

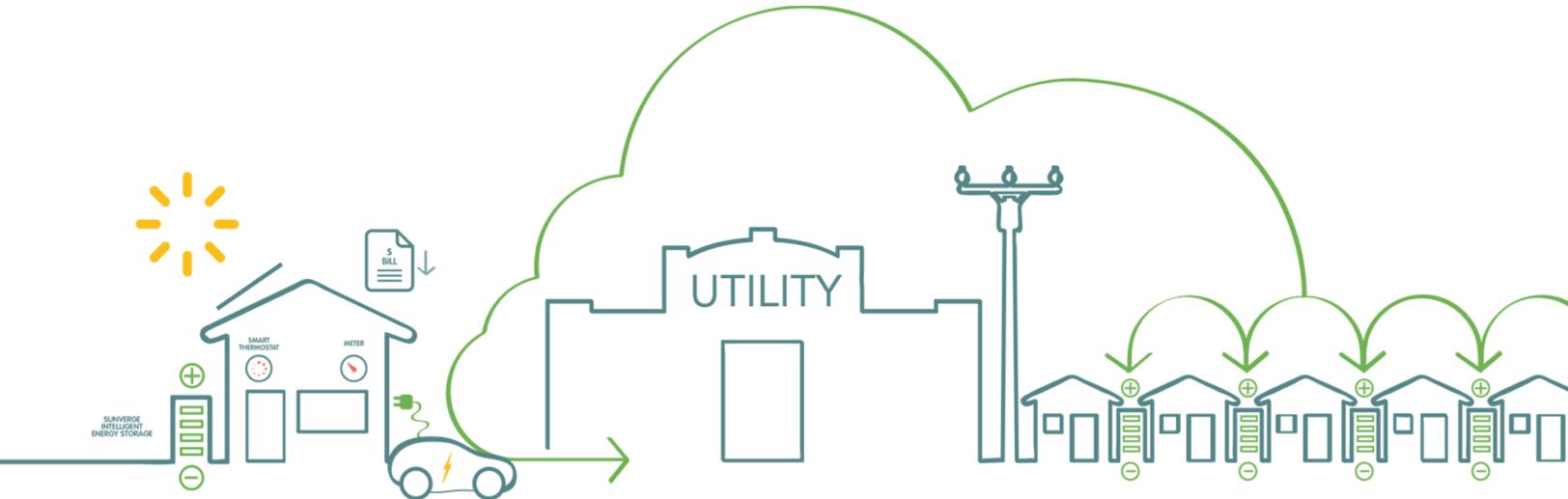


Sunverge SIS™ . AC-Back Coupled . North America

Homeowner's Manual

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GETTING STARTED

INSTALLATION

Your system installer will set up your Sunverge Solar Integration System (“SIS”) unit to the specifications of your home and follow any local requirements. Together, you and the installer will determine what electrical loads to include on your critical load panel, which is the panel that will receive backup power in times of grid outages. The installer will work with you to connect the SIS to Internet so that your unit properly communicates with the Sunverge cloud and software.



HOW YOUR ENERGY STORAGE SYSTEM WORKS

Your Sunverge SIS is a cleanly designed and incredibly resilient on-site distributed energy storage system. Through Sunverge's cloud-based software, the system provides you access to cutting edge technology, optimized energy management, and ultimate grid reliability.

INSIDE THE CABINET

Inside the cabinet, your SIS contains a suite of important hardware components. Each system is a certified and tested utility-grade product, ensuring that your unit operates at the industry's highest performance levels and safety standards.

While daily SIS operations do not require you to open the cabinet - **the cabinet is locked and must only be opened and serviced by a certified Sunverge SIS technician** - the following page illustrates the major components of your SIS unit and their functionalities.

BEYOND THE CABINET

At its core, the Sunverge SIS is your and your utility's gateway to efficiently manage an alternative and reliable source of power for your home. Your home is now a small energy generator. Within *milliseconds* of a power outage, the Sunverge SIS automatically kicks into gear so that your lights, electronics, and lifestyle continue undisturbed. The combination of Sunverge's cloud-based software and your SIS unit provides a peace of mind that you and your family have reliable power. Your Program Provider will manage the operation of your system for you so that you can sit back and enjoy the benefits.

