

SUNCASE 2025

USER GUIDE

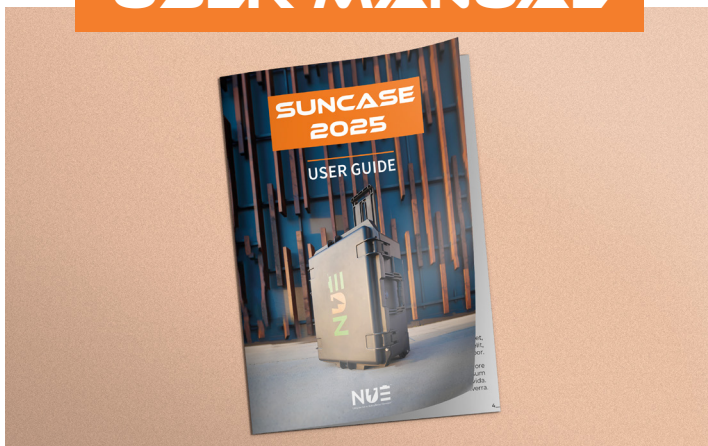


WHAT YOU NEED

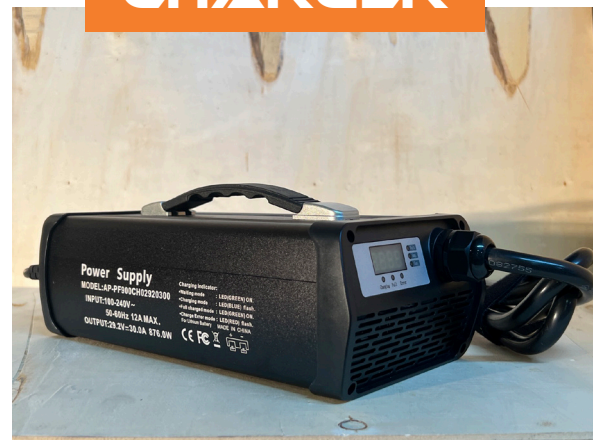
SUNCASE



USER MANUAL



CHARGER



GLOSSARY

The following terms are used in this document to indicate various levels of potential harm that may be caused by improper operation.

NOTICE

The instructions, if not properly followed, may result in property damage and minor physical damage.

WARNING

Read the ENTIRE user manual to familiarize yourself with the features of this product before operating. Failure to operate the product correctly may result in damage to the product or your personal property. It can cause serious injury as well. New Use Energy will not assume any legal responsibility for any damages. DO NOT use the SunCase with incompatible components or alter the SunCase in any way. Otherwise, you cannot get after-sales service from New Use Energy under our 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.

Product use:

1. Do not expose SunCase to any liquid. Keep the SunCase away from rain or any liquid. Do not drop the SunCase into the water. If the battery in the SunCase comes into contact with water, it may cause chemical decomposition of the battery. This may cause the battery to catch fire or explode.
2. Never use or charge swollen, leaky, or damaged batteries. If your SunCase is abnormal, contact New Use Energy for further assistance.
3. Never install or remove a battery from the SunCase when it is turned on.
4. Never disassemble or pierce the product in any way. Otherwise, it may leak, catch on fire, or explode.
5. DO NOT use the SunCase if it was involved in a crash or a heavy bump.
6. If the SunCase falls into water during use, take the SunCase out immediately and put it in a safe and open area. Keep a safe distance from it until it is completely dry. Never use it again and dispose of it properly as described in the disposal section below.
7. Do Not insert pins, wires or other metal pieces inside the device case, outlets or controls. Metal pieces may short circuit the product.
8. Avoid collisions. DO NOT place heavy objects on the SunCase.



WARNING Product Charging using AC Input:

1. Always use the New Use Energy approved charger shipped with the unit. New Use Energy takes no responsibility for any damage caused by using a different charger.
2. When charging, please place the SunCase on the ground with no flammable or combustible materials around. To prevent accidents, never leave the machine unattended during charging.
3. DO NOT charge a SunCase immediately after handling a very high energy load, because the product's temperature may be elevated due to the stress of said load. Wait until it cools down to room temperature. DO NOT charge a SunCase if it is hot to the touch. The product is unsafe to charge when the internal temperature is outside the range of 32 to 131 °F (0 to 55 °C). Do not recharge if its below 0 degrees Celsius outside
4. If you are charging from a diesel generator, please follow all instructions and safety policies for that generator and do so in a well-ventilated area outside.

