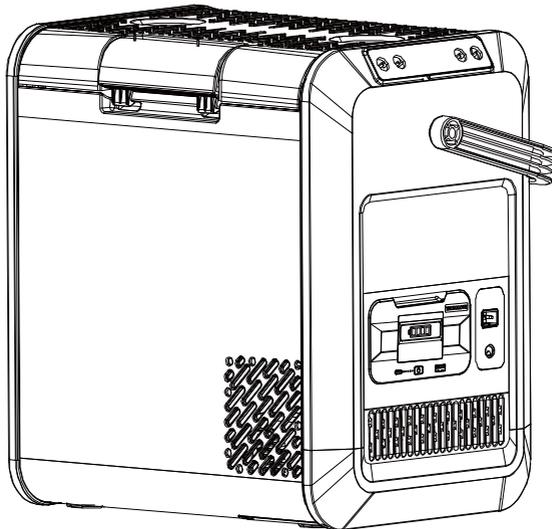


USER MANUAL

Car Refrigerator and Battery

Car Refrigerator 20L
Model : CR20QNCR20US

171Wh/15600mAh Battery
Model: CR156MAUS (NOT INCLUDED)



Please read this operating manual carefully before starting the device. Keep it in a safe place for future reference.

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CAR REFRIGERATOR

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1.Safety Precautions

- Be sure to read the "Safety Precautions" to prevent accidents such as fire, electric shock, and injury.
- Before using the product, please read all of these "Safety Precautions" carefully to ensure proper use.
- After reading, be sure to keep it in a place where you can consult it at any time.
- If you lend the product to someone else, please give the instruction manual together with the product.
- The following symbols are used to classify and explain the types of information that must be observed.

Symbol description

Symbol	Meaning
 Warning	Indicates a potentially hazardous situation, if not avoided, which could result in death or serious injury to the user.
 Caution	Indicates a potentially hazardous situation which, if not avoided, may result in injury to the user.
 Note	Important precautions regarding the handling of the product and its accessories, etc.

Warning!

- After opening the package, keep the refrigerator in an upright position for at least 6 hours before powering it on.
- In the event of a malfunction or failure, stop using the refrigerator immediately, turn off the power, and disconnect the power plug from the outlet. Failure to do so may cause smoke, fire, or electric shock.
- Do not block the ventilation openings. Do not insert sticks, wires, or other foreign objects into the ventilation openings.
- Do not pour water on the product. Do not expose the product to rain or use it in a damp or wet place.
- Do not use flammable sprays near this product.
- Do not leave this product in a hot place, such as inside a car under the blazing sun.

- Do not store medical supplies or scientific samples in the refrigerator. This is not a precision instrument capable of storing medical supplies.
- Do not store volatile and inflammable materials in the refrigerator.
- Do not handle the AC adapter cord roughly. Do not use a damaged cord.
- Use only the batteries specified for this product. Use of a battery other than the specified one may cause the battery to explode, resulting in injury or damage.
- Do not place other appliances in the refrigerator except as recommended by the manufacturer.
- Please use it in a horizontal and stable place. Please do not tilt more than 5° backward and forward when running for a long time. Do not tilt more than 45° if running for a short time. Tilting more than 45° will cause malfunction.
- Please ensure good ventilation in the surrounding area during operation and pay attention to the heat dissipation of the compressor without interference. No obstacle should exist within 20cm of the compressor.
- Do not place the product on its side or upsided own.



CAUTION!

- Do not disassemble or repair this product unless you are a service technician. Doing so may result in fire, electric shock, or injury.
- Installation of direct current (DC) power supplies on a boat should be performed by qualified personnel.
- If you notice anything unusual when using or storing the battery, such as heat, leakage, or deformation, stop using it immediately and move away from it.
- Do not leave the door open. The performance will not be fully exerted.
- Do not allow small children or pets to play with this product. Store it out of the reach of children.
- When disposing of the old product, keep it in a safe place so that children will not be trapped.