IN THE EVENT OF AN EMERGENCY

If there is an emergency, immediately evacuate the premises and call 9-1-1. Notify the operator or fire department that you own a PV-battery system. The fire department will be aware of what electricity sources need to be disconnected.

DO NOT ATTEMPT TO OPEN THE CABINET YOURSELF. DOING SO WILL VOID YOUR WARRANTY AND COULD CAUSE SERIOUS DAMAGE TO THE SIS AND DEATH OR SERIOUS INJURY. ADHERE TO ALL WARNINGS ON THE CABINET AND SWITCHES.

INSIDE THE CABINET (AC-BACK COUPLED)

Gateway

The gateway is a small computer, essentially the brains of the cabinet. It allows the unit to connect to the Sunverge cloud, and operate programs for optimal energy management.

Padding

The special polycrystalline pad provides the SIS with a leveled anchoring surface to the ground. This component is particularly essential for outdoor applications and provides additional security to prevent tampering.



Inverter

The inverter converts the generated and stored electricity (DC power) into usable power for your home (AC power), and vice versa.

I/O Board

The input/output (I/O) board aggregates the continuous streams of data that your unit generates. Sunverge software then uses this data via an Internet connection to ensure that your unit is properly working.

Battery

The lithium-ion battery is used to store electricity from the sun or grid to use at a later time when you most need the power. The batteries are stored within their own UL-certified steel enclosure for added safety.

TAKING CARE OF YOUR SIS

On a day-to-day basis, very little maintenance is required to keep the SIS happily and properly operating. The following section covers the basic upkeep needs.

MOISTURE

Your SIS cabinet strongly prefers to be clean, shaded, and dry at all times. Excessive water exposure (e.g., sprinklers or water hoses) may affect the performance of the cabinet if moisture enters through the side vents and may void your warranty. Pressurized water exposure or other sprays (e.g., lawn pesticides or fertilizers) may damage the rust-resistant coating around your cabinet and may also void your warranty. If you notice any rust on the cabinet, immediately report this to your Program Provider.

CLEANING THE EXTERIOR CABINET

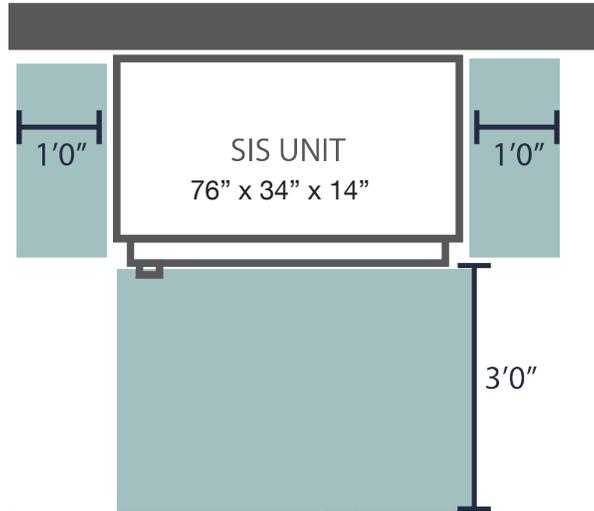
While the interior components of the SIS work best when untouched, the exterior cabinet may be carefully cleaned on occasion. Use dry and soft surfaces to wipe down the cabinet. Avoid using abrasive cleaning tools or products (e.g., pressurized water, metal scrubbers) that may scratch the surface and invite rust formation.

To ensure that your cabinet remains free of rust for optimal performance, avoid contact with salt (e.g., road salt, chlorinated water). Immediately contact and notify your sales representative or Program Provider if you see rust forming, as rust may affect the internal operating temperatures and performance of your unit.

Your SIS warranty requires that you take specific additional precautions to preserve the functionality of your SIS. Please review your SIS warranty in its entirety.

