

FLEX TACTICAL 1500 USER MANUAL

XXXXXXXXXXXX

INERGY







TABLE OF CONTENTS

TABLE OF CONTENTS	01
FIRST THINGS FIRST	04
IMPORTANT SAFETY GUIDELINES	05
GETTING TO KNOW YOUR FLEX	07
Flex Tactical 1500	
Flex TAC Battery	
Using Your Flex System with Multiple Flex Batteries	
CHARGING YOUR FLEX MODULAR SYSTEM	12
General Information	
Charging with Solar Panels	
Inergy Panels (or Other MC4 Panels) Connected in Series	
Legacy Inergy Panels with EC8 Connectors	
Charging from the Grid (AC Wall Socket)	
Charging From Your Vehicle	





TABLE OF CONTENTS

USING YOUR INERGY FLEX MODULAR SYSTEM _____ **20**

- Flex Tactical 1500 with AC and Regulated DC Output
- Using the Flex TAC Battery
- Getting the Most Out of Your Flex System
- Using the Flex in Extreme Cold Weather

READING THE LCD DISPLAYS _____ **23**

- Flex Power Consoles
- Flex TAC Battery

TECH SPECS _____ **29**

- Flex Tactical 1500 (AC and DC Output)
- Flex TAC Battery

FAQs _____ **31**



02





TABLE OF CONTENTS

WARRANTY INFORMATION	39
Warranty Period	
“No Lemon” Policy	
Remedy	
Limited to Original Consumer / Buyer	
Exclusions	
How to Receive Service	

CONTACT US	41
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FIRST THINGS FIRST

1. When you unbox your Flex Modular System, **PLEASE DO NOT** throw away the packaging. It may come in handy down the road in case of damage from shipping or handling, or any other issues requiring a return.

2. On the underside of each Flex Module, each Flex TAC Battery will have four rubber foot covers (see right). Before stacking your Flex Modules, remove the connection cap and foot covers from all but the module on the bottom of the stack.

DO NOT attempt to stack the Flex modules or the Flex Tactical Skid Plate with either of these protectors in place. Doing so may cause damage to the connection points.

You can use the foot covers on the bottom module in your stack to protect fragile surfaces, but be aware they are designed to be removed and may fall off.



3. Next, charge your Flex Modular System to 100% by plugging a Standard Wall Charger (included) into the DC port on the left side of your Flex TAC Battery.

4. When your Flex Batteries are fully charged, plug a device into each output to make sure that nothing was damaged in shipping and handling.

5. Keep your Flex modules connected together as much as possible, so the batteries remain equalized.

For more pro tips on how to keep your battery in the best shape possible, see the **Flex TAC Battery** section of this manual. For instructions on connecting multiple Flex Batteries together, see **Using Multiple Flex Batteries** (pg. 10).

IMPORTANT SAFETY GUIDELINES

NEVER connect an input exceeding **90 volts**, i.e. the open circuit voltage (VOC) on solar input, to the blue EC8 charging port (right side) on the Flex Tactical 1500, or Flex MPPT Supercharger.

NEVER exceed output and input connector ratings. Failure to do so may result in unit damage, fire, or electrical shock. You can find these ratings under **Tech Specs** (pg. 29).

NEVER store a Flex TAC Battery in hot environments, such as a hot vehicle. Lithium batteries are sensitive to extremely high temperatures. For more information see **Tech Specs** (pg. 29).

NEVER touch, stick metal objects into, or otherwise come in contact with the

interior of the AC outlets on the Flex System. Doing so risks death, serious injury, and electrical shock. These outlets supply power identical to that of a normal home wall outlet and, while ungrounded, still present many of the same dangers.

AVOID getting the Flex system wet. Allow any condensation to dry completely before powering-up or charging your Flex system. If your Flex system does get wet, contact us to ensure it's safe before attempting to use it again.

NEVER attempt to repair your Flex system or replace the internal battery yourself; any manipulation or disassembly of any Flex module will void all warranties.

Any tampering with the warranty stickers (black dot with Inergy logo) may also void the warranty. For questions about repair/service, please contact our U.S.-based Tech Support team (see **Contact Us** pg. 41). **There are no user-serviceable parts inside.**

ALWAYS keep your Flex system clean and dry. Regularly inspect for dirt, dust, or moisture. You may clean connectors, outlets, and fans with canned air for electronics. Never use an air compressor to clean or dust-off your system.

NEVER use a generic or off-brand charger to charge your Flex TAC Battery. Use only Inergy-supplied chargers specifically for this device.

ATTENTION

Failure to follow the above safety guidelines may result in permanent damage to your Flex Modular System, risk of fire, warranty void, and/or bodily harm. If you have any questions, please contact our U.S.-based tech support team (see contact us, pg. 41).

05

IMPORTANT SAFETY GUIDELINES

NEVER connect your Flex AC outlets to another power source (i.e. attempt to charge your Flex via the AC outlets). Doing so will permanently damage your device and void your warranty. These outlets are output only, and any such damage is easily detected when diagnosing Flex system failures.

BE AWARE that the Standard Wall and Quick Wall chargers can get hot when in use. Charge your Flex system in a well-ventilated, dry area. We recommend placing your charger on top of the Flex system while charging; the case works as an effective heat sink to dissipate heat from the charger.

TAKE CARE not to leave anything plugged into the DC outputs that are

unsafe unattended (cooking equipment, and heaters), or other loads you don't want draining your battery unexpectedly.

NEVER use or store any Flex module or Flex TAC Battery in any orientation other than standing straight up. The Flex Modular System is designed to be stored and operated while sitting on a flat, secure surface.

ALWAYS secure the Flex system with straps or cords when using it in a vehicle to protect against excessive vibration or impacts.

NEVER set the system on dirty or muddy surfaces unless the Skid Plate is connected at the base. The dust

cover is not sufficient to protect the connectors from these environments.

06 Failure to follow the above safety guidelines may result in permanent damage to your Flex Modular System, risk of fire, warranty void, and/or bodily harm. If you have any questions, please contact our U.S.-based tech support team (see contact us, pg. 41).

