



Vector™ Multi-Cook Oven Deluxe Control

VMC-H2

VMC-H2H

VMC-H3

VMC-H3H

VMC-H4

VMC-H4H



Structured Air Technology™

MN-46544-EN

REV.01
11/19

EN



Manufacturer's Information

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Manufacturer

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Original instructions

The content in this manual is written in American English.

Alto-Shaam 24/7 Emergency Repair Service

Call	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.
Availability	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

Before you begin

Read and understand all instructions in this manual.

Electrical precautions

Obey these electrical precautions when using the appliance:

- 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 the main disconnect switch is in the OFF position.
- 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

All personnel using the appliance must have proper 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 with the following operator qualifications are permitted to use the appliance:

- Have received proper instruction on how to use the appliance.
- Have demonstrated their ability 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, or the use of non-factory parts, will void the warranty and relieve Alto-Shaam of all liability.
 - 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).

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.

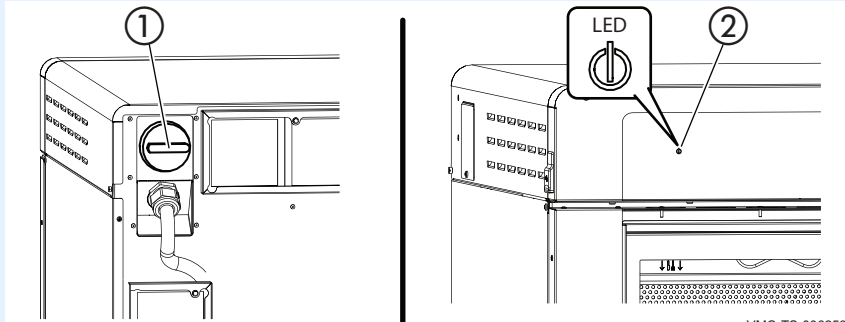
Turning on the oven

To turn on the oven, do the following.

Step	Action
1.	<p>Set the main disconnect switch ① to the ON position.</p> <p>Touch the ON/OFF button ②.</p>
<p>NOTE: The main disconnect switch is meant to be used during cleaning or service operations. For every day operation, it may be left in the ON position.</p>	
	



NOTE: The main disconnect switch is meant to be used during cleaning or service operations. For every day operation, it may be left in the ON position.



VMC-TS-006253

The oven is now on.

Turning off the oven

To turn off the oven, do the following.

2. **Touch and hold** the ON/OFF button until the Shut down options screen displays.

Touch Shut down to turn off the oven.

The oven activates the blowers for the cool down process. The oven deactivates the blowers when the cool down process is complete.

The oven is now off.

How to View and Set up Network Connections

Before you begin

- The facility must have WIFI.
- Do not connect to a guest network.

Procedure

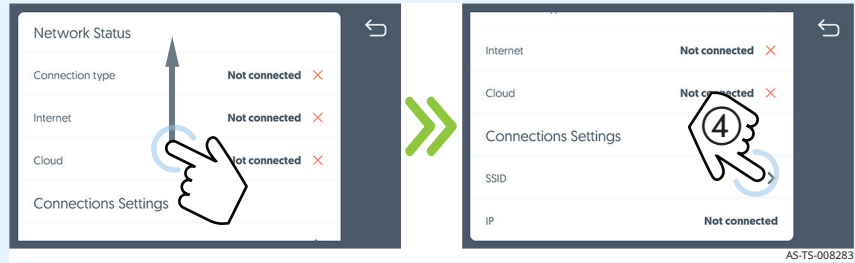
To set up WIFI, do the following.

Step	Action
1.	<p>Touch the menu icon ①. The menu screen displays.</p>  <p style="text-align: right; font-size: small;">VMC-TS-006259</p>
2.	<p>Touch the settings icon ②. The general settings screen displays.</p>  <p style="text-align: right; font-size: small;">VMC-TS-006262</p>
3.	<p>Touch the WIFI icon ③. The network status screen displays.</p>  <p style="text-align: right; font-size: small;">AS-TS-008281</p>

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4. **Scroll** to the SSID and IP address. **Touch** the SSID > icon ④.

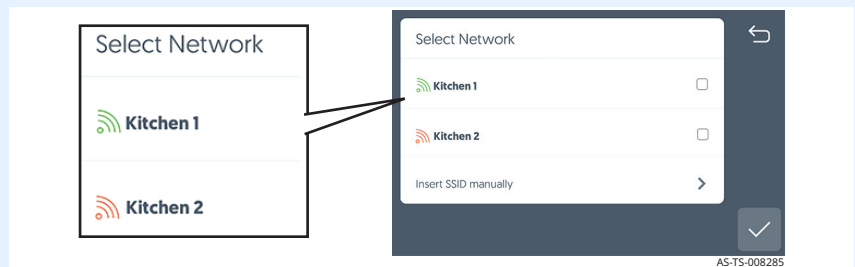


The available networks will show on the screen. The color of the network icon indicates the strength of the signal for each network.

Green = strong

Red = weak

If the network to be used is not displayed, continue with step 5. If the network to be used is visible, go to step 7.



5. If the network is not available, **touch** the insert SSID manually > icon ⑤.

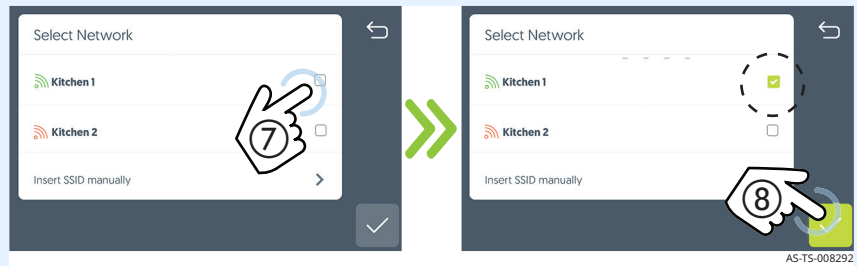


Enter the SSID using the keypad. Then, **touch** the arrow key ⑥. The available networks will be displayed.

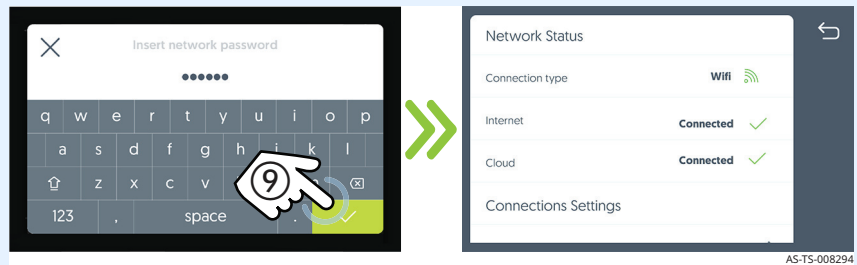
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6. **Touch** the box ⑦ for the network to be used. The box will turn green with a small check mark. **Touch** the check mark ⑧.



7. **Enter** your network password, then **touch** the check mark ⑨. The connection type WIFI screen is displayed. The cloud connection may take several minutes.



8. **Scroll** to see the SSID and the IP address.



Result

The procedure is now complete.

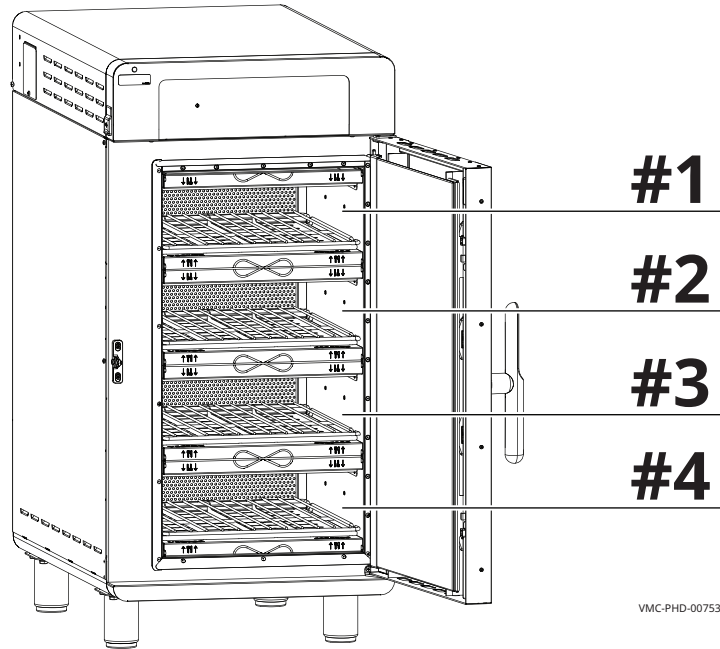
Component Identification



COMPONENTS

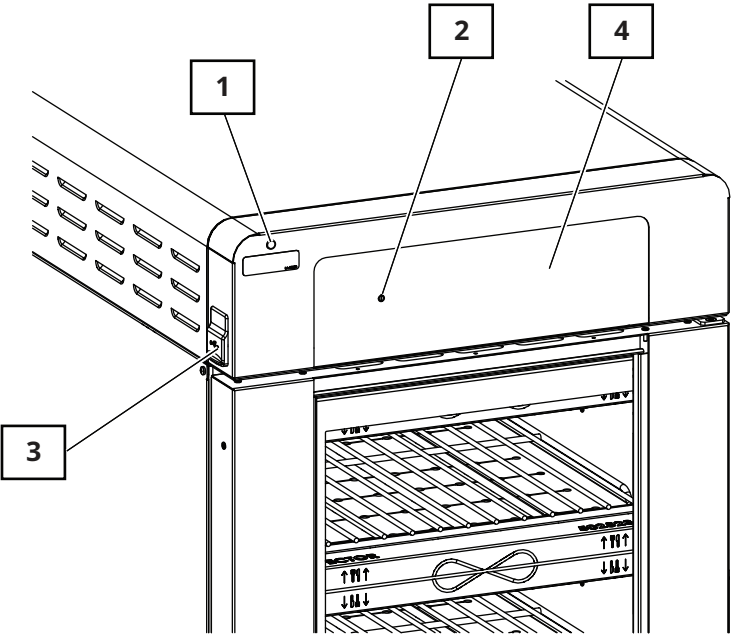
Chamber Identification

Components will be identified in accordance with the chamber numbering illustrated here.



VMC-PHD-007530

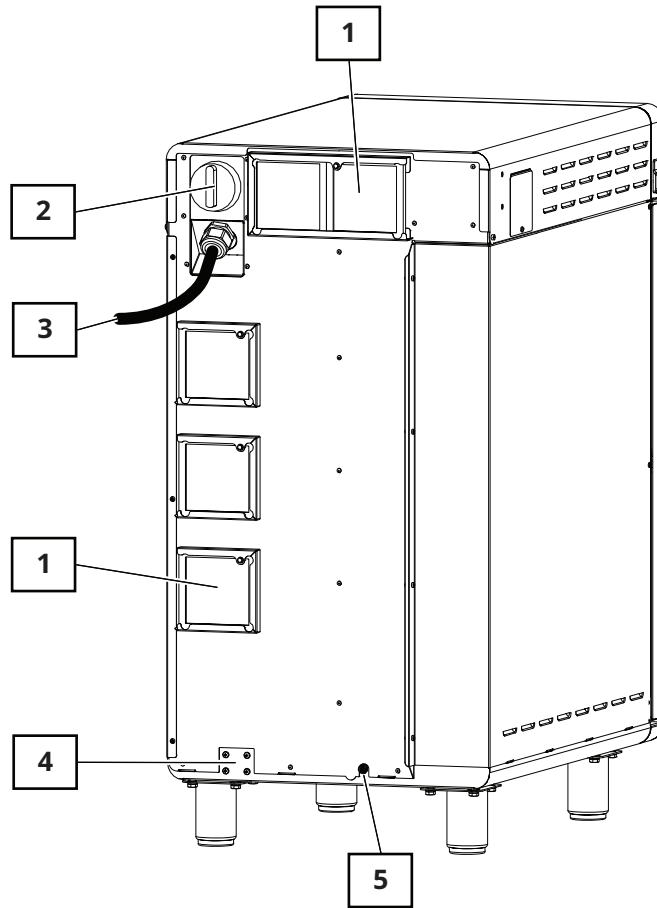
Front Panel Identification



VMC-PHD-007533

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

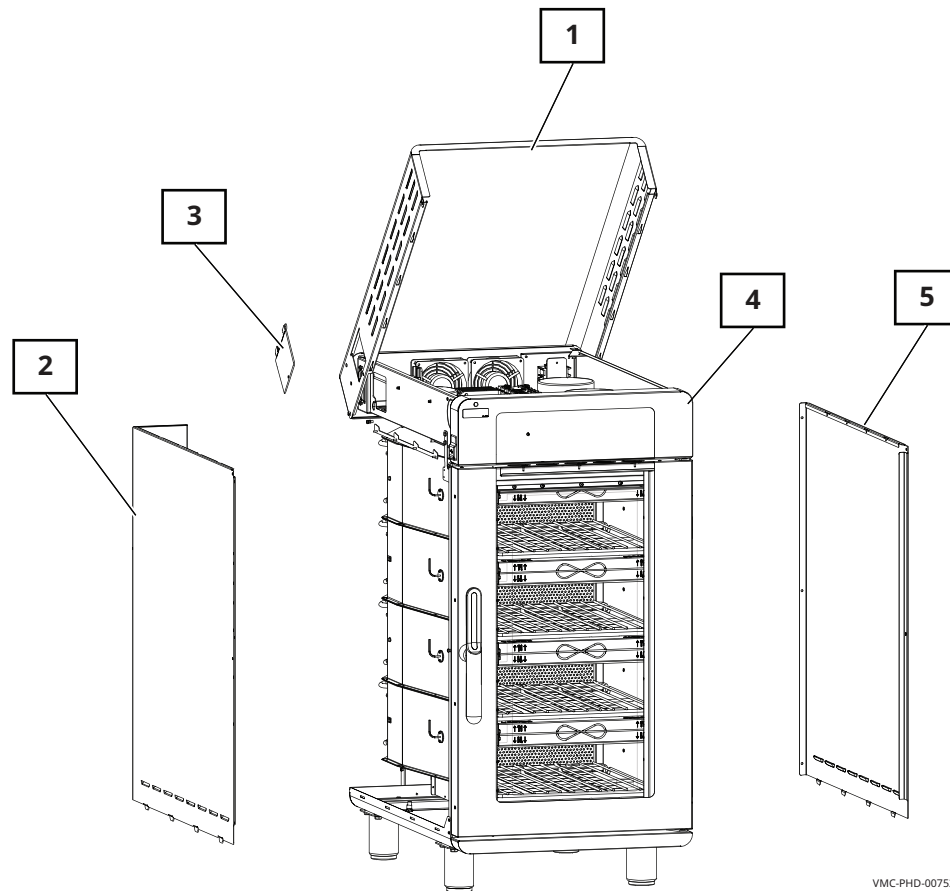
Back Panel Identification



VMC-PHD-007536

Ref.	Description
1	Cooling Fans/Filters
2	Main disconnect switch
3	Electrical supply cord
4	Tether ring mount
5	Equipotential-bonding terminal

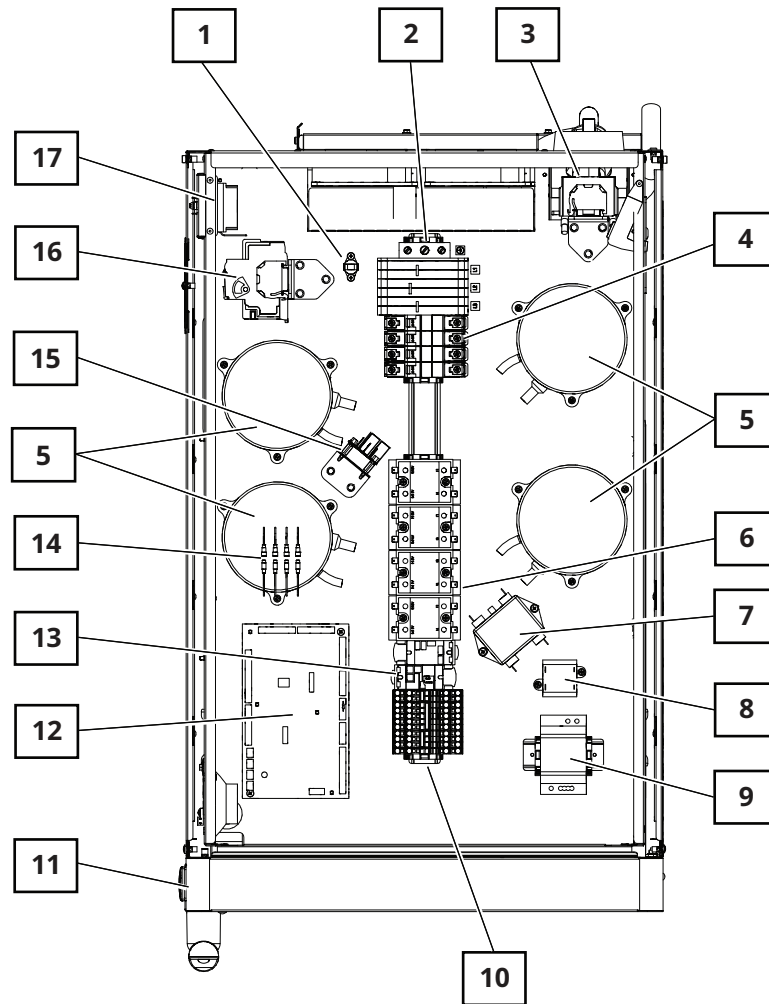
Component Access Panels Identification



VMC-PHD-007539

Ref.	Description	Provides access to
1	Top service panel	Electrical components
2	Left service panel	Heating elements, catalyst, and thermocouples
3	Circuit breaker access panel	Circuit breakers
4	Control panel	Interface board
5	Right service panel	Blower motors and cooling fans

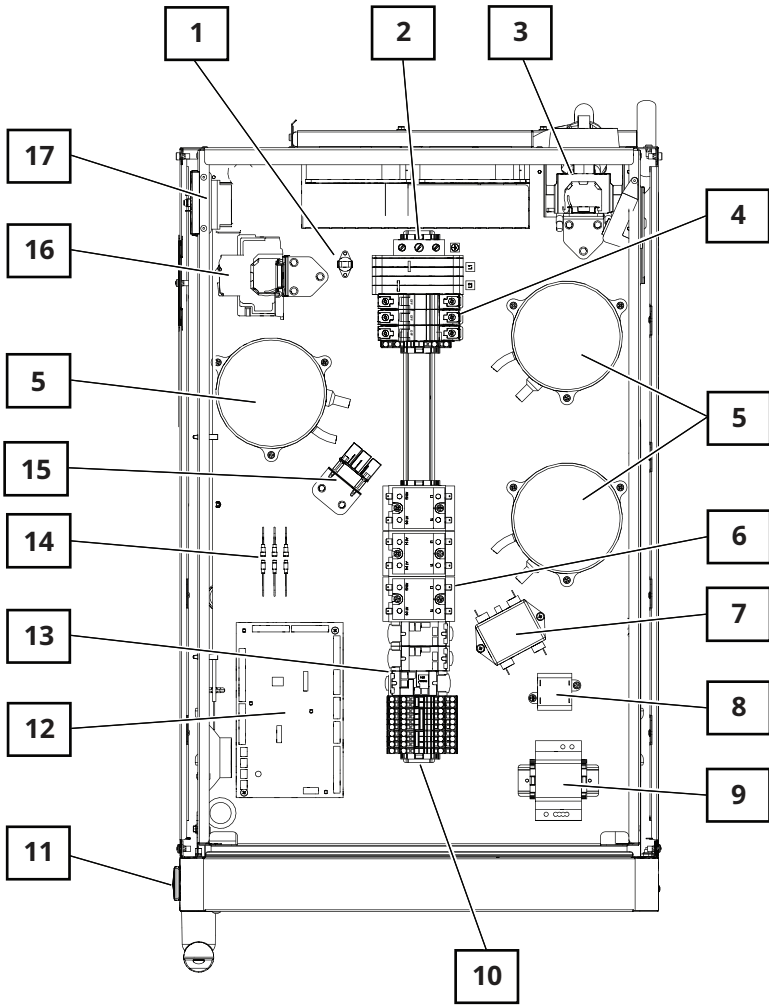
H4—Electrical Component Identification



VMC-PHD-007545

Ref.	Description	Ref.	Description
1	Check fans indicator light switch	10	Terminal blocks
2	Terminal blocks	11	USB port
3	Main disconnect switch	12	Control board
4	Circuit breakers (heating elements)	13	Relays
5	Variable Frequency Drive (VFD)	14	Fuses (lights)
6	Solid State Relay (SSR)	15	Wye filter (CE models only)
7	Line filter (CE models only)	16	Circuit breakers (control)
8	12VAC transformer	17	High limit switch(es)
9	12VDC power supply	—	—

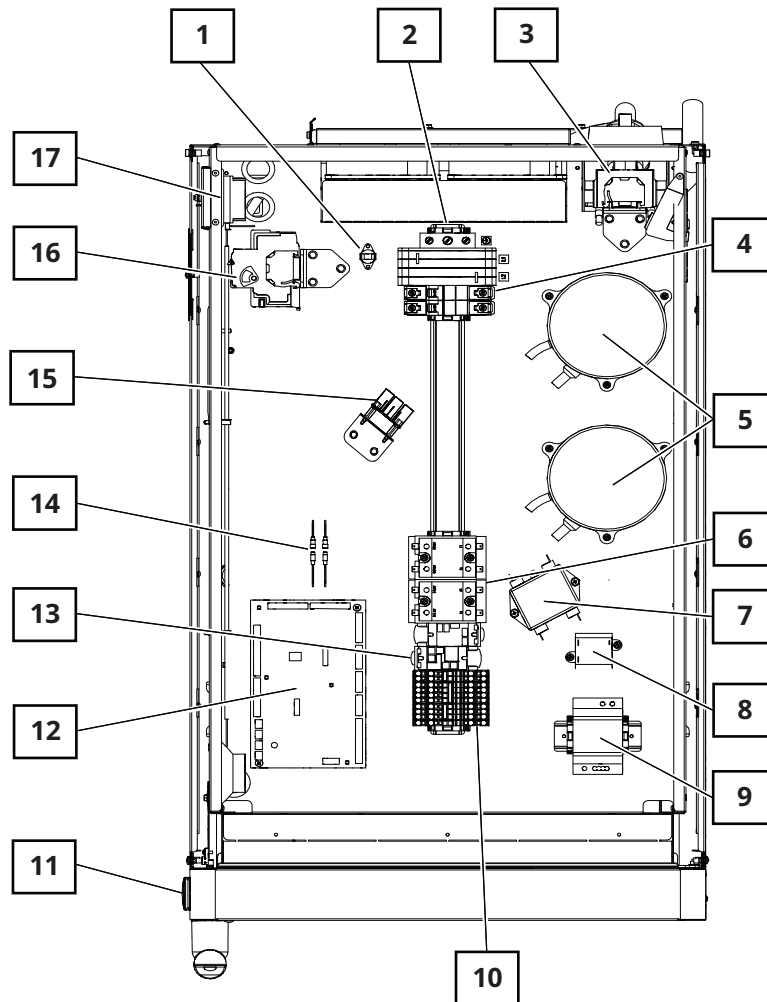
H3—Electrical Component Identification



VMC-PHD-007542

Ref.	Description	Ref.	Description
1	Check fans indicator light switch	10	Terminal blocks
2	Terminal blocks	11	USB port
3	Main disconnect switch	12	Control board
4	Circuit breakers (heating elements)	13	Relays
5	Variable Frequency Drive (VFD)	14	Fuses (lights)
6	Solid State Relay (SSR)	15	Wye filter (CE models only)
7	Line filter (CE models only)	16	Circuit breakers (control)
8	12VAC transformer	17	High limit switch
9	12VDC power supply	—	—

H2—Electrical Component Identification



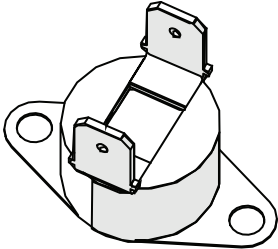
VMC-PHD-007548

Ref.	Description	Ref.	Description
1	Check fans indicator light switch	10	Terminal blocks
2	Terminal blocks	11	USB port
3	Main disconnect switch	12	Control board
4	Circuit breakers (heating elements)	13	Relays
5	Variable Frequency Drive (VFD)	14	Fuses (lights)
6	Solid State Relay (SSR)	15	Wye filter (CE models only)
7	Line filter (CE models only)	16	Circuit breakers (control)
8	12VAC transformer	17	High limit switch
9	12VDC power supply	—	—

Electrical Components

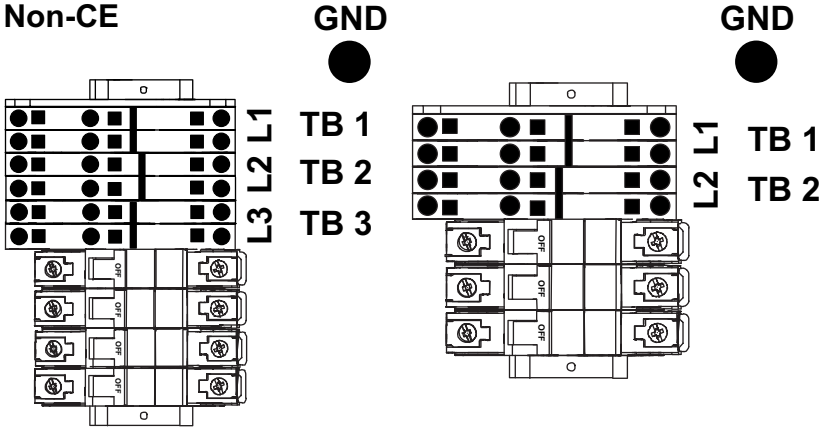
Check Fans Indicator Light Switch

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

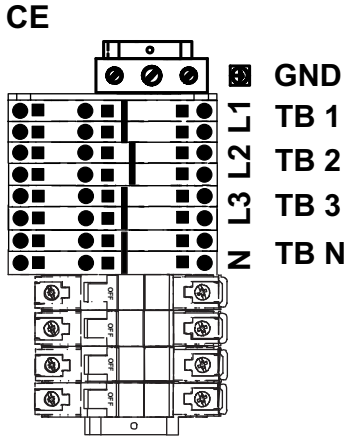


VMC-PHD-001903

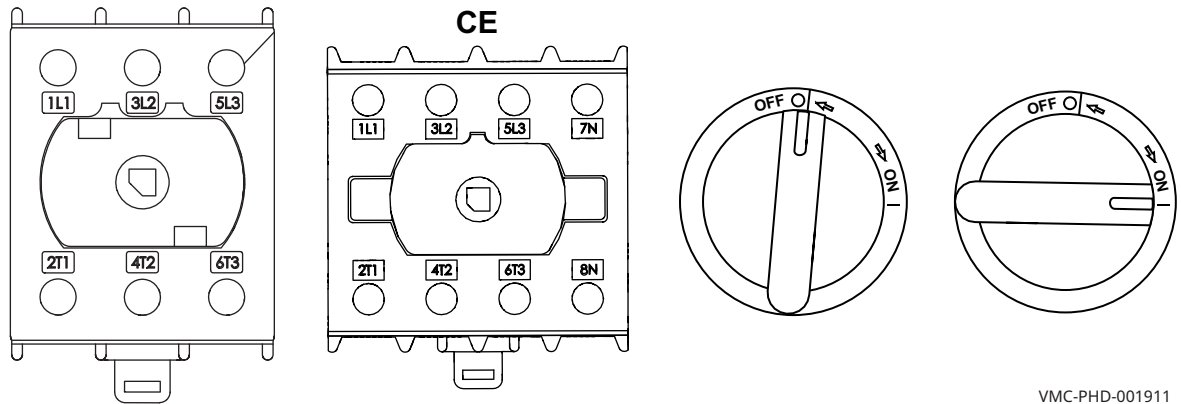
Terminal Blocks for Electrical Supply



VMC-PHD-001907

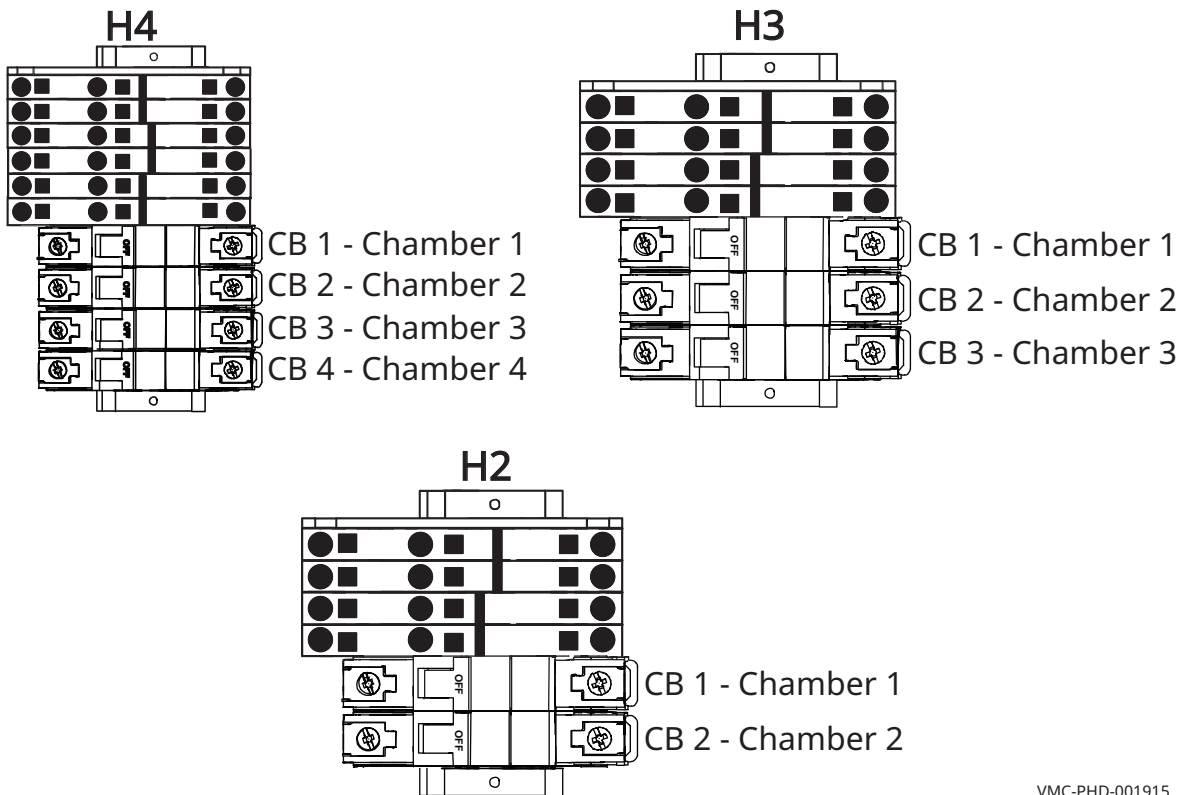


Main Disconnect Switch




VMC-PHD-001911

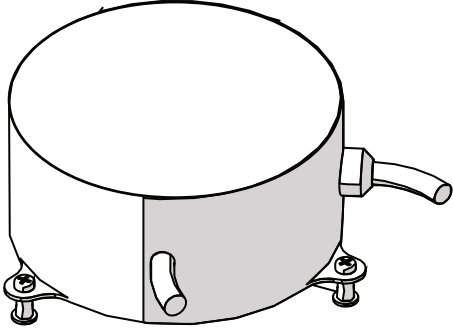
Circuit Breakers (Heating Elements)



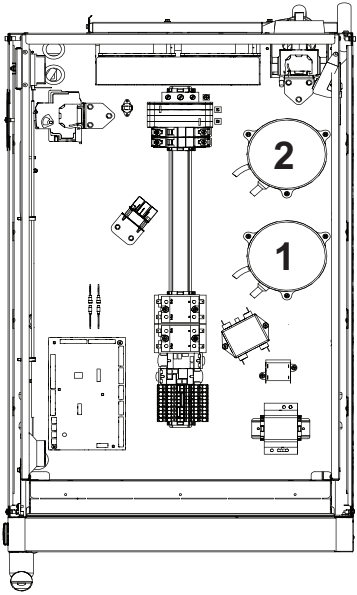
VMC-PHD-001915

Variable Frequency Drive (VFD)

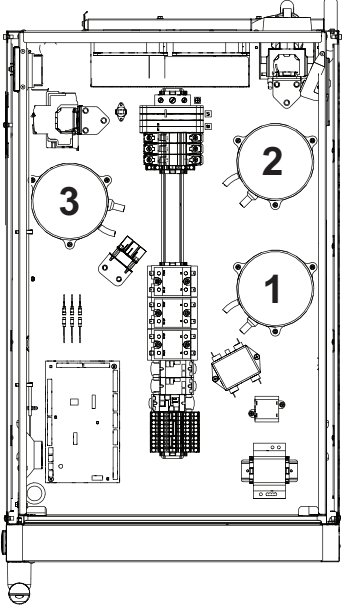
 **WARNING:** Electric shock hazard.
Do not disassemble the VFD.