PRODUCT SAFETY GUIDELINES

Product Storage and Transportation:

1. Keep the SunCase out of the reach of children.
2. If the low-battery indicator alarm goes off, charge the battery before storing it. Otherwise, long-term storage may cause damage to the battery in the product. Batteries in the product will enter hibernation mode if it is depleted and stored for a long time. Recharge the SunCase can bring the battery out of hibernation.
3. DO NOT place the SunCase near a heat source, such as a car in direct sunlight, a fire source, or a heating stove.
4. Store the product in dry environments. DO NOT place the SunCase where it may come into contact with water.
5. Never ship a SunCase with a battery power level higher than 60%.

Battery Disposal:

1. Dispose the SunCase in specific recycling boxes only after the batteries inside have been completely discharged. Batteries are hazardous and have to be disposed of in the proper facility. Please strictly follow your local regulations regarding the battery disposal and recycle.
2. Dispose of the SunCase immediately if it cannot be powered on after over-discharging.

Product Maintenance:

1. Never store the product in environments between 14 to 113 °F (-10 to 45°C).
2. If the battery is continually not charged and left in storage, it's battery life may be reduced.
3. Fully charge and discharge the battery at least once every three months to maintain battery health.

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SUNCASE USE CARE AND SAFETY GUIDE

Turning the unit on and off:

To turn the SunCase off, you must flip the green breaker into the on position (where it will flash red”. This will activate the battery to the system. You must flip this breaker into the on position to charge the unit or turn the DC or AC outlets on for use. To turn the AC outlets on, flip the red switch to activate the interver. This will allow AC power through the units. To turn the SunCase off, first flip the AC switch into the off position. Then unplug any AC or solar input. Then flip the green breaker into the off position.

Open or close various output operation methods:

1. When you need to use the SunCase, please flip the battery DC power switch.
2. After the DC switch is turned on, the USB-A, USB-C, Type-C, and the cigarette lighter interface are all functional.
3. The LCD screen should be on after completing the previous two steps; therefore you should have AC power.

UPCOMING SECTIONS

Battery Maintenance

Get to know the SunCase so that you can get the best performance from it. Follow this step-by-step introduction to each of battery ports, buttons, display screens and more.

Technical Specifications

Get to know the specifications of the SunCase.

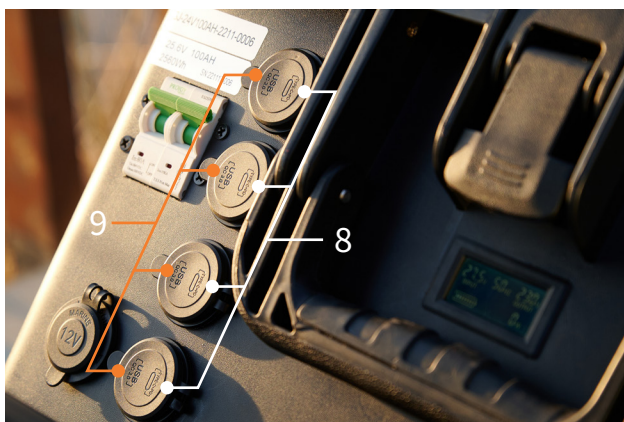
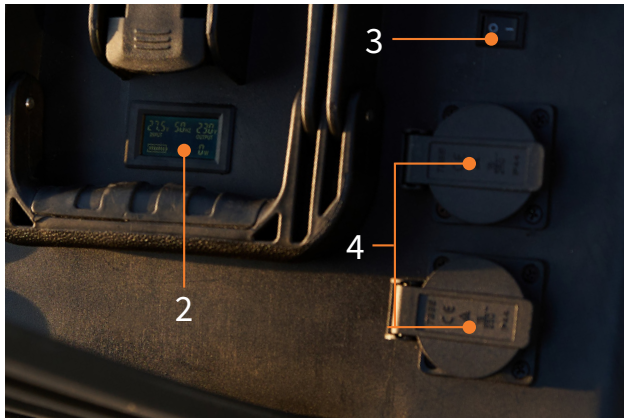
How to Charge

Everything you need to know about recharging the battery via AC charger or from solar power.