ATTENTION

GETTING TO KNOW YOUR FLEX

Currently, the Flex Modular System is made up of two unique modules:

1. Flex Tactical 1500 Power Console
2. Flex TAC Battery

With these modules, you can create a Flex system that is perfectly tailored to your present needs. This system can also **save you money** in the future by replacing or adding individual modules instead of purchasing an entirely new system.



Be sure to check your battery charge level at least every 3 months. Do not allow your Flex system to remain in storage at a low state of charge for a long time. A completely discharged battery that sits for longer than a week will likely be ruined and require expensive repairs which are NOT covered under warranty. Dead battery recovery is NOT warranted.

07

GETTING TO KNOW YOUR FLEX

Flex Tactical 1500

Customers commonly start with a Flex Tactical 1500 Power Station, which is the combination of the Flex Tactical 1500 Power Console and a single Flex TAC Battery.



08

Be sure to check your battery charge level at least every 3 months. Do not allow your Flex system to remain in storage at a low state of charge for a long time. A completely discharged battery that sits for longer than a week will likely be ruined and require expensive repairs which are NOT covered under warranty. Dead battery recovery is NOT warranted.

GETTING TO KNOW YOUR FLEX

Flex TAC Battery

The Flex TAC Battery is a lithium-ion, low-voltage battery containing a smart BMS (battery management system). The Flex TAC Battery is capable of smart charge and discharge management, self temperature regulation, advanced safety features, and other features to provide the high power density you've come to expect from Inergy, along with industry-leading safety standards and controls.

Each Flex TAC Battery is self-managed, which means that your system can continue operating in the event of a failure of any/all extra batteries in the system. Each battery displays its individual state-of-charge (SoC),

voltage, and power measurements on the built-in LCD screen. Batteries are automatically activated by a Flex power console, but you can use the built-in button to activate the display manually. We're firm believers in simplicity, and

have kept the number of buttons in the Flex system to a minimum.



Be sure to check your battery charge level at least every 3 months. Do not allow your Flex system to remain in storage at a low state of charge for a long time. A completely discharged battery that sits for longer than a week will likely be ruined and require expensive repairs which are NOT covered under warranty. Dead battery recovery is NOT warranted.

09

GETTING TO KNOW YOUR FLEX

Using Multiple Flex Batteries

To expand your Flex Modular System's overall battery capacity, simply add more Flex Batteries to your stack. Having multiple batteries reduces the strain on each, resulting in longer cycle life for your batteries. Each stack can have up to five (5) Flex modules in addition to a Flex Power Console. To connect more than five modules, you'll need to add a Flex Stack Expansion Base coming soon, which allows you to connect an additional stack to the system. Do not connect more than (5) Flex modules in one stack.

When you add Flex Batteries in a stack, they will automatically connect to each other when their voltages are within range of each other (about

0.8V). If your battery voltages are too far apart, you can still connect them, but each individual battery will only enable as it comes within range. As you use the Flex system, the batteries will automatically enable and equalize. Once connected, the power console display will show the combined state of charge for all currently enabled batteries in the stack.

The top battery in the stack acts as the master, providing initial power to the Flex system. Flex Batteries stacked below the master will automatically enable when the voltage is within range of the master.

The best practice for connecting multiple batteries to your Flex Power

Console is to charge all batteries to 100% before stacking them. Once they're connected, we recommend leaving them together, so the packs remain in balance with each other.

If your batteries are too far out of range and you don't have time to wait, you can speed up the connection and balancing process by following a few simple steps:

If you intend to **charge** your system before using it, place the battery with the **lowest charge** on the top of the stack. As the top battery charges and the voltage increases, the others will enable as they come within range. The order of the other batteries in your stack is not important.

10

If you have any questions, please call us (see **Contact Us pg. 41**), and we'll be happy to help you.

NOTE



GETTING TO KNOW YOUR FLEX

Failure to follow this safety information may result in fire, property damage, or bodily harm. Permanent damage to your Flex TAC Battery can occur, voiding your warranty.



CHARGING YOUR FLEX MODULAR SYSTEM

General Information

When charging your Flex System, the power console LCD screen will indicate the amount of power being sent to the battery(ies) and an estimated charge time.

This estimated charge time is based on the real-time power **input** and **output** shown on-screen, and it will change as the average charge or discharge rates fluctuate. The power console LCD combines the states of charge of all batteries in your Flex system as a percentage of the total combined capacity.

When more than one battery is successfully connected, any charge input, including the Standard Wall Charger input, will charge all batteries

(so long as the power console is powered on). Note: If the Flex TAC Battery is too warm or cold, it won't allow charging until it reaches a safe temperature (see **Tech Specs**, pg. 29).

Cell Balancing

The Flex uses multi-cell lithium battery packs, which can become unbalanced after heavy use or after going a long time between full charges. This means that one cell group is at a higher or lower state of charge (SoC) than the others.

In order to resolve this imbalance, the battery needs to be charged while the intelligent management system balances each cell group. The Flex Battery employs a rapid cell balancing system to address the issue while the

Flex charges, but this process can take several hours. You may see the SoC remain at ~99% for extended periods until balancing finishes.

You can still use the Flex system without charging up those last few percentage points, but you won't get the max capacity until the system reaches 100%. Just give your unit a full overnight charge every now and then to ensure the maximum charge capacity is reached.

Charging for Long-Term Storage

If you intend to store your Flex TAC Battery for an extended period of time, we require that you check the state of charge once every three months. If the state of charge dips below 30%, we

12

Do not allow your Flex system to remain in storage at a low state of charge for a long time. This may damage your Flex TAC Battery and void your warranty.

ATTENTION

CHARGING YOUR FLEX MODULAR SYSTEM

recommend charging it to about 50% before putting it back into storage. The ideal battery SoC range for long-term storage is 30–50%.

Charging With Solar

Utilizing solar energy can be as simple as pointing your panels at the sun. However, there are many variables that can affect the panel's performance, and there are a few "best practices" to know. For help charging with solar panels and configuring your solar arrays correctly, please call us (see **Contact Us**, pg. 41) and we'll be happy to help you out. Here are a few of the most common variables that affect performance, and some tips and tricks to help you maximize your results:

Ideal Time of Day

As a general rule of thumb, the brighter the sun is shining, the better your solar panels will work. Panels operate at peak efficiency when the sun is most direct - typically around midday. Solar panels run off of light, not heat. In fact, solar panels produce the most during cold, clear days rather than in extremely hot conditions. Even on a windy day, solar panels can still operate at peak output. Cloud cover will significantly reduce the efficiency of the panels, though they will still continue to generate some electricity.

