

4.3 Parameter setting

Parameter setting of PCU version ≤ 4.X.X

Sunmate APP

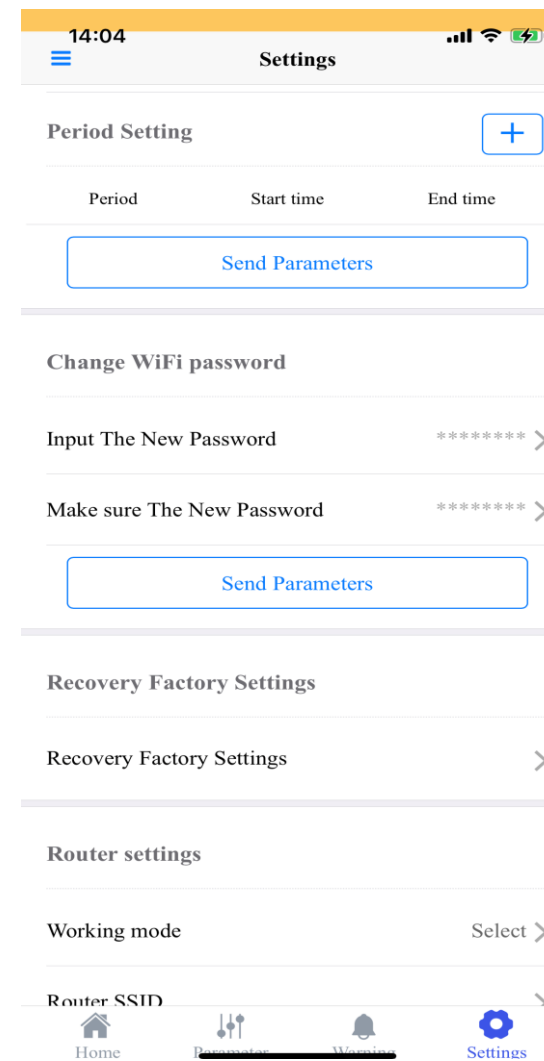
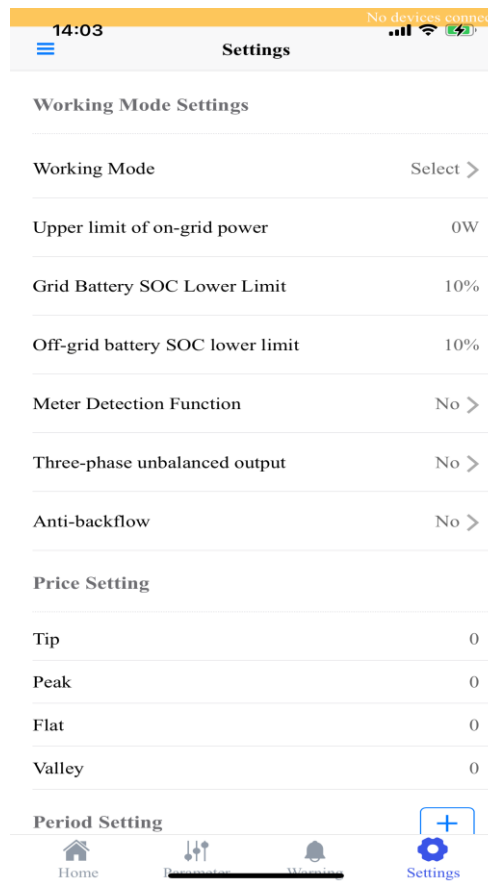
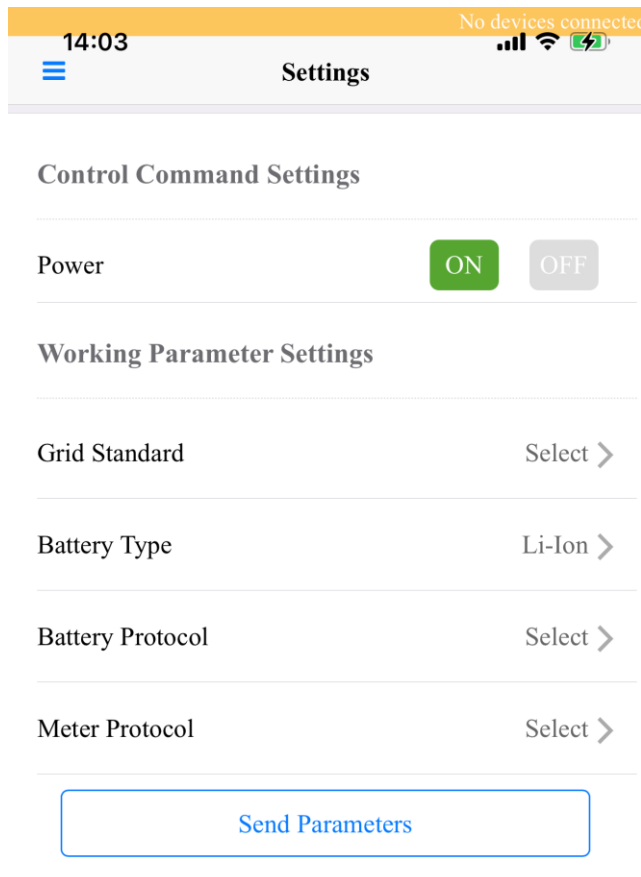


