



SunCase 1213

User's Manual



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Introduction

The SunCase 1213

This product is a battery and solar generator capable of running small 120 Vac appliances (230 Vac in EU models), as well as 24 Vdc loads. It is a rugged 1200-watt, 1400 watt-hour unit, with a built-in maximum power point tracking PV controller that can accept up to 600 watts (13 to 100 Vdc) of PV input. It is designed to charge from an AC source like a wall outlet or generator at up to 700 watts. It can run a limited number of loads even while the battery is being charged by the DC or AC source. The SunCase 1213 also has a color LCD display and a Bluetooth app that allows changes to various settings.



Figure 1 SunCase 1213

Included in Box

- SunCase 1213
- PV Charging Cable (MC4 M&F to XT60)
- AC Charging Cable (IEC 60320-C13 to NEMA 5-15P)
- *Quick Start Guide*

Introduction



WARNING: Personal Injury and Equipment Damage

- ❖ Read this ENTIRE user manual to become familiar with the features of this product before operating.
 - ✓ Failure to operate the product correctly can cause serious injury
 - ✓ Failure to operate the product correctly can result in damage to the product or personal property.
- ❖ New Use Energy will not assume legal responsibility for any damage caused by improper use and care. DO NOT use the SunCase product with incompatible components or alter the product in any way. If this occurs, after-sales service will not be available from New Use Energy under the product warranty.
- ❖ These safety guidelines include instructions for operation and maintenance. It is important to read and follow all the instructions and warnings in the user manual before setting up or using the product.

Product Safety Guidelines

If instructions are not properly followed, property damage and serious injury may result. Be sure to use this product in accordance with the following safety rules and guidelines.

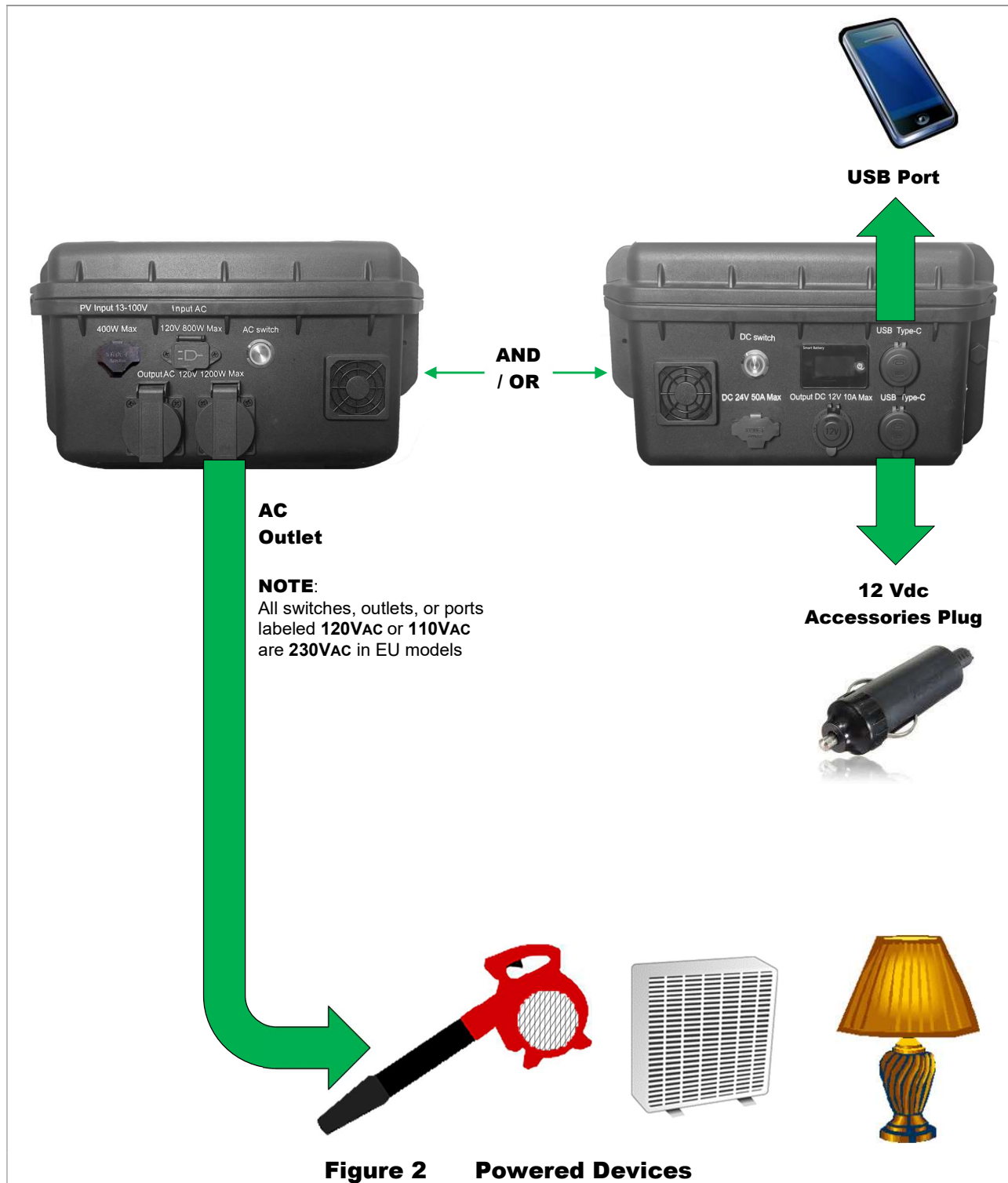


WARNING: Personal Injury and Equipment Damage

- ❖ The SunCase 1213 is weather resistant for outdoor use, but it is not waterproof. DO NOT allow water to get inside the case. DO NOT submerge any part of the SunCase 1213. If the battery in the SunCase 1213 comes into contact with water, it may cause chemical decomposition of the battery. This could cause the battery to catch fire or explode.
- ❖ Never disassemble, pierce or subject the SunCase 1213 to undue shock. Otherwise, it may leak, catch on fire, or explode.

