

PuREPower

20.0



USER MANUAL

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1 About This Manual

1.1 Purpose

This manual describes the installation, operation, and troubleshooting of this unit (PuREPower). Please read this manual carefully before installation and operation. Keep the manual for future reference.

1.2 Scope

This manual provides safety and installation guidelines as well as information on tools and wiring.

2 Safety Instructions

WARNING: This chapter contains important safety and operating instructions. Read and keep this manual for future reference.

1. Before using the PuREPower, carefully read all instructions and cautionary markings provided throughout this manual.

2. Do not attempt to disassemble the unit. If service or repair is needed, contact a qualified service center. Incorrect reassembly may result in an electric shock or fire.

3. To minimize the risk of electric shock, disconnect all wiring before performing any maintenance or cleaning. Simply turning off the unit does not eliminate this risk.

4. **CAUTION** - The PuREPower UNIT must be installed only by qualified electrical personnel.

5. **NEVER** charge a frozen PuREPower.

6. For best performance, ensure that cable sizing follows the specified requirements mentioned in this manual. Proper cable selection is critical for the safe and efficient operation of the PuREPower unit.

7. **Caution** – Use extreme care when working with metal tools around the PuREPower unit. Dropping a metal object could result in a short circuit, sparking, or battery damage, potentially leading to fire or explosion.

8. **AC Disconnection** – Always follow the prescribed installation procedure when disconnecting the AC power. Refer to the **INSTALLATION** section of this manual for detailed instructions.

9. **Grounding Instructions** – This PuREPower unit must be connected to a permanent grounding system. Ensure compliance with all applicable local electrical codes and regulations during installation.

10. **Warning** – Servicing of this device should be performed only by qualified service personnel. If issues persist after consulting the troubleshooting guide, return the PuREPower unit to the authorized dealer or service center for further assistance.

11. **NEVER** cause AC output and DC input short circuited. Do NOT connect to the mains when DC input short circuits.

12. Stabilizer must be installed if each of phase voltage is not with in the range of 210 V to 250 V

3. Introduction

This multi-functional All in One PuREPower unit integrates an inverter, charger, and battery into a compact, wall-mounted design, providing uninterrupted power support. It features a comprehensive touch LCD color screen with user-friendly buttons, allowing easy configuration of settings such as battery charging current, AC/solar charging priority, and acceptable input voltage tailored to various applications.

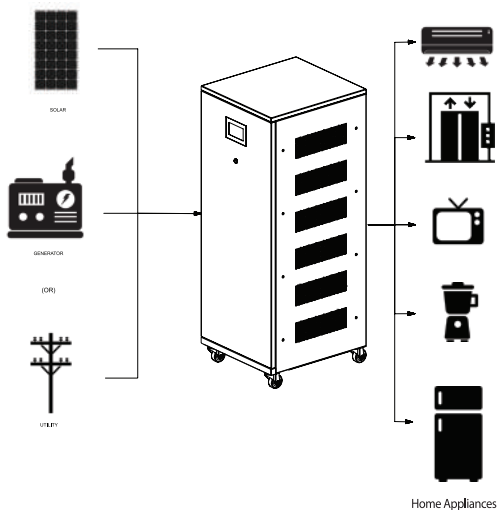
3.1 Features

- Round Trip Efficiency - 97.0%
- Pure Sine Wave
- Dry contacts for load control
- Predictive & Cloud AI
- Safe & Secure
- 10+ Years Life
- Grid-Tied Enabled
- Single Phase to 3 Phase convertibility
- Smart & Connected (App, Wi-Fi and Bluetooth)
- Nano PCM for Thermal
- Time of Use
- Scalable
- Automatic Transfer Switch (ATS)
- Synchronize @ Solar, DG & Grid

3.2 Basic System Architecture

The following illustration shows the various power input sources (Grid/Generator , PV Modules) through which PuREPower draws, stores power and provides energy backup. It also showcases the various applications that can be powered using PuREPower.

