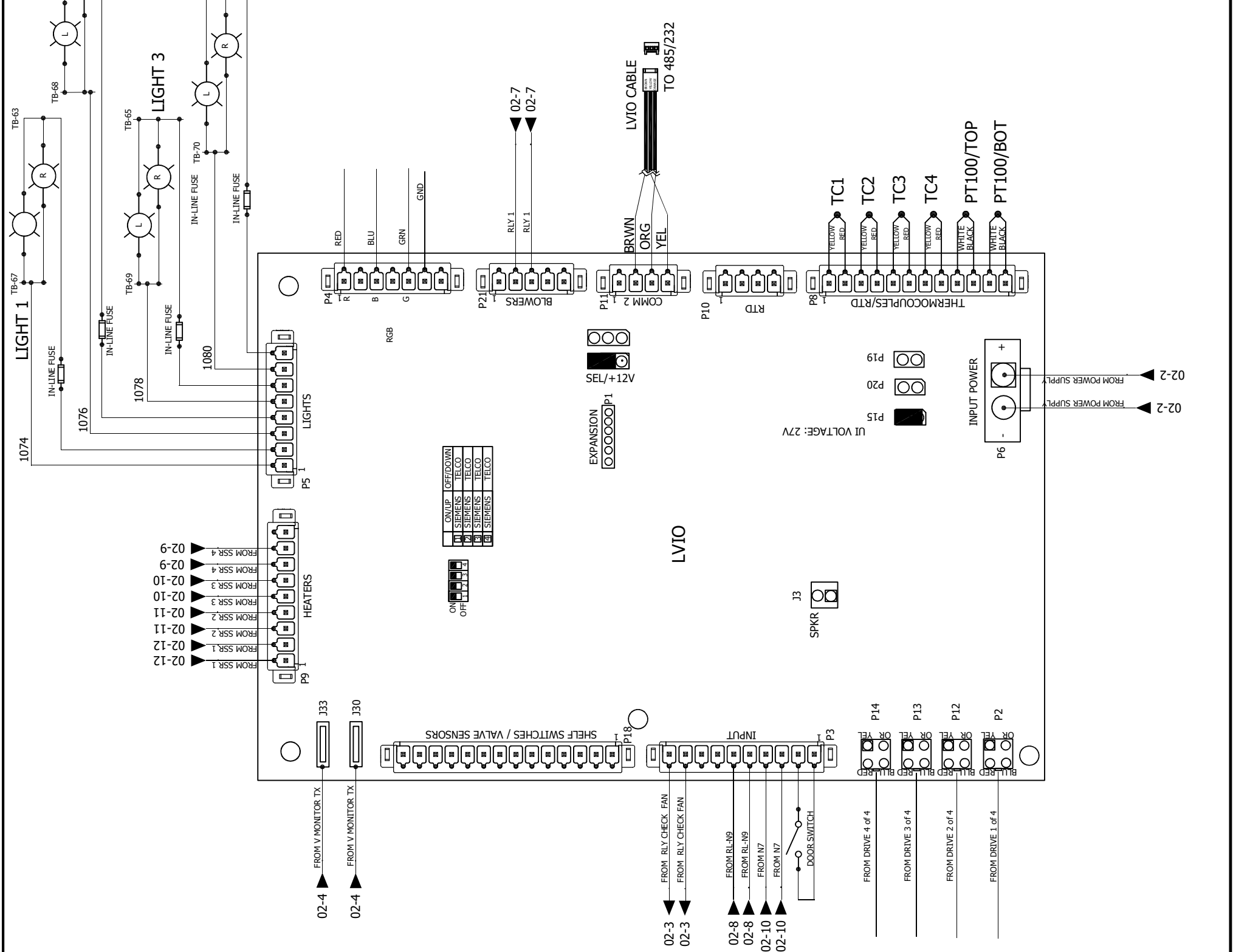






DIP SWITCH TABLE

PRODUCT	SCREEN ORIENTATION	SW6	SW5	SW4	SW3	SW2	SW1
VECTOR H	LANDSCAPE	OFF	OFF	OFF	OFF	OFF	OFF
VECTOR F ELECTRIC	PORTRAIT	OFF	ON	ON	OFF	OFF	ON
VECTOR F GAS	PORTRAIT	OFF	ON	ON	ON	OFF	ON



**ALTO-SHAAM**

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**2**

SCHEME  
**5/6**

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Alto-Shaam

## LEGEND

B1 = H2O PROBE LOW	E43 = CONV ELEMENT SET	K42 = CONV CONTACTOR	PS = POWER SUPPLY	Y3 = CLEAN VALVE
B2 = H2O PROBE HIGH	EL = ELEMENT	K43 = CONV CONTACTOR	PSW = PRESSURE SWITCH	Y4 = CLEAN PUMP
B3 = WATER PROBE	FA = FAN	K44 = CONV CONTACTOR	RLY = RELAY	Y5 = HAND SHOWER
B4 = BOILER PROBE	FE = BOILER FUSE	K45 = CONV CONTACTOR	RV = STEAM RELIEF VALVE	---
B5 = STEAM BY-PASS PROBE	FST = CONV FUSE	K50 = MOTOR CONTACTOR LOW	S7 = REED SWITCH	---
B10 = FOOD PROBE	FSW = FILTER SWITCH	K51 = MOTOR CONTACTOR LOW	SMK = SMOKER	---
B11 = MULTI-POINT PROBE	FTT = COOLING FAN THERMOSTAT	K60 = MOTOR CONTACTOR LOW	SMO = STEAM MOTOR	---
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CAB = CABLE	GND = GROUNDING	K78 = MASTER CONTACTOR	SV = STEAM VALVE	---
CB = CONTROL BOARD	GU = HALOGEN LIGHT	LED = LIGHT IMITTING DIODE	TM = TERMINAL	---
CC = CATALYTIC CONVERTER	HIS = HOT SURFACE IGNITOR	LF = LINE FILTER	TB = TERMINAL BLOCK	---
CH = CONV HEATER	IB = INTERFACE BOARD	LQ. PUMP = LIQUID PUMP	TX = TRANSFORMER	---
CV = CONVECTION	IM = IGNITION MODULE	LWR = LOWER	UPP = UPPER	---
E1 = BOILER ELEMENT SET	K1 = BOILER CONTACTOR	MO = MOTOR	VFD = VARIABLE FRENCY DRIVE	---
E2 = BOILER ELEMENT SET	K2 = BOILER CONTACTOR	N7 = HIGH LIMIT	Y1 = STEAM VALVE	---
E3 = BOILER ELEMENT SET	K3 = BOILER CONTACTOR	N8 = BOILER TEMP PROBE	Y2 = MIXED WATER VALVE	---
E41 = CONV ELEMENT SET	K40 = CONV CONTACTOR	N9 = HIGH LIMIT		
E42 = CONV ELEMENT SET	K41 = CONV CONTACTOR	OB = OPTION BOARD		



