

CUSTOMER SUPPORT

Email: support@sierro.us

Support Portal: www.sierro.us/support

Product Registration: www.sierro.us/register

Support Hours: Monday-Friday, 9 AM-6 PM PST

S I E R R O

Sierro 1000 & Sierro 2000 User Manual

Version 1.1

Sierro Inc.

Specifications are subject to change without notice.

Welcome

Thank you for choosing Sierrro.

By bringing Sierrro into your home, you're helping make a new kind of home backup possible – one that's simpler, quieter, more compact, and designed for everyday life.

What began as an idea to rethink backup power has become reality because of supporters like you. Your trust, feedback, and belief in our vision helped bring Sierrro from concept to life.

We created Sierrro with a simple goal: to help protect the things that matter most when the power goes out – from refrigerators and Wi-Fi to the devices and moments your family depends on every day.

We're truly grateful you chose to be part of this journey with us.

Thank you for believing in Sierrro.

– The Sierrro Team

Before You Begin

Please read this User Manual carefully before using your Sierrro. Following the instructions and safety guidelines in this manual will help ensure safe operation and optimal performance.

For the latest product information, updates, and support resources, please visit:

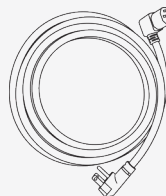
www.sierro.us

Product Guide

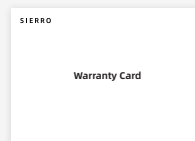
What's in the Box



Sierrro 1000 / 2000 ×1



AC Charging Cable ×1

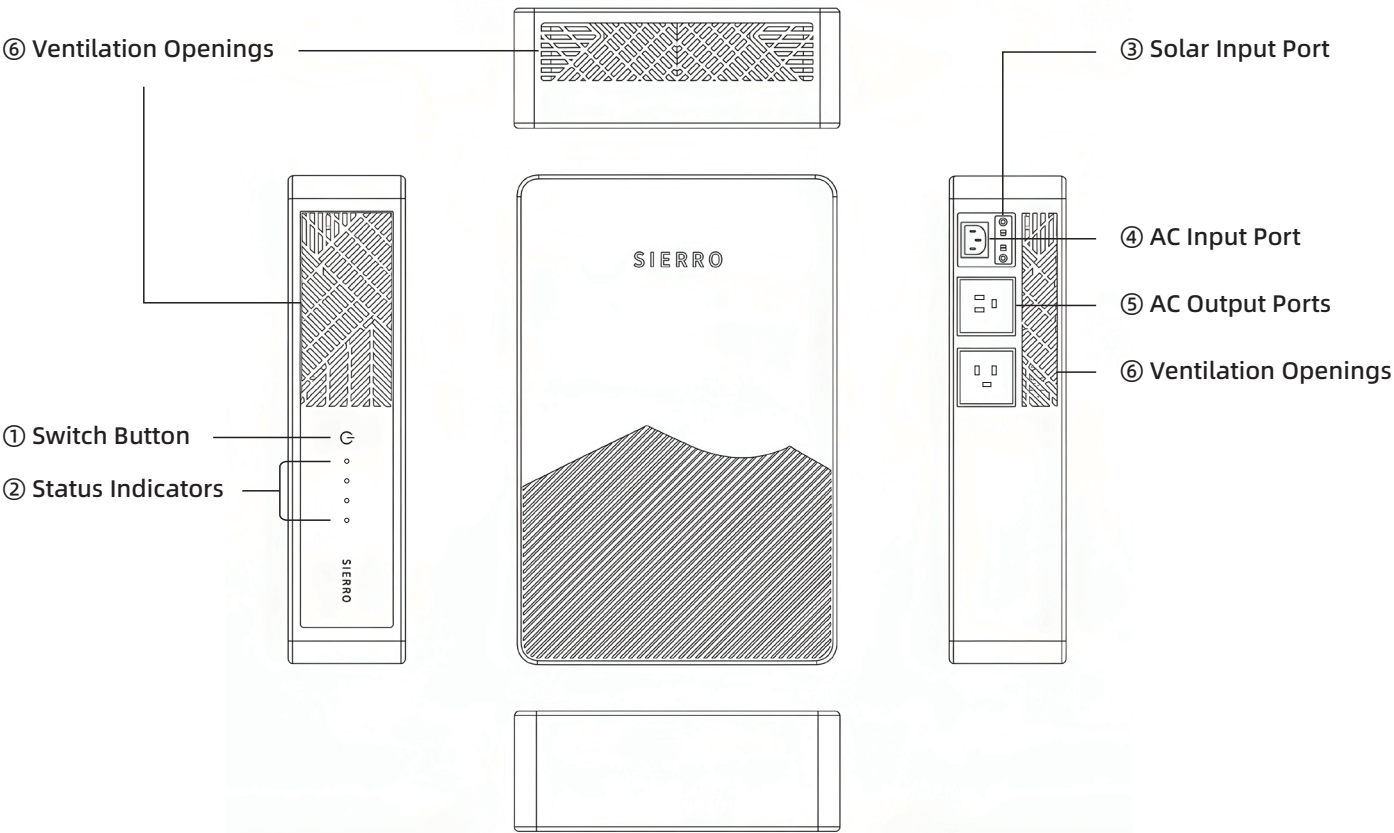


Warranty Card ×1



User Manual ×1

Product Overview

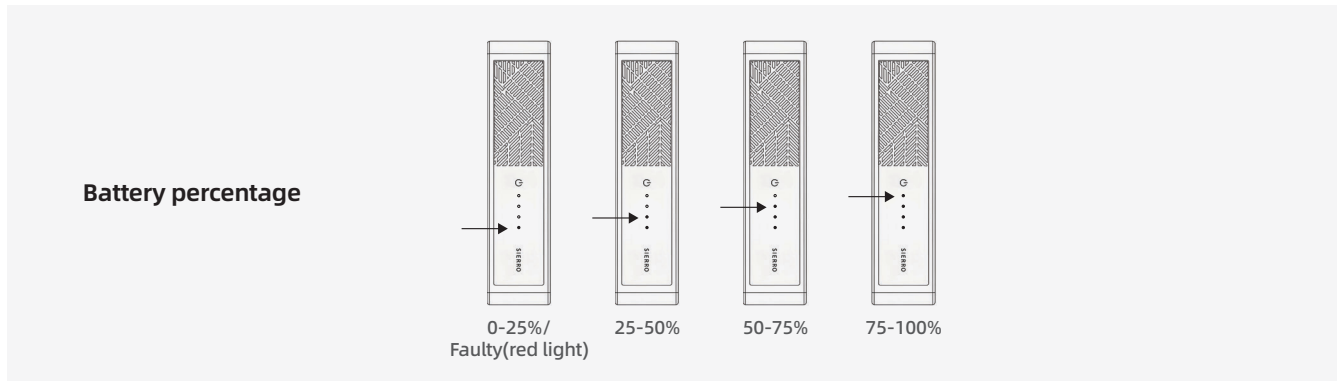


① Switch Button

