

# SERVICE MANUAL

Koldfront Dual Zone Thermoelectric Wine Cooler

MODEL:

TWR327ESS

**CAUTION: READ ALL SAFETY PRECAUTIONS IN THIS  
MANUAL BEFORE SERVICING THE UNIT**

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## SAFETY PRECAUTIONS

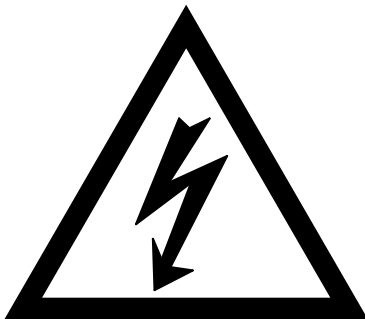
**WARNING: This manual and the information contained herein is intended for use by certified technicians. The manufacturer or seller is not responsible for the interpretation or misuse of the information provided, nor does it assume any liability in connection with its use.**

**The safeguards and warnings indicated in this manual do not cover all possible conditions which may occur. Common sense, caution, and care must be exercised.**


- To prevent electric shock, always unplug an appliance from the power supply before attempting any service.
- Disconnect the power cord by grasping the plug, not the cord.
- Do not bypass, cut, or remove the grounding plug.
- Prevent water from spilling onto electric elements or the machine parts.
- Always refer to the rating label on the appliance for rated current and voltage.
- Always check line voltage and amperage.
- Always use exact replacement parts.
- Any attempt to repair a major appliance may result in personal injury and property damage.

## Electrical Safety

- Do not exceed the power outlet ratings.
- It is recommended that the unit be connected to its own circuit.
- A standard electrical supply (120V, 60Hz), that is properly grounded in accordance with the National Electrical Code and all state and local codes and ordinances is required.
- Do not use outlets that can be turned off by a switch or pull chain.
- Always turn the unit off and unplug it from the outlet when cleaning.
- Unplug the unit if it is not going to be used for an extended period of time.
- Do not operate the unit with a power plug missing the ground plug, a damaged cord, or a loose socket.
- Be sure the appliance is properly grounded.
- Do not bypass, cut, or remove the grounding plug.
- If the power cord is damaged, it must be replaced by the manufacturer or a qualified technician.
- Do not use extension cords or power strips with this unit. You may need to contact an electrician if it is necessary to use a longer cord or if you do not have a properly grounded outlet. Do not modify the power cord's length or share the outlet with other appliances.
- Do not start or stop the unit by switching the electrical circuit's power on and off.
- Immediately unplug the unit if it makes strange sounds, emits an odor or smoke and contact customer service.
- Do not remove any part of the casing unless instructed by an authorized technician.
- Before the appliance is removed from service or discarded, remove the door and cut off the power cord.



**! WARNING**



**Electrical Shock Hazard**  
Connect to a grounded 3 prong outlet with an individual 12 amp branch circuit protected by a 12 amp circuit breaker.  
Connect to individual branch circuit.  
Do not remove ground prong.  
Do not use an adapter.  
Do not use an extension cord.  
Failure to follow these instructions can result in electrical shock, fire, or death.

## General Safety

- Always unplug an appliance from the power supply before attempting any service. Disconnect the power cord by grasping the plug, not the cord.
- Do not allow children or pets to play on or in the appliance.
- This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the machine by a person responsible for their safety.
- Do not install or store this appliance where it will be exposed to the weather.
- Disconnect from the power socket before cleaning or maintenance.
- If the plug (power cord) is damaged, it must be replaced by the manufacturer or an authorized service representative.
- This machine shall be repaired only by an authorized service representative. Only genuine replacement parts should be used.
- If connected to a circuit protected by fuses, use time-delay fuses with this appliance.
- Do not lean items against the glass door.
- Please do not close the door with excessive force. If it is found difficult to close the door, please check for obstruction.
- When you plan to dispose of this unit in the future, please comply with the local waste disposal regulations. Remove the door so that children and pets will not be trapped in the unit.

## Thermoelectric Precautions

This wine cooler uses thermoelectric technology rather than compression or absorption-types and there are several issues that need attention:

- Room temperature - The wine cooler needs to be located in a climate controlled room. The unit will perform it's best at a room temperature of approximately 72° to 77°F. It will not cool correctly when the room temperature is higher than 90° or lower than 65°F.
- Ventilation – The wine cooler needs to be free standing. It should not be recessed or built in (fully recessed.) Allow enough clearance (5”) at the rear and sides of the wine cooler to allow proper ventilation. Lack of proper ventilation will have a negative impact on the performance of cooler.
- Moisture – The wine cooler may have some condensed water on the surface of the glass door if opened constantly in a moist place. This moisture will drain into the condensate tray at the back of the unit and may require emptying if excessive moisture is collected in a short period of time.