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MAIN & BRANCH CIRCUIT	PG 03
DRIVE, MOTOR, COOLING FAN	PG 04
SIMPLE CONTROL	PG 05
DELUXE CONTROL	PG 06

MAIN POWER

MAIN SWITCH

TERMINAL BLOCK  
2µF CAPACITOR

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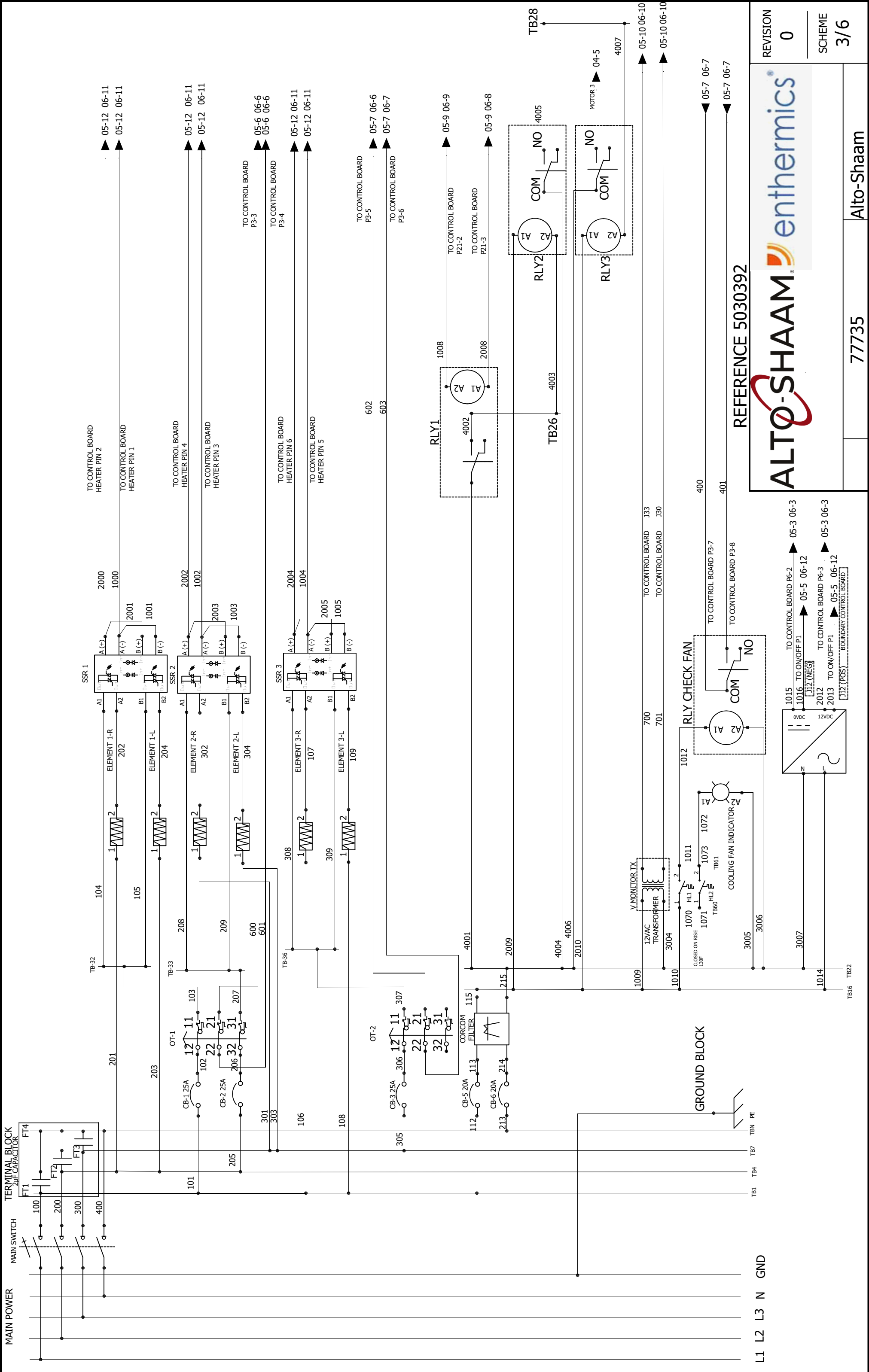
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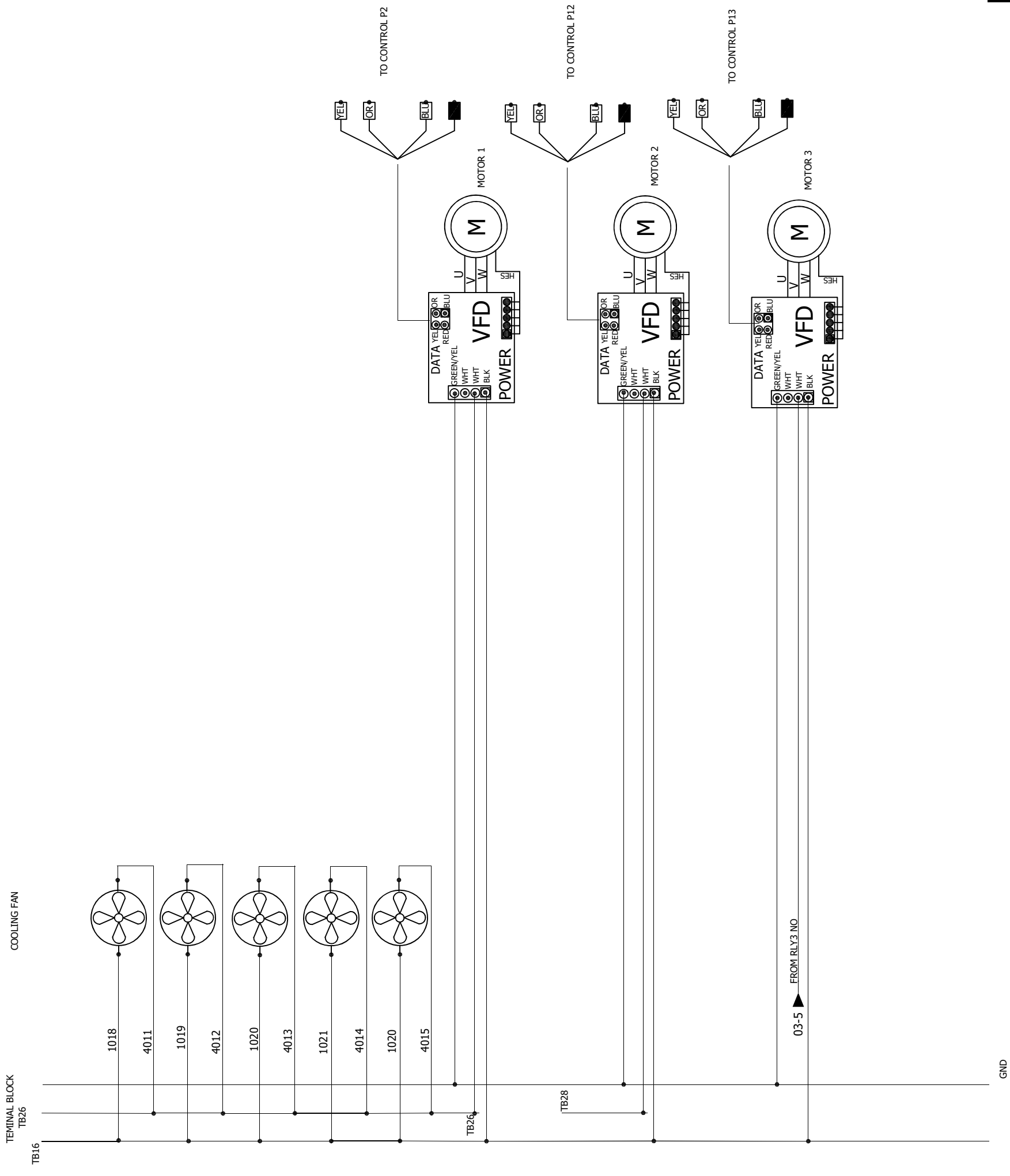
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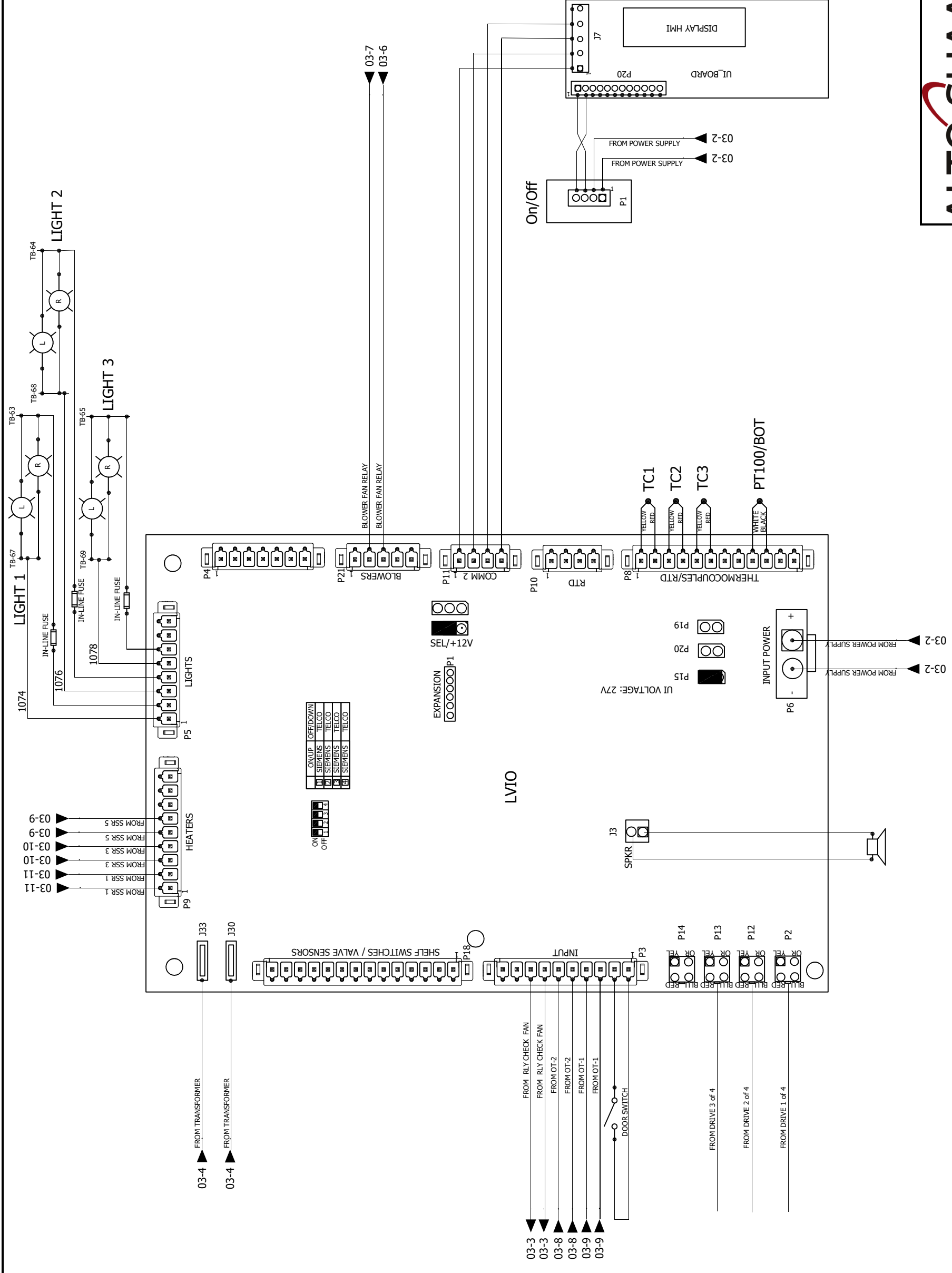


