EMS Controller

Interface User Manual for EP900

BLUETTI

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If you have any questions or concerns about this manual, please contact BLUETTI support for further assistance.

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1.Introduction

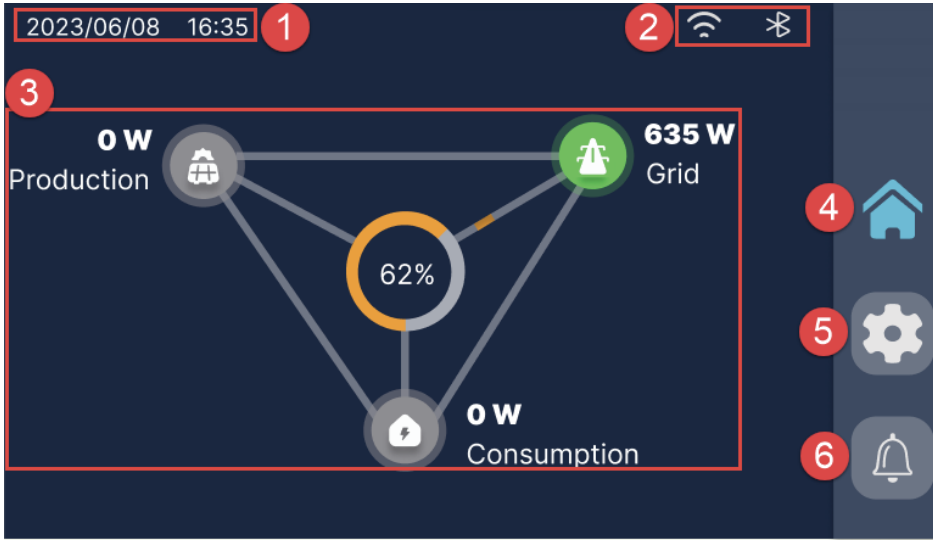
The EMS controller offers the following features:

- Control and monitor one or multiple inverters remotely from anywhere.
- Intelligently balance loads, optimize battery usage, and make the most of solar energy across multiple inverters.
- A touchscreen to operate in a visual manner.

2.Icon Description

Icons	Description
	Back to the previous page.
	Return to homepage.
	Check and adjust system settings, like System Switch, Working Mode, Network Settings, Advanced Settings, etc.
	Check the current alarm(s) and alarm history.
	Go to the next page.
	Flip backward.
	Flip forward.

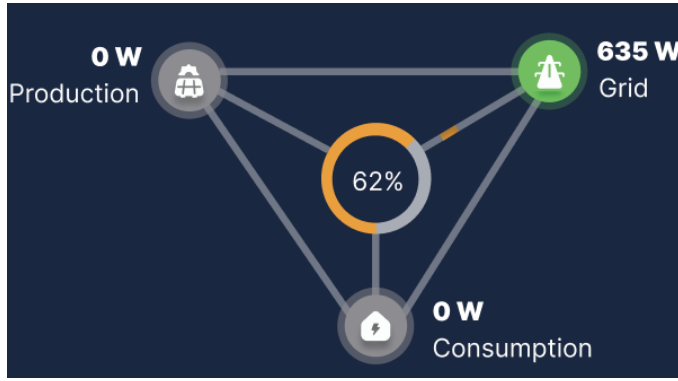
3.Homepage



No.	Description
1	Date & time
2	: WiFi connection; : Bluetooth connection
3	Energy flow of the Energy Storage System (hereinafter referred to as ESS). Please refer to **Chapter 4. Energy Flow** for details.
4	Return to the homepage.
5	Check and change system settings, like System Switch, Working Mode, Network Settings, Advanced Settings, etc.
6	Check the current alarm(s) and alarm history. The icon turns red in case of an alarm.

4.Energy Flow

The animation gives you a simple way to understand how energy is flowing.



62% SoC (State of Charge). It indicates the remaining battery level.

PV generation. It shows how much power the ESS is drawing from your rooftop solar or solar panel(s). Tap to view more details.

Grid charging or feeding. It shows how much power the ESS is drawing from or feeding back into the grid. Tap to view more details.