1. To turn on the system when the device is powered off, press the button for 0.5 seconds. All status indicators will light up, and the AC output will be enabled by default. The indicators will show the current battery level.
2. To turn off the system, first disconnect the AC charging cable, if connected. Then press and hold the button for 3 seconds. All status indicators will turn off, and the AC output will be disabled.

② Status Indicators

- The four LEDs indicate the battery charge level (percentage). The bottom indicator is a red/orange bi-color LED that lights red to signal a fault.



- While charging: the orange indicator for the current level stays on continuously, and the next level indicator blinks.
- In case of a fault: the red indicator stays on continuously and AC output is disabled. If the AC charging cable is connected, disconnect it first. Then shut down and restart the product to reset the fault.
- During discharge: the orange indicators show the battery level and gradually go out from top to bottom as power decreases.
- When battery level reaches 0%: the red LED flashes for 30 seconds, then the system shuts down automatically.

③ Solar Input Port

The product supports solar charging within a voltage range of 12–55 Vdc.

Maximum supported solar input:

- Sierr 1000: 300 W
- Sierr 2000: 550 W

For optimal charging performance, use compatible solar panels within the supported voltage range.

④ AC Input Port

The product can be charged using a standard 120 V AC wall outlet.

Supported AC input range: 120 Vac (90–140 Vac)

⑤ AC Output Ports

The AC output ports can power common household electronics such as TVs, routers, fans, laptops, phone chargers, desk lamps, and refrigerators.