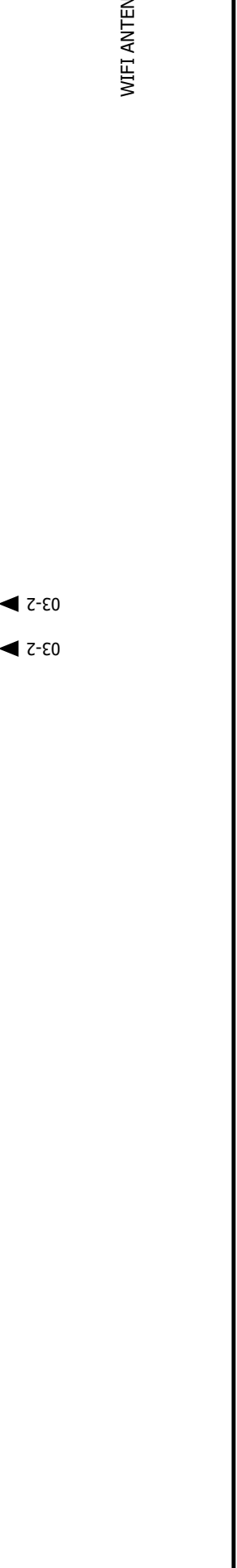
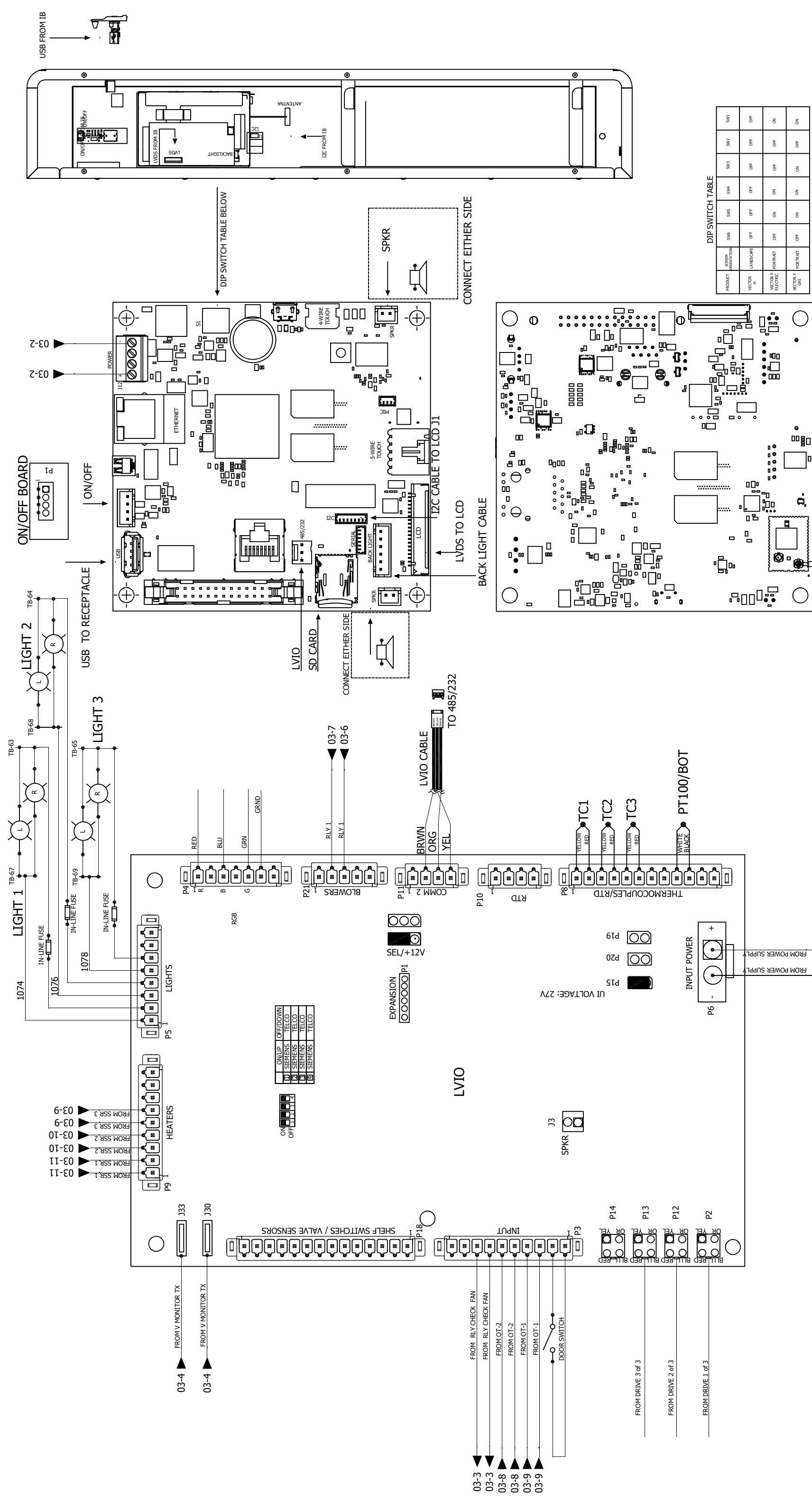
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**DIP SWITCH TABLE**