FAQs

Answers to some of the most important questions you have about how to take care, store, and safely use the SunCase.

FEATURES OF THE SUNCASE



1. DC Switch

The SunCase can be turned on or off via a power switch.

2. LCD Display

Can display the battery voltage, remaining power, output power, AC voltage, HZ and other icons.

3. AC Switch

The AC output can be turned on or off by flipping the AC switch.

4. AC Output Port (110V Model)

AC110V 60HZ, charging devices that can charge devices using chargers, such as laptops, TVs, mini-refrigerators, vacuuming, etc. 240V markets will have appropriate AC240V 50HZ outlets.

FEATURES OF THE SUNCASE

5. Solar Charge Port

The PV port supports 30-55V (100-600W) of solar input, with a maximum of 20A of current.

6. DC Input and Output port

The output voltage specification of the charger is DC 28.4-29.2V with a max of 50A of current.

7. Parallel Connect Port

The parallel connect port supports the maximum 2 sets of SunCase parallel. The port also supports DC 29.2V input charging and DC24V output discharge. It attaches to any red 50Amp Anderson connector.

8. Type-C Output

Type-C port supports 5-12V output and 18W power. Devices that can be charged include phones and tablets.

9. USB-A Output

The USB port supports up to 5V/12W of power. Devices that can be charged include phones and tablets.

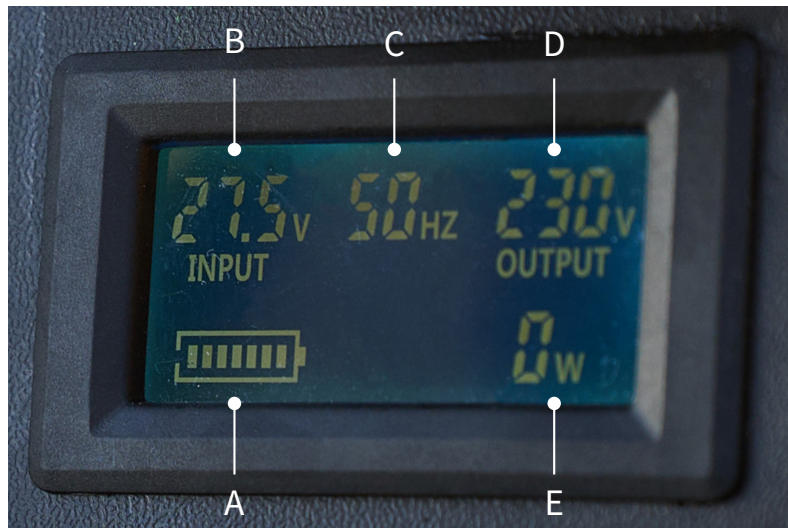
10.12V Power Output

The cigar lighter connection supports 12-13V and 10A of output. Any 12V DC appliances, such as lamps and refrigerators are supported. Please make sure devices are designed for DC charging before attempting to charge them via DC power.

11. Ventilation Fans

The fans prevent the battery from overheating.

LCD DISPLAY



A. Battery Level Display

The battery display has 8 bars, each representing 12.5% SOC. When the display has 1 bar remaining, the remaining battery capacity is < 12.5%. When this is the case, please charge battery immediately. Note: The corresponding SOC of the power display will vary according to the different load power size.

Please note

This portion of the display is connected only to the inverter and may not be accurate. We recommend downloading and using the Greenergy App and the voltage readings for maximum accuracy.

B. Battery Voltage Display

Displays the current voltage value of the battery.

C. AC Cycle

Displays the frequency of the AC current.

D. AC Voltage

Displays the voltage of the AC output current.

E. AC Output Power

Displays the current of the output coming from the AC outlets.