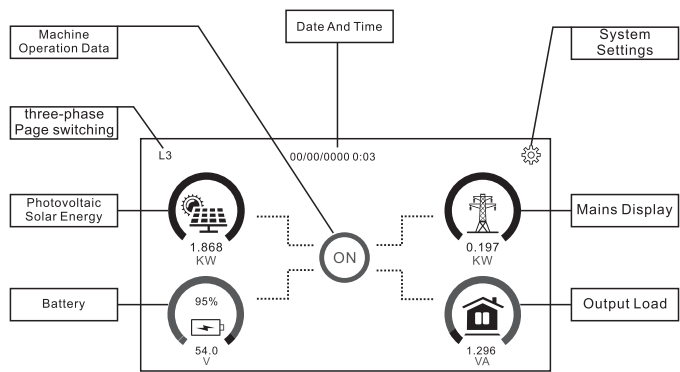
PuREPower is capable of powering a wide range of apartment/home and motor related appliances like Elevators,Mixer Grinders, Ovens, Refrigerators, Air Conditioners , lighting fixtures etc. Also high power appliances like drill machine, grinding machines etc.,



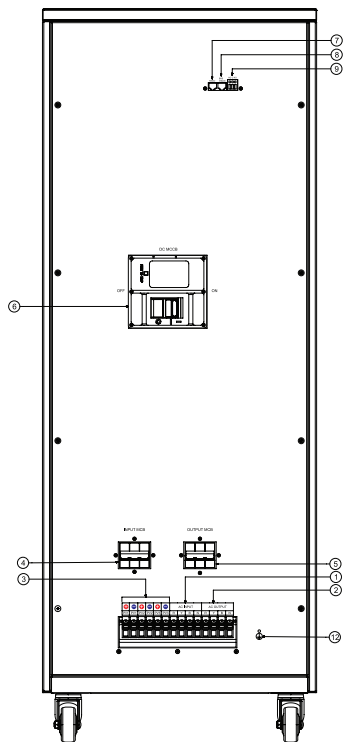
Hybrid System

3.3 Product Overview

3.3.1 Touch LCD color Screen



3.3.2 Back Panel



4 INSTALLATION

4.1 Unpacking and Inspection

Before installation, carefully inspect the PuREPower 20.O unit to ensure that no damage has occurred during shipping. Confirm that the package includes the following items:

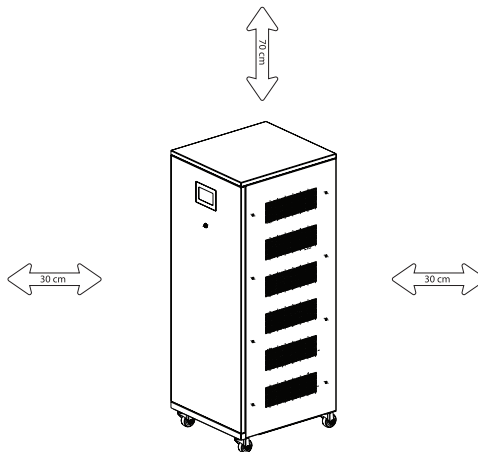
- The PuREPower unit x 1 (Including Wheels attached to the Unit)
- Warranty Manual,

4.2 Installing the device

Before selecting the installation location, ensure proper ventilation is considered. The PuREPower unit is designed with built-in ventilation, and the fan surface is positioned near the exhaust outlet.

