



15L Rechargeable Fridge/Freezer



Thank you for choosing our Rechargeable Fridge Freezer
Please Read This Manual Carefully Before Using Your Unit.

User Manual

Model: P15, P15A

 173Wh/11.1V

Note: Please check your product model included battery or not. Battery related content is applicable only for P15A

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1. Features

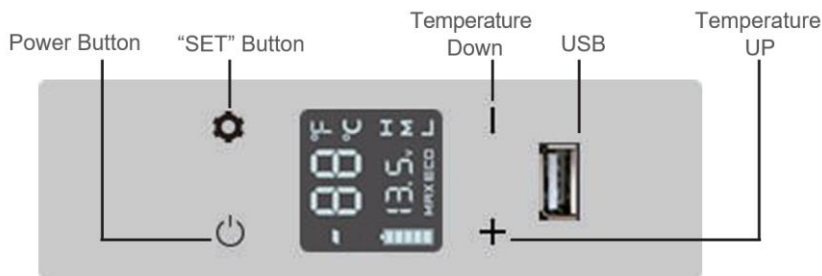
- High efficiency DC compressor and conversion module with high reliability and long life, compressor delay protection
- Quick cooling to -15°C (based on 25°C ambient temperature), lowest to -20°C
- Built-in 15600mA/11.1V Lithium Ion battery 18650, total 173Wh.
- Battery recharged with solar panel (12v-50v), 12/24VDC and 110~240VAC power adapter, allows charging with solar panel, car cigarette or wall outlet
- Intelligent car battery protection system
- Portable design with trolley and wheels, removeable lid
- USB output +5VDC /2.1A for charging cell phone or iPad
- Fluoride-free insulation with good heat preservation performance and low energy consumption, 45w DC/AC power only
- Wide range electronic temperature control, LED display


2. Safety Instructions

- Make sure the voltage is within the correct range for socket and cable being used. See technical data label on side of product for voltage ranges.
- The unit must be placed in a dry and ventilated place far from heat sources (such as stove, flue), Place the unit in a well shaded area. Prevent exposure to blazing summer sunlight as this will cause overheating in the electronic compartment and product will be subject to failure. If compartment reaches an unsafe temperature, the LED display will read error 'F8' and further instructions listed in section 6.FAQ of the user manual should be followed. Protection of the compressor is important to keep product working at ideal conditions.
- Warning: Do not attempt or continue to operate your unit if electrical compartment is wet. The installation of the DC power source in the boat should be handled by qualified personnel.
- Your unit requires good ventilation; allow the following free space for air circulation, back 200mm and side 100mm.
- It is recommended to operate the unit on a flat surface. Maximum operation angle is 35°.
- No electrical devices should be placed inside the refrigerator, as they may be damaged.
- The inner tank allows water filling, but do not pour water out by inverting the unit. Keep the shells of the unit dry after rains. Do not submerge unit under water.



- Although the units have been cleaned before leaving factory, we strongly recommend using a soft cloth dampened with warm water and a little neutral detergent to clean it again, then wipe it with dry soft cloth. (Warning: Electrical parts should be wiped by dry cloth only).
- **Warning:** Do not allow children to play games with the refrigerator such as climbing or standing in the refrigerator. They could damage the refrigerator and seriously injure themselves.

3. The Function and Operation Setting



- **Power On/Off:** Press the Power Button  to turn the unit on/off
- **Temperature Setting:** Can be adjusted by the "+" button up to 20°C (Max) and down to -20°C (Max) by the "-" button; Default temperature is Celsius degree (C). If you would like to change to Fahrenheit degree (F), turn off the fridge, press and hold SET button for 3 seconds. E1 should display on screen and begin flashing; continue to press SET button until E5 shows up, then press Δ or ∇ , select desired units: F or C.

The compressor will cool down the temperature from 10°C to -10 °C in 20 mins. However, this reflects the change in temperature within the insulated walls of the fridge/freezer. Allow an additional hour or more time, depending on the food load, to reach cooling temperature around 1-6 degrees Celsius. To reach freezing with food or beverage inside it will take approximately 8 hours. Therefore, if you want frozen or chilling temperatures inside, we suggest you turn on the compressor 10 hours ahead of time while keeping the temperature setting at -15°C or lower.

- **Cooling Mode Control:** Press the button  to select control mode. Short Press will switch between MAX (Quick cooling mode) and ECO (Energy-saving mode) (tip: Max mode is recommended to begin initial cool down). After desired temperature has been attained, it is recommended to switch to ECO mode to conserve energy cooling mode.
- **Battery Protection:** Selecting the H, M, L positions, you can choose different levels for battery protection. When the unit is on and working, press the  button for 3 seconds, then the LCD will display as below:
 - **L:** Low power protection 9.6V (factory default)

- **M:** Middle power 10.8V
- **H:** High power protection 11.3 V

When the unit is connected to the car, we suggest setting the battery protection to H level. M and L are suggested when the unit is powered with freezer battery or other outside backup battery.

