

AC/DC Refrigerator

RECORD THE MODEL, SERIAL NUMBER, AND PURCHASE DATE OF YOUR APPLIANCE FOR FUTURE REFERENCE

Model Number: _____
Located inside of lower compartment.

Serial Number: _____
Located inside of lower compartment.

Purchase Date: _____

OWNER'S MANUAL

Note: Read and properly keep this manual before operating appliance and for future reference.

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PRODUCT REGISTRATION

Read and Save These Instructions

This owner's manual provides specific operational instructions for your model. Use your appliance only as instructed in this guide. These instructions are not meant to cover every possible condition and situation that may occur. Common sense and caution must be practiced when installing, operating, and maintaining any appliance.

Register Your Product

The self-addressed *production registration card* (back cover) should be filled in completely, signed and returned to the address provided.

IMPORTANT SAFETY INSTRUCTIONS



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

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



IMPORTANT indicates installation, operation, or maintenance information which is important but not hazard related.

IMPORTANT SAFETY INSTRUCTIONS (CONT.)



WARNING

Proper Disposal of Your Appliance

Risk of child entrapment

Child entrapment and suffocation are not problems of the past. Junked or abandoned appliances are still dangerous—even if they will sit for “just a few days.” If you are getting rid of your old appliance, please follow the instructions below to help prevent accidents.

We strongly encourage responsible appliance recycling/disposal methods. Check with your local landfill or recycling center for more information on recycling your old appliance.

Before you throw away your old appliance:

- Remove doors.
- Have the refrigerant removed by a qualified service technician.



WARNING

Avoid fire hazard or electric shock. Do not use an extension cord or an adapter plug. DC power is not compatible with any type of friction plugs.



WARNING

For Your Safety

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this unit or any other appliance.
- Read product labels for flammability and other warnings.
- Do not operate the unit in the presence of explosive fumes.
- Remove and discard any spacers used to secure the internal features during shipping. Small objects are a choke hazard to children.
- Remove all staples from the carton. Staples can cause severe cuts, and also destroy finishes if they come in contact with other appliances or furniture.



WARNING

Electrical Information

These guidelines must be followed to ensure that safety mechanisms in the design of this refrigerator will operate properly.

- AC/DC Dual power input with AC being primary. Both Voltages/Inputs can be connected simultaneously.
- The power cord of the appliance is equipped with a three-prong grounding plug for your protection against electrical shock hazards. It must be plugged directly into a properly grounded three-prong receptacle, protected with a 15-amp time delay fuse or circuit breaker. The receptacle must be installed in accordance with the local codes and ordinances. Consult a qualified electrician. Receptacles protected by Ground Fault Circuit interrupters (GFCI) are NOT RECOMMENDED.
- Refer to the spec sheet or the wire sizing chart below of this manual to determine your wire size when extending the DC cord of the appliance. DC 12/24 volts cannot be compared to AC wiring charts. Be sure to install a circuit breaker of specified size on the spec sheet in the positive power circuit.
- Never disconnect and connect the appliance in less than 5 minutes intervals.
- Disconnect or break the circuit before defrosting to avoid electrical shock.
- The AC/DC motor/compressor operates in a window on the 12/24 volt and 115Volt scale. Operating the unit with insufficient power can damage the motor. Always be sure to have a strong filtered power source.
- Never connect appliance to any other source such as the load port on the solar controller or other device.
- Do not pinch, knot, or bend power cord in any manner.