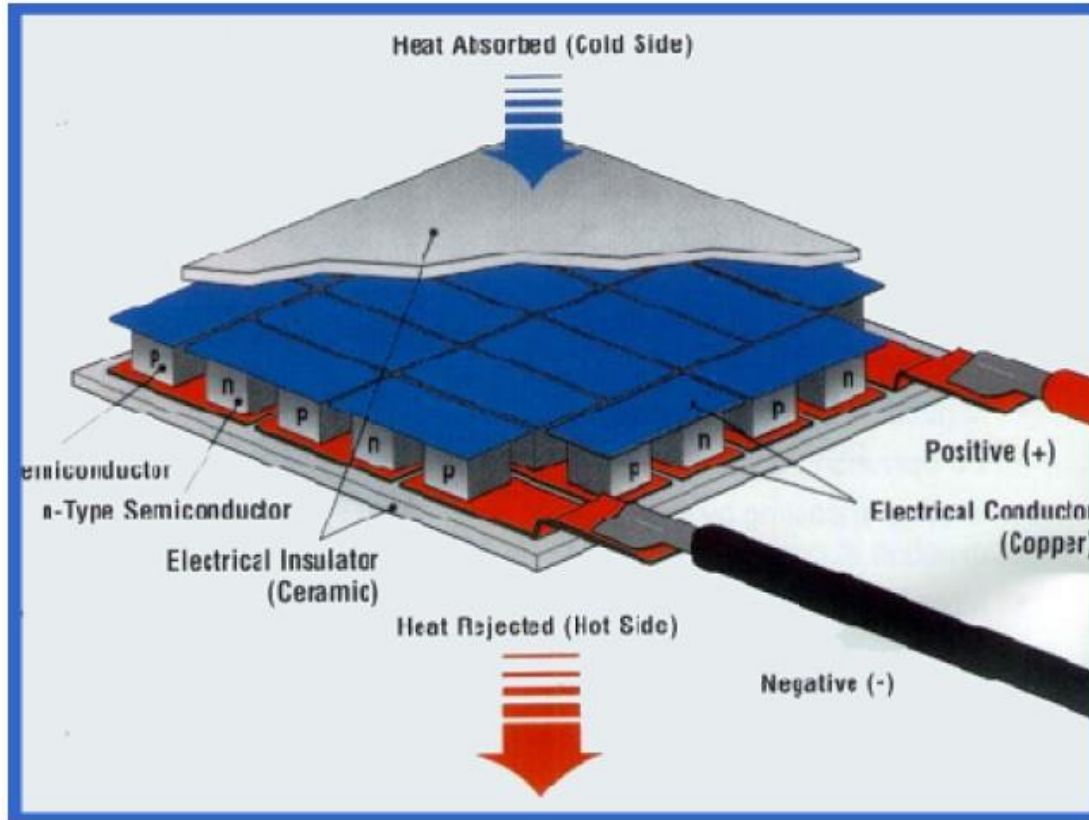
## Finding a good spot for your wine cooler

Where you locate the wine cooler is critical to its performance. Follow these guidelines:

- Install your wine cooler on a level surface that is strong enough to support it when fully loaded.
- Allow 5 inches (15cm) of space at the rear and at both sides of the wine cooler to allow proper ventilation.
- This wine cooler is designed to be free standing only and should not be recessed or built-in (fully recessed.)
- Do not place heavy objects on top of the unit.
- Do not install the unit outside or in a moist place.
- Do not install the wine cooler in direct sunlight or next to heat sources.
- The unit's cooling system operates at maximum efficiently with an ambient room temperature of 72° to 77°F. The interior temperature can be set between 44°F and 66°F and will be most accurate in that temperature range.