Time of Year

The amount of daylight changes with the seasons, as the sun moves closer and farther away from you. During summer

months, overall solar production is generally higher due to more daylight hours. Although the winter months have fewer daylight hours, cold temperatures positively affect a panel's performance. In fact, cold temperatures in clear conditions can generate the most solar production overall.

Panel Placement

Place your solar panel where it will get as much direct sunlight as possible. **Shade on one or more panels can reduce the performance of the whole string.** Take care to avoid trees and other shade that may move with the sun throughout the day.

Peak Your Panels

Pointing your panels directly at the sun

NOTE

The output rating on Inergy solar panels is based on performance in ideal conditions. Real output may vary based on current conditions in your unique situation.

CHARGING YOUR FLEX MODULAR SYSTEM

and adjusting them throughout the day will yield the best results. The angle will vary from month to month, but an angle of 30-60 degrees from flat is generally considered ideal. As long as you point your panels at the sun, you should get good results.

Safety Tips

The Flex is designed for use with and rated for Inergy-brand solar panels, but you can use third-party solar panels if you have them. In general, you should not mix different types and ratings of panels; always use identical panels in a string. As a hard rule, any string of solar panels must not exceed the open circuit voltage (VOC) rating of the Flex system (see **Tech Specs**, pg. 29). If you have any questions or doubts about your solar

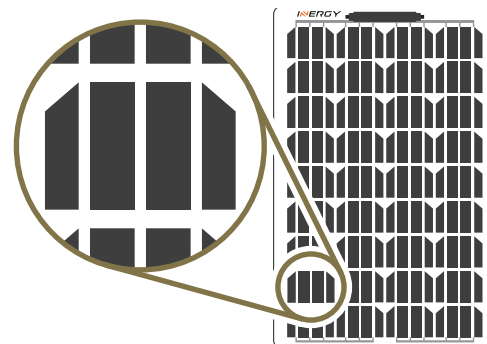
panels' open circuit voltage, please call us. (See **Contact Us**, pg. 41.)

Clean Your Panels

Solar panels function through the interaction of many individual cells (**see right**). Output can be greatly affected by even the slightest obstruction to a single cell of the panel. Make sure the panel is free of any dirt, debris, or other objects like stickers and decals. Aftermarket protective coatings, including clear films, plastic sheet/paneling, and even glass, can also greatly reduce panel performance.

Panel Wiring - Series vs Parallel

Wiring your panels correctly is key to getting the highest efficiency in your unique situation. You can wire panels in



parallel (connecting all positive wires together, and all negative wires together) or **series** (connecting the positive wire of one panel to the negative wire of the next).

Another wiring method is **series-parallel**, which involves a single series string of multiple identical parallel strings. This is slightly more complex but can be useful.

14 DO NOT use the 5.5mm x 2.5mm charging port on the Flex TAC Battery for solar charging. It can result in fire, electrical shock, and personal harm; doing so may cause serious damage to your Flex TAC Battery and it will void your warranty.

WARNING

CHARGING YOUR FLEX MODULAR SYSTEM

Generally, you'll get the highest efficiency with a series configuration, but parallel and series-parallel allow you to use more panels without exceeding the voltage requirements of the system, which can be useful for capturing energy in low-light settings. Refer to the Inergy blog for more detailed information.

Inergy Panels (or Other MC4 Panels) Connected in Series

Connecting solar panels in series increases the voltage of the string. A VOC over 45V can be dangerous, risking electrical shock and personal harm if not handled properly. When using solar panels in series, always follow this process when connecting them to your Flex system:

Step 1. Plug the blue EC8 connector of your 30' EC8-to-MC4 Ascent Panel Cable into the blue EC8 connector on your Flex Power Station.

Step 2. Connect the male and female MC4 connectors on your solar panels in one continuous string, male to female and so on. When you are done connecting your panels, you will have one open male connector on one end of your string, and one open female at the other end.

Step 3. Connect the MC4 connectors on your EC8-to-MC4 cable to the corresponding connectors on each end of your string of solar panels. You should end up with a closed loop (a completed series connection).

See the next page for an illustration of this process. If you have questions or difficulty with this setup, please contact our support team (see **Contact Us**, pg. 41).

You will know the Flex Modular System is charging from your solar panels when the LCD screen indicates a charge input under SOLAR and an estimated charge time in the center of the display. The estimated charge time will fluctuate as the power input and output of the system changes in real-time.

It can take up to 30 seconds for charging to begin, while the smart charger detects your panels and the input voltage stabilizes.

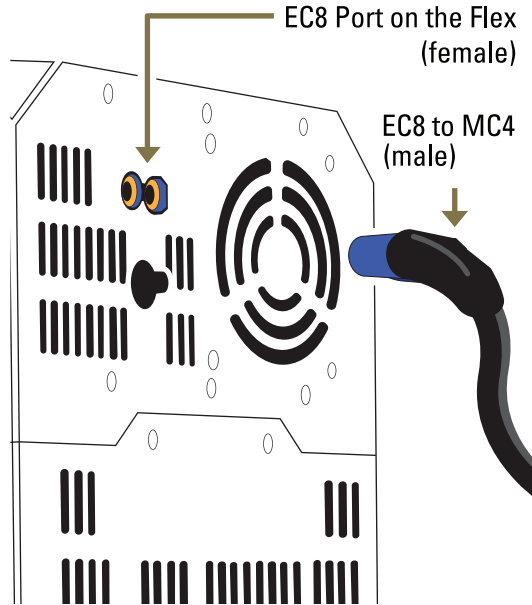
15

WARNING

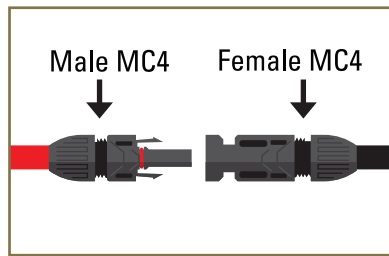
DO NOT connect your EC8-to-MC4 adapter cable to your solar panel string **BEFORE** plugging the EC8 connector into your Flex Power Station. Connecting the EC8 connector first decreases the risk of severe electrical shock. Always follow the process described above. When disconnecting your solar panels, always go in reverse order, removing the EC8 connector from the Flex last.