Load consumption. It shows how much power is supplying to your household appliance. Tap to learn more about where the power is going.

5.Device Management

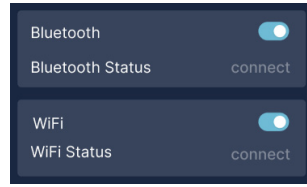
5.1 Basic Settings

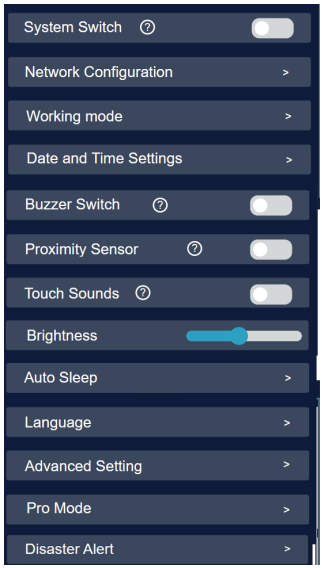
After connecting the device, tap on the right side of the homepage to access the **Setting** page. You can optimize your power usage by customizing various settings.

• **System Switch:** The main switch of the ESS. Keep it on if you want the ESS to charge and discharge. If it's off, the system is in standby mode with no input or output.

Note: If you're connecting cables or not using the system, turn the **System Switch** off.

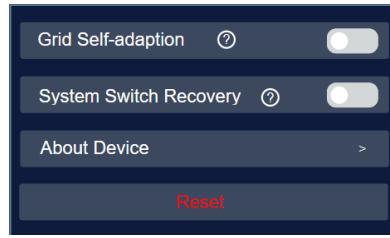
• **Network Settings:** Choose Bluetooth or WiFi for connecting your mobile device as shown below.





- **Working Mode:** Tap to set the working modes. Please refer to **5.3 Working Modes** for details.
- **Date and Time Settings:** To set the date and time.
- **Buzzer Switch:** Enable to sound an alarm when the device encounters hardware faults.
- **Proximity Sensor:** The screen lights up as someone approaches when it's enabled.
- **Touch Sounds:** Enable for a sound response during interface operation.
- **Brightness:** Slide to adjust the screen brightness.
- **Auto Sleep:** Choose screen sleep time (30s, 1min, 5min, always on). The default screen sleep time is 1 minute.
- **Language:** To select system language: Chinese, English, German, or Japanese.
- **Advanced Setting:** To check and change more settings. Please refer to 5.2 Advanced Settings for details.
- **Disaster Alert:** With the switch on, the ESS switches to Backup Mode upon receiving a disaster alert and returns to the previous mode after the alert concludes.

5.2 Advanced Settings



• Grid Self-adaption: Enable it when the ESS connects to an unstable grid with voltage fluctuations, low voltage, high voltage, etc. Once enabled, when charging from the grid, the charging power will gradually increase to minimize the impact on the grid.

• System Switch Recovery: To save the system switch status and restore it on restart.

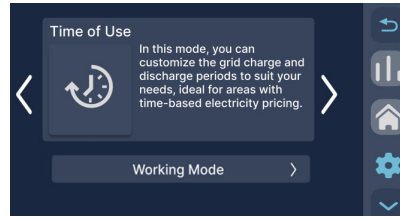
• About Device: The information about the EMS controller.

• Reset: To reset all settings to default.

5.3 Working Modes

The ESS offers four operating modes to accommodate various energy plans. However, the EMS controller allows the configuration for only three modes: Backup, Self-consumption and Scheduled Charge & Discharge modes. You can choose the one that best suits your home power supply configuration. Please refer to the product's App User Manual for Custom Mode settings.

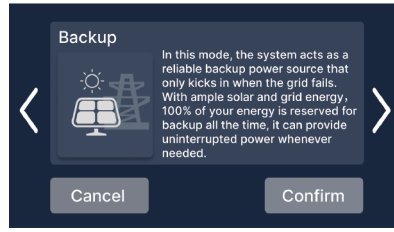
1.Tap **Working Mode** on the **Setting** page.
2.Tap **Working Mode.**
3.Tap ‹ or › to switch the working modes.
4.Tap **Confirm.**
Note: To set the **Time of Use**, tap **Confirm**, and then tap to adjust relevant parameters.