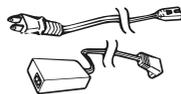
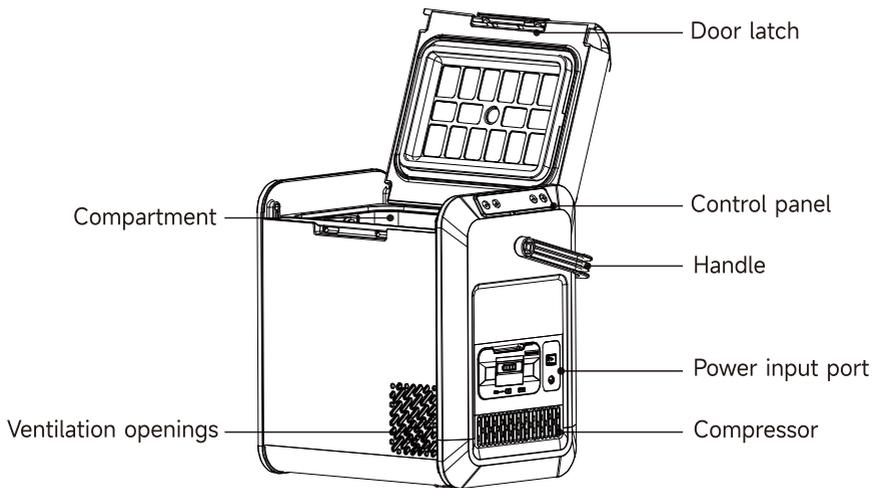


Note!

- The AC adapter is the preferred method of charging the refrigerator.
- Batteries for this product are sold separately and are not included.
- Always turn off the refrigerator after use before cleaning or maintenance.
- Do not use other methods or apparatus to speed up defrosting unless recommended by the manufacturer.

- Do not put food directly into the refrigerator. Food should be wrapped or placed in a plastic bag because they are not treated with an 1 antibacterial treatment.
- If the appliance is not used for a long period of time, wipe the interior with alcohol disinfectant spray and store it dry.
- If the battery is stored for a long time, it will discharge naturally due to its characteristics. Please check the remaining battery level before use.
- If the battery is left on for a long time, the cycle of discharging and charging will be repeated. If the battery is not a power source, take it out as soon as possible after it is fully charged, because this will accelerate the aging of the battery.

2.Parts Name Andst and Standard Accessories



AC adapter



DC Power Cord

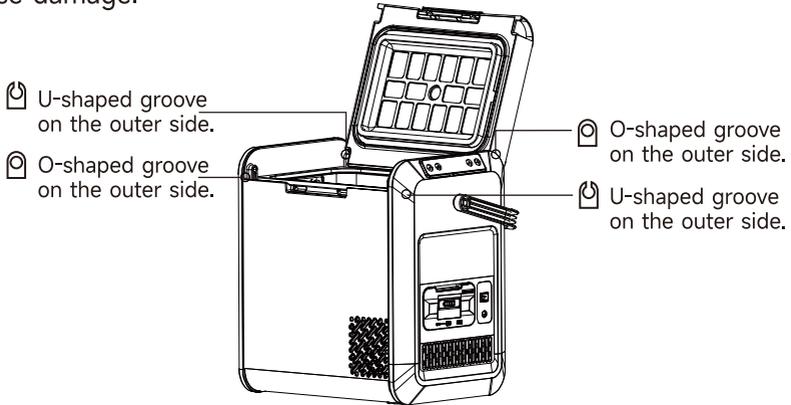
Note:

Battery for car refrigerator is not included. It needs be purchased separately.

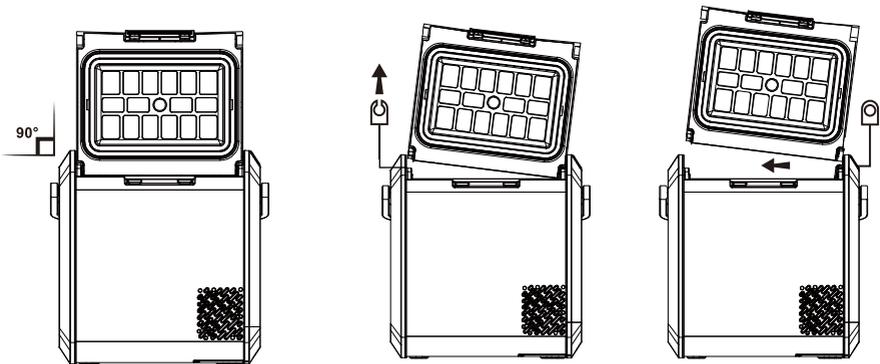
3.Changing the Door Opening and Closing Direction

The opening and closing direction of the door can be changed depending on the environment in which it is installed. To change the open / close direction, follow the steps below.