- Keep the SunCase 1213 out of the reach of children.
- SunCase portable power systems are designed for rugged field environments. The case components and enclosure are splash-resistant and meet IP44 requirements when the unit is used in its recommended orientation (lying flat, NUE logo facing up). It must not be opened or positioned vertically (with the outlets facing up) without protection from water.
- To maintain safe internal temperatures, the SunCase uses an open-air cooling system which prevents the product from being fully sealed. The SunCase is **not waterproof** and should not be exposed to direct spray, high-pressure jets, immersion, or windborne dust.
- For extended outdoor operation in rain, a lightweight protective cover — such as a nylon backpack rain cover — provides excellent protection while still accommodating power cords and connectors.
- If the SunCase 1213 falls into water during use, take it out of the water immediately and put it in a safe and open area. Keep a safe distance from it until it is completely dry. Do not use it again. Dispose of it properly as described in the disposal section on page 20.
- Do not block ventilation ports (fans) on both sides of the case, in order to allow proper cooling operation of the unit.
- Never use or charge swollen, leaking, or damaged batteries. If the SunCase 1213 is emitting an unusual noise, odor, or otherwise appears abnormal, contact New Use Energy for further assistance.
- DO NOT use the SunCase 1213 if it was involved in a vehicle crash or similar impact.
- DO NOT place heavy objects on the SunCase 1213.
- Avoid running large, continuous loads such as space heaters for more than 10 minutes at a time.

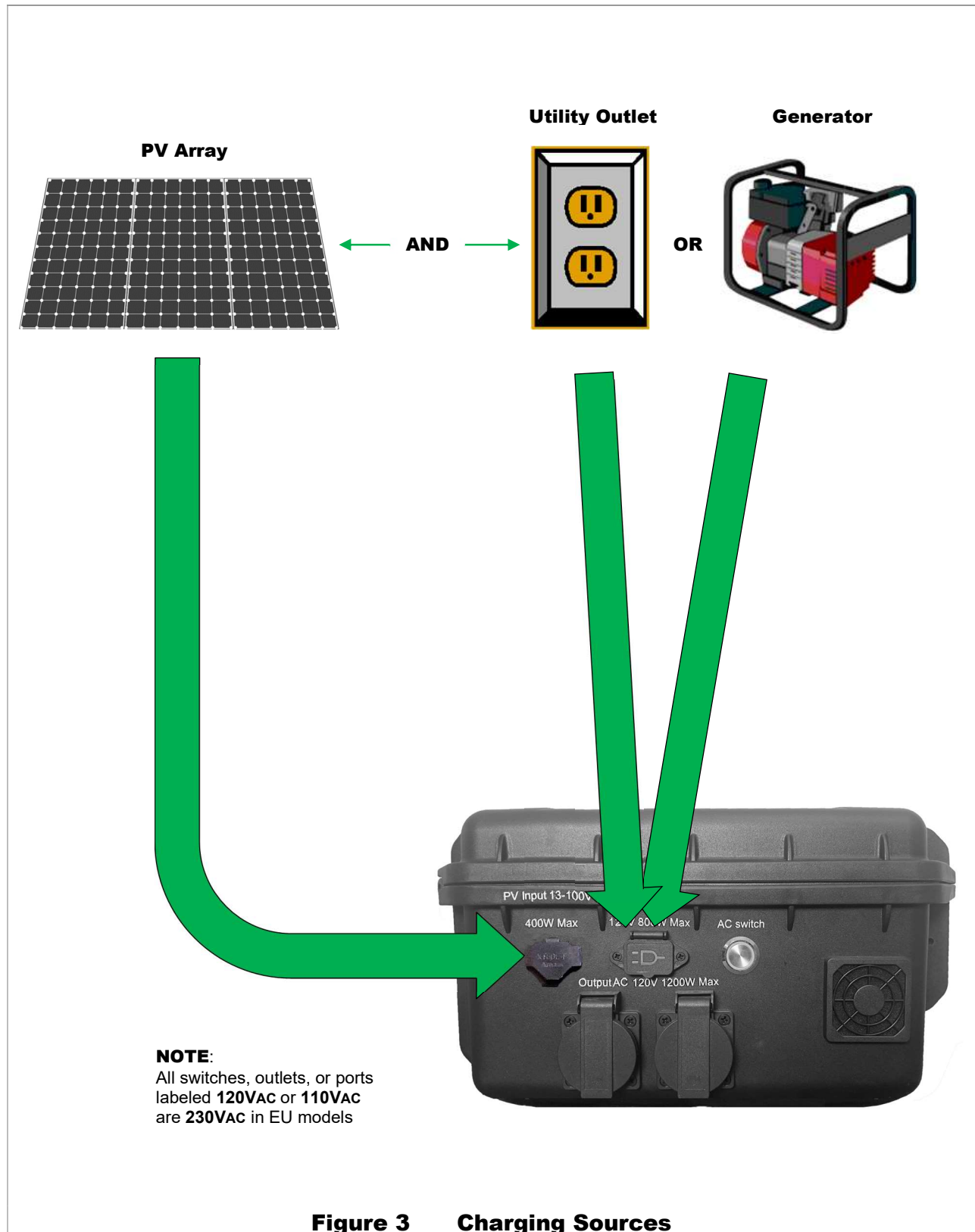
Examples of Use: Devices

**NOTE:**

For information on powering 24 Vdc loads, see page 17.