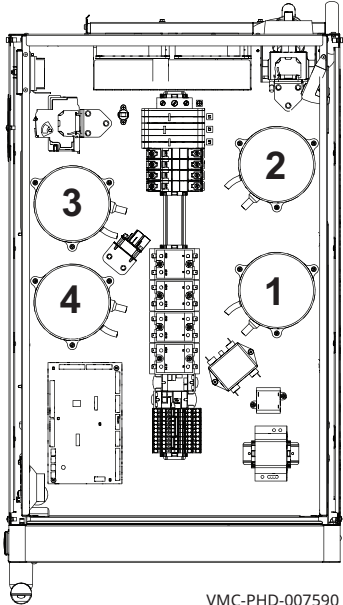
H2



H3



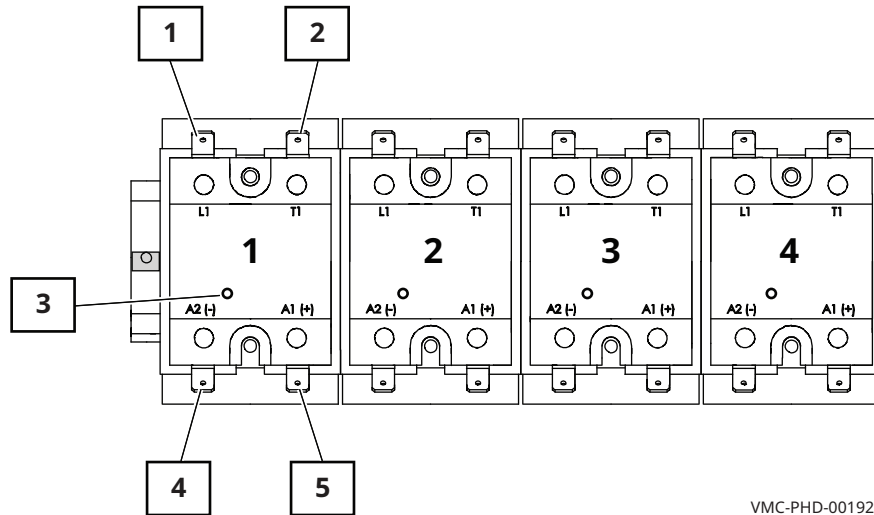
H4



VMC-PHD-007590

Solid State Relay (SSR)

Heater element control. One SSR for each chamber.



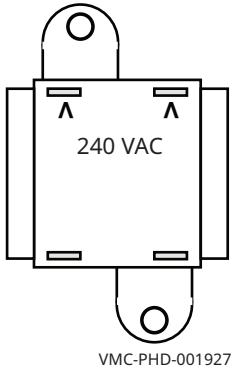
VMC-PHD-001923

Ref.	Description
1	L1 terminal, AC line voltage into the SSR
2	T1 terminal, AC load voltage to the heating element
3	Call for heat indicator light
4	A2 (-) terminal, DC control voltage from the control board to the SSR
5	A2 (+) terminal, DC control voltage from the control board to the SSR

12VAC Transformer

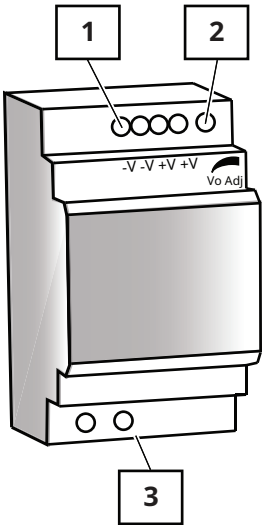
The transformer provides a voltage signal to the control board. The signal allows the control board to determine the incoming line voltage.

- Primary: 1700 Ohms
- Secondary: 6 Ohms



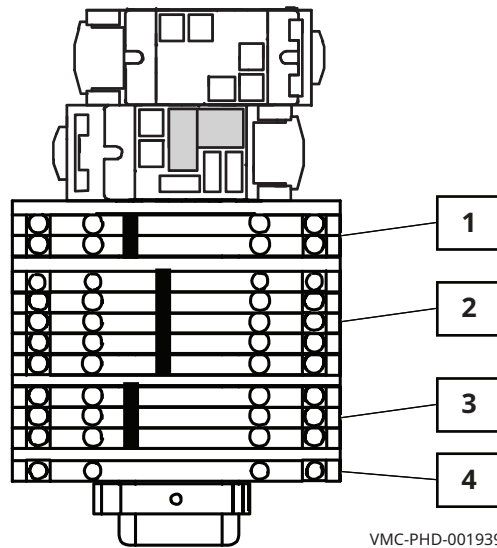
12VDC Power Supply

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



Ref.	Description
1	12VDC terminals
2	12VDC adjustment
3	240VAC terminals

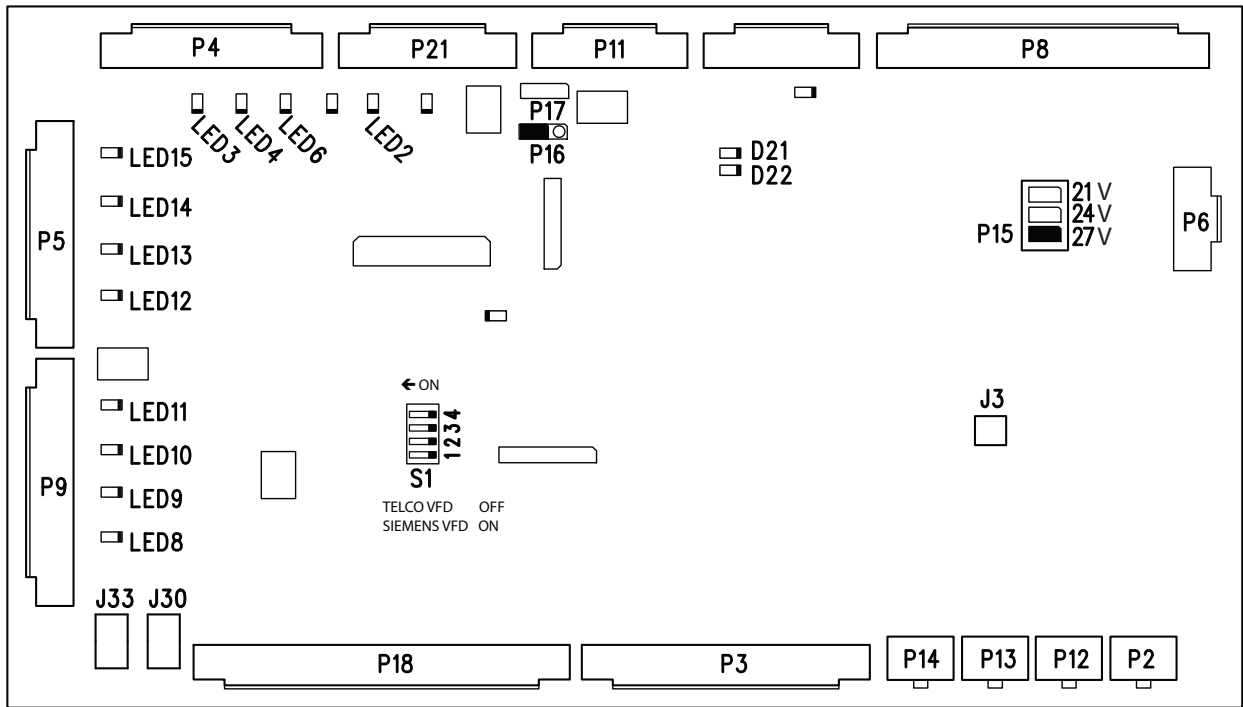
Terminal Blocks (VFDs and Cooling Fans)



VMC-PHD-001939

Ref.	Description
1	TB 4 - L2
2	TB 5 - L1
3	TB 6 - L2 (switched)
4	Ground

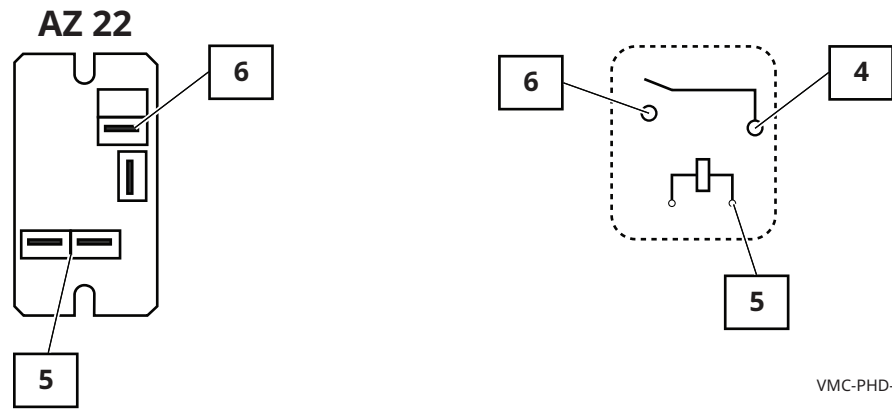
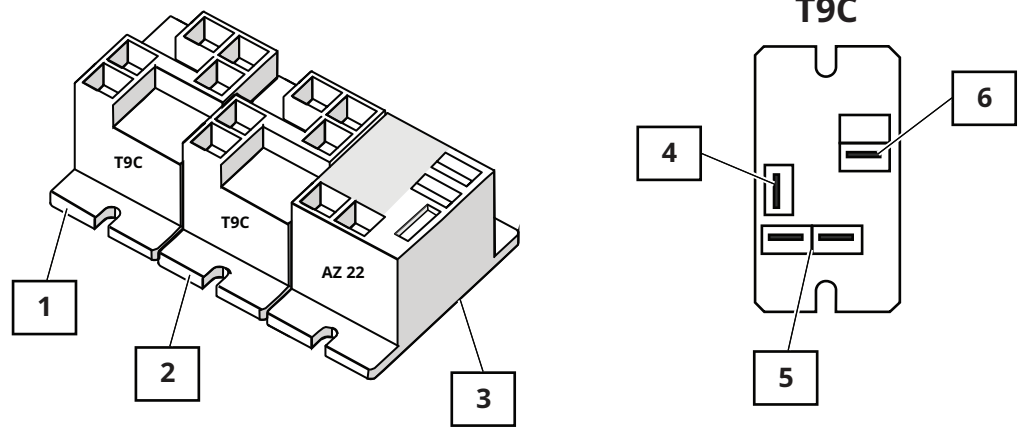
Control Board (CB)



VMC-PHD-001947

Ref.	Description	Ref.	Description	Ref.	Description
P2	Drive 1 communication	P16	Jumper	LED 9	Chamber 2 call for heat
P3	Input signals	P17	Not used	LED 10	Chamber 3 call for heat
P4	Door handle lights	P18	Input from chamber combine switches (F Series only)	LED 11	Chamber 4 call for heat
P5	Lights	P21	Output to blower/fan relay RL1	LED 12	Chamber 1 light
P6	Input from 12VDC power supply	J3	Speaker	LED 13	Chamber 2 light
P8	Thermocouple inputs	J30	AC input from the transformer	LED 14	Chamber 3 light
P9	Heater control signal to SSRs	J33	AC input from the transformer	LED 15	Chamber 4 light
P11 or P10	Communication to UI board	LED 2	Cooling fan power	D21	RS485 communication
P12	Drive 2 communication	LED 3	Door handle lights	D22	RS485 communication
P13	Drive 3 communication	LED 4	Door handle lights	S1	Chamber VFD selection Telco VFD set to OFF Siemens VFD set to ON
P14	Drive 4 communication	LED 6	Door handle lights	—	—
P15	Jumper	LED 8	Chamber 1 call for heat	—	—

Relays

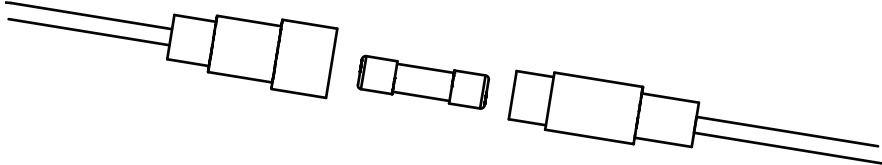


VMC-PHD-001951

Ref.	Description	Ref.	Description
1	RL-3 (H3 only)	4	Common terminal
2	RL-1, T9C, 240VAC coil Input to the control board for the check fan indicator light Coil—10.90 K Ohm	5	Coil terminal
3	RL-2, AZ 22, 12VDC coil Blowers/fan Coil—155 Ohm	6	Normally open terminal

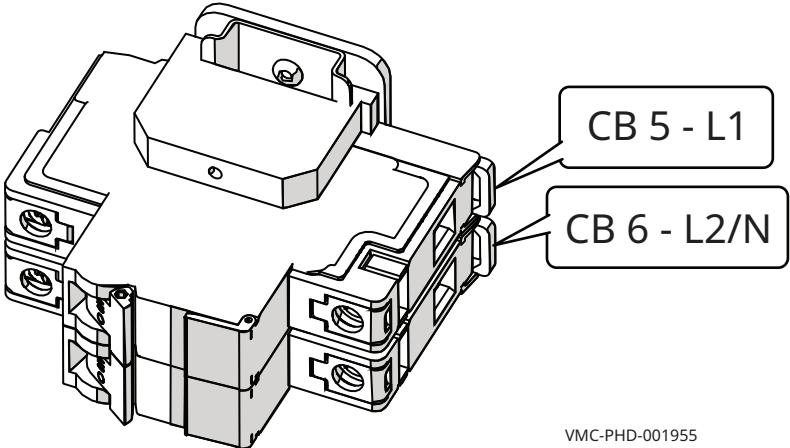
Fuses (Chamber Lights)

Fuse, 1A, 250V, Slow-Blo, 5 x 20 mm



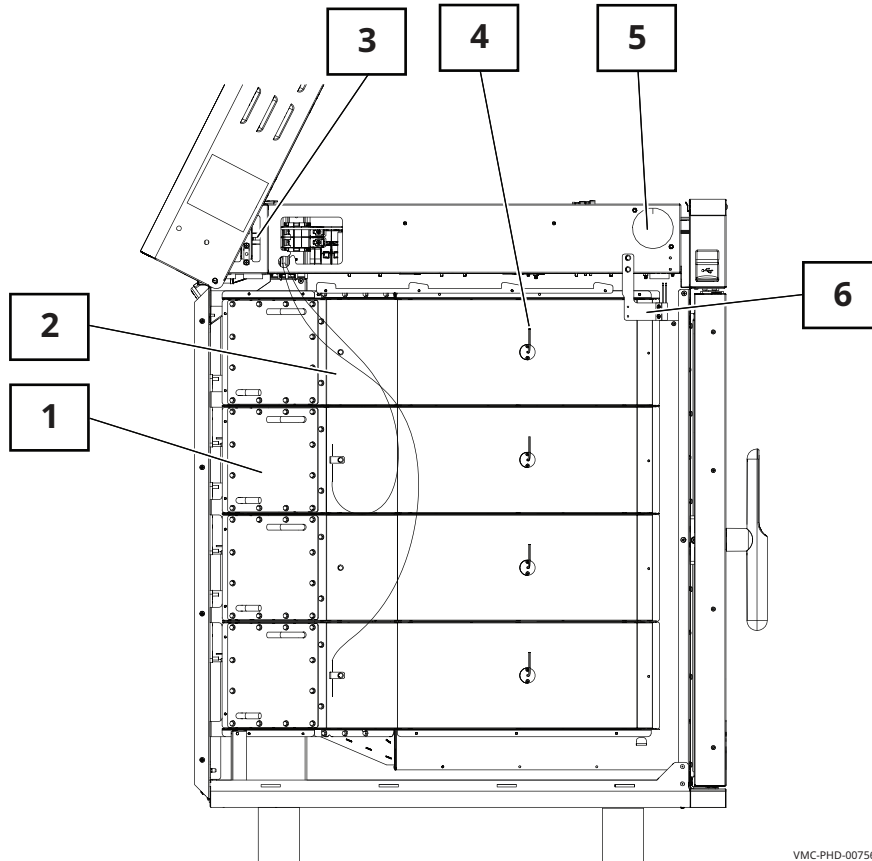
VMC-PHD-007561

Circuit Breakers (Control)



VMC-PHD-001955

Left Service Panel Identification

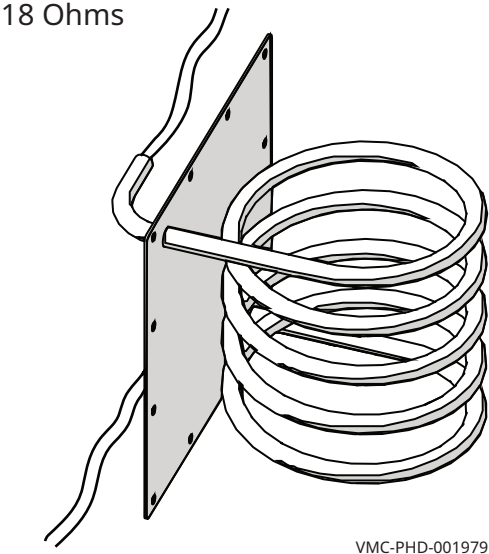


VMC-PHD-007565

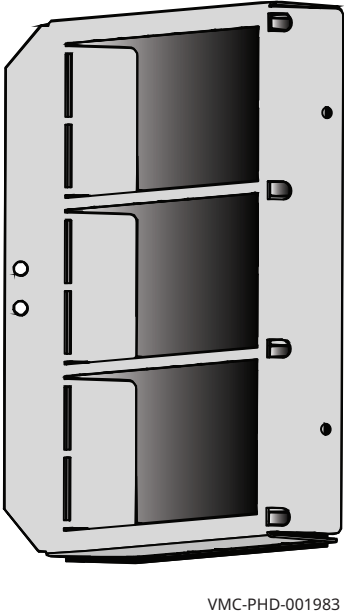
Ref.	Description
1	Chamber heating element
2	Catalyst
3	High limit switch
4	Chamber air temperature probe
5	Speaker
6	Door switch

Left Service Panel Components

Chamber Heating Element



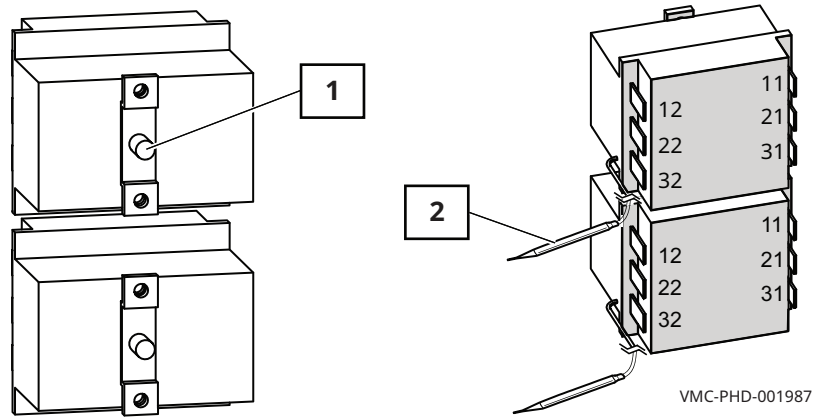
Catalyst



High Limit Switches

Resettable

Contacts open at 572°F (300°C)

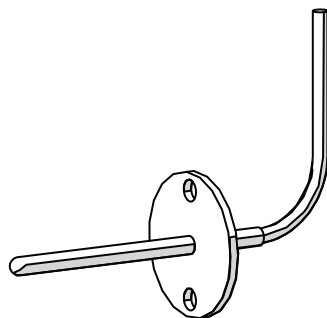


Ref.	Description
1	Reset button
2	Temperature bulb

Chamber Air Temperature Probe

K Type Thermocouple

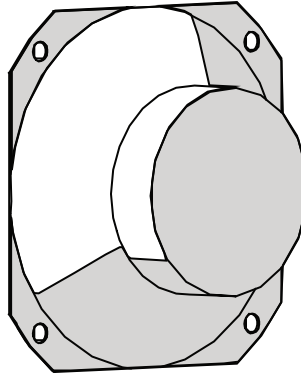
100°C	4.096 MV	100°F	1.521 MV
200°C	8.138 MV	200°F	3.820 MV
300°C	12.209 MV	300°F	6.094 MV



VMC-PHD-001991

Speaker

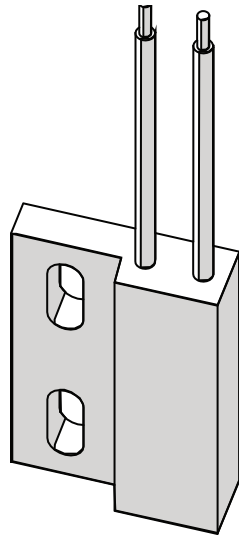
8 Ohms



VMC-PHD-001995

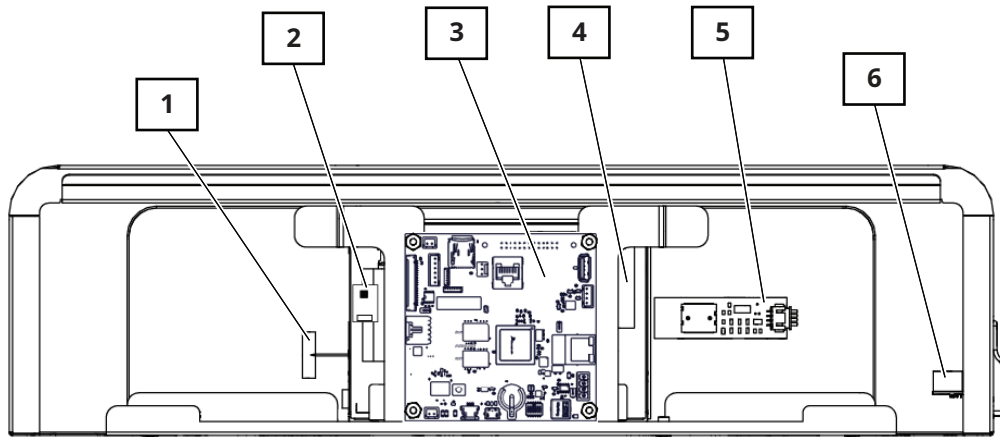
Door Switch

- **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-001999

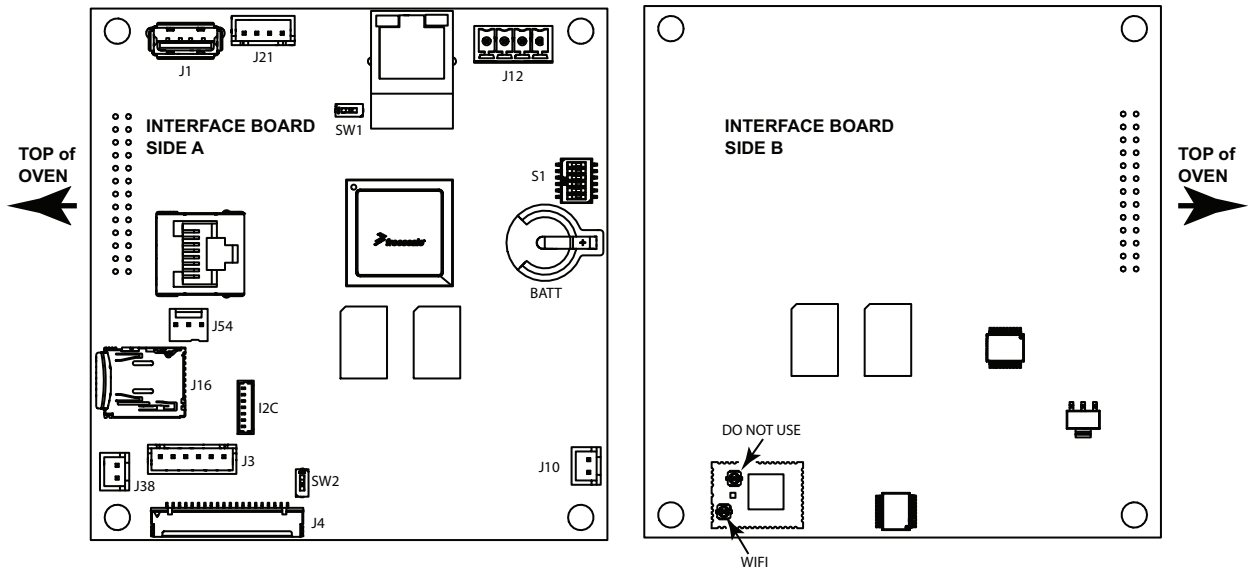
Control Panel



VMC-PHD-007596

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

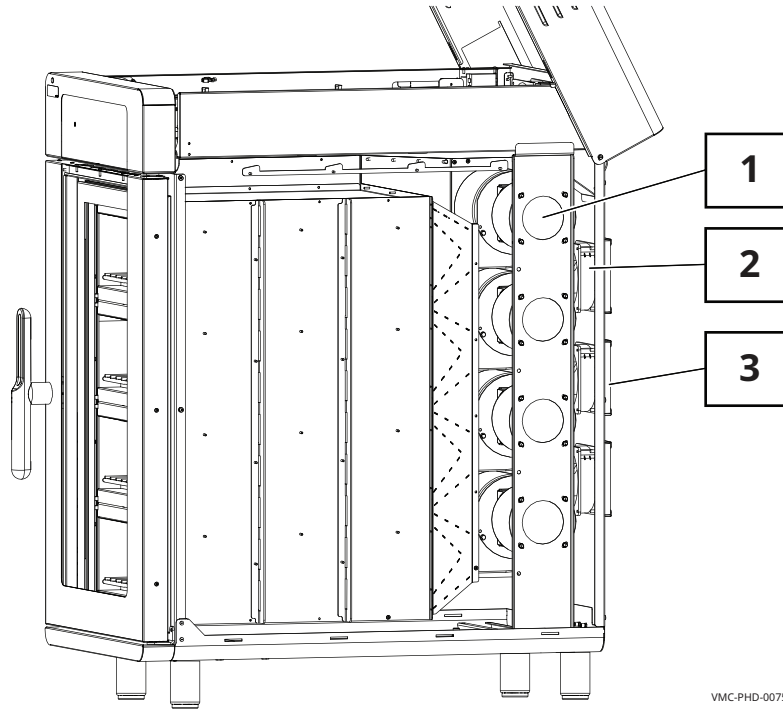
Interface Board



VMC-TS-008222

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

Right Service Panel Identification

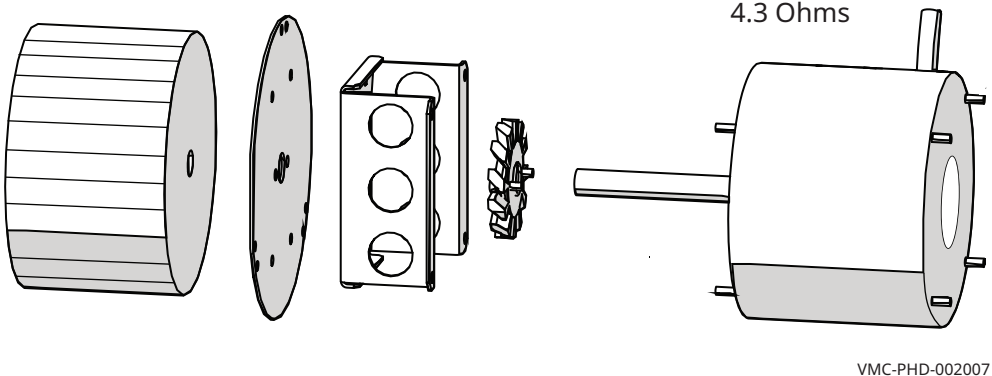


VMC-PHD-007574

Ref.	Description
1	Chamber blower motor
2	Cooling fans
3	Filter—cooling air

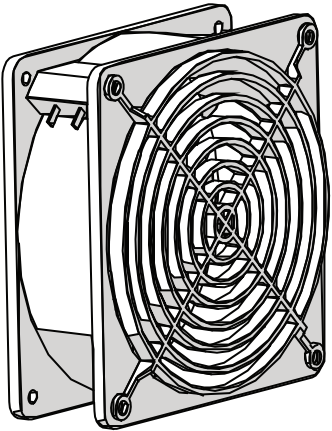
Right Service Panel Components

Blower Assembly



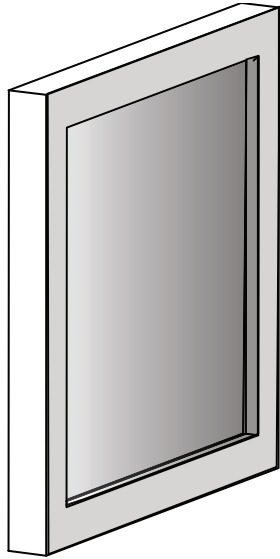
Fans

- Impedance protected
- 240 Volt
- 581 Ohm



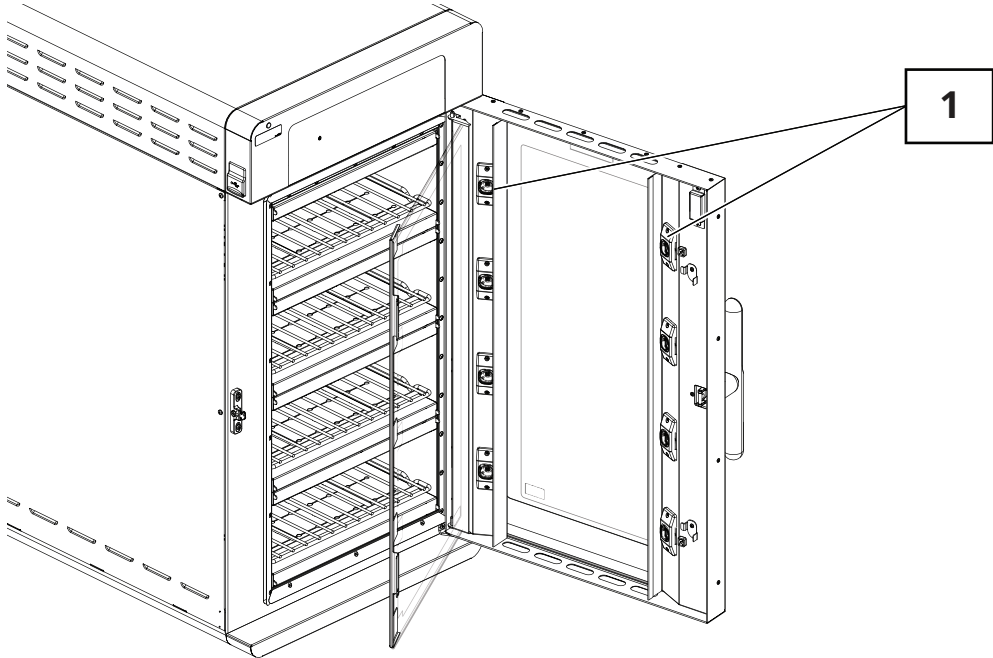
VMC-PHD-002011

Filter—Cooling Air

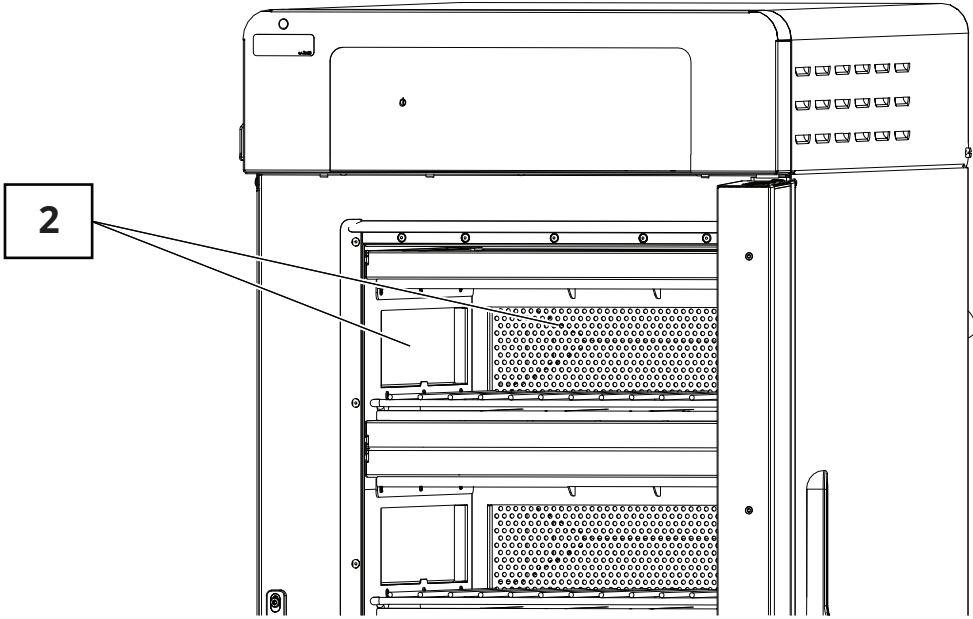


VMC-PHD-002015

Internal Components Identification



VMC-PHD-007583



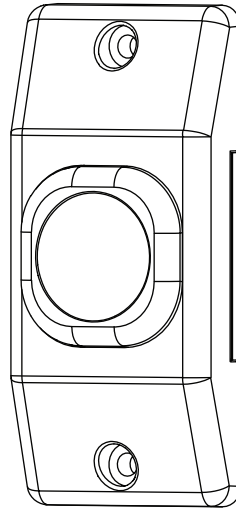
VMC-PHD-007580

Ref.	Description
1	Chamber light
2	Filters (optional)

Internal Components

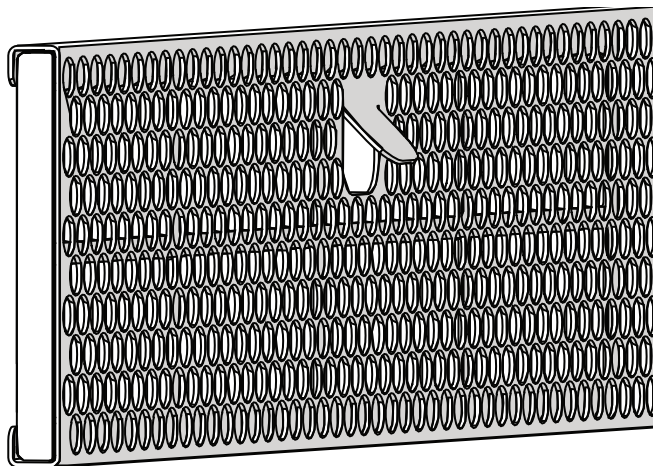
Chamber Light

12 VDC



VMC-PHD-007587

Filters (optional)



VMC-PHD-002027

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.