Illustration of setting

Item	Illustration	Set online	Shutdown before setting	Default value
Working parameter settings				
Grid code	Choose grid standard according to your location.		√	China
Battery type	Lithium/Lead-acid battery Note: Three-phase inverter does not support to connect with lead-acid battery		√	Lithium battery
Battery protocol	1.Choose the brand of lithium battery 2.Please query sales when your battery brand not list in our battery protocol		√	Single-phase: Default low-voltage battery Three-phase: Default high-voltage battery

Please note: Set online means you can set the parameters during the system running

Shutdown before setting means you must shutdown the system through app before you are going to set it.

Item	Illustration	Set online	Shutdown before setting	Default value
Lead-acid battery AH setting	1. Lead-acid battery AH setting range: 7~2000AH 2. Setting AH should be equal to actual battery AH, otherwise the charging current will be different and bring damage to the battery. Three-phase inverter does not support to connect with lead-acid battery Note: Charging current=AH*0.12 Discharging current=AH*0.5		√	The SOC will show 90% when you first time connect the battery, and the battery needs one cycle charge/discharge to correct the SOC
Smart meter protocol	1. To choose the meter brand based on the connected smart meter Note: If you choose 'No meter', all internal sampling of the inverter, and the APP will show 'Meter alarm'		√	5K: Acrel single-phase meter 10K: Acrel three-phase meter

