

SERVICE MANUAL

Portable Freezer



FP430 / FP630 / FP861

CAUTION: Read all safety precautions in the manual before servicing the unit

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SAFETY PRECAUTIONS

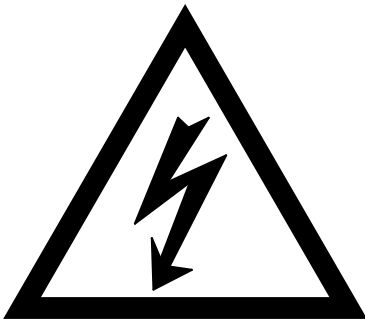
WARNING: This manual and the information contained herein is intended for use by certified technicians. The manufacturer or seller is not responsible for the interpretation or misuse of the information provided, nor does it assume any liability in connection with its use.

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 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 any doors 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

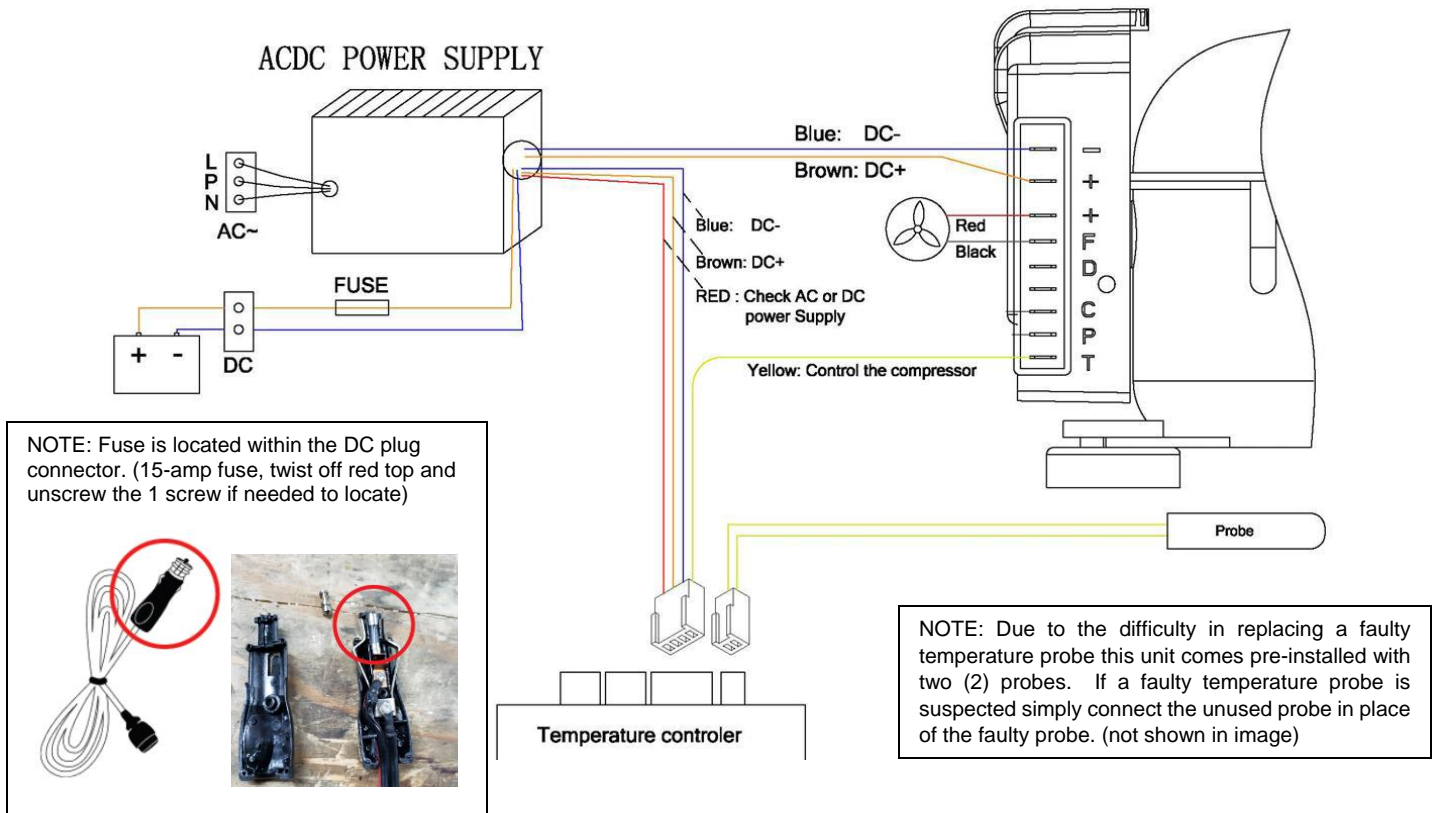
- Always unplug an appliance from the power supply before attempting any service. Disconnect the power cord by grasping the plug, not the cord.
- Do not allow children or pets to play on or in the appliance.
- This machine is not intended for use by persons (including children) with reduced physical, 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 any doors so that children and pets will not be trapped in the unit.