Introduction

Examples of Use: Charging Sources





Product Features

Left and Right Sides



1. **PV INPUT 100V400 W MAX.** The XT60 PV Charging Cable (included) connects here. It accepts PV charging, 13 to 100 Vdc, up to 400 W. See page 14. See page 16 for other sources.
2. **INPUT AC 110V.** The AC Charging Cable (included) attaches here. The product can be plugged into a standard wall outlet or a portable generator. See page 14.
3. **AC SWITCH.** This momentary-type button illuminates when pressed and activates the inverter, allowing the **OUTPUT AC** receptacles to be used. See item 4 and page 11. This button is re-activated with each push and does not remain depressed.
NOTE: The **DC SWITCH** must be activated (see item 6) before the **AC SWITCH** and receptacles can be used.
4. **OUTPUT AC 110V 1200W MAX.** These NEMA 5-15R sockets each deliver 120 Vac, maximum 1200 watts.
5. **COOLING FAN.** Make certain these openings are not blocked.
6. **DC SWITCH.** This latching-type button illuminates when pressed and activates all DC connections. These include the **USB** charging ports (see item 7), the **DC 12V** and **24V** sockets (see items 8 and 9), and the PV input circuit (see item 1 and also page 14). It also enables all AC-based functions, including the **INPUT AC** (see item 2 and page 14). This button remains depressed until it is pushed again to turn the unit off.
7. **COLOR LCD SCREEN.** See page 12.
8. **USB TYPE C.** These are standard USB-A and USB-C charging ports.
9. **DC 24V 50A MAX.** This socket for DC loads delivers 24 Vdc, maximum 50 Adc. See page 17.
10. **DC 12V 10A MAX.** This socket for DC loads delivers 12 Vdc, maximum 10 Adc.

Carrying Handle



Inside Cover

The space inside the cover is used for storage of the accessory cables as well as other things. A label with the unit's serial number is also located inside the cover. This code is needed for warranty claims. It also identifies the unit when using the Bluetooth app. See page 21.





Starting

Starting for the First Time

To start the SunCase 1213:

1. Briefly press the **DC SWITCH A**. The unit will beep and the border of the **DC SWITCH** will illuminate green.

Once this switch is activated, any of the DC power-based functions can be used, including the **USB** ports and PV charging. The **DC SWITCH** also enables the **INPUT AC** and the charging functions.

2. Briefly press the **AC SWITCH B**. The unit will beep. The AC system will activate after about 3 seconds. The border of the **AC SWITCH** will illuminate green.

Once this switch is activated, the **OUTPUT AC** receptacles can be used.



NOTE:
All switches, outlets, or ports labeled **120VAC** or **110VAC** are **230VAC** in EU models



Figure 7 Starting (switches)

The SunCase 1213 is now ready for use.

Color LCD Screen

The color LCD screen is activated with the button on the right-hand side. It can be activated even without turning on the **DC SWITCH** or **AC SWITCH**.

NOTE:

All switches, outlets, or ports labeled **120VAC** or **110VAC** are **230VAC** in EU models

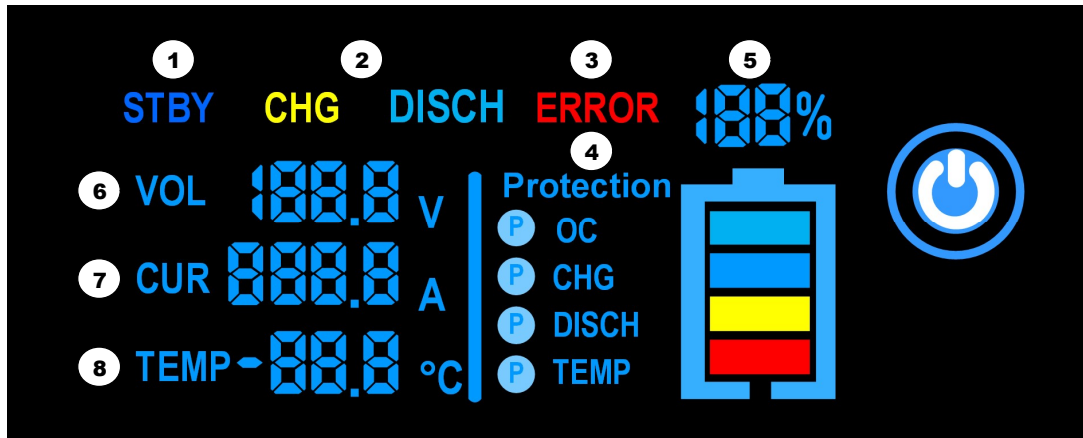


Figure 8 Color LCD Screen

- 1. STBY:** The battery is fully charged; charger is now in standby. There is no charging or power output.
- 2. CHG or DISCH:** Indicates whether net power is going in (**CHG**) or out (**DISCH**) of the battery.
- 3. ERROR:** Appears when the SunCase 1213 has shut down due to a fault. At present the only defined faults are related to **PROTECTION**.
- 4. PROTECTION:** The Bluetooth app has engaged Battery Protection Mode, which can shut down the unit according to these battery faults: **P OC** (overcurrent), **P CHG** (overcharge), **P DISCH** (overdischarge), **P TEMP** (high temperature). See page 21.
- 5. Percent:** Amount of remaining battery capacity; supplemented by a colored bar graph. Each bar illuminates (or darkens) to show a change of about 25% of available capacity. Four bars: most or all capacity is available. No bars: the battery is discharged and is effectively unusable until charged.
- 6. VOL:** The present voltage (V) of the battery (DC) system.
- 7. CUR:** The net current (DC amperes or A) being sent to or from the battery system. This reading utilizes the readings of the battery measurement system, or BMS (see page 17). Note if the SunCase 2425 powers AC loads while connected to an AC source, the power to the AC loads does **not** pass through the battery and will not be included in this net current measurement. The BMS current measurement only shows what is happening with DC current flowing to or from the battery.
- 8. TEMP:** The SunCase 1213 internal temperature in degrees Celsius.



