TriTerra

Kaihon1000

PORTABLE POWER STATION

USER MANUAL

⚠ CHARGE ME NOW ⚠

Before using or storing, plug your TriTerra Kaihon into the wall until it is fully charged. Keep your TriTerra Kaihon plugged in when not in use. For more tips and tricks on keeping your battery healthy, learn more from the education section.

⚠ IMPORTANT SAFETY INSTRUCTIONS ⚠

Read all the instructions and cautions carefully before use to avoid personal injury or damage to the unit and any connected products.

Observe all Input/Output connectors ratings: To avoid fire or electrical shock hazard, observe all ratings on unit, and products you intend to use; check manuals for more information.

Use in ventilated area: Ensure proper ventilation while in use and do not obstruct fan openings on unit. Inadequate ventilation may cause damage to the unit. Do not stack anything on top of the unit in storage or in use.

LOCK THE TOP COVER in wet conditions: In order to avoid short circuits or electric shock, make sure the top cover of unit is always closed and locked and do not allow the operation panel of the unit to get wet. Let the operation panel of unit dry completely before using.

Shock or Fire Hazard: TriTerra generates the same potentially lethal AC power as a normal household wall outlet. Please use it carefully just like normal AC outlet on the wall.

DO NOT insert foreign objects into outputs or ventilation holes.

DO NOT attempt to replace the internal battery with anything other than the authorised replacement battery available from TriTerra.

Any manipulation to the unit or its components will void all warranties.

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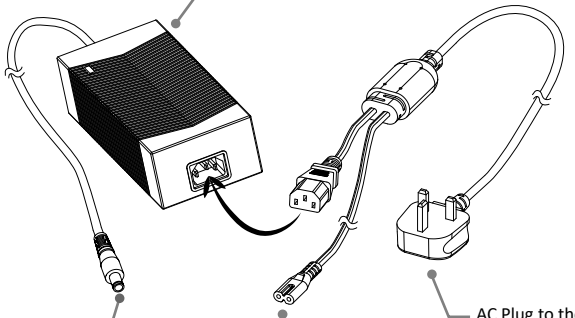
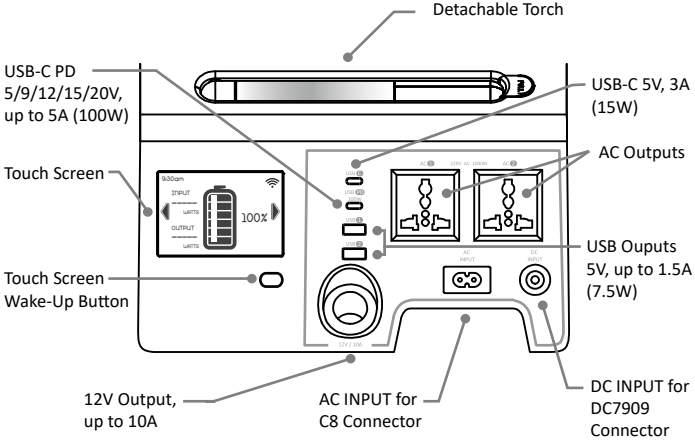
Get to Know Your Gear



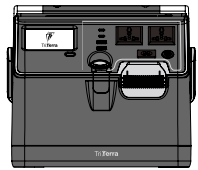


How it Works

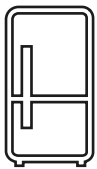
Solar (Sold separately)
6.5 hours (depends on climate)

AC Plug
(with AC/DC Transformer)
6.5 hours

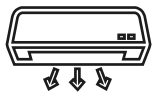
Power Charging



It Empowers



Fridge
15+ hours



800W AC
2+ hours

12V LED
1000+ hours

Water Boiler
20+ times

Charge Your TriTerra Kaihon

CHARGE ME NOW: Before using or storing, plug your TriTerra Kaihon into the wall until it is fully charged. Keep your TriTerra Kaihon plugged in when not in use. For more tips and tricks on keeping your battery healthy, see the education section.