※Do not pull the door up at an angle or apply excessive force. Doing so may cause damage.



1.How to remove the door:

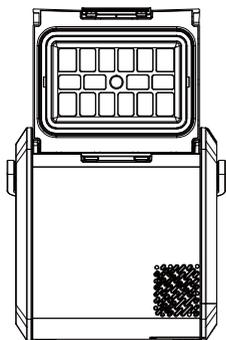


①Turn the door 90 degrees.

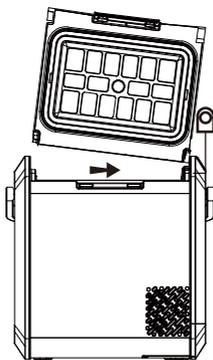
②Pull up the outer shaft of the door from the U-shaped groove and remove it.

③Pull out the shaft on the back side of the door from the O-shaped hole and remove it.

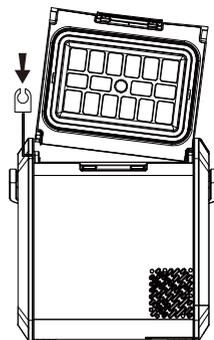
2.How to install the door:



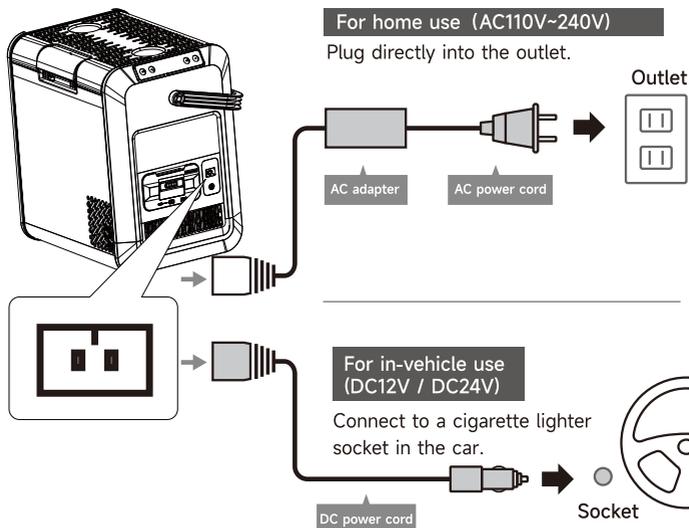
① Stand the door at 90 degrees.



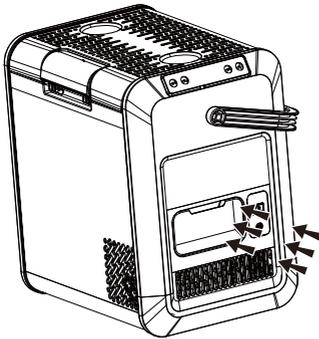
② Insert the shaft on the back side of the door, aligning it with the O-shaped hole.



③ Press the outers haft of the door in line with the U-shaped groove.

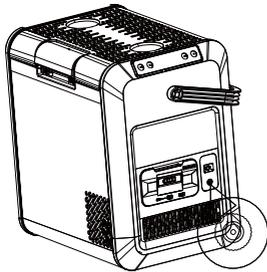


- When using a DC cord to supply power, different vehicles may give different output voltages. If the voltage protection shows E1, this can be remedied by adjusting the battery protection level from 'H' to 'M' or 'L'.



Battery powered (10.95 V)

Install the battery and press the power switch to start charging.

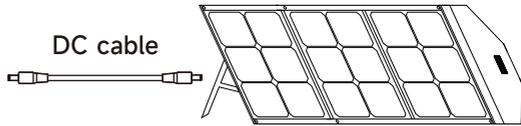


Size: DC5521.

(outer diameter 5.5mm, inner diameter 2.1mm)

**Solar charging
(maximum input voltage: 30V)**

After assembling the battery, connect it to the solar panel.



- Be sure to attach the dedicated battery to the refrigerator before charging with the solar panel.
- Solar panel and dedicated battery are not included.