Charging

Notes on Charging

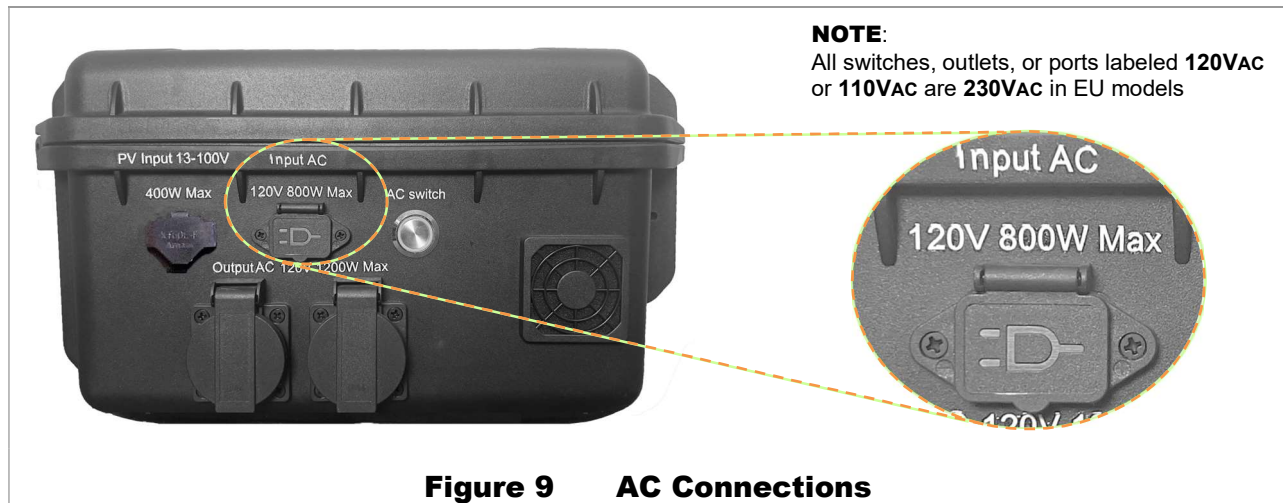
- Always use the New Use Energy (NUE)-approved charging cable that was shipped with the SunCase 1213. While compatible with other extension cables, NUE takes no responsibility for damage caused by using a different cord.
- NUE strongly recommends that loads be plugged directly into the SunCase 1213. Undersized extension cords could cause circuit breakers to trip or the cord to become warm to the touch. The use of extension cords is not recommended.
- NUE strongly recommends the use of a 15 Aac circuit (or larger) for charging from an AC source. If the circuit is undersized, additional loads on the same circuit could cause breakers to trip or similar inconvenience. The charge rate cannot be reduced to accommodate an undersized AC circuit or a smaller generator.
- The SunCase does support simultaneous battery charging and load operation. However, if it is necessary to charge an empty battery and also run loads in excess of approximately 500 watts, NUE recommends that these loads be connected directly to the generator or AC source. Supporting high charging and high loads at the same time could force the SunCase to reduce its charge rate in order to maintain the loads.
- PV charging **CAN** be used along with AC charging. The unit **CAN** run loads while AC charging.
- The internal charger will provide a maximum of approximately 20-30 amps DC to the battery (approximately 700 watts). The PV charger can provide approximately 15 amps DC (approximately 400 watts). NUE also has external 20 A dc chargers as accessories that can be used in parallel with the onboard charger to speed up the charging process. Several sources may be used at the same time, but all three should not be used at the same time to avoid exceeding the maximum allowed battery charge rate of 50 A dc. Please contact NUE or a dealer of NUE products for more information.
- When charging, please place the SunCase 1213 on solid ground with no flammable or combustible materials around.
- DO NOT leave the SunCase 1213 unattended while charging.
- DO NOT charge a SunCase 1213 immediately after handling a very high-energy load. The product's temperature may be elevated due to the load. Wait for the product to cool down to room temperature. Unit temperature can be measured on the color LCD screen (see page 12) or on the BAT-BMS app (see page 21). These items can also monitor charging in general.
- DO NOT charge a SunCase 1213 in sub-freezing temperatures. (<32 °F or 0 °C)
- DO NOT charge a SunCase 1213 if it is hot to the touch (over 120°F or 49°C). The product is unsafe to charge when the internal temperature is outside the range of 32 to 130°F (0 to 55°C).
- When charging from a gasoline or diesel generator, please follow all instructions and safety procedures for that generator and do so in a well-ventilated area outside.

CONTINUED ON NEXT PAGE

Charging from AC Source

To connect to an AC source:

1. Connect the included AC charging cable to the SunCase 1213 port labeled **INPUT AC 110V**. See Figure 9.
2. Plug the other end of the cord into a standard receptacle in a powered utility outlet or on an operating generator.
3. Make certain that the **DC SWITCH** is turned on.
4. When power is applied, the **DC SWITCH** will illuminate.



The AC charging system is ready to operate.

Charging from PV Panel or Array

Array Size

Check the PV panel (or PV array, which is composed of several PV panels in series) to ensure an input voltage between 13 and 100 Vdc (open-circuit voltage). This information is typically on the manufacturer's nameplate. If this range cannot be confirmed, contact the PV supplier or NUE for assistance.

The maximum wattage that the PV input can accept is 400 watts. The SunCase 1213 will be unable to use all the power from a larger array.

AC charging **CAN** be used along with PV charging. The unit **CAN** run loads while PV charging.



CAUTION: Hazard to Equipment

Make certain that the PV array is within the parameters of the charger. Ensure that the PV input voltage can never exceed the range of 13 Vdc to 100 Vdc (open-circuit voltage) under any conditions, particularly cold temperatures. Higher voltages will damage the product. This damage is not covered by the SunCase warranty.

To connect the array:



CAUTION: Hazard to Equipment

Do not attempt to use the or **PV INPUT** or **DC 24V** connectors for other types of charging without taking the appropriate precautions. See page 16.