Backup

This mode is suitable for areas with unreliable power grid.

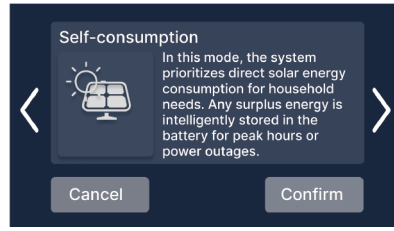
The ESS charges its batteries to full from both the grid and solar, giving priority to solar energy.



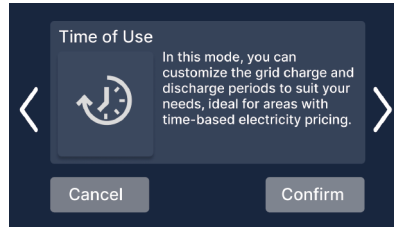
Self-consumption

This mode is suitable for areas with abundant solar resources and stable power grid.

In this mode, the ESS primarily harnesses solar energy to power the load and then charges the battery with any surplus power.



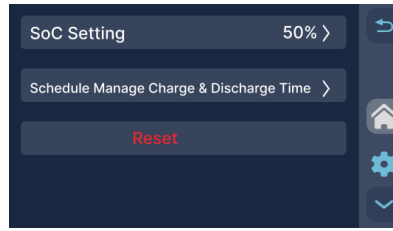
Time of Use



This mode is suitable for areas with fluctuating electricity prices based on time-of-use.

During peak electricity pricing, the ESS provides power to household appliances, while during off-peak times when electricity rates are lowest, it draws power from the grid to charge the battery.

In this mode, you can set SoC High value and specific charge/discharge schedule to optimize cost savings.



1.Set SoC High

The ESS will stop charging from the grid when the battery level reaches the configured SoC and seamlessly switch to solar charging for the remaining capacity.

2.Manage Charge/Discharge Time

a.Tap **Scheduled Manage Charge/Discharge Time.**

b.Tap **OK** in the **Attention** pop-up.

c.Specify a period, and set it as an **Off-peak** or **Peak** period.

Off-Peak: Schedule the ESS to charge during off-peak hours when electricity costs are lower.

Peak: Schedule the ESS to discharge during peak hours when electricity costs are higher.

Middle: Disable the power supply from the battery to the load.

6.Practices

Note: Disable the **System Switch** before setting working modes.

6.1 Charge via Grid

Choose from three configuration options to charge your ESS through the grid.

Option 1: Scheduled charging

1. Tap **Working Mode** on the **Setting** page.
2. Tap **Working Mode**.
3. Tap ‹ or › to switch to the **Time of Use**, and tap **Confirm.**
4. Tap  to enter the parameters settings.
5. Tap **Scheduled Manage Charge/Discharge Time.**
6. Tap **OK** in the **Attention** pop-up.
7. Specify a period, and set it as an **Off-Peak** period.

Option 2: Backup mode

Please refer to **Chapter 6.5** for details.

Option 3: Custom mode

Please refer to 'Custom' section in the App user manual of the respective product for details.

6.2 Feed to Grid

Configure this mode solely through the BLUETTI App. Please refer to the product's App user manual for details.

6.3 Offset Peak-hour Energy Usage

The ESS helps you avoid high electricity prices - it store massive energy during the day or off-peak hours, and supply it to your house during peak hours.

You can schedule the ESS to carry such charging strategy either through the EMS controller or BLUETTI App.

EMS controller

With this setup, you can offset your energy usage during peak hours but are unable to sell any extra energy back to the grid.

1. Tap **Working Mode** on the **Setting** page.
2. Tap **Working Mode.**
3. Tap ‹ or › to switch to the **Time of Use**, and tap **Confirm**.
4. Tap  to enter the parameters interface.
5. Tap **Scheduled Manage Charge/Discharge Time.**
6. Tap **OK** in the **Attention** pop-up.
7. Choose a time period when electricity prices are lower. Set it as an **Off-Peak** period. And set **Peak** periods during times when electricity prices are higher.