PRODUCT	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW9
VECTOR PORTATION	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
VECTOR H	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
VECTOR F FORWARD	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
VECTOR F FORWARD	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
VECTOR F FORWARD	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

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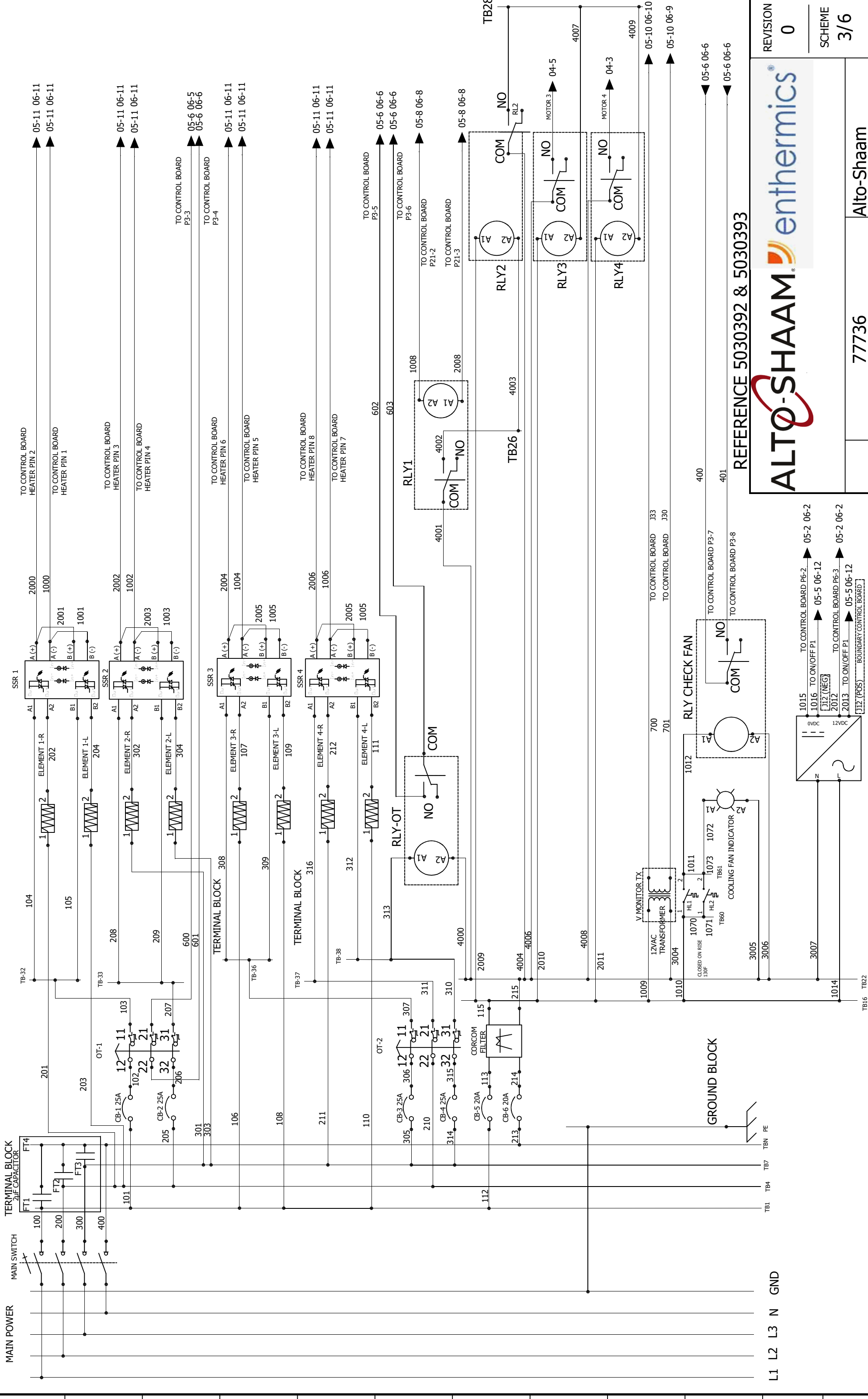
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# TABLE OF CONTENTS