- **USB Output:** +5VDC /2.1A for cell phone, tablet, WIFI speaker, etc.

Note: Don't change setting on E1-E4 which is only for factory maintenance.

4. Power Supply and Charging

- **Power Supply:** The refrigerator is powered with 12/24V DC power, 110~240V AC (adapter included) or backup Lithium battery if there is no connection of DC/AC power. The connected DC/AC power will operate the refrigerator directly and charge battery simultaneously.
- **Battery Charging:** The refrigerator allows three kinds of charging methods. 12/24V DC power, 110~240V AC with Adapter or solar panel (12v-50v).


Rechargeable in 3 Way



- **DC/AC power connection:** Car port and wall outlet cable included.



- **Solar panel (PV) charge connection:**

Insert the solar charge cable into the refrigerator's "PV" terminal 

Max Solar input Voltage: 50V

Max Solar input Current: 10A




Charge Way, 173Wh Lithium		Time
AC	Wall Charger (112W)	4 hours
DC	Car Charger (48W)	4 hours
Solar Panel	Solar Charger (105W)	About 4 hours

- **Checking Charge Status:** When the refrigerator is powered ON and DC/AC power is connected, the battery icon on display screen will flash to show charging. To charge the fridge/freezer battery without running the compressor simply connect the adapters without powering 'ON' the unit. To view charging status please press and hold SET button " ⚙️ " for 3 seconds. The unit's battery status and voltage will be displayed. When the voltage reaches 12.6V and the battery icon stops flashing, the unit has been fully charged and wiring should be disconnected to prevent internal component damage.

- **Warning!!:** Do not charge fridge/freezer with DC12V and Solar Panel at the same time! The unit may be seriously damaged and pose a potential hazard to you.

- **AC Charging Management**

- AC charging is always the first choice if AC power supply is available. Check AC voltage range and use AC adapter to connect with AC power outlet

- We suggest charging the refrigerator battery to full using AC adapter before you leave for a trip or outdoor activity.
- If the fridge has not been in use for a long time the battery may have over discharged and unit will not power on. Please use AC adapter to charge unit to working mode. After unit has received up to 30% charge other charging methods may be used.
- **Car Port Charging Management**
 - **Engine Turned-on:** You can choose anyone of H, M or L mode (see Battery Production in Chapter 5) and use car port power to operate the freezer. Different cars may have different power output voltages. If the voltage protection causes F1 error showed in the LCD, just set the battery protection from H to M or L. If the F1 error is still present, please charge the unit with the adapter for few minutes and normal operation will resume.
 - **Engine Turned-off:** Charging using car battery: Most cars will stop power supply if engine is stopped, but some cars will continue power supply even when engine is stopped. You should adjust the battery protection to H, otherwise, the power of your car battery may run out and it may not have enough power to start car. You can also unplug the car port charger and run the fridge/freezer using its internal battery. If you don't want to use car battery it is recommended to disconnect the car charger from the fridge and set Battery Protection to L mode. This will allow the refrigerator battery to work for a longer time in a safe and independent condition.
- **Solar Charging Management**
 - When charging by solar panel, turn on unit to verify charging is in effect. Once confirmed, unit may be turned off. Press and hold SET button “” for 3 seconds to show the battery status and voltage.
 - When using solar panel to charge the freezer use the extension cable and keep the fridge in shade to avoid overheat and failure of refrigerator.
 - When the refrigerator is powered ON and solar panel is connected to charge, the battery icon on display screen will flash to show charging status. Charging input wattage should be higher than refrigerator working wattage (about 40-45w), otherwise the battery will keep static. To ensure that solar charging power is higher than refrigerator operating power, a 100-Watt solar panel is advised.

5. Battery Power Operation

- **Backup Power:** The lithium battery is back up power which keeps refrigerator operating while staying off grid.
- **Discharge Time:**

Discharge time (ECO and L mode)	
Refrigeration	About 12h
Freezing	About 5h

- **Maintain Battery Charged:**
 - **Home/Hotel:** Use AC adapter to charge unit from AC outlet.
 - **Car/Boat:** Use DC port to operate the unit and charge the battery.
 - **Outdoor:** Bring solar panel to charge the battery. Portable power station/solar generator with AC outlet will be good companion of power supply.
 - **Saving Battery Power:**
 - **Cool down before leaving:** It is always suggested to charge freezer and turn on the unit to cool down in advance with wall/car outlet before the trip. To prepare for off-grid freezer, place food and beverage inside unit and let cool to appropriate temperature. This will allow off-grid battery to last longer while saving energy during outdoor activities.
 - **Operated at ECO and L mode:** set the unit at ECO and L mode
- Note:** Please charge fully before storage longer than 1 month.

