User Manual



PV Pro Mobile App

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1. Brief Introduction

1.1. Purpose

This manual gives a brief introduction to the main functions of "PV Pro" APP account registration, plant creation, Wi-Fi configuration etc. Provide reference and help for uses to quickly familiarize themselves with the APP.

1.2. Scope

This manual is suitable for users, pattern vendors and device maintenance personnel who use our inverter.

2. Install APP

- 2.1. iOS: Search "PV Pro" in the App Store
- 2.2. Android: Search "PV Pro" in the Google Play Store



iOS/Android

3. User Registration

3.1. Register Account

- 1. When installing "PV Pro" for the first time, you should register an account, please click the "Sign Up" button, follow the steps to complete the operation.
- 3.2. Mailbox registration:

If you do not receive the verification code, check whether the email address is correct, whether the network is abnormal, and whether the verification code has been sent to the spam mailbox.

3.3. Mobile number registration:

If you do not receive the verification code, please check whether the mobile phone number is correct.

Virtual Demo Languages	< Sign Up
РошегVієш	E-Mail Phone Number
	🖸 Please input E-mail
Account Login	Please input verification code
Q Please input your E-mail	🔂 Password
A Password	Click [SIGN UP], you agree and are willing to comply 《Terms of Service》
Sign Up Forgot Password	

Figure 3-1 Account registration

3.2. Reset Password

- 1.If you forgot your password, you can click "Forgot password" on the login screen to retrieve your password by email or mobile phone number, as shown in Figure 3-2.
- 2.If you cannot receive the verification code, refer to section 3.1

< Forgot Password	< Forgot Password
E-Mail Phone Number	E-Mail Phone Number
☑ Please input E-mail	(+86) Please input phone number
Please input verification code	 Please input verification code
Password	Password
1 Confirm Password	Confirm Password

Figure 3-2 User login

4. Create Plant

- 4.1. Add Device
 - 1.Press the "Plants" button at the bottom, and press the " ... " button in the upper right corner to enter the screen. Scan the QR code of the device, or manually enter the serial number and registration code to add the device, as shown in Figure 4-1.







You need to authorize the App to use the camera permission.



4.2. Fill information

- 1. Complete the creation process, as shown in 4-2 below .
- 2. Enter the correct plant capacity.
- 3. Choose the right currency.
- 4. Input the correct benefit factor.
- 5. Check the time zone where the plant is located. (Incorrect time zone may cause statistical exceptions.).

6. Make sure the plant address is correct (if you need to change it, please click the map to select it manually).

- 7. Enter the phone number of the plant contact
- 8. Click "CREATE", and the APP is successfully created, as shown in Figure 4-3.
- 9. Click the "Done" button and the APP will return to the home page.

10. Click "DISTRIBUTION NETWORK" APP to jump to the guidance interface of Configuring network in Section 5 (see Section 5 for details)

< Create Plant		<	Create Plant	
SN				
Кеу		Installed Capacity*	Please input the total capacity of 🛛 🕏	Wp
I Plant Information		Operating Date*	2023-08-19	>
Diant Namat		Installer	Please Input	
		Address*	Please select the installation address	0
Plant Photos	>	Time Zone* (I	UTC+08:00)Beijing,Chongqing,Hong K	>
Installed Capacity* Please input the total capacity of k	Wp	I Income Informa	tion	
Operating Date* 2023-08-19	>	Currency*	\$	>
Installer Please Input		Cost of investment	Please Input	
Address* Please select the installation address	0	Valuation Method*	Please select	>
Time Zone* (UTC+08:00)Beijing,Chongqing,Hong K	>	I Contacts		
I Income Information		Manager*	Please input Manager	
Currency* \$	>	Phone*	Please input phone number	
Cost of investment Please Input		E-Mail	Please input E-mail	
Valuation Method* Please select	>			
I Contacts			CREATE	

Figure 4-2 Creating plant information



The location service needs to be enabled and the App needs to be authorized to use the location permission.



Figure 4-3 Create plant

5. Wi-Fi Setting

5.1. Equipment Distribution Network (Android)

1. Click the Tools bar on the "Me" page to enter the "Tools" page, select "Wi-Fi configuration". The APP provides two methods for connecting to Wi-Fi devices, find device and Scan QR code, as shown in Figure 5-1.