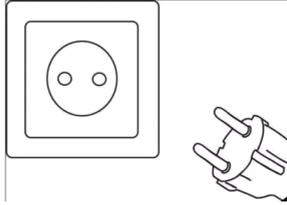
1. Dedicated battery

When the battery is turned on, the battery icon on the LED display lights up.

Select refrigerator power supply:

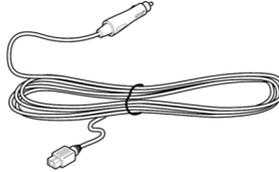
Household AC power

Need to purchase matching adapter.



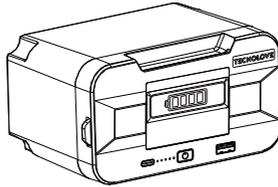
DC power supply

Connect the 12/24V power supply on the ca using the product's built-in cigarette plug.



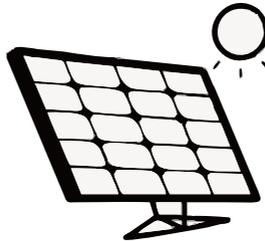
Dedicated battery power supply

Insert the built-in or specified model of battery into the device. Turn on the battery power switch before use.

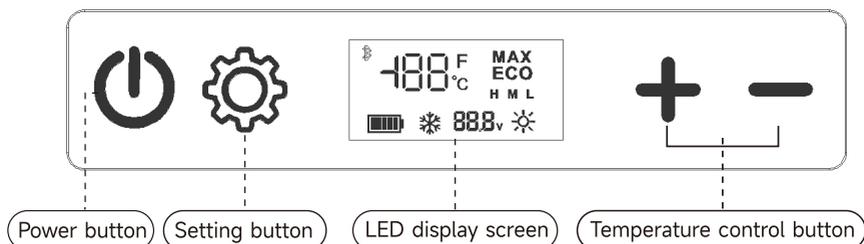


Solar panels(PV)

Collaborative battery power supply can extend the outdoor usage time of the battery.



5. Basic Functions and Usage



1. Turn on the power

- Press the power button on the control panel to turn on the display screen. Press the power button once more to turn off the power.
- When the power is turned on, the current internal temperature is displayed.

2. Temperature setting

- Press the setting button on the control panel and hold down the "+/-" button to adjust the temperature.
- Short press of the "+/-" button allows the temperature to be set in 1°F increments. If you press and hold the +/- button, the temperature changes continuously, allowing you to set the temperature faster. (The temperature changes about 4°F per second.)
- ※ During adjustment, the screen will blink. As soon as the blinking ends, the temperature setting is complete. It will not blink for a long press.

3. Operation mode

- There are two operation modes, MAX (fast cooling mode) and ECO (energy saving mode). When the power is on, press the setting button twice and the operation mode will be displayed as flashing. Press the "+/-" button to select "MAX" or "ECO" according to your preference.

4. Battery protection level

- The battery protection level can be adjusted in three levels H/M/L (high/medium/low). When the power is on, press the setting button 3 times, the protection level display will change to flashing. Press the "+/-" button to select H/M/L according to your preference. After adjusting to the desired level, leave it for 3-5 seconds and the level switching is completed. (The factory setting is H.)

Input Voltage Reference Table:

Input Voltage Level	DC 12V		DC 24V	
	Compressor stops	Compressor runs	Compressor stops	Compressor runs
L	9.6V	10.9V	21.3V	22.7V
M	10.1V	11.4V	22.3V	23.7V
H	11.1V	12.4V	24.3V	25.7V

*Voltage values are for reference only. Please note that there is a possibility of error.

When used in a car, it is recommended to set the protection level to "H". Otherwise, the battery power consumption will be high and the car engine may stop or fail to start.

5.Switching the display temperature unit

The temperature unit on the display screen can be switched between Celsius & Fahrenheit.

Method 1

- Press and hold "+" and "-" buttons at the same time for 3~5 seconds to switch temperature units.