- **Clean** the entire oven. **Make sure** to use a non-abrasive nylon scrub pad.
- 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.
- **Inspect** and clean the chamber filters (if equipped).

Yearly

For yearly maintenance, do the following.



NOTE: Must be performed by a qualified professional.

- **Check and tighten** all wire connections.
- **Inspect** the heater flange area for grease leakage.
- **Inspect** the motor flange area for grease leakage.
- **Check and tighten** all display, interface and control board connections.
- **Check and tighten** the door hinges.
- **Inspect** the inner and outer door window panes for cracking or chipping.
- **Test** each chamber fan for correct operation.
- **Test** each chamber heater for correct operation.
- **Test** the chamber lights.
- **Record** the software versions and update if necessary.
- **Inspect** the door gaskets for correct shape and seal.
- **Record** the amp draw of all elements on the service screen individually.
- **Record** the incoming supply line voltage.

How to Clean the Oven

Before you begin



WARNING: Electric shock hazard.
Set the main disconnect switch to the OFF position to remove electric power from the appliance.



CAUTION: Burn hazard.
Allow the oven, utensils, and racks to cool before cleaning.



CAUTION: Corrosive materials hazard.
Wear eye protection and hand protection when cleaning.

NOTICE

Using improper cleaning procedures will damage the catalyst and void the warranty.
Only use spray cleaner when the electric power is completely removed from the oven.
Do not spray water or cleaning solution on the catalyst.
Do not spray cleaner into the oven while the recirculation blower is running.
Do not use steel pads, wire brushes, or scrapers when cleaning.

Daily cleaning procedure

To clean the oven daily, do the following.

Step	Action
1.	Make sure the oven is turned off and cool—chambers are less than 140°F (60°C).
2.	Remove any spills with disposable paper wipes or a damp cloth.
3.	Wipe the outside of the oven with a damp cloth.
4.	Wipe the outside of the oven with a stainless steel cleaner.

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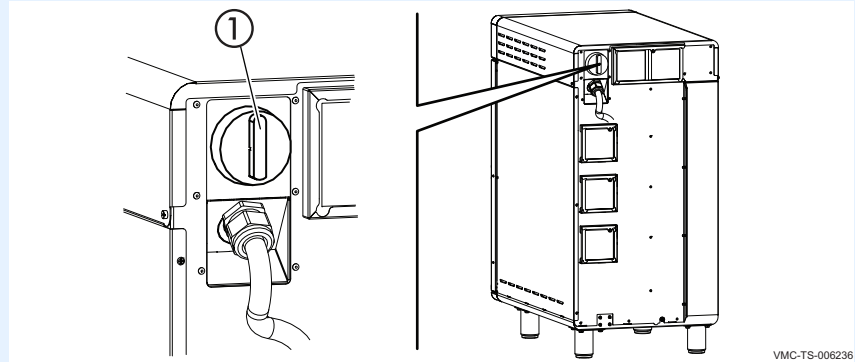
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Weekly cleaning procedure

To clean the oven weekly, do the following.

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

- | | |
|----|---|
| 1. | <p>Set the main disconnect switch ① to the OFF position.</p> <p>Make sure the oven is cool—chambers are less than 140°F (60°C).</p> |
|----|---|



- | | |
|----|---|
| 2. | <p>Spray the exterior areas of the oven with stainless steel polish.</p> |
|----|---|

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.

- | | |
|----|--|
| 3. | <p>Wipe the exterior areas of the oven with a non-abrasive nylon scrub pad.</p> |
|----|--|

- | | |
|----|---|
| 4. | <p>Spray the interior areas of the oven with oven cleaner. Let the cleaner work for 3–5 minutes.</p> |
|----|---|

- | | |
|----|--|
| 5. | <p>Wipe the interior of the oven with a non-abrasive nylon scrub pad.</p> |
|----|--|

- | | |
|----|---|
| 6. | <p>Clean each side of the window pane with an all-purpose cleaner.</p> |
|----|---|

- | | |
|----|--|
| 7. | <p>Set the main disconnect switch ① to the ON position when complete.</p> |
|----|--|

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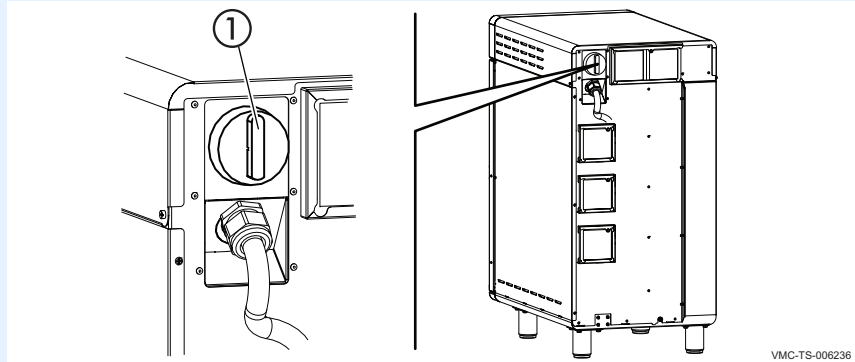
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Monthly cleaning procedure

To clean the oven monthly, do the following.

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

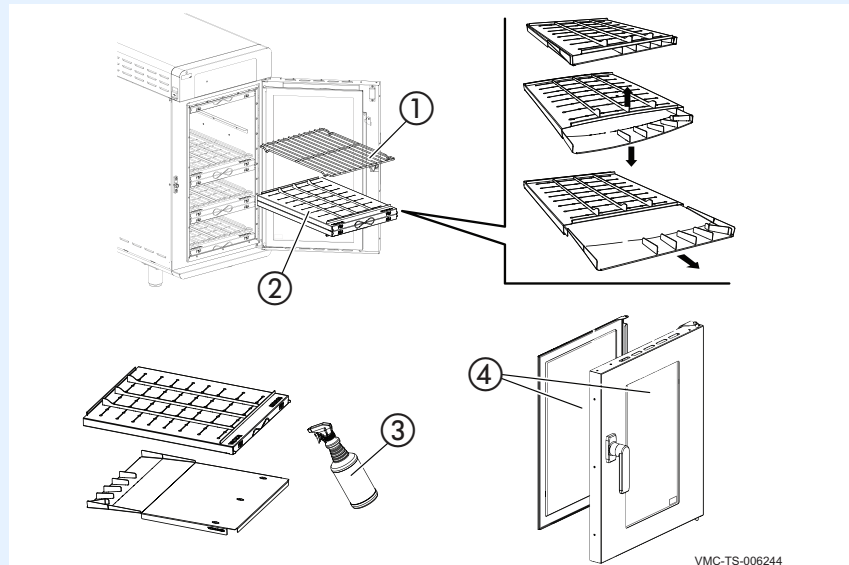
- | | |
|----|---|
| 1. | <p>Set the main disconnect switch to the OFF position.</p> <p>Make sure the oven is cool—chambers are less than 140°F (60°C).</p> |
|----|---|



Remove the cooking racks ① and jet plates ②.



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



- | | |
|----|--|
| 2. | <p>Separate the jet plates.</p> <p>Spray the jet plates with ③ oven cleaner. Let the cleaner work for 3-5 minutes.</p> |
| 3. | <p>Wipe the jet plates with a non-abrasive nylon scrub pad.</p> |

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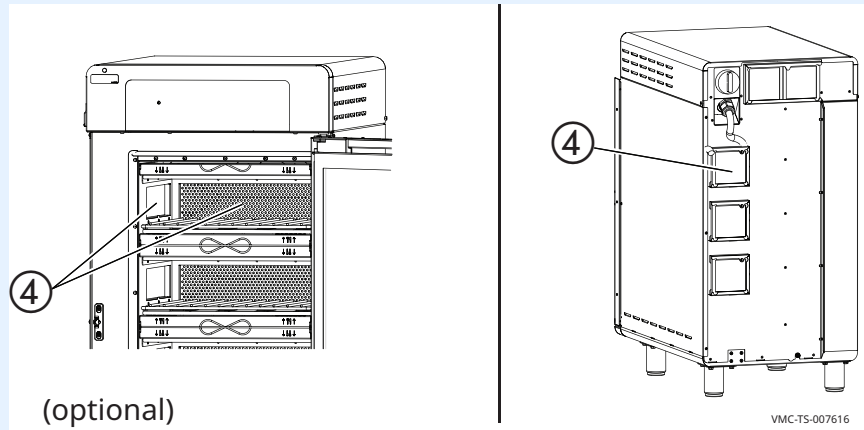
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4. **Re-install** the jet plates and cooking racks.

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

Cleaning the filters

5. **Remove** the filters ④.



6. **Clean** the filters in a dishwasher.

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

7. **Re-install** the filters.

8. **Set** the main disconnect switch to the ON position when complete.

Result

The oven is now clean.

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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.

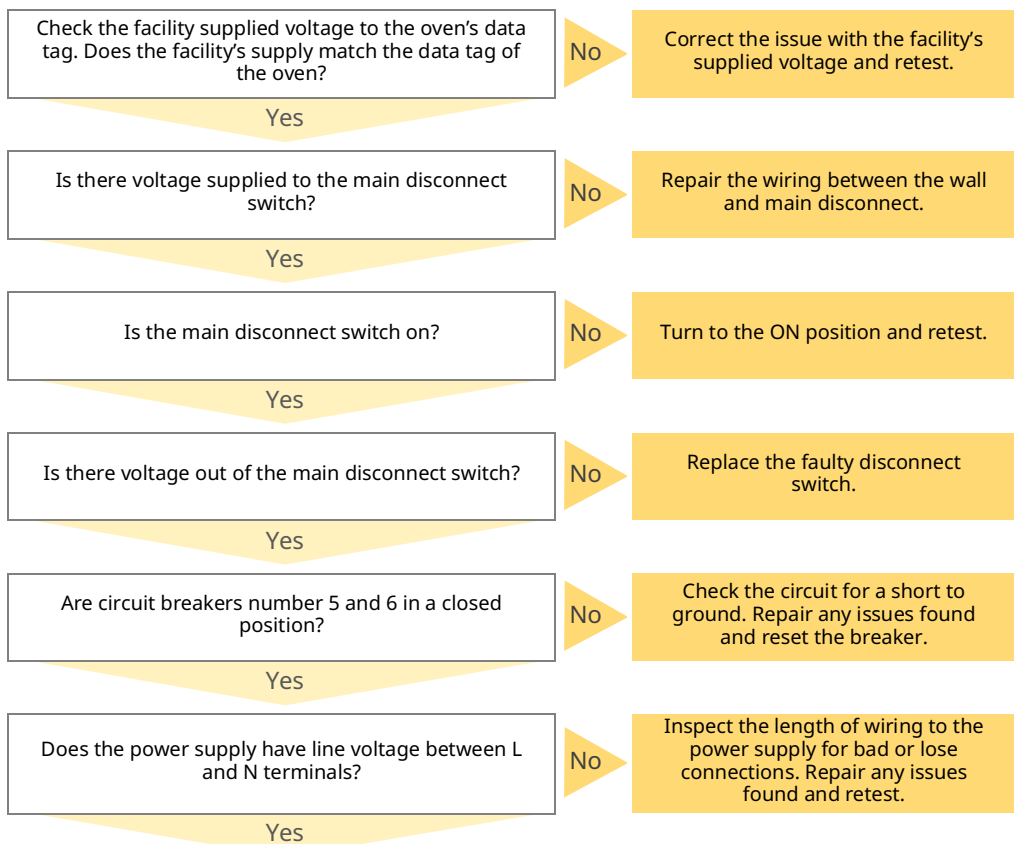
Use caution when measuring line voltage.

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.	Navigate to the service screen.
2.	Enter the pass code 6702.
3.	Touch the check mark.
4.	Scroll to the chamber to be tested.
	 NOTE: 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.	Expand the selection list.
6.	Read the temperature sensor value.
7.	Select the arrow to the right of the target temperature.

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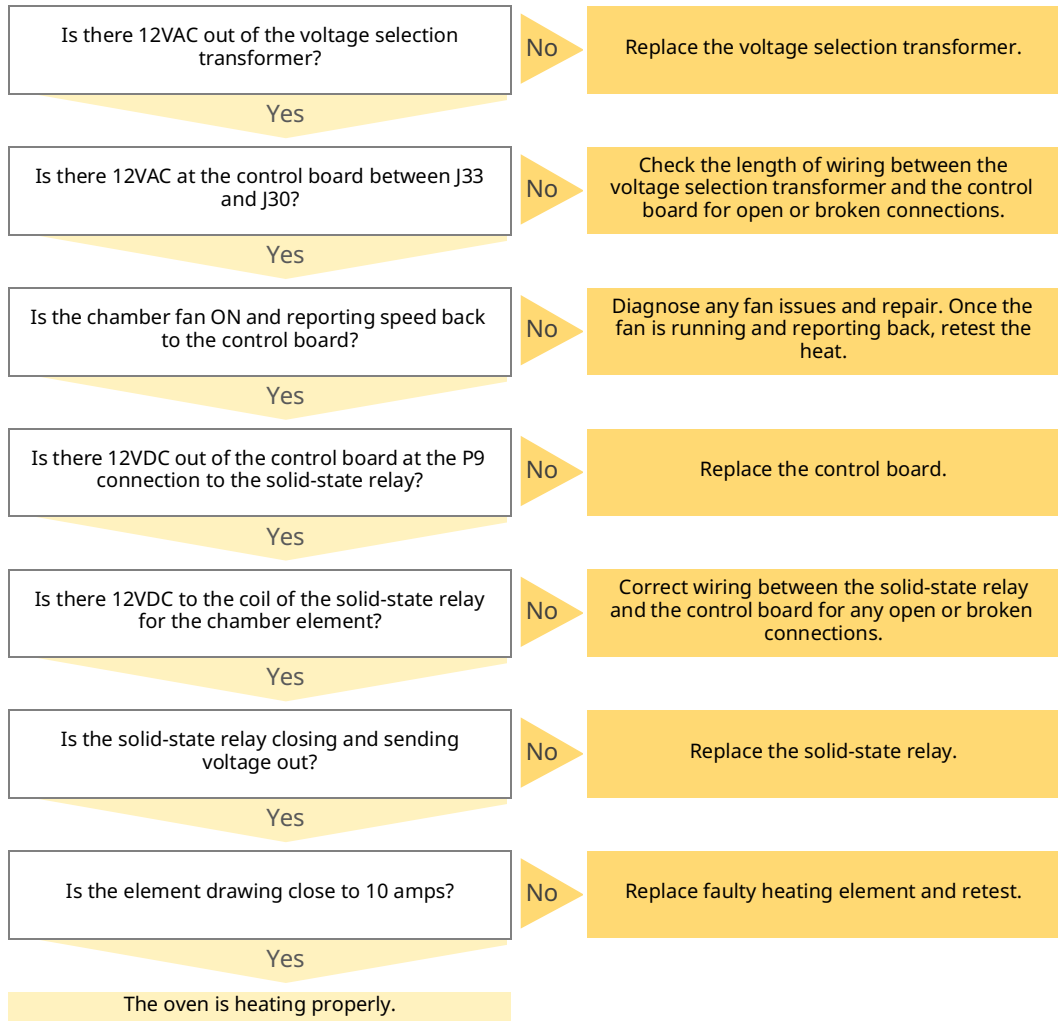
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8. **Enter** a value higher than the temperature sensor value.
Touch the check mark.
 9. **Select** the button to the right of the heater.
- NOTE:** The button will move to the right and turn gray. The convection fan button will also move to the right 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

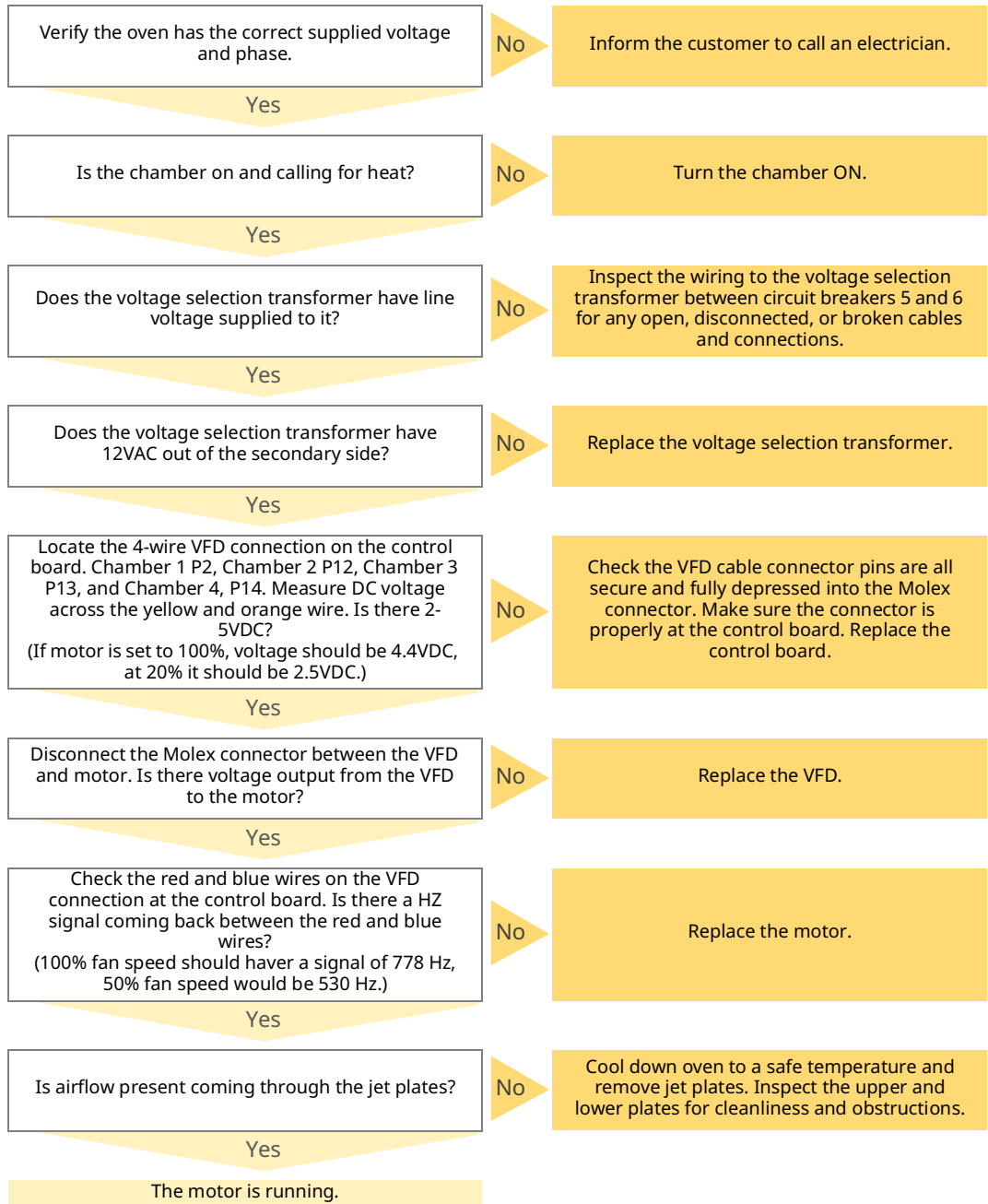
Do not operate the oven in a cooking mode for an extended period of time with the top panel removed. Damage to the electronics may occur without adequate cooling airflow.

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.	navigate to the service screen.
2.	Enter the pass code.
3.	Touch the check mark.
4.	Scroll to the chamber to be tested.
	<p> NOTE: 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>
5.	Expand the selection list.
6.	Touch the button to the right of convection fan.
	<p> NOTE: The button will move to the right and turn gray.</p>

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Chamber Lights do not Illuminate

Before you start

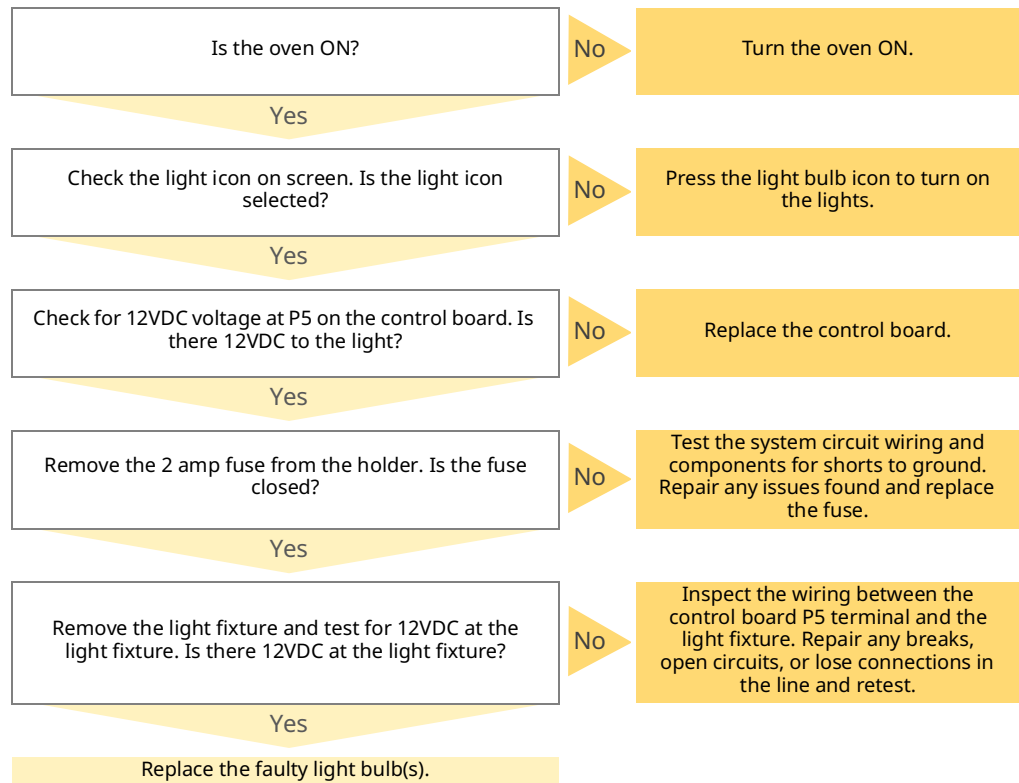
Remove the service panel.



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.

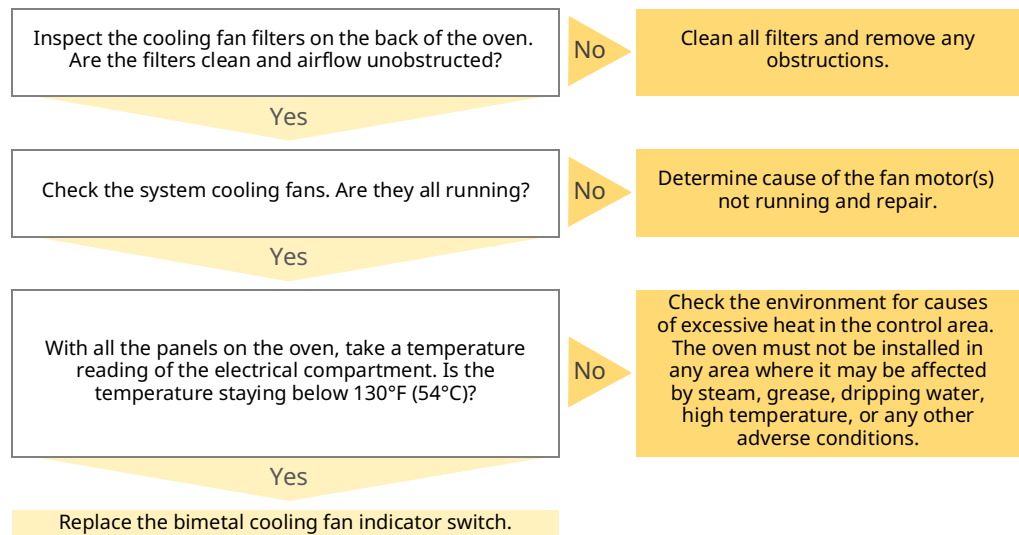


WARNING: Electric shock and arc flash hazard.
Use caution when measuring line voltage.
Wear Personal Protective Equipment (PPE).

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

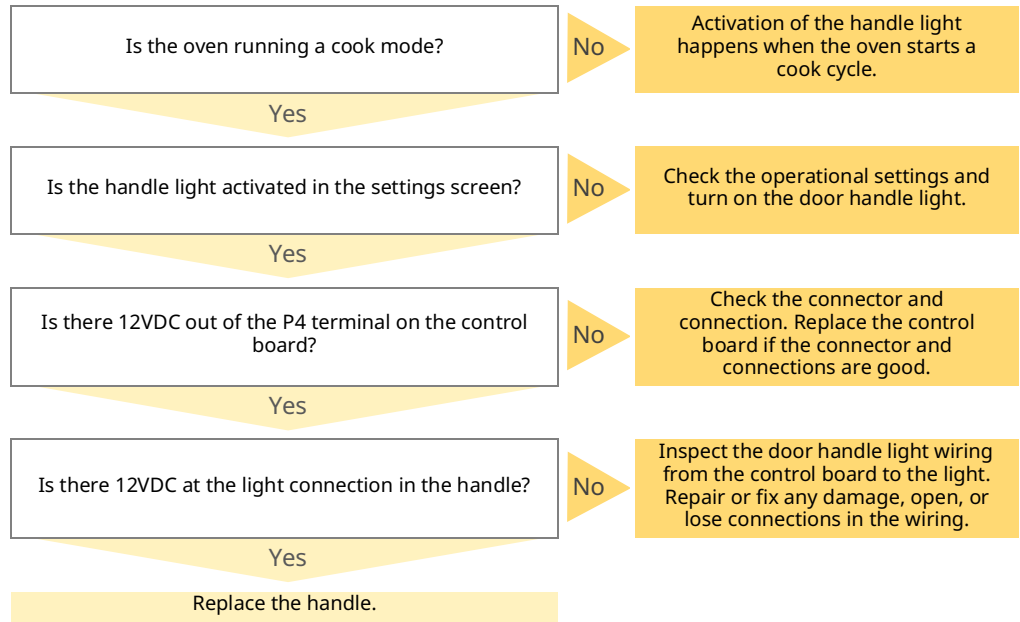
Remove the service panel.



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.

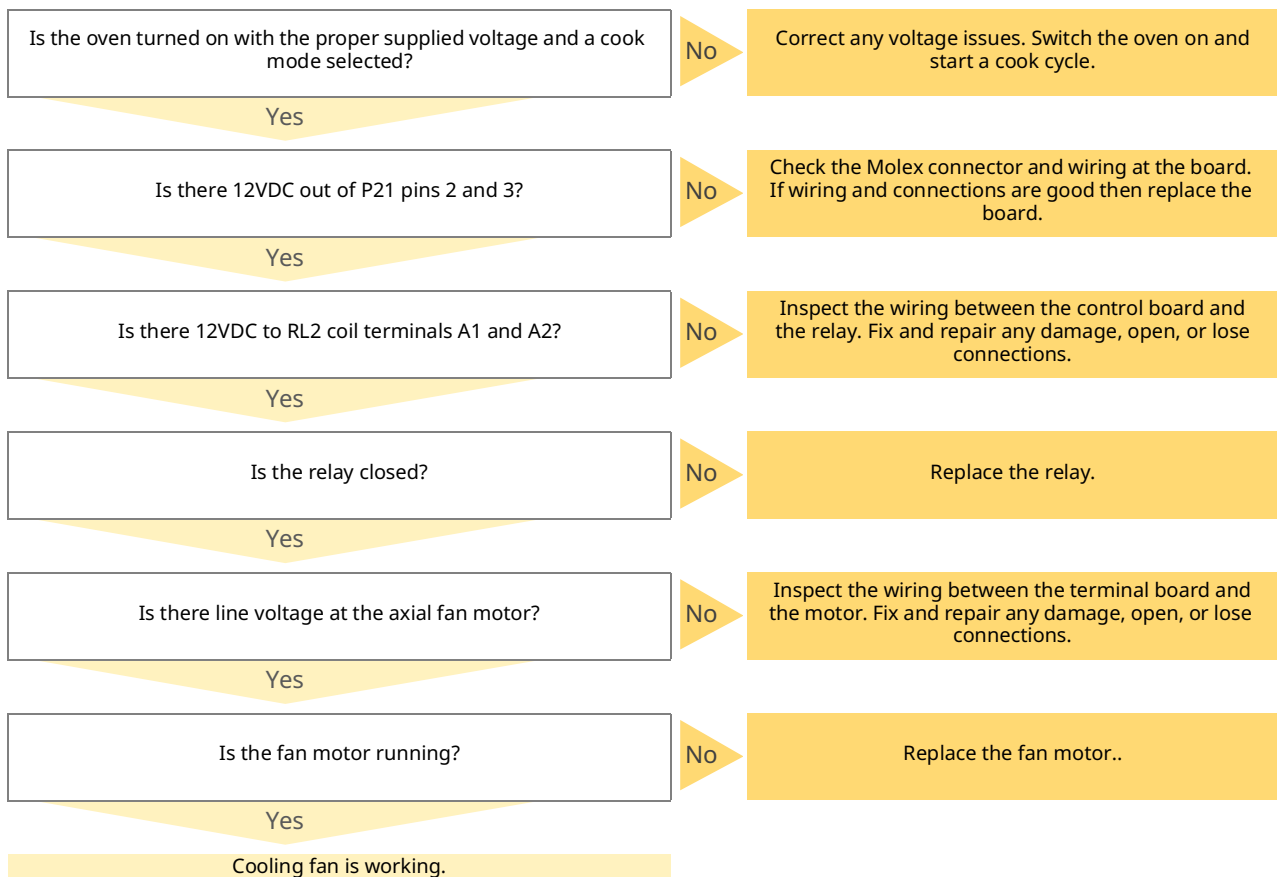


WARNING: Electric shock and arc flash hazard.
Use caution when measuring line voltage.
Wear Personal Protective Equipment (PPE).

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

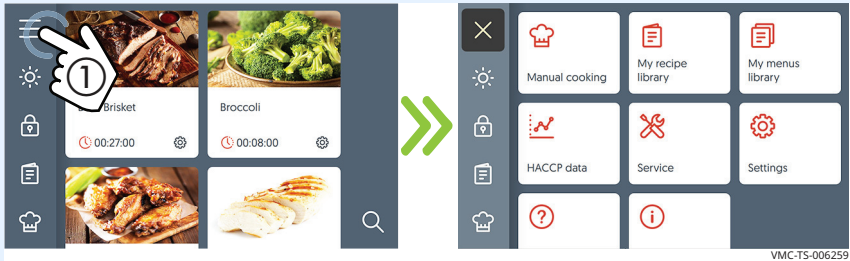
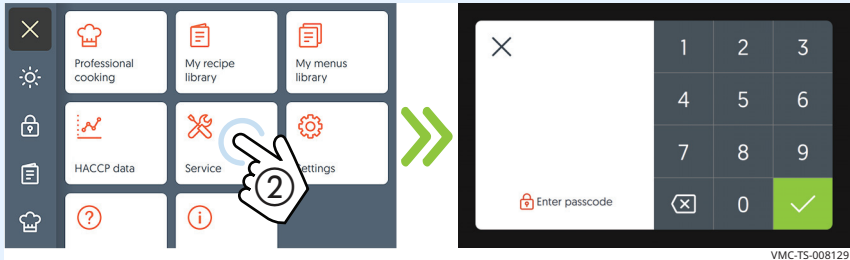
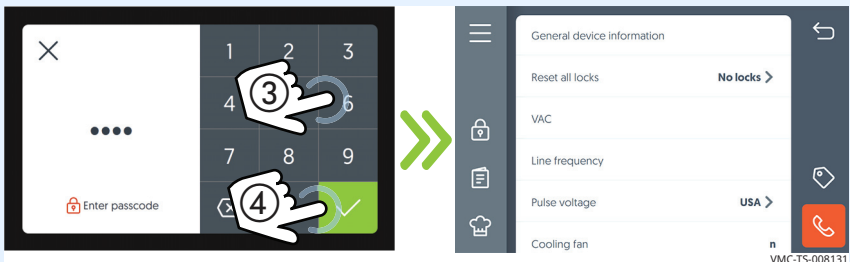
Before you begin

The oven must be connected to electric power.

Procedure

To test the convection fan motors, do the following.

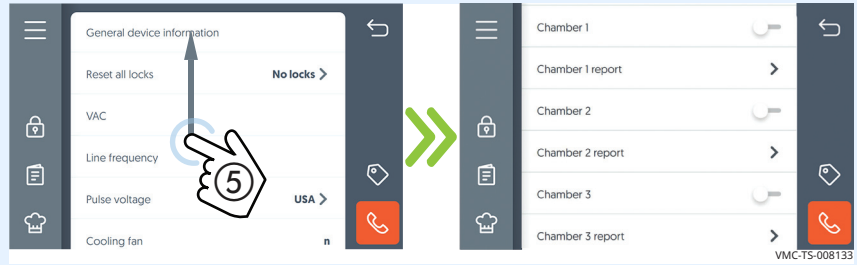
NOTICE Do not turn on the heaters during this test. Damage to the oven may occur.