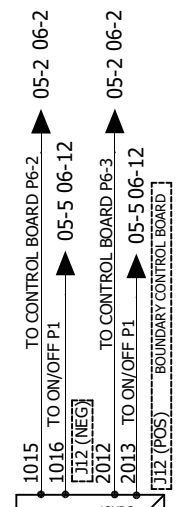
MAIN & BRANCH CIRCUIT	PG 03
DRIVE, MOTOR, COOLING FAN	PG 04
SIMPLE CONTROL	PG 05
DELUXE CONTROL	PG 06



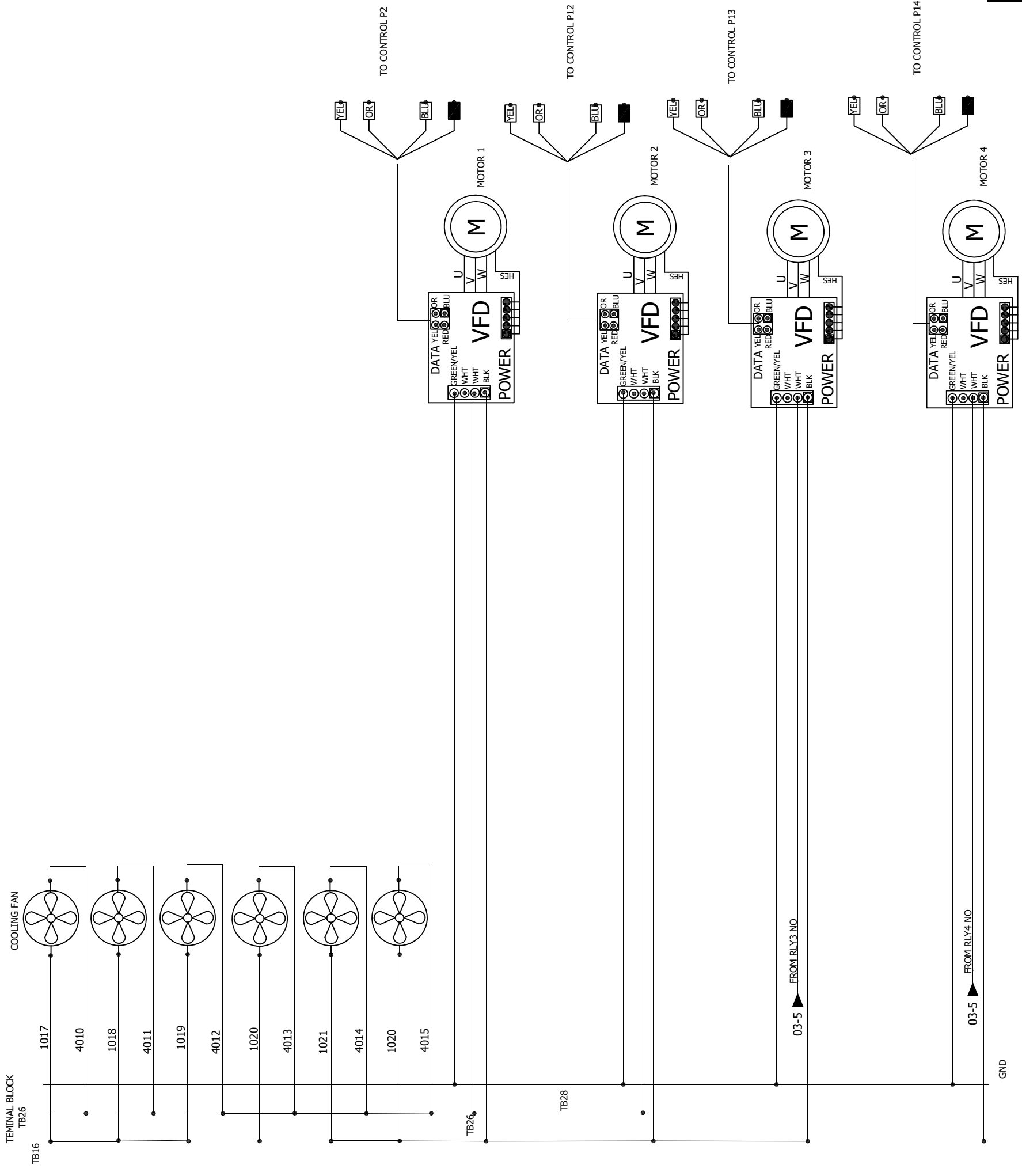