CHARGING AND PARALLEL CAPACITY

How to recharge the SunCase with charger or solar panels

If you need to know more about the connection of a single panel to the unit, please refer to the Solar Panel User Manual. The charge controller supports a 30-55V DC input. Please only use the SunCase with panels that are wired correctly to output within this voltage. The SunCase's over-voltage protection is triggered when the input is over 55V as voltage exceeding this amount may damage the product. The user shall follow all the instructions in the manual. New Use Energy do not provide free repair services for any product damage caused by connecting too many solar panels to the product or connecting them incorrectly even during the warranty period. As shown in the picture below, the user can connect 1 solar panel (no more than 500W) to the 50A blue Anderson interface of the SunCase to charge the SunCase.



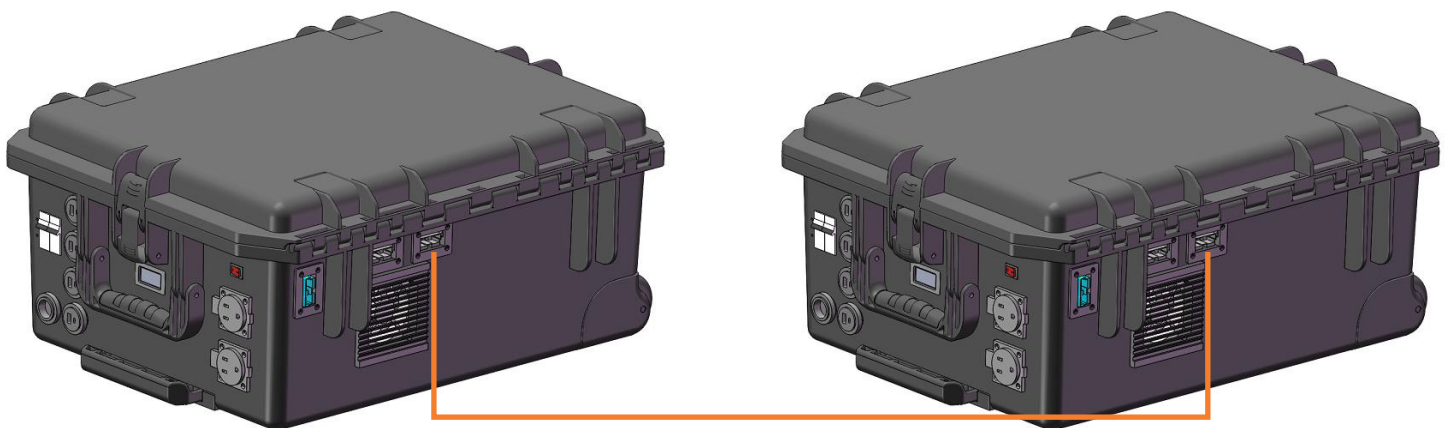
CHARGING AND PARALLEL CAPACITY

As shown in the picture below, users can connect the AC charger (DC29.2V 50A Max) to the 50A gray Anderson SunCase charging port on the side.



How to connect two SunCases in parallel?

If you need to increase the battery capacity of the unit, connect 2 SunCases of the same type in parallel, the capacity will be doubled after parallel connection. This can significantly prolong the runtime of the unit.



As shown in the figure below, the user can connect 2 SunCase in parallel to increase the battery capacity and prolong the load time.

