

Set Battery Mode Control with mySolarEdge — Application Note

This topic describes the different battery modes, their benefits, and how to set them in the mySolarEdge mobile application.

Revision history

- Version 1.1, Feb 2024: Added Manual Mode and Time of Use Mode - Utility Rate Plan Option
- Version 1.0, June 2023: Initial Release

Overview

SolarEdge PV systems can operate in four battery modes. Each mode prioritizes different aspects — solar power use, cost efficiency, personalization, and backup energy supply. You must be a Site Owner to set the battery mode. Your installer can make you a Site Owner in the Monitoring platform. This gives you the ability to determine the behavior of the system's battery.



NOTE

- Individual battery modes are:
 - Dependent on availability in your country, and in compliance with local regulatory requirements
 - Displayed in mySolarEdge, if available
- If a mode is not available in your region, contact your local SolarEdge representative
- The ability to charge the battery from the grid depends on the system's configuration and its compliance with regional regulations
- The PV system charges the battery except:
 - During Weather Guard events in the United States
 - Following Backup Reserve percentage changes

Requirements

- External import/export meter that is not supplied with the inverter
- Single inverter sites (relevant for Time of Use and Manual Control mode only)
- The home must not be registered under battery incentive programs with your local utility/retailer

Battery modes

You can choose from the following modes of battery operation:

- Maximize Self Consumption
- Time of Use
- Manual Control
- Backup Only

Maximize Self-Consumption

Maximize Self Consumption mode uses all available solar energy to power your home and charge the battery. This mode prioritizes available solar power and energy stored in the battery over imported electricity from the grid. When there is enough power for self-consumption, your home does not import energy from the grid, even when prices are low. Power is only exported to the grid when there is an excess of power available for all household loads and battery charging.

Set Maximize Self Consumption mode

You can set the mode to maximize the use of solar power for self-consumption and battery charging.

To set Maximize Self Consumption:

1. Open mySolarEdge app and tap the **Battery** icon on the bottom pane.
2. Go to **Battery Mode** > **Battery Mode panel** and tap **Maximize Self Consumption**.
3. Tap **Maximize Self Consumption card**.

Time of Use

Time of Use mode optimizes the PV system to provide solar or stored energy when import rates are high — avoiding costly grid consumption. The algorithm in this mode calculates when and how much energy the battery is required to meet your consumption needs. The algorithm learns how you consume energy and uses it to predict your future consumption. This optimizes energy sources and reduces electricity bills. If the actual battery use differs from the predicted use, the battery is charged or discharged accordingly.

When the battery is depleted and solar energy doesn't meet your consumption needs, your home imports from the grid. The battery only charges from the grid when there is no solar power available, only during off-peak hours, and if permitted.



NOTE

The battery only charges from the grid at the last possible moment during off-peak hours to reduce unnecessary grid import to the battery.

When there is a surplus of power during off-peak hours, the battery powers household loads while conserving enough energy to power loads during peak hours. The battery only exports to the grid when there is excess power available for all household loads and battery charging.

Time of Use is cost-effective for homes experiencing varying grid consumption rates. This mode maintains household consumption needs, minimizes power losses, and avoids costly grid consumption.

Set Time of Use

You have the option to configure Time of Use according to the Utility Rate Plan (select the provider) or Peak Rate Hour Settings (set the hours to import).

To set the Utility Rate Plan:

1. From the **Battery** page go to **Battery Mode** tab > **Time of Use** and tap **Edit Settings**.
2. Go to **Utility Rate Plan** > **Edit Utility Rate Settings** > **Utility Provider** and tap the required provider.
3. Tap **Rate Plan** and tap the required plan.

NOTE

- If you do not know your rate plan, tap **Where can I find my plan?**
- You can also access Utility Rates from **Settings** > **Utility Rates**

4. To select a separate plan for import and export rates, repeat steps 2 and 3.
5. Tap **Save**.
You can view your site's plan under **Settings** > **Utility Rates**.

To configure Peak Rate Hour:

1. From **Battery** page go to **Battery Mode** tab > **Time of Use** > **Peak Rate Hour Settings** > **Edit Settings** and tap **+Add Peak Hour Range**.
2. Set **Start** and **End** times for **Peak Hours**.
3. (Optional) Set **Days** and **Months** for **Peak Rate**.
4. Tap **Save**.

You can view the Peak Hour Settings for your site. Each site can have up to ten Peak Hour ranges.

NOTE

To enable Time of Use mode using Peak Hour Setting, you must have at least one Peak Hour range.

Manual Control

Manual Control mode allows you to set specific times for battery charging and discharging.

Configure Manual Control

To set battery charging:

1. Go to **Battery Mode > Manual Control > Edit Settings** and tap **+ Add Charging Schedule**.
2. Set **Start** and **End** times to charge the battery.
3. (Optional) In **Repeat**, set **Days** or **Months** for a repeat charging interval.
4. Tap **Save**.

To set battery discharging:

1. Go to **Battery Mode > Manual Control > Edit Settings** and tap **+ Add Discharging Schedule**.
2. Set **Start** and **End** times to discharge the battery.
3. (Optional) In **Repeat**, select **Days** or **Months** for a repeat discharging interval.
4. Tap **Save**.

To save Manual Control Settings:

Go to **Manual Control Settings** and tap **Save**.



NOTE

- Do not overlap charging and discharging times
- You can set up to three charging and discharging schedules

Backup Only

Backup Only mode keeps the battery fully charged. When a backup event occurs, the battery provides power for household loads. After power is restored to the grid, the battery is recharged to 100%.



NOTE

The Backup Only mode is available only for Backup sites.

Revert to installer's settings:

You can change the mode back to the installer's settings in the mySolarEdge app. This gives the installer permission to change the battery mode in the Monitoring platform.

To revert to installer's settings:

1. From **Battery Mode**, tap **Revert to Latest Installer Settings**.
2. Tap **Revert**.