1. The array should be equipped with industry-standard MC4 connectors. Connect these to the matching connectors on the included PV cable. See **A** in Figure 10.
2. Plug the cable's XT60 connector into the matching SunCase 1213 port labeled **PV INPUT 13-100V 100W MAX**. See **B** in Figure 10.
3. Make certain that the **DC SWITCH** is turned on.
4. Place the array in direct sunlight and place the SunCase in shade. Connect with extension wires. Note that PV shading or overcast conditions will slow charge times. Charging can be measured on the color LCD screen (see page 12) or on the BAT-BMS app (see page 21).



NOTES:

- ❖ The MPPT controller may take up to 30 seconds to begin charging.
- ❖ Shading or overcast conditions will slow charge times.

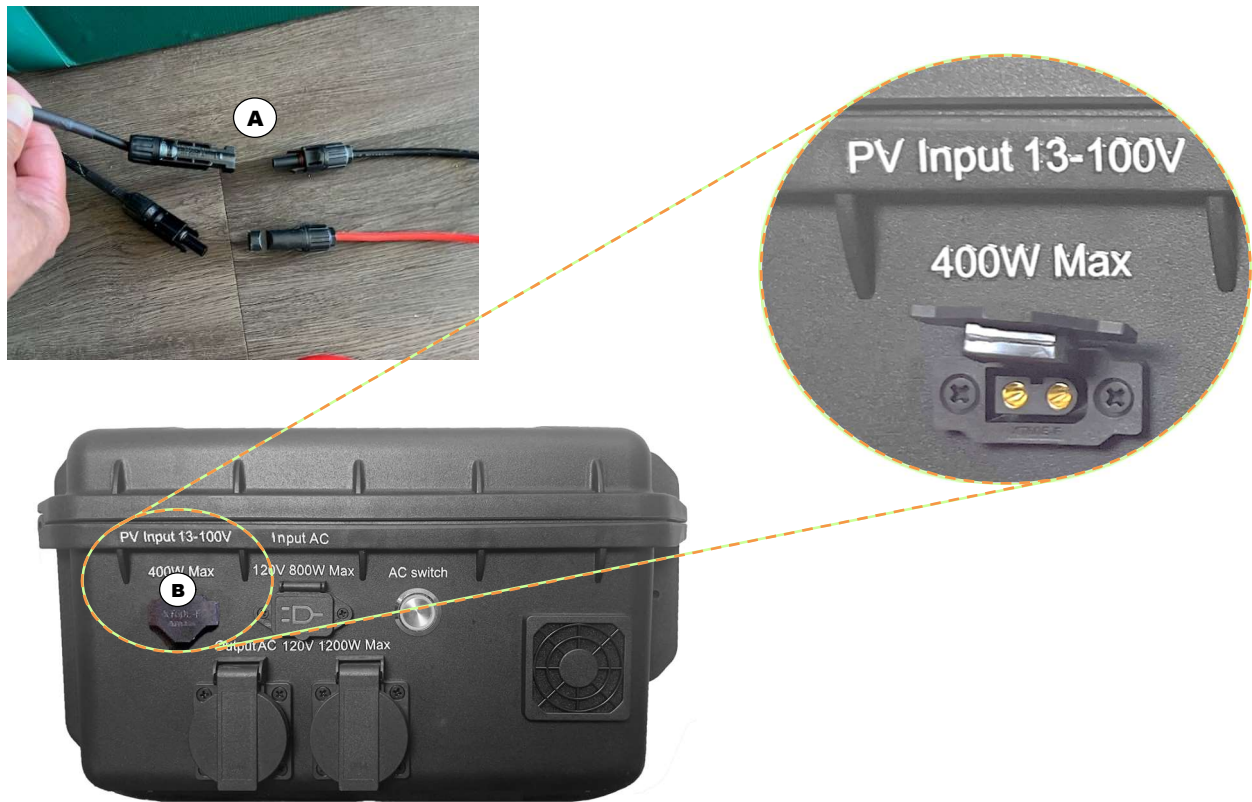


Figure 10 PV Connections

The PV charging system is ready to operate.

Charging From Other DC Sources

It is possible to charge the SunCase 1213 battery by means other than AC or PV sources. Alternate charging is possible using either the **PV INPUT** or **DC 24V** connectors.

PV Input

The voltage-boosting MPPT operation of the PV charge controller allows it to accept unregulated DC sources up to 400 watts. As the MPPT function will boost the voltage to usable levels, lower-voltage sources can be used. The acceptable range of voltage for these sources is 13 to 100 Vdc. Examples:

- Vehicle alternator (~14 Vdc)
- Another battery or batteries (~13 to 100 Vdc)



Figure 11 Charging using PV Connections

DC 24V

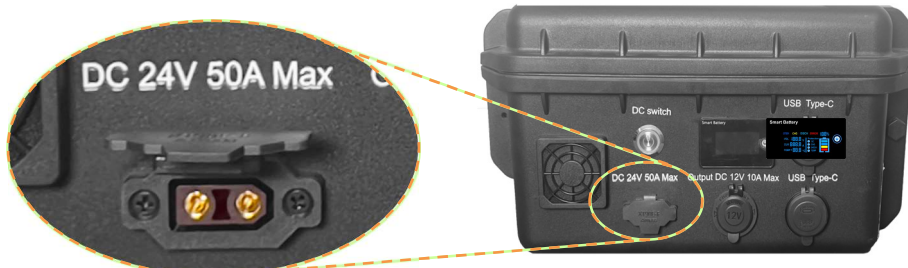
The **DC 24V 50A** connections can accept charging from other DC sources with a nominal voltage of 24 Vdc, up to 20 charging amps. However, these connections have no regulation. This means it is necessary for any charging source connected here to have regulation of its own. Examples:

- PV array with separate charge controller
- Charger approved for lithium-iron phosphate (LFP) batteries



CAUTION: Hazard to Equipment

Do not attempt to use the **DC 24V 50A** connectors for charging with an unregulated or non-approved source of power. Use of a regulator with the appropriate 24-volt set points is strongly recommended.