CLEARANCE REQUIREMENTS

For adequate ventilation and accessibility for Certified Sunverge technicians, please keep one (1) foot on either side and three (3) feet in front of the cabinet clear of obstructions. Make sure that the vents on both sides are free of any debris (e.g., spider webs, lawn clippings, fallen leaves) that could impede the air flow in and out of the cabinet.



These clearance requirements ensure that the SIS unit is properly working and is accessible for repairs and/or emergencies

OPERATING CONDITIONS

OPERATING SOUNDS

Your SIS unit is equipped to withstand a wide range of climate conditions. A combination of built-in fans and/or heaters keeps the battery and other cabinet components within optimal operating temperatures. The SIS unit will automatically turn on cooling and/or heating as needed. You may hear an audible hum, particularly on colder or warmer days. This sound indicates the unit is working safely and as expected for normal operation.

OPERATING TEMPERATURE

Your Certified Sunverge Installer will work with you to find a location that is unobtrusive to you and optimal for operations. To maximize your SIS unit's performance over its lifetime, take precautions to keep your unit out of direct sunlight. If the site around the SIS unit changes (e.g, a tree that once shaded the cabinet was removed after installation), call your Program Provider for further consultation.

REMOTE OPERATIONS AND MAINTENANCE

Sunverge works with your Program Provider to remotely monitor your system 24/7 and proactively identify operational issues, automatically update software that adds new features, and fix software bugs. Most issues are resolved before you are ever aware of them. In order to properly monitor the system, **it is important that the SIS unit is connected to the Internet at all times.** Your Program Provider will work with you to ensure proper connection at all times (including verifying hard-wired connections and/or troubleshooting network connectivity). Your Internet connection will become a part of the Critical Load Panel so that even during power outages, your SIS unit's connection to the outside world can continue. In addition, your SIS warranty may be voided if your SIS does not have a consistent Internet connection.

If an on-site maintenance or inspection visit is required, your Program Provider will directly schedule a visit with you at a convenient time. A Certified Sunverge Technician will come to unlock your SIS cabinet and perform the necessary diagnostics or repairs. For safety reasons, please leave all servicing of SIS components to a Certified Sunverge Technician. Do not attempt to open the SIS cabinet or tamper with the disconnect switches without proper supervision and directive.

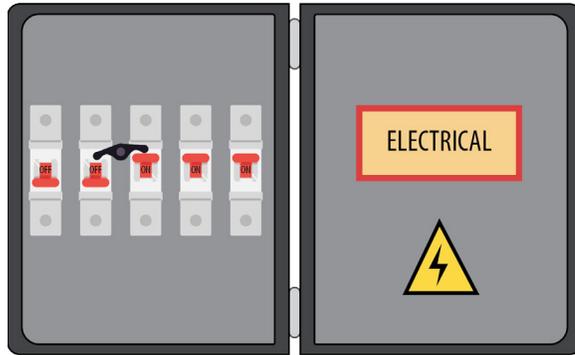
SAFETY AND EMERGENCY PROCEDURES

SAFETY PRECAUTIONS

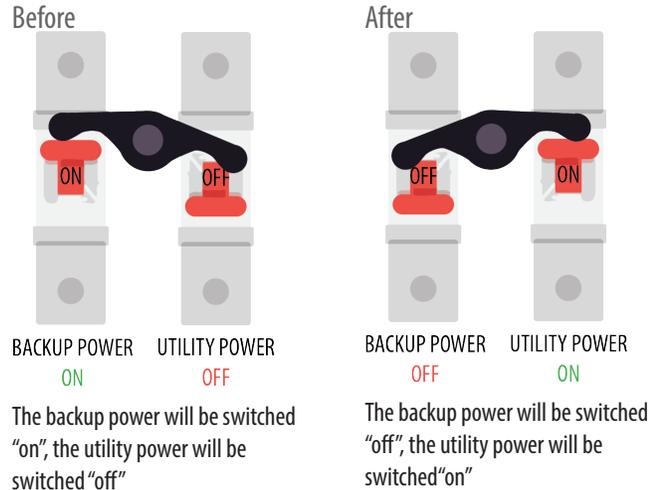
If you are concerned that the Sunverge SIS unit is not operating properly, follow these instructions to safely shut down your SIS. To restart your SIS, contact your Program Provider to schedule an appointment with a certified technician. Do not attempt to restart without professional assistance.