CHARGING YOUR FLEX MODULAR SYSTEM

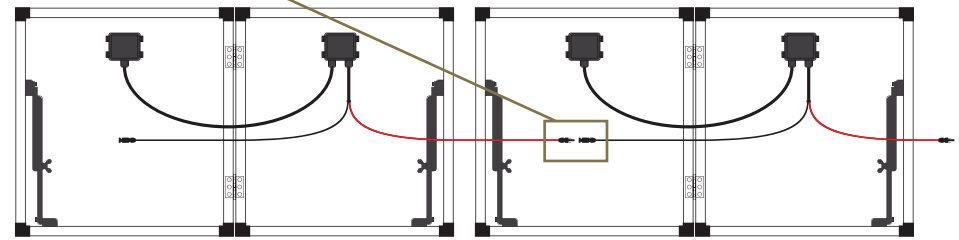
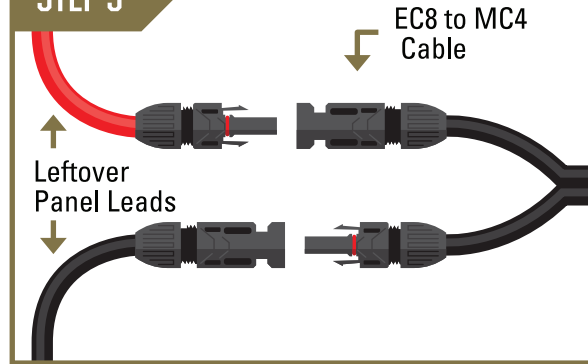
STEP 1



STEP 2



STEP 3



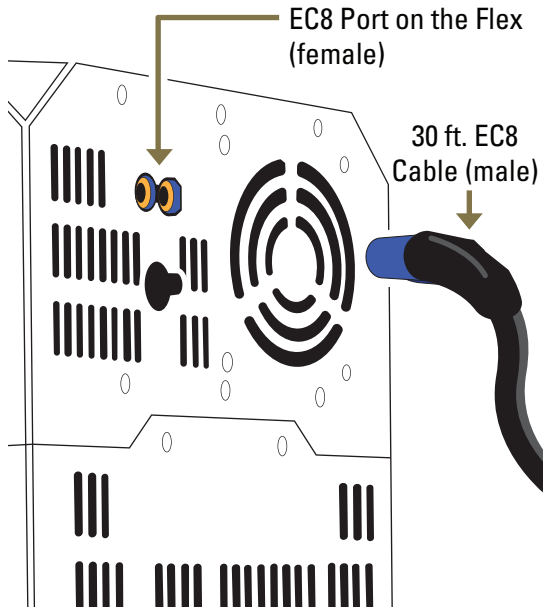
16

When charging with solar panels, you should use only the blue EC8 input port on the right panel of the Flex Tactical 1500 power console. Do not use the DC ports on the front of the unit, which are output-only.

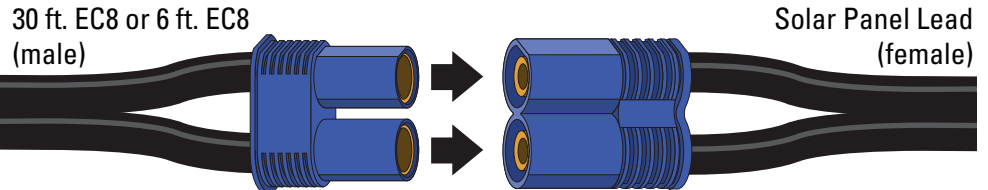
NOTE

CHARGING YOUR FLEX MODULAR SYSTEM

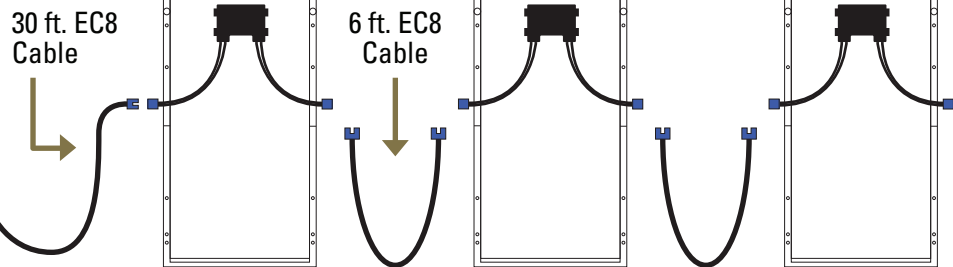
STEP 1



STEP 2



STEP 3



NOTE

Your cables may not look like those shown in STEP 2. These cables are shown without the standard weatherproof coating at the base of the connectors to make them easier to identify.

CHARGING YOUR FLEX MODULAR SYSTEM

Legacy Inergy Panels With EC8 Connectors

If using legacy Inergy panels with EC8 connectors, always use the following process when connecting your panels:

Step 1. Plug one of the blue EC8 connectors on your 30' EC8 Solar Panel Cable into the blue EC8 connector on your Flex Power Station.

Step 2. Connect the other end of your 30' cable to one of the EC8 leads on your solar panel(s).

Step 3. Connect additional cables as desired using the 6' EC8 Solar panel cables between panels.

You will know the Flex Modular System is charging from your solar panels when the LCD screen indicates a charge input under SOLAR and an estimated charge time on the center of the display.

The estimated charge time will fluctuate as the amount of power input and output from the system fluctuates.

It can take up to 30 seconds for charging to begin, while the smart charger detects your panels and the input voltage stabilizes.

Charging From the Grid (AC Wall Socket)

You can charge your Flex system from normal AC power sources (refer to the specifications on the housing of the charger for exact details). The Standard Wall Charger provides up to 88 watts of charge power, while the Quick Wall Charger can source as much as 225 watts to charge your Flex system. You can plug the Standard Wall Charger into the 5.5mm x 2.5mm DC input port on the left panel of your Flex TAC Battery. If you have more than one Flex TAC Battery, you can

CHARGING YOUR FLEX MODULAR SYSTEM

purchase additional Standard Wall Chargers to charge each battery directly through this DC port (only the Flex Power Consoles include a Standard Wall Charger). The Standard Wall Charger can completely charge one Flex TAC Battery in about ten to eleven hours from 0%.

