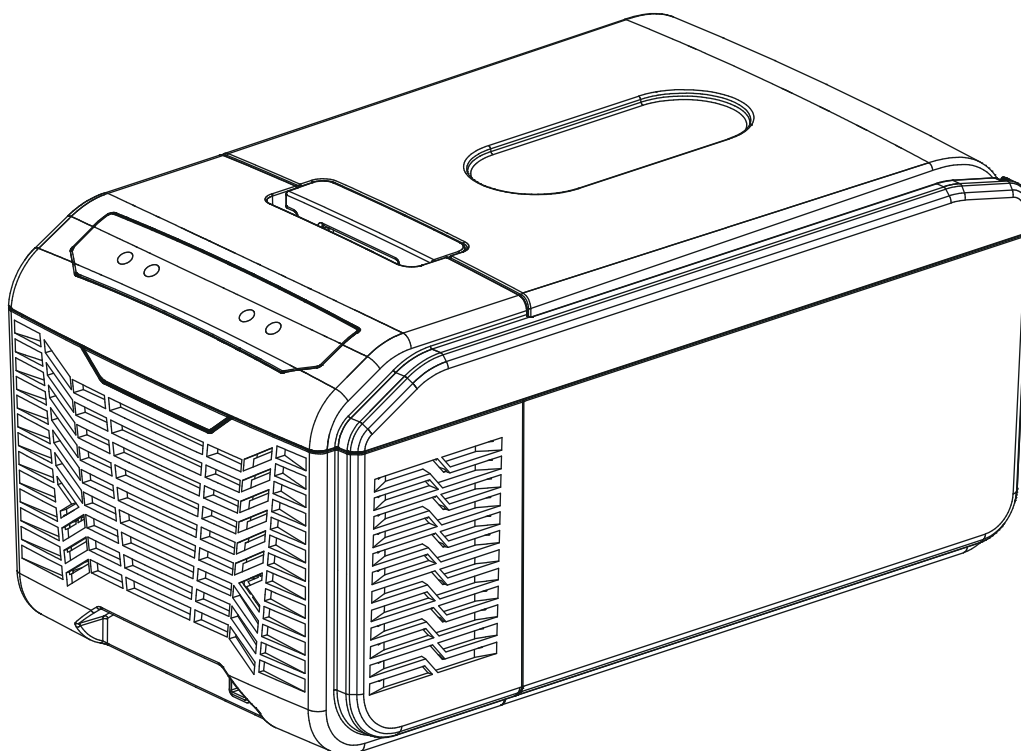


Vehicle Refrigerator And Freezer

INSTRUCTIONAL MANUAL



Model No.: ZBD-15

Thank you for purchasing this product! To ensure proper use of this appliance and your safety, please read the following instructions completely before operating this appliance.

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1. IMPORTANT SAFETY INSTRUCTIONS

Before you use your vehicle refrigerator and freezer, please read this owner's manual carefully.

Use this appliance only for its intended purpose as described in this owner's manual.

– suitable for camping use;

– this appliance shall not be exposed to rain.

- **WARNING:** This appliance is intended to be used in household and similar applications such as
 - staff kitchen areas in shops, offices and other working environments;
 - farm houses and by clients in hotels, motels and other residential type environments;
 - bed and breakfast type environments;
 - catering and similar non-retail applications.
- When transporting the refrigerator, keep the unit in the upright position. Do not tilt the appliance beyond 45° or place the unit in upside down position. Do not tip over.
- Do not touch the cooled surfaces while the appliance operates, especially not with wet hands, because the skin may stick to the cold surfaces.
- It is recommended that the refrigerator is positioned away from any combustible sources such as gas, petrol, alcohol, lacquer and banana oil. The aforementioned objects should not be stored in the refrigerator under any circumstances.
- If the unit fails to cool properly, dispose of spoiled food as needed.
- Unplug your unit before cleaning or before making any repairs. **NOTE:** *If for any reason this appliance requires service, we strongly recommend that a certified technician perform the service. Repairs made by non-qualified personnel will void the warranty.*
- Do not defrost the appliance with other electric devices (hair dryer, etc.) and never scrape the ice or frost layer with sharp tools.
- This appliance 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 appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- Do not run cord over carpeting or other heat insulators. Do not cover the cord. Keep cord away from traffic areas, and do not submerge in water. If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.
- Repair or replace immediately all electric service cords that have become frayed or otherwise damaged. Do not use a cord that shows cracks or abrasion damage along its length, the plug or the connector end.
- **WARNING:** Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction.
- **WARNING:** Do not use mechanical device or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- **WARNING:** Do not damage the refrigerant circuit.
- **WARNING:** Do not use any other electrical appliances inside the food storage compartments of the appliance, unless they are of the type recommended by the manufacturer.
- Do not operate your appliance in the presence of explosive fumes.
- **WARNING:** Do not use the flame or catch the fire near the unit.
- **CAUTION:** Risk Of Fire Or Explosion. Dispose Of Property In Accordance With Federal Or Local Regulations. Flammable Foaming Material Used.