Specifications

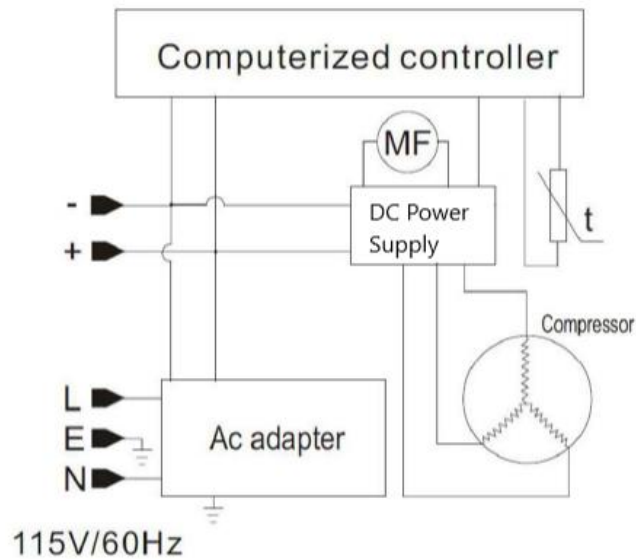
Model	FP430	FP630	FP861
Voltage / Frequency	AC: 115V~60 Hz DC: 12/24 V	AC: 115V~60 Hz DC: 12/24 V	AC: 115V~60 Hz DC: 12/24 V
Amperage	0.75 A	0.8 A	1.0 A
Input Power	65 W	75 W	80 W
Color	Grey with black trim	Grey with black trim	Grey with black trim
Storage Capacity	43 qt.	63 qt.	83 qt.
Refrigerant	R134a	R134a	R134a
Temperature Range	-8° F to 50° F	-8° F to 50° F	-8° F to 50° F
Dimensions (Height x Width x Depth)	20 13/16" x 24 11/16" x 17 11/16"	20 11/16" x 28 1/8" x 17 7/8"	23 3/8" x 28 3/16" x 18 3/4"
Weight	48.5 lbs.	61.7 lbs.	66.2 lbs.

Note: Technical data and performance information are provided for reference only. Specifications are subject to change. Check the rating label on the portable fridge / freezer for the most accurate information.