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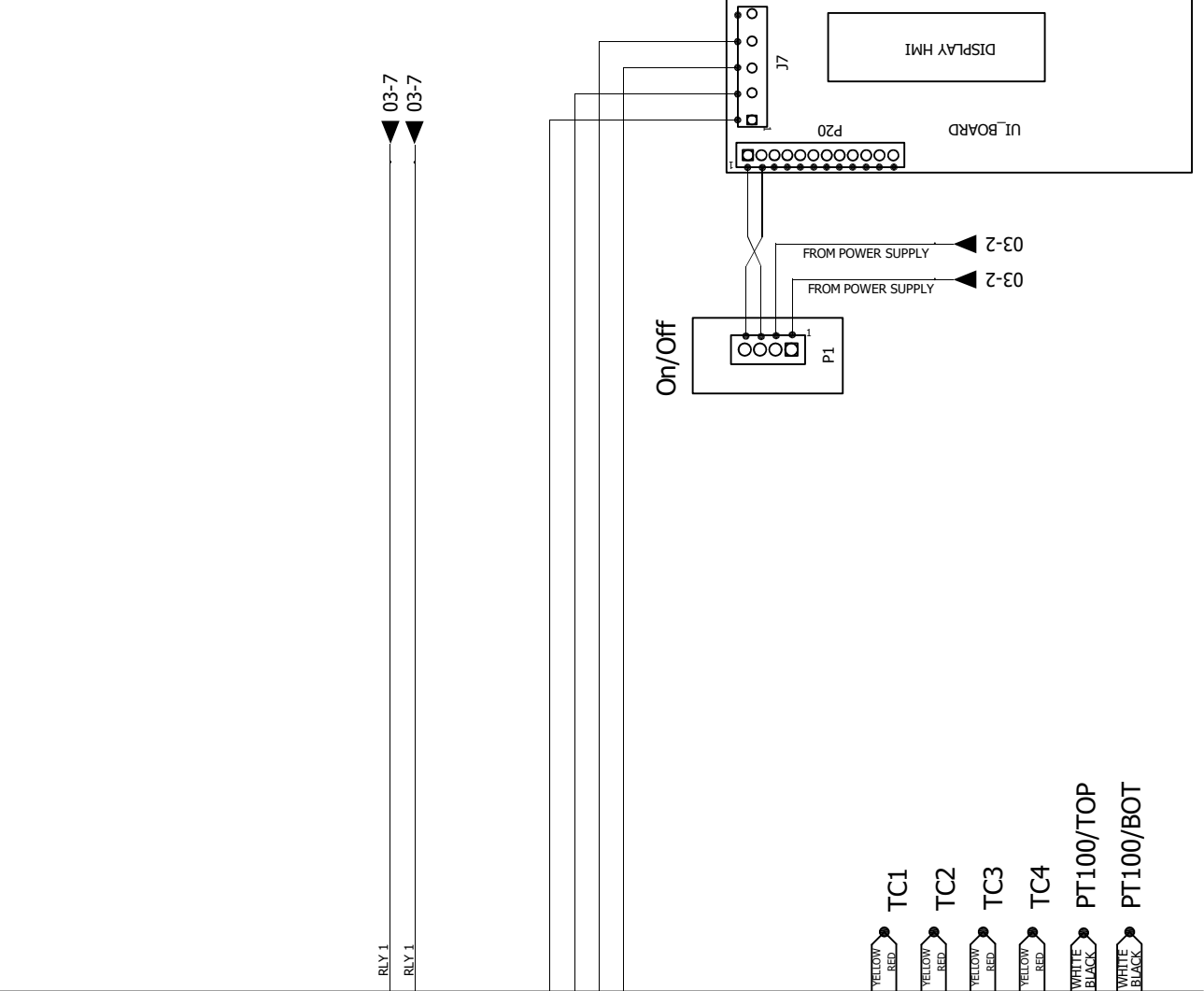
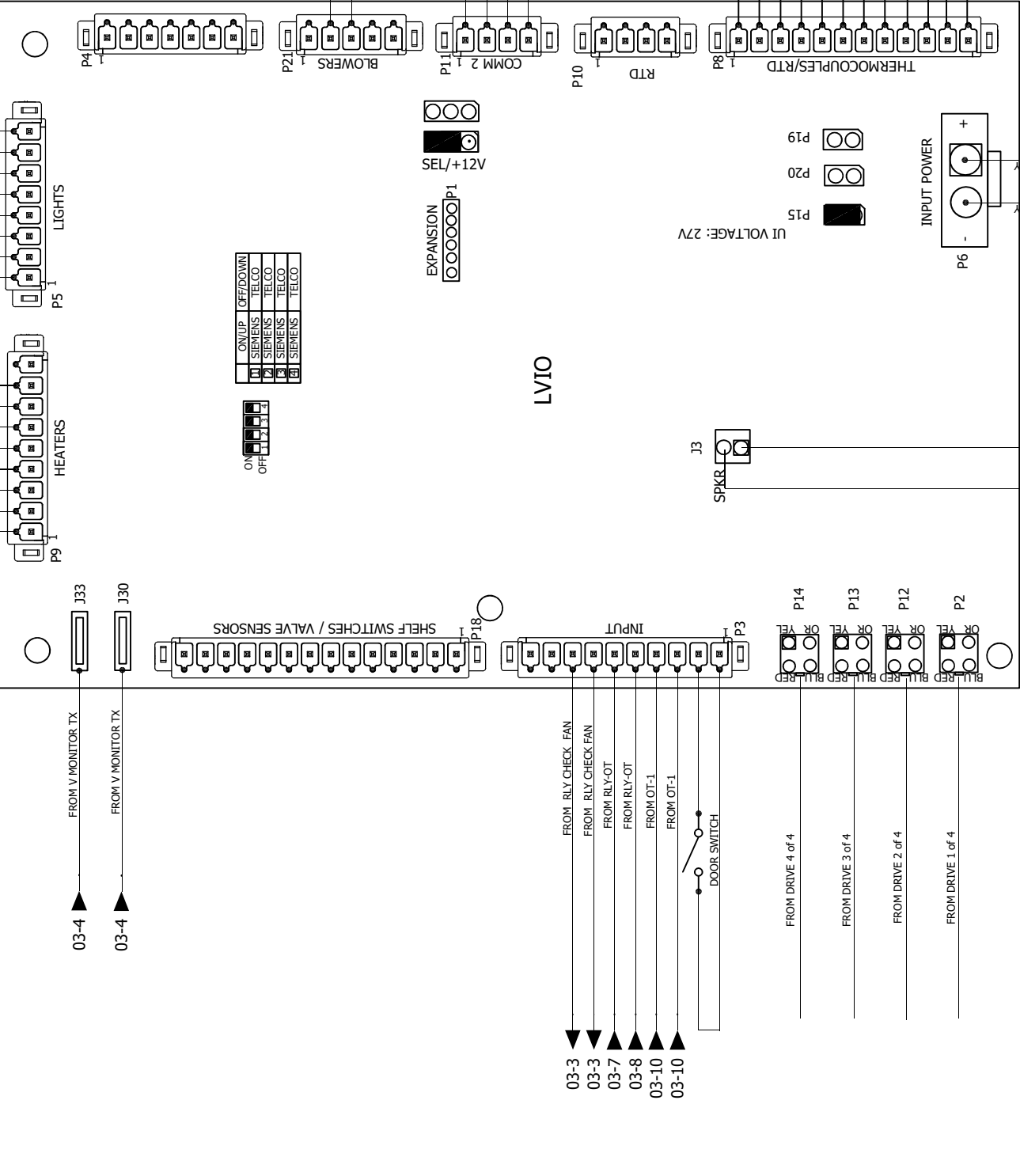
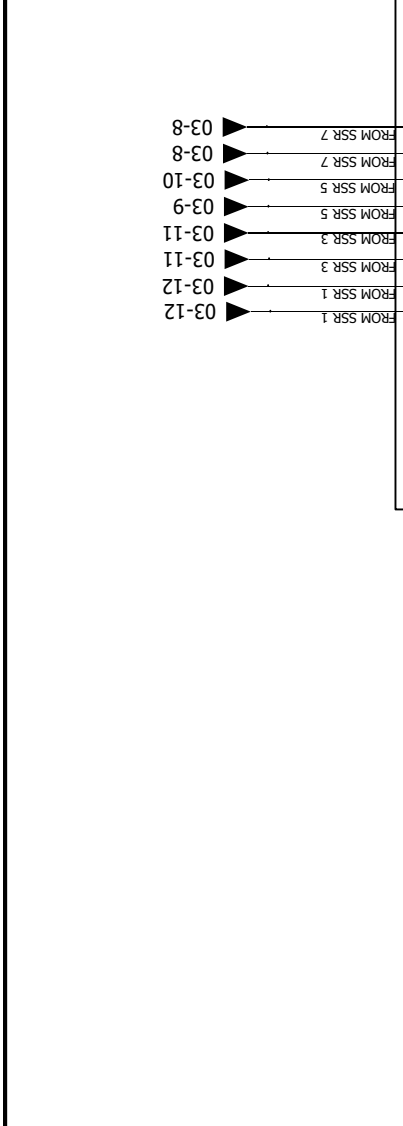
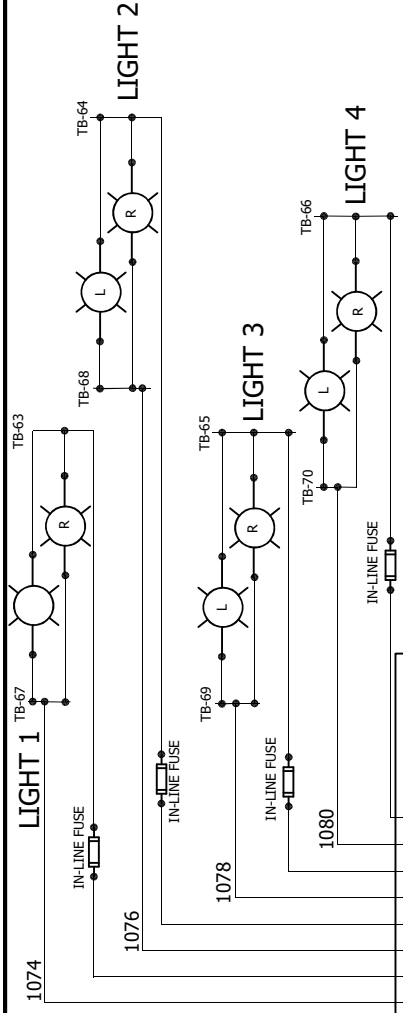