Disposal of your unit

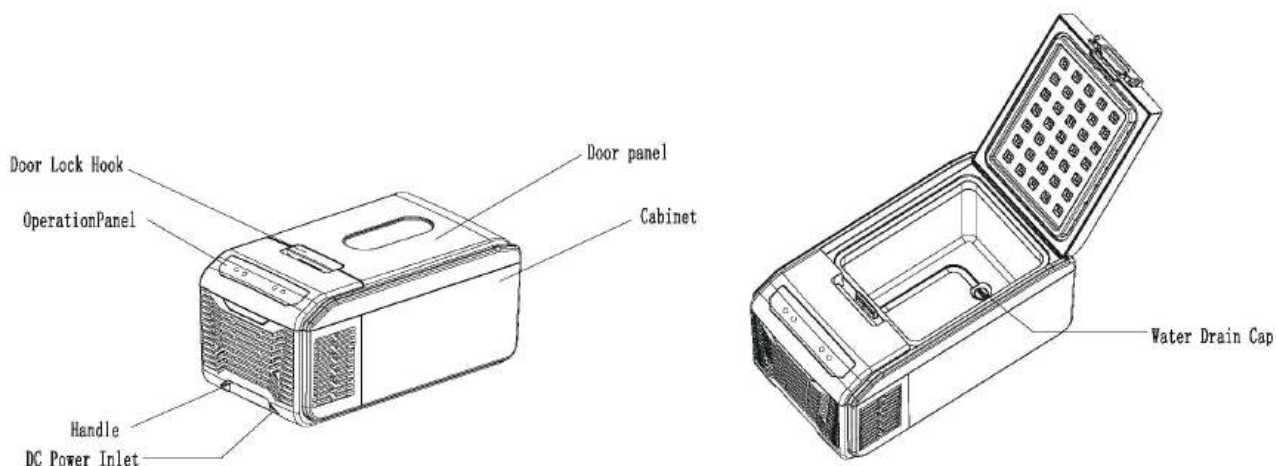


Warning: Risk of fire / flammable materials



Please according to local regulations regarding disposal of the appliance for its blowing gas.

- Before you scrap the appliance, please take off the doors to prevent children trapped.
- **DANGER:** Risk of child entrapment. Before you throw away your old refrigerator or freezer:
 - Take off the doors.
 - Leave the shelves in place so that children may not easily climb inside.

2. KNOWING YOUR UNIT



Specifications

Model No.	ZBD-15		
Capacity	15L		
Electrical Safety Class	III		
Power Supply	100-240V~ 50/60Hz 1Ph (by AC/DC adapter)	DC 12V  (by Car Cigarette lighter)	DC24V  (by Car Cigarette lighter)
Electrical Rating	0.7-1.6A	4.5A	2.5A
Refrigerant	R134a 1.23oz/35g		
Foaming agent	Cyclopentane		
Net Weight	19.2 pounds		
Product size	22.3*13*11 inches		

Product Feature

- Cooled by High efficiency DC compressor, high reliability, high life, high energy efficiency, and quick cooling speed.
- Fresh mode and freeze mode can be convertible, foaming door, camping environmental looking, elegant design, easy operating.
- LED lighting in the cooler compartment, clear seeing your desired food stuff.
- Bottom water drain plug, easy to drain out the condensate water.
- Vehicle, in house or outdoor using, can be either operated from DC12V/24V vehicle cigarette lighter or from AC/DC adapter supplied by AC electric mains, also operated from DC12V storage battery or from solar panel cell through special voltage regulator.
- Set with compressor time-delay protection function.
- Memory function when power off.
- 3-level battery monitor for protecting the vehicle battery.
- Wide temperature setting range: From -4°F to 68°F.