Additionally, you can plug the Quick Wall Charger into the blue EC8 Charging Port on the Flex Power Console. The Quick Wall Charger can completely charge one Flex TAC Battery in about 5-6 hours from 0%.

Charging From Your Vehicle

Use the optional Flex Car Charger to charge your Flex system using your vehicle's 12V power system.

Plug the 12V Flex Car Charger into the 5.5mm x 2.5mm DC input port on the Flex TAC Battery and your vehicle's cigarette lighter port to begin charging.

The Flex Car Charger can drain your vehicle's battery if left charging while the engine is off. Take care not to leave it unattended, or you may be left needing a jump.

NOTE

With the Flex Modular System you can connect multiple charge sources at the same time. For example, you can connect a solar panel array and a Standard Wall Charger at the same time to maximize your charge rate. Or, if you're using the Flex in an RV with solar panels, you can charge with the Flex Car Charger and solar panels at the same time.

USING YOUR NEW FLEX MODULAR SYSTEM

Flex Tactical 1500 With AC and Regulated DC Output

The Flex Tactical 1500 has two power buttons that allow you to use specific output ports based on your needs.

The Flex Tactical 1500 can be charged whether these buttons are switched on or not. A charger will automatically wake the system and begin charging.

The top button turns on only the regulated DC outputs of the system. The bottom button activates the AC inverter and the six AC outlets. You can use either button or both simultaneously. It is not necessary to press the button on each battery; the Power Console will wake them up automatically.

To maximize your run time, connect your Flex to a charge source while using it. You can charge your Flex Modular System and run your gear at the same time.

Using the Flex TAC Battery

Store the Flex TAC Battery away from flammable items and combustion sources and on a cool, dry, non-combustible surface. Proper maintenance and storage of lithium batteries will ensure not only the safety of your batteries, but also help you maximize cycle life.

When handling lithium-ion batteries, do not short-circuit, crush, drop, mutilate, penetrate with foreign objects or otherwise modify the battery or its enclosure. Do not expose them to extreme temperatures or disassemble packs and cells.

The safe storage and operating temperatures of the Flex Modular System are found in **Tech Specs** (pg. 29). If a Flex TAC Battery is exposed to extremely high temperatures, or it hisses, bulges, or pops, immediately move it away from flammable materials, place it on a non-combustible surface for at least 48 hours, and call us immediately.

USING YOUR NEW FLEX MODULAR SYSTEM

Although it is very unlikely, there is always a small risk of lithium batteries catching fire. If you do experience a lithium battery fire, douse it with copious amounts of water until extinguished, then remove anything flammable from the vicinity of the battery. Do not attempt to touch or move the battery as it can reignite, putting you in danger.

If you cannot douse the fire with water, allow the fire to burn out on its own in a controlled and safe manner, away from anything flammable. Allow the device to remain on a non-combustible surface for at least 48 hours, as lithium batteries can potentially reignite.

If you have any questions about your Flex Modular System or the above instructions, please contact us.

Getting the Most Out of Your Flex System

When using the Flex to power your gear, pay attention to the LCD displays. If you are using appliances that draw a lot of power, like a space heater or heat gun, the state of charge can decrease rapidly, and you may not be able to use the full system capacity.

There will inevitably be some energy loss between the battery and the outputs, which means you may not be able to use the full storage capacity with heavy loads. This energy loss is

common to all electronic devices. If run times are shorter than you expect, this is probably why. **As a general rule, higher power output usually results in lower system efficiency.**

Another key fact is that the DC outputs are much more efficient than the AC. For instance, it's better to charge your laptop and other mobile devices from the DC ports than plug a wall charger into the AC outputs. The Flex inverter consumes a few watts of power even with no load.

USING YOUR NEW FLEX MODULAR SYSTEM

Using the Flex in Extreme Cold Weather

An integrated battery heater allows the system to perform in ambient temperatures as low as -30°C (-22°F) without reduced performance.

If your power console is turned on the battery heater works automatically. When the battery heater is on it will consume 10-15W of power until the battery temperature is $\sim 10^{\circ}\text{C}$ ($\sim 50^{\circ}\text{F}$). The heater will then remain off until the battery temperature reaches $\sim 5^{\circ}\text{C}$ ($\sim 41^{\circ}\text{F}$).

The heater will not heat while your console is turned off and will never drain the battery when the system is off.

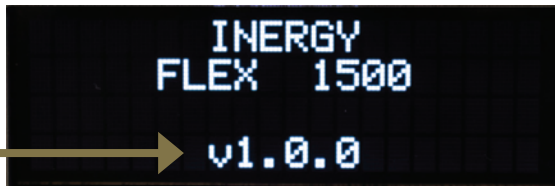
Note: You will see the battery temperature warning icon on your LCD screen when the battery is being operated in extremely hot and cold conditions.



READING THE LCD DISPLAYS

POWER CONSOLE STARTUP SCREEN

Software
Version



POWER CONSOLE WITH A NET CHARGE INPUT

Net Charge
Rate



Battery Level Indicator

Estimated Charge Time

NOTE

Arrow by the battery level indicator indicates charge or discharge. Estimated charge and discharge times are calculated using the current net charge or discharge rate and the current total battery capacity.

READING THE LCD DISPLAYS

POWER CONSOLE WITH SOLAR INPUT RESULTING IN A NET CHARGE



POWER CONSOLE WITH SOLAR INPUT AND POWER OUTPUT RESULTING IN A NET DISCHARGE



24

Net Charge charge results if the input power is greater than the output. **Net discharge** results if the total output is greater than the input. **Estimated charge and run times** are calculated using the current net charge or discharge rate and the current total battery capacity.