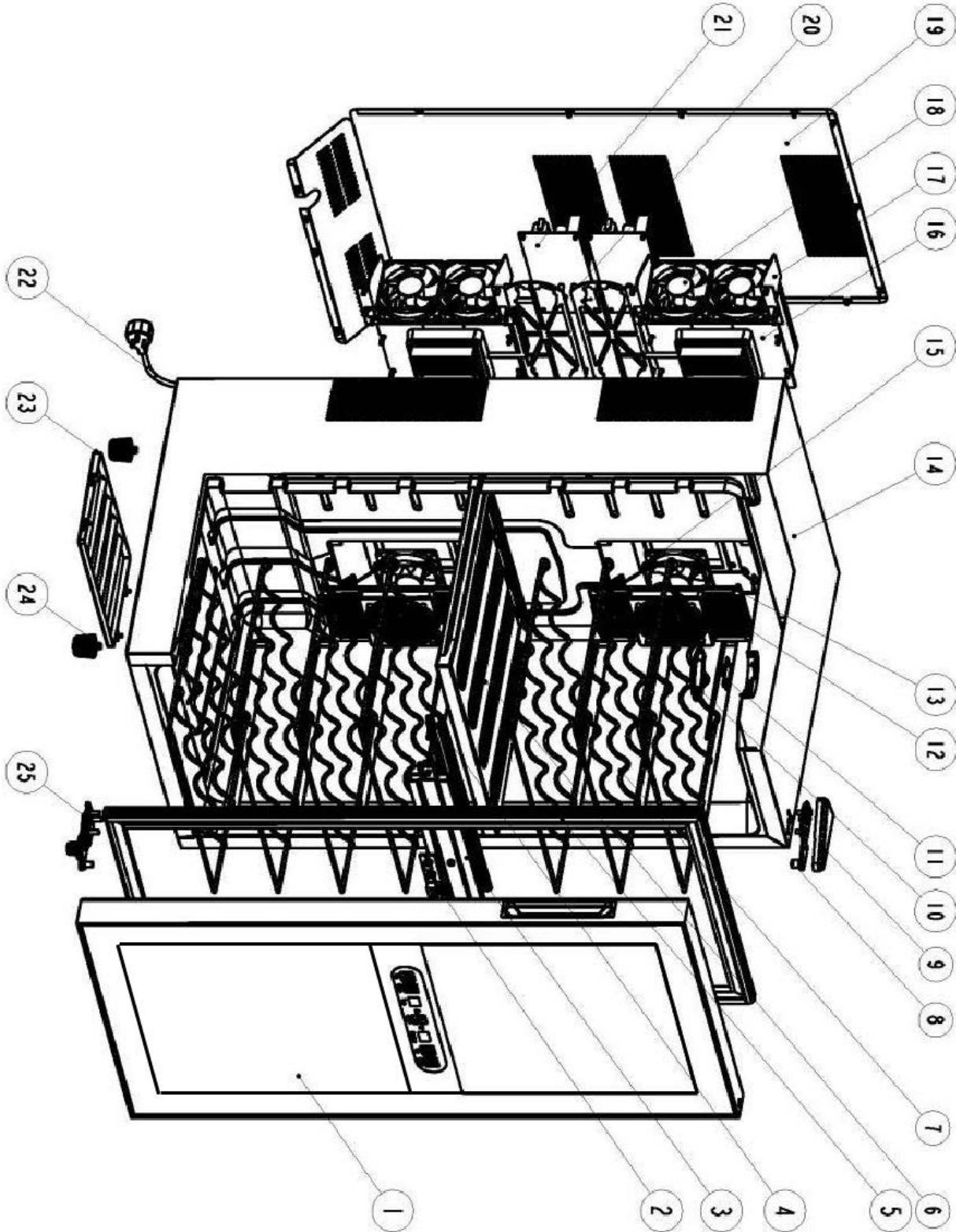
# Thermoelectric Cooling Principles

Thermoelectric cooling, called the Peltier effect, is a solid-state method of cooling or heating by passing current through two different (P shape & N shape) semiconductor materials.



The complete system includes a semi-conductor module (P&N shape semi-conductors clamped with two ceramic chips), an internal and external heat exchanger. To obtain higher energy efficiency low-speed-and-noise fans are fitted to the heat exchangers. During operation direct current goes through the semiconductor module which causes heat to be transferred from one side to the other.