Tips For Energy Savings

- Keep the unit doors closed as much as possible, particularly in warm / humid conditions.
- Maintain adequate ventilation around the back and sides of the unit, and avoid direct sunshine.
- Allow warm food stuff to cool to room temperature before putting into the unit.
- Do not open the device more often than necessary.
- Excessive ice build up will increase energy consumption. Defrost the unit when ice / frost is ¼" thick.

3. OPERATING INSTRUCTIONS



- Do not operate the cooling device if it is visibly damaged.
- If the power cord of cigarette lighter or AC/DC adapter is damaged, it must be replaced by the customer service in order to prevent safety hazards.
- Never pull the power cord to disconnect the unit from an outlet. Grasp the plug or connector directly and pull it from the outlet.
- Keep the power cord away from heated surfaces.
- This appliance may only be repaired by qualified personnel, improper repair can lead to considerable hazards.
- Cleaning and user maintenance must not be carried out by children without supervision.
- Children must be supervised to ensure that they do not play with the cooling device.
- Always keep and use the appliance out of the reach of children under age of 8 years.
- Do not store any explosive substances such as spray cans with a flammable propellant in the cooling device.
- Must avoid placing the appliance near external heat source or direct sunshine and do not expose this appliance to rain or excessive moisture.
- Close the appliance lid immediately after putting in any items to maintain the internal temperature of the unit.
- Do not turn the appliance upside down, on its side, or 15° or more off level.
- Make sure the appliance is placed on a flat, level, strong enough and solid surface of floor or in vehicle.
- When positioning the appliance, ensure that there is at least a 6" clearance around the unit. This will allow for adequate ventilation of heat from the compressor machine of the unit.
- Do not pour the water or beverage directly into the unit, only cool the canned or bottled drinks and packaged food.
- At any time, be sure that the mains supply's voltage is correct. When outdoor using, if the appliance is connected to the storage battery, the positive pole and negative pole must be correctly connected.
- After transportation and moving of the unit or the first use, please wait for a least 4 hours then to plug on the unit.
- Make sure to lock the door with the cabinet by the lock hook to avoid leave door ajar when the unit is running, to less the cooling leakage and save the electricity energy.
- Don't move the unit when running, and not to run the unit at uneven road surface, it will produce unit vibration and big noise.

Before The First Use

Important: If the unit is brought in from outside in the winter season, give it a few hours to warm up to room temperature before plugging it in.

1. Remove the packaging material.
2. Clean the unit thoroughly. Wipe the outside with a soft dry cloth, the interior with a moist cloth.
3. Check that the voltage specification on the rating label corresponds to that of the power supply.
4. Connect your unit as follows:
 - Connect the DC cigarette lighter (Fig. 1) to the cigarette lighter socket in the vehicle.
 - Or connect the unit via the AC/DC adaptor (Fig.2) and then connect its AC power plug to the AC mains supply.



Fig. 1



Fig.2

5. It's suggested to put wines or beverages or other food into the cooler compartment after at least 2 hours after the power on.





Note: Because this unit can be set as wine or beverage cooler, fresh food refrigerator or freezer, be sure to select the proper set temperature according to your storage food.

Recommended Storage Temperature

1. Fruits and vegetables: 5°C (41°F) ~ 10°C (50°F)
2. Fast food and pastries: -3°C (27°F) ~ 4°C (39°F)
3. Seafood, aquatic product categories: -11°C (12°F) ~ -4°C (25°F)
4. Frozen meat: -18°C (0°F) ~ -12°C (10°F)

Operation Panel Function



	When the unit is off, press once to run the unit immediately. When the unit is on, press for more than 3 seconds to turn off the unit.
	Press for more than 3 seconds to enter internal parameter setting program.
	Increase or decrease the temperature digit.
	Display the actual or set temperature value in the cooling compartment, and the advanced parameter set value or various icon.

● Start The Unit

Connect unit to the DC power supply, the unit will be on at once when last time the unit is supplied by the DC power. And the actual temperature inside the cooling compartment will be displayed, and the compressor will start to run after a time delay.

● Adjust The Temperature

After starting up the unit, you can set the temperature to your desired value by pressing “+” or “-” button, the range is from -4°F to 68°F. Long press the button to rapidly change the temperature digit.


Common temperature suggestion

Cosmetics (17-68°F), wine (50°F), fruit (39-43°F), beverage or water (36-41°F), beer (32-39°F), meat (14°F), ice cream (5°F), steak (0°F), fish (0°F).

Pay attention to the medicine storage and follow the requirement of the special food stuff.