Method 2

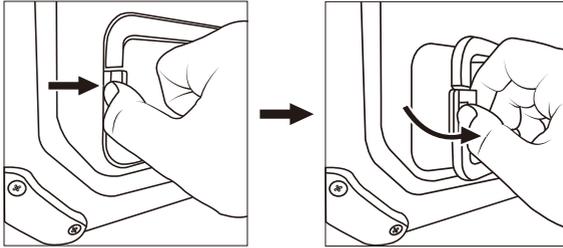
- ① Turn off the power and press and hold the setting button for 3 seconds.
 - ② "F1" will appear on the screen. Press the setting button will switch the displayed symbols "F1~F3, CF" (from F1 to CF).
 - ③ Press until "CF" appears. Then press the "+/-" button to adjust to °C or °F
When adjustment is completed, leave the device in a stationary state for 5 seconds, and when the blinking ends, the switching is complete.
- F1 to F3 are to be repaired by an engineer, so customers should not set them without permission!

6.Memory function

This product can memorize the last temperature setting. After pressing the power button, if no other button is pressed for 5 seconds. operation will start at the previously set temperature.

7.Remove the battery cover

Remove the battery cover by pressing the handle on the left side of the battery cover.



6.Precautions for Placing Food In the Refrigerator

- Please do not put the food directly into the refrigerator. Since there is no antibacterial treatment, please use plastic wrap or put the food in a plastic bag. Please put ice cream and other easy to melt things in the refrigerator after it Cools.
- Please note that there is melting depending on the type of ice cream.
- Do not store items with strict temperature control such as pharmaceuticals and academic samples.
- Do not store opened food for a long time. There is a possibility of spoilage and deterioration.
- Do not freeze easily broken items such as bottles. There is the possibility of cracking and injury.
- Do not put too much food at once at environmental temperature. If so, the temperature in the refrigerator will rise.
- Please wrap things with a lot of moisture and heavy fragrance before putting them in.

7.Maintenance Methods



Warning

- Before cleaning, be sure to turn off the power and disconnect the battery, AC adapter, and cigarette socket cord from the product.
- Failure to do so may result in injury or equipment damage.

1.Maintenance

- Open the drain plug in the product and drain the water.
- Wipe clean with a dry cloth or a cloth soaked with neutral detergent.
- Please never rinse with water.
- Please do not wipe with thinner or detergent.

2.Defrosting

- To defrost, empty the compartment, turn off the power, and wait until the frost to melt.
- Wipe off the melted water with a soft cloth.
- ※ Note: Do not use sharp or pointed tools for defrosting.

3.When not in use for an extended period of time

- Empty the compartment and turn off the power.
- Wipe off any water inside the compartment with a soft cloth.
- Leave the door open for several hours.
- Keep out of reach of children.

8. Troubleshooting

Inspect the following items before requesting repair.

Problem	Cause / Solution
Does not power on	<ul style="list-style-type: none"> • Plug in the AC adapter and DC car charger and check which one can power the fridge and which one is defective, then please contact US for a free replacement AC adapter or DC car charger.
Does not cool	<ul style="list-style-type: none"> • Do not open and close the door frequently.
	<ul style="list-style-type: none"> • Put in too much food at once or hot food.
The fridge is hissing	<ul style="list-style-type: none"> • This is normal. It is the sound of refrigerant flowing through the tubes of a cooling system.
Water dropletson door or body	<ul style="list-style-type: none"> • This is a natural phenomenon. Please remove the objects around the refrigerator to create an environment that facilitates heat dissipation.
Refrigerator is noisy	<ul style="list-style-type: none"> • This is a natural phenomenon. Vibration when the compressor is running.
Error Code E1	<ul style="list-style-type: none"> • Cause: Low input voltage activates low voltage protection. Check the input voltage reference table for input voltage range. • Solution: Set the battery protection level to M / L (medium / low). If powered by a dedicated battery, first fully charge the dedicated battery; if E1 is displayed, set the battery protection level to L (low).
Error Code E2	<ul style="list-style-type: none"> • Cause: The overload protection is activated because the fan is overloaded beyond the allowable current of the product. • Solution: Turn off the power, check the connection wiring, etc., and if there are no problems, restart the machine after 5 minutes.
Error Code E3	<ul style="list-style-type: none"> • Cause: The compressor is frequently turned on and off, which activates the protection device. • Solution: Turn off the power and restart it after 10 minutes.