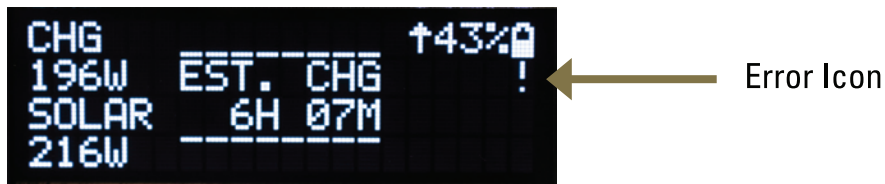
NOTE

READING THE LCD DISPLAYS

POWER CONSOLE WITH MULTIPLE FLEX BATTERIES CONNECTED



POWER CONSOLE EXPERIENCING AN ERROR

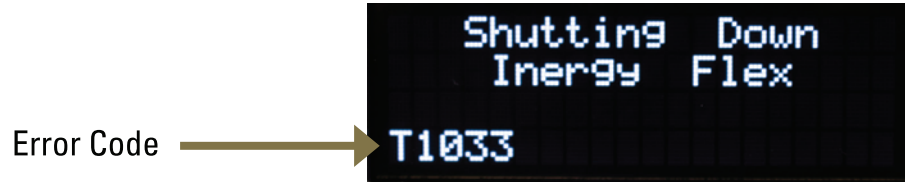


NOTE

In the unlikely event of an error in your Flex system, this view displays the error indicator “!” under the battery level icon. When you see this indicator, you may experience reduced system performance, and your fans may stay on. Shutting down the system will display any active diagnostic trouble codes (DTCs); take a note or picture of these codes, and contact us for assistance.

READING THE LCD DISPLAYS

POWER CONSOLE SHUTDOWN SCREEN WITH ERROR CODE (DTC)



READING THE LCD DISPLAYS

BATTERY STARTUP SCREEN

Software Version

Flex Battery
v1.0.0

BATTERY WITH NET CHARGE INPUT

Battery Level

38%
[Battery Icon]

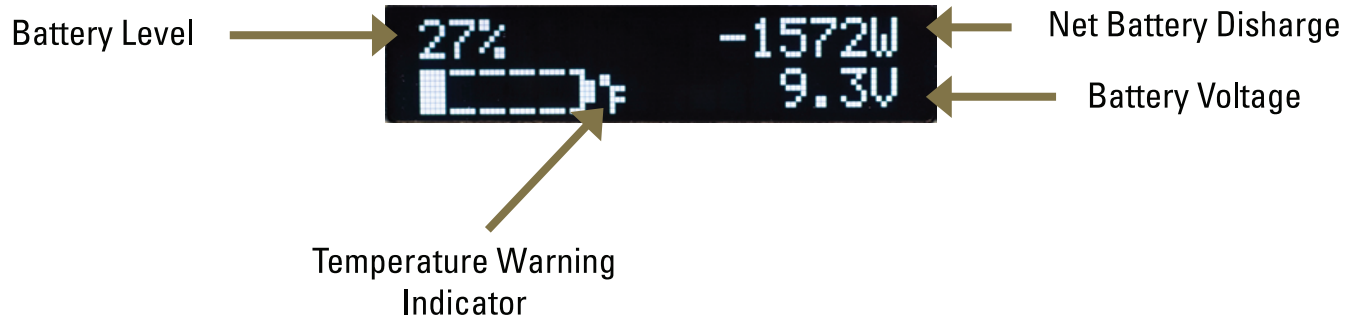
+61W
10.8V

Net Battery Charge

Battery Voltage

READING THE LCD DISPLAYS

BATTERY WITH NET CHARGE OUTPUT



28

This view displays the result of a net power usage from the battery. A continuous high power usage rate will increase the internal temperature of the battery. As the temperature rises above a certain point, an icon “°F” will appear to let you know you may soon experience a performance impact. At this point, you may not be able to charge the battery. The high-temp indicator will begin to flash before the Flex will shut down to protect the system if the temperature rises higher.

NOTE

TECH SPECS

Flex Tactical 1500

- A. (6) 115VAC 60Hz pure sine grounded outlets*
- B. (2) 65W USB-C ports with PD and QC 3.0
- C. (2) USB-A ports with QC 3.0
- D. (2) 5.5x2.5mm DC outputs for Basecamp LEDs
- E. (2) 15A cigarette lighter ports with 13.8V regulated DC output (20A max combined DC output)
- F. Console LCD display with impact shield
- G. DC power button
- H. AC power button
- I. Battery LCD display with impact shield
- J. Battery LCD power button
- K. EC8 14-90VDC charge input port
- L. 5.5x2.5mm charger input
- M. Reinforced 1,000lb latches
- N. Cooling outlet vents
- O. Composite skid plate
- P. Earth ground connection stud



Durable Composite Plate

Polycarbonate Display Shield

Reinforced Steel Housing

Integrated Battery Heater

IPx2 Non-operating Water Resistant

IP5x Non-operating Dust Resistant

Hailstorm Impact Rated

NOTE

Environmental protections (IP52) are ONLY valid when the battery and head unit are latched together and the skid plate is installed. IP5x dust resistance can be operating as long as the dust is non-conductive (e.g. metal shavings).

29

TECH SPECS

Flex Tactical 1500: Technical Details

Battery: Lithium-ion NMC UN38.3-certified, 93.8Ah lithium-ion battery with patented Inergy multi-BMS protection system with ultra-fast cell balancing and redundant monitoring systems.

AC Inverter: 115VAC 60Hz 1,500-watt pure sine wave 3,000-watt surge.

Charging: Combine multiple charge sources simultaneously (14-90VDC Solar Input, Standard Wall/Car Charger Input). Combined maximum charge rate per Flex TAC Battery: 1200W.

MPPT Charge Controller: 14-90VDC solar input, 30A maximum battery charge rate.

13.8V Regulated DC Power: Increases run time and stability for 12V devices.

Solar Array Options: Accepts either series or parallel wiring configurations. 90VOC.

Battery Expansion: Yes; the Flex system accepts up to 96 Flex Batteries (5 Flex Batteries per vertical stack maximum, connect multiple stacks with Flex Stack Expansion Base —coming soon).

Discharge Temperature: -30–50°C; -22–122°F

Charge Temperature: -30–45°C; -22–113°F

Storage Temperature: -20–35°C; -4–95°F

Recommened Storage Charge Level: 30-60%

Dimensions: 14" x 8" x 8.9"

Weight: 41.5 lbs.