6. FAQ

- **The appliance is not working:**
 - Check the power supply connection
 - Check the plug and the socket connection.
 - Check for burnt fuse.
 - Ensure unit has been properly powered to 'ON' mode.
 - Compressor may be in delay start protection.
- **The food inside is frozen:** The setting temperature is too low.
- **Hear water from the inside of fridge:** It is normal, due to the flow of refrigerant.
- **Display F1 code:** Low power protection: setting the protection from H to M or L
- **Display F2 code:** Fan overload protection: turn off unit and restart the unit after 30 minutes
- **Display F3 code:** The compressor protection is activated: please turn off the unit and restart the unit after 30 minutes.
- **Display F5 code:** Compressor controller module protection is activated: please turn off the unit, keep it in a well-ventilated location and restart the unit after 30 minutes.
- **Display F7/F8 code:** Temperature sensor error: please move the unit in regular temperature area for a while, then restart the unit.
If you still have the error, please contact us for support.

7. Food Storage

- **Freezer (-20 °C~0°C):**
 - Meat should be cut and wrapped tightly, and then averagely placed inside.

After buying frozen food, put it in the freezer as soon as it is still in frozen condition.

- Do not put the fresh food and frozen food together.
- Do not put the fruit and vegetable in the freezer to avoid freeze-drying.
- Do not put the glass container or other container with sealed liquid in freezer. Or there is a possibility of explosion.
- **Refrigerator (0°C ~10°C):**
 - Eggs, butter, milk and bottled drink can be put in refrigerator.
 - Fruit and vegetable should be put in bags for moisture retaining.
 - Hot food should be cooled down before it's placed to save power.
 - Food must be packed into bags. Leaving space between packaged foods to keep the circulation of cool air

8. Defrosting

- After the refrigerator has been on for a period, frost could be seen on surfaces in the freezer, which reduces refrigerating effect and increases power consumption. In this case, you need to defrost it.
- Unplug the refrigerator and open the doors, take the food in the refrigerator to a cool place. Use defrosting shovel to remove ice and frost (also can just let the door open, then ice and frost will be thawed by the raising temperature). Then use dishtowel to wipe off the ice water. After that, place the food back to the refrigerator and plug in.

Note: Do not use sharp metal tools to defrost which will damage the refrigerator.

9. Care and Cleaning

Unplug the refrigerator before cleaning!

- Use soft cloth dampened with warm water to wipe the inner surfaces and external appearance of the refrigerator.
- Use neutral detergent to clean the heavy stains, and dry with clean soft cloth.
- For long vacation or absences, remove food and unplug the refrigerator. Clean the refrigerator and leave the doors open a little. Then place the refrigerator in ventilated place.
- Do not use cleansers containing corrosive and deliquescent material (such as scouring powder, bleach, soap powder, alkaline cleansers, benzene, gasoline, acid, water, etc.) to clean the appearance panels, door gaskets and plastic parts.

NOTE: Do not sprinkle water on the refrigerator during cleaning because that would reduce the insulating property of electrical components and erode the metal parts.

10. The Following Situations are Normal

- The flow of refrigerant through the evaporator may create a boiling or gurgling sound.
- In the rain and high humidity weather, moisture may form on the outside of refrigerator or door gaskets. You can wipe damp surfaces with dry cloth.
- The temperature on the back panel may be high (particularly in summer) due to heat emission of the condenser.
- The temperature on external surface of the compressor may be high when compressor is working.
- The compressor may cause a high hum or pulsating sound when it is at starting or stopping step.
- It's normal to hear metal clanking noise from compressor when refrigerator is bumped.

11. Technical Specification

MODEL	30/40/50L
CLIMATIC CATEGORY	T/ST/N/SN
PROTECTIVE CLASSIFICATION OF ELECTRIC SHOCK RESISTANCE	III
RATED VOLTAGE DC (V)	12/24V
DC FUSE (A)	15A
TOTAL INPUT POWER (W)	45W
RATED CURRENT FOR DC(A)	3.75A/1.875A
REFRIGERANT (g)	32g
N.W (kg)	11.6kg/12.6kg/13.9kg

12. Guidelines for Protection of the Environment



DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.


Meaning of crossed-out wheeled dustbin: Do not dispose of electrical appliances as unsorted municipal waste. Use separate collection facilities.

Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

Danger!

- Do not put the portable power pack into water or get it wet.
- Do not charge or store near fire or under extreme heat, especially when leakage happens.
- Do not mix up positive electrode and negative electrode.
- Do not connect directly to AC power source.
- Do not transport or store with necklace or other metal material, this may cause short circuit.
- Do not puncture or open, stamp, or impale.
- The terminals cannot be welded directly.
- Cannot be decomposed.
- Do not place in microwave ovens or pressured vessels.
- Do not combine with one-shot battery or battery with different capacity, model or type.
- Do not use if abnormalities are noticed such as smoke, excessive heat, etc.

13. Packing List

Item Model	Refrigerator	DC power cord	AC adaptor	Solar charge cable	User's manual
P15	 x1	 x1	 x1	 x1	 x1
P15A	 x1	 x1	 x1	 x1	 x1

Note: Please check when your purchased model included battery or not, P15A with battery and P15 without battery.

14. Warranty

- **One-year warranty for unit.** Please visit our website and make warranty registration: <https://www.acopower.com/productwarranty/register>



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