



SOLAR DC REFRIGERATOR

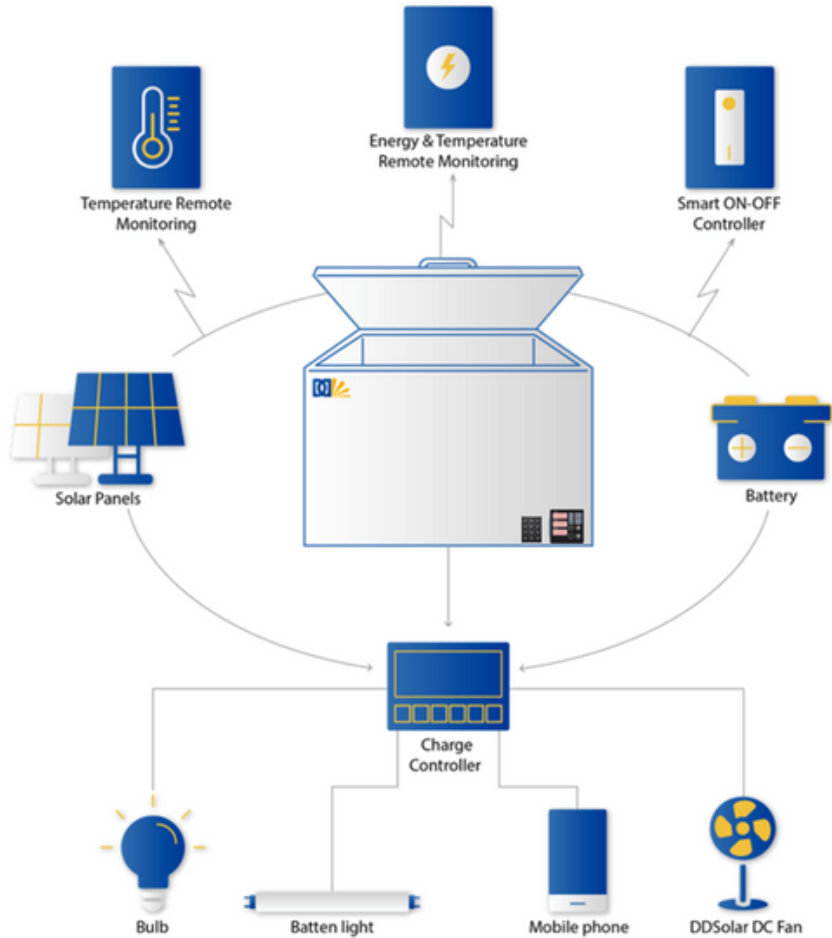
USER MANUAL

MODEL V.22 : DDSR-100, DDSR-150, DDSR-200, DDSR-250, DDSR-300

Note: Please read this manual carefully before use and make sure to operate according to the instruction

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OUR CERTIFICATIONS



IEC 60335-2-24:2020 in conjunction with IEC 60335-1:2014 / Annex 30:2014 and IEC 60335-1:2014 with safety requirements of CV95213 & CV95214

IEC 60335-2-24 in conjunction with 60335-1



VeranoL CLASP certified by Re/genT Lab, Netherlands

CLASP, Re/genT Lab, Netherlands



Finalist, 2019



CPRI Lab Tested

CPRI (India) Lab



Message from CEO

Dear Customer,

Congratulations on your new DDSolar product purchase of superior performance and energy efficiency.

Devidayal solar refrigerators are made to operate effectively and trouble-free. It has been made with the best materials currently on the market, and all manufacturing processes have been subject to strict quality control measures. An effective DC Compressor is used in the design, which is optimised for energy savings. To ensure that you get years of satisfactory and trouble-free performance, it has been tested in our factory labs under real operating conditions.

We are sure that time and performance will prove that you were right to put your faith in this product. You can make the most of your machine with the aid of this manual. Therefore, we kindly request that you set aside some time to carefully read it. Please check the Troubleshooting Chart in this manual first in the unlikely event that your product encounters a problem. The issue may have a straightforward resolution. If that doesn't work, get in touch with Devidayal Solar Solutions or a nearby product dealer.

We look forward to a long and mutually satisfying association with you.

With warm regards,

Tushar Devidayal

Tushar Devidayal

Founder & CEO.

"I have always been fascinated by the potential of distributed solar energy and its impact on the future. It was my passion for renewable energy which worked as the main motivation for founding DDSolar."



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 12/24 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.