Step	Action
1.	<p>Touch the menu icon ①. The user menu screen displays.</p>  <p>VMC-TS-006259</p>
2.	<p>Touch the service icon ②. The enter pass code screen displays.</p>  <p>VMC-TS-008129</p>
3.	<p>Enter the pass code 6702 ③.</p> <p>Touch the check mark ④. The general device screen displays.</p>  <p>VMC-TS-008131</p>

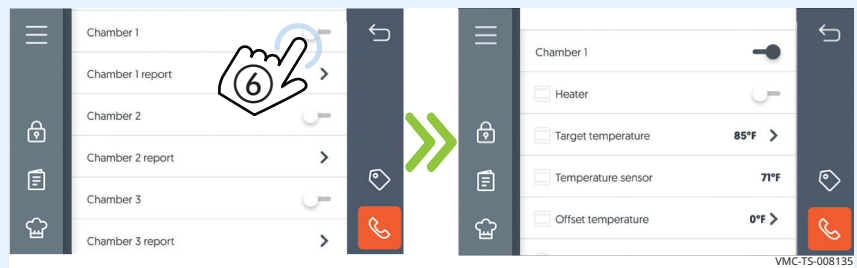
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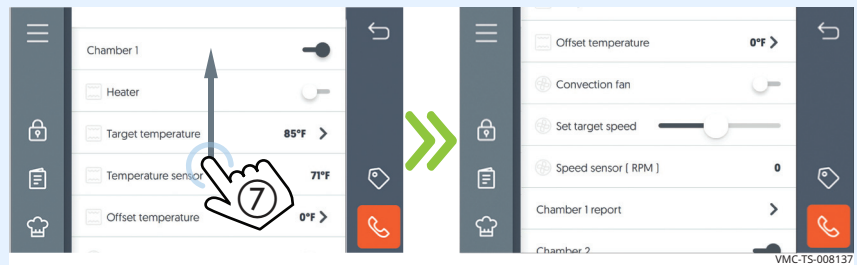
4. **Scroll** ⑤ to the chamber selection buttons.



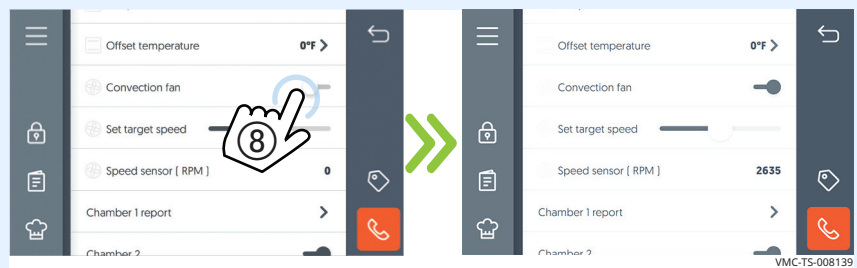
5. **Touch** the button ⑥ of the chamber to be tested. The chamber options are displayed.



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.



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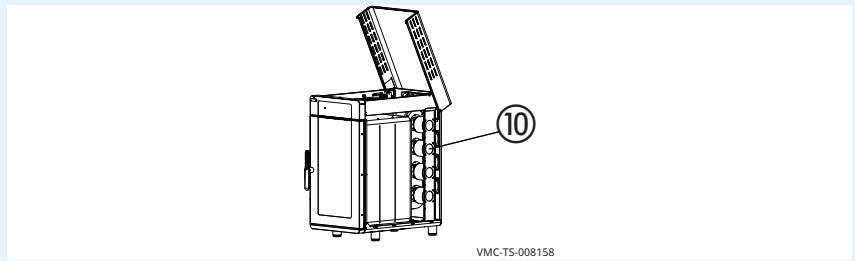
- Move** the Set target speed button (9) to change the motor RPM.
If the blower speed changes, the system is working.



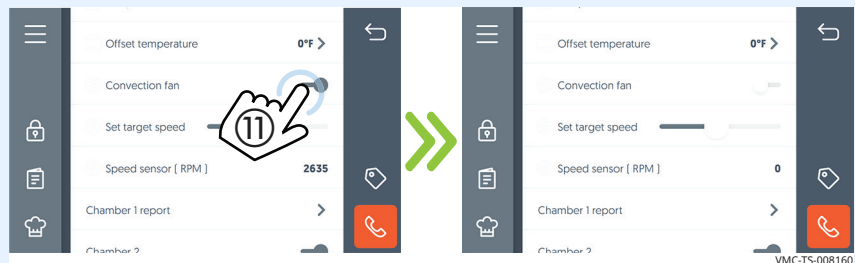
- Remove** the right side panel from the oven.
Touch the convection fan motor (10) and feel for vibration. See topic *Chamber Blower Fans Inoperable* if the blower motor does not turn on.



WARNING: Electric shock hazard. Wear PPE and use NEC best practices when working near components with live voltage.



- Touch** the convection fan button (11) 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

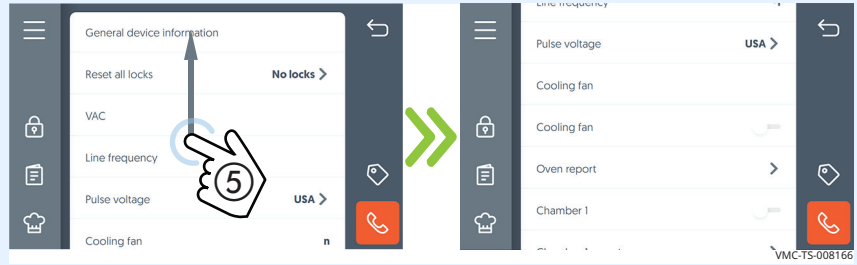
To test the cooling fans, do the following.

Step	Action
1.	<p>Touch the menu icon ①. The User Menu screen displays.</p>  <p>VMC-TS-006259</p>
2.	<p>Touch the Service icon ②. The Enter Pass Code screen displays.</p>  <p>VMC-TS-008129</p>
3.	<p>Enter the pass code 6702 ③.</p> <p>Touch the check mark ④. The general device information screen displays.</p>  <p>VMC-TS-008131</p>

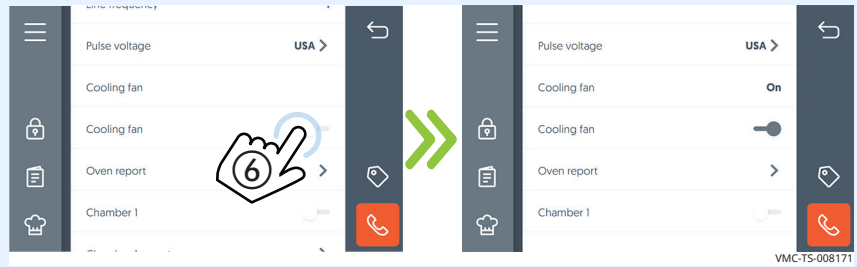
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4. **Scroll** ⑤ to the cooling fan button displays.



5. **Touch** the cooling fan button ⑥. 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>Touch the menu icon ①. The user menu screen displays.</p>  <p>VMC-TS-006259</p>
2.	<p>Touch the service icon ②. The enter pass code screen displays.</p>   <p>VMC-TS-008129</p>

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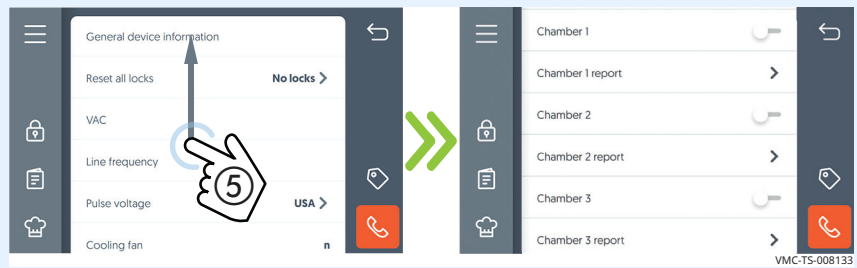
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3. **Enter** the pass code 6702 ③.

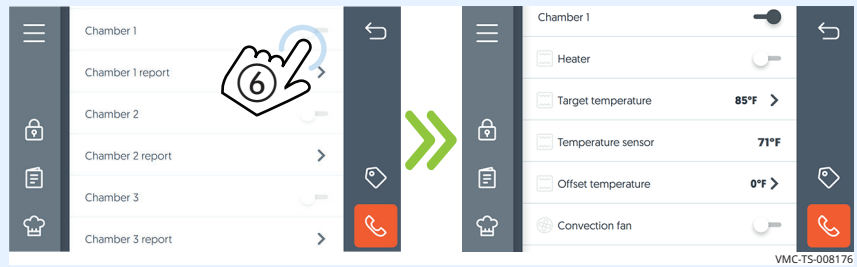
Touch the check mark ④. The general device information screen displays.



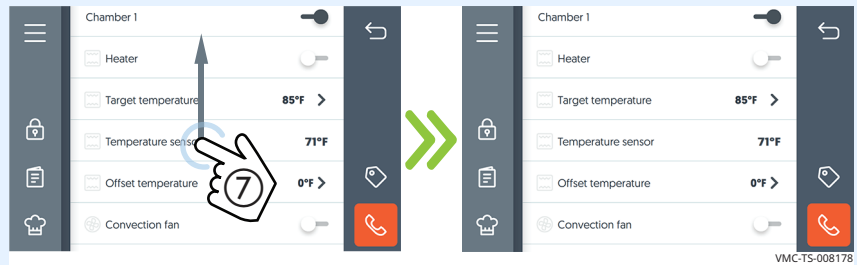
4. **Scroll** ⑤ to the chamber selection buttons.



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



6. **Scroll** ⑦ until the heater button and the convection fan button are displayed.



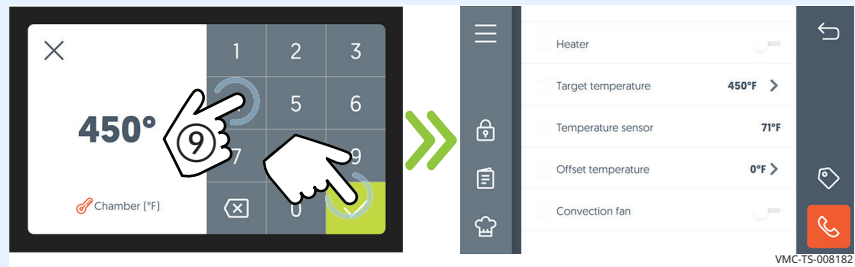
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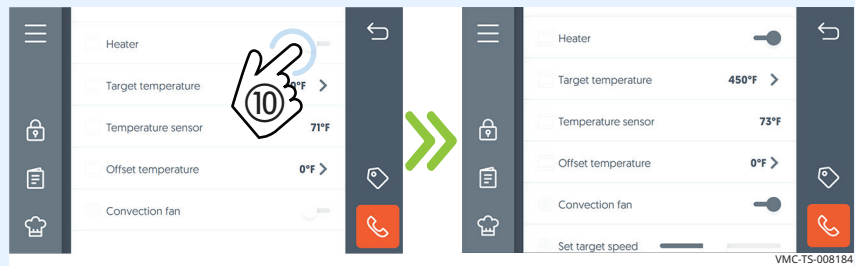
7. **Touch** the target temperature setting ⑧. The select temperature screen displays.



8. **Select** a temperature higher than the current chamber temperature ⑨. Touch the check mark, the target temperature is displayed.



9. **Touch** the heater button ⑩. The heater and convection fan buttons will turn gray. The chamber's heater is on.



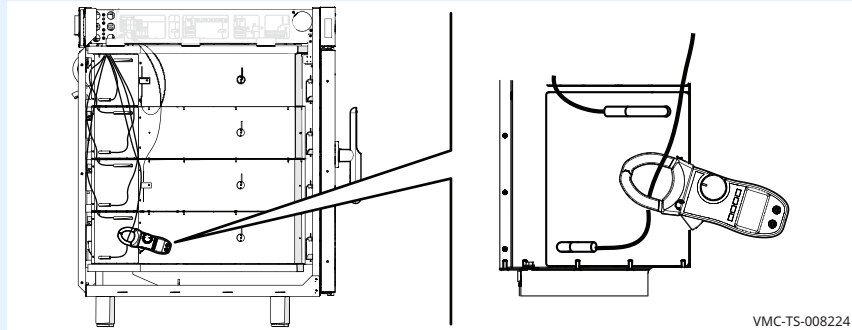
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10. **Measure** the amp draw while the heater is on. The amperage draw of a functioning heater element is 10-15 amps.



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



11. **Touch** the heater button **11** to stop the heater. The heater and convection fan buttons will turn white.



12. **Cool** the oven.
13. **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.	<p>Touch the menu icon ①. The user menu screen displays.</p> 
2.	<p>Touch the service icon ②. The enter pass code screen displays.</p> 

Continued on next page

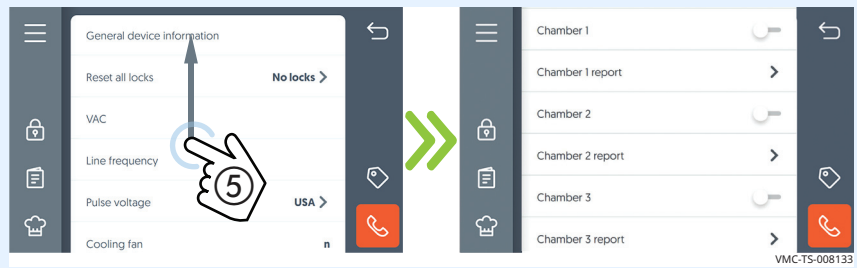
Continued from previous page

3. **Enter** the pass code 6702 ③.

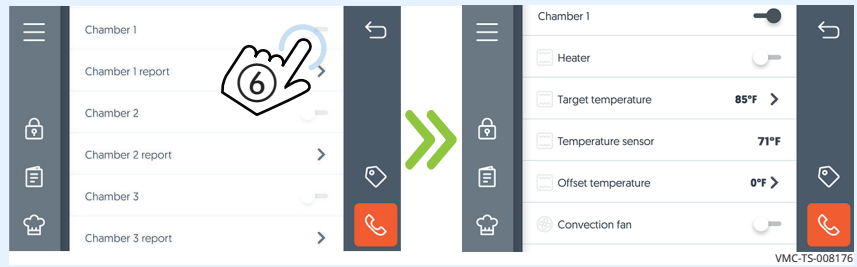
Touch the check mark ④. The general device information screen displays.



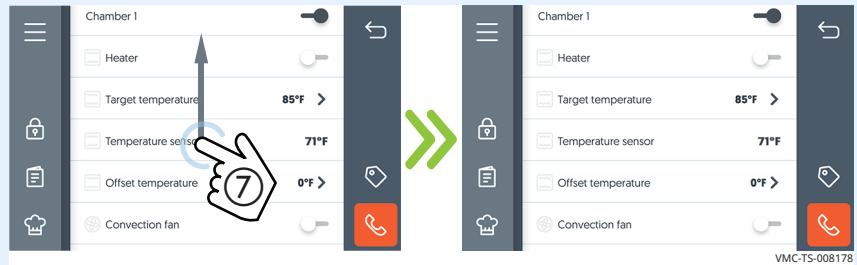
4. **Scroll** ⑤ to the chamber selection buttons.



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



6. **Scroll** ⑦ until the heater button and the convection fan button are displayed.



Continued on next page

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7. **Touch** the target temperature setting ⑧. The select temperature screen displays.

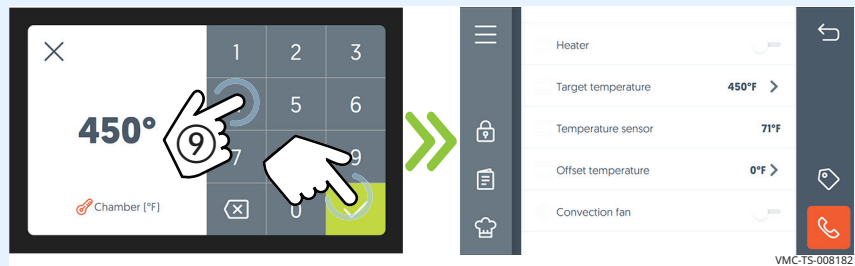


Enter chamber temperature

8. **Enter** a temperature higher than the current chamber temperature ⑨. **Touch** the check mark. The target temperature is displayed.

Repeat for all chambers.

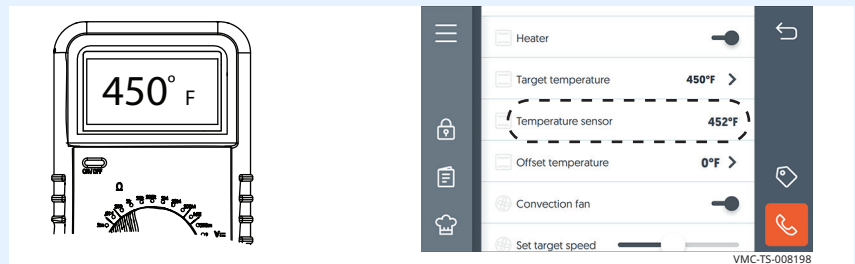
Set all chambers to the same temperature.



Insert the thermocouple

9. **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.



Continued on next page

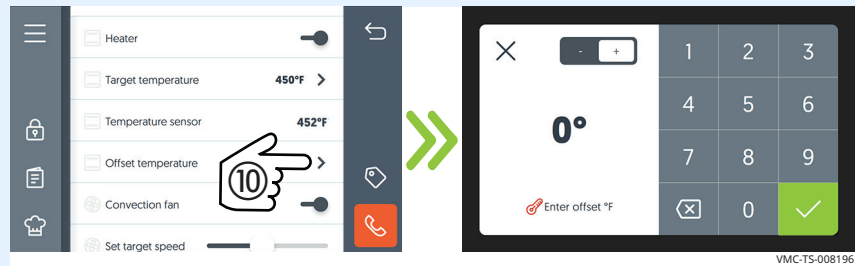
Continued from previous page

Calibrate the offset

10. **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 positive "+". If the value measured by the multimeter was the smaller value, the offset will be negative "-".

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

Touch the ">" icon ⑩ 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.



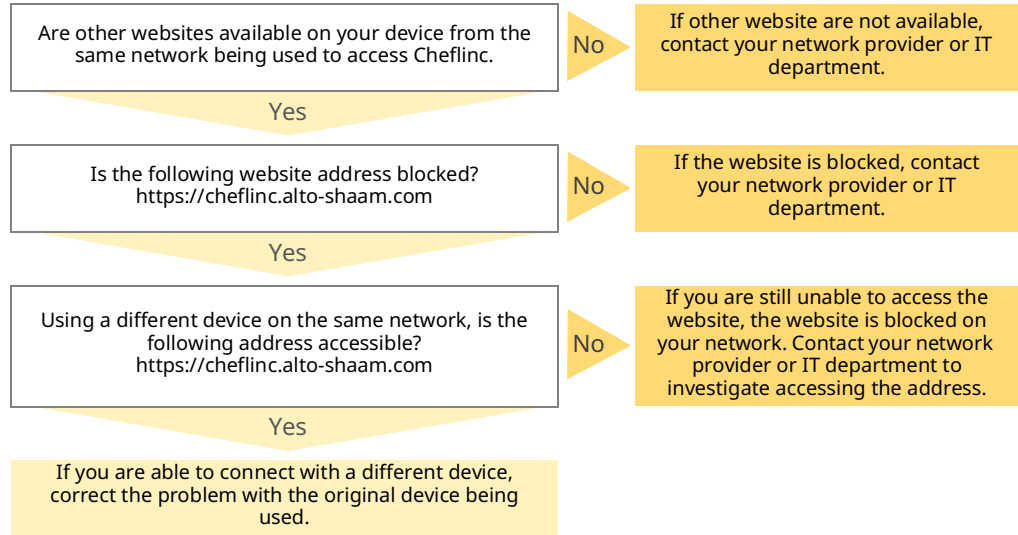
12. **Repeat** the procedure for the remaining chambers.

13. **Cool** the oven.

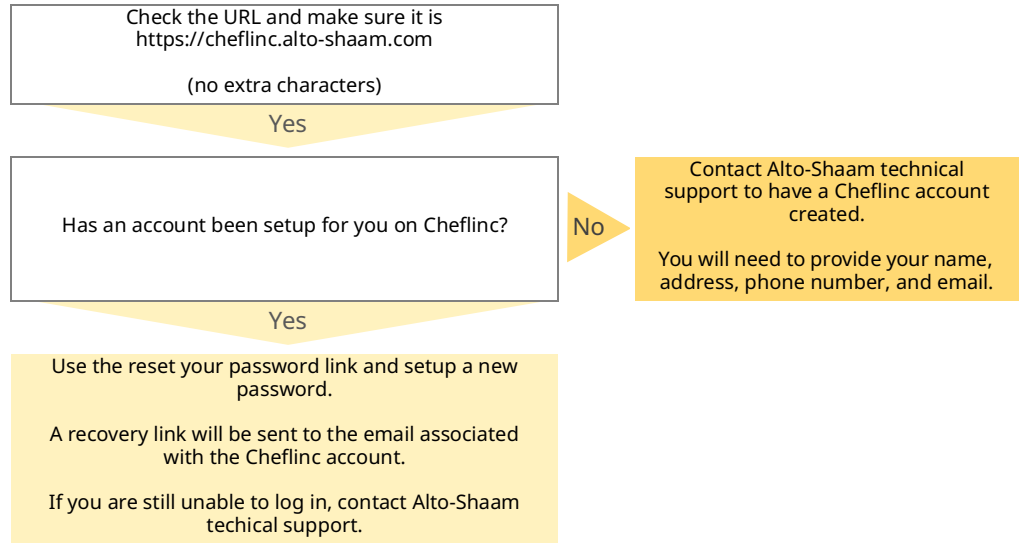
Result

The chamber thermocouples have now been calibrated.

Cheflinc.alto-shaam.com is not Available on your Device

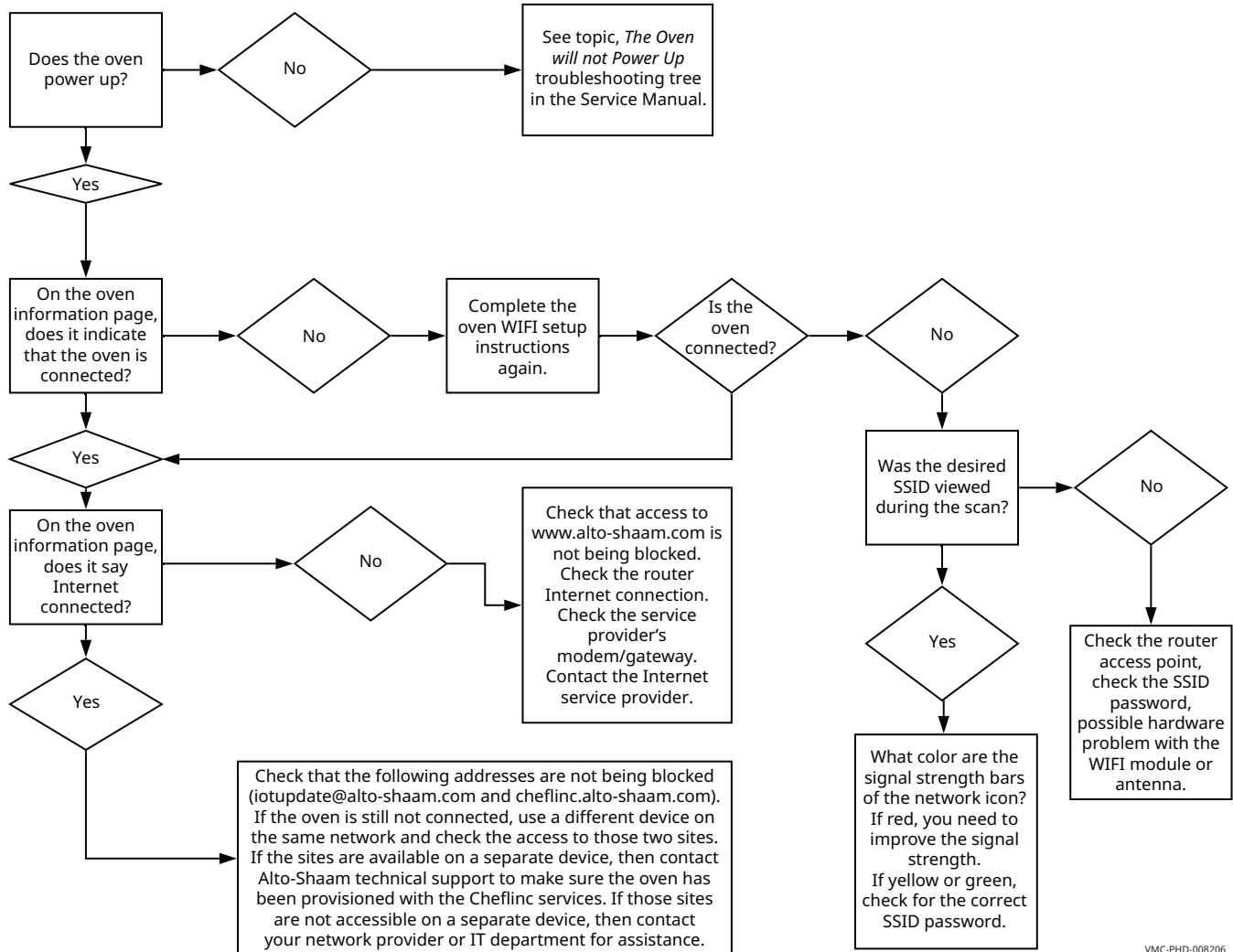


Cannot Connect to cheflinc.alto-shaam.com



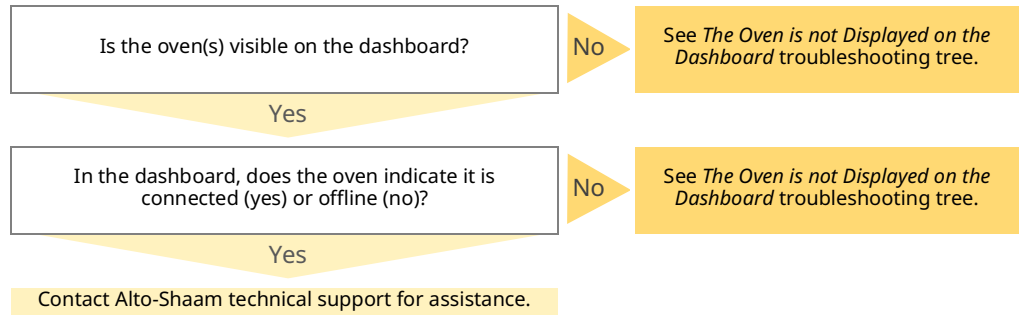
The Oven is not Displayed on the Dashboard

Prerequisite: The operator is on a device connected to the Internet and is able to login to cheflin.alto-shaam.com.



VMC-PHD-008206

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



Removing and Installing the Blower Motor

Before you begin

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

Procedure

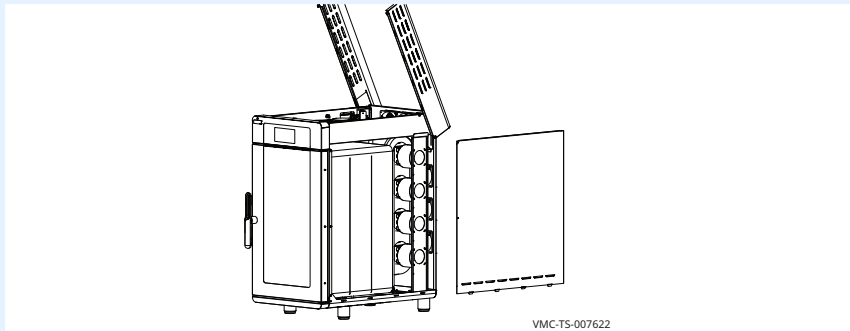
To remove and install the blower motor, do the following.



WARNING: Electric shock hazard.

Disconnect the appliance from electric power before servicing the appliance.

Step	Action
1.	Remove the top and right side service panels.
 <p>VMC-TS-007622</p>	
2.	Disconnect the motor wire connectors.
 <p>VMC-TS-002939</p>	

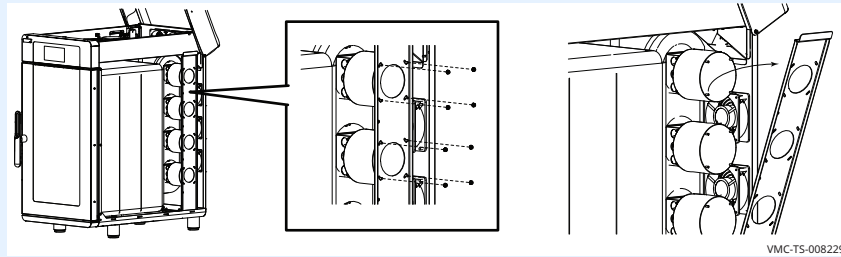




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3. **Remove** the mounting screws and remove the motor support plate.

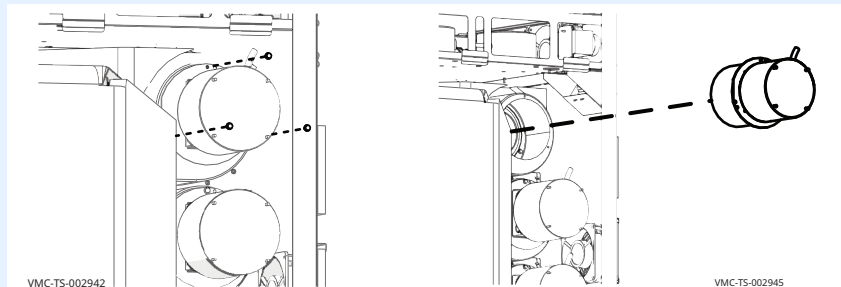


VMC-TS-008229

4. **Cut** the insulation around the motor.

Remove the three mounting screws and remove the motor and blower wheel from the housing.

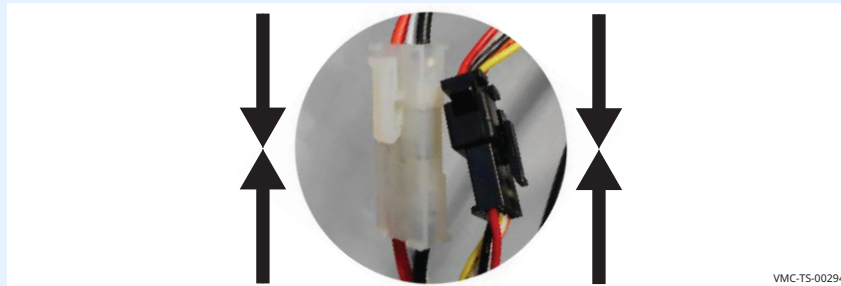
Install the new motor with the three mounting screws. Tape all the seams in the insulation.



VMC-TS-002942

VMC-TS-002945

5. **Re-connect** the motor wire connectors.



VMC-TS-002948

6. **Re-install** the motor support plate.

Re-install the top and right side service panels.

Connect electric power to the appliance and test all functions.

Result

The blower motor 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

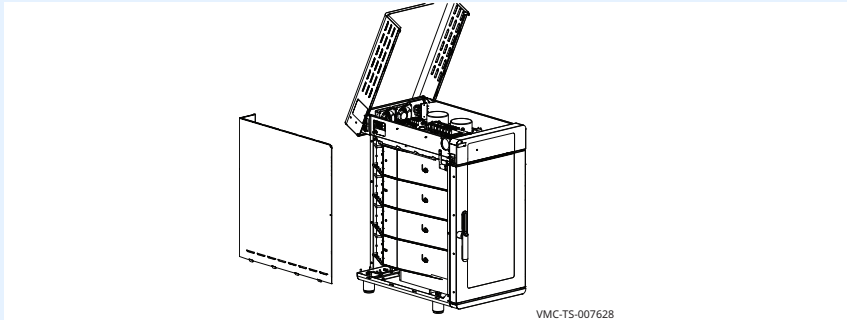
To remove and install a heater element, do the following.



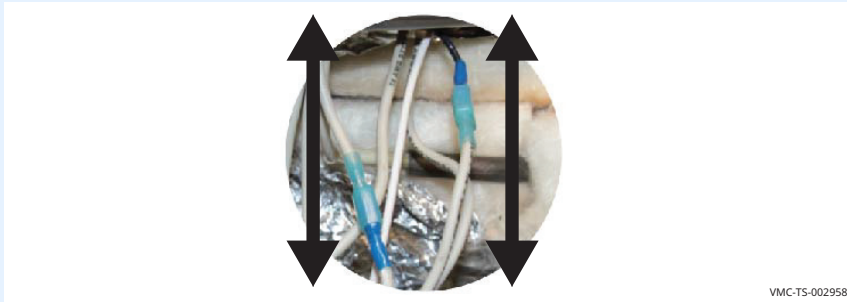
WARNING: Electric shock hazard.

Disconnect the appliance from electric power before servicing the appliance.

Step	Action
1.	Open the top and remove the left side service panel.
	