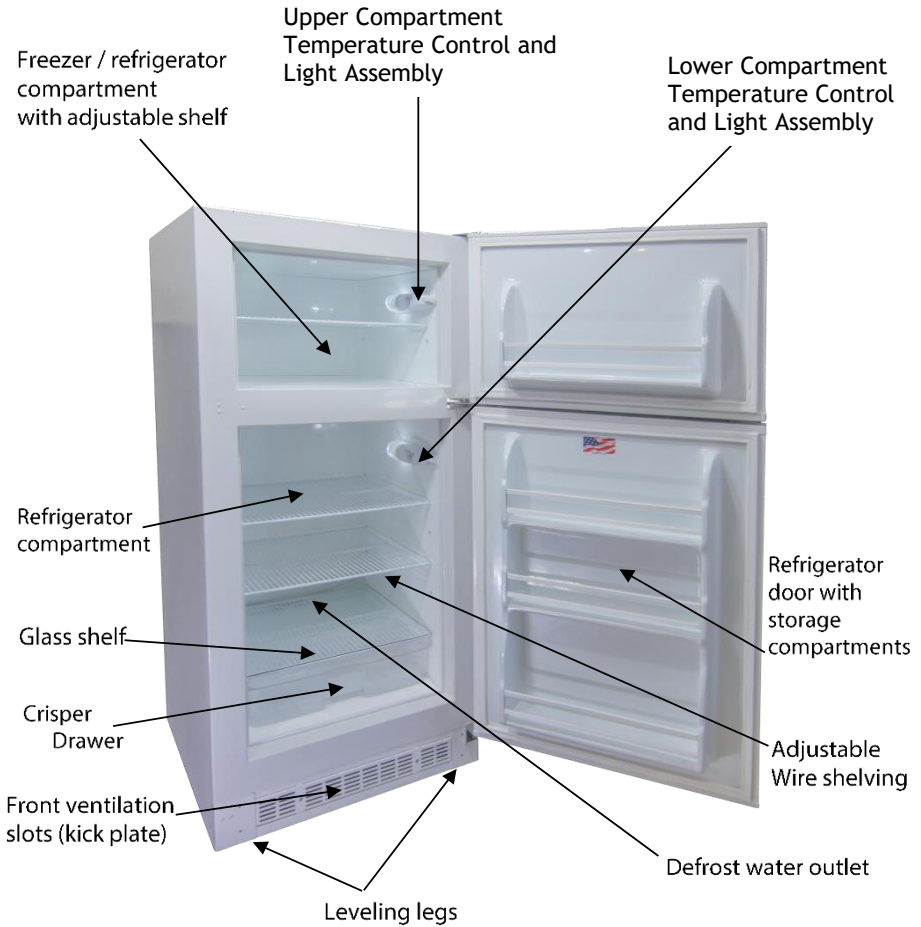
WARNING

Other Precautions

Turning the temperature control to OFF turns off the compressor, but does not disconnect power to other electrical components.

Wire Sizing Chart (Gauge)	Max . length between battery and compressor module (ft.)	
	12V/DC	24V/DC
# 8	20 ft	45
# 6	30 ft	85
# 4	45 ft	130

FEATURES DIAGRAM



FEATURES

Shelving

This unit is built with adjustable wire grid shelving with bar stop in the back to prevent items from being too close to the cooling plate.

Drawer

A clear and spacious 10" X 21.3" drawer compartment to store small and uncategorized items.

Doors

Shelves in the door and option to reverse hinge the doors and have left side hinging.

Rollers/Legs

This unit comes with four roller underneath for ease of installation, after installation, turn the leveling legs down for secure position in place.

INSTALLATION GUIDELINES

Location

Select the coolest and out of direct sunlight areas when possible.

For the most efficient operation, the refrigerator should be located where surrounding temperatures stay between 38°F and 90°F.

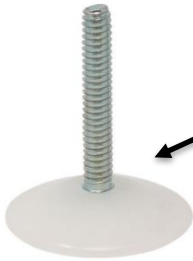
Allow space around the unit for good air circulation. Leave a 3 inch (75 mm) space on the back and top sides of the unit for adequate circulation.

➔ IMPORTANT

Appliances exposed in direct sunlight through windows will increase power consumption significantly.

Leveling

Use the leveling legs (located on the corners, front and rear) to ensure that all 4 corners of the refrigerator are resting firmly on a solid floor. Turn the leveling legs clock-wise to retract the legs and counter-clock-wise to extend the legs. Ensure the floor is strong enough to support a fully loaded refrigerator.



➔ IMPORTANT

It is important for your refrigerator to be level in order to function properly. If the unit is not leveled during installation, the doors may be misaligned and not close or seal properly, causing cooling, frost, or moisture problems.