Connections to this input are made using an XT90 connector

Figure 12 Charging using DC 24V 50A MAX Connections

Battery Management System (BMS)

The SunCase 1213 integrates a smart battery management system, or BMS. The BMS is integrated with the lithium battery cell packs. It automatically controls the parameters of the charge cycle, ensuring that the cells receive the best charge possible (whether charging with AC or with PV). It also controls the level of battery discharge, avoiding excessive discharge that can shorten battery life.

The purpose of the BMS is to monitor and protect the cells from voltage- and/or temperature-related performance issues by making certain that the cells operate within safe operating parameters. This assures both safety and longevity of the lithium battery.

24 Vdc Loads

Along with the **OUTPUT AC**, **USB**, and **12V DC OUT** connections, the SunCase 1213 is capable of operating devices that require nominal 24 Vdc power (such as certain motors or pumps, LED lighting, and so on). The SunCase 1213 can operate loads requiring up to 50 Adc.

To operate this kind of load, simply use an XT90 connector and plug it into the SunCase 1213 **DC 24V 50A MAX** socket.



Charging

[illegible]



Specifications

Table 1 Specifications

Specification			Measurement
Inverter			
Inverter Type			Pure sine wave
Outputs	AC	NEMA 5-15R (Outlet) (×2)	120 Vac, 60 Hz, 1200 W continuous, 1800 W surge (230 Vac, 50 Hz for EU models) Maximum 15 Aac
	DC	12 Vdc	12 to 13 Vdc, 10 Adc, maximum 120 W
		24 Vdc	24 to 25 Vdc, maximum 50 Adc
	USB 3.0	Type A (×2)	5 Vdc, maximum 3 Adc
		Type C (×2)	5 Vdc, maximum 65 W
Battery			
Type			Lithium-Iron Phosphate (LiFePO ₄)
Voltage			24 volts nominal (25.6 Vdc)
Storage Capacity			52 Ah, 1400 Wh
Estimated Cycle Life			4000 cycles (based on an 80% Depth of Discharge and subject to other variables including temperature and load)
PV			
Input Voltage			13 to 100 Vdc
Charge Rate			Maximum 24 Adc
Maximum Harvest			600 W
Type of Controller			Maximum power point tracking
Charging Time			~1.5 hr (assuming maximum PV Input from 80% DoD)
AC Charge			
Charge Rate (minimum 15 Aac, 120 Vac source required)			
		Internal Charger	26 Adc (~700 W)
		External Charger (optional purchase)	20 Adc
Charging Time			~1.5 hr (assuming 80% DoD)
Environmental			
Dimensions (H × W × D)			Unit 15.0 × 13.9 × 7.9 in (38.0 × 35.2 × 20.0 cm) Box 17 × 17.5 × 11 in (43 × 44.5 × 27.3 cm)
Weight			Unit 30.9 lb (13.99 kg)
Operating Temperature Range			Charge: 32 to 131°F (0 to 55°C) Discharge: -4 to 131°F (-20 to 55°C)
Enclosure Rating			Conforms to IP44

Handling Requirements

Storage

- DO recharge the SunCase 1213 regularly. To maintain maximum battery health, cycle the battery (charge/ discharge) every few months.
- DO NOT completely discharge or recharge the battery before storage. Extended time at a very low OR very high State of Charge (SoC) may cause internal damage to battery cells. For storage in excess of 30 days, ensure that the battery State of Charge (SoC) is between 50 and 70% of full capacity. Fully charge the battery before use to access the maximum stored energy.
- The Battery Management System (BMS) will enter hibernation mode if it is depleted and stored for a long time. Recharging the SunCase 1213 with either the AC input or PV input will bring the battery out of hibernation.
- DO NOT place the SunCase 1213 near a high heat source, such as an open flame, or a stove.
- Store the product in dry environments. DO NOT place the SunCase 1213 where it may come into contact with water.
- Store the product in environments between 14 and 113°F (-10 to 45°C).
- Turn OFF the AC inverter and DC power switches so that the internal electronics do not consume any power while not in use.
- For long-term storage, the Bluetooth app can be used to control the unit at the BMS so there is minimal internal self-discharge. Please see page 21 for more details.

Transportation

- Keep the original packaging if there are plans to transport the SunCase using a commercial carrier.
- Shipping a SunCase 1213 using commercial carriers requires that the personnel involved to be fully trained and certified for hazmat shipments and lithium-ion battery shipping.
- The SunCase 1213 falls under the category “UN3480 Lithium Ion Batteries”. Follow all applicable international, national, state, or corporate shipping rules and regulations in packaging, labeling, and booking. NUE takes no responsibility for any damage or injuries caused by not properly following international, national, state, or corporate shipping guidelines.
- Ship the unit in the original (UN approved) packaging and on a pallet.
- Make sure the unit is OFF during transport per the instructions in this manual.

Battery Disposal

- Dispose of the SunCase 1213 in a facility that is designed to handle electronic waste and lithium batteries. For assistance, contact the NUE service team.
- DO NOT remove the battery to dispose of it separately.



Applications

BAT-BMS Bluetooth App

A Bluetooth application called **BAT-BMS** can be downloaded for iOS or Android users from their respective App Stores. Users can view battery state of charge (as a percent of total capacity), battery voltage, net power (in or out of the product), battery cycles, and other features. To download, scan the QR code included here.



NOTE: The BAT-BMS app also allows users to control battery charging and discharging through an **ON/OFF** switch that is linked to the battery management system (BMS; see page 17).