2.	Disconnect the heater element wires.
	



VMC-TS-007628

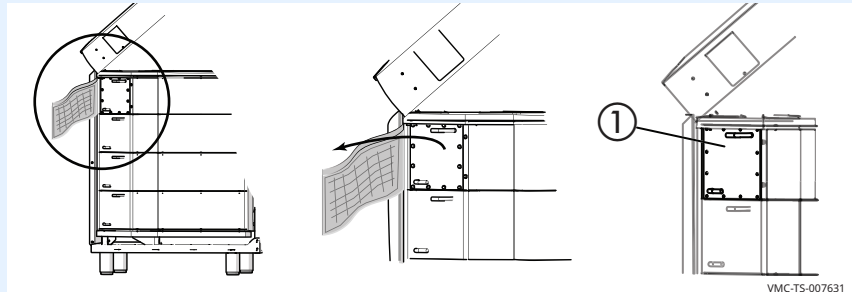


VMC-TS-002958

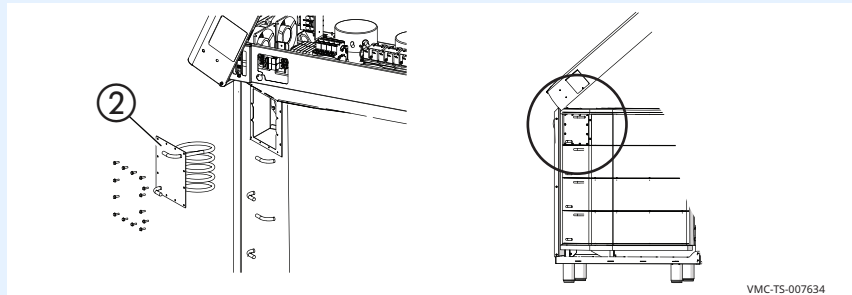
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3. **Cut** the insulation around the heater element panel.
Move the insulation away from the heater element panel.
Remove the heater element panel ①.

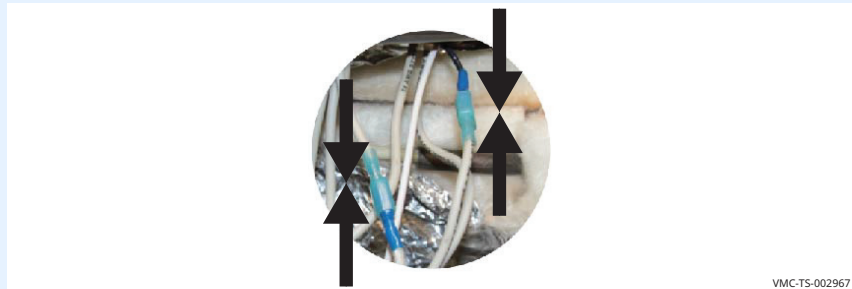


4. **Remove** the heater element ② from the oven.
Install the new heater element into the oven.



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

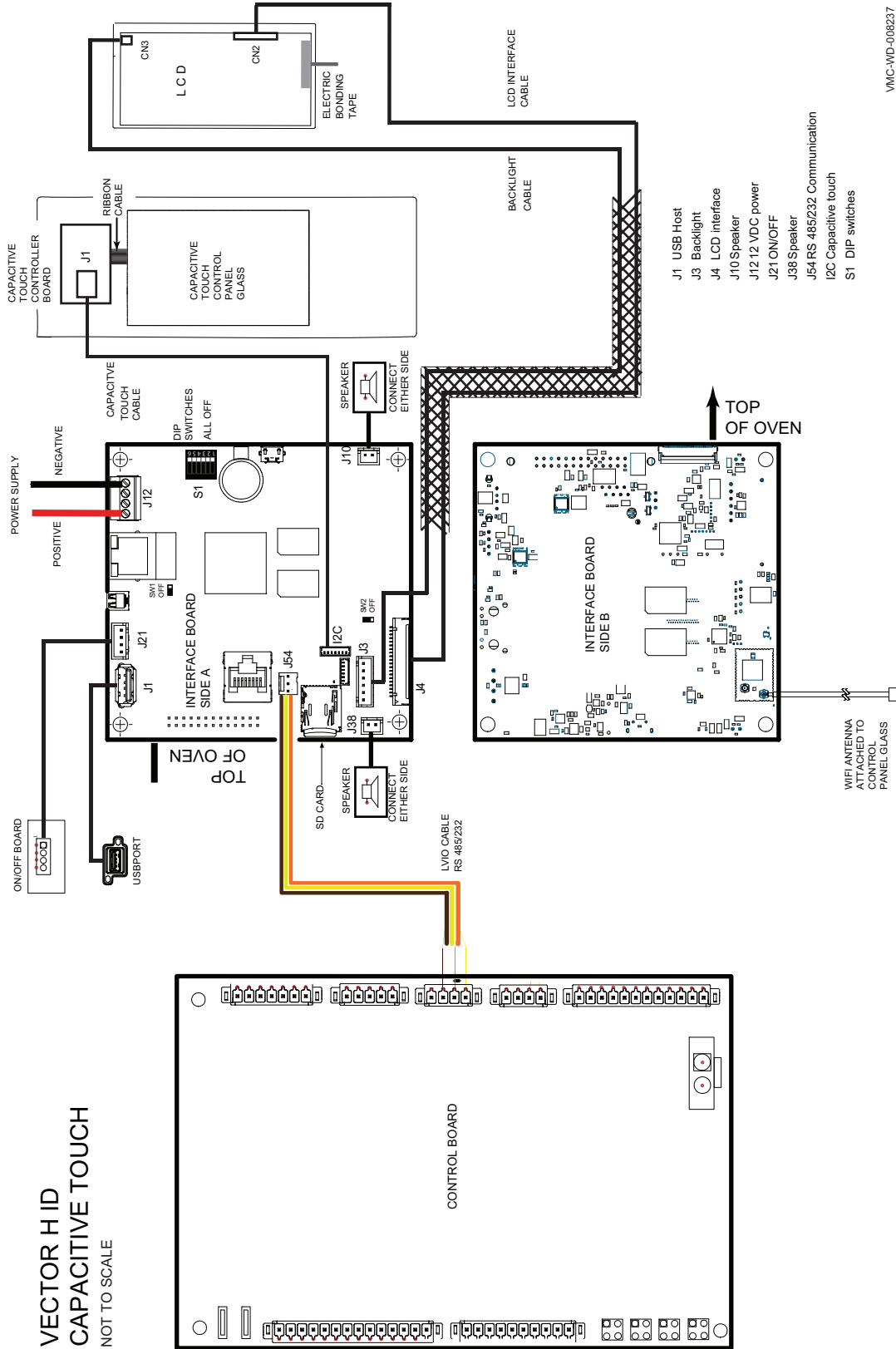
6. **Re-connect** the heater element wires.



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

Result

The heater element has now been replaced.

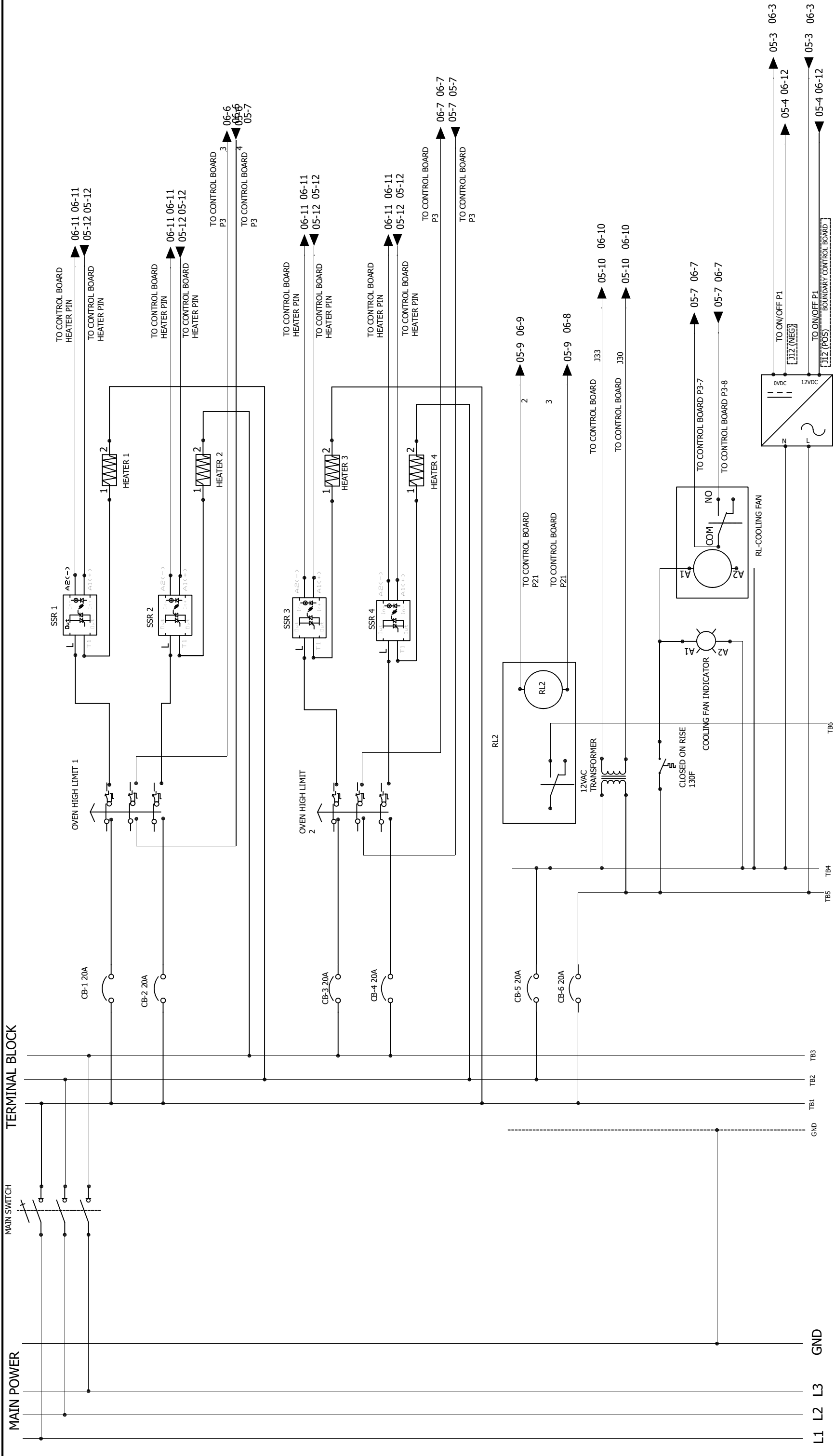


VMC-WD-008237

SCHEMATICS

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SCHEME
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Alto-Shaam

77652

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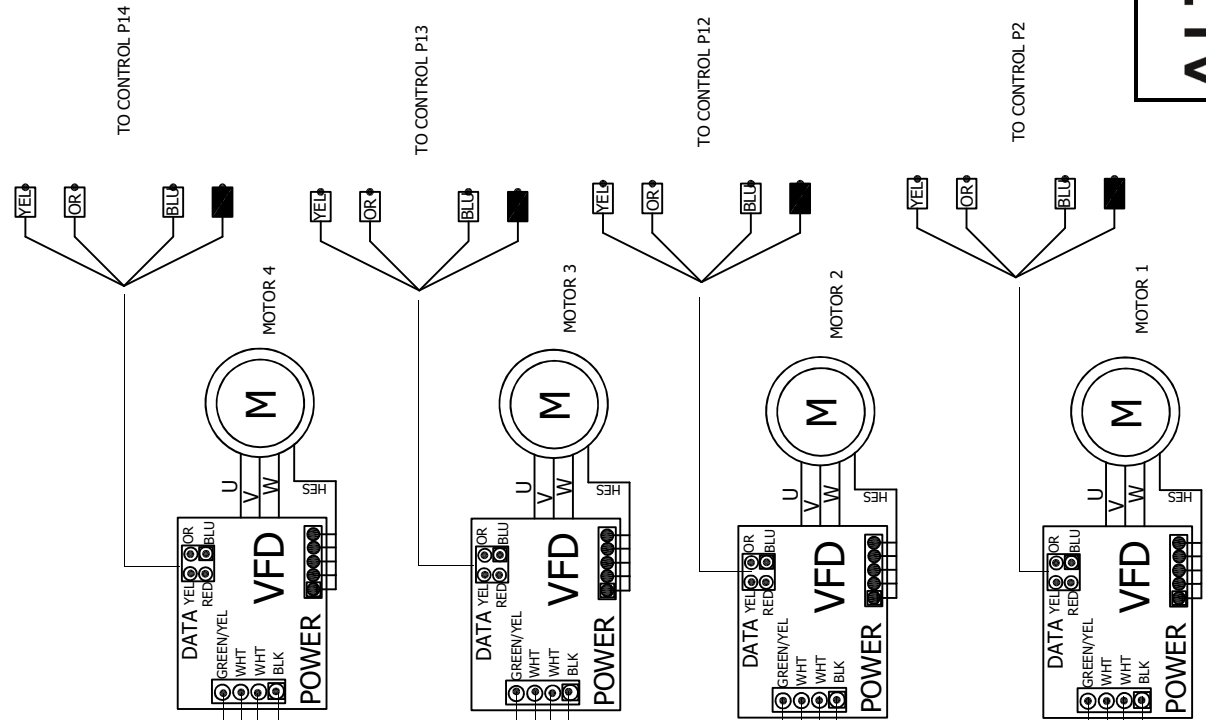
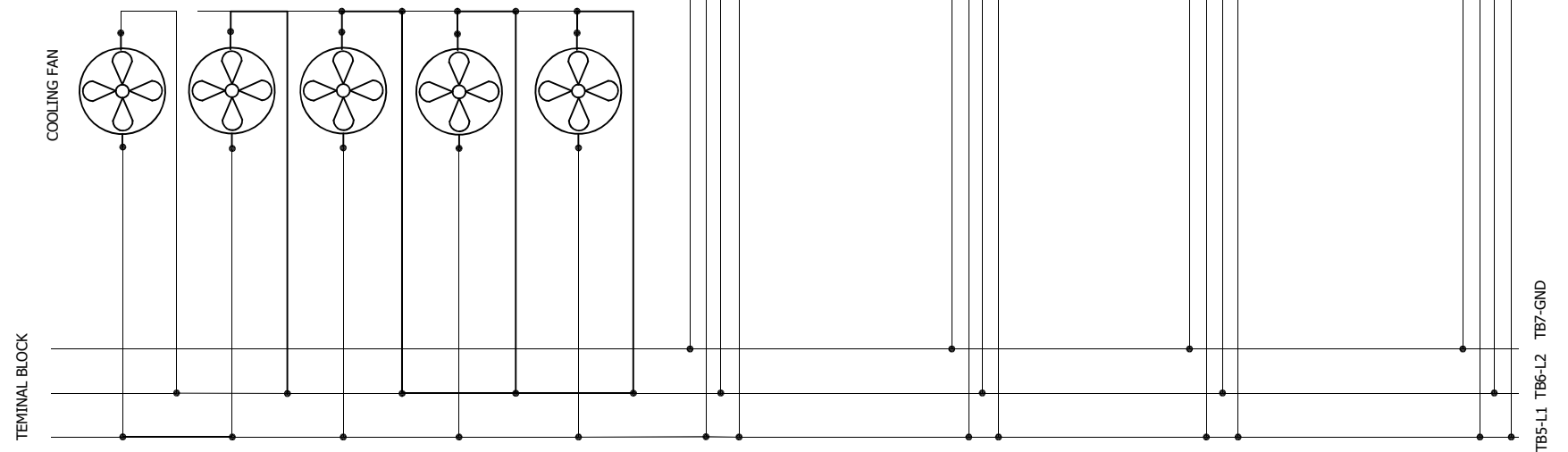
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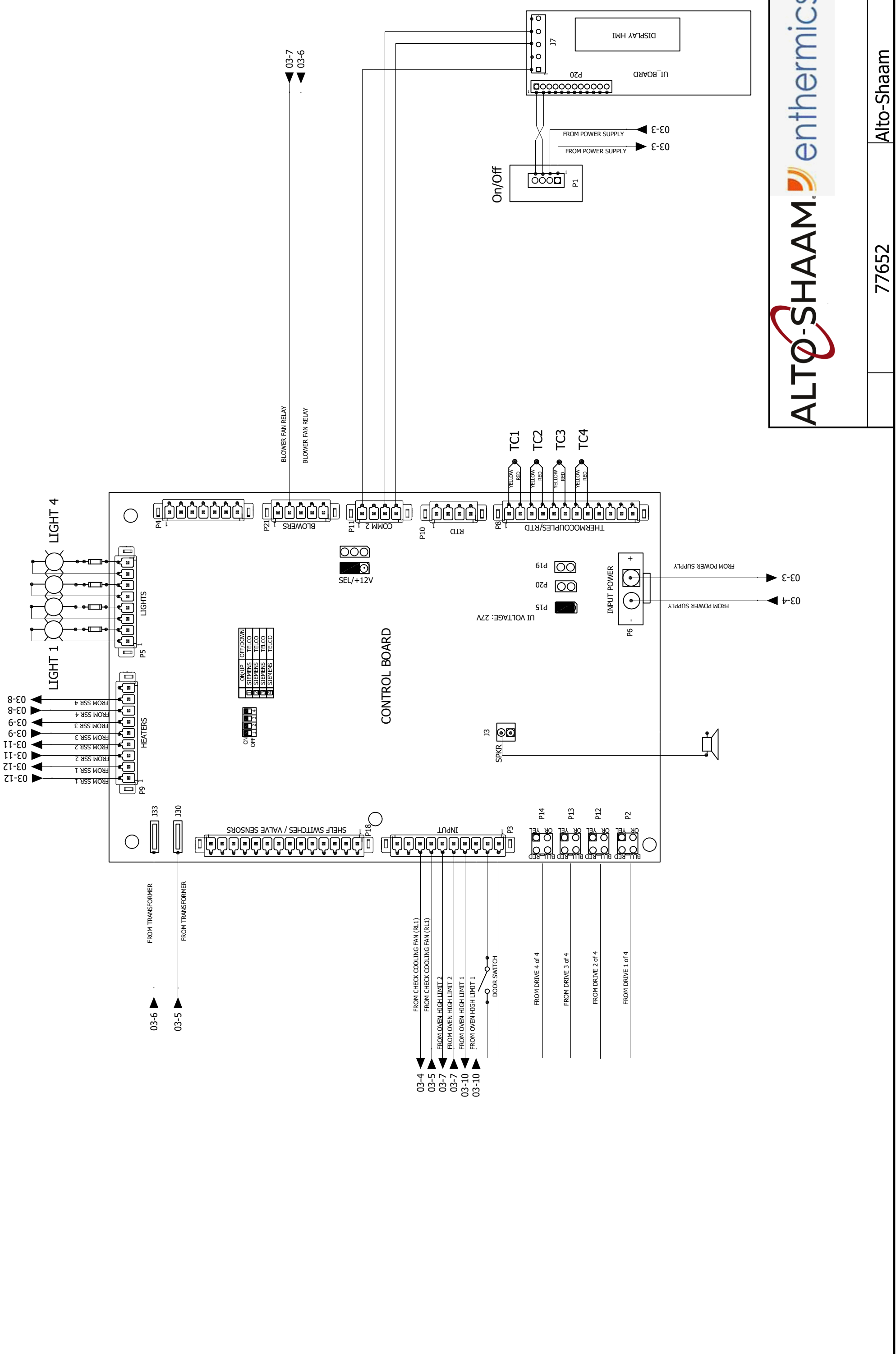


 enthermics®

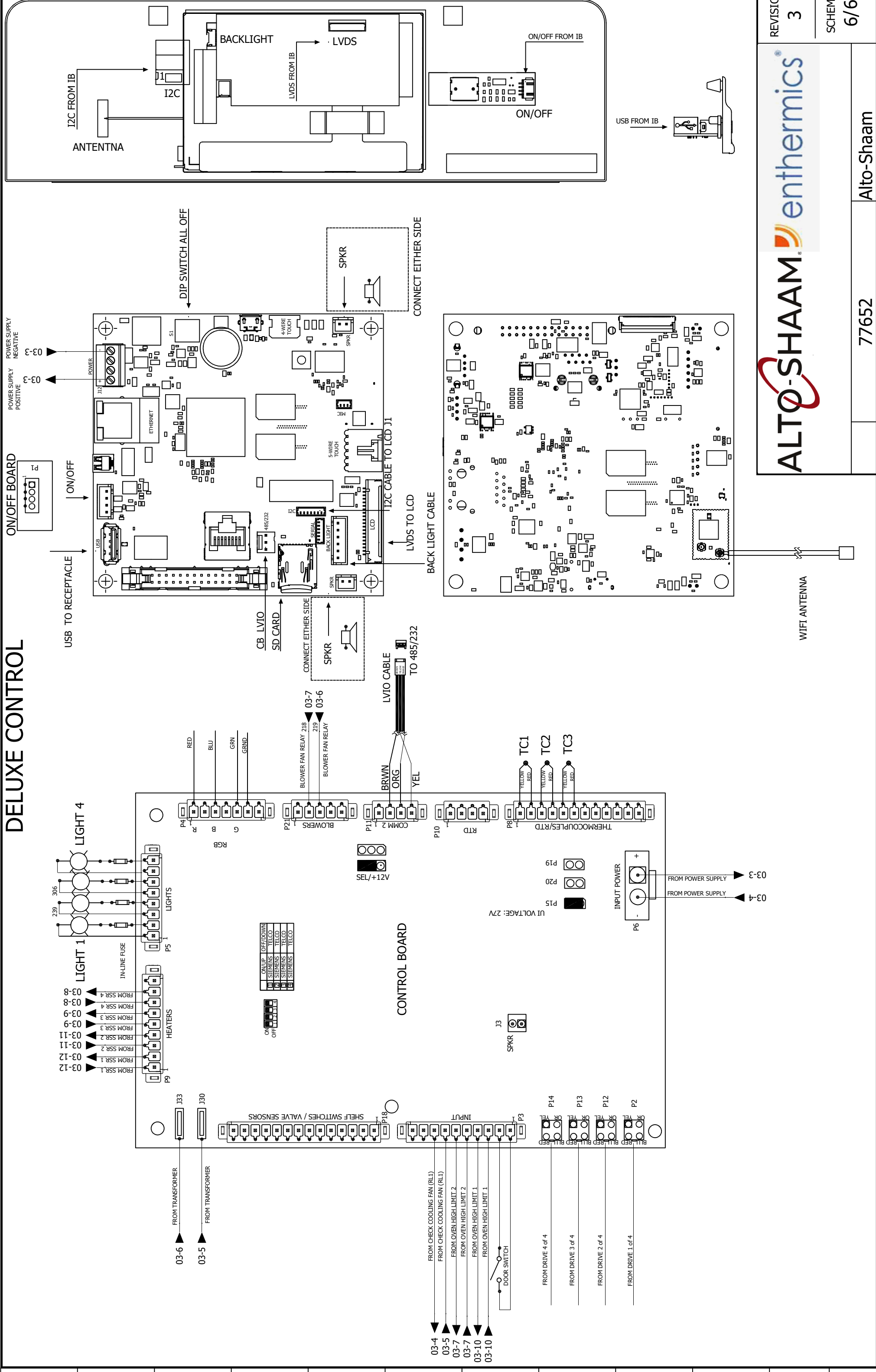
REVISION 3
 SCHEME 4/6

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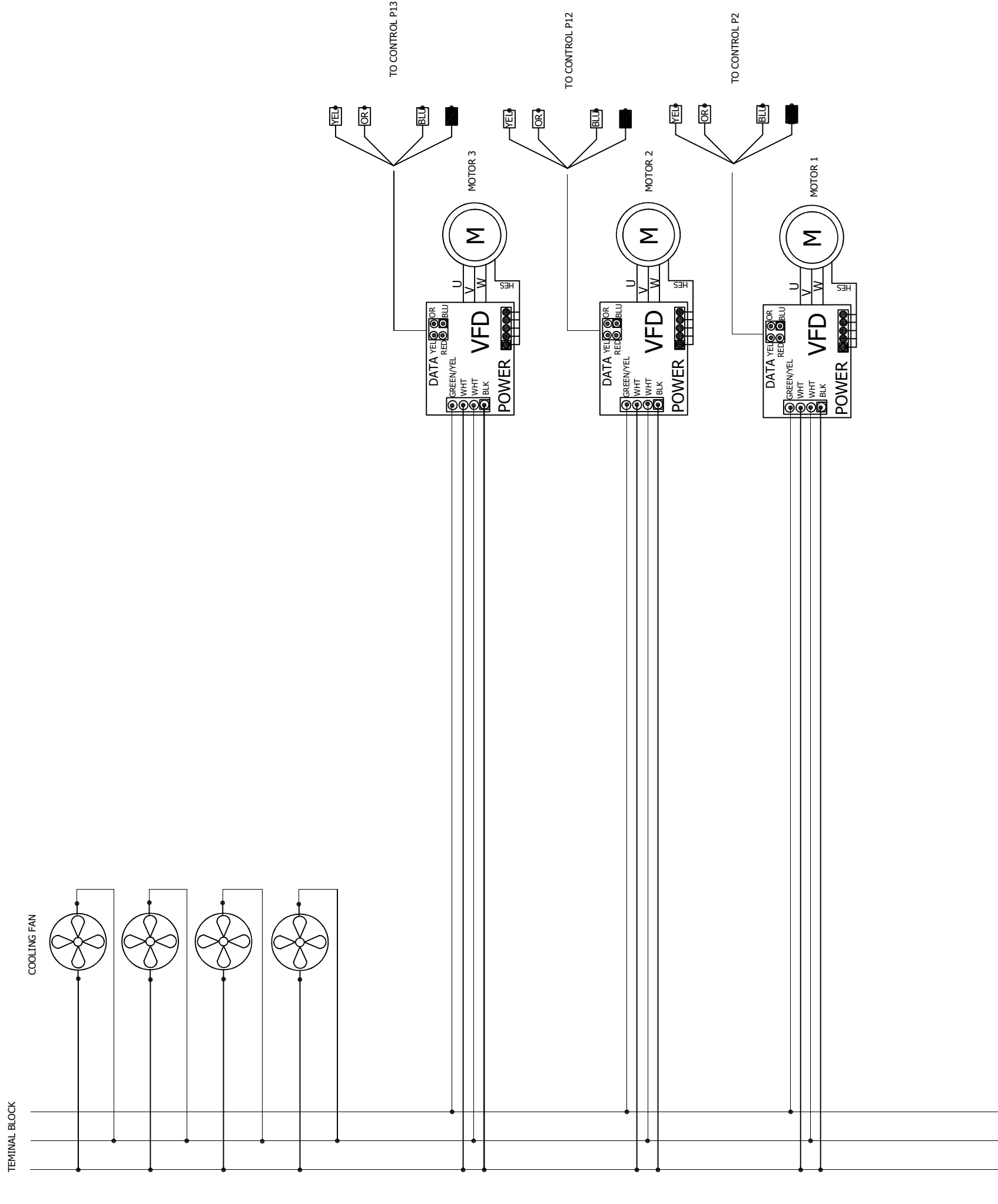
DELUXE CONTROL



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TB5-L1 TB7-GND
TB6-L2

DELUXE CONTROL

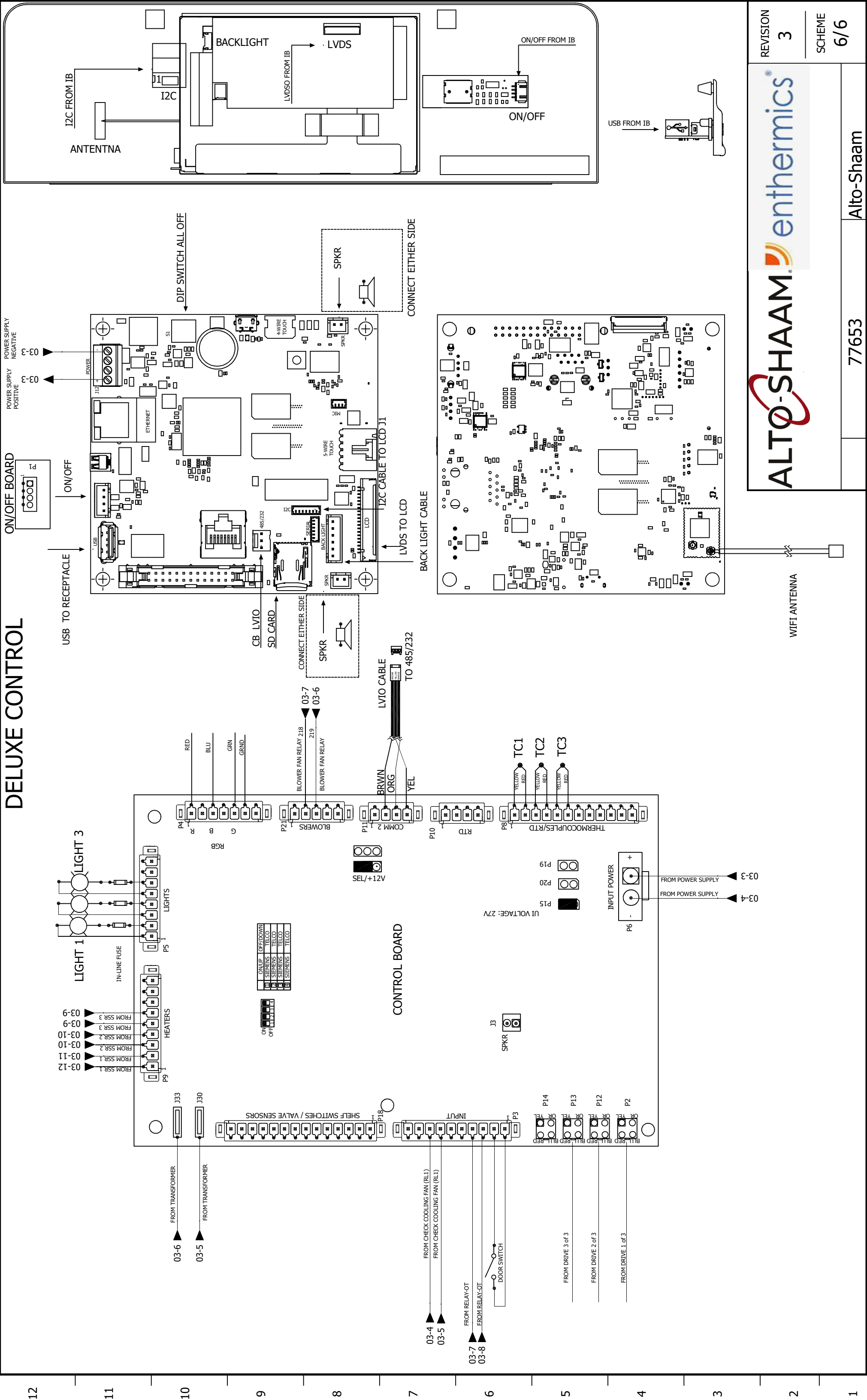
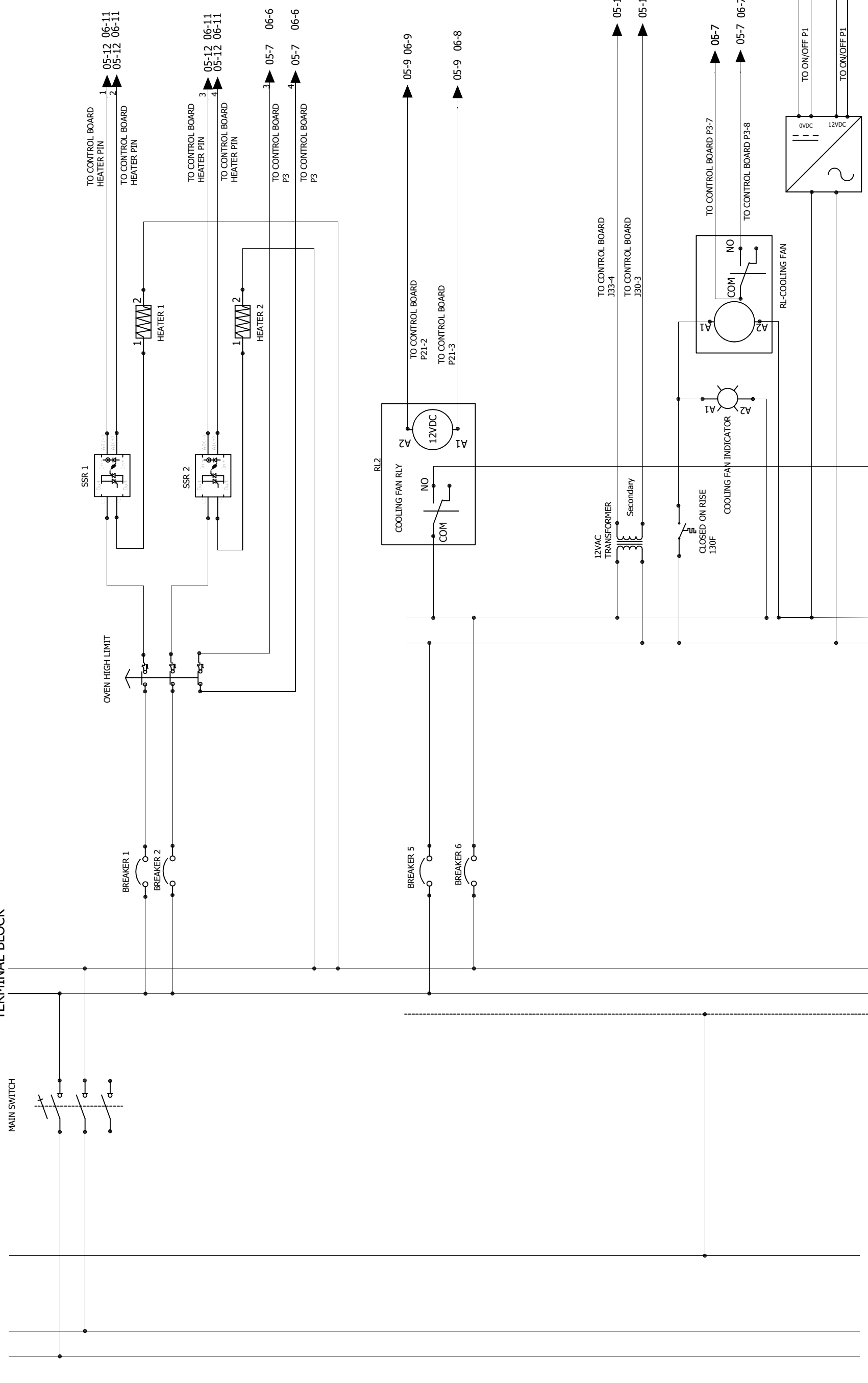