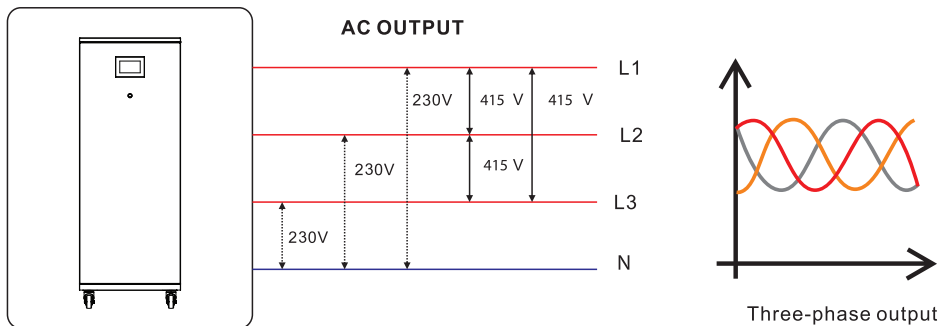
Please consider the following points before choosing the installation location:

- Do not install the PuREPower on or near flammable construction materials.
- To ensure adequate heat dissipation, maintain a clearance of approximately 30 cm on each side and 70 cm above the unit.
- The recommended ambient temperature range for optimal operation is -20°C to 50°C. Note that performance may decline at temperatures above 40°C.
- Ensure that surrounding objects and surfaces are positioned as illustrated in the installation diagram to support proper ventilation and allow sufficient space for cable routing and maintenance.



 SUITABLE FOR MOUNTING ON CONCRETE OR OTHER NON-COMBUSTIBLE SURFACE ONLY.

4.3 Three-phase mode



Items	Description
Applicable model	PuREPower 20.0
AC output phase voltage (L-N)	200-400Vac, 230Vac default

4.4 Requirements for cables and ring circuit breakers

• PV Input

Model	Cable Diameter	Max PV Input Current	Circuit Breaker Spec
PuREPower 20.0	10 sq mm	3x27A	3x32A

• AC Input

Model	Output Mode	Max Current	Cable Diamete	Circuit Breaker Spec
PuREPower 20.0	L1+L2+L3+N+PE	4x26.9A	4x10 sq mm	4x63A/230VAC

• AC Output

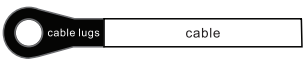
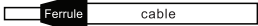
Model	Output Mode	Max Current	Cable Diamete	Circuit Breaker Spec
PuREPower 20.0	L1+L2+L3+N+PE	4x26.9A	4x10 sq mm	4x63A/230VAC



NOTICE

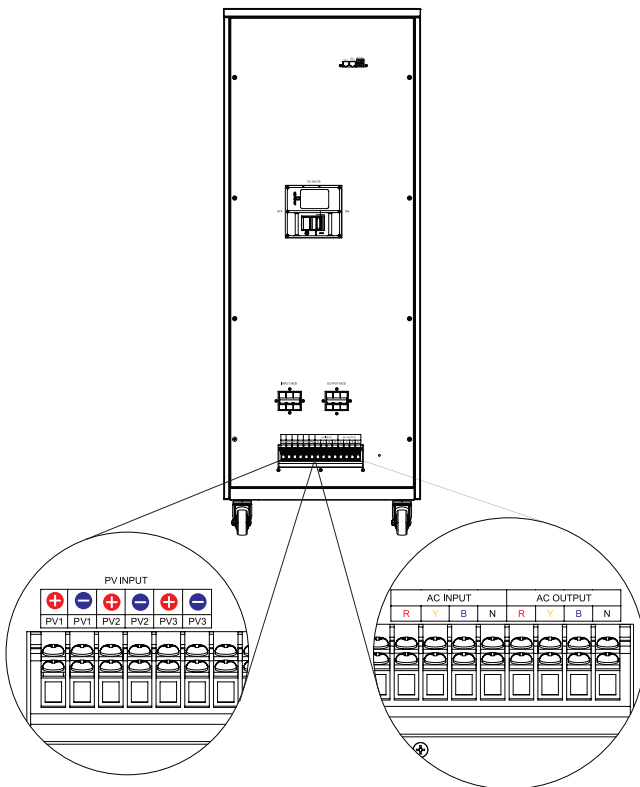
PV Input, AC input, AC output,

1. Use a stripper to remove the 6-8mm insulation of the Cable.
2. Fixing a ferrule at the end of the cable (ferrule needs to be prepared by the user).
3. Fixing cable lugs that supply the box at the end of the cable.as shown below



4.5 AC input & output connection

Connect the phase, neutral, and ground cables in the position and order of the cables as shown in the diagram below.

