



## SOLAR REFRIGERATOR

# SOLAR REFRIGERATOR USER MANUAL

MODEL(V.21): DDSR-100, DDSR-150, DDSR-200, DDSR-250, DDSR-350

## **INTRODUCTION**

Congratulations! You have purchased one of the most efficient refrigeration product available on the market today. Devidayal™ Solar Refrigerators are designed to provide years of efficient trouble-free operation. The design is optimized for energy savings with an efficient DC compressor, thick insulation, and a chest style configuration.

Before using the appliance, read through this manual carefully including all the information on safety, installation, operation, and cleaning. These guidelines may not cover every possible condition or situation that may occur. Be safe using common sense and caution when installing, operating and cleaning this appliance. If you are unsure about any of these instructions or warnings, contact Devidayal Solar Solutions or your local product dealer for assistance.

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## **IMPORTANT NOTES**

◆ **THIS APPLIANCE SHOULD BE LEFT OFF IN ITS NORMAL OPERATING POSITION FOR 2 HOURS PRIOR TO TURNING IT ON TO ALLOW THE COMPRESSOR OIL TO SETTLE.**

◆ **IF THE APPLIANCE HAS BEEN HANDLED ON ITS SIDE OR STANDING ON END, IT SHOULD BE ALLOWED TO SIT IN THE NORMAL OPERATING POSITION FOR 12 HOURS BEFORE TURNING IT ON.**

◆ **PRIOR TO ADDING FOODSTUFF, THIS APPLIANCE SHOULD BE RUN FOR AT LEAST 4 HOURS ALLOWING THE INTERIOR OF THE CABINET TO COOL.**

◆ **THIS APPLIANCE OPERATES ON 12 VOLTS DC (DIRECT CURRENT) ONLY! DO NOT CONNECT DIRECTLY TO AN AC (ALTERNATING CURRENT) POWER SOURCE.**

◆ **THIS APPLIANCE IS DESIGNED FOR DOMESTIC USE OR LIGHT COMMERCIAL USE!** Specifically for the storage of edible/consumable food and drinks (foodstuff).

◆ **NEVER USE EXCESSIVE FORCE ON THE HANDLE TO OPEN THE LID.**

◆ If the room/ambient temperature approaches the appliance operating temperature, the appliance will not function as it should. If the room/ambient temperature exceeds 40°C, the appliance will not function as it should.

◆ A battery-powered refrigerator has a cooling capacity lower than typical AC units. Because the compressor is small, the unit runs more efficiently, but lacks the ability to cool large warm loads as quickly as typical AC appliances.











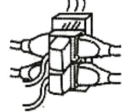


## IMPORTANT SAFETY INSTRUCTIONS

These warnings are provided in the interests of your safety. Please ensure that you understand them all before installing or using this appliance. Your safety is of paramount importance. If you are unsure about any of these meanings or warnings, contact Devidayal Solar Solutions Pvt. Ltd or your local product dealer for assistance.

### Prior to Installation

- At the delivery, please check that the appliance is complete and has not been damaged during transport. It is not advised to connect an appliance that has been damaged, especially damage to the electrical supply cable or refrigerant circuit. In the event of damage please contact Devidayal Solar Solutions Pvt. Ltd or your local product dealer for assistance.

### PRECAUTIONS FOR USE

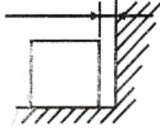
 <b>WARNING</b>	
<p> All repairs, disassembly and modifications should be performed only by qualified technicians. Attempting to perform these yourself could result in a fire, malfunction, and injury.</p> <p><b>Don't tamper</b></p> 	<p> Never splash water directly onto the product or wash with water as short-Circuit and electrical leakage could result.</p> <p><b>ELECTRICAL SHOCK HAZARDS</b></p> 
<p> Never put flammable or volatile substances into the unit as explosion and fire could result.</p> <p><b>Danger of explosion</b></p> 	<p> Do not damage, modify, excessively bend, strain, twist or bundle up the power cord. Also, placing heavy objects the power cord or squeezing it in a tight place could damage it, possible resulting in electrical shock or fire.</p> <p><b>PROHIBITED</b></p> 
<p> Use a dedicated wall outlet. Do not use extension cords or convenience receptacles as this could result in electrical shock, overheating and a fire.</p> <p><b>PROHIBITED</b></p> 	<p> Never use flammable spray cans or leave flammable substances near the unit. Sparks from electrical switches could result in explosion and fire.</p> <p><b>FLAMMABLE</b></p> 



# WARNING

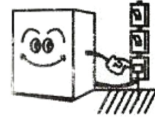
## WELL VENTILATED PLACE

Please make more than 10cm space between Chest freezer and wall.  
If there are no space, cooling capacity can drop down.