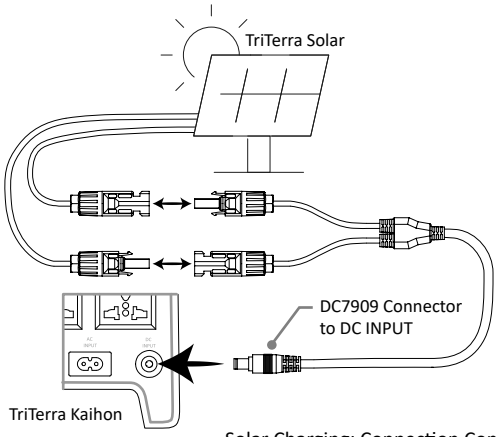
When charging your TriTerra Kaihon you will notice a battery segment blinking in the display. This indicates the current charge status. Once your TriTerra Kaihon is fully charged, all batterysegments will be lit and remain solid. As long as there is more power going into the TriTerra Kaihon than is being pulled from the output ports, the display will also indicate an estimated time until fully charged. This is an estimated time based on the power input and output numbers at that time; it will gradually adjust to a shorter or longer time as the average charge or discharge rates fluctuate.

Charging from Solar

> IMPORTANT NOTE: Do not exceed 36V input into the DC Input port; doing so will cause damage to the unit and potential bodily injury. For questions about solar recharging and proper way to set up your solar panels, email our solar experts at support@triterrapower.com.

The MC4 to DC7909 adaptor is designed to be used with TriTerra Solar Panel, where MC4 connector connects to the TriTerra Solar Panel and DC7909 connector connects to the DC INPUT of Kaihon. The maximum input power is 200W.

1. Place your solar panel where it will get as much direct sunlight as possible.
2. Connect the TriTerra Solar Panel to the MC4 to DC7909 adaptor, and then plug the DC7909 plug to the DC INPUT of Kaihon according to the figure on P.5. You will know the Kaihon is charging when the battery segments on the touch screen are blinking. The Kaihon is fully charged when all battery segments stop blinking and remain solid.
3. You can also connect the Kaihon to other brands of solar panels using the TriTerra MC4 to DC7909 adaptor. (Caution: NO Excess 36V Input)



Solar Charging: Connection Configuration

Maximum Power Point Tracker

TriTerra Kaihon features maximum power point tracker internally. It activately monitors the energy source you're using to charge the TriTerra Kaihon and optimizes the source to maxmize power, resulting in up to 40% faster charge times.

Charging from the wall

Using the included AC Adaptor, plug your TriTerra Kaihon into any wall outlet. You will know the Kaihon is charging when the battery segments on the touch screen are blinking. The Kaihon is fully charged when all the battery segments stop blinking and remain solid. The Kaihon should recharge from the wall in about 6.5 hours.

1. The AC Cable comes with two connectors besides the AC wall plug, one connects to the AC Adaptor and the another one which is C8 Connector which connects to the AC INPUT of Kaihon.

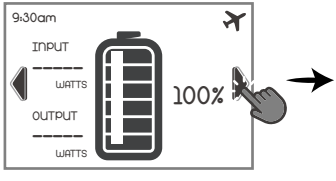
2. DC7909 Connector from the AC Adaptor connects to the DC INPUT of Kaihon.

IMPORTANT NOTE: The TriTerra Kaihon is not compatible recharging from a 12V source, it can result in damage to the unit, cable, as well as your vehicle.

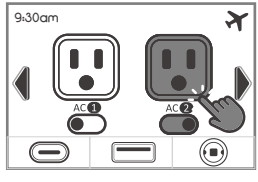
Using your TriTerra Kaihon

How to use your TriTerra Kaihon:

1. Press the Touch Screen Wake-Up Button to switch on the touch screen for manipulation.
2. Scroll the touch screen to the page showing the particular power output ports. (see illustration below)
3. Click the icon of a particular power output port to turn it on. When not using certain ports, make sure to turn them off to conserve power.
4. You'll know the port is turned on when the icon of that particular port on the touch screen turn to yellow.
5. Plug in your gear for power anywhere life takes you.
6. If possible, keep your TriTerra Kaihon plugged into a power source when not in use.
7. You can charge your TriTerra Kaihon, and run your gear at the same time.