Standard Warranty: 24 Months

30

Charging at rates higher 500W per battery can result in reduced battery life and maximum number of charge cycles.

NOTE



FREQUENTLY ASKED QUESTIONS

What are the benefits of a modular system versus an all-in-one product

First and most importantly, you can adapt your Flex Modular System to suit your needs. You could choose to keep three Flex Batteries at home for power-down situations and power your refrigerator for days. You could take the same system camping with only one Flex TAC Battery for a lightweight, portable power solution with no noise or toxic fumes. You have tons of options that allow you to power dozens of critical devices whenever and wherever you want, for as long as you want.

My Flex Modular System is not responding, or is not behaving normally. What should I do?

Unplug the Flex from all charge sources, unplug all outputs, and reboot your Flex system by turning the power buttons off and then on again. This should reset the system. If this does not correct the issue, please contact us.

Are there faster ways to charge my Flex Modular System?

Yes. You can use the Quick Wall Charger to charge faster using a wall outlet. You can also use more solar panels with the Flex MPPT Supercharger. Visit our website or give us a call to learn more.

How do I maximize my solar charging speed?

Read **Charging with Solar** (pg. 13) and pay special attention to the information about how to set up your solar panels. As you expand your Flex Modular System with additional Flex Batteries, you can also boost your system's solar charge rate to as much as 990A.

FREQUENTLY ASKED QUESTIONS

Why do the Flex Tactical 1500 and Flex DC Power Stations have different solar charging specs than the Apex or Kodiak?

When we developed the Flex Modular System, we completely overhauled how the system charges. Our goal was to allow up to four (4) 100-Watt panels to be connected in series for those wanting to pursue that path, while not limiting the size of the solar string if connected in parallel. You can use additional panels in parallel to support the 30A maximum charge rate in sub-par solar conditions.

In previous systems, you were limited to a maximum solar input of 500 or 600W and you could use only parallel wiring configurations. With the Flex Modular

System, we removed those limits. You can now use a series wiring configuration with four 12V 100-Watt panels, or you can use a parallel connection with even more panels.

What is the difference between maximum solar input and maximum charge rate?

The maximum solar input is 90V to the MPPT charge controller; and if you stay within this range, the controller will charge the battery at a max rate of 30A.

FREQUENTLY ASKED QUESTIONS

How fast can you charge the Flex Tactical 1500 with solar panels?

Short Answer: With one full array of panels you can charge one Flex Power Station in about three and a half hours.

Advanced Answer: The Flex power consoles' on-board MPPT charge controller is rated for 14-90V of solar input, which gives you more options for solar panels in either parallel or series configurations. You will be able to charge one Flex TAC Battery from 0 to 100% in about 3½ hours.

You will love the freedom of capturing clean, unlimited power from the sun whenever you need it. The Flex Modular Platform is designed to be completely plug and play.

Can I connect off-brand solar panels to my Flex system?

Yes, you can use our EC8-to-MC4 adapter to do so. You can connect in either parallel or series (as long as you don't exceed the max input voltage, or VOC). Please follow the specs listed previously, and on the units themselves, for specific details.

FREQUENTLY ASKED QUESTIONS

Can I connect two Flex Tactical 1500 Power Consoles together to double the inverter output?

No, but you can expand the battery capacity with the Flex TAC Battery, almost infinitely using the Flex Stack Expansion Base (coming soon). Connecting two consoles together could void your warranty.

What is the cycle life of the Flex TAC Battery?

The cycle life of your battery is totally dependent on how you use it. Your Flex Battery could last anywhere from 400 cycles under heavy use up to 2,000 cycles or ten years if you use it to run moderate loads and take good care of it.

Can I connect third-party batteries to my system?

No; the Flex Modular Power Platform only supports Flex Batteries. No third-party batteries of any type will function with the system. Our smart communications system ensures safety, reliability, and expandability, and cannot be bypassed.

How many Flex Batteries can you connect together in one stack?

You can connect up to five Inergy Flex Batteries together in one stack. If you want to use more than five Flex Batteries in your Flex Modular System, you will need a Flex Expansion Stack Base, which will be available soon.

When using your Flex Power Station in mobile applications, please do not attempt to carry more than three modules (one power console and two Flex Batteries) using the carry handle.

You will be able to connect up to 96 Flex Batteries with the Flex Expansion Stack Base for nearly 100 kilowatt-hours of combined storage capacity.

Can I use more than one charge source at a time to charge the Flex TAC Battery?

Yes. First, the MPPT controller in the Flex Tactical 1500 console will charge each battery in your stack at the same time.

FREQUENTLY ASKED QUESTIONS

One single Flex TAC Battery will charge in as little as one hour. More batteries in the stack will, of course, take more time. If you need faster charge times, you can add the Flex MPPT Supercharger, which triples the standard solar charge input to an industry-leading 90A input. You can also directly charge each Flex TAC Battery with a Standard Wall Charger or Car Charger. The Flex TAC Battery accepts charge using any of the above methods simultaneously when connected to a Flex Modular System.

How big is the inverter?

The system has a 1500-Watt continuous (3,000-Watt surge) pure sine wave inverter.

Why does the DC portion of my Flex Tactical 1500 turn on when I draw a large amount of AC power?

We use the regulated DC output to increase the cooling capacity of the fans in the unit. As the state-of-charge gets lower, the fans may slow down. So, under certain circumstances, we power-up the regulated DC output to power the fans, but only on the rare occasion that the unit will overheat otherwise. This is usually only when drawing large amounts of AC power at a low state of charge or in a hot environment. Take care not to leave anything plugged into the DC outputs that you don't want turned on automatically in this situation, as all of the outputs may power-

up without warning. E.g. cooking equipment, heaters, or loads you don't want draining your battery unexpectedly.

FREQUENTLY ASKED QUESTIONS

Will the Apex Car Charger, Standard Wall Charger, and Quick Wall Charger work with the Flex Modular System?

Yes. All three work with the Flex platform.

Can I jump start my car with the modular system?

No; you cannot.

Can I charge each Flex TAC Battery individually?

Yes you can charge each lithium expansion battery with the Standard Wall Charger or Car Charger.