Components

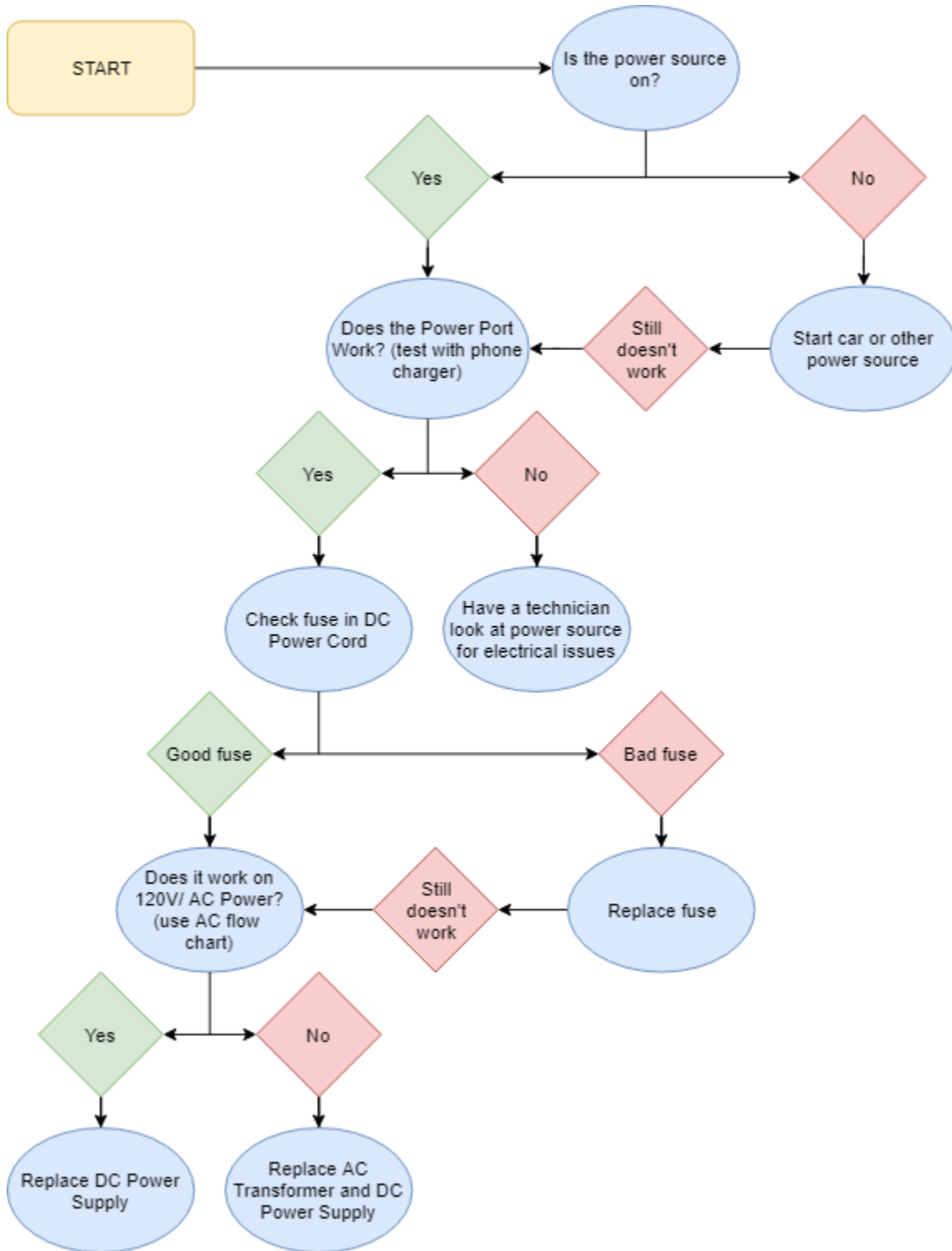


Wiring diagram

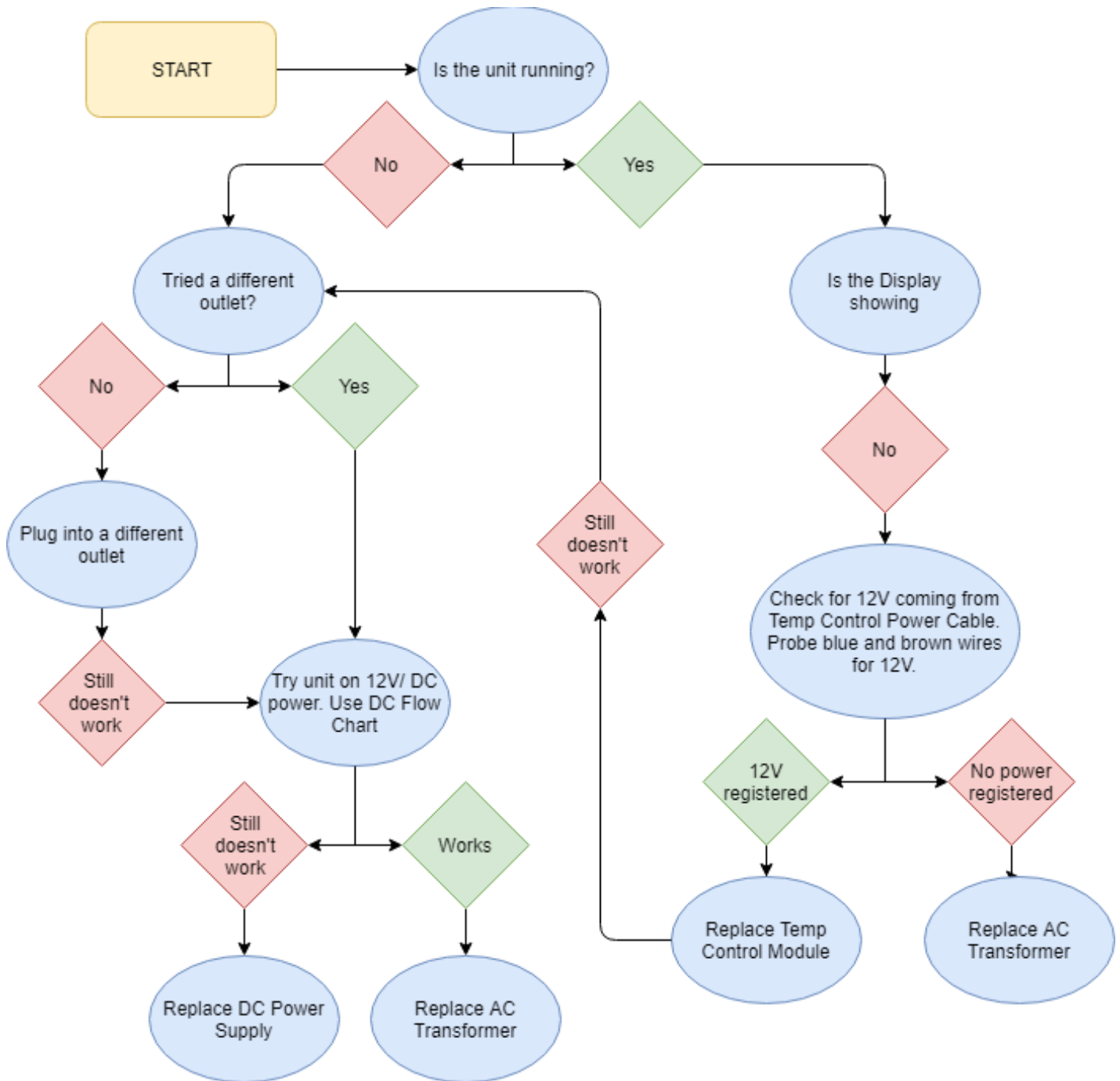


Troubleshooting Flow Charts

DC Power



AC Power



Troubleshooting Tips and Notes

- Use of a multi-meter / voltage reader is recommended for proper diagnosis.
- Determining the point at which power is not properly passing into or through a component is the best method for determining component failure.

If the unit does not appear to be receiving power:

- Ensure that the power source is providing the proper voltage to the unit.
- When using 12V DC, the digital readout will show the factory setting 10.0V DC. To ensure that suitable battery voltage can be maintained the controller has been programmed to offer three (3) cut-out levels: 11.8, 10.7, and 10.0V DC.
- When using 24V DC, the digital readout will show the factory setting 22.2V DC. To ensure that suitable battery voltage can be maintained the controller has been programmed to offer three (3) cut-out levels- 25.0, 23.5 & 22.2V DC. Check and verify the power supply cord(s) are free from defects / damage.
- Check for loose connections between power source and unit.