- Clean the solar panel on once, Each Month.
- A DC Refrigerator has a cooling capacity lower than typical ac units. Because the compressor is small, the unit runs more efficiently.
- Clean the DC Refrigerator by manually draining the inside water and cleaning the inside dry with a cotton cloth to avoid any pungent smell and maintain freshness, on quarterly basis.
- Never connect the DC Bulb or DC Fan to Mains. Connect only to Devidayal provided Junction Box, as instruction given during Installation
- Always keep the Refrigerator Surrounding clean.
- Keep the Door Gasket clean.
- Do not allow any Water near the Digital Display or Compressor Section.
- Do not keep the Refrigerator Door Open for long time.
- Always try to keep pre-cooled items in the Refrigerator.

Important Safety Instructions

These instructions 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 any of 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 table or refrigerant circuit. In the event of damage, please contact **Devidayal Solar Solutions Pvt Ltd** or any of your local product dealer for assistance

 WARNING	
 <p>Don't tamper</p> <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>ELECTRICAL SHOCK HAZARDS</p> <p>Never splash water directly onto the product or wash with water as short-Circuit and electrical leakage could result.</p> 
 <p>Danger of explosion</p> <p>Never put flammable or volatile substances into the unit as explosion and fire could result.</p> 	 <p>PROHIBITED</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>PROHIBITED</p> <p>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.</p> 	 <p>FLAMMABLE</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> 



WARNING



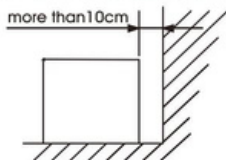
PROHIBITED

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



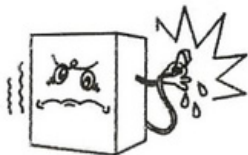
WELL VENTILATED PLACE

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



PROHIBITED

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

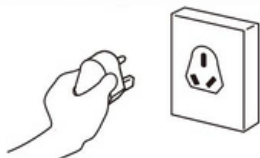


PROHIBITED

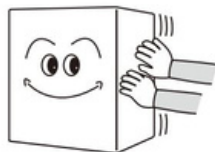
Never use if the power cord or plug is damaged or the plug cannot be firmly seated in the receptacle sockets as electrical shock, short-circuit and fire could result.



When disconnecting the power cord, hold at the plug main body. Pulling the cord could cause wire Breakage, possible resulting in overheating and fire



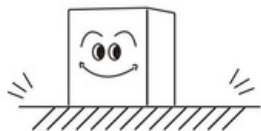
Make sure that the unit does not tip over or fall when it is moved.
A falling unit could cause serious injury.





WARNING

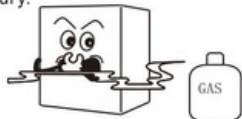
Install the unit in a location where the floor is sturdy enough to support the load of the unit. If the floor is not sturdy enough or installation is incorrectly performed, the unit could tip over and falling shelves and products could cause personal injury.



Caution against explosion

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

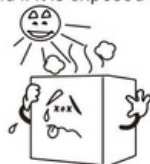
Gas leakage cause explosion, fire, and fire injury.



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.



Defrosting

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



WARNING

For defrosting freezer, don't use a hammer, knife, or bottle. If you use it, it give damage to inside evaporator. And chest freezer cannot cool, and inside goods can thaw. Please do not destroy the freeze loop.

Please do not storage anything others expect the manufacturer's recommendation.



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.

Cleaning



To prevent any electrical shock hazards or injury by rotating circulation fan, always disconnect the power cord plug from the wall outlet before cleaning

EXTERIOR AND COOLER COMPARTMENT

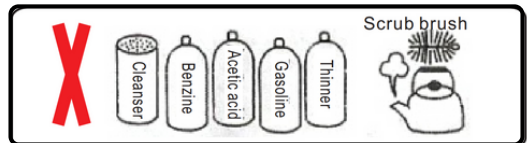
Wipe with a soft, dry cloth. If very soiled, wipe with a cloth that has been moistened with a detergent.

Then wipe with a cloth that has been dipped in water.



Do not splash water directly onto the cooler and do not wash with water. Short-circuit and electrical shock could result.

- Clean the cooler regularly to keep it clean at all times.
- Never use polishing powder, soap powder, benzine, oil or hot water as these will damage the painting and
- plastic components.



DOOR

- Open the door and always wipe clean with a dry cloth.