	Me			<	Wi-Fi configuration	
1. San			>	Scan QR Co	de	8
🖻 Tools			>	Find device		((0))
🕆 Application Center			>			
Intelligence			>			
Language Language			>			
2⊕ Personalization			>			
Notification						
Study Manual			>			
🕅 About Us			>			
⊻ Current Version			3.10.1 >			
	Sign Out					
Dashboard Plants	tt) Equipment	Event	B Me			

Figure 5-1 Wi-Fi Setting

5.2. Find Device

 Click "Find device", the APP will pop up a guidance interface, and then click the "Connection" button. The APP will search for nearby Wi-Fi devices that can be configured List them as a list (if the list is empty, check whether the prerequisites of the guidance interface are met, and then click the "SCAN" button), as shown in Figure 5-2.

<	<
Device power up	
Please make sure that the gateway is powered on. When the gateway is powered on, the red LED is always on	Device List Please select the gateway you want to configure
	중 EAP-16845 SN:****16845 >
• Network coverage Please make sure that the installation location of the collector is within the signal coverage of the router you need to connect to, and place your mobile phone close to the collector. The router only supports 2.4G Wi-Fi networks	
2.4G	
Check the above conditions	Scan

Figure 5-2 Find equipment

- 2. Select a network starting with "EAP-****" with "*" as the last 5 digits of the device serial number. The APP switches to the "Choose a router" interface and choose the router to be connected to the gateway. as shown in Figure 5-3.
- 3. Enter the router password, as shown in Figure 5-3.

	<
Device List Please select the gateway you want to configure	Choose a router Please select the router to be connected to the gateway and enter the password
중 EAP-16845 SN:*****16845 >	Please select >
	Please Input
	Confirm

Figure 5-3 Connected devices

- 4. Click "Confirm" button (Figure 5-3) to jump to the successful interface of APP.
- 5. If the connection fails, click "Retry" to check whether the Wi-Fi password and gateway are within the signal coverage range of the router.
- 6. Click the "Confirm" button to return to the home page of APP.



Figure 5-4 The connection is successful



STEALTH

ENE

Prerequisites: Wi-Fi and location service must be enabled in advance. Ensure that the device is powered on. When the device is powered on, red LED lights are always on around the device.

7. You can quickly connect to the device by scanning the QR code (if the connection fails, see Section 5.1 to check the prerequisites), as shown in Figure 5-5.

5.3. QR code



Figure 5-5 Scan the QR code of the device



You need to authorize the App to use the camera permission.



6. Plant Management

6.1. Overview

1. Click "Plants" at the bottom and click in the red box to view the detailed information of the plant, as shown in Figure 6-1.



Figure 6-1 Plant overview





Figure 6-2 Plant overview



6.2. Remove Plant

1. Click "Plants" at the bottom, click "..." at the upper right corner of the plant, and select Delete, as shown in Figure 6-3.



Figure 6-3 Remove plant

6.3. Modify Plant

- 1. Click "Plants" at the bottom, click "..." at the upper right corner of the plant, and click "Edit" to modify the plant, as shown in Figure 6-4.
- 2. The share account is PV Pro's registered account (email or mobile phone number in Mainland China).





6.4. Share Plant

- 1. Click "..." on the upper right corner of the station, and select "Share" button to share the station.
- 2. The shared account is the registered account of PV Pro (email address or mobile phone number in Mainland China), as shown in the picture below.

10 B × 11 46,11 🙃		۵ 36%) 21:36		36% III
Q Plant Name			•••	<	Share Plant
•	0	Ĩ	(m)	Plant Nan	ne: Stealth
2 0 Online Warning	0 Fault	1 Offline	3 Total	Please inp	out the shared account
reate time 🗧 Effici	ency ‡			The account PV-Pro (ema	of the shareee must be a registered account o il or mobile phone number in Mainland China)
Stealth				Permission	:
0 W Power	09 Ef	%		Visitor	
0.0 kWh 3 days ago E-Today	9 2 E-	25.4 kWh Total			DONE
Saederup, Noah					
0 W Power	0 E	% fficiency			
0.0 kWh minutes ago E-Today	9 E	119.2 kWh -Total			
	Delete				
	Edit				
	Share				
	Navigate				
	Cancel				

Figure 6-5 Share Plant

7. Device Management

7.1. Overview

- 1. Click "Equipment" at the bottom to view information about the inverter and the gateway.
- 2.Click "..." in the upper right corner of the device to set aliases, parameter setting, and delete the device (once deleted, it cannot be restored).