Before connecting any device, make sure the total connected load does not exceed:

- Sierr 1000: 500 W continuous output
- Sierr 2000: 1000 W continuous output

Some appliances with high startup power requirements, such as refrigerators or compressors, may temporarily exceed rated output during startup.

⑥ Ventilation Openings

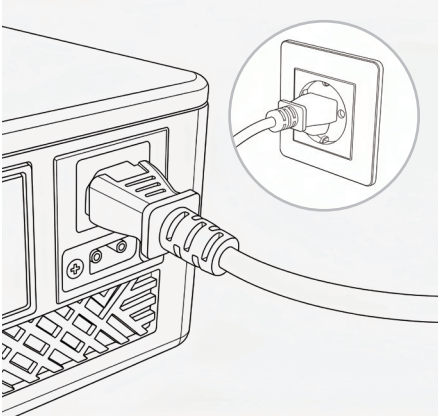
Ventilation openings help regulate internal temperature during operation and charging.

Maintain at least 2 inches (50 mm) of clearance around all ventilation openings.

Do not block or cover the ventilation openings during operation.

Quick Start Guide

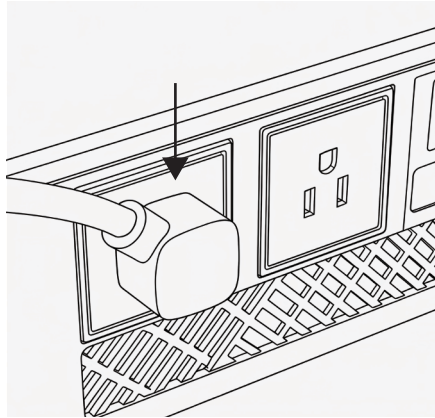
AC Charging



• Step 1:

Plug into the Wall

Plug Siervo into any standard outlet – no installation required.



• Step 2:

Plug in Your Essentials

Connect your fridge, WiFi router, CPAP, or fish tank – right where they are.



• Step 3:

Stay Powered During Outages

Power goes out? Siervo takes over instantly. Monitor everything in the app.

Solar Charging



1. Connect compatible solar panels using the appropriate MC4-to-XT90 adapter cable.
2. Connect the cable to the Solar Input Port.
3. Charging will begin automatically when sufficient solar input is available.

Important:

- Input voltage must remain within 12-55 V. The solar panel voltage must not exceed 55 V. Exceeding this voltage may trigger protection and could cause product damage.
- Damage caused by incompatible solar panels or improper connections is not covered under the Warranty Card.

When both AC and solar input are connected simultaneously, the product prioritizes solar charging whenever sufficient solar power is available.

Upon startup, the product defaults to Solar Priority Mode. If solar input falls below the set threshold of approximately 50 W, the product will automatically switch to AC grid charging. During AC charging, the product periodically checks solar input. If solar input rises above approximately 50 W, the product will switch back to solar charging. If solar input remains below the threshold, the product will continue charging from AC power until the battery is full.

UPS Backup Feature

This UPS feature is designed for general household backup applications such as routers, TVs, fans, refrigerators, and similar electronics. When utility power is available, connected devices are powered directly by utility power rather than the battery.

During a power outage, the product automatically switches to battery power within <15 ms.

This product may not be suitable for equipment requiring professional-grade power conditioning or uninterrupted 0 ms switching performance.

Do not use this product for:

- Servers or data centers
- Enterprise networking equipment
- Life-support medical equipment
- Equipment requiring uninterrupted 0 ms switching performance

Support & Specifications

Frequently Asked Questions (FAQ)

How do I store my Sierrro when it's not being used for a long time?

Keep the product in a dry place, away from rain and water. If you're not going to use it for a while, remember to switch it off. Find a spot with the right temperature and good airflow for storage. To keep the battery in good condition during long-term storage, charge and discharge the product every 3 months – discharge the battery to 20% and then fully charge it back up to 100%. Discharge the product to 60% battery level.

Why is my Sierrro not powering connected devices?

1. Please make sure to use the original charging cable and power strip. Non-original accessories may not be compatible.
2. Make sure the product is turned on. Press the power button for 0.5 seconds and the indicator lights will turn on.
3. Check if the product has enough power. If only one orange indicator is lit, the battery is below 25% — please connect the charging cable to recharge the product first.
4. If the product indicator shows a red fault light, disconnect the AC charging cable if it is connected, turn off the product, and then restart it.
5. If you still can't discharge power, please get in touch with our after-sales team.