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MAIN POWER

TERMINAL BLOCK



L1 L2 GND

TB1 TB2

TB5 TB4

TB6

0VDC 12VDC

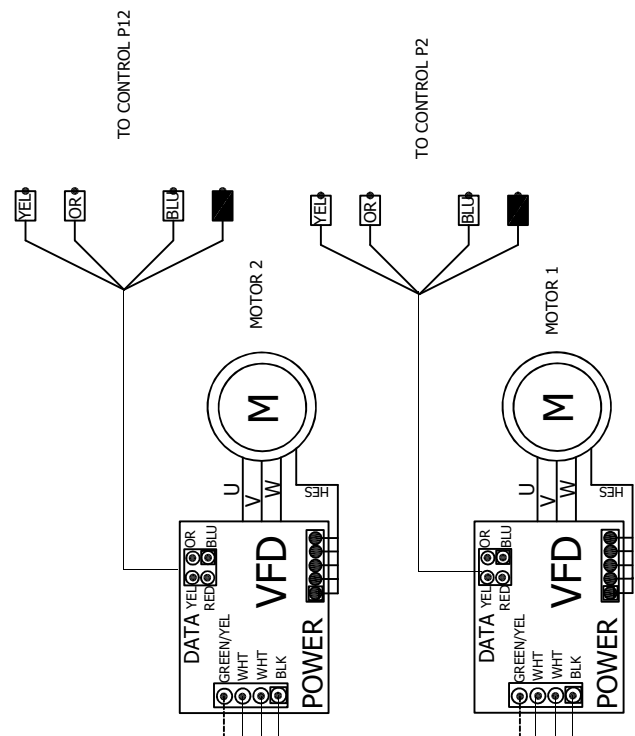
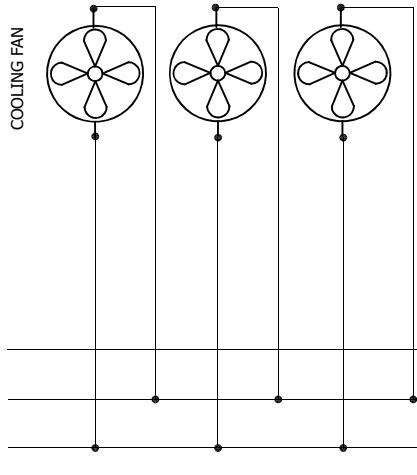
REVISION 3



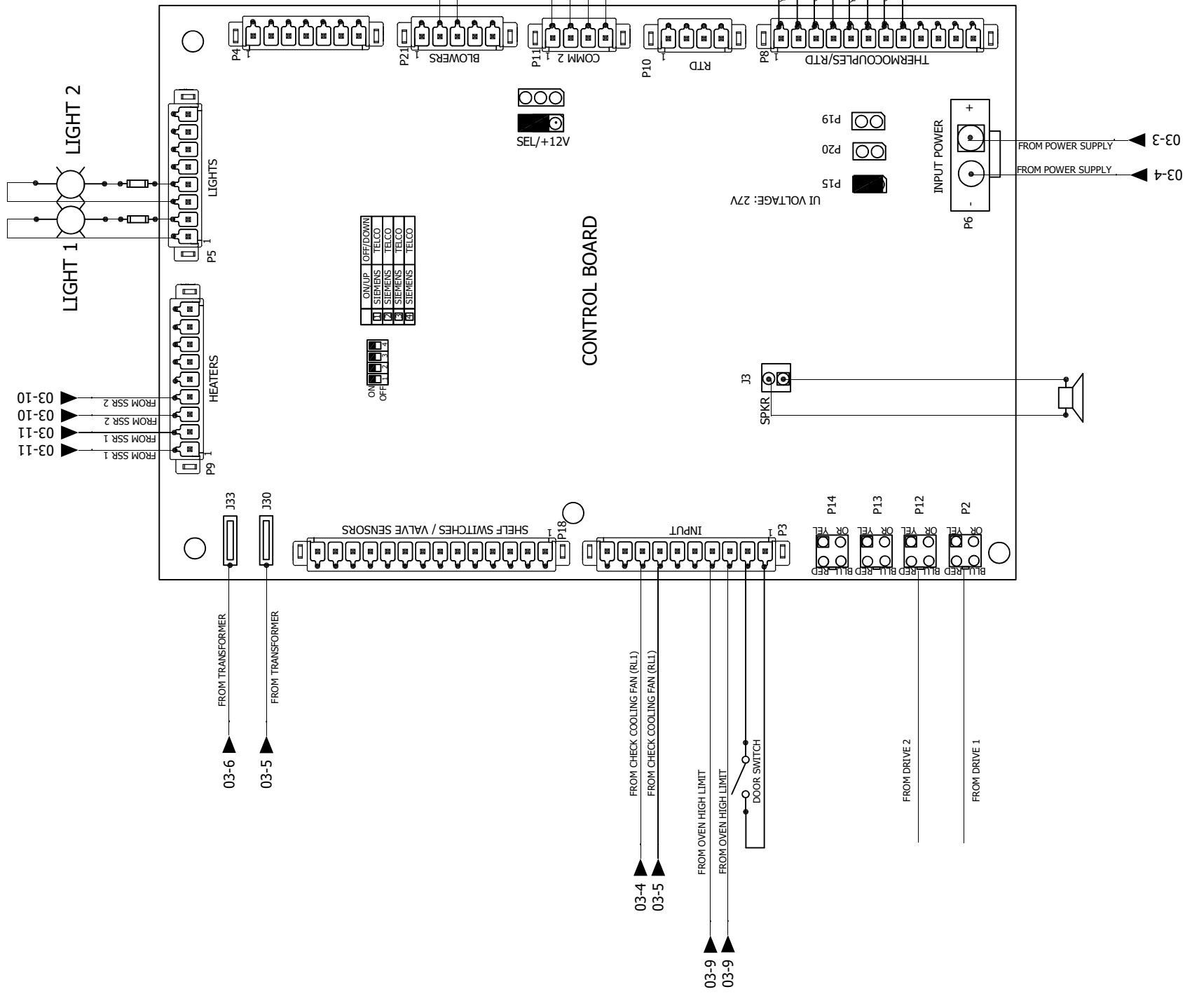
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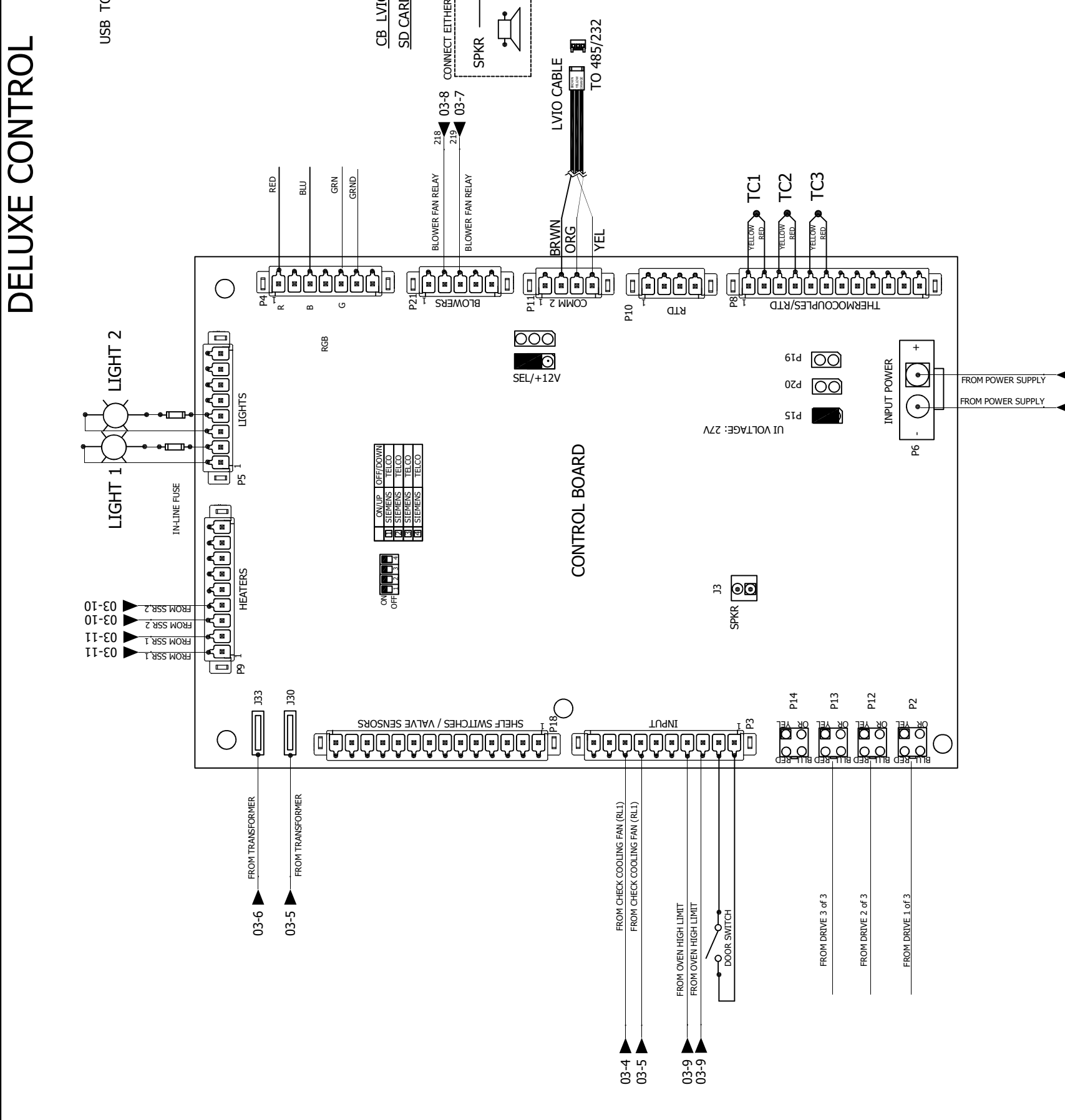
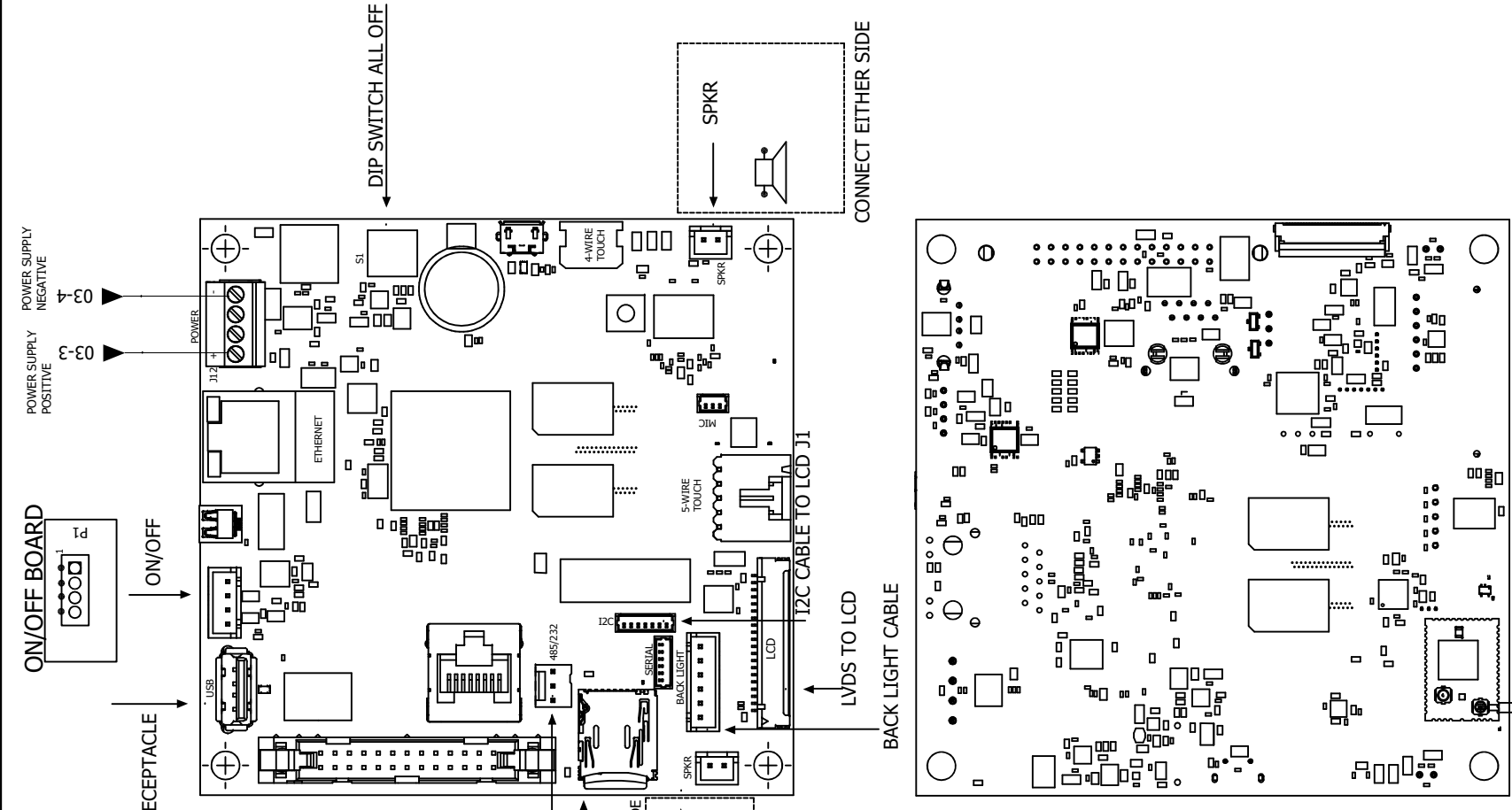
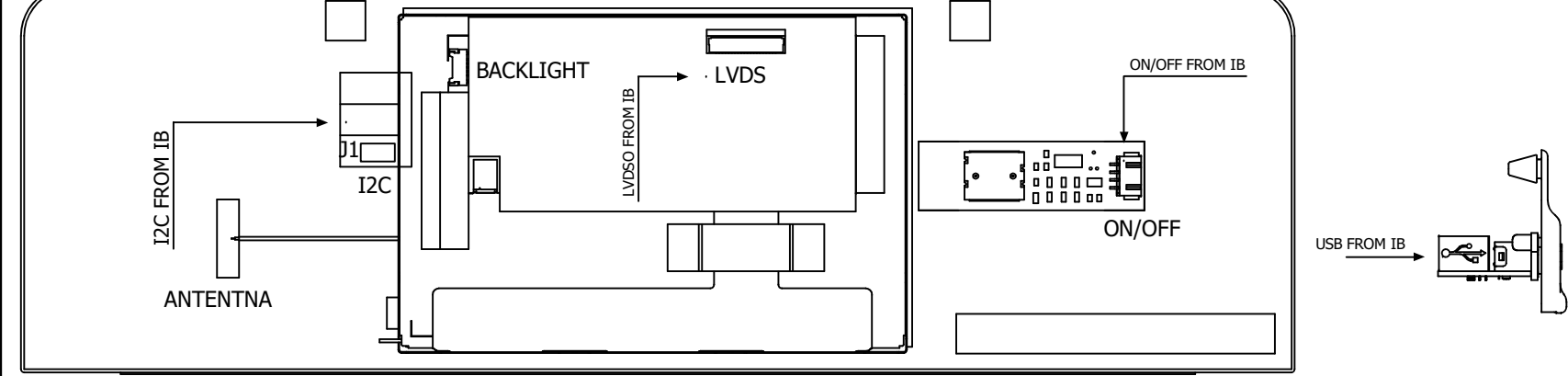
TERMINAL BLOCK



TB5-L1 TB6-L2 TB7-GND



DELUXE CONTROL



380-415V 50Hz 3Ph

77661

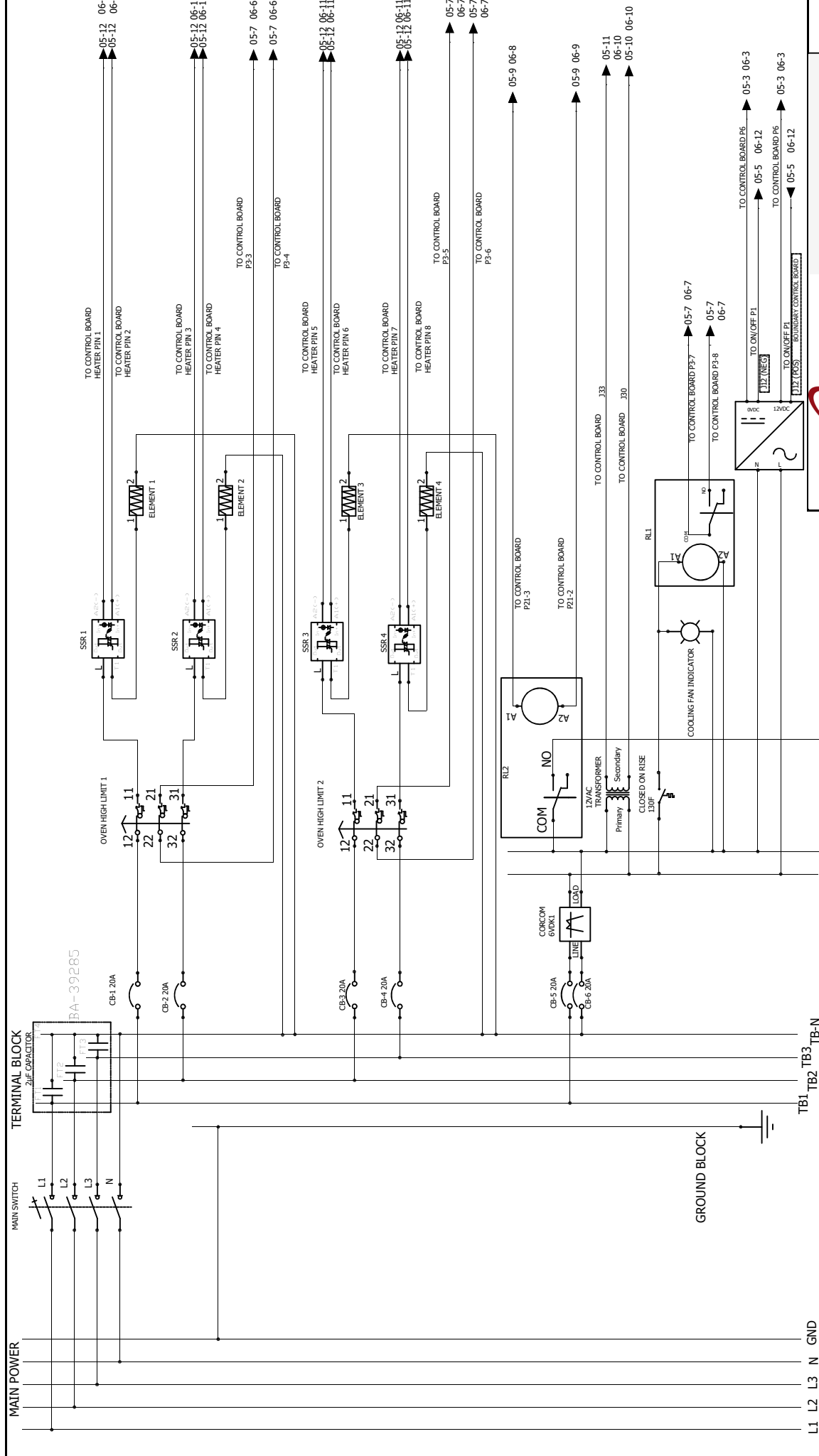


REV.	DATE	NAME	ECO	CHANGES
3	10/23/2019	montev	181383	Remove Top & Bottom motor note, correct COM position.
2	7/17/2019	montev	181241	Remove 137ohms resistor P.11
1	10/18/2018	montev	731145	Adding RGB P4
0	8/22/2017	montev		

77661 H4 380-415V 50Hz 3Ph	Alto-Shaam	REVISION 3
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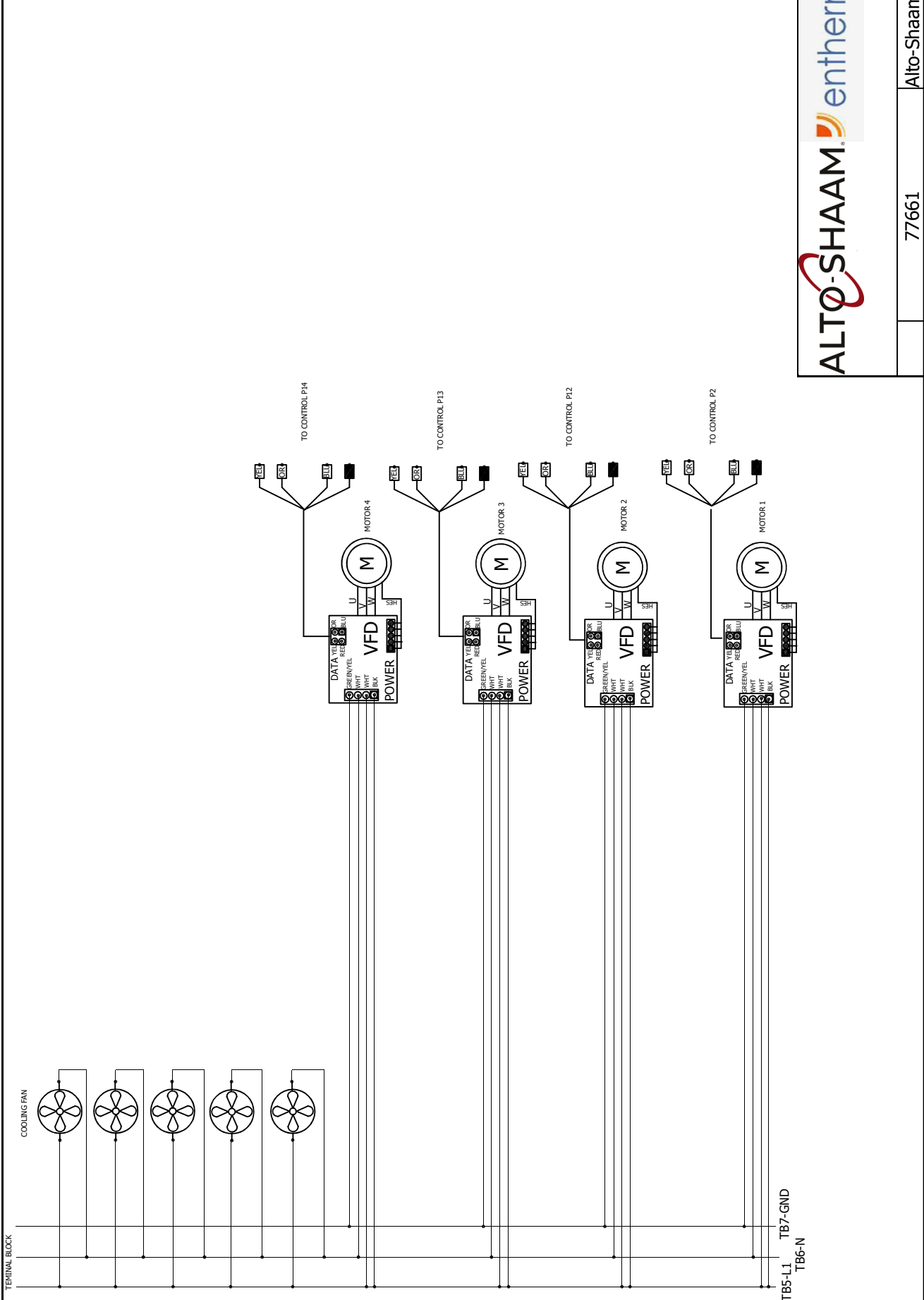


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Alto-Shaam





220v 50Hz 1pH

77664

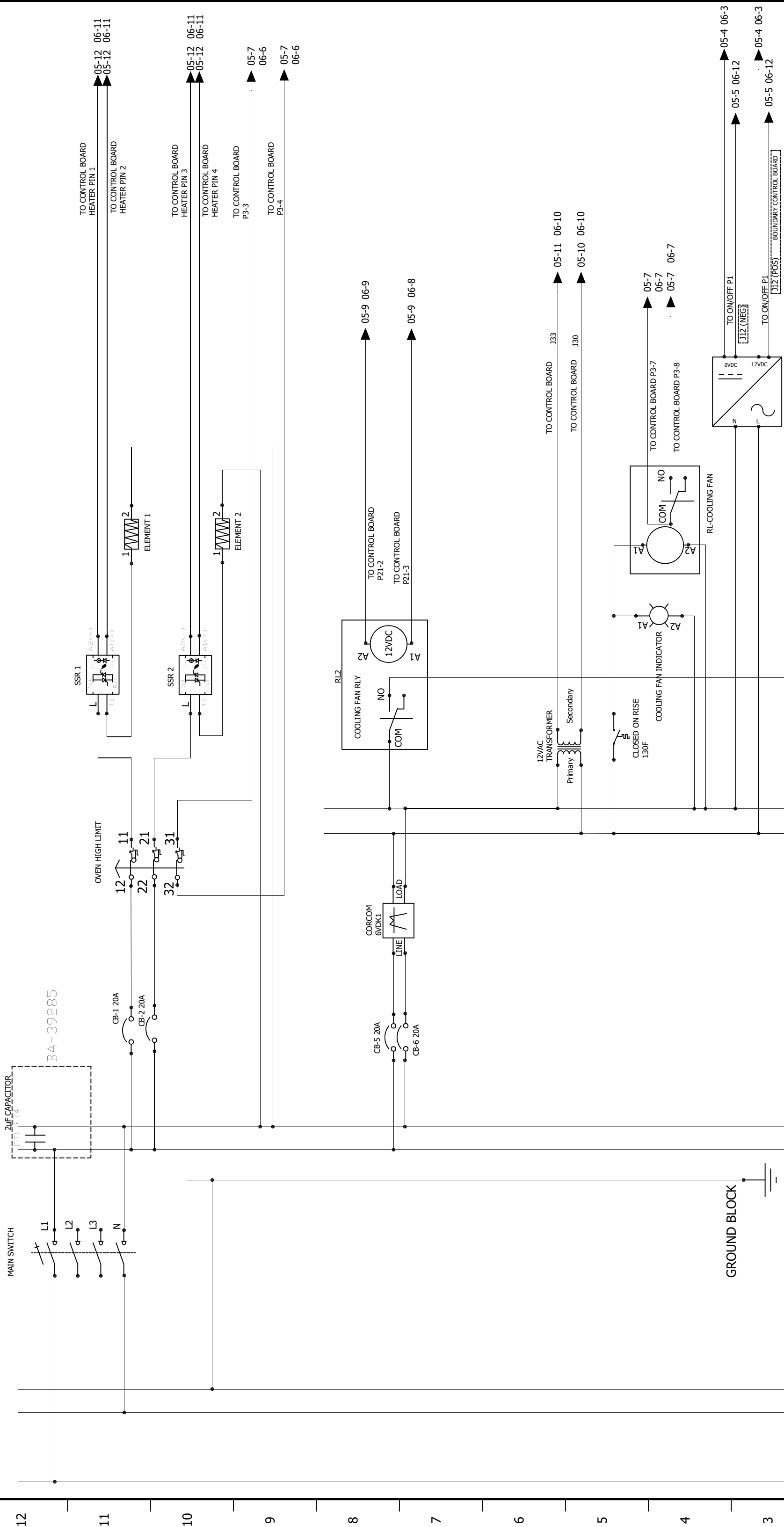
REV.	DATE	NAME	ECO	CHANGES	REVISION
3	10/23/2019	montev	181383	Remove Top & Bottom motor note, correct COM position.	3
2	7/17/2019	montev	181241	Remove 137ohms resistor P11	PAGE 1/6
1	10/18/2018	montev	731145	Adding RGB P4	
0	8/17/2017	montev			
77664 H2 220v 50Hz 1pH					Alto-Shaam

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MAIN POWER

TERMINAL BLOCK



L1 N GND

TB1 TB2

TB5 TB4

TB6

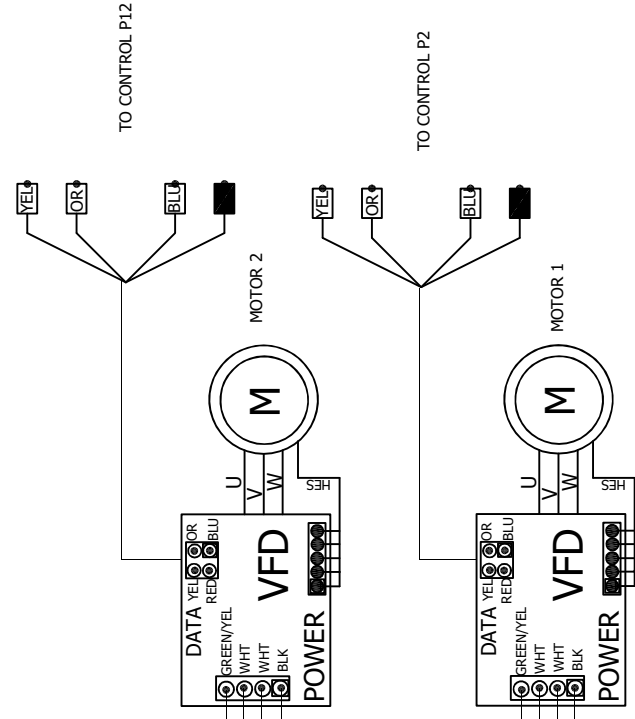
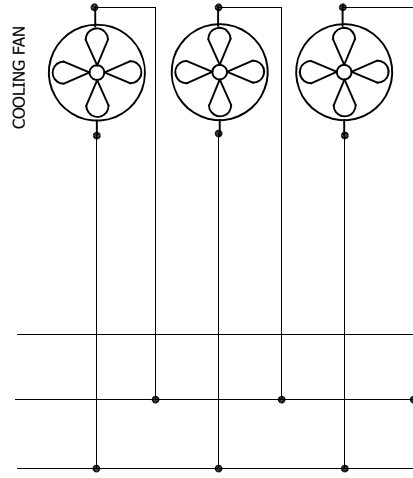
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ALTO-SHAAM

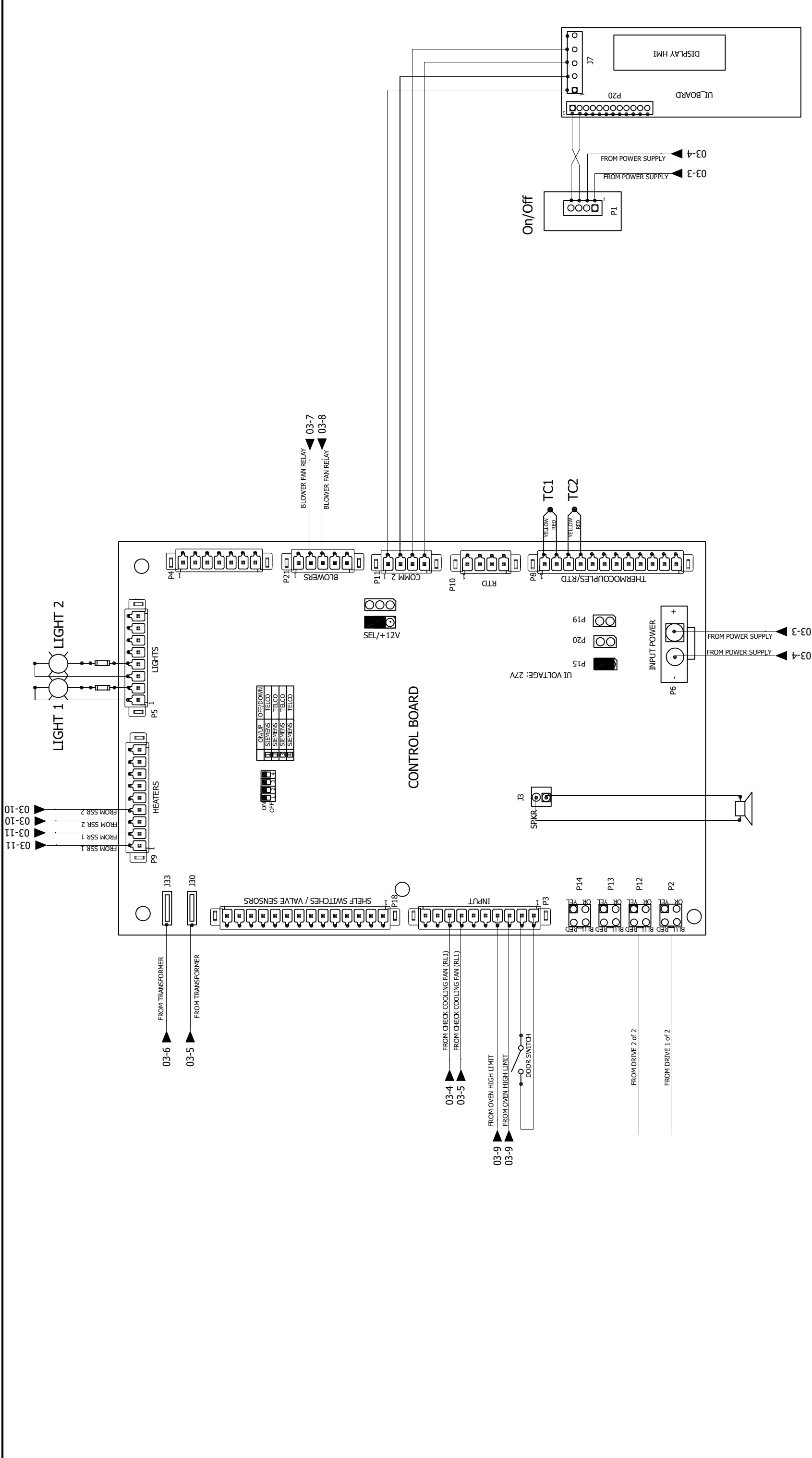
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TERMINAL BLOCK