How should I store my Flex Modular System?

Storing the system at 30-50% state-of-charge ensures the longest battery storage life. We recommend checking the battery level every three months. Batteries can be permanently damaged if stored at 0% for long periods of time. Although they enter into a “deep sleep” mode eventually, lithium batteries and management systems will still slowly discharge on their own. Batteries may permanently deactivate if the voltage gets too low, requiring replacement. This is a critical safety feature, as charging would no longer be safe. The system does this automatically, preventing all charging.

Can I connect the Flex system to my home’s breaker panel?

The Flex system can connect to your home’s breaker panel as a backup power source only with the use of the Inergy-approved Home Integration Switch, which you can purchase on www.InergyTek.com. With this Integration Switch, you will be able to use your Flex Modular System to run up 1,500W total (3,000W surge) of power split between four selected circuits within your home, in the event of a power outage or grid failure.

FREQUENTLY ASKED QUESTIONS

What is the warranty on the Flex Modular System?

Inergy offers a standard 24-month warranty on manufacturing defects.

Can I use the Flex TAC Battery without the Power Console?

No, the Flex Battery isn't fitted with any output ports. No battery power is available unless attached to a compatible Flex console.

Can I use the Flex while it charges?

Yes. It's capable of outputting power while charging.

How long will the Flex TAC Battery hold its charge?

Up to a full year, however; we require checking the battery level every three months to maintain warranty protections for your device and recommend leaving it between 30-50% charged during those times.

Can I fly on an airplane with the Flex, or ship it myself?

No. The Flex Modular System cannot be carried or checked onto any passenger aircraft. Similarly, due to the size of the internal lithium battery, shipping the Flex TAC Battery can only be facilitated by a hazmat-certified shipping agent / service, in the original UN-certified packaging in which the device was shipped to you. For any returns or service, Inergy's trained personnel will provide everything you need to return your unit to our repair facility.



FREQUENTLY ASKED QUESTIONS

Can I connect lead acid or AGM batteries to the Flex?

No. ONLY Flex Batteries supplied by Inergy should be connected to the Flex. No third-party batteries are currently supported.

My solar panels are connected correctly, but my Flex system's LCD display does not show a charge coming in. Why?

The Flex Power Consoles are equipped with a resettable circuit breaker on the MPPT Charge Controller to prevent damage.

In the event that open circuit voltages are exceeded, this breaker will pop and turn off the charge controller to protect the Flex system.

If this happens, disconnect your solar panels using the process described in

Charging with Solar Panels (pg. 13) and simply reset the breaker by allowing it to cool for several minutes, then push it back into place.

Before reconnecting your solar panels, you must make sure the open circuit voltage of your solar panel array does not exceed the specified limits (90VOC).

If you need any help making sure your solar panels are wired correctly, please call us (See **Contact Us**, pg. 41). We would be happy to assist you.

WARRANTY INFORMATION

INERGY HOLDINGS, LLC (“Inergy Solar” or “Inergy”) warrants to the original consumer purchaser that this Inergy Solar 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 6, below. This warranty statement sets forth Inergy’s total and exclusive warranty obligation. We will not assume, nor authorize any person to assume for us, any other liability in connection with the sales of our products.

2. Warranty Period

In each case, the warranty period is measured starting on the date of shipment to 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. Registration is not required.

3. “No Lemon” Policy

Inergy Solar warrants to the original consumer purchaser that should this Inergy product require service (rendered only by Inergy) on (3) three separate occasions within the above-stated warranty period, the unit can be exchanged for a replacement product of comparable type, quality, and functionality at the request of the original consumer purchaser. Validation by an Inergy technician of product failure is required prior to replacement.

Your warranty remains in force for the duration of the original 24-month warranty period, and is in no way terminated by replacement product under this No Lemon Policy.

4. Remedy

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

5. Limited to Original Consumer / Buyer

The warranty on Inergy Solar’s products is limited to the original consumer purchaser and is not transferable to any subsequent owner.

WARRANTY INFORMATION

6. Exclusions

Inergy's warranty does not apply to (i) any product that is misused, abused, modified, neglected, or damaged by anything other than normal consumer use as authorized in Inergy's current product literature, or (ii) any product purchased through an unauthorized seller. Any damage to the Inergy logo or other product stickers will void warranty.

Inergy's warranty does not apply to any battery or product containing a battery unless the battery is fully charged by you at least once every three months.

The Flex Battery records critical system event data. This data can be used to determine if a battery has been improperly used, including but not limited to improper charging/discharging, short-circuits, water damage, and extreme temperature exposure.

7. How to Receive Service

To obtain warranty service, you must contact our technical support team via telephone, on live web chat on www.InergyTek.com, or via email.

If our technical support team determines that further assistance is

required (See **Contact Us**, pg. 41), they will give you a Return Material Authorization ("RMA") number and return shipping label. You must package the product in original product packaging, clearly marking the RMA number on the package near the shipping label.

Returns without an RMA number will not be accepted.

40

DO NOT ATTEMPT TO RETURN. CONSULT WITH OUR SUPPORT TEAM BEFORE ATTEMPTING TO SHIP ANY INERGY PRODUCT FOR SERVICE.

WARNING

CONTACT US

If you have any questions about your Inergy Flex Modular System or the above instructions, please contact our support team using the information here:

Phone: (435) 660-4616

Web Chat: www.InergyTek.com (use the web chat tool at the bottom of the page)

Phone and Chat Hours: Monday - Friday, 9:00 AM to 5:00 PM Mountain Time

Email: support@inergysolar.com



NOTES



Handwriting practice area with 12 horizontal dotted lines.





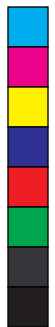
NOTES

Area with horizontal dotted lines for writing notes.





NOTES



Area with horizontal dotted lines for writing notes.





Designed in the U.S.A. and made in China

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.



The image shows a dark olive green background with registration marks at the corners and midpoints of the edges. On the left and right sides, there are vertical color bars with segments of cyan, magenta, yellow, blue, red, green, and black. At the bottom center, there is a horizontal grayscale bar with nine steps from black to white.

*IN*ENERGY

FLEX TACTICAL 1500 USER MANUAL v1.0

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