Otw 0.00 kWh Otw 0.00 kWh Over E-Today OttrC+08:00)2023-07-14 13:16:01	<	Eq	uipment		<	Set(StealthEnergy)
StealthEnergy O/W O.00 kwh over E-Today O (UTC+08:00)2023-07-14 13:16:01	Inverter	Gateway	Smart Swit	ch		
O W 0.00 kWh OWF E-Today OUTCH-08:0012023-07-14 13:16:01	🖻 Stealth	Energy				Machine Setup
over E-Today OUTCC-008:0012023-07-1413:16:01 Image: Working Mode Settings Image: Battery Settings Image: Battery Settings	0.0 W		0.00 kWh		IP	IP Settings
OUTCE-08:00)2023-07-14 13:16:01 Image: Control of Con	Power		E-Today		0	Working Mode Setting
 Factory Settings Factory Settings Battery Settings Grid Settings External Settings Basic Settings Protection Settings Self Test Setting Self Test Settings Safety Test 	⊕ (UTC+08:0	00)2023-07-14 1	3:16:01			5 5
 Battery Settings Grid Settings External Settings Basic Settings Protection Settings Self Test Setting FM Settings Safety Test 					Q	Factory Settings
 Grid Settings External Settings Basic Settings Protection Settings Self Test Setting FM Settings Safety Test 					60	Battery Settings
 ■ ■ ■ ■ External Settings ■ External Settings ■ Basic Settings ● Protection Settings ● Self Test Setting ● Safety Test 					食	Grid Settings
 Basic Settings Protection Settings Self Test Setting FM Settings Safety Test 					โล	External Settings
 Protection Settings Self Test Setting FM Settings Safety Test 					10	Basic Settings
 Self Test Setting FM Settings Safety Test 					٢	Protection Settings
E FM Settings Safety Test Test					থ	Self Test Setting
 Safety Test ■ ■ ■ ■ ■ 					* e	FM Settings
						Safety Test
sentious Ferrinment Frent Intelligent			E			

Figure 7-1 Device parameter setting

3. You can click any device to view device information, as shown in Figure 7-2.

<		•	Stealth	Energy	/				
ry	Grid	Load	Even	t C	ustom	Detail	<	Parameter Selec	ction Confirm
l Op	peration	Date		Par	ameter S	election	P-pv	Daily Production	P-pv-L1
<			2023-08	-19			Total Production	P-pv-L2	P-pv-L3
							Battery		
		No	chart data	available.			SOC	T-bat	V-bat
							l-bat	P-bat	BMS SOC
	14	15	16	17	18	19	BMS Temperature	BMS Voltage	BMS Current
							BMS Charge Voltage	BMS Discharge Voltage	Charge Current Limit
							Discharge Current Limit	Today Charging	Today Discharging
							Total Charging	Total Discharging	
							Load		

Figure 7-2 Equipment information

4. You can click "Detail" to view Inverter firmware version, "V01.10.27" is FW, "ST-INV-S5.0" is model, as shown in Figure 7-3.

<		• S [_]			
У	Grid	Load	Event	Custom	Detail
l Pr	ofile				
SN					-
Nan	ne				
Тур	9			-	1.000
Mod	del			ST	Γ-INV-S5.0
Soft	ware Ver. 🔘				V01.10.27
Rate	ed Power				
Gate	eway				
Plan	nt Name				-
Mar	nufacturer			Stea	Ith Energy
Add	ress		100.0		

Figure 7-3 firmware version and model



8. Events

1. Click the "Event" button at the bottom to query the event list. Click an event to view the event information, as shown in Figure 8-1.

0:39 AM	3.2KB/s+ 🤤	(71) 10:39 AM	1.3KB/s + 今 (万
Q Please input SN			
All 🔹 Nearly seven days	•	<	ZP033K0011/A0150
F35: Utility Loss	Fa	I Profile	
Name/SN: ZP033K00117A0150		SN	ZP033K00117A0150
Plants: 王庄子行			
© 2021-06-24 06:22:44		Name	ZP033K00117A0150
EQ: Recovery from error		Plant Name	王庄子西:
Name/SN: A1810050546右		Address	11140000
Plants: 全力光伏电站		Manager	
③ 2021-06-23 13:56:50		Manager	
		Phone	1.
F554: Undefined	Fa	ut E-Mail	
Name/SN: A1810050546右			
© 2021-06-22 12-47-18		Event Info	ormation
CONTRACTOR AND		Description	Utility Loss
		Code	35
0	A A	Time	2021-06-24 06:22:44
Plants Equipment	Event Me		



9. Parameter Setting

NOTICE

AS/NZS 4777.2:2020 requires power quality response modes and grid protection settings to be protected against inadvertent or unauthorised changes. (unless with Password, the password please contact your installer).