Features

- 100% solar powered
- Easy temperature Control
- Battery and panel configuration can be customized according to the geographical location and autonomy required
- DC Fan, Bulb, Batten lights and mobile charging can be added to the system along with the DC Refrigerator as per the requirements
- Features like smart on/off controller, Remote monitoring System, temperature logger and pay as you go can introduced in the package as special features
- Refrigerators can be supplied by 12/24V DC power source Directly
- Runs 24 X 7
- The device is equipped with a three-lever battery voltage button (H/M/L)

How to Use

BEFORE USE

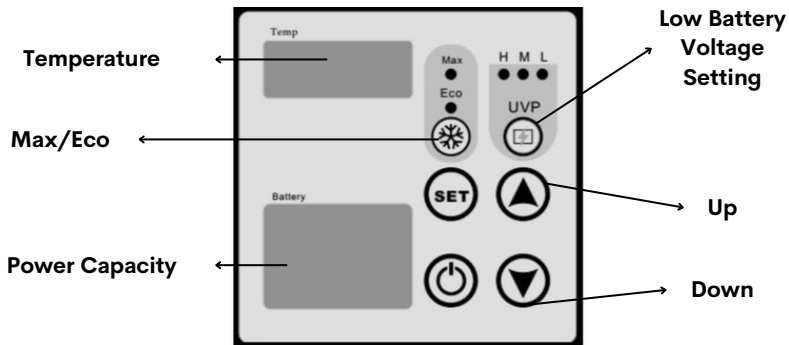
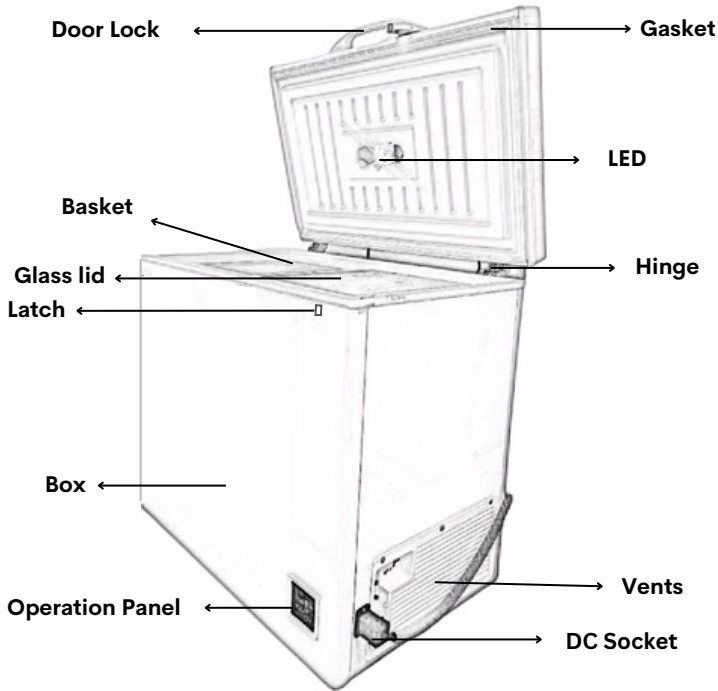
- Remove shipping packaging, tape, etc, and leave lids open for ventilation for a while.
- The unit is cleaned before shipment. However, clean the compartment interior once after delivery.
- Following installation, refrigeration will start about 10minutes after operation is started.
- Operate for about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



Structure Drawing





Display operating Instructions Table

Icon	Operation
	Press power switch to power on or power off
Battery 	Battery Voltage Reading
Temp 	Temperature Reading
	Press once to set Temperature
	Up - Temperature up button
	Down - Temperature down button
	Eco/Max Indicator; Max means high-speed operation , Eco means energy-saving operation
	Mode operation button, press for selecting high-speed or energy-saving operation .
	Press UVP to switch between H\M\L



Battery Protection System

- UVP:



Battery protection, press "+" or "-" to set low, medium and high three type

Type	12V Protection Voltage	12V Restore working Voltage	24V Protection Voltage	24V Restore working Voltage
L	10.3V	11.4V	21.6V	23.0V
M	10.7V	11.7V	22.6V	24.0V
H	11.5V	12.5V	24.6V	26.0V