ENERGY SAVING TIPS

The refrigerator should be located in the coolest area of the room, away from heat producing appliances or heating ducts, and out of direct sunlight. Let hot foods cool to room temperature before placing in the unit. Overloading the refrigerator/freezer forces the compressor to run longer. Foods that freeze too slowly may lose quality or spoil.

Be sure to wrap foods properly and wipe containers dry before placing them in the unit. This cuts down on frost build-up inside the unit.

Organize and label food to reduce door openings and extended searches. Remove as many items as needed at one time, and close door as soon as possible.

⚠ WARNING

If leaving refrigerator doors open while installing, make certain that children cannot get into the unit and become entrapped.

Turn leveling leg down for final installation.

➔ IMPORTANT

Unit must be allowed to set 2 hours before operating.

Note: Changes in ambient temperatures will affect the temperature slightly within the refrigerator, for best energy results place a thermometer inside to achieve recommended temperatures of 0 degrees F. for freezer and 38 degrees F. for refrigerator. Keep doors closed for 8 hours to avoid erratic temperatures.

STARTUP & TEMPERATURE REGULATIONS

1. Startup
 - a. Turn or verify the control dial is at OFF position.
 - b. Connect the appliance to battery or other approved power source,
 - c. Verify the internal compartment lights come ON, indicating power.
 - d. Turn the dial clockwise to desired temperature, and allow unit to operate for 2 full hours before loading food items.
 - e. It is not necessary to turn temperature dial to a colder setting while warm food is being cooled down.
2. Temperature Regulations and Maintenance
 - a. After the unit has been loaded never turn the dial more than 1/4 of a number block on the dial setting in a 24 hour time period.



IMPORTANT

Never disconnect and connect back power cord less than 5-minute intervals, doing so could result in compressor damage!

- b. When making temperature adjustments allow 24-48 hours to stabilize.
- c. The determination of where the dial is set to please find the small arrow pointing toward the dial.
- d. Normal top compartment dial setting for freezer is 4. For refrigerator temperature turn dial to position 1.
- e. Normal lower compartment dial setting is 5.

NOTE: The top compartment can operate at a fridge temperature such as 35 – 45 degrees F. This fridge setting is recommended for short periods of time as moisture will accumulate and will be needed to be wiped up periodically.



Note:

Attached to the compressor controller is a small led bulb that will blink in sequence when its senses any of the below failures.

Fault Code Flash	Fault Occurring
1	Battery Protection Cut Out
2	Fan Over-Current Cut Out
3	Motor Start Error
4	Phase Loss Protection
5	Thermal Cut Out, System Too Hot

View Spec Sheet for Major Technical Parameters

CARE AND CLEANING



CAUTION

Damp objects stick to cold metal surfaces. Do not touch interior metal surfaces with wet or damp hands.



WARNING

Freezer must be unplugged (to avoid electrical hazard) from power source when cleaning or defrosting unit.

Defrosting:

The upper compartment requires a manual defrost approximately 1-2 times per year. Note: There will be significant energy savings to defrost the upper compartment at least twice per year.

The lower compartment does not require defrosting, however depending upon operating temperature and humidity levels ice may accumulate in the lower rear area, if this happens follow the defrosting procedure.

Between Defrostings

To avoid frequent defrosting, occasionally use a plastic scraper to remove frost. Scrape with a pulling motion. Never use a metal instrument to remove frost.

It is important to defrost and clean the freezer when approximately 1/2 - 1 inch of frost has accumulated.

Frost may tend to accumulate faster on the upper part of the unit due to warm, moist air entering the freezer when the door is opened.

Defrosting

Turn the dial to OFF or (0) position, remove the food and leave the door open to speed the defrosting procedure. Pay attention to keep the frozen foods as cold as possible to avoid overload when loading contents back after defrosting.

Once the frost is soft, remove it by using a plastic scraper. Mop and wipe the unit dry, before restarting please

Cont....

follow our instruction for cleaning the inside of the unit to avoid long term mold and bacteria build up.