Note: Actual hardware configurations may be different models than those depicted in diagrams herein.

1. Flip the interlocked breaker in your main load panel that is labeled “bypass switch”, or the equivalent
The interlocked breaker will switch your “backup power” and “utility power” circuit breakers simultaneously. This step is to ensure that your critical loads are powered by the grid and not the battery system.

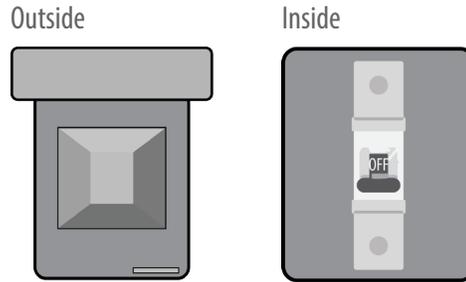


Open the main load panel



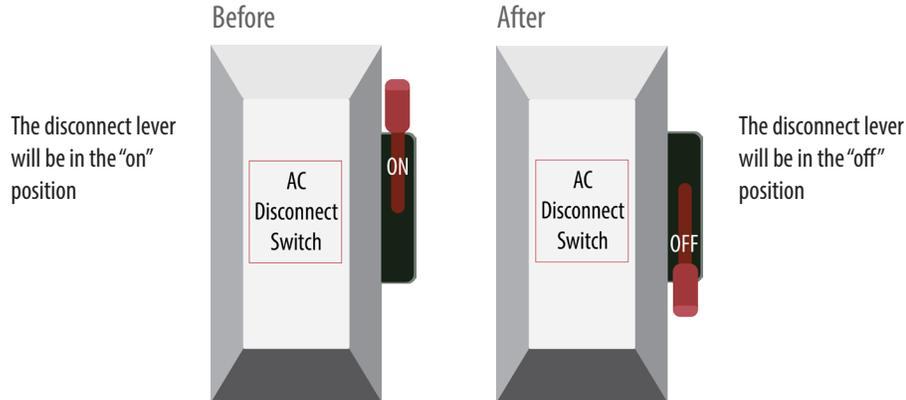
2. Flip off the external battery disconnect switch

This step disconnects your battery from your home. The external battery disconnect switch is typically a standalone breaker inside a metal box that is in an accessible location next to the SIS cabinet.



3. Pull down the AC disconnect lever

This step isolates the live power that is continuously generated by the PV panels from the battery system. The AC disconnect lever is typically located between the PV panels and the SIS cabinet.



4. *Open the breaker labeled "SIS"*

This step isolates the live power connected to the SIS cabinet. The unit is now completely shut down and de-energized.

EMERGENCY PROCEDURES

If there is an emergency, immediately evacuate the premises and call 9-1-1. Notify the operator or fire department that you own a PV-battery system. The fire department will be aware of what electricity sources need to be disconnected.

Do not attempt to open the SIS cabinet yourself or tamper with the disconnect switches without proper directive and/or supervision. Doing so may cause serious harm to you and/or the cabinet, as the SIS cabinet will contain live wires and power.

FREQUENTLY ASKED QUESTIONS (FAQ)

WHO IS SUNVERGE ENERGY?

Sunverge Energy, founded in 2009, is a California-based company that optimizes the value of solar power by leveraging the advantages of renewable energy, energy storage, and software. Sunverge produces the SIS: a simple, intelligent and cost-effective energy management system which captures solar energy and stores it for use when it's needed most, optimizing how energy is captured and delivered. With an innovative grid-tied model that aligns the goals of residential consumers and electric utilities, Sunverge is poised to help solve the energy problems of today and tomorrow.

WHAT BENEFITS DOES THE SIS PROVIDE?

1. Backup Power

In the event of a power outage on the electric grid, the SIS provides backup power to critical loads in a home using energy from solar PV and the battery. Even with a game console, air conditioner, coffee machine, and the fridge plugged in, you can expect around 3 hours of backup on the smallest 7.7kWh unit, which is typically enough power to get you and your home through the night.* Even if the battery runs out, the SIS unit will begin recharging with solar PV once the sun is out the following day. Your true backup times will depend on the power ratings of the appliances on your critical load panel, the state of charge of your battery at time of grid disconnection, whether your usage of these appliances is continuous or not, and how much solar PV is being generated.