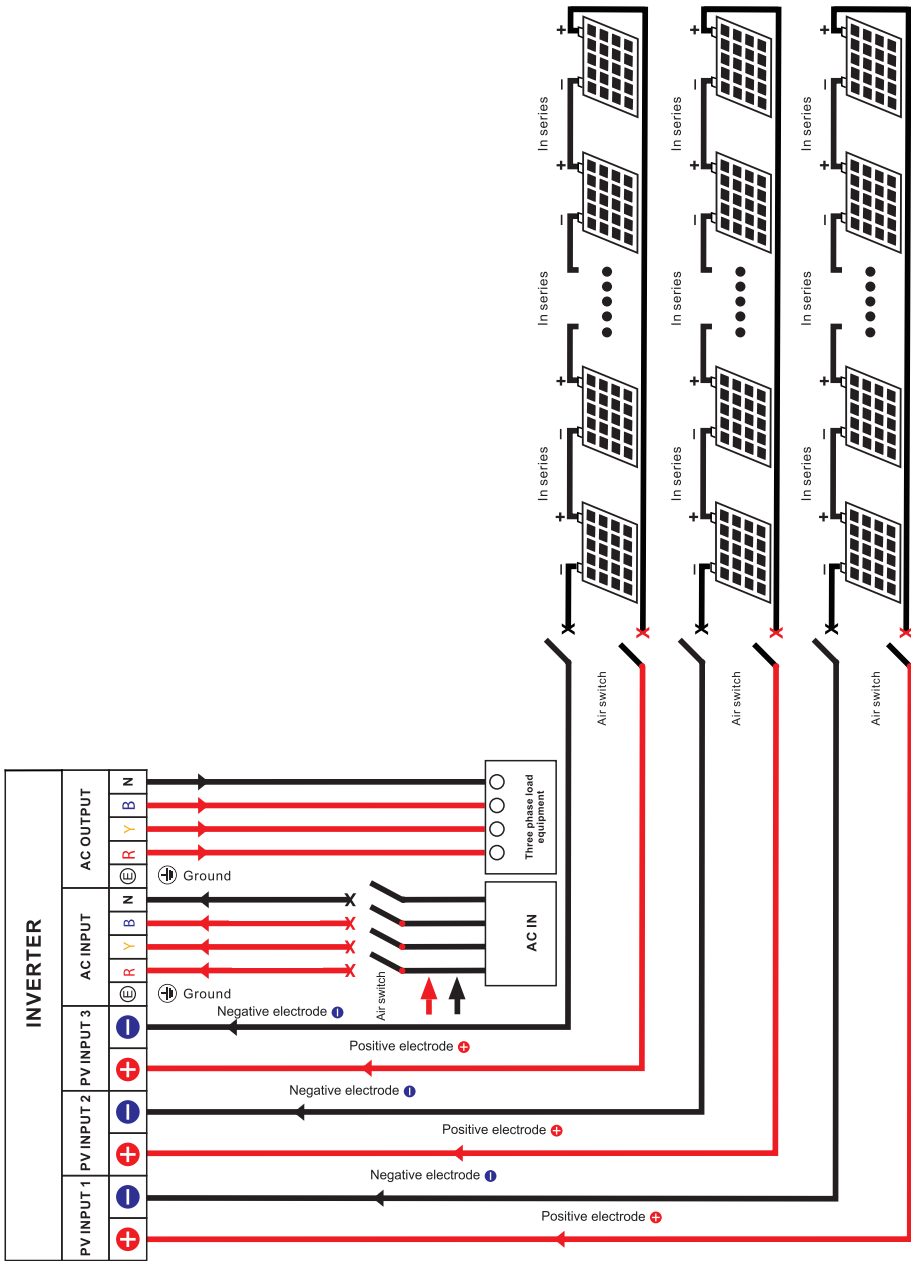


⚠ DANGER:

Connect the phase, neutral, and ground cables in the position and order of the cables as shown in the diagram below.