Cleaning the Inside

After defrosting, wash inside surfaces of the compartments with a solution of 2 table-spoons (25 grams) of baking soda in 1 quart (1.136 liters) warm water. Rinse and dry.

Wash the removable parts with the baking soda solution mentioned above, or mild detergent and warm water. Rinse and dry. Reinsert parts.

Reloading:

Turn the dial to the previously used setting and run the unit for 10 min. Return food contents again and allow extended time to sufficiently cool all contents again.



IMPORTANT

Never use metallic scouring pads, brushes, abrasive cleaners, or alkaline solutions on any surface. Do not wash removable parts in a dishwasher.

Cleaning the Outside

Wash the cabinet with warm water with a dash of vinegar or mild liquid detergent. Rinse well and wipe dry with a clean soft cloth.

Wring excess water out of the sponge or cloth when cleaning in the area of the controls, or any electrical parts.

Power/Freezer Failure

If a power failure occurs; frozen foods will stay frozen for at least 24-48 hours, if the doors is kept closed. If power failure continues, consider packing 5-10 pounds of dry ice inside every 24 hours. Always wear gloves and use caution when handling dry ice.

Long Vacations

If the refrigerator will not be used for several months or extended amounts of time, remove all contents such as empty jars etc. Clean and wipe dry the interior thoroughly. To prevent odor and mold growth place a 1 inch spacer to block the lid open.

FAQ'S AND TROUBLESHOOTING —BEFORE YOU CALL

Before calling for service, review this list. It may save you time and expense. This list includes FAQs and common occurrences that are not the result of defective workman-ship or materials in this appliance.

Problem	Cause	Solution
Refrigerator does not run	Refrigerator is connected to a circuit that has insufficient power when attempting to start.	Charge the battery bank or install a larger AC to DC adapter.
	Temperature Control is in the OFF position.	See Startup & Temperature Regulations .
	Refrigerator wire connection may have not been crimped properly and cause static connection.	Ensure the wire splices are secure and sound.
	Fuse blown or tripped circuit breaker.	Turn the control to OFF and engage the breaker again, then turn control ON.
	The power lead wires 12/24vdc are reversed hookup to power source.	Reverse the hookup, Red is positive, Black is negative.
Refrigerator runs too much or too long	Room or outside weather is hot.	It's normal for the refrigerator to work longer under these conditions.
	Freezer has recently been disconnected for an extended period of time.	It takes 6 hours for the refrigerator to cooldown completely.
	Large amounts of warm or hot food have been stored recently.	Warm food will cause refrigerator to run more until the desired temperature is reached.
	Doors are opened too frequently or too long.	Warm air entering the refrigerator causes it to run more. Open doors less often.
	Door may be slightly open.	Ensure door is tightly closed.
	Temperature control is set too cold.	Turn temperature control knob to a warmer setting. Allow several hours for the temperature to stabilize.
	Thick layer of snow/ice buildup on the inside.	Defrost the unit.
Interior temperature is too cold	The temperature is set too cold.	Turn temperature control knob to a warmer setting. Allow several hours for the temperature to stabilize.
Interior temperature is too warm	Temperature Control is set too warm.	Turn temperature control knob to a colder setting. Allow 1-2 days for the temperature to stabilize.
	Doors are kept open too long or is opened too frequently.	Warm air enters the refrigerator when the doors are opened. Open the doors less often.
	Door may not be seating properly.	See the "Important!" notices in the Installation Guidelines .
	Large amounts of warm or hot food may have been stored recently.	Wait until the refrigerator has had a chance to reach its selected temperature.
	Refrigerator has recently been disconnected for a period of time.	Refrigerator requires 4 hours to cool down completely when empty.

FAQ'S AND TROUBLESHOOTING —BEFORE YOU CALL (CONT.)