Technical Parameters

Sr No.	Model Parameters	DDSR-100	DDSR-150	DDSR-200	DDSR-250	DDSR-300
1	Climate Type	ST, T				
2	Rated Voltage	12V / 24V				
3	Gross Volume	100L	150L	200L	250L	300L
4	Net Volume	85L	128L	170L	215L	255L
5	Current Consumption*	5.8A @ 12V 2.8A @ 24V Imax : ~5.3A @24V	5.9A @ 12V 2.9A @ 24V Imax:~5.3A @24V	8.7A @ 12V 4.3A @ 24V Imax: ~7 A @24V	10.4A @12V 5.2A @ 24V Imax:~8.9A @24V	10.6A @ 12V 5.4A @ 24V Imax:~8.9A @24V
6	Rated Power w.r.t RPM	~ 46 to 81W		~65 to 110W	~96.5 to 168W	
7	Energy Consumption*	0.35kWh/ 24h	0.39kWh/ 24h	0.6kWh/ 24h	1kWh/24h	1.15kWh/ 24h
8	Outside Dimension (mm)	625 x 525 x 843	735 x 535 x 840	870 x 535 x 849	1074 x 535 x 840	1074 x 660 x 840
9	Gross Weight	26kg	29kg	32kg	37kg	42kg
10	Refrigerant	R134a				
11	Temperature/Use Class	Beverage & Pantry			8°C	
		Fresh food			4°C	
		Zero - Star freezer			0°C	
		One - Star Freezer			-6°C	
		Two - Star Freezer			-12°C	

- All under STC*



Recommendations

Package	Model	Solar panel design	Battery Design	DC Bulb/Batten light	Fan
DDSR STANDARD	DDSR-100	150Wp/12V - 2 nos in parallel	12V / 100 Ah - 1 no	1 Bulb (7W)	-
DDSR PRO	DDSR-200	150Wp/12V - 3 nos in parallel	12V / 150 Ah - 1 no	2 Bulbs (7W)	1 DD BLDC Pedestal (13.5W)
DDSR JUMBO	DDSR-250	335Wp/24V - 3 nos in parallel	12V / 150 Ah - 2 no	2 Batten lights (9W)	1 DD BLDC Pedestal (13.5W)



Energy Allocation Table

Bulb 7W 12hr, 84Wh
Refrigerator 24hr

STANDARD

Bulb 7W 12hr, 84Wh	Bulb 7W 12hr, 84Wh
DD BLDC Fan 13.5 W 12hr, 162Wh	
Refrigerator 24hr	

PRO

Batten light, 9W 12hr, 108Wh	Batten light, 9W 12hr, 108Wh
DD BLDC Fan 13.5 W 12hr, 162Wh	
Refrigerator 24hr	

JUMBO



Troubleshooting

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.

Not in Use for long time

- 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.

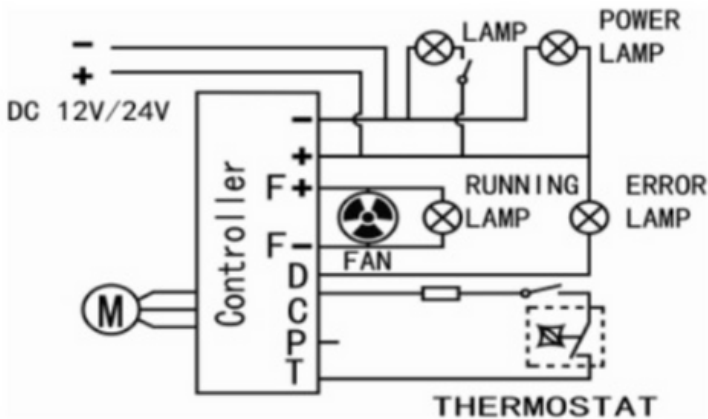
Not in Use for short period of time (Temporary off)

- 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 Code	Error Type
E0	The temperature sensor is short-circuited. At this time, the compressor enters the timing work mode, and the compressor runs for 30 minutes and stops for 30 minutes
E1	Module input under voltage protection
E2	DC fan over current protection
E3	The compressor starts abnormal protection
E4	Compressor rotate speed abnormal protection
E5	Temperature abnormal protection of the module
E9	The temperature sensor is disconnected. At this time, the compressor enters the timing work mode, and the compressor runs for 30 minutes and stops for 30 minutes.