# Exploded View Diagram

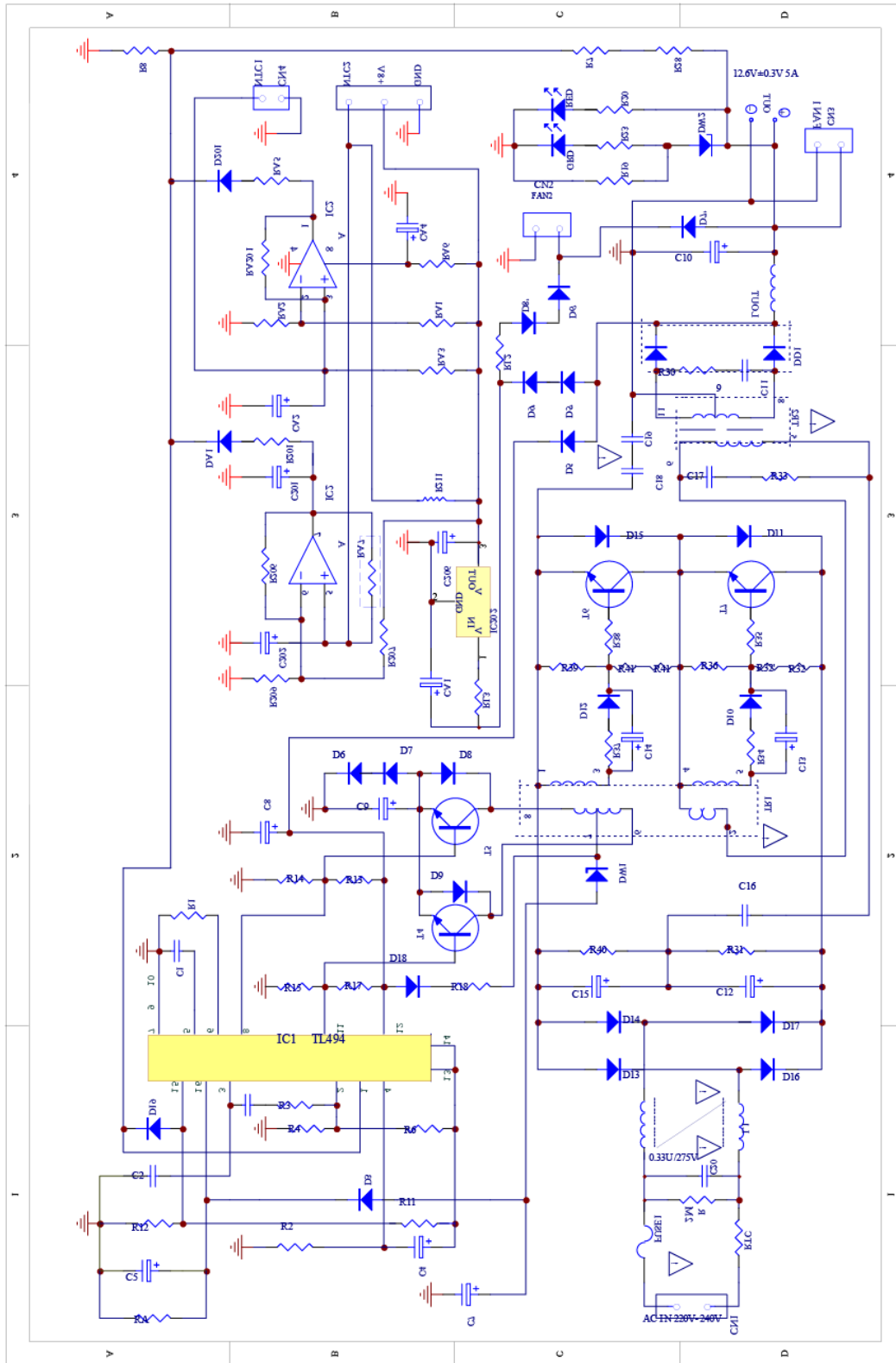


## Parts List

No.	Part Name
1	Door
2	Temperature Control Board
3	Middle Door Frame
4	Mid Magnetic Seal
5	Door Seal
6	Zone Board
7	Wine Bottle Shelf
8	Upper Door Hinge
9	Upper Door Hinge Cover
10	Light Cover
11	Light Board
12	Cold Fan Cover
13	Silicone Gel Cover
14	Cabinet
15	Cold Fan
16	Thermoelectric Module
17	Heat Fan Bracket
18	Heat Fan
19	Back Cover
20	Power Supply Board Bracket
21	Power Supply Board
22	Power Cord
23	Condensate Tray
24	Leveling Leg
25	Lower Hinge



