

Subject: Setup Battery Parameter on Univers EMS User View

Revision History

Version 1.0 - Dec 2024 - Initial release

Applicable products and models

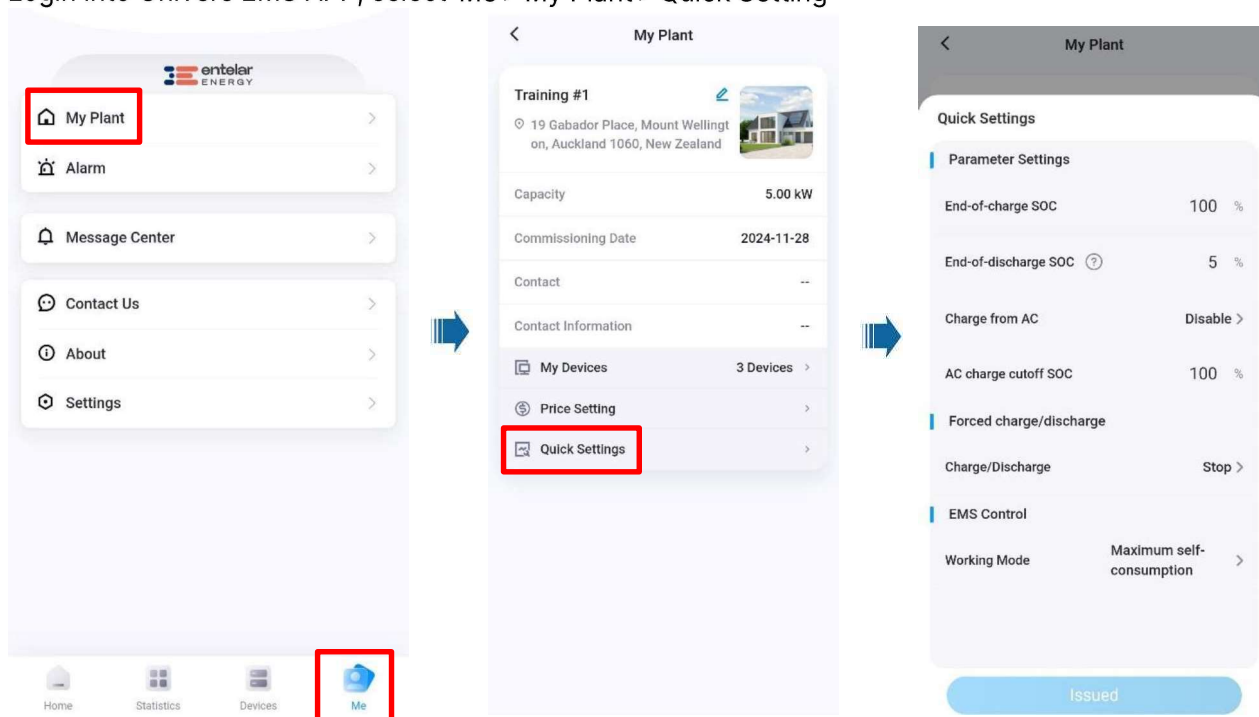
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Description

Setting up battery parameters on a Univers EMS (Energy Management System) involves configuring key settings to ensure the system operates efficiently and safely with your battery. Make sure you have installed Univers EMS version 1.3.1 or above.