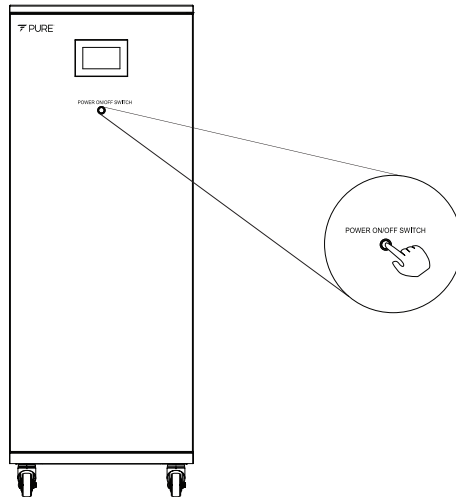
- Before connecting the AC input and output, the circuit breaker must be disconnected to avoid the risk of electric shock and must not be operated with electricity.
- Make sure that the open circuit voltage of the PV modules connected in series does not exceed the maximum open circuit voltage of the PuREPower (the value is 500V), otherwise, the PuREPower may be damaged
- Load segregation is mandatory to ensure that the product is not over-loaded including the safety factor and the power-factor. After switching on the complete load, Confirm the performance of PuREPower and record the load values, in both grid and off grid condition.
If the total load exceeds 5kVA on any Single Phase

4.7 PuREPower single line connection diagram



5 OPERATION

5.1 Power ON/OFF



Once PuREPower has been properly installed, simply press ON/OFF switch (located beneath the LCD screen at the front of the unit) to turn ON the unit.

5.1.1 Steps to start up

Mains power on:

Connect to normal AC power, press the switch, and the system will automatically turn on. If you set AC output power priority, after waiting for a period of time, the panel will display AC mode which represents turn on the machine successfully, and then will enter the AC mode.

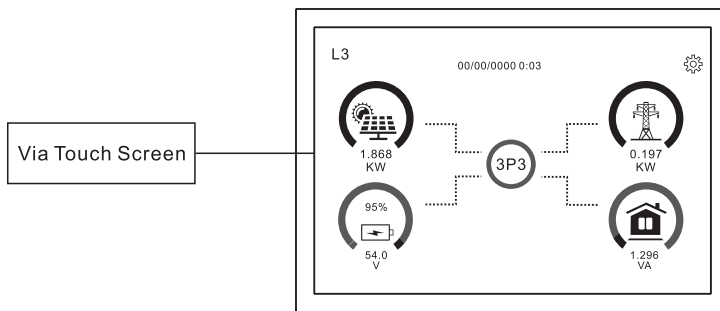
When the normal mains power is connected and press the power-on button then the system will automatically power on. If it is set as AC output priority, after a period of time, the panel will display the AC mode to indicate that the power-on is complete and enter the AC mode.

5.2 LCD display icon

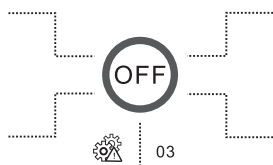
The operation and LCD display panel shown below is located on the front panel of the PuREPower.

5.2.1 Home Screen

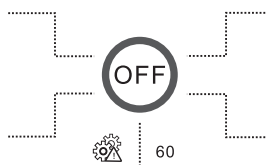
The touch screen LCD . The upper part of the LCD screen shows overall information about the PuREPower.