# Circuit Board Diagram

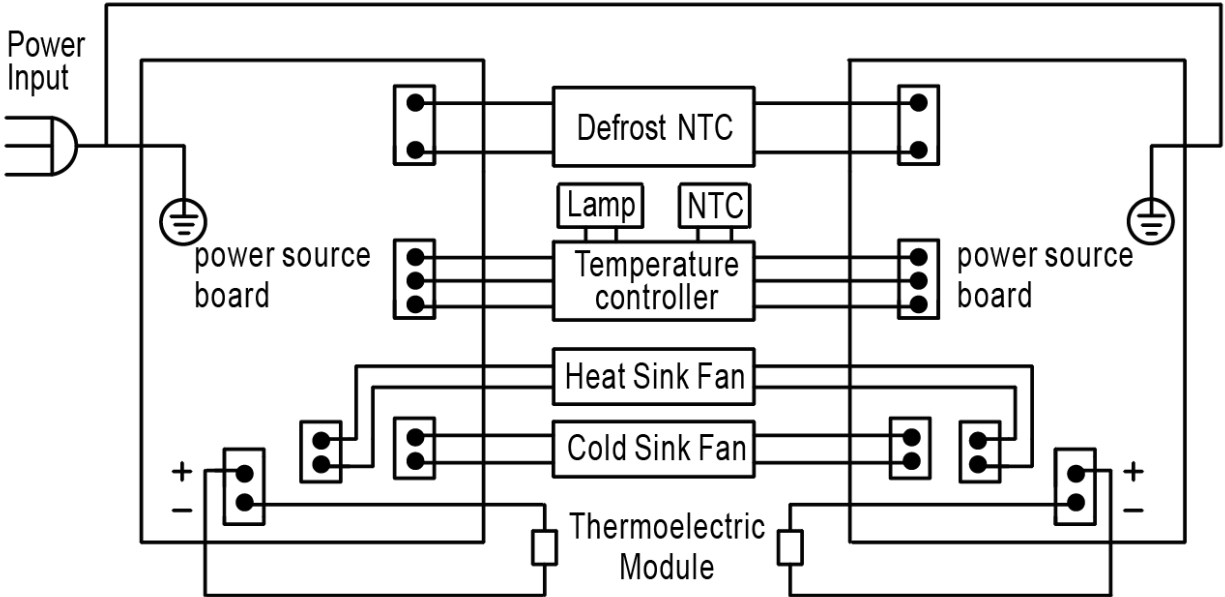


# Specifications

Model	TWR327ESS
Voltage/Frequency	115V/60Hz
Power	140W
Rated Current	1.9A
Net Weight	56.9 lbs.

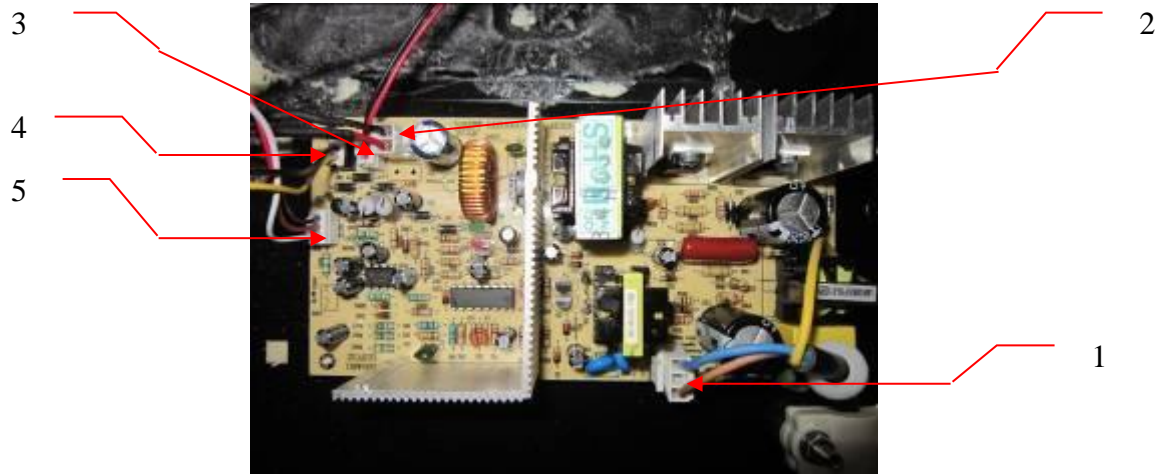
Note: Specifications are subject to change. Check the rating label on the back of unit for the most accurate information

# Wiring Diagram



# Power Supply Board

## Connector Arrangement



1. Power cord
2. Thermoelectric Module
3. Heating fan
4. Cooling fan
5. Temperature Controller

NOTE: All wiring connections need to be attached securely to the board.