To access the device's Bluetooth app:

1. Visit the appropriate app store on the Apple iOS or Android device.
2. Search for **BAT-BMS**.
3. Download the app of that name in the **Utilities** category. Remember to give the app access to the local Bluetooth and accessories.
4. Open the app. If the SunCase unit is nearby, it will appear as a device in the list. If multiple SunCase or NUE brand PowerPac products are nearby, multiple devices will appear. Please use the serial number (see page 10) to identify the specific unit to monitor. If the serial code has worn off, run a small load (e.g. a laptop computer) from the **OUTPUT AC** receptacles with the SunCase product unplugged from any charging source. This will appear as a small load on the SunCase display. While observing the units, it should be possible to identify the unit by matching it to the load. If this does not work, please contact NUE.
5. Connect to the device to be monitored.
6. Open that device on the app. Multiple pages will appear. To get accurate up-to-date information check the **RT** page, which should have information direct from the BMS.

The BAT-BMS app monitors these measured values and parameters:

Note that the best settings for operation have already been set at the factory. Normally there is no need to change the parameters. Contact NUE before making changes.

- **State of Charge:** % battery capacity remaining
- **Battery Voltage, Amps and Power**
- **Single Cell Voltage:** This ensures that all cells are within a particular range; the display will highlight the highest and lowest cell voltages
- **Charging switch status: ChgMos: ON** [Charging Mode is on]
- **Discharging switch status: DisMos: OFF** [Discharge Mode is on]
- **Balance:** ON/OFF
- **Protection:** ON/OFF
- **Total discharge-charge cycles:** Review and record
- **AutoBalance**

(continued on next page)

Applications

Also:

- Temperature readings for the BMS and the battery itself (°Celsius and °Fahrenheit)
- Off and on commands for **Charge Switch** and **Discharge Switch** (on the **Control** screen)
- Heating state (if available in this system; see below)
- On the **Parameter** screen, a wide range of protection and other parameters can be viewed
- The Bluetooth device name can be customized under the **Basic Information** page; this can help with unit identification when the app is required to monitor several units

Self-Heating Battery Programming

For units that were purchased equipped with this function:

The programming for this function is automatically turned off when delivered from the factory. The **Discharge Switch** and **Charge Switch** functions will also be turned off with the BAT-BMS Bluetooth app for safe transportation. (See page 21 for more information on BAT-BMS.)

- Please always transport a heated SunCase 1213 by using BAT-BMS to turn **Discharge Switch** and **Charge Switch** OFF. This avoids the unit accidentally turning on during storage or shipping.
- After receiving the heated SunCase 1213, please use BAT-BMS to turn **Discharge Switch**, **Charge Switch**, and Heating mode ON.

When enabled by the BAT-BMS app, the built-in heating pad will always come on when the battery drops below 0°C. During charging, when the battery management system detects that the battery's temperature is below 0°C, it initiates charging heating. In the event of a power outage, or during battery use, if the BMS detects that the battery's temperature is below 0°C, the battery automatically discharges to provide power to the internal heating pad. This discharge maintains the battery between 0 and 4°C. In all three scenarios, heating stops when the temperature reaches or exceeds 5°C. Exceptionally cold environments will require a greater heating duty cycle. Heating control systems consume up to 250 watts of power.

The heating pad can be disabled by turning off the **Discharge Switch** using the BAT-BMS app. If freezing temperatures are expected during storage or transport, the heater pads should be turned OFF to prevent excessive self-discharge.

Please note that excessive discharge is more risky to the battery than being cold for a short period of time. NUE only encourages the purchase and use of the heated SunCase 1213 for users that understand that the product will be exposed to cold temperatures repeatedly.



Troubleshooting

Problem: The unit was started for the first time using the instructions, but it will not turn on or charge.

Solution:

The unit was set with charge and discharge modes OFF at the factory. Download the **BAT-BMS** Bluetooth app, visit it, and enable the charging and discharging modes (i.e., switch those modes into ON).

Problem: The unit goes into STANDBY mode. It makes a short beep when the AC SWITCH is pushed but no output is present. Display says **STBY.**

Solutions:

- Wait a moment. The inverter can take up to 5 seconds to start AC power output.
- If it doesn't wake up after 10 seconds, cycle the **DC SWITCH**. Push the **DC SWITCH** OFF, wait for 5 seconds, then push it ON again.

Problem: The AC charger input power is tripping the circuit breaker and/or overpowering a small generator.

Solutions:

- Use a branch circuit that does not have any other loads connected to it.
- DO NOT use an extension cord. Plug directly into the wall.
- Older 15-amp circuit breakers can wear out and trip at less than 15 Aac. Replace them.
- Use a 20 Aac circuit for charging, if available.
- Use a 2 kW or larger generator.

Problem: Solar PV is connected and exposed to sunshine but no charging is happening.

Solutions:

- Wait a moment. The PV charge controller can take as much as 30 seconds to start up and begin charging.
- Check all the wiring connections from the SAE to the MC4 connectors at the PV panels and any series connections between the panels.
- Use a digital multimeter (DMM) to verify that the correct DC voltage and polarity is present at the XT60 connector.

Troubleshooting

Problem: Solar PV is connected but making less than expected power.

Solutions:

- Shadows across the PV array will dramatically decrease its performance. When modules are wired in series, a shadow on one part can effectively turn off the whole array.
- Orient the PV array for best sun collection. PV arrays work best when all the panels are facing directly into the sun. To get the most energy from a typical site over the whole year, this generally means facing the panels true south and tilted at the same angle as your latitude. However, sometimes if there is shading in the morning or afternoon, it can be better to orient the array more towards the west or east. Pick the spot that gets the most sunshine and tilt the array up based on seasonal needs and latitude.
- PV ratings are based on ideal “test conditions” in terms of irradiance, temperature and tilt angle. Real world conditions are almost never that perfect, so actual power output is pretty much always less than rated maximums published by the solar panel manufacturers.

Problem: System was working fine, but all of a sudden started beeping and stopped producing AC power. Display says TEMP.