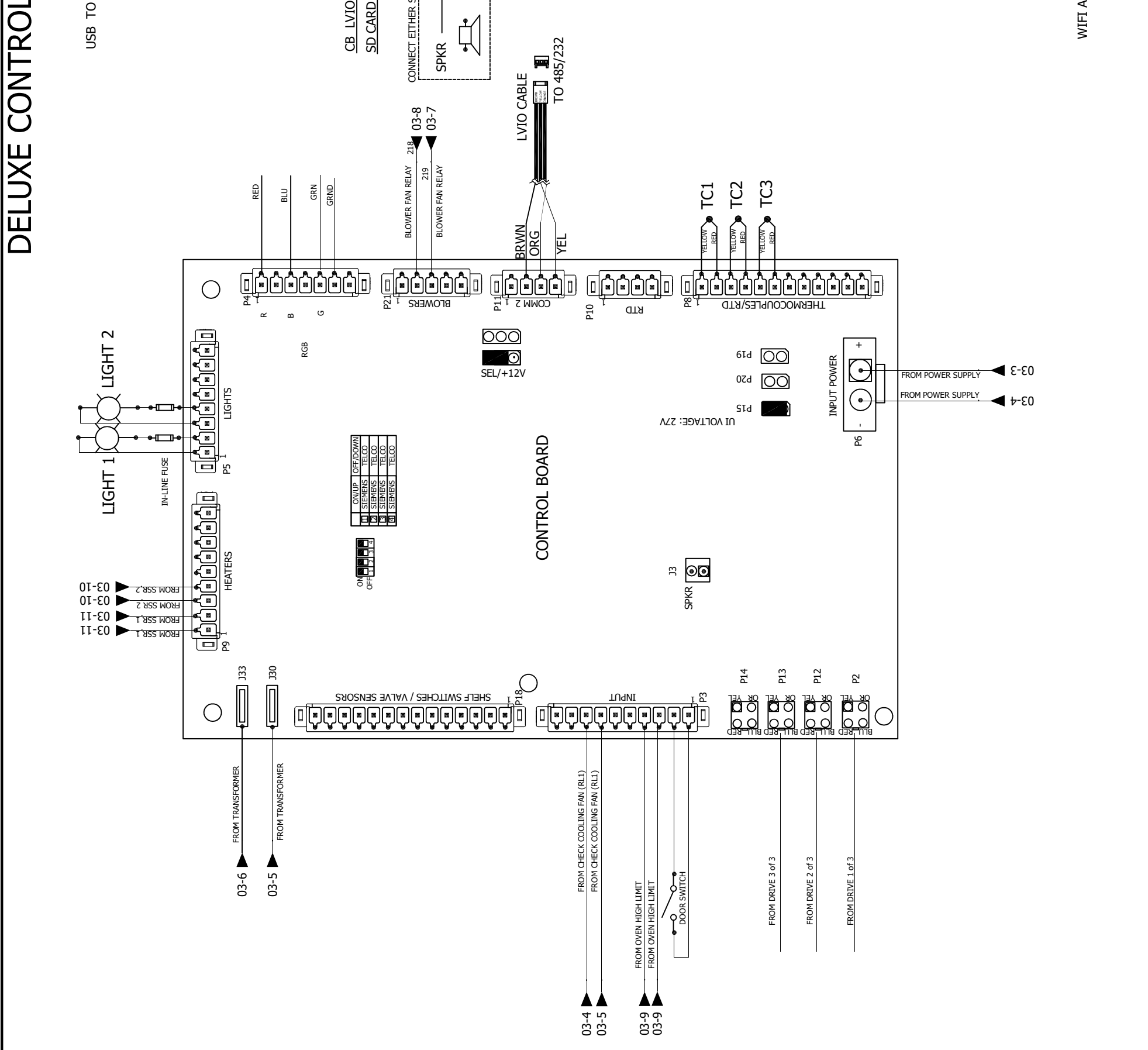
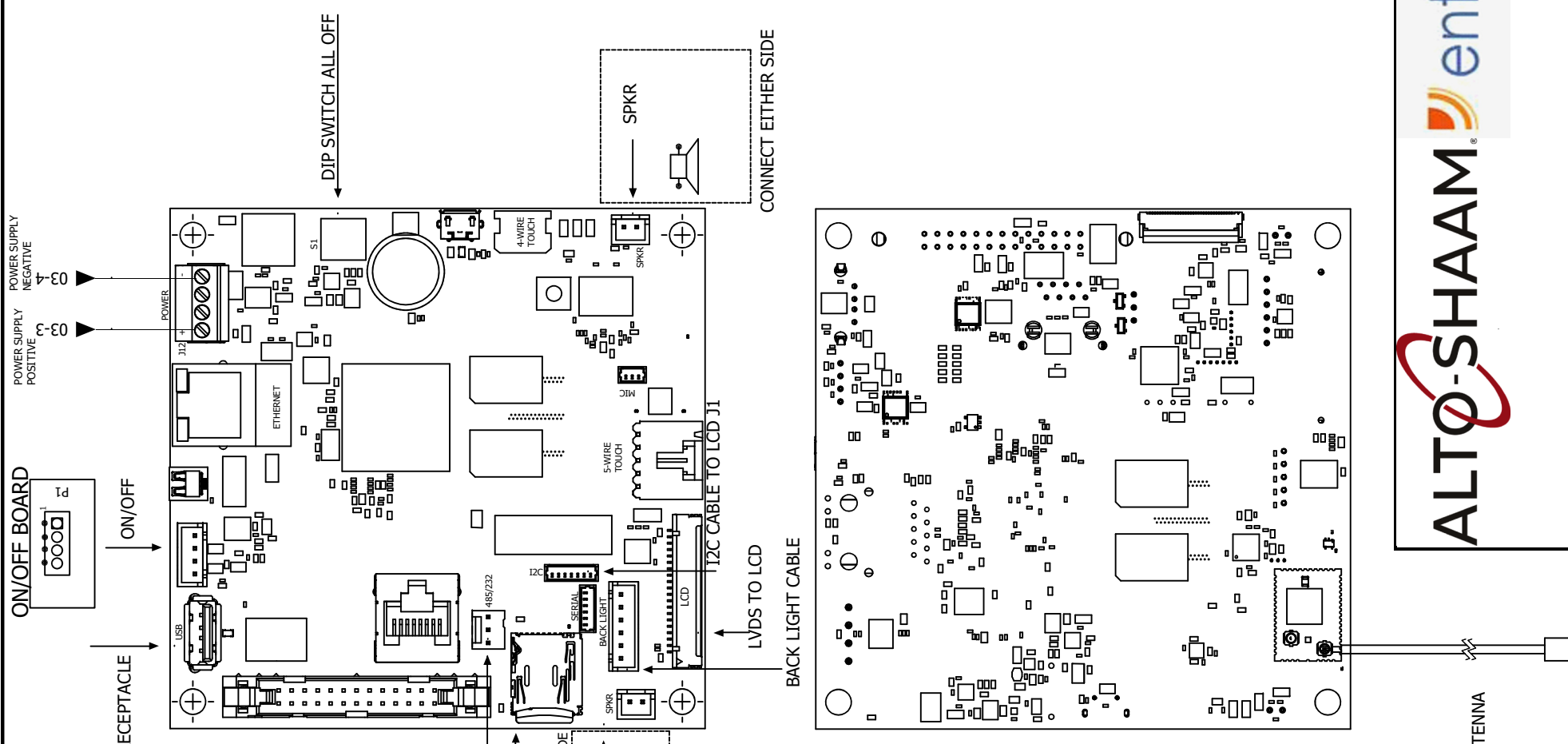
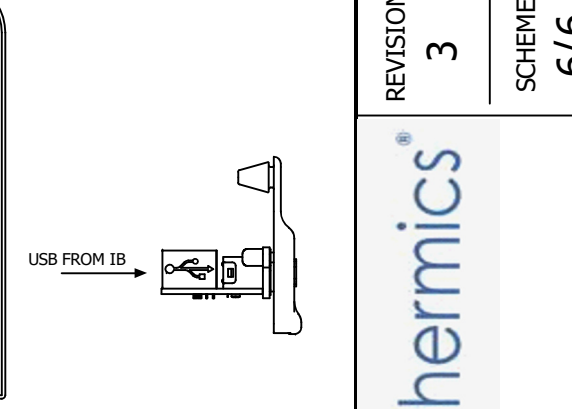
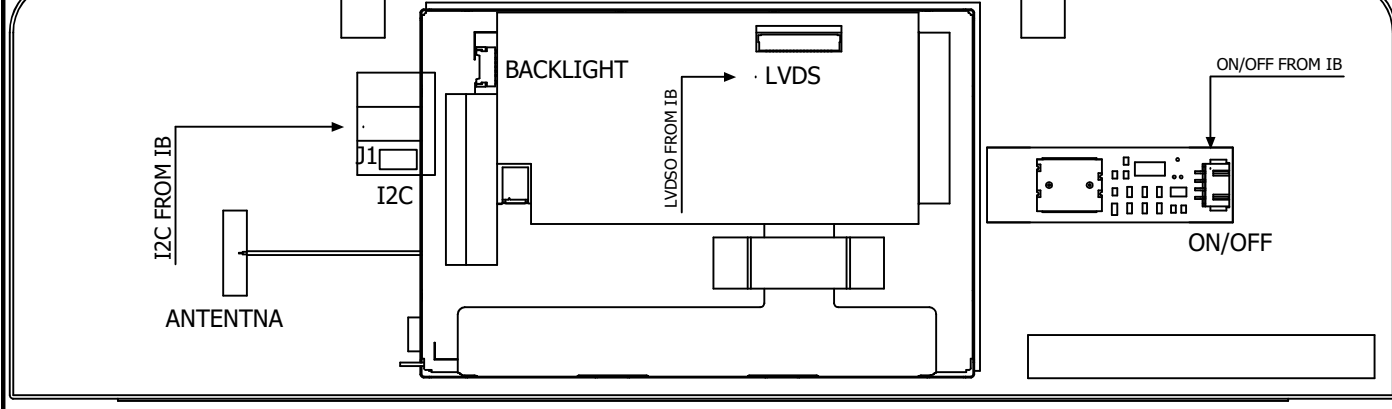


TB5-L1 TB7-GND
TB6-N



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DELUXE CONTROL



WIFI ANTENNA

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380-415V 50Hz 3Ph

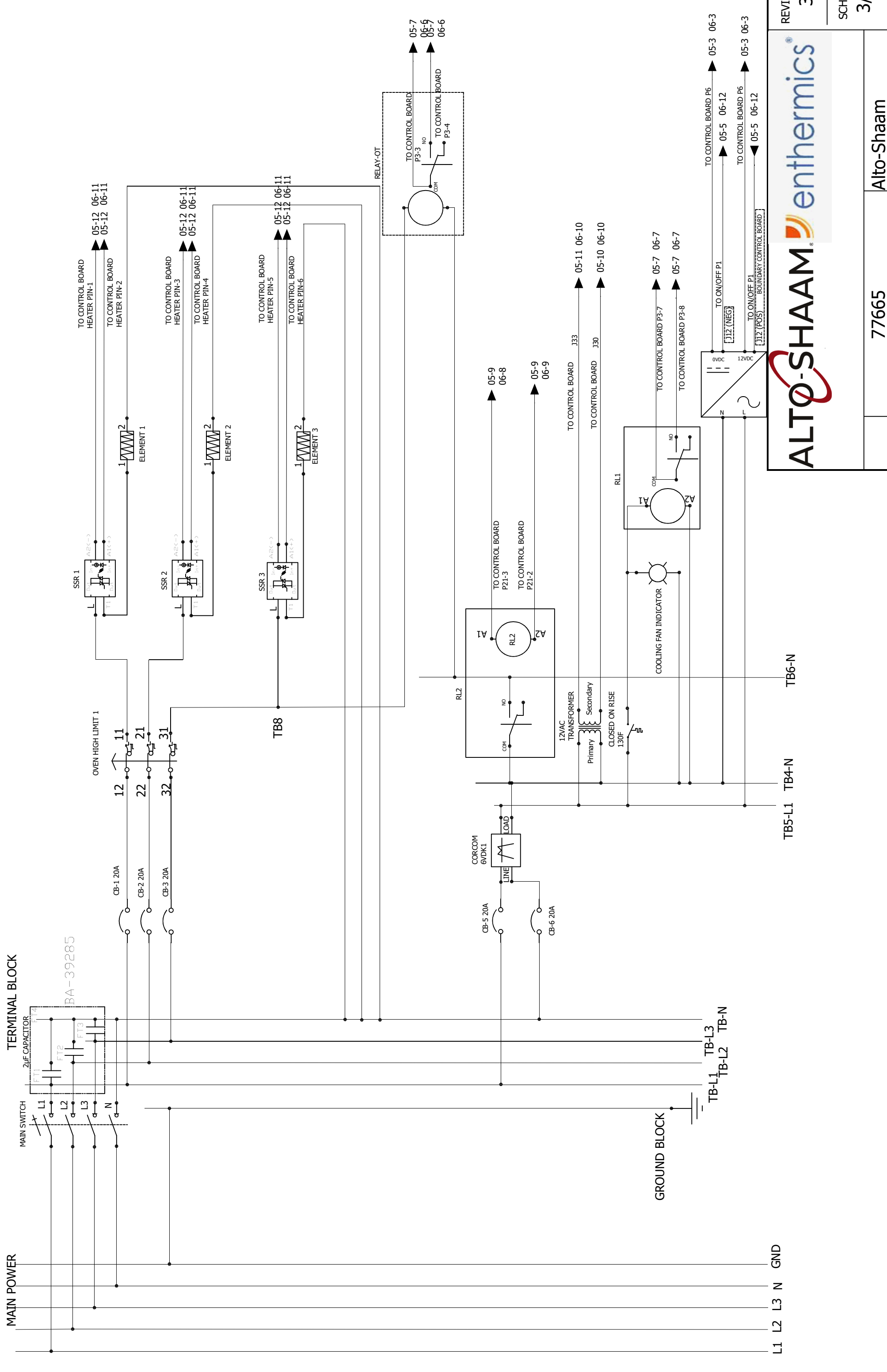
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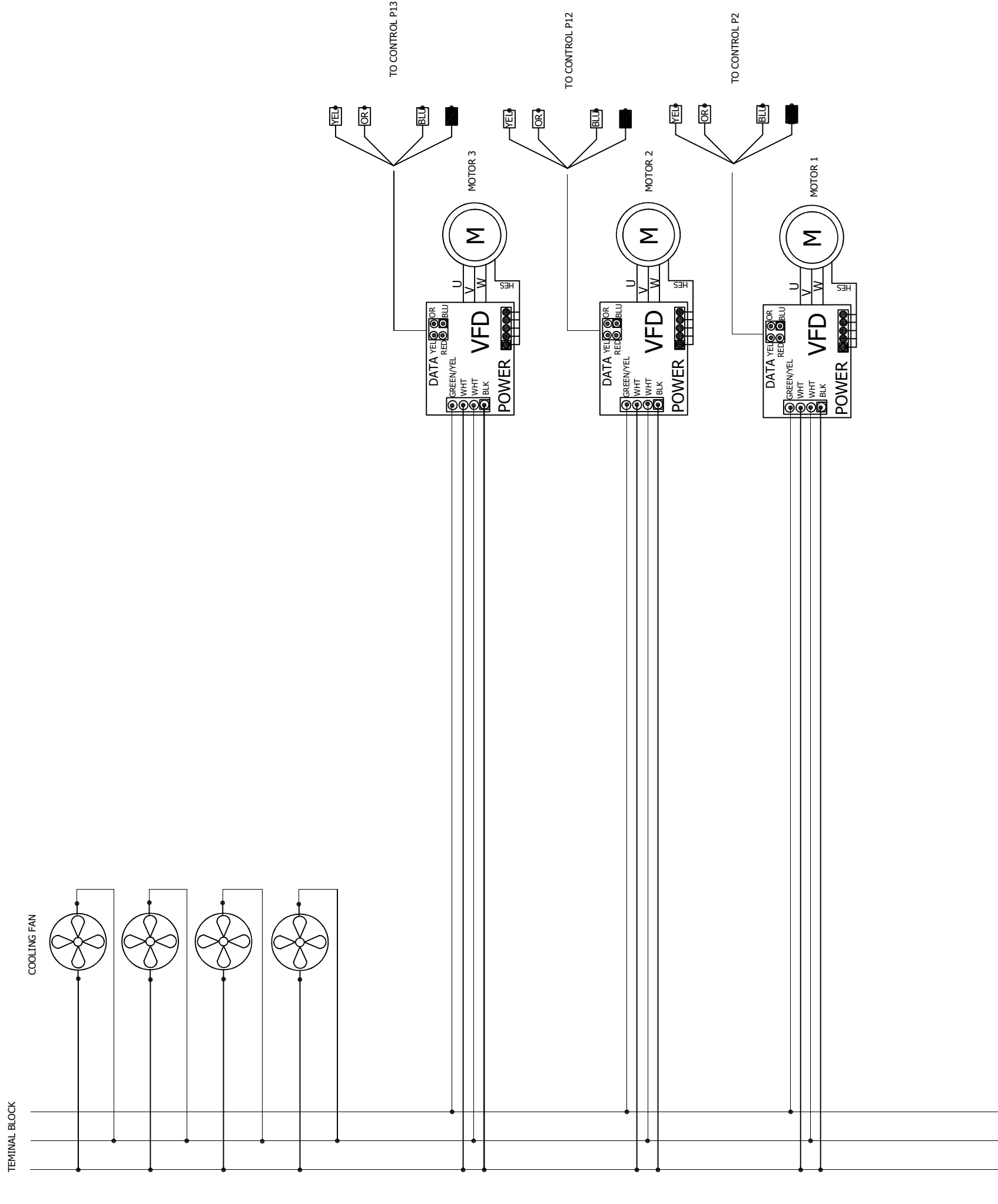


REV.	DATE	NAME	ECO	CHANGES	REVISION
3	10/23/2019	montev	181383	Remove Top & Bottom motor note, correct COM position.	3
2	7/17/2019	montev	181241	Remove 137ohms resistor P11	PAGE 1/6
1	10/18/2018	montev	731145	Adding RGB P4	
0	8/22/2017	montev			
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Alto-Shaam					

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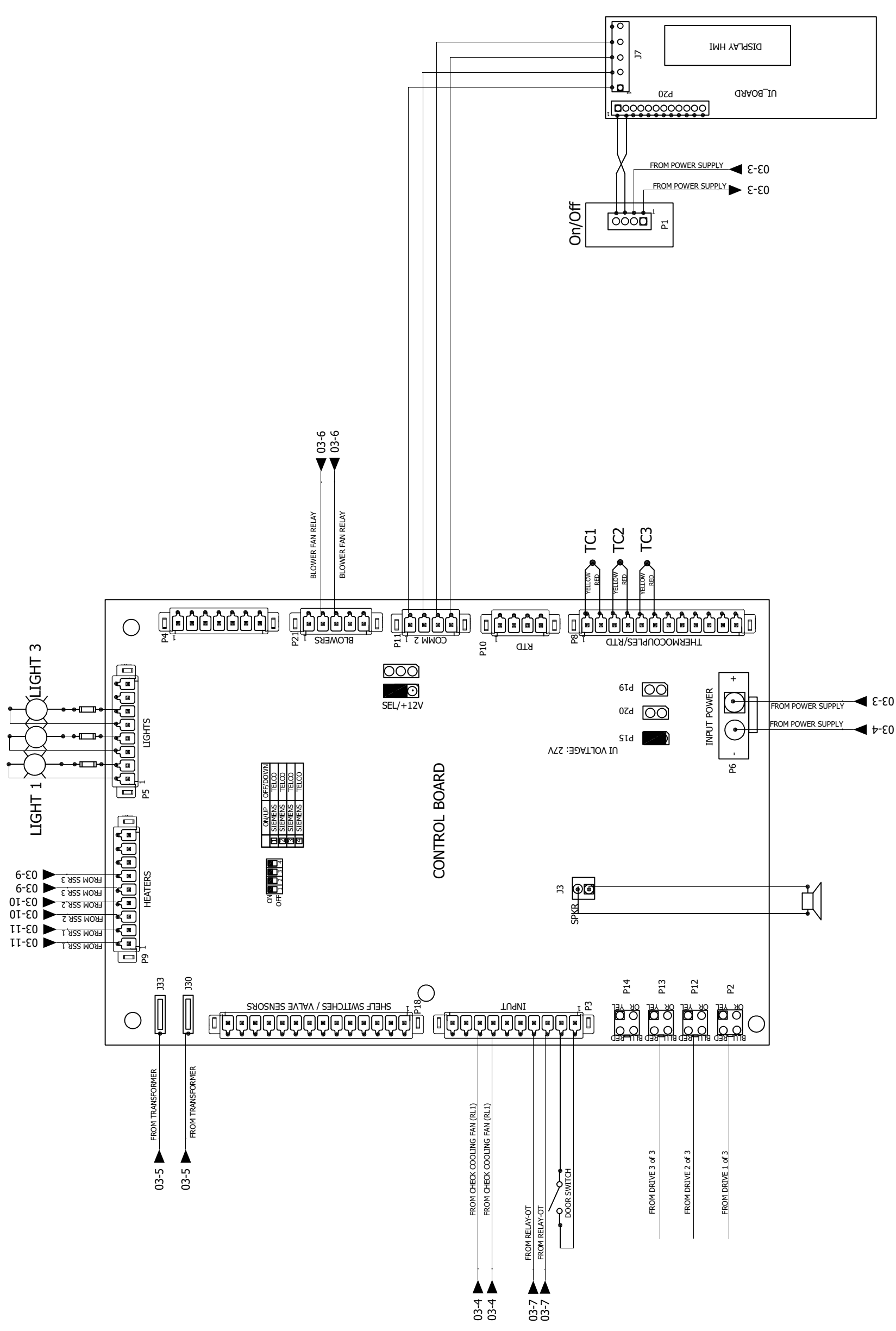
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DRIVE, MOTOR, COOLING FAN	PG 04
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DELUXE CONTROL	PG 06





TB5-L1 TB7-GND
TB6-N

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DELUXE CONTROL

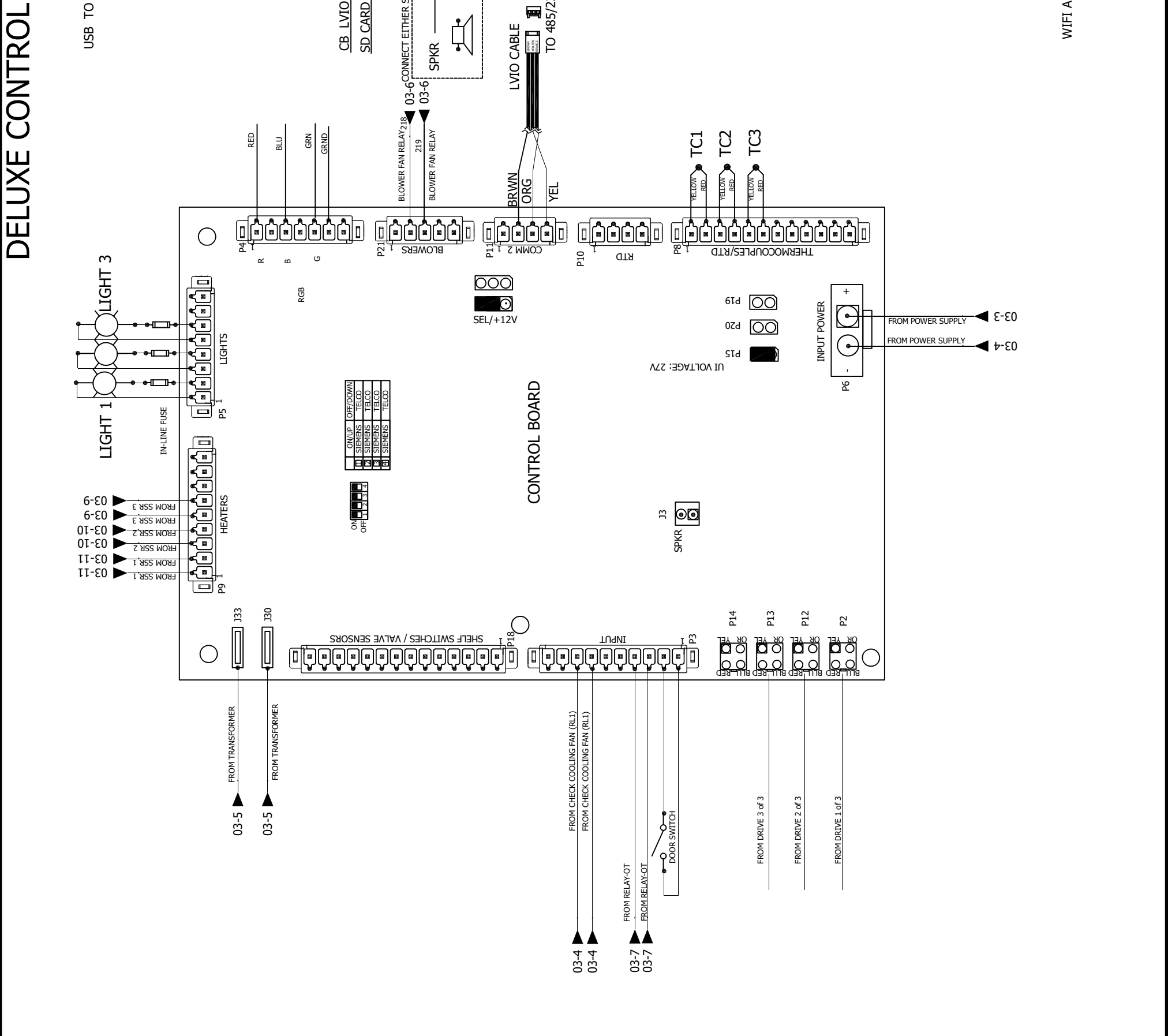
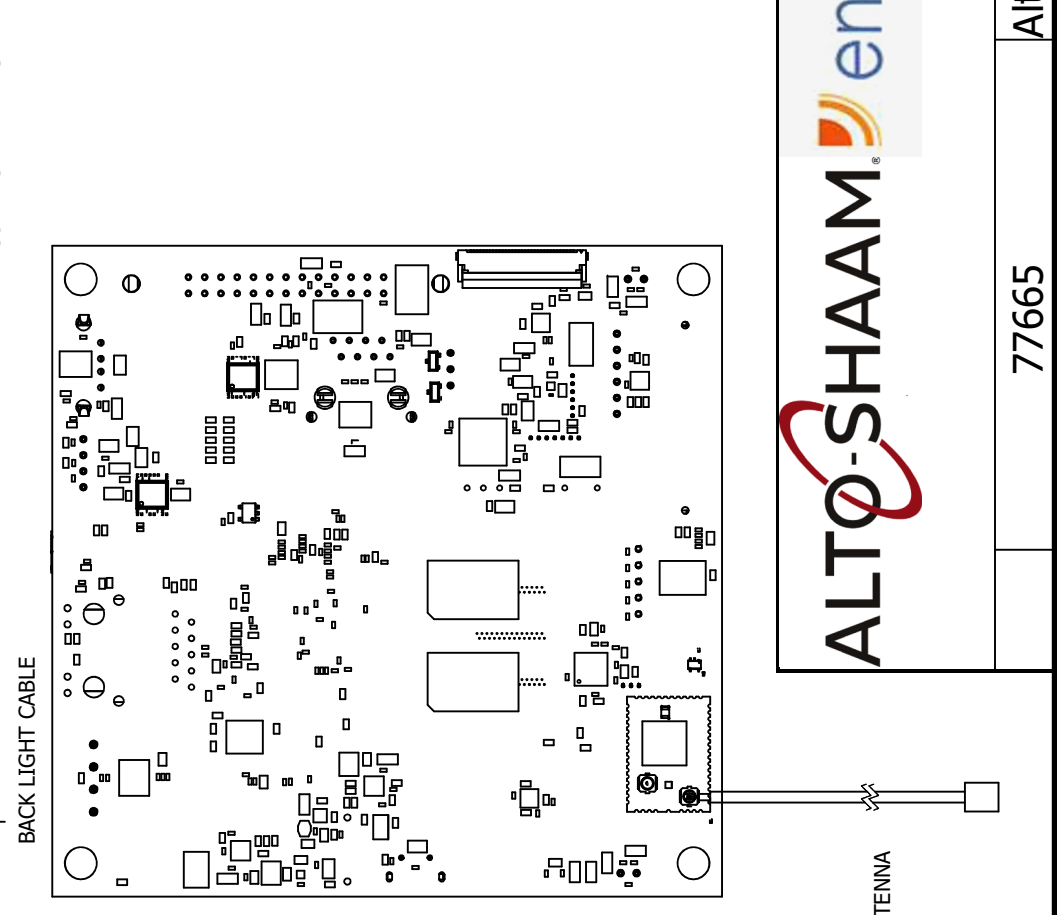
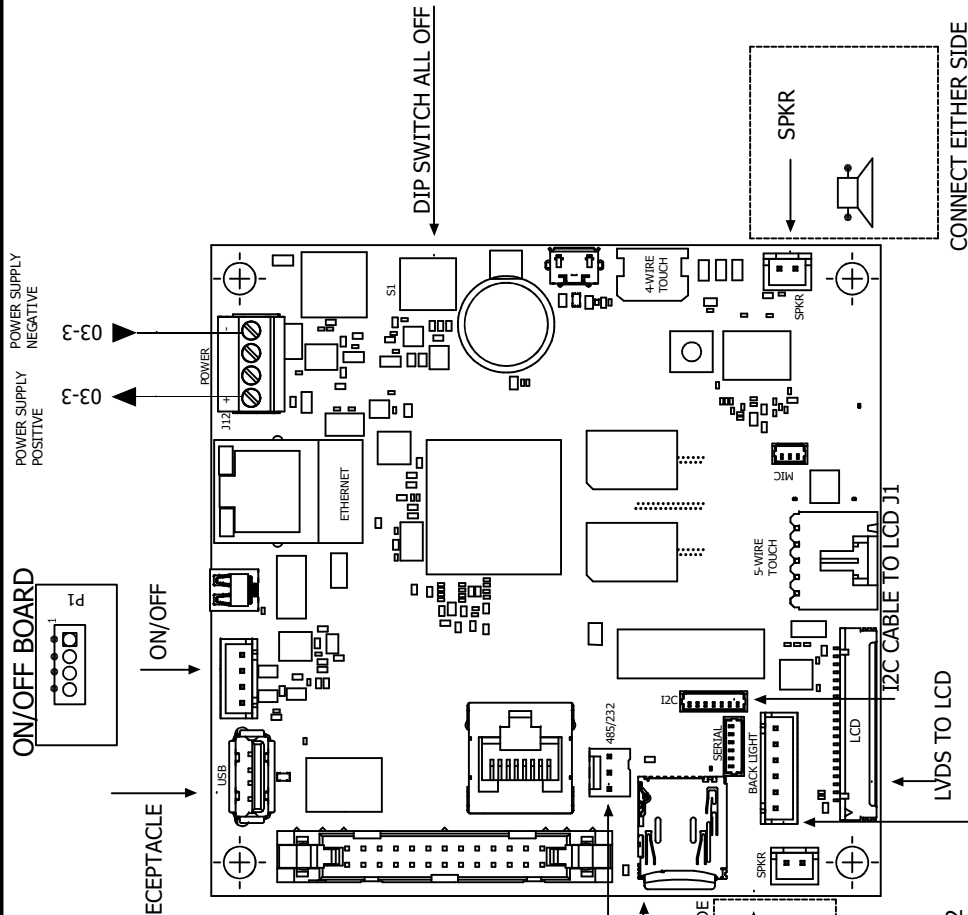
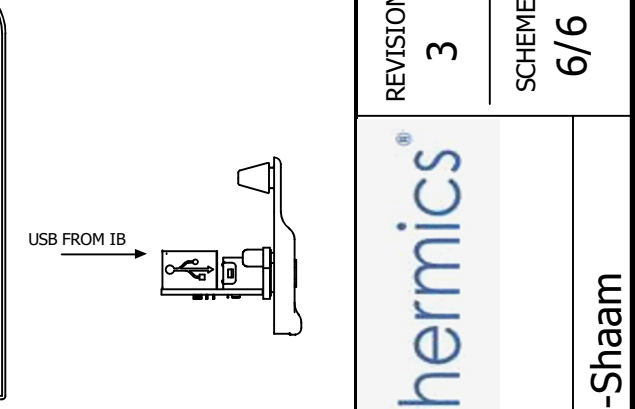
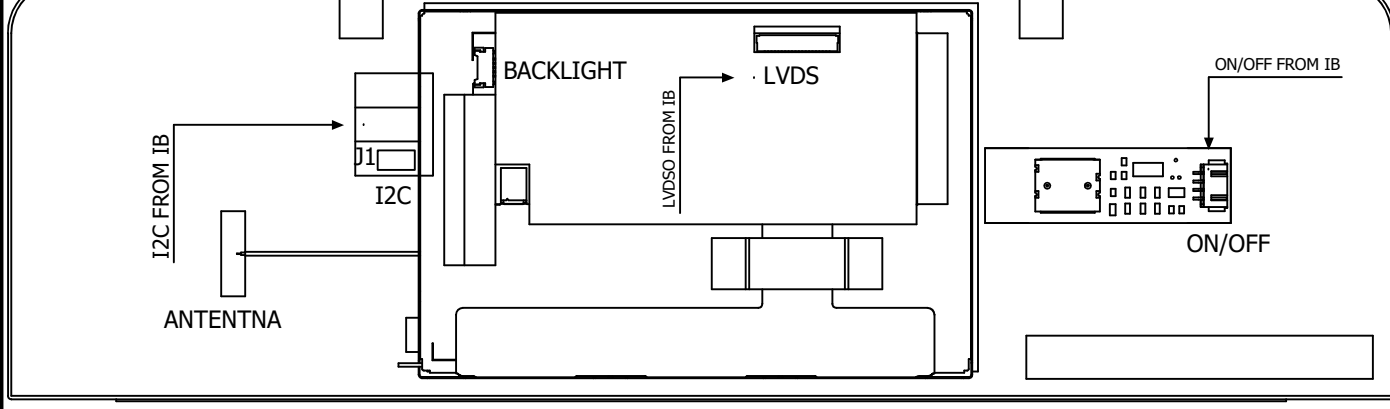