TECHNICAL SPECIFICATIONS

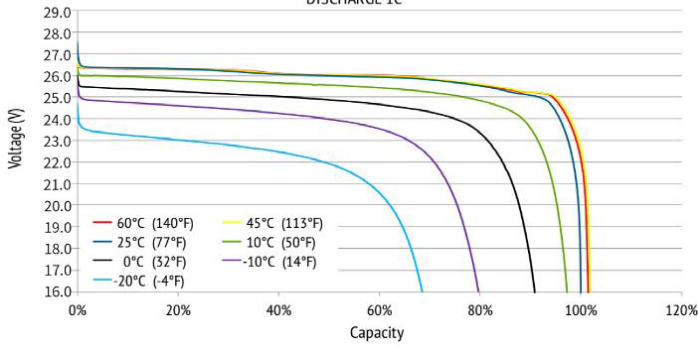
Capacity	2560Wh, 100Ah
Nominal Voltage	25.6V
Certifications	UL, CE (cells), UN, CE, FCC, RoHS
AC Output (x2)	2000W (Surge 4000W)
QZ 3.0 Output (x4)	5V 3A, 9V 2A, 12V 1.5A, 18W Max
Type-C Output(x4)	5V 3A, 9V 2A, 12V 1.5A, 18W Max
Car Port Output(x1)	12-13V, 10A,120WMax
AC Charging Input Voltage	100-120Vac 50/60Hz (US Model)
AC Charging Input Power	Max 29.2V 50A
AC Charger Included	880W@ 29.2VDC External Charger
Charging Time	2.7 hrs
Balancing Voltage	-4-140°F (-20-55°C)
Recommended Charge Current	20 A
Maximum Charge Current	100 A
Recommended Charge Voltage	28.4 V – 29.2 V
BMS Charge Voltage Cut-Off	30 V (3.75 ±0.025 vpc)(1.2 s±0.3 s)
Reconnect Voltage	28.8 V (3.6 ±0.05 vpc)
Balancing Voltage	27.2 V (3.4 ±0.025 vpc)
PV Input	30-55V 20A Max, 100-600W
Battery Cell Type	Lithium Iron Phosphate (LiFePO4)
Battery Cell Capacity	3.2V 100Ah
Discharge Temp. Range	-4-140°F (-20-55°C)
Charging Temp. Range	32-122°F (0-50°C)
Storage Temp	14 to 113 °F (-10 to 45°C)
BMS High Temperature Cut-Off	167 °F (75 oC)
Reconnect Temperature	149°F (65 oC)

TECHNICAL SPECIFICATIONS

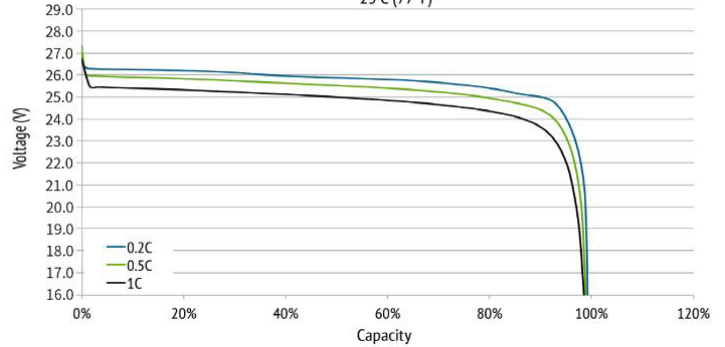
Expected Cycle Life 80% Draw	6,000 Total Operating Cycles, 4,000 Cycles at 100% potential capacity
Environmental Relative Humidity	5-75% battery (5-95% Inverter)
Capacity @20Amp	300 min
Resistance	≤30 mΩ @50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Continuous Discharge	100 A
Peak Discharge Current	120 A (10 s)
BMS Discharge Current Cut-Off	300 A (310ms)
Low Voltage Disconnect	21.6 V
BMS Discharge Voltage Cut-Off	20 V (2.5 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	21.6V (2.7 ±0.1 vpc)
Short Circuit Protection	Built-in 80A, UL 489 Listed. Brand: PROJOY, Model#: PEBS-S 500V 2P C80A
Breaker Amperage	80Amps
Weight	78 lb (35kg)
Net Lithium Weight (NW)	12.1 LBS (5.5kg)
Dimensions (LxWxH):	22x17x10 (570x440x256mm)
Terminal Type	Anderson
Case Material	ABS
Enclosure Protection	IP30 (Vents included for hot-weather performance)
Warranty	2-YEAR LIMITED MANUFACTURER'S WARRANTY
Certifications	UL1973 (cells), UN38.3 (cells) CE (cells), RoHS compliant (Cells), UL 489 (Circuit Breaker), CSA C22.2 No. 5 (Circuit Breaker)