Circuit Diagram






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



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"> • Is the power supply interrupted? • Is the power cord plug disconnected from the wall outlet? • Are the shop's power fuses blown and/or the circuit breaker activated? • The temperature control did in the direction of MAX. If too cold, turn dial in direction of OFF?
<p>Inadequate Refrigeration</p>	<ul style="list-style-type: none"> • Is the place of installation badly ventilated? • Is the freezer exposed to direct sunlight, placed near a heater or stove? • Are the lids opened and closed frequently? • Are items stocked beyond the load line? • The temperature control dial in the direction of MAX. If too cold, turn dial in direction of MIN? • Much frost forms in the chest freezer?
<p>Excessive Noise</p>	<ul style="list-style-type: none"> • Is the floor underneath the freezer sturdy enough? • Is the unit shaking and rattling? • Is the rear panel of the unit contacting a wall etc. ? • A container or something is behind the chest freezer? <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"> • 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.
<p>The circumference of chest freezer feels hot</p>	<ul style="list-style-type: none"> • 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 



Required Information

1 Nature of malfunction
(as accurately as possible)

2 Product Number

3 Serial Number

Inscribed on
badge

4 Customer's name, address

5 Year and Date on purchase

6 Desired date for service visit

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



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 it's 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 12 /24V DC SOURCE, SUCH AS A BATTERY OR CHARGE CONTROLLER. THE UNIT WILL AUTOMATICALLY OPERATE ON EITHER 12V or 24V DC. 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.

Means for disconnection is incorporated in the fixed wiring in accordance with the wiring rules.

While Connecting

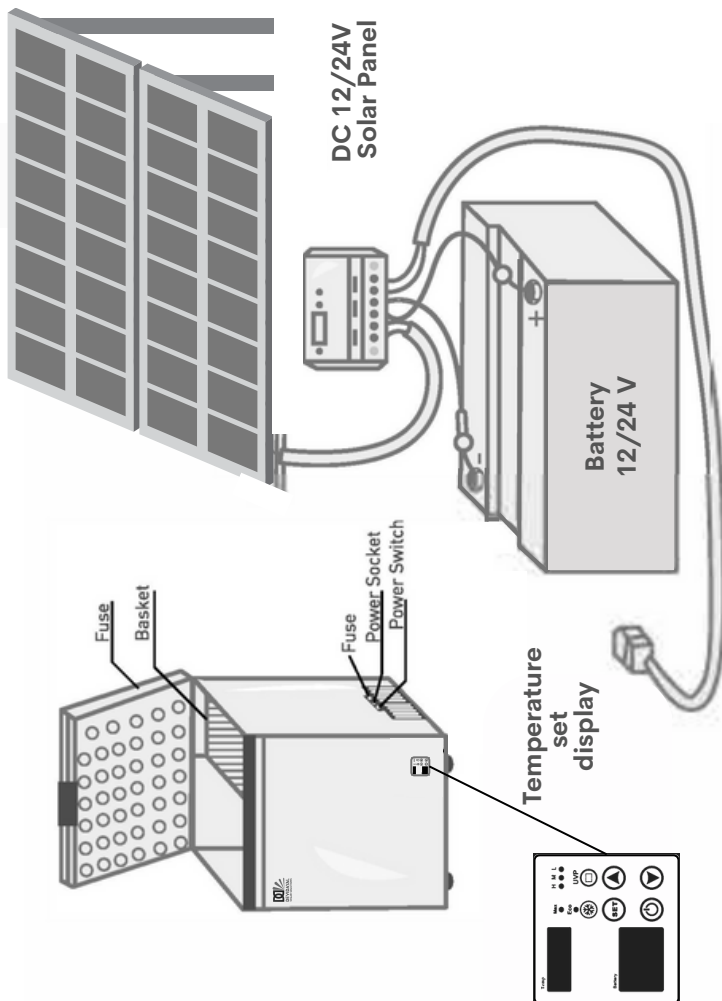
Always connect positive '+' first

While Disconnecting

Always disconnect negative '-' first



Connection (Solar panel+ Battery+ Controller+ DC Refrigerator)





Service Policy

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 filed 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, i 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



Customer's Name:

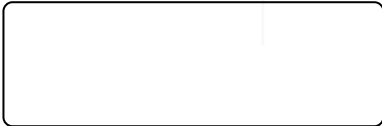
Model Number:

Serial Number:

Customer's Invoice Number & Date:

Dealer's complete address & Phone No.:
.....

Dealer Seal:



#To be retained by the customer for warranty claims

For Online warranty Registration : www.ddsolar.in

WARRANTY CARD



Customer's Name:

Model Number:

Serial Number:

Customer's Invoice Number & Date:

Dealer's complete address & Phone No.:
.....

Dealer Seal:



#To be retained by the Dealer for warranty claims



Corporate Office

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Branch Office & Warehouse

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Warehouse

#10, E9, Ground Floor, Parasnath complex, Vill-Valpada, Thane, Maharashtra- 421308



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For Service:

Call : 0522-4069106

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customercare@ddsolar.in

Visit:

www.ddsolar.in