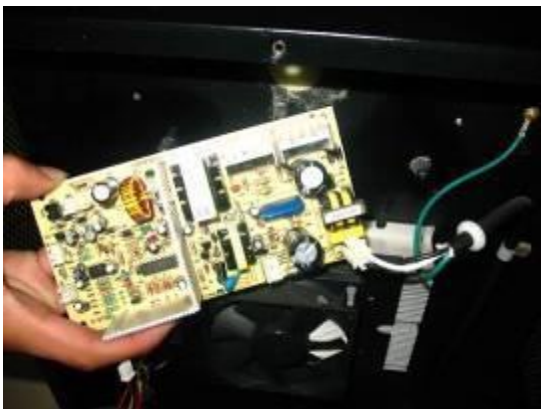
# Replacing the Power Supply Board



1. Remove the back panel on the unit and disconnect the wire connectors on the board.



2. Remove screws (4) from the board.

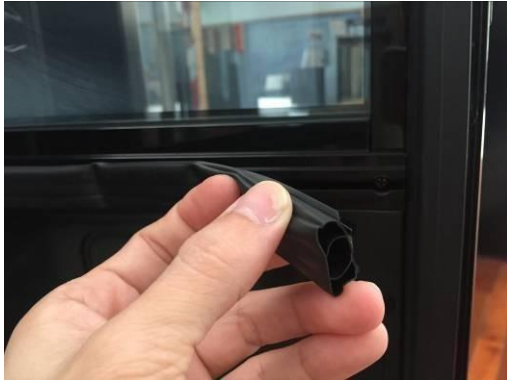


3. Replace the board and reattach the screws (4)



4. Reconnect the connectors on the board.

# Replacing the Temperature Control Board



1. Remove the door seal.



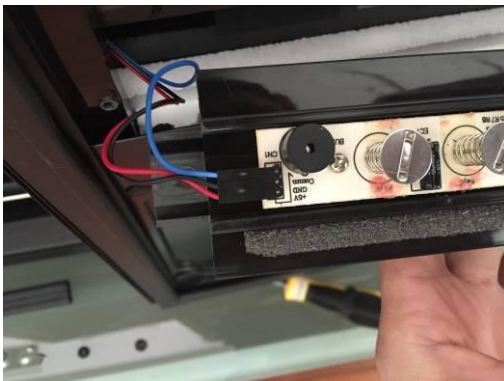
2. Remove screws (4) from the board. Remove screws (2) from the rear of the door.



3. Remove screws (2) from the rear of the temperature controller.



4. Pull out old temperature controller, disconnect the wire connector and replace with new controller.

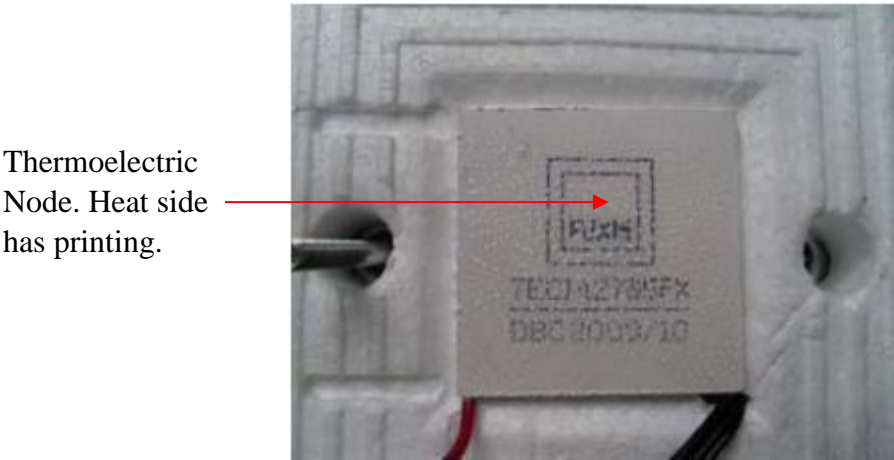
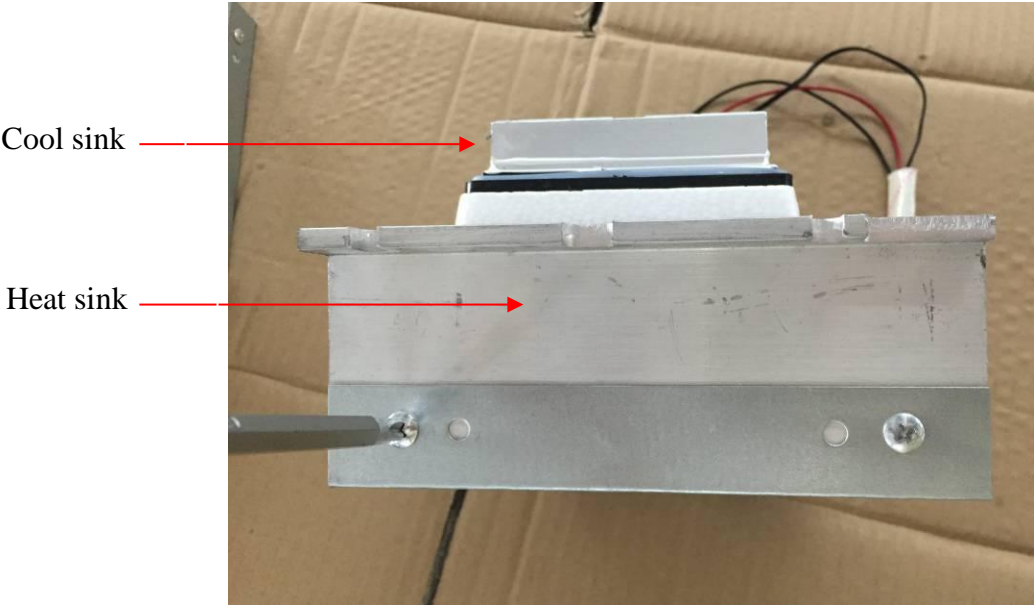