L1 L2 L3 N GND

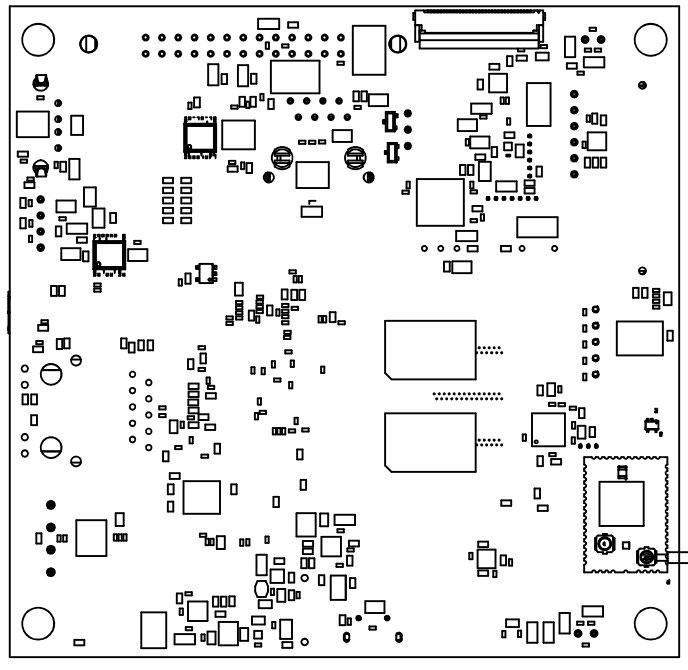
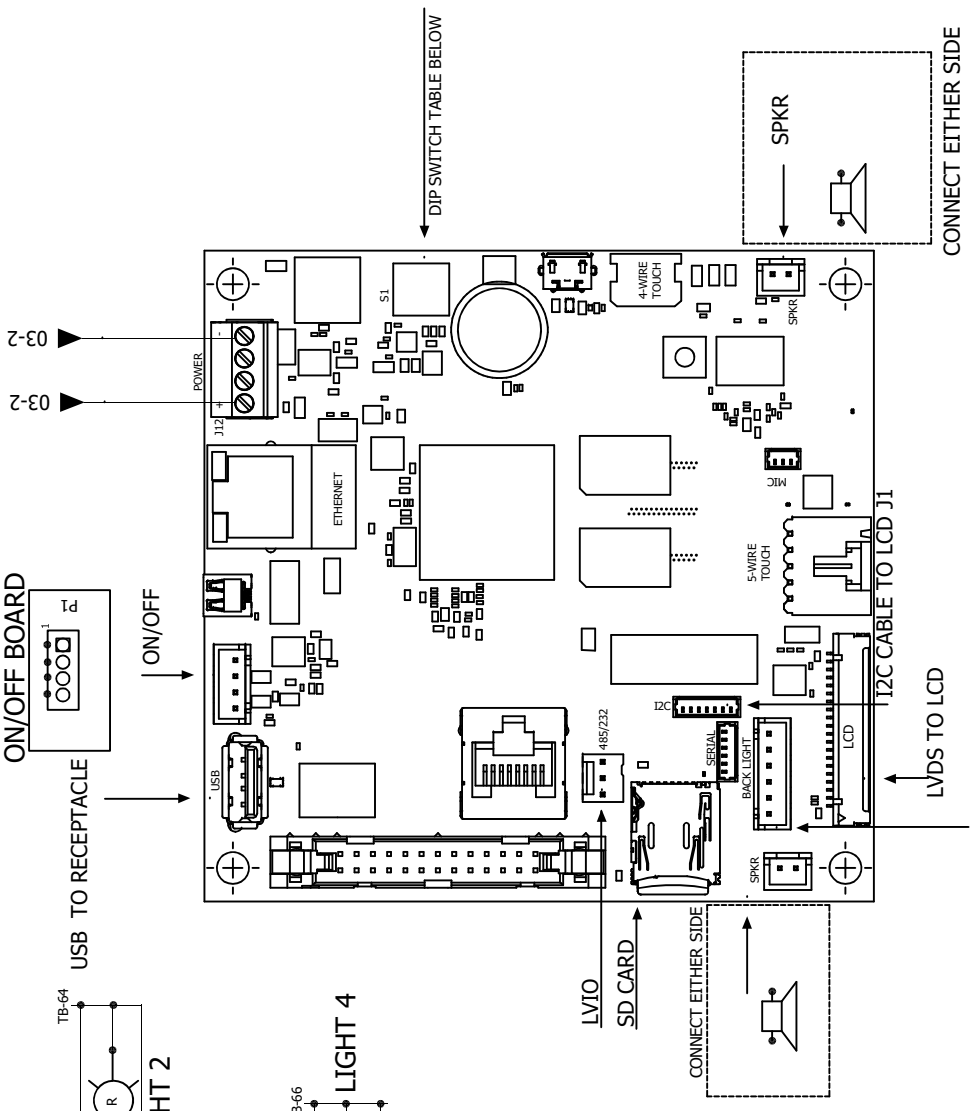
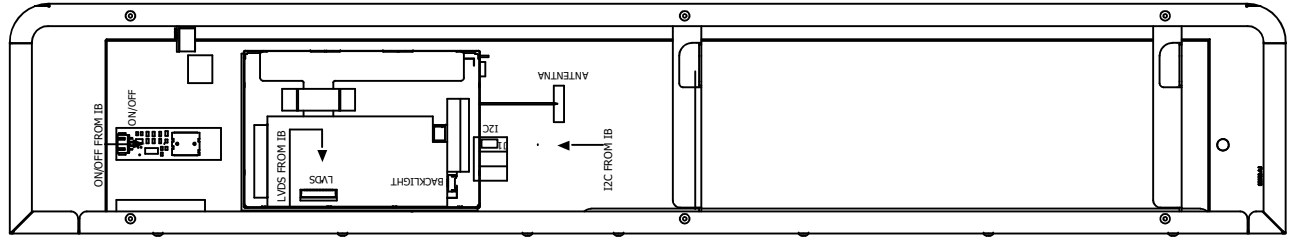