PERFORMANCE CHARACTERISTICS

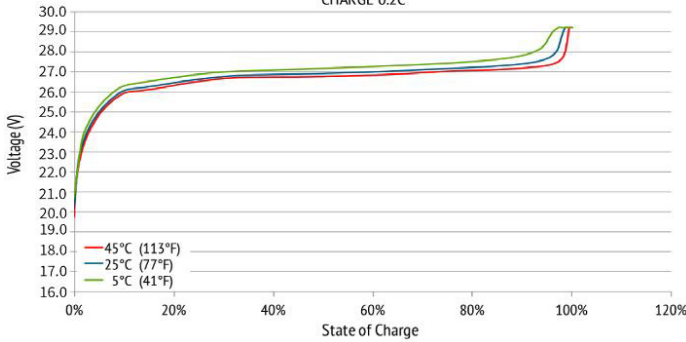
DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS TEMPERATURES
DISCHARGE 1C



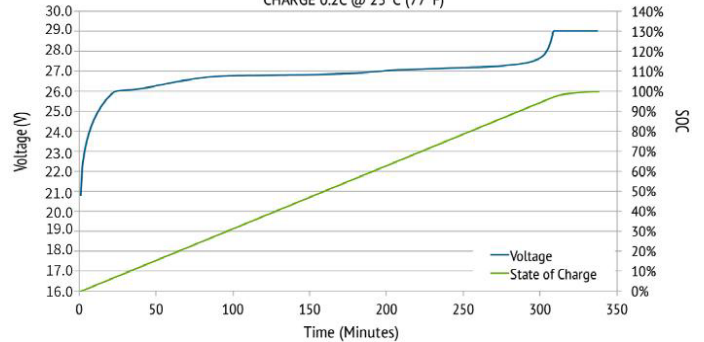
DISCHARGE VOLTAGE CHARACTERISTICS at VARIOUS RATES
25-C (77°F)



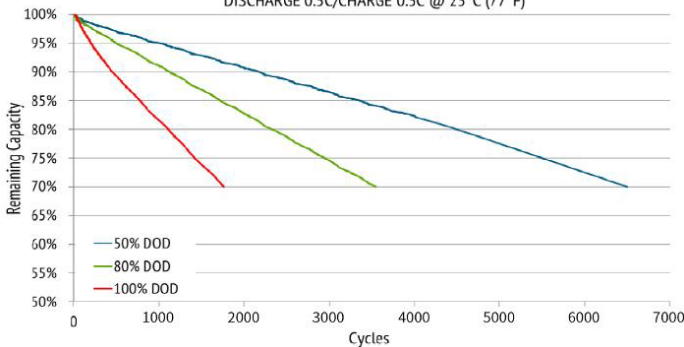
CHARGE VOLTAGE CHARACTERISTICS at VARIOUS TEMPERATURES
CHARGE 0.2C



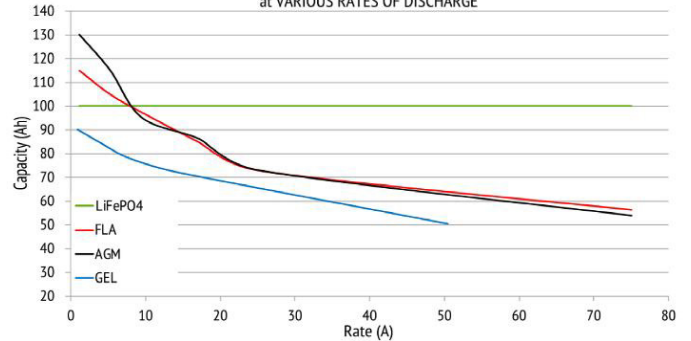
CHARGE VOLTAGE and STATE OF CHARGE (SOC)
CHARGE 0.2C @ 25°C (77°F)



CYCLE LIFE vs. DEPTH OF DISCHARGE (DOD)
DISCHARGE 0.5C/CHARGE 0.5C @ 25°C (77°F)



CAPACITY of LiFePO4 vs. LEAD ACID
at VARIOUS RATES OF DISCHARGE



HOW TO RECHARGE

How to charge the battery

The SunCase has a charger or PV input port. The SunCase can be charged with an AC charger or solar panels.

Can the SunCase power other devices when charging?

When charging the SunCase, the AC output will be simultaneously charged. Assuming no overcharging, USB-A, Type-C, DC12V and Car Port output ports can be used.

FAQS

How to maintain the SunCase?

If you need to clean the SunCase, please use a dry cloth or slightly moist to clean the surface. Clean the SunCase with detergent designed for your phone or computer screen. Don't rinse or soak the unit in water!