5. Reconnect the wire connector.



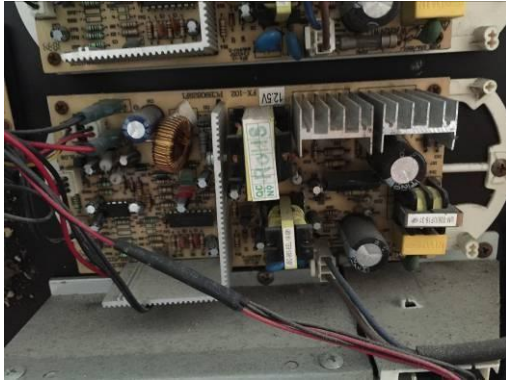
6. Reattach the door and door seal.

# Thermoelectric Module and Heat Fan





## Replacing Thermoelectric Module and Heat Fan



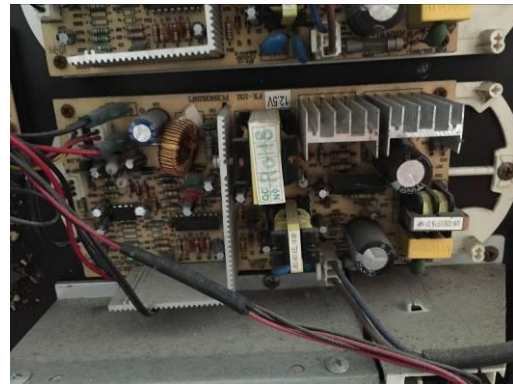
1. Remove the module and the heat fan connectors.



2. Remove the screws for the heat fan and replace with new fan.



3. Remove the screws for the module and replace with new module.

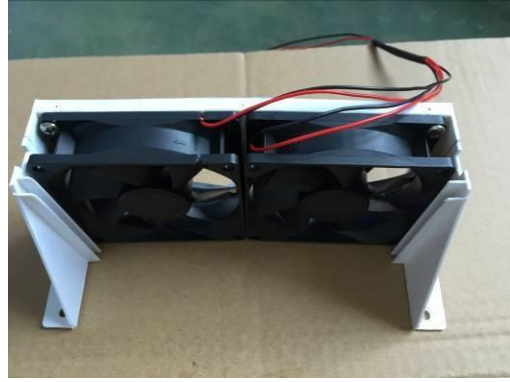


4. Reconnect the module and heat fan connectors.

## Replacing The Heat Fan



1. Remove the screws.



2. Replace the fan and reinstall the screws.

## Replacing the Cooling Fan



1. Pull out the plastic caps (4) on the cooling fan cover.



2. Removing the screws (4) on the cooling fan cover.





3. Disconnect the wire connector after opening the cooling fan cover.



4. Remove the screws (4) from the cooling fan.



5. Replace the old cooling fan and reconnect the wire.



6. Be careful not to damage the wire.



7. Fix the sensor into the proper position.



6. Reattach the caps (4) and screws (4).

## Replacing the Thermoelectric Node



1. After cleaning the silica rubber off of the surface of the bolts (2), remove the screws (2) on the cold sink of the module.