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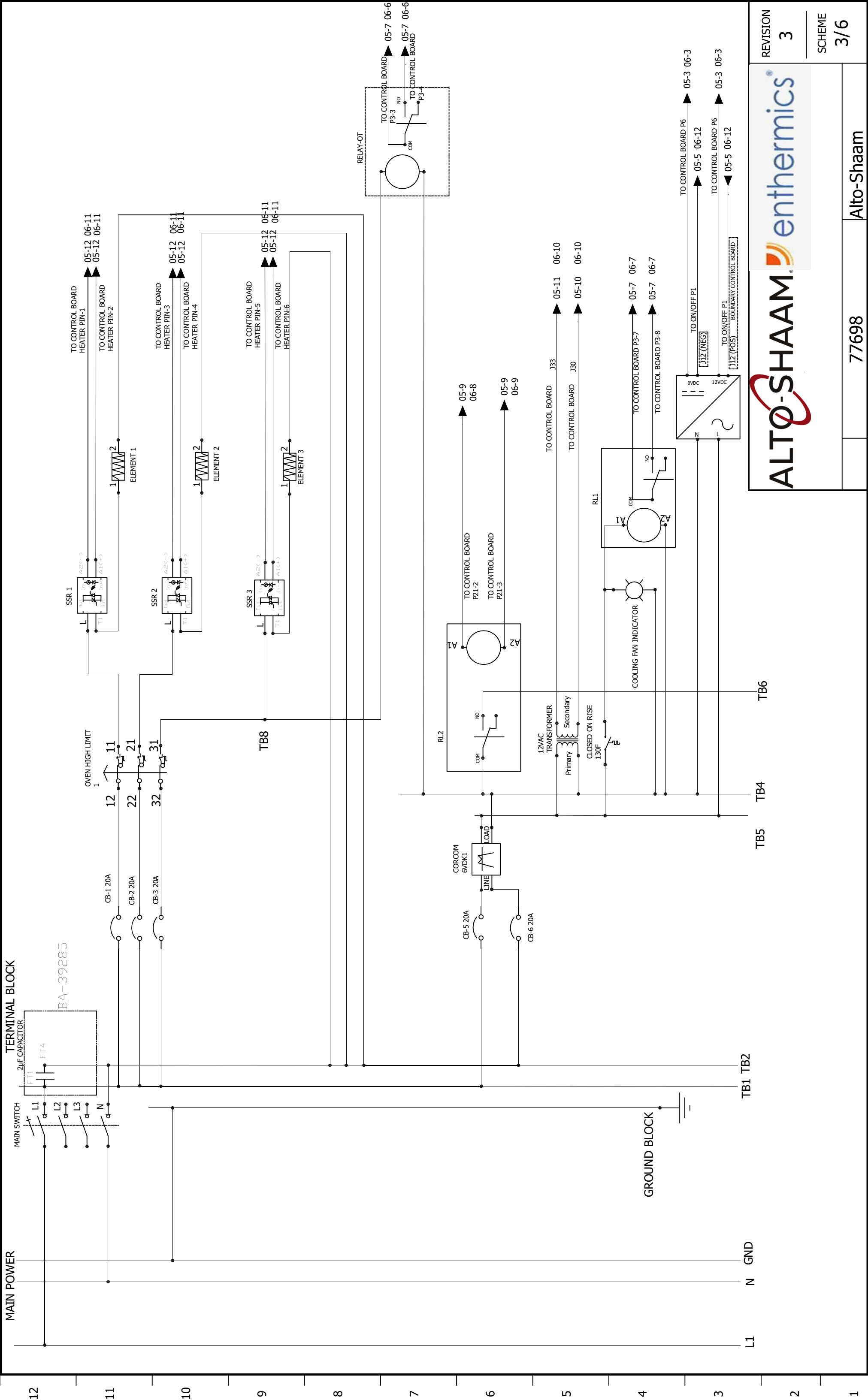
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MAIN POWER

TERMINAL BLOCK

GROUND BLOCK



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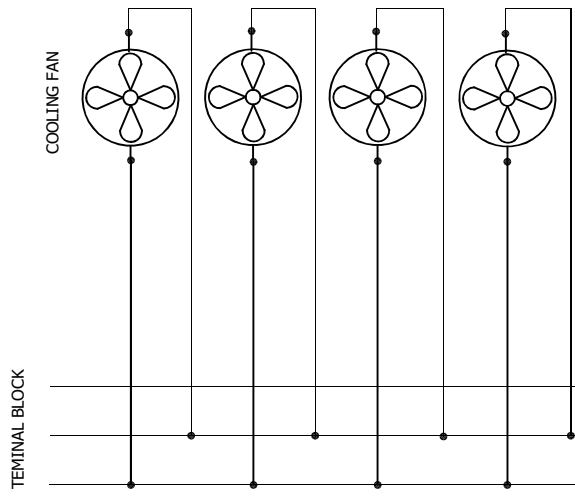
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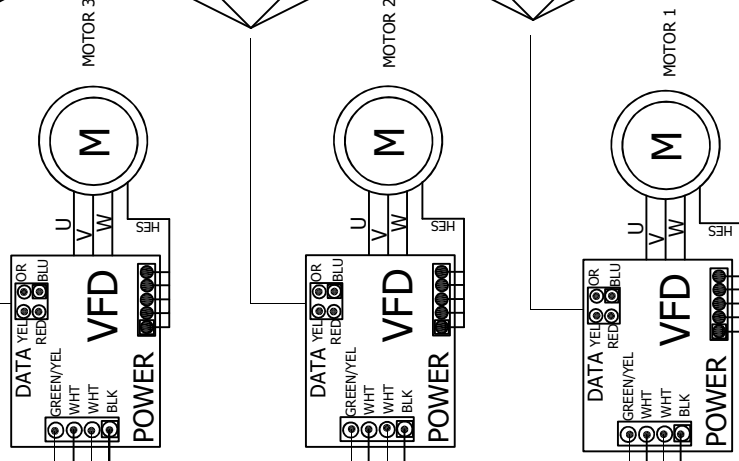
TERMINAL BLOCK

COOLING FAN

TO CONTROL P13

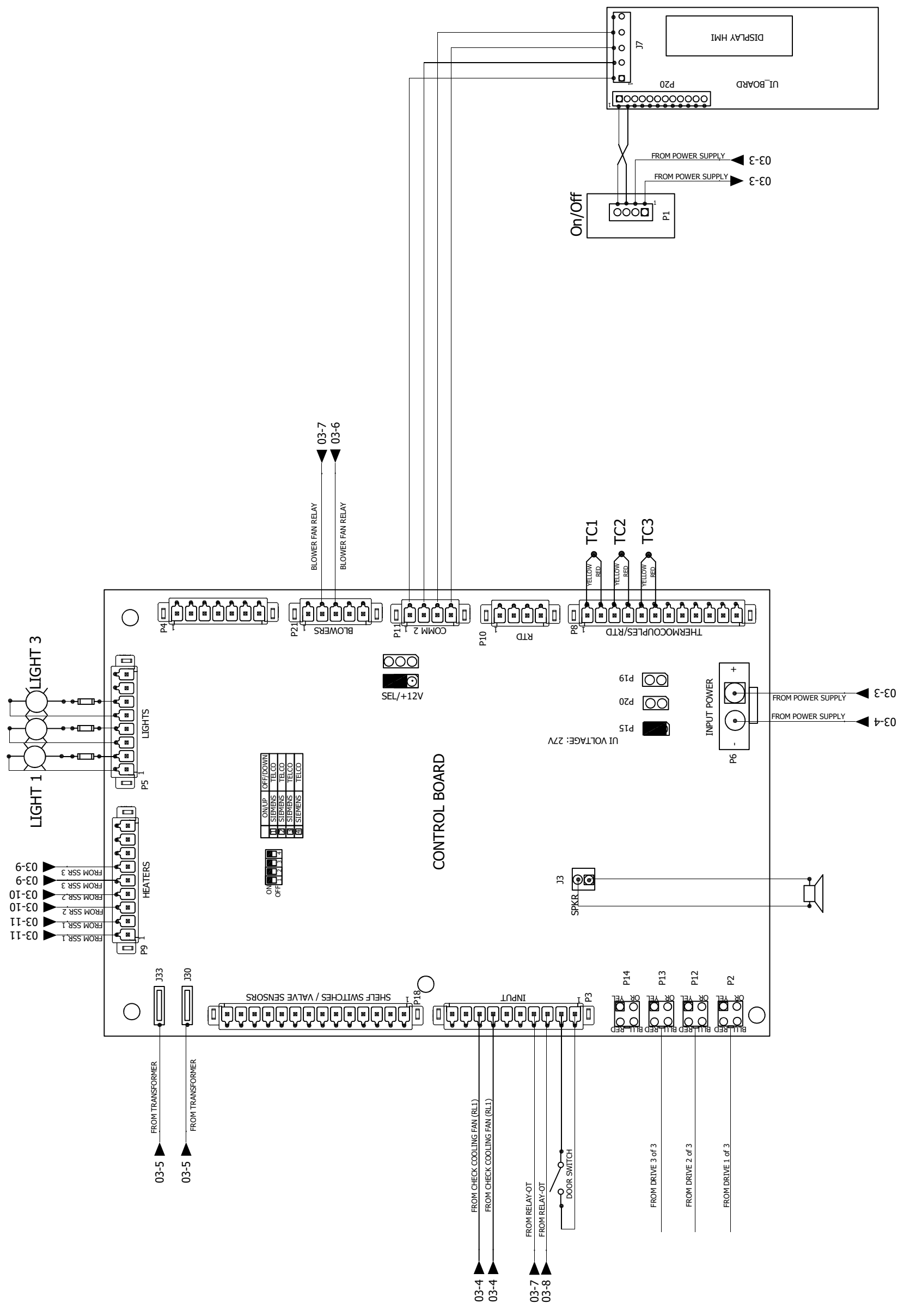
TO CONTROL P12

TO CONTROL P2



TB5-L1 TB7-GND
TB6-N

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380-415V 3Ph

77701



REV.	DATE	NAME	ECO	CHANGES	REVISION
2	10/23/2019	montev	181383	Remove Top & Bottom motor note, correct COM position.	2
1	10/18/2018	montev	181241	Adding RGB P4 and Cap Touch	PAGE
0	9/20/2017	montev			1/6
77701 H2 380-415V 3Ph					Alto-Shaam

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TERMINAL BLOCK

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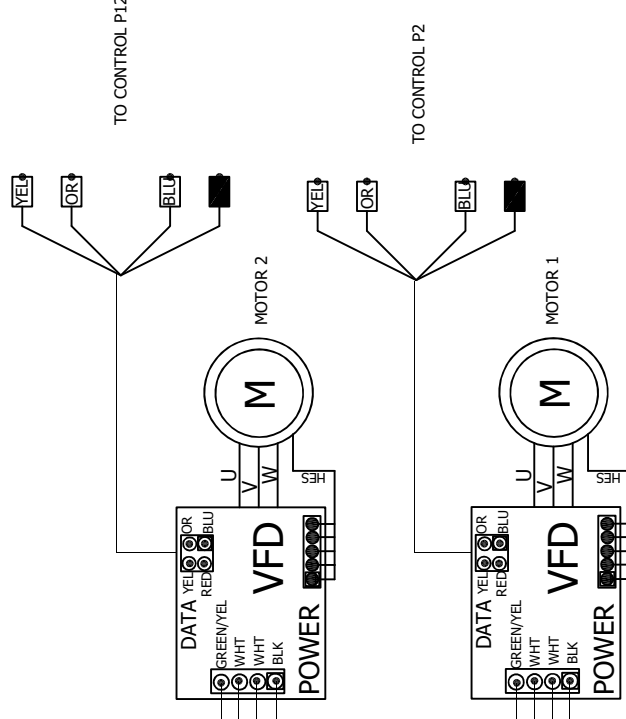
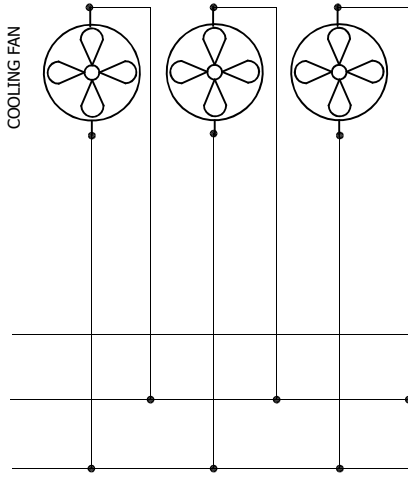
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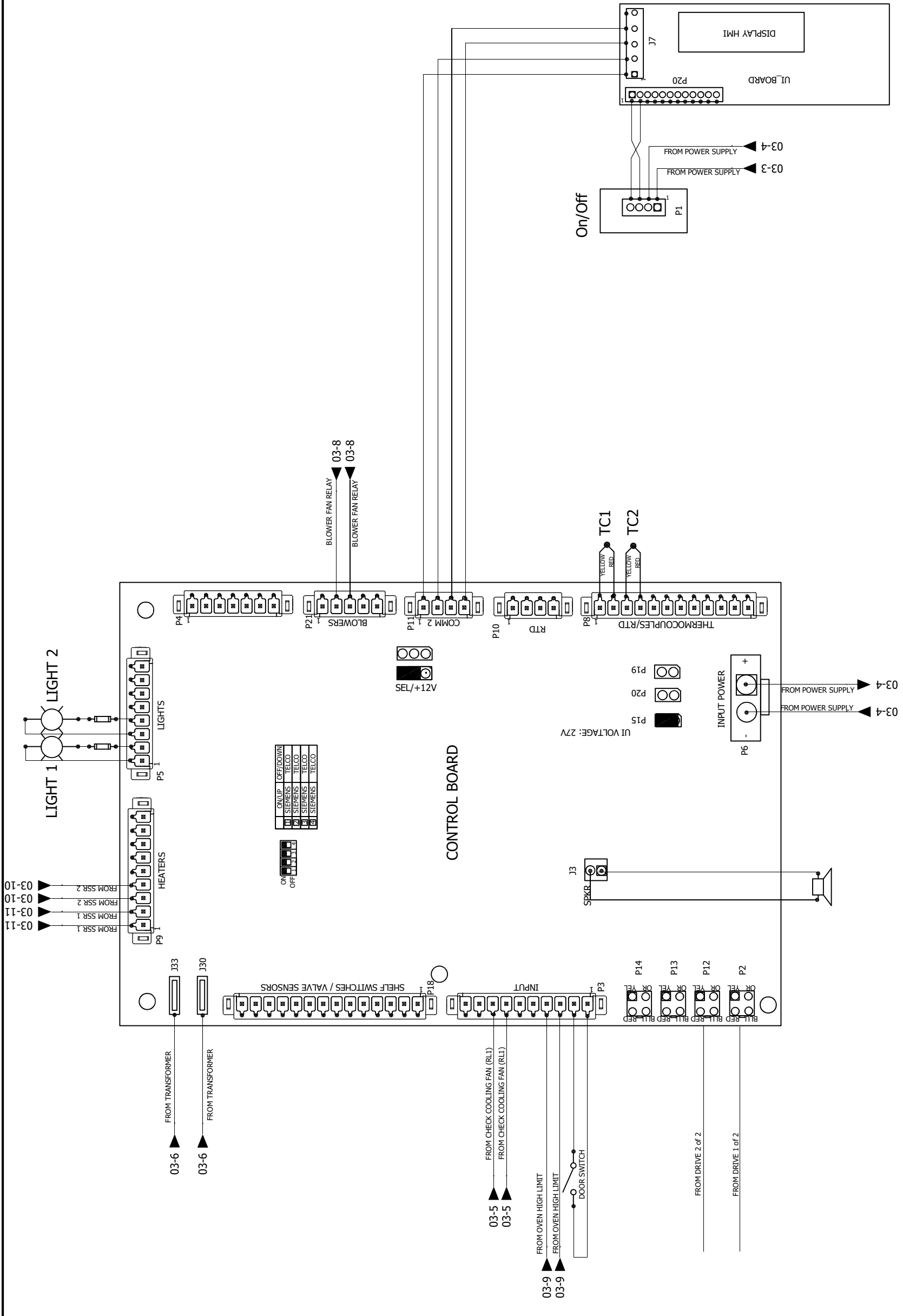
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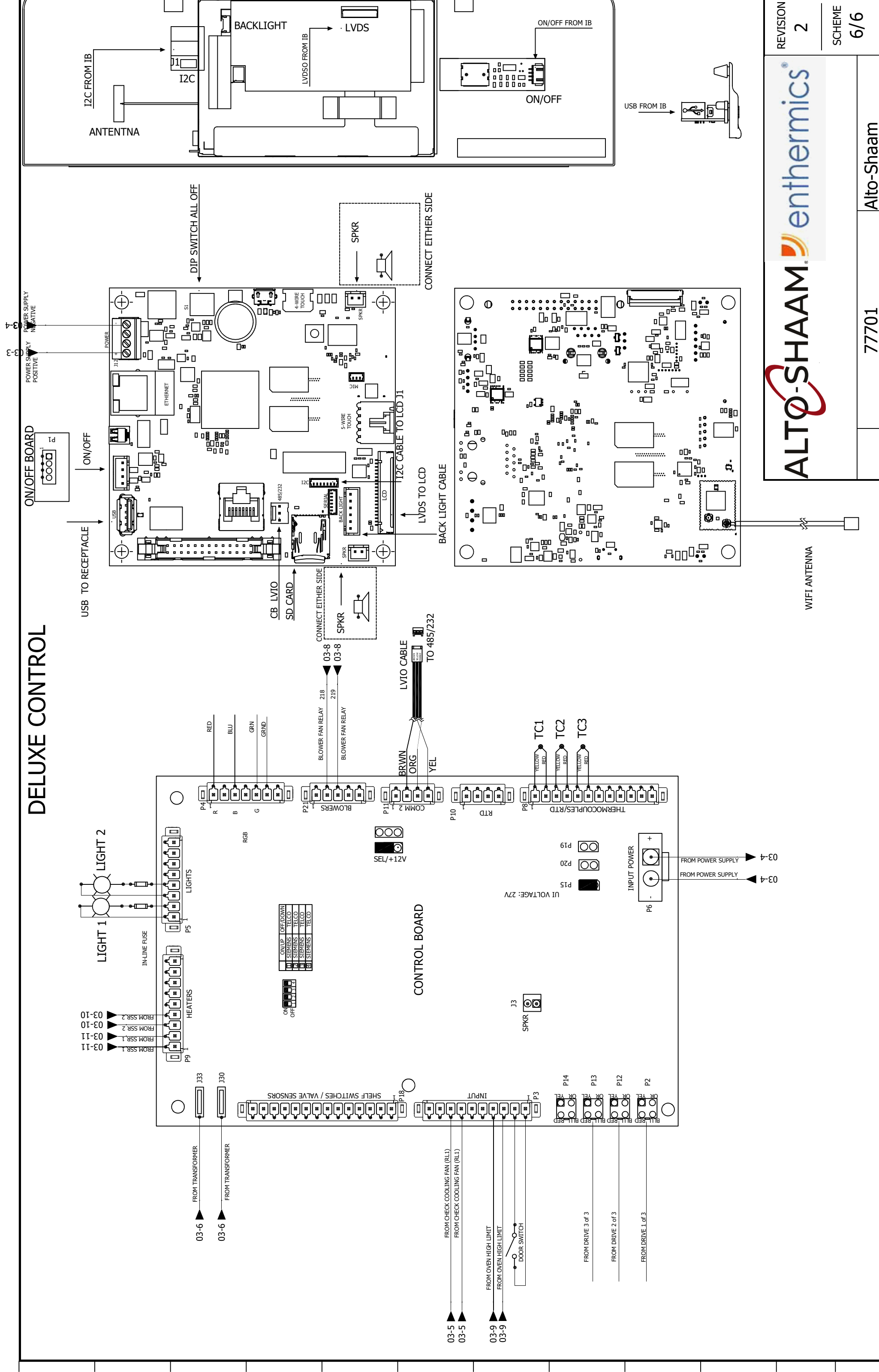
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TB5-L1 TB7-GND
TB6-N



DELUXE CONTROL



WIFI ANTENNA

WIFI ANTENNA

WIFI ANTENNA

WIFI ANTENNA

WIFI ANTENNA

WIFI ANTENNA

WIFI ANTENNA

208-240V 3Ph

77706



REV.	DATE	NAME	ECO	CHANGES
7	10/23/2019	montev	181383	Remove Top & Bottom motor note, correct COM position.
6	7/17/2019	montev	181241	Remove 137ohms resistor P11
5	4/24/2019	montev	181074	CFA Specific WD Reference 77728
4	10/18/2018	montev	731145	RGB P4 & ECR 180719
3	5/30/2018	montev	180363	Adding CFA Control & Antenna
CHANGES				
77706				
H3				
208-240V 3Ph				
				Alto-Shaam
				REVISION 7
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8

7

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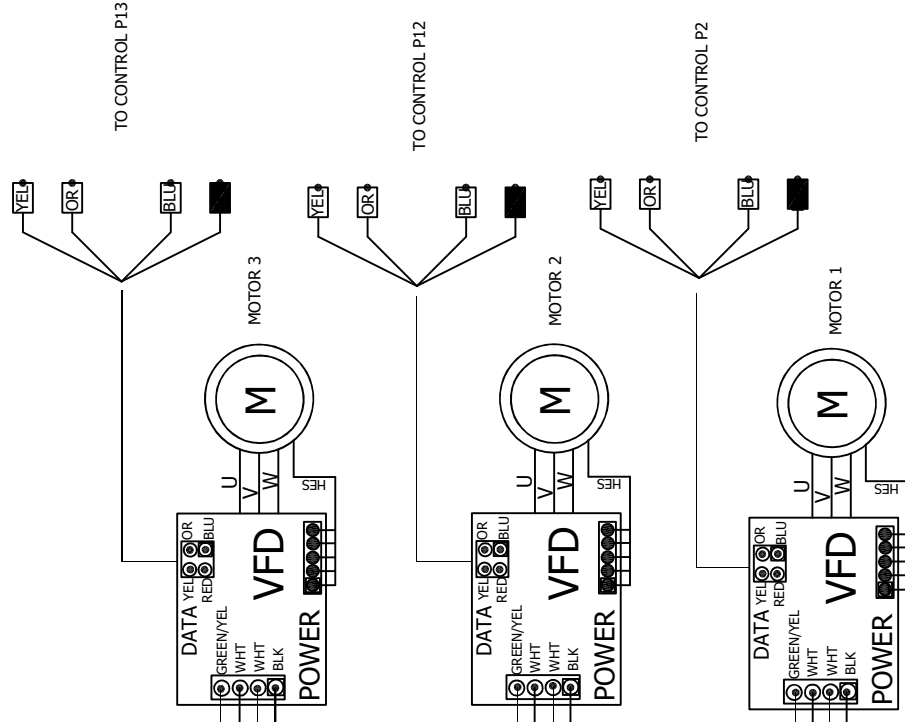
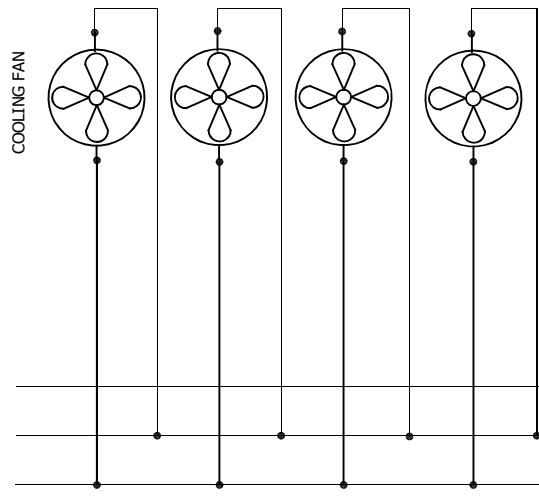
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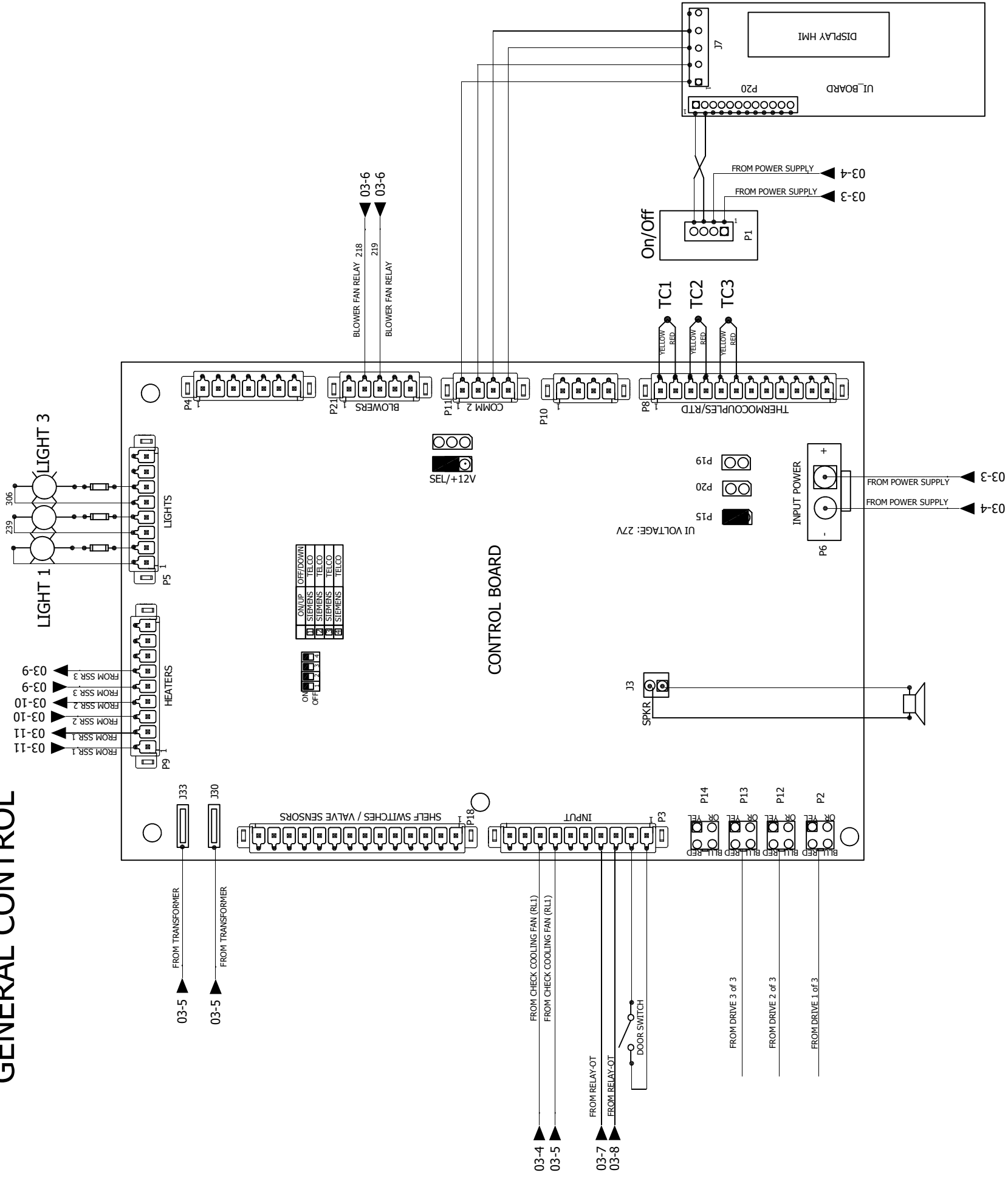
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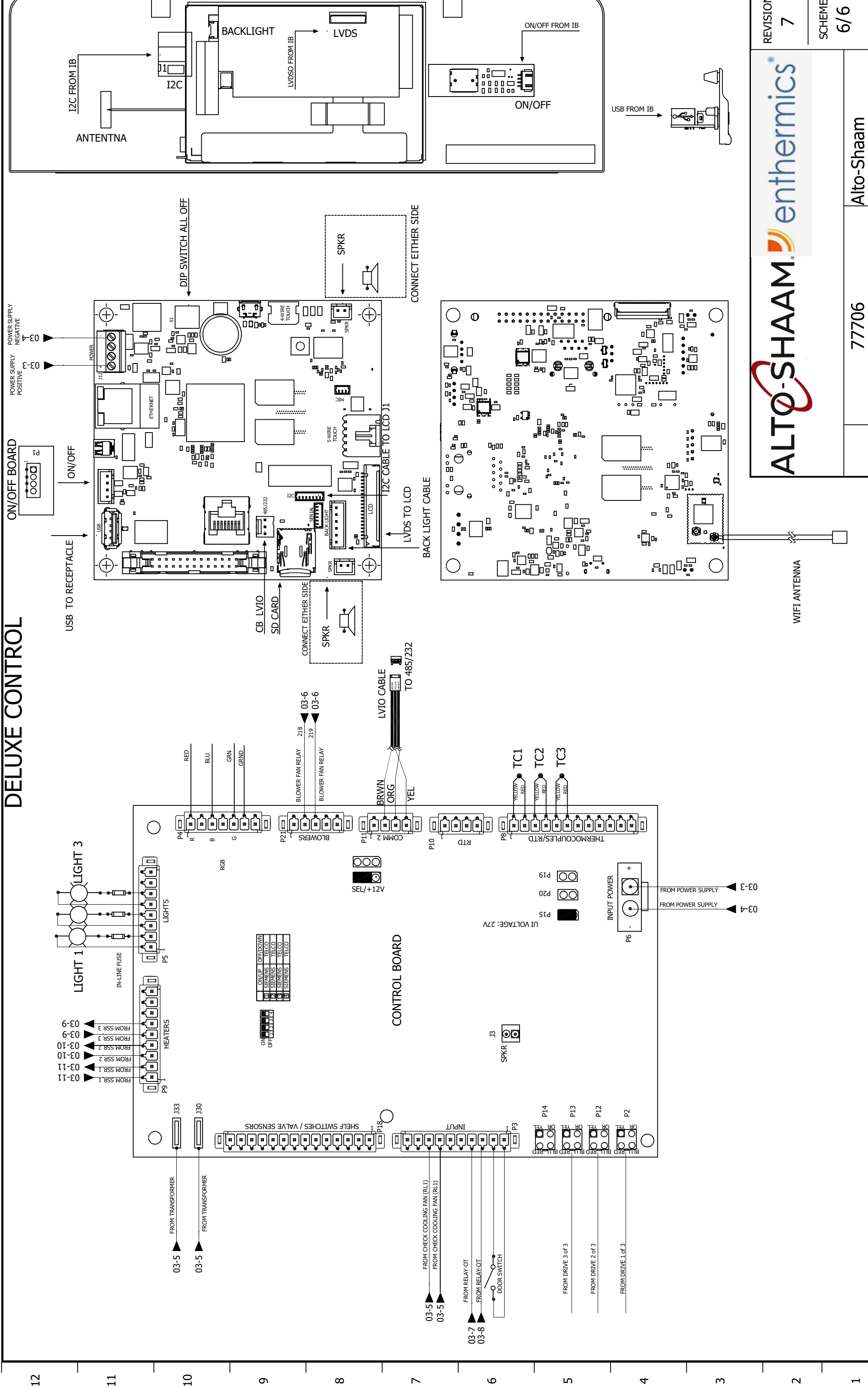


TB5-L1 TB7-GND
TB6-L2

GENERAL CONTROL



DELUXE CONTROL





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