Main Page: Scroll to the page of ports



Ports Page: Click the icon to turn on the port

Best-Use Strategy:

When charging gear with your TriTerra Kaihon, take note of the operation status on the Main Page of the touch screen. If you plug in devices that have a high power requirement (a large air conditioner), the charge level of your TriTerra Kaihon can drop very quickly and you may not get exactly 1000Wh of energy. Also, especially when using the AC power output, the TriTerra Kaihon will be converting the energy from the DC power of the battery to the AC power needed by your device. Although your TriTerra Kaihon has a highly efficient inverter, there is still some energy lost in this conversion and you will not get the full rated capacity of the battery. If you're experiencing shorter runtimes, you may want to check the device's power requirements, see TROUBLESHOOTING for help.

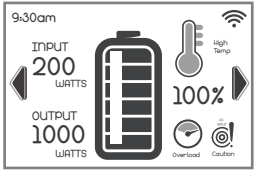
Cold Weather Usage:

Cold temperature (below freezing) can impact the TriTerra Kaihon's battery capacity. If you'll be out living off-grid in sub-zero conditions, we recommend keeping your TriTerra Kaihon in an insulated cooler, connected to a power source (solar panel), and charging your gear. The natural heat generated by the TriTerra Kaihon contained in an insulated cooler will keep battery capacity at its highest.

Touch Screen

You'll see three key sectors of operations over the touch screen, which includes 1) the Main Page, 2) the Ports Page, 3) the System Setup Page

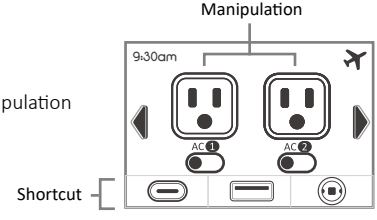
Main Page



1. INPUT shows the amount of power (watts) going into the TriTerra Kaihon while charging. By using your finger to click the position, you can see the amount of time before the Kaihon battery is completely charged, if the net amount of power going into the Kaihon battery is positive. This is an estimated time based on the power input and output numbers at that time; it will adjust to a shorter or longer time if the charge or discharge rates fluctuate.
2. OUTPUT shows the amount of power (watts) your devices are using while plugged into the TriTerra Kaihon. By using your finger to click the position, display will be circulated in between the units of Watts, Ampere, and the amount of time before your TriTerra Kaihon is empty if the net amount of power going into the Kaihon battery is negative. This is an estimated time based on the power input and output numbers at that time; it will adjust to a shorter or longer time if the charge or discharge rates fluctuate.
3. BATTERY LEVEL shows 6 segments, approximating 15%, 35%, 50%, 70%, 85%, 100% capacity. As you use the TriTerra Kaihon, segments will disappear from the display, indicating the remaining charge. When charging the TriTerra Kaihon, you will notice a battery segment blinking. This indicates the current charge status. Once your TriTerra Kaihon is fully charged, all battery segments will be lit and remain solid. Note that when you first plug in a power source, whether it's a solar panel or a wall charger, the Kaihon may take a minute to detect and adjust its charge circuitry before it starts drawing power from the source.
4. The WiFi symbol indicates the TriTerra Kaihon's WiFi is turned on. The Bluetooth symbol indicates the TriTerra Kaihon's bluetooth is turned on. The Aeroplane symbol indicates the TriTerra Kaihon is at offline mode.

Ports Page

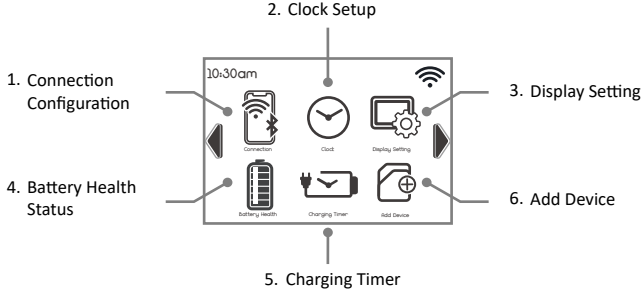
The page contains 2 sectors: Manipulation Sector and Shortcut Sector.



1. Manipulation sector shows the power output ports that allow you to switch on/off. You can switch on/off a single port by clicking the icon of that particular power output port. When a port is turned on, the icon of that port turns to yellow.
2. Shortcut sector shows other power output ports that you can jump to that page for manipulation of that particular ports. You may also move to the page of other ports by clicking the left/right arrow.