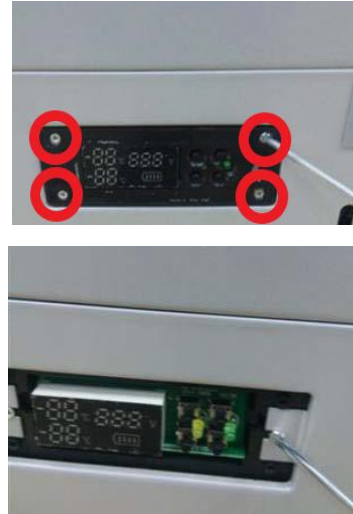
When inspecting internal components, always check for loose connections.

Disassembly for Temperature Controller Replacement

Remove control panel cover, this is a sticker, use a flat tip screwdriver lift the sticker up and remove carefully.



Remove four (4) screws from control panel using a Philips screwdriver.



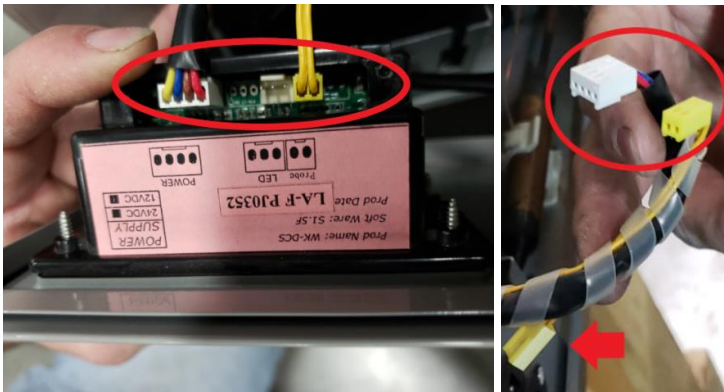
Remove screws (2) from cabinet on the bottom of the unit. On the older version located on the face of the cover.



Remove screws (2) circled below.



Remove wire connectors as shown in picture, there is an extra temperature probe connector if ever needed.