2. Carefully disassemble the module and clean any grease residue from the node compartment.





3. Apply thermal grease evenly and replace the thermoelectric node in the correct direction. The heat side of the node has printing on it.

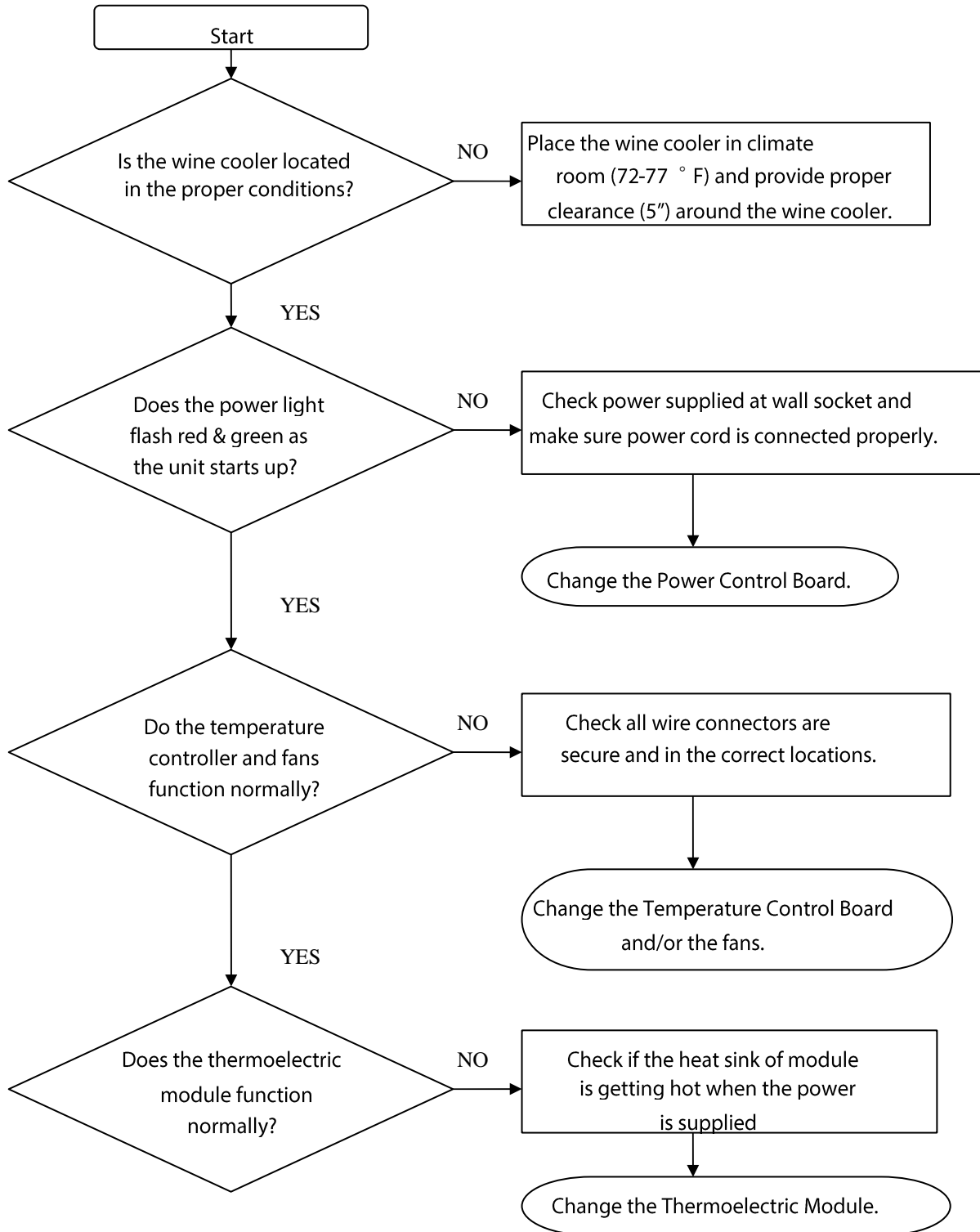


4. Reattach the bolts (2) and the screws (2).

# Error Codes

Model No.	Error Code				Meaning of Error code	
					Lo/L	Er/E
TWR327	Lo		Er		The temperature sensor has open circuit.	The temperature sensor has short circuit.

# Diagnostics: Wine cooler does not cool or will not run.



DATE	REVISION NOTES
02/05/2018	INITIAL DOCUMENT