System Setup Page

The page contains 6 sectors: 1. Connection Configuration , 2. Clock Setup , 3. Display Setting , 4. Battery Health Status , 5. Charging Timer , 6. Add Device



1. Connection Configuration is the page that you can choose to connect the TriTerra Kaihon to your mobile device over either Network or Bluetooth. You can also set the TriTerra Kaihon offline, and the aeroplane symbol appears at the top right corner of the touch screen.
2. Clock Setup allow you set the clock of the TriTerra Kaihon manually. You can also set the clock of the TriTerra Kaihon synchronizes with the clock of your mobile device when they connect to each other.
3.Display Setting is the place for setting the brightness of the touch screen and the lapse of time to screen saving.
4. Battery Health Status shows you how new the battery is.
5. Charging Time is the page that you can view the pre-set time

schedule of power charging if you have set the schedule over the mobile app. In addition, you can turn on/off this function here.
6. Add Device coordinates the connection of the TriTerra Kaihon to your mobile device. There is a tutorial from the TriTerra mobile app which helps you succeed in connection between the TriTerra Kaihon and your mobile device step by step.

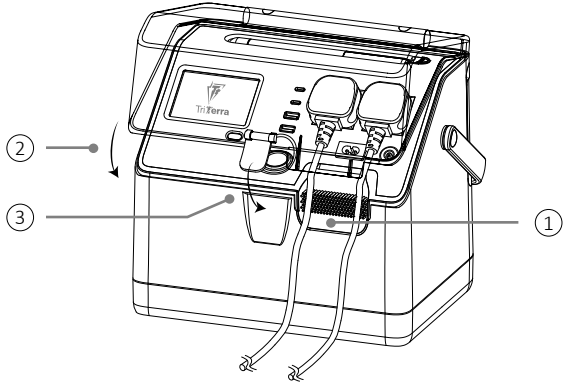
Top Cover:

To make sure the top cover is properly closed and locked for the purpose of weatherproof, please follow the following steps.

① Route the cables down to the exit, and lay them on the silicon cushion

② Press the top cover all the way downward

③ Press the lock all the way toward the Kaihon body until it is well fastened



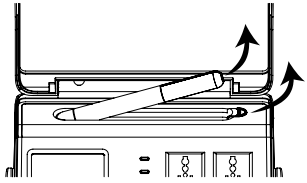
Touch Screen Wake-Up Button:

Pressing this button to switch on and off the touch screen for manipulation and energy saving respectively.

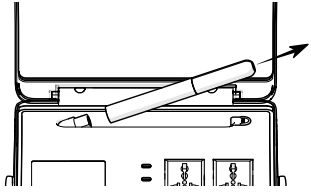
Detachable Torch

The detachable torch can be taken out from the TriTerra Kaihon and used by following the steps below.

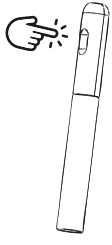
① Pull the silicon tape against the torch upward, and the torch will be uplifted.



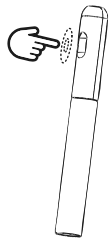
② Pull out the torch.



③ Slightly touch the button to switch on/off the torch.

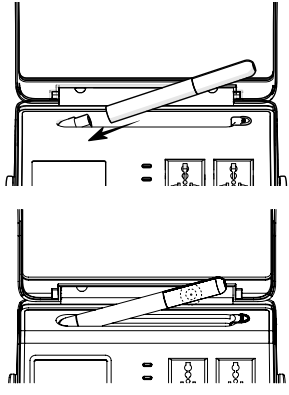


④ Hold the button on the torch to adjust the intensity of the torch from dim to bright. When the torch is at the brightest position, re-hold the button on the torch to adjust the intensity of the torch from bright to dim.



⑤ The torch can work at least 2 hours continuously after fully charged. Put the torch back to Kaihon1000 to recharge the torch.

⑥ Plug the end of the torch back to the magnetic socket on TriTerra Kaihon for power charging, and the red LED at the middle of the torch will light on until the torch is fully charged.