Once settings are selected at commissioning they are locked to view only.

Applicable to power quality response modes and grid protection, please refer to local grid requirements.

9.1. Overview

- 1. Click "Equipment" at the bottom to view information about the inverter and the gateway.
- 2. Click "..." in the upper right corner of the device to set aliases, parameter setting (as shown in Figure 9-1), and delete the device (once deleted, it cannot be restored).

<	Eq	uipment			<	Set(StealthEnergy)	
Inverter	Gateway	Smart S	Switch			Machine Setup	
อ Stealth	Energy						
0.0 W		0.00	Wh		IP	PSettings	
Power		E-Toda	У		0	Working Mode Setting	
(UTC+08:0	00)2023-07-14 1	3:16:01			Q	Factory Settings	
					iii e	Battery Settings	
					食 (Grid Settings	
					<i>ि</i> ।	External Settings	
					16 0 E	Basic Settings	
					9 F	Protection Settings	
					ମ	Self Test Setting	
					^c	FM Settings	
					<u>></u>	Safety Test	
	Equipment	C		E			
Overview	Equipment	Lvent	Layout	intelligent			

Figure 9-1 parameter setting

9.2. Country Grid Code/Region settings

Click "Grid Settings"-> "Production Compliance Type" to select/activate country grid code, press "Save" button to pop up the password box, enter the correct password to save "Production Compliance Type" parameters.

NOTICE

For Australian customers please select from Australia Region A/B/C to comply with AS/ NZS 4777.2:2020. Contact local grid operator to see which Region to select. After setting the safety region

Grid Settings	Save	Grid Settings	Sav
Production Compliance Type		1 New Arts Deer Lord 1-1	
Australia A-AS4777		0.5	
		Prover Gradient (Lexit()=102%) 100	
VDE-AR-N 4105		Qui Tradite	
CEI 0-21			
Australia A-AS4777		44	
Australia B-AS4777		Password:	
Australia C-AS4777			
New Zealand-NZS4777		207	
G98			gin
G99		Conception and a second	
EN50549-1		240	
570		(p. 1400-2004) 258	
PV Low Threshold(80.0~600.0V)			
80		Pre (100-3001) Ø	
		Pr. 1223-2021	

Figure 9-2 Country Grid Code/Region settings

Item	Region/Code	Country
1	VDE-AR-N 4105	Germany
2	CEI 0-21	Italy
3	Australia A-AS4777	Australia
4	Australia B-AS4777	Australia
5	Australia C-AS4777	Australia
6	New Zealand-NZS4777	New Zealand
7	G98	United Kingdom
8	G99	United Kingdom
9	EN50549-1	European
10	EN50549-NL	the Netherlands
11	EN50549-CZ	Czech Republic
12	EN50549-PL	Poland
13	EN50549-SE	Sweden
14	EN50549-NO	Norway
15	EN50549-DK	Denmark
16	EN50549-TUR	Turkey
17	EN50549-GR	Greece
18	EN50549-IE	Ireland
19	EN50549-LUX	Luxembourg
20	EN50549-PT	Portugal
21	EN50549-RO	Romania
22	EN50549-SK	Slovakia
23	C10/11	Belgium
24	RD 647,413,1699	Spain

User can set safety standard according to different countries and grid Standards as shown in Table 9-1

Table 9-1 Grid Standards

9.3. Power quality response modes

The inverter shall have the following power quality response modes:

- (a) Volt-watt response mode (Clause 9.3.1)
- (b) Volt-var response mode (Clause 9.3.2)
- (c) Fixed power factor (Clause 9.3.3)
- (d) Reactive power mode (Clause 9.3.4)
- (e) Power rate limit (Clause 9.3.5)

9.3.1 Volt-watt response mode:

Click "Grid Settings"-> "Volt-watt response mode"-> press "enabled" button-> enter the suitable parameters-> press "Save" button to pop up the password box, enter the correct password to save "Volt-watt response mode".