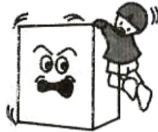
**ELECTRICAL SHOCK HAZARDS**

If installation in a damp location is unavoidable, also install an electrical leakage circuit breaker.  
If no electrical leakage circuit breaker is installed, electrical shock could result.



**PROHIBITED**

Never hang from the door or climb onto the unit.  
The unit could tip over or fall and cause material damage or injury.



**Disconnect the power cord plug from the wall outlet**

Disconnect the power cord plug from the wall outlet before moving the unit and make sure that the power cord is not damaged during transport.  
A damaged power cord could result in electrical shock and/or fire.



**PROHIBITED**

Never touch the power cord plug other electrical components, or operate the switch with wet hands.  
Electrical shock could result.

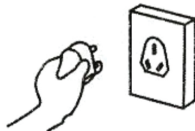


**PROHIBITED**

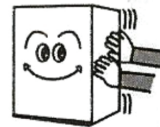
Never use if the power cord or plug is damaged or the plug cannot be firmly seated in the receptacle sockets as electrical shock, short-circuit and fire could result.



When disconnecting the power cord plug from the wall outlet, hold at the plug main body close to the outlet.  
Pulling the cord could cause wire breakage, possible resulting in overheating and fire.



Make sure that the unit does not tip over or fall when it is moved.  
A falling unit could cause serious injury.





# WARNING



For indoor use only. Using the unit in a location exposed to rain could result in electrical leakage and electrical shock.

PROHIBITED

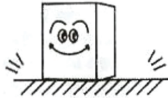


PROHIBITED

Never place heavy objects or items containing water on top of the unit. Objects could fall down and cause injury and spilled water could deteriorate the insulation of electrical components and result in electrical leakage.



Install the unit in a location where the floor is sturdy enough to support the load of the unit. If the floor is not sturdy enough or installation is incorrectly performed, the unit could tip over and falling shelves and products could cause personal injury.



Caution against explosion

If you find gas leakage please don't touch the chest freezer, and close gas and open the door for ventilation. Gas leakage cause explosion, fire, and fire injury.



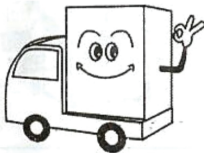
Store the unit in a location where it is not exposed to rain. Using a unit that has been exposed to rain could result in electrical leakage and electrical shock.



Away from hot air sources. Cooling performance is reduced if the unit is placed near heat sources such as hot plates and stoves and if it is exposed to direct sunlight.



Leave disassembly and disposal of the unit to qualified experts.



Should the unit need temporary storage, make sure not to store the unit in a location where children play and take precautions so that the door cannot be completely closed. This will minimize the risk that a child becomes trapped inside the compartment.

• This appliances operates on 12/24 Volt DC (Direct Current) only!

• Under no circumstances should this appliances be directly connected to an AC (Alternating Current) power source

## ELECTRICAL DC CONNECTION

The appliance should be left for 2 hours after positioning before it is turned on, in order to allow the refrigerant oil to settle. If the appliance has been handled standing on its side or on end, it should be allowed to stand in the normal operating position for 12 hours before turning it on.

**THIS APPLIANCE MUST NEVER BE CONNECTED DIRECTLY TO ANY  
AC (Alternating Current) POWER SOURCE!**

**THE APPLIANCE MUST ONLY BE CONNECTED TO A 12V SOURCE, SUCH AS A  
BATTERY OR CHARGE CONTROLLER.**

**THE UNIT WILL AUTOMATICALLY OPERATE ON EITHER 12V .  
THE USER DOES NOT NEED TO MAKE ANY ADJUSTMENT.**

**ATTENTION:** Polarity is important in wiring this DC appliance. Be sure that positive terminal of the battery or charge controller coincides with the positive wire to the refrigerator compressor, and the negative terminal of the battery or charge controller coincides with the negative wire to the refrigerator compressor. The leads should be connected using cable shoes and screwed connections. Joined leads should be avoided.

+ to + *and* - to -  
Positive to Positive *and* Negative to Negative

## I. OPERATION PANEL (BUTTON AND DISPLAY) FUNCTION



### Electronic thermostat

- **DISPLAY:** 1) Four red or yellow numbers for temperature; 2) After connect the power, the power light will show red. When the compressor starts to work, the running light will show green.
- **SET:** Press the “set” button one time, then press the “up” or “down” button to control the temperature that you want, and it will memory. If you don’t press any button for 3 seconds, it will show the temperature in the unit again .
- **LIGHT:** Press the “power” button one time, LED digital display will OFF/ON.
- **POWER:** Press the “power” button for 3 seconds, unit will stop work and electronic thermostat will don’t display. Press the “power” button for 1 seconds, electronic thermostat will display again. Several minutes later, the compressor will restart.