TB16 TB22



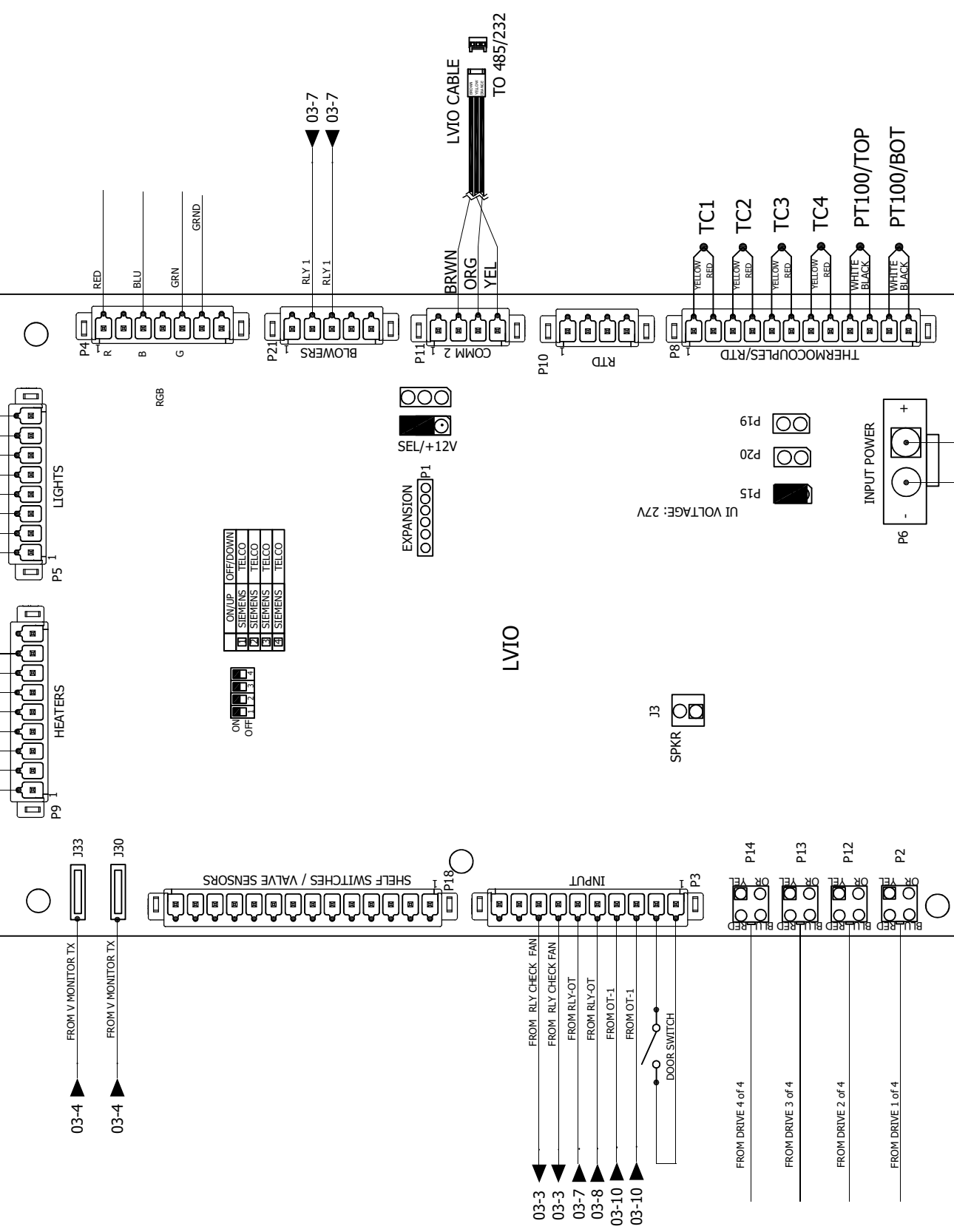
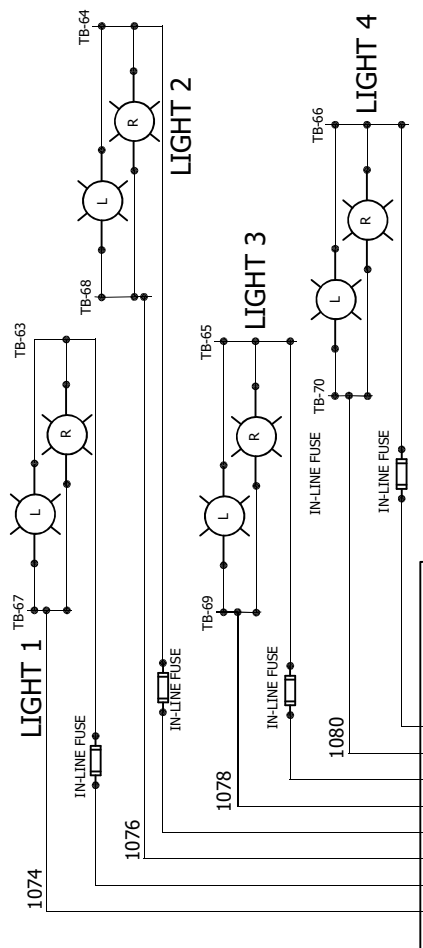


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DIP SWITCH TABLE

PRODUCT	SOXEN SUBSTITUTION	SW5	SW6	SW3	SW4	SW2	SW1
VECTOR 'H'	LANDSCAPE	OFF	OFF	OFF	OFF	OFF	OFF
VECTOR 'ELECTRIC'	PORTPART	ON	ON	ON	ON	OFF	ON
VECTOR 'GAS'	PORTPART	OFF	ON	ON	ON	OFF	ON



ON/UP	OFF/DOWN
1) SIEMENS	TELCO
2) SIEMENS	TELCO
3) SIEMENS	TELCO
4) SIEMENS	TELCO

WIFI ANTENNA





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