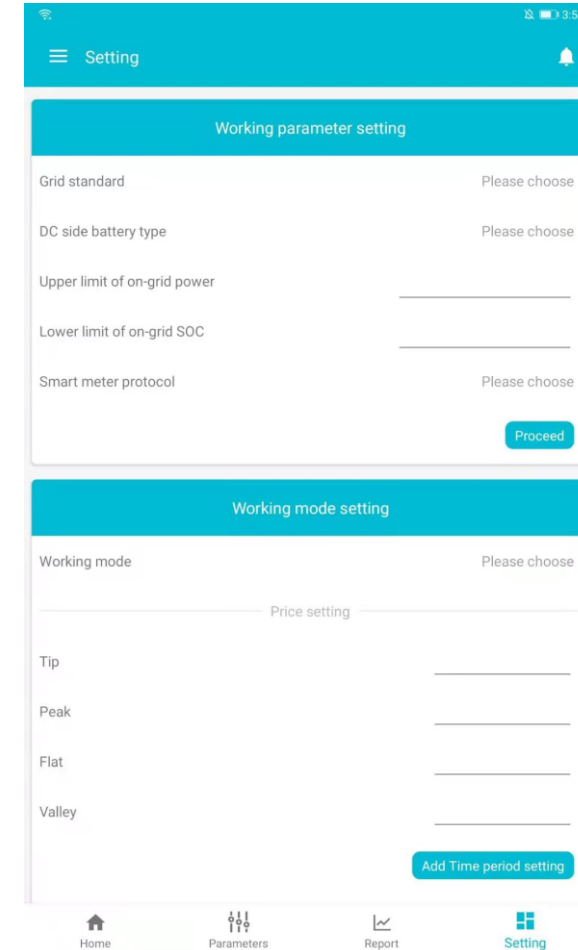
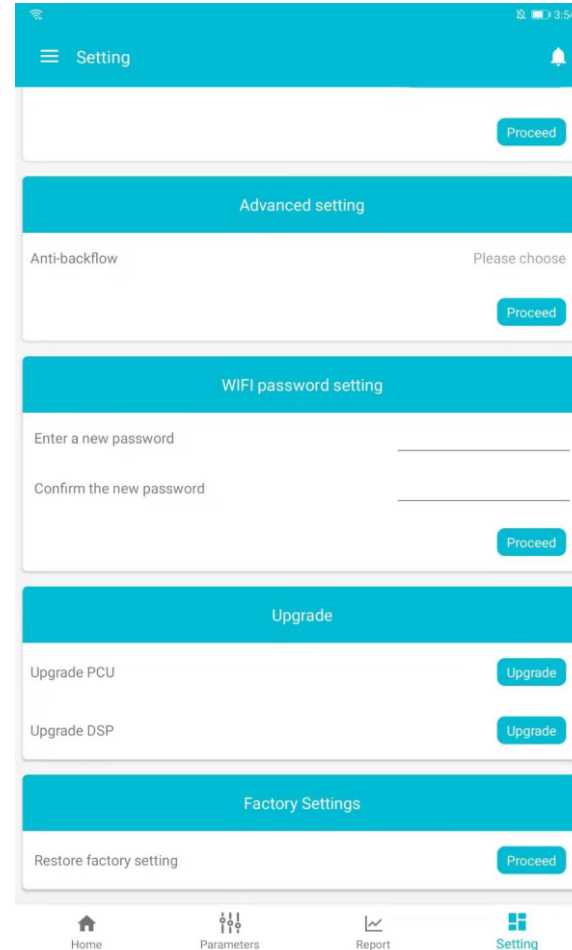
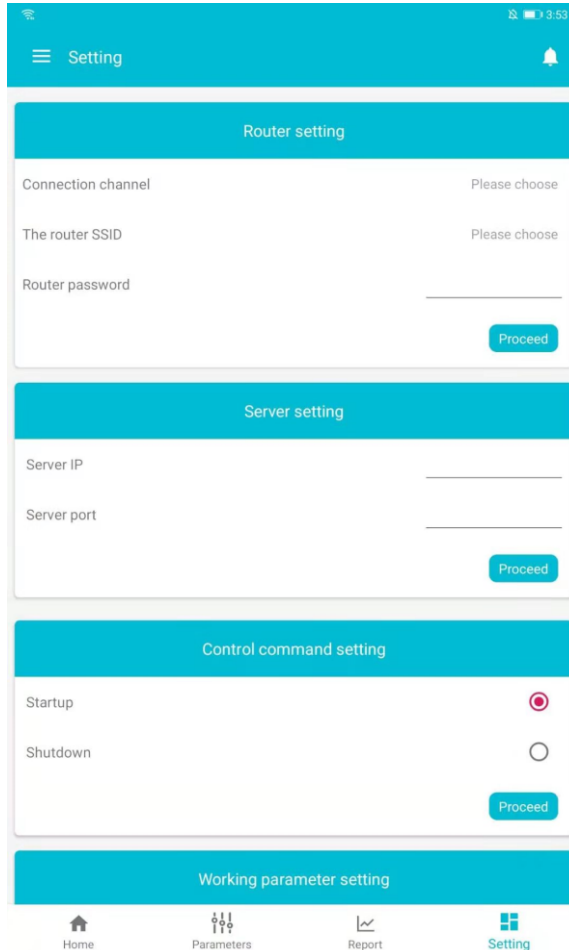
Item	Illustration	Set online	Shutdown before setting	Default value
Working mode setting				
Working mode	There are 4 working modes, which can be selected according to customer application scenarios: general mode, energy storage mode, microgrid mode, and peak and valley mode		√	General mode
Upper limit of on-grid power	1. The upper limit of on-grid power, for example: set 3000W, if the system generating power > 3000W, the actual on-grid power is 3000W; 2. Set the upper limit of on-grid power to 0W, the function is equivalent to enable anti-backflow 3. On-grid power sampling point: if the meter is connected, the value of on-grid power is the meter displaying value; if the meter is not connected, the value of on-grid power is the internal sampling value of the inverter	√		5K: 5000w 10K: 10000w
Lower limit of on-grid SOC	1. The lower limit of battery SOC under on-grid conditions, ranging from 10% to 100% 2. For example: Set the SOC value to 30%, when the SOC value drops to 30%, the battery stops discharging	√		30%

Item	Illustration	Set online	Shutdown before setting	Default value
Lower limit of off-grid SOC	<ol style="list-style-type: none"> 1. The lower limit of battery SOC under off-grid conditions, ranging from 10% to 100% 2. For example: set the SOC value to 20%, when the SOC value drops to 20%, the battery stops discharging 3. For example: Set the lower limit of on-grid SOC to 30%, and set the lower limit of off-grid SOC to 20%. When the SOC value drops to 30% under on-grid condition, the battery will stop discharging. If the grid is off, the battery can continue to discharge until the SOC Drop to 20%. 	√		20%
Meter detection	<ol style="list-style-type: none"> 1. Choose 'Yes' , the system will check whether the meter and CT are installed correctly during the inverter startup, and the meter alarm will be displayed if the installation is wrong 2. This function can be turned off if there is no alarm reported after the inverter startup 		√	No
Three-phase unbalanced output	<ol style="list-style-type: none"> 1. Only three-phase inverter has this function 2. Enable: Backup side can be connected with unbalanced loads when the system running under on-grid conditions 		√	No