## II. System Operating status and function

### 1. Auto temperature control mode

Connected Voltage	Monitor status of battery output port	Working voltage value of compressor
12V	Cut-off Voltage	10.8V±0.3V
	Cut-in Voltage	11.5V±0.3V

Note: The close voltage of the compressor is related with the length of lead wire, joint contact resistor and working current value, maybe it's different with the actual measuring value. Power on voltage will be more accurate.



## TECHNICAL PARAMETERS

	MODEL	DDSR-100	DDSR-150	DDSR-200	DDSR-250	DDSR-350
S.No.	Parameters					
1	Climate Type	ST, T				
2	Rated Voltage	12V / 24V DC				
3	Gross Volume	100L	150L	200L	250L	350L
4	Current Consumption	6.75A @12V DC	7.67A @12V DC	7.67A @12V DC	7.64A @24V DC	7.64A @24V DC
5	Outside Dimension (mm)	535x535x840	735x535x840	870x535x840	1065x555x840	1294x598x840
6	Gross Weight	28kg	35kg	39kg	48kg	53kg

# IN CASE OF THE FOLLOWING

## 1 POWER FAILURE

- Sudden power failure  
Keep opening and closing of the door to a minimum to prevent cold air from escaping from the freezer compartment. Covering exterior glass surfaces with a blanket, etc. Will maintain a low temperature.
- Keep opening and closing of the door to a minimum.
- Avoid placing new items in the cooler as this will raise the temperature inside the compartment.

## 2 WHEN NOT USED FOR A LONG PERIOD

- Remove all items from the compartment and disconnect the power cord plug from the wall outlet.
- Clean the compartment interior and wipe away all water.  
To prevent mold formation and bad smell, leave the door open to dry the compartment completely.

## 3 WHEN NOT USED TEMPORARILY

- Please stick wood between door and chest freezer so as not to close it up.
- Please don't put chest freezer in a place where children can play. If children shut themselves up, they cannot escape from it.

## ERROR CODE

- "ERROR (some models have this function)" in case the electronic unit records an operational error, the diode will flash a number of times. The number of flashes depends on what kind of operational error was recorded. Each flash will last 2/5 second. After the actual number of flashes there will be a period of time with no flashes, so that the sequence for each error recording is repeated 3 minutes.

Number of flashes	Error type
1	Battery protection cut-out(The voltage is outside the cut-out setting ).
2	Fan over-current cut-out(The fan loads the electronic unit with more than 1Apeak).
3	Motor start error (The rotor is blocked or the differential pressure in the refrigeration system is too high(>6bar)).
4	Minimum motor speed error (If the refrigeration system is too heavily loaded, the motor cannot maintain minimum speed 1850 rpm or controller cannot find the rotor position).
5	Thermal cut-out of electronic unit (If the refrigeration system has too heavily loaded, or if the ambient temperature is high, the electronic unit will run too hot (case temperature>75℃)).
6	Controller hardware failure (Controller detects abnormal parameters).


# BEFORE REQUESTING SERVICE

Please check the following items if you encounter problems with the unit. If the problem continues after taking the proper remedial actions, disconnect the power cord plug from the wall outlet. Transfer the items stored in the cooler to a box or other container. Then contact the dealer from whom you purchased this unit and be ready to provide information as listed in "REQUIRED INFORMATION" below.



CAUTION

To prevent any electrical shock hazards. Do not disconnect the power cord plug from the wall outlet with wet hands.