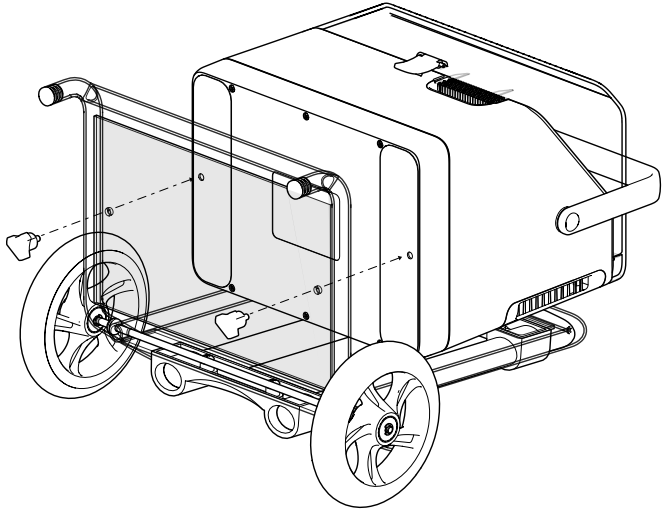


Detachable Trolley (Optional Slection)

Kaihon1000 can be installed on a detachable trolley for long distance travelling.

① Lay the back of the unit downward while the outputs of the Kaihon1000 is facing up.

② Install the 2 screws to hold the Kaihon1000 to the trolley.



Technical Specifications

Battery	
Cell Chemistry	Li-ion NMC
Pack Capacity	1000Wh
Single Cell Equivalent Capacity	270Ah@3.7V
Cycle Life	500 Cycles to 80%
Shelf Life	1 year (after fully charged))
Battery Management System	
Over Voltage Protection	Overload Protection
Over Temperature Protection	Short Circuit Protection
Low Temperature Protection	Low Voltage Protection
Low Temperature Protection	Low Voltage Protection
Charge Times	
Standard input (200W max)	5.5 hrs
Ports	
USB-A Port (output)	5V, 1.5A (7.5W max)
USB-C Port (output)	5V, 3A (15W max)
USB-PD Port (output)	5V, 9V,15V, up to 3A 20V, up to 5A (100W max)
12V Car Port (output)	12V, up to 10A (120W max)
220V AC Output (pure sine wave)	220VAC 50Hz, 4.5A (1000W, 2000W surge)
110V AC Output (pure sine wave)	110VAC 60Hz, 9A (1000W, 2000W surge)
C8 AC Input (220VAC input)	220VAC, up to 5A (1100W max)
C8 AC Input (110VAC input)	110VAC, up to 10A (1100W max)
DC7909 DC Input (input)	25.2-37VDC (200W max)
AC/DC Power Adaptor for charging	100-240VAC 50Hz/60Hz (200W max)
Detachable Torch	
Power Rating	1.25W, 900mAh, 2 hrs on continuously

Technical Specifications

General	
Weight (Kaihon1000)	22 lbs (10 kgs)
Weight (detachable cart)	9 lbs (4.1 kgs)
Dimensions	10.8 x 7.7 x 9.7 in (27.6 x 19.6 x 24.8 cm)
Charge Temperature	32-113°F +/- 5°F (0-45°C +/- 3°C)
Discharge Temperature	-4-113°F +/- 5°F (-20-45°C +/- 3°C)
Control Panel	Color Touch Screen
Weatherproof Standard	IP35
Certification	
FCC	CE
ROHS	SRRC
Warranty	24 months
WiFi	
Frequency Range	2.4-2.5GHz
Protocols	802.1.11 b/g/n (802.11n up to 150 Mbps)
Bluetooth	
Protocols	Bluetooth v4.2 BR/EDR and, BLE specification

Frequently Asked Question

Can I use and charge my Kaihon Power Station at the same time?
Sure

My TriTerra Kaihon is not responding or is exhibiting odd behavior. What should I do?
Try resetting the unit by holding the "Touch Screen Wake Up Button" for 5 seconds to reset your Kaihon. Check your Kaihon to see if the issue is resolved after the reset.

My new Kaihon does not initially charge to 100%. What's going on?
Cycle the battery a few times and the issue should resolve itself as the Kaihon dials in its charge parameters.

Are these faster ways to recharge my Kaihon?
Sorry for no, but we are offering max. 200W input with our AC/DC adapter and solar panel which is very competitive in the market.