Solutions:

- **OVER TEMPERATURE.** Both the inverter and BMS have protection modes against high temperature. Cool down the unit and power cycle the **DC SWITCH** to restart.
 - Always keep the unit in the coolest, shadiest location possible. PV extension wiring can allow the solar panels to be out in the hot sun while the unit is safe, cool and dry indoors.
 - Keep the air filters cleaned and allow clear unobstructed airflow to all sides of the unit.
 - If continuous loads are needed in very high temperature environments, try to use DC loads only. This way, the inverting function can be turned OFF and the unit will generate less heat.
- Other BMS protection modes are unlikely given the fixed capacity inputs and outputs of the electronics. If a different protection mode occurs and the unit is not working properly, please contact the dealer or NUE for warranty repair and/or replacement.

FAQ

Q: Can you use the SunCase to power devices while it is charging (from a solar PV or AC source)?

A: Yes. See pages 5, 13, and 14.

Q: I opened my SunCase 1213 for the first time and followed the instructions, but the unit won't turn on. what are my next steps?

A: If your SunCase 1213 is not charging and discharging out of the factory, even after following the above procedures, the most likely cause is that the unit was set with charge and discharge modes off at the factory. Please download the Bluetooth app, visit it, and enable the charging and discharging modes (i.e., switch those modes into ON). See page 23.

Q: Is it possible to charge the SunCase from both an AC and a DC source at the same time?

A: Yes, you can charge from both AC and DC sources at the same time. As many as three sources may be used; however, the recommended best practice is to charge from no more than two sources at a time. Regardless of the number of charging sources, make certain the combined charging current does not exceed 20 Adc. See page 13.

Troubleshooting

[illegible]



Warranty

NUE SunCase™ Two Year Limited Warranty

NUE SunCase™ products come with a Two (2) Year Repair / Replacement Limited Warranty (“Warranty”). If your SunCase™ malfunctions during the Warranty period due to component or manufacturing defects or failure, subject to the use and other conditions listed below, it will be repaired or replaced free of charge.

Ten-Year Free Tech Support

Your SunCase™ includes ten (10) years of free technical support. If you need assistance or have questions, email New Use Energy at tech.support@newuseenergy.com. You can also call us at +1 844-941-3476 during business hours (United States Mountain Standard Time Zone ([UTC -7])).

Free Repair or Replacement During Warranty Period

NUE SunCase™ products are designed and built to last many years in typical use conditions. If any component within your SunCase™ fails due to a manufacturing defect or component failure within two (2) years of purchase (subject to the limitations below), we will repair or replace your SunCase™ free of charge. You will be required to safely pack and ship your SunCase™ to an authorized service center at your cost. If your SunCase™ is eligible to be repaired or replaced under warranty, NUE will cover, at no additional cost, the repair or replacement of the defective component along with return shipping. If your SunCase™ is not covered by warranty, NUE will provide a repair cost estimate that you can accept or reject. If accepted, NUE will repair your SunCase™ and return it upon payment of the repair cost. If you chose to not have your SunCase™ repaired, you can pay for return shipping or have NUE safely dispose of your SunCase™ in an environmentally responsible manner.

Service and Support Process

To initiate service for your NUE SunCase™, email us at tech.support@newuseenergy.com. Include the SunCase™ model name or number (for example, “SunCase 2025”), serial number, any error codes or display messages, photos, a description of where it was being used, and the problem you are having. Also include your contact information including your preferred method. Upon receipt, our Tech Support team will reach out to you within two business days. If the problem can’t be solved remotely, we will email you a Repair Authorization. You will be asked to safely pack your SunCase™ and ship it to the repair facility we authorize. We will note in the Return Authorization if warranty coverage may be available, subject to inspection and confirmation once your SunCase™ is received at our repair facility.

You are responsible for shipping charges to the repair facility. We are responsible for shipping charges when returning the unit to you.

Limitations on the NUE SunCase™ Limited Warranty

- Our Warranty covers the original purchaser and does not transfer to subsequent owners.
- Our Warranty does not cover damages or defects resulting from misuse of your SunCase™. The interior of your SunCase™ must not be exposed to precipitation or moisture.
- Our Warranty does not cover disconnection, internal transportation, service interruption, packaging, loss of revenue, excess costs of service, or other expenses other than the shipping charges described elsewhere in this Warranty document.
- Our Warranty does not apply to any costs, repairs, or services for the following:
 - On-site service calls by third parties.
 - Damage resulting from misuse, abuse, accidents, alterations, use other than intended application, collision, dropping, or improper installation.
 - Your SunCase™ was used out of specification or undersized for the application.
 - Your SunCase™ was used for rentals.
 - Environmental damage, including caustic substances, salty, sun, exposure to heat beyond stated product specification, or exposure to rain, snow, or other moist or wet environments.

Our Warranty does not apply to your SunCase™ battery if the battery has:

- Not been charged at least once to more than an 80% state of charge within any twelve (12) consecutive months, or
- Left below a 20% state of charge for more than six (6) consecutive months.

Our Warranty does not apply if your SunCase™ has been disassembled or altered.

All repairs and service under Warranty must be performed by NUE or a NUE authorized service facility. NUE shall, in its sole discretion, determine if a defective SunCase™ or component is repaired or replaced. If a component or the SunCase™ is replaced, NUE may replace the defective component or SunCase™ with a refurbished component or SunCase™ with lower usage and charge cycle counts. The remaining time under the original Warranty period shall transfer to the replacement components or SunCase™.

This Warranty is the only warranty and remedy provided by NUE to the original purchaser. NUE disclaims all implied warranties of merchantability and fitness. In no event shall NUE or its distributors, dealers, or retailers be liable for consequential or incidental losses or damages under any theory of liability, except to the extent that this limitation is found to be unenforceable under applicable law. Some countries, states, or provinces do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion may not apply to you. This Warranty gives you specific legal rights and you may also have other rights. This Warranty is governed and interpreted in accordance with the laws of the State of Arizona, United States of America. No employee, agent, director, representative, distributor, dealer, or retailer is authorized to make any alterations or additions to those made in this document.



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