<	Grid Settings	Save		Grid Settings	Save
Volt-wat	t response mode		Provide Radio 1		
			0.5		
• Vw 1 (2	235~255V)		7		
Power	level (100%)		Qu Trabie		
100%			44		
• Vw 2 (2	240~265V)		40	Password:	
260			207		
Power	level (0%~20%)		220	□ Remember Login	
20%			2-120-0		
Volt–var r	esponse mode		(j., 142)-3 258		
* Vv 1 (1	80~230V)				
207			Pu Drakie		
Power	level (30%~60%)		0		
44%			Pr. 1223-38		

Figure 9-3 Enabling/disabling and adjusting the Volt-Watt settings

Explain: Volt-watt response mode

The volt-watt response mode varies the maximum active power output level of the inverter in response to the voltage at its grid-interactive port. The volt-watt response mode shall be enabled by default. The response curve required for the volt-watt response mode is defined by two-volt response reference values and corresponding maximum active power output levels, the default values are listed in Table 3.6. Above V_{W2} , the maximum active power output shall not exceed the limit specified at V_{W2} . An example volt-watt response mode is shown in Figure 3.1.

Region	Default value	V _{W1}	V _{W2}			
Australia A	Voltage	253 V	260 V			
	Inverter maximum active power output level (P) $\%$ of S_{rated}	100 %	20 %			
Australia B	Voltage	250 V	260 V			
	Inverter maximum active power output level (P) % of S _{rated}	100 %	20 %			
Australia C	Voltage	253 V	260 V			
	Inverter maximum active power output level (P) % of S _{rated}	100 %	20 %			
New Zealand	Voltage	242 V	250 V			
	Inverter maximum active power output level (P) % of S _{rated}	100 %	20 %			
Allowed range	Voltage	235 to 255 V	240 to 265 V			
	Inverter maximum active power output level (P) % of S _{rated}	100 %	0 % to 20 %			
NOTE Australia C parameter set is intended for application in isolated or remote power systems.						

Гable 3.6 —	Volt-watt	response	default	set-point	values
-------------	-----------	----------	---------	-----------	--------





9.3.2 Volt-var response mode:

Click "Grid Settings"-> "Volt-var response mode"-> press "enabled" button-> enter the suitable parameters-> press "Save" button to pop up the password box, enter the correct password to save "Volt-var response mode".

<	Grid Settings	Save	C Grid Settings	Save
	-		Prover Battle Lower Limit(0-1) 9	
Volt–var	response mode		Preser Ratio Upper Loville-1) 85	
* Vv 1 (1 207	80~230V)		Prose Gradient Linst()=100%) 108	
Power I	level (30%~60%)		Quilinative	
44%			Can Liberer Sait Parentille - 102522	
• Vv 2 (1 220	180~230V)		Password:	
Power 0%	level (0%)			gin
• Vv 3 (2 240	230~265V)		(h. 130-385) 248	
Power	level (0%)		258	
0%				
* Vv 4 (2	30~265V)		PU Double	
258			Par (*10)-2000-0 0	
60%	evel (30%~60%)		Per (1222-2020) B	

Figure 9-4 Enabling/disabling and adjusting the Volt-Var settings

Explain: Volt-var response mode

The volt-var response mode varies the reactive power absorbed or supplied by the inverter in response to the voltage at its grid-interactive port. The volt-var response mode shall be enabled by default. The response curve required for the volt-var response is defined by four-volt response reference values and corresponding reactive power levels, the default values are listed in Table 3.7. Below V_{v1}, reactive power shall be maintained at the level specified for V_{v1}. Above V_{v4}, reactive power shall be maintained at the level specified for V_{v4}. An example volt-var response mode is shown in Figure 3.2.