2. Increased Solar PV Usage (based on region Program Provider)

The SIS stores the electricity from solar PV when the sun is shining and exports the power later so that you can maximize your benefits of locally harvested power. The SIS empowers you to produce your own energy to supplement what you need to power your home during the times when the sun isn't shining. Since the sun shines during morning and afternoon hours, solar PV electricity is not available during the evening hours, when you may need your lighting and appliances the most. Depending on your region and Program Provider, this program may or may not be available. For more information, talk to your Program Provider.

* The length of backup time will vary and depends heavily on the appliances and other devices being used on the Critical Load Panel (CLP). In addition, because all batteries lose capacity over time, the length of backup will also decrease over time.

3. Rate-based Optimization (based on region and Program Provider)

Sunverge software is sophisticated and customizable enough to optimize solar PV usage based on your electricity rates. Depending on your region and Program Provider, this program may or may not be available. For more information, talk to your Program Provider.

WHAT HAPPENS IF THERE IS AN ISSUE WITH MY ELECTRICITY BILL?

Your bill is managed by your electricity provider. Please contact your electricity provider to answer questions about your bill.

WHAT HAPPENS IF I ACCIDENTALLY DAMAGE THE SIS?

If the SIS is accidentally damaged, notify your Program Provider as soon as possible. Once reported, they will dispatch a Certified Sunverge Technician to visit your SIS unit and assess the damage.

If the unit is damaged in an emergency situation, please have occupants of the residence seek safety first and then contact emergency services as soon as possible.

DO I NEED TO LET MY ELECTRICIAN KNOW ABOUT MY SIS UNIT BEFORE HE/SHE PERFORMS WORK ON MY HOME?

Yes!

You **MUST** inform any electrician working on your home that your house has dual power supplies for some of its circuits. These circuits should be marked with a warning label. If the homeowner finds that these labels have come off, the homeowner must inform the Program Provider of the issues as soon as possible. Before performing work on the home, the electrician **MUST** turn off the appropriate circuit breaker in the Critical Load Panel in order to work on Critical Load Circuits. The SIS should be bypassed and/or turned off to isolate it and ensure a safe electrical working environment for the electrician. See "Safety and Emergency Precautions" section for instructions on how to bypass the SIS.

WHAT HAPPENS IF MY HOME IS SOLD?

The equipment may be tied to the title of the home, which means that the participation agreement would also be transferred to the new homeowners. If you do not own your system, then you must contact your Program Provider.

CAN I CHANGE THE LOOK OF MY SIS UNIT?

No. In doing so, the unit warranty shall be voided. The cabinet is designed with vents that are critical for air circulation, and painting or otherwise changing the exterior finish could cause these vents to become clogged.

Additionally, nicks and chips on the cabinet finish can become future hotspots for rust. Notify your Program Partner of any cosmetic damage at or after the time of install so that the appropriate remedial action can be taken.

HOW LONG IS THE SYSTEM WARRANTY AND WHAT IS COVERED BY IT?

The SIS unit comes with a warranty of 10 years. This warranty covers defects in workmanship and materials. It does not cover defects resulting from improper or unauthorized use of the SIS. This warranty is separate from that of the solar panels (provided by the panel manufacturer). Please refer to the warranty documentation included with the unit for further details.

HOW WILL I (OR ANYONE) KNOW IF THERE IS A PROBLEM WITH MY UNIT?

If a fault, error, or warning occurs, so long as your SIS is connected to the Internet, a notification is generated to alert the Program Provider that attention is required. They will work with Sunverge to diagnose the issue and determine the appropriate resolution. Often, resolution can be completed remotely, sometimes with the homeowner's participation. If an on-site visit (rare) is required to resolve the issue, then the Program Provider will work with the homeowner to coordinate this visit.

To learn more, visit
support.sunverge.com