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Please refer to the product's App user manual for details.

6.4 Prioritize PV Charging

This mode is suitable for areas with abundant solar resources.

Switch on the PV switch of the inverter and check for a successful solar input. Turn on the **System Switch** on the **Setting** page; the system automatically prioritizes solar energy to supply the load and charge the battery.

If you want to rely less on the grid:

1. Tap **Working Mode** on the **Setting** page.
2. Tap **Working Mode.**
3. Tap ‹ or › to switch to the **Self-consumption**, and tap **OK**.

You can also set it in Custom Mode. Please refer to the product's App user manual for details.

6.5 Backup Power

The ESS can also be used as a backup power supply for emergencies, especially ideal for areas with unstable grid.

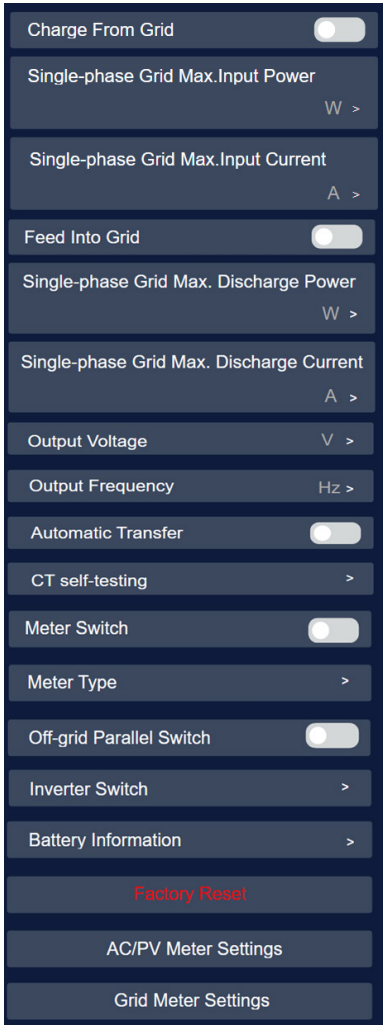
1. Tap **Working Mode** on the **Setting** page.
2. Tap **Working Mode.**
3. Tap ‹ or › to switch to the Backup, and tap OK.

6.6 Device Upgrade

Upgrade the firmware solely through the BLUETTI App. Please refer to the product's App user manual for details.

Appendix

Pro Mode



Note: Only authorized installers have permission to view and adjust parameters in this mode.

Item	Description
Charge From Grid	To enable the ESS to charge from the grid. • Single-phase Grid Max. Input Power: The maximum power that each phase of the ESS can draw from the grid or generator. • Single-phase Grid Max. Input Current: The maximum current that each phase of the ESS can draw from the grid or generator.
Feed Into Grid	To enable the ESS to feed into the grid. • Single-phase Grid Max. Discharge Power: The maximum power that each phase of the ESS can feed into the grid. • Single-phase Grid Max. Discharge Current: The maximum current that each phase of the ESS can feed into the grid.
Output Voltage	The output voltage of the ESS.
Output Frequency	The output frequency of the ESS (50Hz or 60Hz).
Battery Information	Tap to view battery information.
Automatic Transfer	Use the specified accessories provided by BLUETTI. Please refer to the ESS's installation manual for details.
CT self-testing	Note: • Do not conduct the test under load, as it may affect the test results. • Conduct the test in grid-connected conditions. • Perform the test during the initial installation of the ESS; refer to the ESS's installation manual for guidance. With this feature on, the system can detect and automatically adjust or prompt for any abnormal CT wiring.
Meter Switch	Enable to record micro-inverter parameters, including current, voltage, and power.
Meter Type	Select electric meter type.
Off-grid Parallel Switch	Activate to operate in off-grid parallel mode.
Inverter Switch	• Check inverter information. • Switch to other connected inverters.
Battery Information	Tap to view battery information.
Factory Reset	To factory reset all the settings.

Item	Description
AC/PV Meter Settings	Configure for AC-coupled solar devices. Note: Only connect one meter at a time, using the correct model and type to prevent system malfunctions.
Grid Meter Settings	Required to record information on grid power.

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