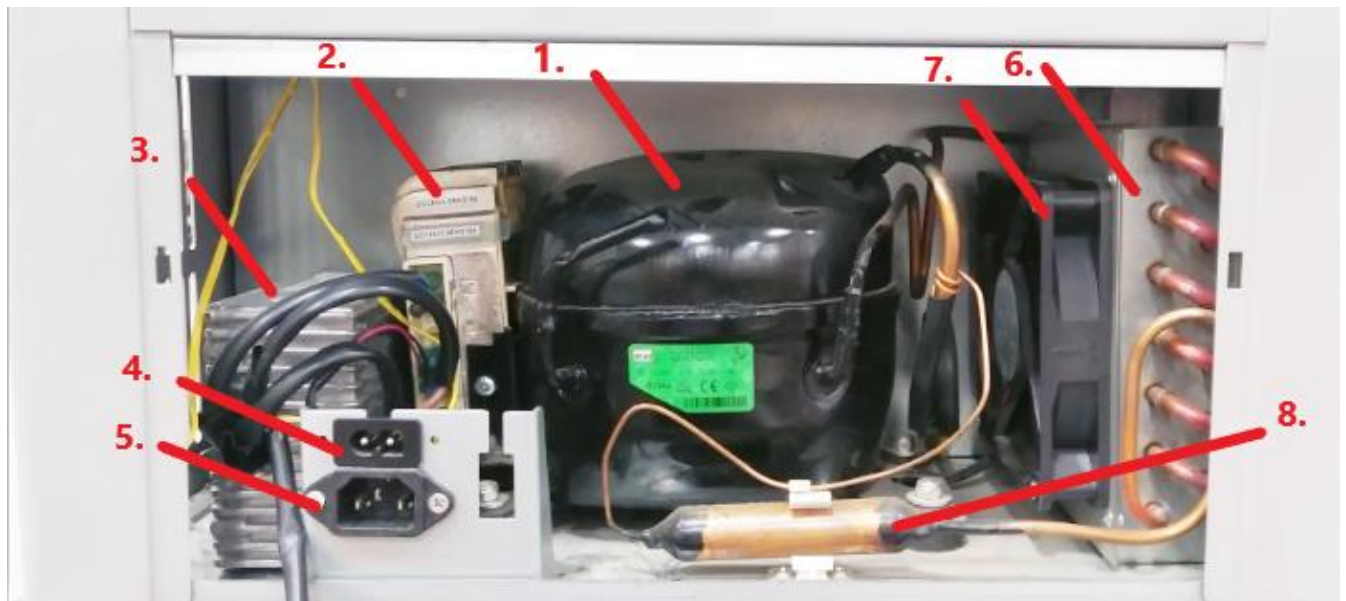
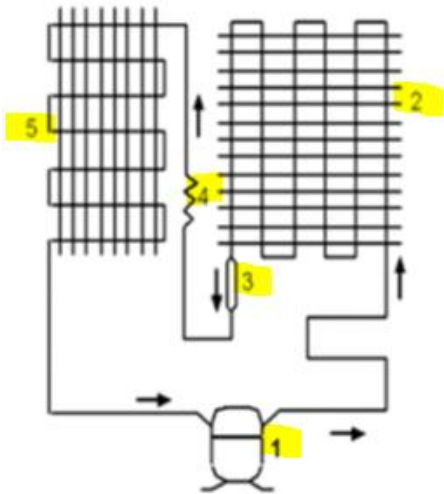


Replace with new controller



Cooling System

The refrigerant flows in the sequence as shown below: 1. – Compressor > 2. Condenser > 3. Dryer Filter > 4. Capillary Tube > 5. Evaporator > 6. Compressor



1. Compressor
2. DC Power Supply
3. AC Transformer
4. DC connector
5. AC connector
6. Condenser
7. Condenser fan
8. Dryer Filter

AC Transformer and DC Power Supply Replacement

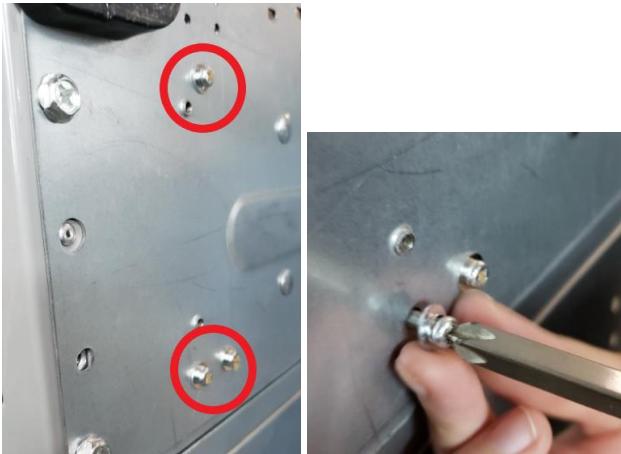
Remove the circled screw (2) from cabinet. The older model screws are located on the front bottom of the cabinet.



Remove the front grill carefully due to the wires. (if needed review the disassembly for the temperature controller)



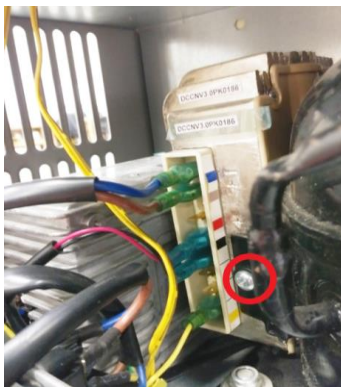
Remove screws (3) from the bottom of the freezer