What do the meter icon, the thermometer icon and the DC socket icon mean?
When your Kaihon displays a thermometer icon, this means it is over the temperature threshold of the device, and protection will begin in 3 minutes.

A meter icon means the Kaihon power output is either approaching or has exceeded the power threshold of the device, and protection will begin in 3 minutes.

If a DC socket icon pops up, it means there is some wrong about the power input sources either the AC/DC adapter or the solar panel.

Can I use my 3rd party panels with my Kaihon?
Yes, you can also connect the Kaihon to other brands of solar panels using the TriTerra MC4 to DC7909 adapter. But it needs to be very careful. The max. power input to Kaihon is 36V, 200W. Do not exceed 36V input into the DC Input port; doing so will cause damage to the unit and potential bodily injury. We would recommend you using our TriTerra Solar Panel.

Frequently Asked Question

How do I know if my TriTerra Kaihon is charged?
When charging your TriTerra Kaihon you will notice a battery segment blinking in the display. This indicates the current charge status. Once your TriTerra Kaihon is fully charged, all the battery segments will be lit and remain solid. As long as there is more power going into the TriTerra Kaihon than is being pulled from the output ports, the display will also indicate an estimated time until fully charged.

How long will the Kaihon run my device?
All Kaihon Power Stations have a number in their name, ie. Kaihon1000. These numbers refer to the Watt Hours (Wh), or the amount of energy that can be stored in each battery, and can help estimate how long your gear will run from the power station. For example, a 1000Wh battery should run a 100W light for 10 hours (1000/100=10). When you're deciding on what to power from the Kaihon Power Station, it's helpful to look into your device's wattage consumption.

What does the display do for me?
Your Kaihon is the only Power Station offering touch screen in the market, which gives you an intuitive user experience to interact with the device. The display shows the operation status of the device, and reflects the amount of power in and out, as well as the time to be energy full and time to be energy drawn. In addition, you can control every individual socket on/off by clicking the socket buttons on the touch screen, and turn on/off the scheduler for power charging. You can also connect your mobile device through the interaction with the touch screen . For more details, you may look at the user manual.

Can I take my Kaihon on a plane?
No. Under FAA regulations you are not allowed to take any battery exceeding 100Wh on a plane. For the most up to date information visit FAA Pack Safe.

Can I recharge my Kaihon through the 12V Car Charge port?
No, the TriTerra Kaihon is not compatible with recharging from a 12V source, it can result in damage to the unit, cable, as well as your vehicle.

Frequently Asked Question

How do I know if my device will work with the TriTerra Kaihon Power Station?
It would depend on the power rating of your device and the power threshold of Kaihon. For example, the Kaihon1000's AC port is powered by an inverter that allows for 1000W of power. This means if your device is pulling more than 1000W for an extended period, the Kaihon1000 will give warning and then protection will turn on to shut off the inverter. Another factor to be concerned is the surge rating of your device. The Kaihon inverter is tuned to double its power threshold to catch the surge requirement of various devices instantly, but there will be items that will surge at a higher rate, and for a longer time, than the Kaihon can manage, in which case the inverter will be protected to shut off.

Storage and Downtime Maintenance

Having your TriTerra Kaihon connected to a power source, like a solar panel or wall plug, between adventures or while in storage keeps its battery healthy and topped off. This prolongs battery life and wil ensure your TriTerra Kaihon is charged and ready to go all day, every day.

If you cannot keep your TriTerra Kaihon plugged into a power source during storage, fully-charge your TriTerra Kaihon every 3 months and store it in a cool, dry place.
Failure to maintain your TriTerra Kaihon by following these steps can result in battery damage which will void the product warranty.

Mobile Application

If you are iOS user

1. Search **TriTerra Power** in Apple App Store, or
2. Scan the following QR code

If you are Android user

1. Search **TriTerra Power** in Google Play Store, or
2. Scan the following QR code

Mobile Application

You may use Google Assistant to control your TriTerra Kaihon. To setup the control, you can follow these steps.

1. Download **TriTerra Power** application in either iOS or Android platform
2. Create an account and bond it to a Kaihon in the mobile application
3. Download the **Google Home** application from Apple App Store or Google Play Store
4. Add Service in Google Home
5. Select **TriTerra** Action
6. Log in using the account with Kaihon paired.