<p>No refrigeration at all</p>	<ul style="list-style-type: none"> <li>● Is the power supply interrupted?</li> <li>● Is the power cord plug disconnected from the wall outlet?</li> <li>● Are the shop's power fuses blown and/or the circuit breaker activated?</li> <li>● The temperature control did in the direction of MAX. If too cold, turn dial in direction of OFF?</li> </ul>
<p>Inadequate refrigeration</p>	<ul style="list-style-type: none"> <li>● Is the place of installation badly ventilated?</li> <li>● Is the freezer exposed to direct sunlight, placed near a heater or stove?</li> <li>● Are the lids opened and closed frequently?</li> <li>● Are items stocked beyond the load line?</li> <li>● The temperature control dial in the direction of MAX. If too cold, turn dial in direction of MIN?</li> <li>● Much frost forms in the chest freezer?</li> </ul>
<p>Excessive noise</p>	<ul style="list-style-type: none"> <li>● Is the floor underneath the freezer sturdy enough?</li> <li>● Is the unit shaking and rattling?</li> <li>● Is the rear panel of the unit contacting a wall, etc?</li> <li>● A container or something is behind the chest freezer?</li> </ul> <p>The compressor will generate a rather loud sound for a while after operation is started. The noise will cease together with refrigeration.</p>
<p>Condensation on cooler exterior</p>	<ul style="list-style-type: none"> <li>● Condensation may condense on the exterior and door during hot and humid days or depending on the place of installation. This occurs when the humidity is high and water particles in the air contact cold surfaces. This is normal. Wipe away condensation with a dry cloth.</li> </ul>
<p>The circumference of chest freezer feels hot</p>	<ul style="list-style-type: none"> <li>● Especially in summer or in starting running, the circumference of chest freezer feels hot. Because chest freezer inside has a pipe for radiating and preventing condensation. The heat do not affect inside goods.</li> </ul> <div style="text-align: right;">  </div>

## REQUIRED INFORMATION

- |  |   |
|--|---|
| <p>① Nature of malfunction<br/>(as accurately as possible)</p> | <p>④ Customer's name,<br/>address.</p>  |
| <p>② Product number</p>  | <p>⑤ Year and date of purchase</p>      |
| <p>③ Serial number</p>   | <p>⑥ Desired date for service visit</p> |

} inscribed on badge

**Warning:** Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction.

# HOW TO USE

## BEFORE USE

- Remove shipping packaging, tape, etc, and leave lids open for ventilation for a while.
- The unit is cleaned before shipment. However, clean the compartment interior once after delivery.
- Following installation, refrigeration will start about 10minutes after operation is started.
- Operate for about 2 hours to cool the refrigerator compartment before placing items in the freezer.

## WAIT 3 MINUTES OR MORE BEFORE RE-STARTING

- Restarting the unit immediately after it has been turned off may cause fuses to blow and activate the circuit-breaker, the compressor may be overloaded, and/or other damage may occur.

## DEFROSTING

When 5mm frost forms in the freezer, please shave it and throw it away.

If you defrost completely, please do it as follows.

- ① Please make inside empty. And disconnect the power cord plug.
- ② When frost start thawing, please shave it and you will be able to defrost in the short time.
- ③ After draining, please wipe the inside, and put a plastics cap on the drain bolt and the inside drain.

**Warning:** Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

Do not damage the refrigerant circuit.

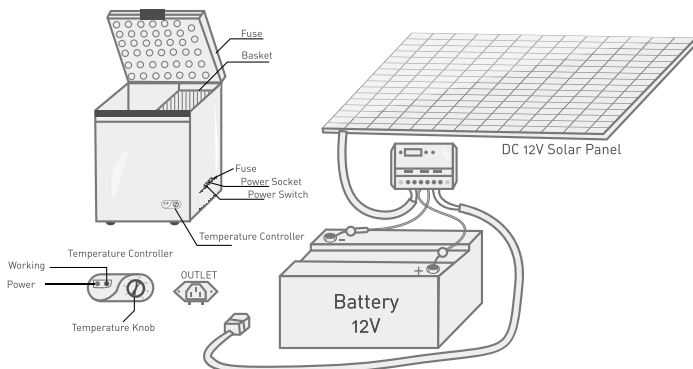
Do not use electrical appliance inside the food storage compartments of the appliance, unless they are of the type recommended by the manufacturer.

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.

If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.