What does the red indicator light mean?

When the red indicator is on, it means that the product has stopped working due to issues like excessive load or internal overheating. Please unplug all devices and disconnect the AC charging cable if it is connected. Then press and hold the power button for 3 seconds to turn it off. After 10 minutes, restart the device and see if it's working properly. If the product still doesn't work, get in touch with our after-sales team.

What devices can be powered by Sierro?

The Sierro can power everyday devices like fans, TVs, monitors, laptops, phone chargers, desk lamps, refrigerators, and other similar appliances. Before connecting any device, please make sure that the total power of all devices connected does not exceed rated power of Sierro 1000(500W)/Sierro 2000(1000W).

Specifications

General Specifications

Parameter	Sierro 1000	Sierro 2000
Rated Output Power	500 W	1000 W
Rated Battery Capacity	1004.8 Wh	2009.6 Wh
Battery Chemistry	LiFePO ₄	LiFePO ₄
Output Waveform	Pure Sine Wave	Pure Sine Wave
UPS Switching Time	≤15 ms	≤15 ms

Input Specifications

Parameter	Sierro 1000	Sierro 2000
AC Input Voltage	120 Vac (90-140 Vac)	120 Vac (90-140 Vac)
AC Input Frequency	45-65 Hz	45-65 Hz
AC Charging Power	400 W	1000 W
Solar Input Voltage	12-55 V	12-55 V
Maximum Solar Input Power	300 W	550 W

Output Specifications

Parameter	Sierro 1000	Sierro 2000
AC Output Voltage	120 Vac	120 Vac
AC Output Power	500 W	1000 W
Operating Frequency	60 Hz	60 Hz
Output Waveform	Pure Sine Wave	Pure Sine Wave

Interfaces

Parameter	Specification
AC Input Port	1 × C14 AC inlet port
Solar Input Port	1 × Solar input port (12-55 V)
AC Output Port	2 × AC output ports
Battery Level Indicator	4 orange LED indicators
Fault Indicator	1 red LED fault indicator

Physical & Environmental

Parameter	Sierro 1000	Sierro 2000
Weight	10.2 kg (22.5 lbs)	20 kg (44 lbs)
Dimensions	254 × 419 × 102 mm	406 × 500 × 109 mm
Operating Temperature	0°C-40°C (32°F-104°F)	0°C-40°C (32°F-104°F)
Storage Temperature	-20°C-40°C (-4°F-104°F)	-20°C-40°C (-4°F-104°F)
Humidity	95% RH (non-condensing)	95% RH (non-condensing)
IP Rating	IP20	IP20

Protection Features

Protection Type	Description
Overcharge Protection	Prevents battery overcharging
Over-discharge Protection	Prevents excessive battery discharge
Over-current Protection	Protects against excessive current draw
Overload Protection	Automatically shuts down output during overload
Short Circuit Protection	Automatically disconnects output during short circuit
AC Input Over/Under Voltage Protection	Protects against abnormal AC input voltage
Solar Reverse Polarity Protection	Protects against reverse solar input connection
Over-temperature Protection	Protects against internal overheating
Battery Temperature Protection	Protects battery cells from unsafe temperatures

Safety & Compliance

Safety Guidelines

General Safety

To reduce the risk of injury, electric shock, fire, or product damage:

1. Do not disassemble, modify, or repair the product yourself. The product contains no user-serviceable parts.
2. Keep the product away from water, excessive moisture, condensation, and direct rain exposure.
3. If the product becomes wet, stop using it immediately and follow the emergency procedures in this manual.
4. Do not use the product with damaged cables, plugs, or connectors.
5. Always disconnect the product from external power sources before cleaning or inspection.
6. Keep ventilation openings unobstructed during operation.
7. Maintain at least 50 mm (2 inches) of clearance around ventilation openings.
8. Do not expose the product to excessive heat, open flames, or direct sunlight for extended periods.
9. Keep the product out of reach of children and pets.
10. Use only accessories, charging cables, and adapters approved by Sierro.
11. Do not puncture, crush, drop, or subject the product to severe impacts.
12. Do not insert metal objects into ports or ventilation openings.
13. Place the product on a stable, flat, and dry surface during operation.
14. Do not place or operate the product in areas exposed to excessive condensation, moisture, or direct cold airflow from appliances.
15. Do not connect devices that exceed the rated output power of the product.
16. Appliances with high startup power requirements, such as refrigerators or compressors, should be tested before unattended operation.
17. Periodically inspect the product during operation for signs of overheating, smoke, unusual odors, or abnormal sounds.
18. Operate and charge the product only in well-ventilated environments away from flammable materials.
19. Do not use or store the product in environments with excessive dust, smoke, steam, corrosive chemicals, or strong magnetic fields.
20. Damage caused by unauthorized modification, improper use, incompatible accessories, or improper electrical connections may not be covered under the Limited Warranty.
21. For safety, connect Sierro only to a properly grounded outlet. Using an improperly grounded outlet may increase the risk of electric shock. If you are unsure whether your outlet is properly grounded, or if the plug does not fit the outlet, please consult a qualified electrician.

21. For safety, connect Siervo only to a properly grounded outlet. Using an improperly grounded outlet may increase the risk of electric shock. If you are unsure whether your outlet is properly grounded, or if the plug does not fit the outlet, please consult a qualified electrician.
22. Do not stack any heavy objects on the product.
23. Medical Equipment Limit: The product is not intended for powering life-sustaining medical equipment, including but not limited to medical ventilators, hospital-grade CPAP grade (Continuous Positive Airway Pressure), or artificial lungs (ECMO). If you plan to use it for other medical equipment, consult with the equipment's manufacturer first.
24. Medical Equipment Interference: When in use, this product generate electromagnetic fields during operation, which are likely to affect the normal operation of medical implants or personal medical equipment such as pacemakers, cochlear implants, hearing aids, defibrillators, etc. Maintain a safe distance between medical implants and this product.

Medical Equipment Notice

This product is not intended for life-support or mission-critical medical equipment.

If you plan to use the product with medical devices, consult the device manufacturer before use.

Users with implanted medical devices such as pacemakers should maintain an appropriate distance from the product during operation.

Operating Environment

Proper environmental conditions are essential for safe and reliable operation. Failure to observe these requirements may result in product damage, reduced battery life, or safety hazards.

1. Operating Temperature: Use the product at ambient temperatures between 0°C–40°C (32°F–104°F). Optimal operating temperature is 20°C to 30°C (68°F to 86°F). Using the product in environments with temperatures exceeding 60°C (140°F) may cause the battery to catch fire or explode. In temperatures below 0°C (32°F), the product may not function properly.
2. Charging Temperature: Charge the product only when the ambient temperature is between 0°C–40°C (32°F–104°F). Charging outside this range may cause permanent battery damage and increase the risk of fire.
3. Storage Temperature: Store the product at temperatures between -20°C–40°C (-4°F–104°F), with 20°C to 30°C (68°F to 86°F) recommended. Do not store where temperature exceeds 40°C (104°F) or falls below -20°C (-4°F). Extreme temperatures can cause irreversible battery degradation, leakage, swelling, or thermal runaway.

4. **Surface Placement:** Always place the product on a stable, level, and flat surface. Placing the product on an unstable or sloped surface may cause it to tip or fall, resulting in personal injury or product damage.
5. **Ventilation:** Ensure adequate airflow around the product during use. It is important to use the product in a dry and well-ventilated environment, and to avoid obstructing the air vents. Blocked ventilation may cause overheating and fire.
6. **Humidity:** Use and store the product in a dry environment. Avoid high-humidity conditions. Condensation inside the product may cause short circuits and corrosion.

Storage Guidelines

Proper storage is essential to maintain battery health, ensure product safety, and preserve warranty coverage. Failure to follow storage guidelines may result in permanent battery damage and void the product warranty.