Region	Default value	V_{V1}	V_{V2}	V _{V3}	V_{V4}	
Australia A	Voltage	207 V	220 V	240 V	258 V	
	Inverter reactive power level (Q) % of S _{rated}	44 % supplying	0 %	0 %	60 % absorbing	
Australia B	Voltage	205 V	220 V	235 V	255 V	
	Inverter reactive power level (Q) % of S _{rated}	30 % supplying	0 %	0 %	40 % absorbing	
Australia C	Voltage	215 V	230 V	240 V	255 V	
	Inverter reactive power level (Q) % of S _{rated}	44 % supplying	0 %	0 %	60 % absorbing	
New Zealand	Voltage	207 V	220 V	235 V	244 V	
	Inverter reactive power level (Q) % of S _{rated}	60 % supplying	0 %	0 %	60 % absorbing	
Allowed Range	Voltage	180 to 230 V	180 to 230 V	230 to 265 V	230 to 265 V	
	Inverter reactive power level (Q) % of S _{rated}	30 to 60 % supplying	0 %	0 %	30 to 60 % absorbing	
NOTE 1 Inverters may operate at a reactive power level with a range up to 100 % supplying or absorbing.NOTE 2 Australia C parameter set is intended for application in isolated or remote power systems.						

Table 3.7 — Volt-var response set-point values



Figure 3.2 — Example curve for the volt-var control mode

9.3.3 Fixed power factor:

Click "Grid Settings"-> "Fixed power factor mode"-> press "enabled" button-> enter the suitable parameters-> press "Save" button to pop up the password box, enter the correct password to save "Fixed power factor mode".

The PF ranges from 0.8leading (+) to 0.8 lagging (-), with the default value of 1.0

<	Grid Settings	Save	< Grid	Settings Save
			Prover Ratio Lower Limit	
Fixed po	ower factor mode	D	Preser Ratio Upper Limit 85	
Power	factor value (0.8leading~(0.8lagging)	Nexes Gradient Limit()- 100	
1.0			Que la valida	
			Que Liggerse Tant Passettille 11	
Reactive	e power mode		Pa	issword:
 Supply 	/absorb reactive power (-6	50%~+60%)		
0%				
Damag	unter Karata		(L. V332-3385) 248	
Power r			(p. 116)0-2001() 258	
• WGra (5	5%~100%)			
16.679	%		PU Double	
0			Pro 1110-2000-1 8	
Cos φ (P	') curve mode		Pro 10220-2020-2	

Figure 9-5 Enabling/disabling and adjusting the PF settings

9.3.4 Reactive power mode:

Click "Grid Settings"-> "Reactive power mode"-> press "enabled" button-> enter the suitable parameters-> press "Save" button to pop up the password box, enter the correct password to save "Reactive power mode".

<	Grid Settings	Save	< Grid Settle	igs Save
			Prover Ratio Lower Lovit(3-1) 1	
Fixed pov	ver factor mode		Preser Ratio Upper Limit2-11 85	
Power f	actor value (0.8leading~(0.8lagging)	100	
1.0			Qui Drostite	
			Que Librare Sait Passet29-10252	
Reactive	power mode	\bigcirc	Password	:t
 Supply/ 	absorb reactive power (-(50%~+60%)	20 YO	
0%				Login
Power ra	to limit		(p. 130-3001) 240	
FOWERTA			(p. 1400-2004) 258	
• WGra (59	%~100%)			
16.67%			PU Drukie	
C (D)			Pro (110-2001) B	
Cos φ (P)	curve mode		Pre (200-2005) B	

Figure 9-6 Enabling/disabling and adjusting the Reactive power mode settings

Explain: Fixed power factor mode and reactive power mode

The fixed power factor mode or the reactive power mode may be enabled in some situations by the electrical distributor to meet local grid requirements, one of these modes shall be enabled if the volt-var mode is disabled. These modes shall be disabled by default.

For the fixed power factor mode, the minimum range of settings shall be 0.8 to 1.0 supplying reactive power, and 1.0 to 0.8 absorbing reactive power, the default power factor setting shall be 1.0. The fixed power factor mode is for control of the displacement power factor over the range of inverter power output.

The volt–watt mode and fixed power factor mode shall be able to operate concurrently.

For the fixed power factor mode, the measurement of power factor shall be the displacement power factor of the inverter treated as a load from the perspective of the grid.

For the reactive power mode, the minimum setting range for ratio of reactive power (vars) to rated apparent power shall be at least 60 % absorbing to 60 % supplying, the default reactive power setting shall be 0 %.

The volt–watt mode and reactive power mode shall be able to operate concurrently

9.3.5 Power rate limit:

Click "Grid Settings"-> "Power rate limit"-> press "enabled" button-> enter the suitable parameters-> press "Save" button to pop up the password box, enter the correct password to save "Power rate limit".