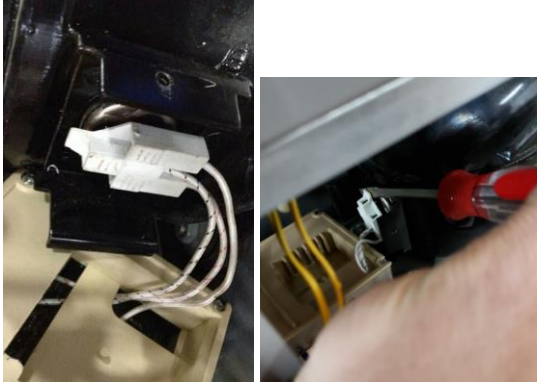
Remove the power supply



Remove wire connectors as shown in picture, remove the screw circled as well.



Remove the DC Power supply by unlatching with a flat tip.



Remove DC Power Supply



Install DC Power Supply / AC Transformer





Difference between old and new parts

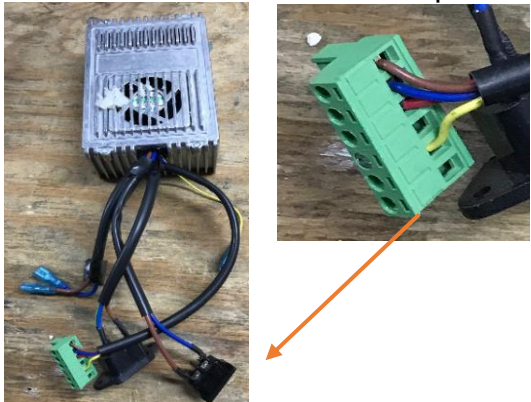
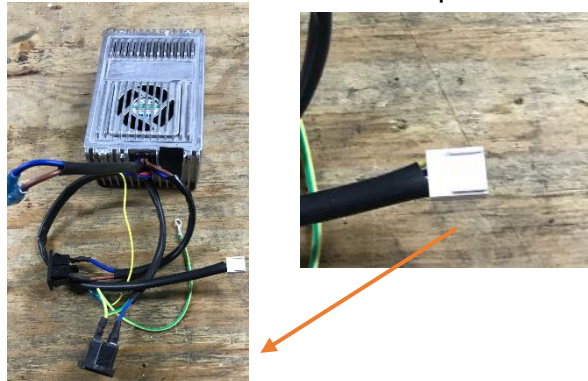
IMPORTANT: FP Series are identified by serial #'s with a 4-digit date code. Serial #'s that start with 1511 (November 2015) and newer include the updated parts noted below. Serial #'s that start with 1508 (August 2015) included older parts as referenced below.

OLD PARTS (SN 1508 and older)	NEW PARTS (SN 1511 and newer)
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Temperature control module

<p>Part # ES FPTCM – (Black Buttons)</p> 	<p>Part # ES FPTCM2 – (Red Buttons)</p> 
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AC Transformer



<p>Part # ES FPTR2 – 6 pin</p> 	<p>Part # ES FPTR3 – 4 pin</p> 
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DC Power Supply New / Old (compatible with all FP models)



<p>Part # ES FPDC-PS</p> 	
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OLD PARTS (SN 1508 and older)	NEW PARTS (SN 1511 and newer)
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Lid Latch Hook

<p>Part # ES FPLIDL (Latch Assembly)</p> 	<p>Part # ES FP SERIES25 (Door Latch) ES FP SERIES32 (Door Latch Catch) ES FP SERIES33 (Door Handle)</p> 
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Lid Hinge

<p>Part # FPLIDH</p> 	<p>Part # FP SERIES5SS</p> 
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Power Cord

<p>Part # FPDCPC – 6ft DC Part # ES FPDCPC10 10ft DC</p> 	<p>Part# ES FPACPC – AC</p> 
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DATE	REVISION NOTES
1/23/2018	INITIAL DOCUMENT
5/20/2019	ADDITIONAL TROUBLESHOOTING CONTENT ADDED