1. **Storage Location:** Store the product in a clean, dry, and well-ventilated indoor location. Ensure that the product is kept dry, away from sources of fire, and away from heat sources. Keep away from direct sunlight, moisture, and sharp objects.
2. **Child Safety:** Store the device in a location that is out of reach of children and pets.
3. **State of Charge for Transport:** When transporting or delivering the device, please reduce the battery level to below 50%.
4. **Short-Term Storage:** For short-term storage (less than 1 month), maintain a battery level between 30% and 70%.
5. **Long-Term Maintenance:** If the product will be stored for an extended period, perform the following maintenance cycle every 3 months to preserve battery health: (1) Discharge the product to 20% battery level, (2) Fully charge the product to 100% battery level, (3) Discharge the product to 60% battery level.
6. **Warranty Condition:** **WARNING:** The product warranty will NOT cover battery damage resulting from failure to charge or discharge the product for more than 6 consecutive months. Extended inactivity causes irreversible chemical degradation of the battery cells.
7. **Storage Inspection:** Inspect the product visually before returning it to service after storage. Check for swelling, leakage, corrosion, or physical damage. If any abnormalities are observed, do not use the product and contact Sierra Customer Service.

Transportation Guidelines

1. **Air Travel Prohibited:** WARNING: Do not carry or check this product as baggage on any passenger aircraft. Please refrain from carrying this product on board an aircraft. The lithium battery capacity exceeds the limits permitted by IATA, ICAO, and most national aviation authorities for air transport. Violation may result in confiscation, fines, or legal penalties.
2. **Ground Transport:** When transporting the product by vehicle, secure it against movement, tipping, and impact. Avoid exposing the product to extreme temperatures inside a closed vehicle. Transport the product in its original packaging or equivalent protective case whenever possible.
3. **Stacking During Transport:** When stacking the product with other units or accessories, ensure the stack is stable and cannot topple. Place the stacked items with their long edges against a wall or secure surface. Do not stack more than the manufacturer's recommended quantity.
4. **Regulatory Compliance:** When shipping the product by courier, freight, or commercial carrier, you must declare the lithium battery content and comply with all applicable dangerous goods regulations (including UN 38.3 transport testing requirements). Contact the carrier for specific labeling and documentation requirements before shipping.

Maintenance & Cleaning

1. **Battery Care:** It is important to fully discharge and recharge the product at least once every three months when it's not being used for a long time. This involves discharging the battery to 20% capacity and then recharging it to 100% capacity to maintain battery performance. Avoid leaving the product unused for extended periods (more than 3 months).
2. **Cleaning Method:** Clean the product exterior using only a soft, dry cloth. Do not use water, detergents, solvents, alcohol, or abrasive cleaners. Liquids and chemicals may seep into the enclosure, causing short circuits, corrosion, or surface damage.
3. **Port Inspection:** Periodically inspect all ports, connectors, and ventilation openings for dust, debris, or foreign objects. Use compressed air (from a safe distance) to clear dust from ports if necessary. Do not insert any objects into ports./
4. **Professional Service:** All internal inspection, repair, and battery replacement must be performed by Sierrro-authorized service personnel. The product contains high-voltage circuits that remain energized even when the product is powered off.

Emergency Procedures

In the event of a product emergency, follow these procedures immediately. Your safety is the highest priority.

1. **Electric Shock:** If someone receives an electric shock from the product, do not touch them directly. Disconnect the power source if it can be done safely. If unable to disconnect, use a non-conductive object (such as a dry wooden stick) to separate the person from the product. Call emergency services immediately.
2. **Product Immersion:** If the product is dropped into water or submerged, do NOT touch the product or the water. Disconnect external power at the circuit breaker if possible. Once power is disconnected, the product may be safely retrieved using insulated gloves. Place the product in a secure, waterproof, well-ventilated outdoor area away from people, buildings, and flammable materials. Contact Sierrro Customer Service for guidance. **WARNING:** A product that has been submerged in water **MUST NOT** be reused and must be properly disposed of.
3. **Product Gets Wet:** If the product is splashed with water or exposed to rain, stop using it immediately. Power off the product if safe to do so. Disconnect all cables. Place the product in a secure, dry, well-ventilated area. Do not attempt to power on or use the product until you have contacted Sierrro Customer Service and received approval.
4. **Smoke or Unusual Odor:** If the product emits smoke, unusual odors, or makes hissing/popping sounds: (1) Evacuate all people and pets from the immediate area. (2) If it is safe to do so, disconnect the product from all power sources. (3) Move the product outdoors to a non-flammable surface away from structures. (4) Call emergency services if smoke or fire persists.
5. **Fire Response:** If the product catches fire, use fire extinguishers in the following order of preference: (1) Water or water mist, (2) Sand, (3) Fire blanket, (4) Dry powder fire extinguisher, (5) Carbon dioxide (CO₂) fire extinguisher. **WARNING:** Lithium battery fires can be extremely intense and may reignite. Always call emergency services for any battery fire, regardless of apparent size.
6. **Battery Swelling:** If you observe swelling, bulging, or deformation of the product enclosure: (1) Stop using the product immediately. (2) Disconnect all cables and power sources. (3) Move the product to a safe outdoor location away from buildings, people, and flammable materials. (4) Contact Sierrro Customer Service immediately. Do NOT attempt to puncture, compress, or use a swollen product.