Item	Illustration	Set online	Shutdown before setting	Default value
Anti-backflow	Stop feeding power to the grid, it is equivalent to set the upper limit value of on-grid power to 0		√	Disable
Price setting	Electricity price setting for peak and valley section, it is optional		√	0
Timetable setting of peak and valley mode	1. Timetable should be set after selecting the peak-valley mode 2. The peak-valley time period needs to be set as a full cycle of 24h.		√	/

Parameter setting of PCU version $\geq 9.X.X$

Sermatec mate APP



Parameter setting of PCU version $\geq 9.X.X$

Item	Illustration	Set online	Shutdown before setting	Default value
Working parameter settings				
Grid code	Choose grid standard according to your location.		√	China
Battery type	Lithium/Lead-acid battery Note: Three-phase inverter does not support to connect with lead-acid battery		√	Lithium battery
Battery protocol	1.Choose the brand of lithium battery 2.Please query sales when your battery brand not list in our battery protocol		√	Single-phase: Default low-voltage battery Three-phase: Default high-voltage battery

Item	Illustration	Set online	Shutdown before setting	Default value
Battery voltage setting	1. Disable/Enable 2. Enable: 1) Can set upper/lower limit value of voltage for lithium battery 2) Can set the value of Equalization voltage, floating charge voltage, and EOD for lead-acid battery		√	Disable
Upper limit value of battery voltage	Settable conditions: 1. Lithium battery, 2. Enable function of battery voltage setting Single-phase inverter range: 50-58V Three-phase inverter range: 200-800V		√	Disable
Lower limit value of battery voltage	Settable conditions: 1. Lithium battery, 2. Enable function of battery voltage setting Single-phase inverter range: 40-50V Three-phase inverter range: 200-800V		√	Disable

Item	Illustration	Set online	Shutdown before setting	Default value
Equalization voltage of lead-acid battery	Settable conditions: 1. Lead-acid battery, 2. Enable function of battery voltage setting Single-phase inverter range: 55.2-57.6V Three-phase inverter does not support to connect with lead-acid battery		√	Disable
Floating charge voltage of lead-acid battery	Settable conditions: 1. Lead-acid battery, 2. Enable function of battery voltage setting Single-phase inverter range: 52.8-55.2V Three-phase inverter does not support to connect with lead-acid battery		√	Disable
EOD of lead-acid battery	Settable conditions: 1. Lead-acid battery, 2. Enable function of battery voltage setting Battery stops discharging when the voltage reach to the setting value of battery EOD Single-phase inverter range: 39.6-48V Three-phase inverter does not support to connect with lead-acid battery		√	Disable
Lead-acid battery AH setting	1. Lead-acid battery AH setting range: 7~2000AH 2. Setting AH should be equal to actual battery AH, otherwise the charging current will be different and bring damage to the battery. Three-phase inverter does not support to connect with lead-acid battery Note: Charging current=AH*0.12 Discharging current=AH*0.5		√	The SOC will show 90% when you first time connect the battery, and the battery needs one cycle charge/discharge to correct the SOC

Item	Illustration	Set online	Shutdown before setting	Default value
Working mode setting				
Working mode	<p>There are 5 working modes, which can be selected according to customer application scenarios: general mode, energy storage mode, microgrid mode, peak and valley mode, and AC coupled mode.</p> <p>AC coupled mode running with the same logic of general mode</p>		√	General mode
Upper limit of on-grid power	<p>1. The upper limit of on-grid power, for example: set 3000W, if the system generating power > 3000W, the actual on-grid power is 3000W;</p> <p>2. Set the upper limit of on-grid power to 0W, the function is equivalent to enable anti-backflow</p> <p>3. On-grid power sampling point: if the meter is connected, the value of on-grid power is the meter displaying value; if the meter is not connected, the value of on-grid power is the internal sampling value of the inverter</p>	√		5K: 5000w 10K: 10000w
Lower limit of on-grid SOC	<p>1. The lower limit of battery SOC under on-grid conditions, ranging from 10% to 100%</p> <p>2. For example: Set the SOC value to 30%, when the SOC value drops to 30%, the battery stops discharging</p>	√		30%