When the temperature is set below 32°F, do not keep the glass-bottled drink such as beer and lemonade or soda cans, as the cans or glass bottle may shatter.

● Advanced Parameter Setting

Long press the “” button for more than 3 seconds, the parameters at the bottom of the display window blink, and enter the advanced parameter setting program:

(1) Low voltage protection battery monitor setting

The unit is equipped with a 3-level battery monitor which protects your vehicle battery against excessive discharging when the unit is connected to the on-board DC supply. This will make sure your unit work normally, and also protect your vehicle battery.

If the cooler is operated when the DC output of the vehicle cigarette lighter socket is switched off, the cooler will switch off automatically as soon as the supply voltage falls below the set level. The cooler will switch on once the battery has been recharged to the restart voltage level.

In “H” level, the battery monitor responds faster than at the level “L” and “M”.

Monitor Level		L	M	H
12V	Switch-off voltage	9.6V	10.2V	11.2V
	Restart voltage	10.9V	11.4V	12.4V
24V	Switch-off voltage	21.3V	22.3V	24.1V
	Restart voltage	22.7V	23.7V	25.2V

Suggestion:

When the cooler is supplied by the started battery of the vehicle, set the battery monitor at level “H”.

If the cooler is connected to a separate supply battery or the AC/DC adapter from AC mains supply, the battery monitor level “L” will be suitable.

Because of the voltage difference of DC power output between the different vehicle, if the low-voltage protection happens and the “F1” displays in temperature display window, you can adjust the monitor level to one lower level.


Note: If the cooler is still running after the vehicle engine is turned off, the protection level must be altered to “H”, otherwise it may consume too much electricity energy.

How to set the protection level

The default set of this low voltage protection battery monitor is “M” level. When the cooler is on, the last time set level will flash in display window. During the flashing process, touch the “+” or “-” button to select the battery monitor level “L” or “M” or “H” to protect your vehicle battery. The selected monitor level will flash in the display window for a few seconds before it return to the actual temperature display.

(2) Energy save mode set

The cooler has 2 compressor running mode: “**MAX**” for normal running mode, “**ECO**” for energy-save running mode, meaning that the compressor will run at lower speed and reduce the energy cost.

When the monitor level “**L**” or “**M**” or “**H**” is flashing in the display window, again short press the “” button, the last set compressor running mode “**MAX**” or “**ECO**” will flash, touch the button “+” or “-” to change the compressor mode. It's suggested to set “**ECO**” mode when fresh food storage, and set “**MAX**” mode when freezing use and at high ambient temperature.

The selected mode “**MAX**” or “**ECO**” will flash in the display window for a few seconds before it return to the actual temperature display. Then the selected mode will be remembered.

(3) Temperature unit change (Centigrade and Fahrenheit)

When the compressor running mode “**MAX**” or “**ECO**” is flashing in the display window, again short press the “” button, the temperature unit “°C” or “°F” will begin to flash, touch the button “+” or “-” to change the temperature unit.

The selected temperature unit “°C” or “°F” will flash in the display window for a few seconds before it return to the actual temperature display. Then the temperature unit will be remembered.

(4) No button pressing for about 10s, it will automatically exit the above advanced parameter setting program.

● Child Lock Function

Without any operation on the whole operation panel for 30 seconds, the child lock will activate, and the lock icon on the display screen will light up.

To unlock, press “+” and “-” button for 3 seconds at the same time to restore the setting function of the operation panel. At the same time, the child lock icon on the screen is off.

● Error Code Display

When the unit is running, if the Error Code displays in display window, please take the following table as reference:

Error Code	Possible Reason	Suggested Solution
F1	DC Input voltage is too low	Check the battery voltage or adjust the Battery Monitor Level.
F2	Ventilating fan fault	Check if the ventilating fan is blocked or short circuit.
F3	Compressor starting fault	Disconnect the device from power supply for 30 minutes, and re-start the device.
F4	Compressor minimum running speed fault	Change the working mode by device control panel
F5	Overheating warning of the driving PCB of the compressor	Move the device to a place with well-ventilated environment.
F6	Compressor driving PCB fault	Change a new driving PCB for compressor
E0	Actual temperature sensor is short-circuit	Connect or replace the sensor
E1	Actual temperature sensor is broken or disconnected	Connect the sensor again or replace the sensor

E2	Door is not closed appropriately, or the air circulation around the unit is blocked	Lock the door with the cabinet by checking the door lock hook. Move away the blockage around the unit.
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4. CLEANING & MAINTENANCE