<	Grid Settings	Save		Grid Settings	Save
		_	Preser Parts		
Fixed po	wer factor mode		11 Total 85		
Power	factor value (0.8leading~0).8lagging)	100		
1.0			Qui Trodite		
Reactive	power mode		44 ()-()-()-()-()-()-()-()-()-()-()-()-()-(Password:	
 Supply, 0% 	/absorb reactive power (-6	50%~+60%)	887 Con 10200 2200	□ Remember Login	
Power ra	ate limit	D	240 240 Co 1902-3 250		
• WGra (5	5%~100%)				
16.67%	6		PU Drakie		
C			0		
Cos φ (P) curve mode		Pro 1000-00 B		

Figure 9-7 Enabling/disabling and adjusting the Power rate limit settings

Explain: Power rate limit

The power rate limit for an inverter is a power quality response mode. The inverter shall have the capability to rate limit changes in power generation through the grid-interactive port. Inverters capable of multiple mode operation shall have the capability to rate limit changes in power level (for example increasing/decreasing of charging rates of connected energy storage).

The power rate limit (W_{Gra}) is the ramp rate of active power output in response to changes in power and is defined as a percentage of rated power per minute. The nominal ramp time (T_n) is the nominal time for a 100 % change in power output with a power rate limit of W_{Gra} . An inverter shall have an adjustable power rate limit (W_{Gra}) which limits the change in power output to the set power rate limit. The default setting for the power rate limit (W_{Gra}) for increase and decrease shall be 16.67 % of rated power per minute which is a nominal ramp time of 6 min.

The power rate limit (W_{Gra}) shall be adjustable within the range 5 % to 100 % of rated power per minute. It is permitted to have two separate power rate limits for increase and decrease in power level, as follows:

(a) to rate limit an increase in power (W_{Gra} +); and

(b) to rate limit a decrease in power (W_{Gra} -).

The default setting of W_{Gra} + and W_{Gra} - shall be the same as W_{Gra} .

The nonlinearity (NL) of the power rate limit (W_{Gra}) in response to a change of the inverter power level, as defined by the characteristic curve depicted in Figure 3.3, shall be less than 10 %.



Figure 3.3 — Nonlinearity of ramp rate (*W*_{Gra}, *T*_n = default values)

9.4. Grid protection points

Click "Protection Settings"-> input suitable value, press "Save" button to pop up the password box, enter the correct password to save "Grid protection" parameters.

as shown in Figure 9-8.

20	D:11 -	© "111 (\$* \$\$ 42)	<	Protection Settings	Save			
<	Protection Settings	Save	Grid UVP Adjus 1000	st Time(0~20000ms)			Grid Settings	Save
* Grid Un	dervoltage Slow(0.0~320.0V)	Grid OVP Adjus 0	st Time(0~20000ms)		Prover Ratio I	away Lind()-1)	
180			Grid UFP Adjus 1000	st Time(0~20000ms)		0.5		
* Grid Un	dervoltage Fast(0.0~320.0V)		Grid OFP Adjus 0	st Time(0~20000ms)		100		
70			Grid UVP Slow 10000	ly Adjust Time(0~20000ms)		Quittane		
* Grid Ov	vervoltage Slow(0.0~320.0V)		Grid OVP Slow 1000	ly Adjust Time(0~20000ms)			Password:	
265			Over Frequency 50.15	/ Drop Output Set Point(50.0	0~52.00Hz)	2		
* Grid Ov	rervoltage Fast(0.0~320.0V)		Drop Output Slo 5	ope(2~12%)		220	□ Remember Logir	
275			Frequency Drop 0	o Delay Time(0~1000ms)		248		
* Grid Up	der frequency (40.01. (0.00)	x .	Q(U) curve up s 0	set point(0~110%)		258		
47.0	der mequency (40.01~69.99H;	z)	Q(U) curve low 0	set point(0~100%)		Cu Drable		
			PF Curv(1.05~1. 1.05	.10)		Pa 110-200		
* Grid Ove	er frequency (40.01~69.99Hz)		Q(U) curve low 0	set point(0~100%)		P. 1220-2220		

Figure 9-8 Protection settings

Save

NOTICE

Once settings are selected at commissioning they are locked to view only.