How to store the SunCase?

1. Make sure that you charge the SunCase to around 85% capacity.
2. Store your SunCase in a dry environment without anything abrasive near it. For optimal battery health, store the SunCase at room temperature of 77°F (25°C).
3. Charge the unit to 85% capacity every 3 months. This helps extend battery life and ensures that your SunCase is always ready for use.

How to use the SunCase safely?

1. Please use it within the operating temperature range of the SunCase. Using the SunCase outside of the optimum operating temperature range will push the machine beyond its safe and effective limits. Do not immerse the SunCase in water. It's not waterproof. Exposing the unit to water will void your warranty.
2. For your safety, do not charge the SunCase immediately after it is fully discharged.
3. If you try to charge the SunCase immediately after it is fully discharged, the SunCase will overheat protection. Please wait 2 to 3 hours for the unit to cool down before charging.

FAQS

How do I access the Device's Bluetooth App?

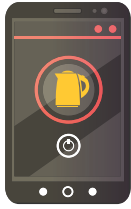
1. Visit the App store on your Iphone or Samsung device.
2. Search for "BAT-BMS".
3. Download the app of that name in the "Utilities" category. Remember to give the app access to your Bluetooth and accessories.
4. Open the app. If your SunCase is nearby, it will appear as a device in the list. If there are multiple SunCases or NUE brand PowerPacs nearby, multiple devices will show up. Please use the serial number (which should be on a sticker on your SunCase) to identify the specific unit you would like to monitor.
5. Connect to the device you would like to monitor.
6. Open that device on the app. You will be given multiple pages. To get accurate up-to-date information check the RT page, which should have information direct from the BMS.



Do you have any advice on how to best use the Bluetooth App for this device?

1. Remember that the capacity meter displayed on this app is the most accurate meter as it is from the device's BMS. NUE recommends using it whenever possible.
2. On the Control page you can toggle the charging and discharging switch remotely as well. Please do not touch the AutoBalance or Heating State portions for this device.
3. Please do not touch the Parameter settings, so as to ensure the safest use of this unit within the preset parameters.

SUNCASE CONTINUOUS USE



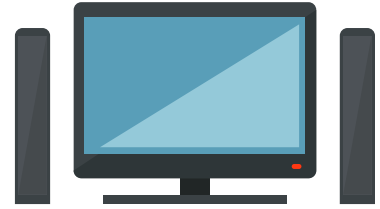
Cell Phone Power Tool Charger/
Led Bulb/Router/Cpap Machine

Operating hours:
Over 100++ Hours
Endless with Solar



Ventilator/
Patient Monitor

Operating hours:
35 Hours
Endless with Solar



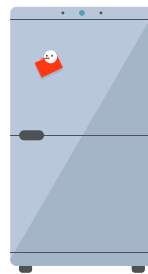
Starlink System/LED TV/Pellet
Cooker/Small Fridge

Operating hours:
18 Hours
Endless with Solar



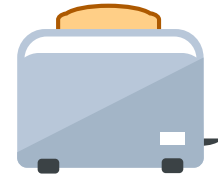
35L per Minute Water Pump/
5,000 BTU Window Air Conditioner

Operating hours:
Up to 5 Hours



Desktop Computer/
Large Fridge

Operating hours:
5 Hours
Endless with Solar



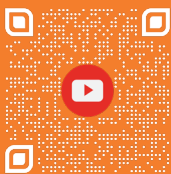
Toaster Oven/Chain Saw/
Disc Saw

Operating hours:
Up to 9 Hours

NOTE: Actual appliance specs will vary based on make and model. Watts indicated are for steady-state operation. Some appliances have a brief initial surge upon starting but **SunCases** are capable of handling this surge. Operating times are based on 85% of stated battery capacity.

PRODUCT IMAGES





- 1. Keep the SunCase and its accessories dry. Do not expose them to high temperatures.**
- 2. Never disassemble, puncture, shock, crash, or incinerate the product or its accessories.**
- 3. Recycle and dispose of the product in accordance with local regulations.**
- 4. Pay attention to safety when handling the SunCase.**
- 5. People with disabilities or children should use the machine under the protection of a supervisor.**