Problem	Cause	Solution
Refrigerator starts and run for only a small amount of time.	This unit is built with low voltage cutoff, therefore stopping when reached low volts.	Charge the battery bank, and check for corrosion in connections.
Louder sound levels when refrigerator is on.	Modern appliances have increased storage capacity and more stable temperatures, They require a high efficiency compressor.	This is normal. When the surrounding noise is low, you might hear the compressor and fan running while it cools the interior.
Louder sound levels when compressor comes on.	Refrigerator operates at higher pressures during the start of the ON cycle.	This is normal. Sound will level off as the freezer continues to run.
Popping or cracking sound when compressor comes on	Metal parts undergo expansion and contraction, as in hot water pipes.	This is normal. Sound will level off or disappear as the refrigerator continues to run.
Bubbling or gurgling sound, like water boiling	Refrigerant (used to cool the refrigerator) is circulating throughout the system.	This is normal.
Vibrating or rattling noise	Refrigerator is not level. It rocks on the floor when it is moved slightly.	Level the unit. Refer to “Leveling” in the Installation Guidelines .
	Floor is uneven or weak. Refrigerator rocks on floor when it is moved slightly.	Ensure floor can adequately support the freezer. Use leveling legs to level the freezer.
	Refrigerator is touching the wall.	Re-level or move the refrigerator slightly. Refer to “Leveling” in the Installation Guidelines.
Moisture forms on inside walls	Weather is hot and humid.	The rate of frost buildup and internal sweating increases. This is normal.
	Door may not be seating properly.	See the “Important” notices in the Installation Guidelines.
	Door is opened too often or too long.	Open doors less often.
Odor in Refrigerator	Interior needs to be cleaned.	Clean interior with sponge, warm water, and baking soda.
	Foods with strong odors are in the refrigerator.	Cover the food tightly.
Power available but light is not on	LED may be burned out.	Contact a qualified service technician.
	No electric current is reaching the refrigerator.	See “Refrigerator does not run” problem.
Refrigerator light not on	LED may be burned out.	Contact a qualified service technician.
	No electric current is reaching the refrigerator.	See “Refrigerator does not run” problem.

APPLIANCE WARRANTY

Your appliance is covered by a (refer to spec sheet) year(s) of warranty. Solar Freeze LLC will cover all costs occurred in replacing and repairing parts that prove to be defective in materials and workmanship as long as the appliance is installed in accordance with this manual. At Solar Freeze we strive for common sense and will work hard to satisfy each customer's need.

Warranty does not cover:

1. Products with serial numbers removed that cannot be readily determined.
2. Products that have been transferred/sold to second party (second owner).
3. Manufacturing details that Solar Freeze deems are normal occurrences.
4. Food loss due to any refrigerator or freezer failures.
5. Service calls related to poor installation and those that do not prove a defective material or workmanship.
6. Expenses for making the appliance accessible for service, such as removal of trim, cupboards, shelving, etc. Items that are not part of the appliance when shipped.
7. Service calls to repair/replace items considered consumables such as light bulbs, knobs etc. Items outside of HVAC work.
8. Surcharges including but not limited to, after hour service, weekend, holidays, tolls, mileage expense to remote areas.
9. Damages caused by services by unauthorized service companies, use of parts other than genuine SunStar parts, or external abuse, misuse, inadequate power supply, accidents, fires, floods, and acts of nature.
10. Customer ignorance and neglect to follow specified directions of the use of SunStar products.

If you Need service:

1. Have your receipt, model number and serial number available.
2. Contact your place of purchase first. If needed you will be redirected.

Solar Freeze LLC
214 E Marquis RD N
Lagrange, IN 46761
Phone: 260-499-4973
Fax: 260-499-4984





CUT ALONG THIS LINE

SUNSTAR WARRANTY REGISTRATION CARD

Full Name* _____

Address* _____

City* _____ State* _____

Zip* _____ Phone* _____

Email _____

Purchased From* _____

Phone* _____ Email _____

Model Number* _____

Record the Model Number inside the lower compartment on left side.

Serial Number* _____

Record the Serial Number inside the lower compartment on left side.

Price Paid* _____ Date of Purchase* _____

* Starred blanks are required.

Return within 30 days of purchase to validate warranty.

Mail to address on front of card, or email to

support@solarfreezellc.com, or fax to 260-499-4984.



CUT ALONG THIS LINE



Place
Stamp
Here



SOLAR FREEZE MFG.
214 E MARQUIS RD N
LAGRANGE, IN 46761