Problem	Cause/Solution
Error Code E4	<ul style="list-style-type: none">• Cause: The compressor is running at a reduced speed or overloaded, which activates the protective device.• Solution: Reset the compressor, turn it off, and restart it after 1 hour.
Error Code E5	<ul style="list-style-type: none">• Cause: Insufficient heat dissipation activates the overheat protection.• Solution: Check if the vent is blocked and place the device in a well-ventilated area (at least 15 cm distance between the vent and the wall). Then turn off the power and restart it after 1 hour.
Error Code E6	<ul style="list-style-type: none">• Cause: The temperature sensor may be loose.• Solution: Remove the door and check if the temperature sensor is loose. If there is no problem, please contact the seller.

※If error code E1 is displayed when power is supplied from the battery, remove the battery as soon as possible. Alternatively, charge the refrigerator and battery with an AC adapter or DC power cord.

9.FAQ

Question 1: Why is the temperature shown on the control panel different from the temperature measured by the thermometer?

Answer: The temperature measured by the thermometer is the air temperature inside the refrigerator. The temperature displayed on the control panel is the NTC temperature of the sides and bottom of the refrigerator where the temperature sensors are attached. The side and bottom temperatures are closest to the displayed temperature. The air temperature is susceptible to environmental influences. Therefore, the temperature displayed on the control panel is different from the temperature measured by the thermometer.

Question 2: Why is the top of the refrigerator cooling slowly?

Answer: Next to the night light, there is a small high shelf. It is a weak cooling area. The reason we designed it this way is that when the refrigerator is set below 32°F, we can put food in there that we don't need to freeze. In addition, cold air is heavier and therefore sinks, which also makes the top of the refrigerator cooling slowly.

Question 3: Why don't plastic bottles freeze?

Answer: The compressor of a car refrigerator rotates slower than that of a domestic refrigerator, so it cools more slowly. The nature of the liquid, the amount, the area in contact with the cold air and the material of the container will also affect the freezing speed. It is recommended to set at -4°F to freeze water.

Question 4: Why is the cooling speed different from what is stated on the product page?

Answer: The cooling speed may be different depending on the usage environment, the type and amount of food or beverages stored. The cooling speed stated on the product page is the cooling speed of an empty refrigerator with an ambient temperature of 77°F.

Question 5: Why is the startup sound loud?

Answer: 1. It may be that the screws are loose due to the bumps during transportation.

2. It may be that a foreign object has fallen in during use.

It is recommended to remove the cover of the back of the refrigerator and re-tighten the screws or remove the foreign objects. For specific operation video, please contact customer service.

10. Specifications

Car Refrigerator	
Model	CR20QNCR20US
Rated Voltage	AC 100-240v (dedicated AC adapter recommended). DC 12V/24V, solar panel (18.4-30V)
Rated Output	38W
Capacity	22QT/20L
Noise	≤42dB
Temperature Setting Range	-4-50°F(-20-10°C)
Dimensions (L*V*H)	45.7*30.5*44.5cm
Weight	Approx. 20.94lb/9.5kg

11. Warranty and Consultation

The warranty period for this product is one year from the date of purchase. Specifications of this product are subject to change without notice. Please understand this beforehand.

If you suspect that this product is malfunctioning due to the discontinuation of the electronic components used, please inform us of the following.

- ① Date of purchase.
- ② Order number and product model number.
- ③ The circumstances of the malfunction (please explain in as much detail as possible) If you have any questions or need further assistance, please contact the dealer where you purchased the product or the sales contact listed below.

12.For Safe Use (BATTERY)

Before using this product, please be sure to read this instruction manual and all labels that come with the product.

Please use the battery correctly after mastering all product knowledge, safety information and precautions.