Instructions

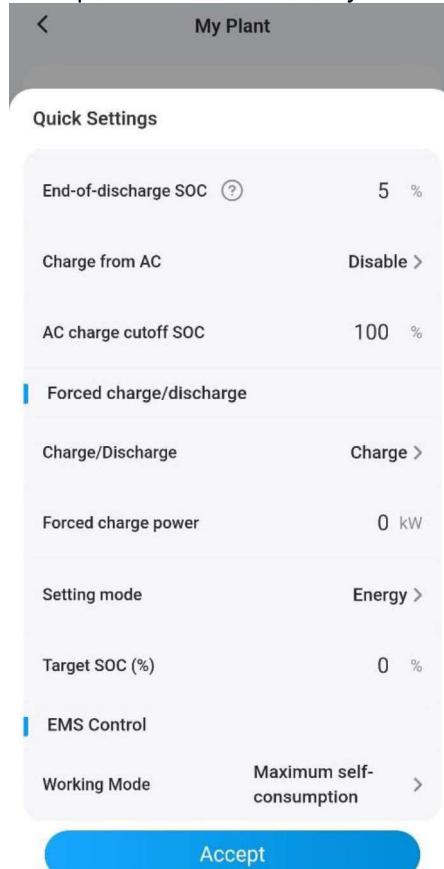
Login into Univers EMS APP, select 'Me'>'My Plant'>'Quick Setting'



- **End-of-charge SOC (State of Charge):** This represents the desired level of charge the system allows the battery to reach before stopping the charging process.
For example, if the "End-of-Charge SOC" is set to 100%, the battery will stop charging when it reaches 100% of it's total capacity.
- **End-of-discharge SOC:** This specifies the lowest allowable charge level for a battery. When this threshold is reached, the system disconnects or reduces the load to protect the battery.
For example, if the "End-of-Discharge SOC" is set to 20%, the battery will stop discharging when it has 20% of it's total capacity left. When there is a power outage, this could be used as an emergency power supply.
- **Charge from AC:** Charging a battery from AC power involves converting alternating current (AC) from the grid into direct current (DC) suitable for charging the battery.
For example, if you disable the function. The battery will only be charged from the PV panels and will not be charged from the grid.
- **AC charge cutoff SOC:** This parameter allows you to dictate how much your battery will be charged from the grid.
For example, if the "AC charge cutoff SOC" is set to 50%, the battery will only be charged to

50% of its total capacity from the grid.

- **Forced charge/discharge:** refers to manually overriding the automatic control of a battery system to either charge or discharge the battery regardless of current conditions or programmed parameters. This feature is often used for testing, maintenance, energy optimization or emergency scenarios. **For example,** if there is a potential power outage or severe weather forecast. You could choose "Charge" which will then override the existing settings and begin charging from the grid. Set the "Force charge power" to 3kW and setting mode as "Energy", with target SOC (%) at "100%". Then, the battery will be charged from the grid with 3kW power until the battery reaches 100% of its total capacity.