Item	Illustration	Set online	Shutdown before setting	Default value
Lower limit of off-grid SOC	<ol style="list-style-type: none"> 1. The lower limit of battery SOC under off-grid conditions, ranging from 10% to 100% 2. For example: set the SOC value to 20%, when the SOC value drops to 20%, the battery stops discharging 3. For example: Set the lower limit of on-grid SOC to 30%, and set the lower limit of off-grid SOC to 20%. When the SOC value drops to 30% under on-grid condition, the battery will stop discharging. If the grid is off, the battery can continue to discharge until the SOC Drop to 20%. 	√		20%
Meter detection	<ol style="list-style-type: none"> 1. Choose 'Yes' , the system will check whether the meter and CT are installed correctly during the inverter startup, and the meter alarm will be displayed if the installation is wrong 2. This function can be turned off if there is no alarm reported after the inverter startup 		√	No
Three-phase unbalanced output	<ol style="list-style-type: none"> 1. Only three-phase inverter has this function 2. Enable: Backup side can be connected with unbalanced loads when the system running under on-grid conditions 		√	No

Item	Illustration	Set online	Shutdown before setting	Default value
Return difference value of battery SOC	1. Can only enable and respond under off-grid mode 2. The battery SOC under off-grid <the set lower limit of off-grid SOC, turn off the backup side port voltage, and PV will charge the battery; when SOC >=(Lower limit of off-grid SOC +Return difference value of battery SOC) When the load port voltage, turn on backup side port voltage and supply power to the load 3. The lowest set value of Return difference value of battery SOC is 5%		√	20%
PV source selection	1. It only refers to shield the corresponding PV under-voltage alarm (selecting no PV will not display the under-voltage alarm; selecting PV1+PV2 will display both under-voltage alarms; selecting PV1 will not display the PV2 under-voltage alarm) 2. Can choose no PV, PV1+PV2, PV1, and PV2.		√	PV1+PV2
Anti-backflow	Stop feeding power to the grid, it is equivalent to set the upper limit value of on-grid power to 0		√	Disable
Price setting	Electricity price setting for peak and valley section, it is optional		√	0
Timetable setting of peak and valley mode	1. Timetable should be set after selecting the peak-valley mode 2. The peak-valley time period needs to be set as a full cycle of 24h.		√	/

Item	Illustration	Set online	Shutdown before setting	Default value
Advanced setting				
Shadow scan	Enable: It is fit for application scenarios such as photovoltaic panel shaded or bad weather; when the required power allows, the PV will scan the MPPT every one hour. It will increase the power generation when there is shadow on the panels. Please disable this function if there is no shadow.	√		Disable
Backup output function	Disable: The relay of backup side circuit is open, no output	√		Enable
Order of supplying power to the load	1. PV > Battery > Grid 2. PV > Grid > Battery	√		PV > Battery > Grid
Battery activation	1. Only single-phase inverter has this function, and it is used in the scenario where the lithium battery has no output and needs to be activated after long-term EOD. 2. After the function setting is issued, the inverter battery port outputs 48V DC voltage 3. The lithium battery is usually along with a reset button	√		Disable
Connecting with fuel generator	1. Only respond under microgrid mode. 2. Overload under off-grid or SOC is less than the lower limit value (meanwhile $SOC \leq 90\%$), the fuel generator supplies power to the load through bypass mode, and PV charges the battery. When $SOC > 90\%$, the system switch to off-grid mode.		√	Disable

Item	Illustration	Set online	Shutdown before setting	Default value
Forced charge/discharge setting				
Upper limit value of charging power (only enable under on-grid conditions)	5kW: 0-4200W 10kW: 0-10000W	√		5KW: 4200 10KW: 10000
Upper limit value of discharging power (only enable under on-grid conditions)	5kW: 0-5000W 10kW: 0-10000W	√		5KW: 5000 10KW: 10000
Upper limit value of charging current from the grid	1. Max current when grid is charging for the battery 2. Settable range: 0-20A Note: 5KW charging power= grid voltage * set charging current 10KW charging power= grid voltage * set charging current *3	√		20A

Item	Illustration	Set online	Shutdown before setting	Default
Forced charge	Can set timetable of forced charging for battery everyday from Monday to Sunday, you can enable this function only once or repeat every week.	√		Disable
Upper limit value of SOC under forced charging	1.Settable range: 20%~100% 2. It only can be set and displayed when the forced charge/discharge function enabled, and forced charging will stop when the battery reaches the upper limit of the SOC setting	√		100%
Forced discharge	Can set timetable of forced discharging for battery everyday from Monday to Sunday, you can enable this function only once or repeat every week.	√		Disable
Lower limit value of SOC under forced discharging	1.Settable range: 20%~100% 2. 2. It only can be set and displayed when the forced charge/discharge function enabled, and forced discharging will stop when the battery reaches the lower limit of the SOC setting	√		20%