Defrost Your Unit

If you set the unit at freezing mode with lower temperature, the ice will accumulate on the inner wall of the storage compartment with unit running for a long period. When the ice is over about 2" thickness, the defrosting operation needs to be perform to improve the cooling efficiency. Follow the below steps to melt the ice:

1. Turn off the unit and disconnect the DC/AC supply.
2. Remove all items inside the unit.
3. Allow the ice to melt completely.
4. Drain out the water by unplug the water drain cap, then wipe the defrost water with a dry, soft cloth to dry the inner wall completely .
5. Plug on the DC supply again to turn on the unit again.

WARNING: Do not use the mechanical devices or other means, such as sharp object, screwdriver, electric hair drier, to accelerate the defrosting process.

Normal Operating Sounds

It is normal to hear gurgling sounds caused by the flow of refrigerant when the compressor running. The noise emitted by the cooling fan on the condenser is also normal.

When Not Using Your Unit For a Long Period

1. Remove all items inside the unit to empty the cooler.
2. Turn off the cooler.
3. Disconnect the DC power plug from the DC power inlet.
4. Leave the door open a little, this will prevents odour build-up.

Cleaning Your Unit

1. Always disconnect the DC power plug from the DC power inlet before cleaning.
2. Cleaning the inside of the unit whenever necessary using a solution of warm water and baking soda (1 tablespoon to every 2 liters of water). Dry with a soft cloth.
3. Do not use steel brushes or harsh detergent to clean the inner liner.
4. Dirt from the condenser should be cleaned by a qualified technician necessary.
5. Make sure that the air inlet and outlet vents on the unit are free of any dust and dirt.

5. TROUBLESHOOTING

Fault	Possible Cause	Suggested Remedy
The unit does not function, LED light does not glow.	No voltage was detected in the DC power supply.	In most vehicles the cigarette ignition port must be turned on before power supplied to the DC power outlet.
	The fuse in the cigarette lighter or in the unit is blown	Replace the fuse by a new one with same electrical rating.
The unit does not cool (plug is inserted, and the operation panel displays normally).	Defective compressor or refrigerant leakage	Check the compressor is running or not. This can only be repaired by an authorized repair center.
The unit does not cool (plug is inserted, display screen shows Error Code "F1").	Low voltage protection battery monitor is set too high.	Set the battery monitor to a lower level.
	Battery voltage is too low.	Test the battery and charge it if necessary.
The display screen shows the Error Code and the unit does not cool.	Please see the above explanation in the chapter "Error Code Display" .	This should only be repaired by an authorized repair center or professional person.
The compressor runs but the inner liner does not get very cold.	The ambient temperature is too high.	Wait more time to let it cool down, and it is better to move the unit to a good condition environment
	Maybe the cooling system is blocked or refrigerant is leaked.	Contact service department or special professional person.
The inner is very cold and the compressor runs continuously.	The ice or frost on the liner wall is too thick.	Start the defrost process.
	The door is not closed appropriately and opened too frequently.	The door should be closed as much as possible, and not to open more often.
	The condenser is not well-ventilated.	Place the unit at good air circulation place.
	The set temperature is too low.	Set the temperature to high value.
The unit is noisy.	The unit is not put level.	Place the unit on a flat and hard surface.
	The DC power voltage is not correct range.	Run the unit at normal DC power supply.

Thank you for purchasing this product! If you have any question about the product, such as missing parts, damaged products, product assembling, and operation, please contact us via customer service number: **213-446-7172** .

IMPORTANT

Please call our customer service department for any consulting:

213-446-7172

(8:30am - 5:30pm P.S.T.)

DATED PROOF OF PURCHASE IS REQUIRED FOR WARRANTY SERVICE.

AVIS

Veuillez appeler le service à la clientèle pour toutes questions au:

213-446-7172

(8:30am - 5:30pm P.S.T.)

PREUVE D'ACHAT ORIGINALE REQUISE POUR SERVICE DE GARANTIE.

IMPORTANTE

Sólo hay que llamar nuestro departamento de servicio al cliente en caso de tener preguntas o inquietudes:

213-446-7172

(8:30am - 5:30pm P.S.T.)

SE REQUIERE PRUEBA DE COMPRA CON FECHA PARA SERVICIO BAJO GARANTÍA.

ROWAN ELECTRIC APPLIANCE LLC
Phone: 213-446-7172