My Plant

Quick Settings

End-of-discharge SOC ? 5 %

Charge from AC Disable >

AC charge cutoff SOC 100 %

Forced charge/discharge

Charge/Discharge Charge >

Forced charge power 0 kW

Setting mode Energy >

Target SOC (%) 0 %

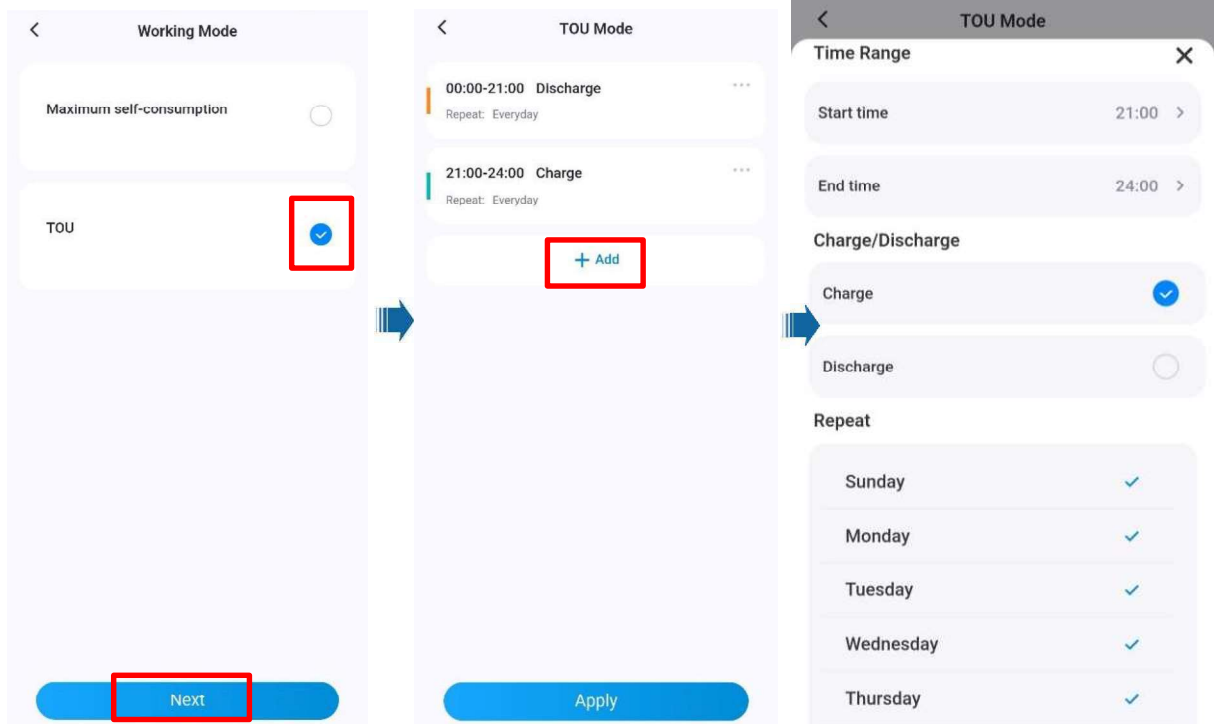
EMS Control

Working Mode Maximum self-consumption >

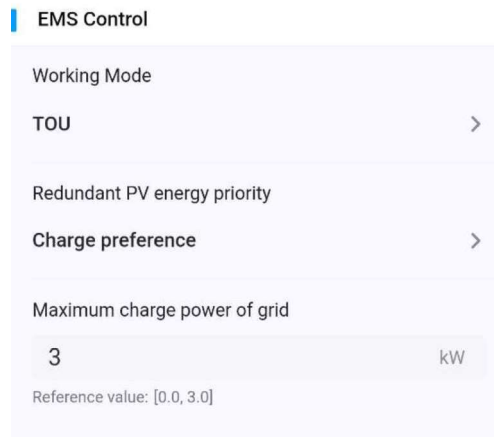
Accept

EMS Control (Energy Management System)

- **Working Mode: Maximum self-consumption**
This setting maximizes the utilization of renewable energy on-site, reducing dependency on the grid and improving energy efficiency.
For example, when you choose "Maximum self-consumption", when there is extra power from the PV panel, the system will charge the battery first. Then, export it to the grid. Also, your home load will use up the battery storage first until it reaches the set 'End-of-discharge SOC'. This setting minimizes energy export and maximizes on-site energy usage, which can lead to cost savings and increased energy independence.
- **Working Mode: TOU (Time of Use)**
This refers to a pricing model used by utility companies where the cost of electricity varies depending on the time of day, day of the week, and sometimes the season. TOU pricing is designed by the line company to encourage the user to use electricity during off-peak times when demand is lower and reduce usage during peak times when demand is high.
For example, if your line company offers free power from 9pm to midnight. You could choose to use free electricity from the grid during this period to charge your battery. To enable this, choose "TOU" > "Next" > "+Add", Start time from 21:00 to 24:00 > Charge > Repeat every day. Your system will then charge the battery.
To utilize your battery power, you must setup a "Discharge" period. Using the example above, that will be from "00:00 to 21:00" > Discharge > Repeat every day. If no "Discharge" period setup, then no battery power will be utilized.



- **Redundant PV energy priority:**
Charge preference: This setting allows you to charge the battery with any excess PV production.
Fed to grid preference: This setting allows you to feed any excess PV production into the grid.



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