< Grid Settings	Save	< Grid Settings
Power Ratio Lower Limit(0~1) 1		Preser Ratio Lower Link(21-1)
Power Ratio Upper Limit(0~1) 0.5		Preser Ratio Upper Limititi-1) 85
Power Gradient Limit(0~100%) 100		Prover Gradient (Levit21-10276) 1888
Qu Enable	\bigcirc	
Qu Upper Set Point(0~100%) 44		Que Lippere Sait Passetthe 192762
Qu Lower Set Point(0~100%) 60		Galant B
Qu V1(0~300V) 207		locked
Qu V2(0~300V) 220		Co. 1200
Qu V3(0~300V) 240		(p. 120-221) 240
Qu V4(0~300V) 258		(p. 1410-2004) 258
CU Enable	\bigcirc	
PU Enable	\bigcirc	
Pu V1(0~300V) 0		Pr. (10)-30041
Pu V2(0~300V) 0		Pre 10229-2020-0

Figure 9-9 Locked

10. Personalization

10.1 Language

1.Click the "Me" button at the bottom to enter the personal center and select the language, as shown in Figure 10-1.

					() 34% () 21:48
			<	Language	
١	Чe		简体中文		
1		>	English		~
🖶 Tools		>			
Application Center		>			
		>			
Language		>			
2. Personalization		>			
Notification		-			
🕘 Study Manual		>			
생 About Us		>			
≚ Current Version		3.10.1 >			
Sig	n Out				
Dashboard Plants Equi	pment Event	e Me			

Figure 10-1 Language settings



10.2 Personalization

1. If you choose the "Personalization", you can change the temperature unit, as shown in Figure 10-2.

		10 B Xill 44,111 🔶	11 34% 11 21:52
Мо	8	< Pers	onalization
Me	<u>لي</u> ا	°C	~
	>	°F	
🖻 Tools	>		
Replication Center	>		
\odot Intelligence	>		
Language Language	>		
2 [®] Personalization	>		
③ Notification			
Study Manual	>		
About Us About Us	>		
⊻ Current Version	3.10.1 >		
Sign Out			
Image: Constraint of the second sec	e Me		

Figure 10-2 Personalization

11. Appendix: Parameter specification

Module	Field Name	Description	
	Running Mode	Running Mode	
	V-Inv	AC Voltage	
	F-Inv	AC Frequency	
AC	l-Inv	AC Current	
	P-Inv	AC Output Power	
	P-grid	Meter Active Power	
	P-load	Load Power	
	V-Pv1	PV1 Input Voltage	
	V-Pv2	PV2 Input Voltage	
	I-Pv1	PV1 Input Current	
PV	I-Pv2	PV2 Input Current	
	P-Pv	Pv Input Power	
	P-Pv1	PV1 Input Power	
	P-Pv2	PV2 Input Power	
	P-bat	Battery Power	
	SOC	BMS Battery Capacity	
	V-Charge-Limit-BMS	BMS Charging Protecting Voltage	
	V-DisCharge-Limit-BMS	BMS Discharging Protecting Voltage	
DMC	I-Charge-Limit-BMS	BMS Max. Charging Current	
	I-DisCharge-Limit-BMS	BMS Max. Discharging Current	
DIVIS	V-BMS	BMS Battery Voltage	
	I-BMS	BMS Battery Current	
	T-H-BMS	BMS Cell High Temp	
	T-L-BMS	BMS Cell Low Temp	
	Num-Sub-BMS	BMS Subsystem Num	
	Aux-Power-Bat	Battery Auxiliary Power State	
	Total-Feed-in	Total Grid Feed-in (Inverter)	
	Total-PV	Total PV Production	
	Total-Charging	Total Battery Charging Quantity	
Energy	Total-Discharging	Total Battery Discharging Quantity	
	Total-Charging-grid	Total Battery Charging Quantity From Grid	
	Total-Charging-PV	Total Battery Charging Quantity From PV	
	Total-purchase	Total purchase Quantity	
	Cumulative-Consumption	Total Load Quantity	
	Total-Yeild-Inv	Total Inverter Yeild	
	Total-Input-Inv	Total Inverter Input	
Temperature	T-Inv	Inverter Temp	
	T-H-BMS	BMS Cell High Temp	
	T-L-BMS	BMS Cell Low Temp	
	T-Charger	Charger Temp	
	T-Controller	Controller Temp	
Breaker	Time-Conn-Inv	Connection Time	
Breaker	Switch-Output	Output Switch	
Version	Rev-Inv	Inverter Version	
	Rev-BMS	Charger Version	
	Rev-ARM	ARM Version	
	Rev-EMS	EMS Version	