Disposal & Recycling

1. **Hazardous Waste:** Batteries are hazardous chemicals and should not be thrown away in regular trash bins. Dispose of the product in accordance with all applicable local, state, and federal regulations governing electronic waste and lithium battery disposal. Kindly follow local regulations when disposing of the product.

2. **Lithium Battery Disposal:** This product contains lithium-ion batteries that require special handling at end of life. Please follow local battery recycling laws to dispose of used batteries properly. Take the product to a certified electronics recycling facility or battery collection point. Contact your local waste management authority for disposal locations.
3. **Severely Depleted Battery:** If the battery is severely depleted and unable to power up, please get in touch with our customer service team to determine if the product should be discarded or can be serviced.
4. **Dropped or Damaged Products:** A product that has been dropped, crushed, punctured, or submerged in water **MUST** be disposed of and must **NOT** be reused, even if it appears undamaged. Internal damage may not be visible but can create severe safety hazards.
5. **Pre-Disposal Preparation:** Before disposal, discharge the battery to 0% . Tape over all connectors and terminals with electrical tape to prevent accidental short circuits during transport to the recycling facility.

Built-In Protection Systems

This product is equipped with the following built-in protection systems. These protections are designed to automatically intervene when abnormal conditions are detected, reducing the risk of damage, fire, or injury. However, built-in protections are fail-safe mechanisms, not operational guarantees. They must not be relied upon as a substitute for proper use and handling.

1. **Over Voltage Protection:** Monitors input and output voltage. Automatically disconnects if voltage exceeds safe thresholds, protecting the battery and connected devices from voltage-related damage.
2. **Overload Protection:** Monitors total output power draw. Automatically shuts down output if the connected load exceeds the product's rated capacity, preventing overheating and component stress.
3. **Over Temperature Protection:** Continuously monitors internal temperature at multiple points. Reduces output power or shuts down if temperatures approach unsafe levels. Automatically resumes operation when temperatures return to the safe range.
4. **Short Circuit Protection:** Detects abnormal current paths and disconnects output within milliseconds to prevent equipment damage, fire, or electric shock.
5. **Low Temperature Protection:** Prevents charging when the battery temperature is below the safe charging threshold (0°C / 32°F). Charging a lithium battery at low temperatures can cause permanent damage and create fire risks.
6. **Low Voltage Protection:** Automatically disconnects output when the battery voltage drops below the safe minimum threshold, preventing deep discharge damage to battery cells.
7. **Over-current Protection:** Limits current flow to safe levels during charging and discharging. Automatically interrupts power if current draw exceeds design specifications.

8. Battery Management System (BMS): An integrated BMS continuously monitors cell health, and manages charge/discharge cycles to maintain battery safety and longevity.

WARNING: Built-in protection systems may not prevent all hazardous situations. These systems can fail, may be unable to respond to certain failure modes, or may be compromised by prior damage to the product. **ALWAYS** follow the safety instructions in this manual, regardless of the presence of built-in protections. Regular inspection and proper use are the most effective safeguards against accidents and injuries.

Regulatory Compliance

FCC Compliance Statement

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: 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.

Legal & Compliance Notice

Please read and follow all instructions and safety information before using the product. Failure to follow the instructions and warnings in this manual may result in product damage, property damage, electric shock, fire, serious injury, or death.

This User Guide may be updated periodically. Please visit www.sierro.us for the latest product information, support resources, and documentation.

To the maximum extent permitted by applicable law, Sierro shall not be liable for indirect, incidental, special, or consequential damages resulting from misuse of the product, improper installation, unauthorized modification, or failure to follow the instructions in this manual.

Sierro's total liability arising from or relating to the product shall not exceed the original purchase price of the product. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