Troubleshooting

If your devices are not recharging from your TriTerra Kaihon, follow these steps:

1. Ensure the Output Port has been turned on, the icon of the output port on the touch screen should be lit up in yellow.
2. Check the Battery Display. If it is at 10% or below, charge your TriTerra Kaihon.
3. Check the LCD Display for warning icons:

Over Heat
Allow unit to cool

Overload
Power draw exceeds port's max. allowance

DC Input Warning
Error about AC/DC adapter or the solar panel

4. Verify your device is suitable for use with the TriTerra Kaihon. All of the TriTerra Kaihon output ports have their own max power capacity. Check the TriTerra Kaihon's Tech Specs to ensure your device is compatible.
5. If you are still experiencing trouble with your TriTerra Kaihon, please contact our customer service by email at support@triterrapower.com

Warranty & Contact

LIMITED WARRANTY
TriTerra Technology Limited warrants to the original consumer purchaser that this TriTerra product will be free from defects in workmanship and material under normal consumer use during the applicable warranty period identified in Paragraph 2,below, subject to the exclusions set forth in Paragraph 5. We will not assume, nor authorize any person to assume for us, any other liability in connnection with the sales of our products.

WARRANTY PERIOD
The warranty period for TriTerra battery cells (whether purchased on a stand-alone basis or as part of another product) is 180 days. The warranty period for all other TriTerra product and components is one (1) year. In each case, the warranty period is measured starting on the date of purchase by the original consumer purchaser. The sales receipt from the first consumer purchase, or other reasonable documentary proof, is required in order to establish the start date of the warranty period. If you completed the online TriTerra Product Registration Form within 30 days after purchasing your product, that registration can also establish the start date of the warranty period (but warranty coverage is not conditioned upon such registration).

REMEDY
TriTerra will repair or replace (at TriTerra's option and expense) any TriTerra product that fails to operate during the applicable warranty period due to a defect in workmanship or material.

LIMITED TO ORIGINAL CONSUMER BUYER
The warranty on TriTerra's products is limited to the original consumer purchaser and is not transferable to any subsequent owner.

Warranty & Contact

EXCLUSIONS

TriTerra's warranty does not apply to (i) any product that is misused, abused, modified, damaged by accident, or used for anything other than normal consumer use as authorized in TriTerra's then current product literature, or (ii) any product purchased through an online auction house. TriTerra's warranty does not apply to any battery cell or product containing a battery cell unless the battery call is fully charged by you within seven (7) days after you purchase the product and at least once every 6 months thereafter.

HOW TO RECEIVE SERVICE

To obtain warranty service, you must contact our customer service team via TriTerra website (https://triterrapower.com/contact-us). If our customer service team determines that further assistance is required, they will give you a Return Material Authorization (RMA) number and will provide you with prepaid return shipping label that you can use to mail back your non-functioning item(s). You must properly package the product, clearly marking the RMA number on the package and including proof of your purchase date with the product. We will process your return and send your repaired or replacement product to you at our expense for products being shipped to locations in Asia. For product purchased or being shipped outside of Asia, please contact the local distributor from whom you purchased the product or email support@triterrapower.com to obtain further distributor information.

IMPLIED WARRANTIES

THE LIMITED WARRANTY STATED HERIN IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IN NO EVENT SHALL ANY IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRIMGEMENT, EXTEND BEYOND THE APPLICABLE WARRANTY PERIOD IDENTIFIED IN PARAGRAPH 2, ABOVE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to your. This warranty gives your specific legal rights, and you may also have other rights which vary from region to region.

EXCLUSIVE REMEDY; LIMITATION OF LIABILITY

The foregoing provisions state TriTerra's entire liability, and your exclusive remedy, for any branch of warranty, express or implied. IN NO EVENT WILL TRITERRA BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM ANY USE OR MALFUNCTION OF ANY TRITERRA PRODUCT, OR FROM ANY BREACH OF WARRANTY, INCLUDING DAMAGE TO OTHER DEVICES. IN NO EVENT WILL TRITERRA's LIABILITY FOR ANY CLAIM, WHETHER IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR UNDER ANY OTHER THEORY OF LIABILITY, EXCEED THE AMOUNT PAID BY YOU FOR THE TRITERRA PRODUCT.

TriTerra

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions. (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.