WARNING

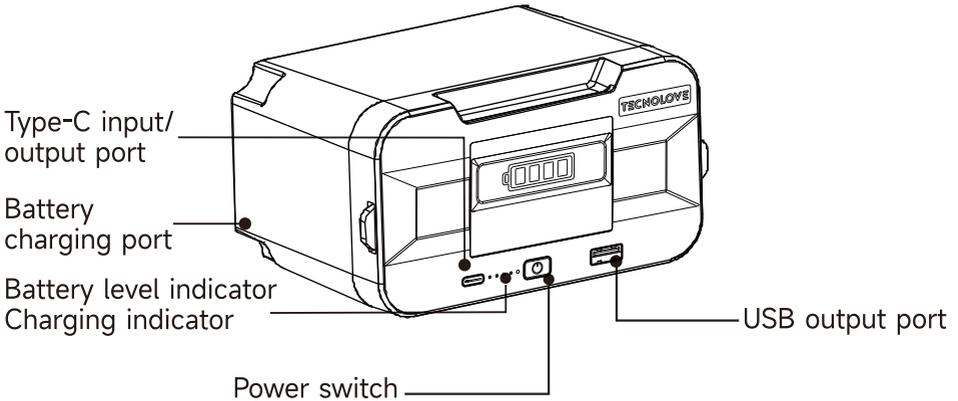
-  **Do not use this product for purposes other than those specified.**
-  **Do not disassemble or modify this product.**
There is a risk of rupture or release of toxic substances.
-  **Make sure the battery charging port is free of debris and dust.**
Before use, make sure the battery charging port is free of debris and dust.
Make sure that the debris and dust attached to the machine will not fall on the battery charging port during use.
During and after use, keep the machine where debris and dust will not fall on it.
-  **Do not expose the battery to rain or water**
It may cause failure or deterioration.
-  **Do not throw batteries into a fire.**
It may rupture or emit toxic substances
-  **If the battery is deformed, do not use it.**
If it is attached to the main body of the refrigerator, it may cause a short circuit, which may lead to smoke or fire.
-  **Keep batteries fully charged before storing them.**
It may deteriorate, resulting in significantly shorter usage time or failure to charge.
-  **Please use our brand batteries**
Use, disassembly or modification of batteries not specified by us(including disassembly of the battery, replacement of the battery and other internal parts) will void the safety and product performance warranties. In such cases, the product will not be warranted.

• **Do not leave the battery on for long periods of time.**

When the external power supply is supplying power to the refrigerator and charging the battery, keeping the battery on for a long time will repeat the process of discharging and charging, which will accelerate the aging of the battery. Please take out the battery as soon as possible after it is fully charged.

13.Parts Name and Handling

Parts name



Handling

1.Charging indicator

When the battery is charging, the charging indicator turns green. When the battery is fully charged or when it is not charging, it turns blue.

2.Power switch

Press and hold the power switch to turn the power ON. Another long press to turn the power OFF.

3.Battery level indicator

When the power switch is pressed briefly, the indicator light turns on blue to show the remaining battery level. The light will turn off after approximately 3 seconds.

Note: When using a product with battery level indication function, the level indication on the product side and the battery side may be different.

14.Using and Charging Methods

Charging methods

1.Charging in the car refrigerator

Our car refrigerator can support battery charging function. When the car refrigerator is connected to external power and turned on, the battery is installed and starts charging when the power switch is pressed.

Install the battery in the main unit while connected to a 110 VAC household power source or a 12V/24 VDC vehicle power source.	Refrigerator power switch	Battery charging	Refrigeration function activated	Charging time
	OFF	√	×	About 6-8hours
	ON	√	√	

Note:

- ① Depending on the usage environment and the condition of the battery, the charging time may be extended.
- ② When charging with 12V car power, in order to ensure that the battery can be fully charged, the output voltage is required to be higher than 12.9v, otherwise it can only charge 80% of the battery.

Charging steps

- ① Connect the power supply to the car refrigerator.
- ② Install the battery into the car refrigerator and turn on the battery.
- ③ When charging is finished, remove the battery from the refrigerator.

2.Charging with AC adapter (not included)

This product is equipped with the function of PD3.0 fast charging. If you want to charge with AC adapter, the following specification charger is recommended.

AC Adapter	60W PD Charger	Rated Voltage	5V-20V with PD3.0
Type	USB Type-C	Maximum Current	3A

Note:The charging time for the above specifications is about 4 hours.

※Do not use AC adapter with wattage over 60W, There is a risk of damage and injury caused by battery rupture.

Charging steps

- ① Plug the Ac adapter connector into the battery's input port.
- ② Plug the AC adapter into a 110V household outlet.
- ③ When charging is complete, unplug the Ac adapter.

3.Charging with solar panel (not included)

Solar panel is not included. If you wish to charge the battery with a solar panel. Please prepare a solar panel with the following specifications.

Output Voltage Range	12.6V~30V
Output Voltage Range	≤10A
DC Plug Size	DC-5521 (Outer diameter 5.5mm, inner diameter 2.1mm)
Recommended Wattage	100W~120W

Caution:

Do not charge the battery directly from the solar panel. There may be a risk of smoke and fire due to high current.