**Children should be supervised to ensure that they do not play with the appliance.**

## CONNECTION 1. SOLAR PANEL + BATTERY + CONTROLLER + DC "REFRIGERATOR"



Warning: Turn on the refrigerator after ensuring no reverse connection

## WARRANTY

### Solar Refrigerator

1. Devidayal Solar Solutions Pvt. Ltd., warrants that the Solar refrigerator is free from defects., resulting from the use of faulty parts during its manufacture subject to terms of the limited warranty ("warranty") The claim will have to be made within the warranty period.
2. Claim under DEVIDAYAL SOLAR SOLUTIONS PVT. LTD. Warranty may be made only by those customers who have made purchase order and payment of Solar refrigerator from DEVIDAYAL SOLAR SOLUTIONS PVT. LTD., authorized dealer/distributor. Any part of this Solar refrigerator returned to the Seller or Devidayal Solar Pvt Ltd which upon examine is determined by them have been defective in material or workmanship, will at their option be either repaired or replaced under this warranty, within 30 days from the date of lodging complaint to dealer or Devidayal Solar Solutions Pvt Ltd. The obligation to repair or replace defective parts will be at the discretion of the company Devidayal Solar Solutions Pvt. Ltd.
3. DEVIDAYAL SOLAR SOLUTIONS PVT. LTD. warranty period.
  - (A) Warranty of whole Solar refrigerator is restricted to 2 years.
  - (B) Warranty period is counted from the date of Invoice by our authorize dealer/distributor and as per duly filled and signed warranty card by our distributor.
4. This warranty shall be rendered null and void if:
  - (A) The product is physically damaged.
  - (B) The product is modified, maintained or repaired by a party not authorized by DEVIDAYAL SOLAR SOLUTIONS PVT. LTD.
  - (C) The product is installed, maintained and operated in ways other than as recommended by DEVIDAYAL SOLAR SOLUTIONS PVT. LTD.
  - (D) The product is faulty or damaged due to battery or solar panel or electrical faults external to the refrigerator.
  - (E) A non DEVIDAYAL SOLAR SOLUTIONS PVT. LTD., certified product is added on to the DEVIDAYAL SOLAR SOLUTIONS PVT. LTD. product.
5. Warranty Limitations
  - (A) This Warranty is made only to the first purchaser ("original purchaser") who acquires this fridge/refrigerator for his/her own use and will be honored by DEVIDAYAL SOLAR SOLUTIONS PVT. LTD., and by the Seller.
  - (B) The warranty does not cover replacement of refrigerator.
  - (C) DEVIDAYAL SOLAR SOLUTIONS PVT. LTD. warranty does not entail a warranty of functionality or any obligation to repair or replace a defective refrigerator, if that defect is a result physical breakage, improper installation or connections, electrical/battery/solar panel faults external to the product, abuse or unauthorized modification of the product.

(D) All third-party peripherals, whether purchased as part of a system or bundled with it, normally come with prevailing supplier's warranty and DEVIDAYAL SOLAR SOLUTIONS PVT. LTD., does not provide warranty for such products.

(E) DEVIDAYAL SOLAR SOLUTIONS PVT. LTD. does not warranty error free or uninterrupted operation of the equipment.

6. Warranty does not apply to

(A) Cracked door/body of the refrigerator.

(B) Parts requiring replacement due to normal wear and tear, corrosion, rust, stain, etc.

(C) Damages caused due to acts of God and force majeure.

7. Except for the warranties set forth herein, DEVIDAYAL SOLAR SOLUTIONS PVT. LTD., disclaims all other warranties, express or implied or statutory, including, but not limited to the implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by applicable law are limited to the duration of this limited warranty. In no event shall DEVIDAYAL SOLAR SOLUTIONS PVT. LTD. be liable for any incidental, special or consequential damages, consequential human injury or loss, including, but not limited to loss of business, profits, data or use whether in an action in contract or tort or based on a warranty arising out of or in connection with the use or performance of the product even DEVIDAYAL SOLAR SOLUTIONS PVT. LTD., has been advised of the possibility of such damages.

NOTE: All disputes are subject to Mumbai Jurisdiction only.

**WARRANTY CARD**

1. Purchaser Name: \_\_\_\_\_

2. Model Number: \_\_\_\_\_

3. Serial Number: \_\_\_\_\_

4. Purchaser Invoice Number & Date: \_\_\_\_\_

5. Distributor / Dealer Complete address and Phone No.: \_\_\_\_\_

6. Distributor / Dealer Seal:

# To be retained by the customer for warranty claims.



**WARRANTY CARD**

7. Purchaser Name: \_\_\_\_\_

8. Model Number: \_\_\_\_\_

9. Serial Number: \_\_\_\_\_

10. Purchaser Invoice Number & Date: \_\_\_\_\_

11. Distributor / Dealer Complete address and Phone No.: \_\_\_\_\_

12. Distributor / Dealer Seal:

# To be retained by dealer for warranty claims.

**Note: Warranty will be void if the warranty card is not submitted with in 30 days of purchase.**

**call:** 011-25104850 / 022-22849999  
**mail:** [customercare@ddsolar.in](mailto:customercare@ddsolar.in)  
**visit:** [www.ddsolar.in](http://www.ddsolar.in)

**REGD. OFFICE**

709, 7th Floor, Maker Chambers - V, Nariman Point, MUMBAI - 400021 Tel.: 022-22849999

**MARKETING OFFICE**

205, Balrama House, Opposite Milan Cinema, Karampura, New Delhi - 110015 Tel.: 011-25104850

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Plot E-125, Transport Nagar, Lucknow UP - 226012

**GODOWN**

#1 C14, Ground Floor, Parasnath Complex, Vill-Ovali Tal Bhivandi, Thane, Maharashtra - 421308