Charging steps

- ① Unfold the solar panel to allow direct sunlight throughout.
- ② Install the battery into the car refrigerator.
- ③ Plug the DC cable of the solar panel into the solar input port of the car refrigerator.
- ④ After charging, remove the battery from the refrigerator.

Explanation of power indication

※Blue light is discharging state, green light is charging state.

Description	LED light status (blue light)						Remaining battery level
	LED2	LED3	LED4	LED5	LED1		
					Green	Bule	
LED 1-5 are always on	●	●	●	●	○	●	100%-75%
LED 1-4 is on, LED 5 is off	○	●	●	●	○	●	75%-50%
LED 1-3 always on, LED 4-5 off	○	○	●	●	○	●	50%-25%
LED 1-2 always on, LED 3-5 is off	○	○	○	●	○	●	25%-10%
LED 1 is always on, LED 2 is flashing, LED 3-5 is off	○	○	○	◎	○	●	≥10%
“●” Always on “◎” Flashing “○” OFF							

Description	LED light status (blue light)						Remaining battery level
	LED2	LED3	LED4	LED5	LED1		
					Green	Bule	
LED 1 is always on, LED 2-5 flashing	◎	◎	◎	◎	●	○	0%-25%
LED 1-2 always on, LED 3-5 flashing	◎	◎	◎	●	●	○	25%-50%
LED 1-3 always on, LED 4-5 flashing	◎	◎	●	●	●	○	50%-25%
LED 1-4 always on, LED 5 flashing	◎	●	●	●	●	○	75%-100%
LED 1-5 is always on	●	●	●	●	●	○	100%
“●” Always on “◎” Flashing “○” OFF							

Using methods

1.Powering the refrigerator

- ① After installing the battery in the refrigerator, press and hold the power switch (about 2 seconds) to turn it on. Then the refrigerator emits a beep and the refrigerator enters standby mode.
- ② Press and hold the refrigerator power switch (about 2 seconds) to turn on the refrigerator, Then you can control the refrigerator.

2.supply power to other electrical products

The USB jack is attached next to the battery power switch. Plug in the USB connector to charge your smartphone, etc.

15.FAQ

Question 1: Why the car refrigerator can't charge the battery?

Answer: It could be that the battery is not activated. You can activate the battery by charging it with a PD charger and type-C cable. After activating the battery, you can use the car refrigerator to charge the battery.

Question 2: Why can I charge the battery with the PD charger but not with the car refrigerator?

Answer: The battery needs to be turned on before you can charge it with the refrigerator, you may have forgotten to turn on the battery, please long press the battery power button for three seconds to turn on the battery. If the battery does not charge even after turning it on, please contact customer service.

16. Product Specifications

Battery		
Model	CR156MAUS	
Battery type	18650 lithium battery	
Rated Capacity	15600mAh/170.82Wh	
Rated voltage	10.95V	
Input	TYPE-C	5V-20V/13A(Max 60W)
	Via Refrigerator	9V-12.6V/17.8A(Max 100W)
Output	USB	QC3.0 5V/12.1A 9V/2A(Max 18W)
	Via Refrigerator	0-12.6V/10A(Max 120W)
	TYPE-C	5V-20V/3A(Max 60WV)
Operating temperature range	32-113°F/0~45°C	
Discharge termination voltage	9V	
Dimension	5.71x3.58x2.95in/14.5x9.1x7.5cm	
Weight	2.31lb/1.05kg	

※Specifications and appearance are subject to change without notice to improve product safety and quality.

※The figures shown are approximate. They may vary depending on the environment and conditions of use.

17. Warranty and Consultation

- The warranty period for this product is one year from the date of purchase.
- The specifications of this product are subject to change without prior notice. Please be aware of this in advance.
- Production and sales of this product may be discontinued due to discontinuation of manufacturing of electronic parts, Please be aware of this in advance.
- For warranty consultation, please contact us after checking the following items in advance.
 - ① Product name.
 - ② Purchase address and order number.
 - ③ The condition of the malfunction (Please explain in as much detail as possible. If you consult by e-mail, please attach a photo or video of the relevant fault.)
- If you have any questions or concerns, please contact the seller.