1. The absence of an icon in the center of the home screen indicates that the system is operating normally. If the gray icon and characters are displayed in the center of the main screen, it means that the PuREPower has an alarm, and the alarm information will be displayed in characters under this icon (detailed error information can be viewed in the instruction manual alarm menu). If the red icon and characters are displayed in the center of the main screen, it means that the PuREPower is faulty, and the fault information will be displayed in characters under this icon (detailed error information can be viewed in the instruction manual alarm menu).



PuREPower is over charged



PV voltage is over limitation

2. Time & Date is displayed on the top of the LCD screen.

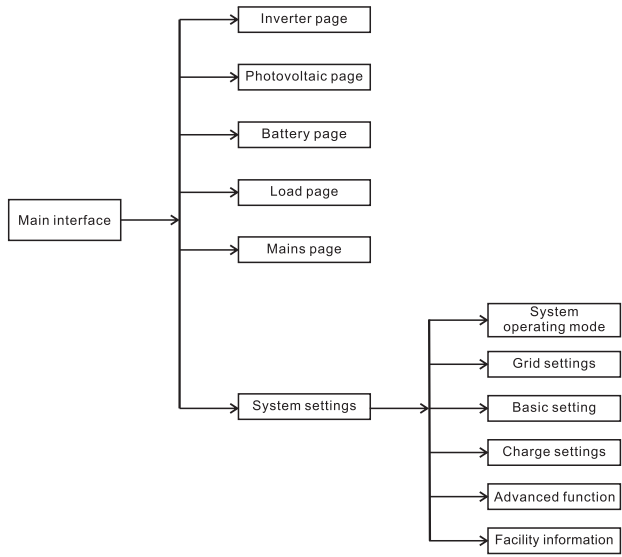
3. PuREPower Settings icon, press the Settings button, you can enter the system Settings screen, including PuREPower .System working mode, grid settings, basic settings, advanced features, device information.

4. The main screen displays information including PV, mains, load and PuREPower battery. It also shows the direction of energy flow with arrows, equivalent power indication across all 3 phases. When approaching the limit value, the color on the panel will change from green to red, making the system information vividly displayed on the main screen.

5. Both Photovoltaic power and load power should always be positive. (when available)

6. The negative direction of the battery power supply means discharging, and the positive direction means charging.

5.3 Touch screen flow chart



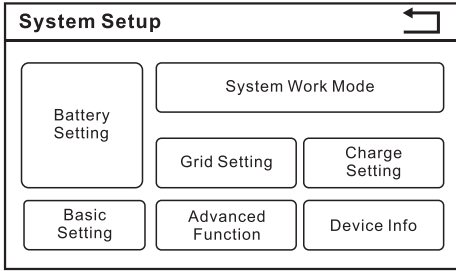
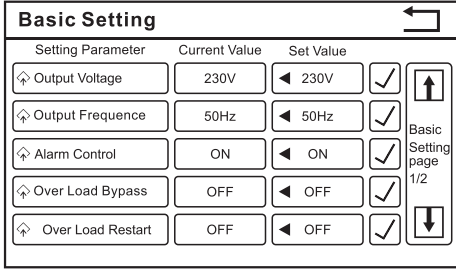
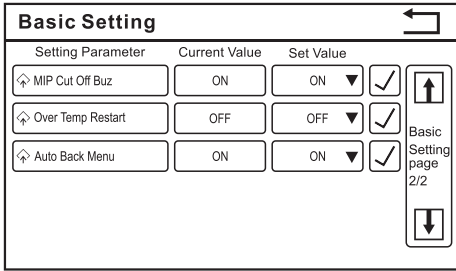
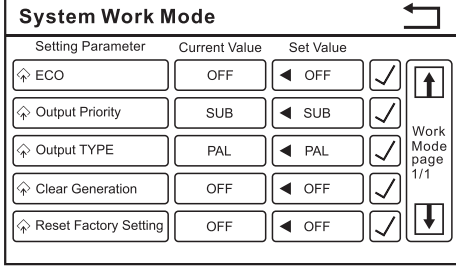
5.4 Touch screen operation instructions

5.4.1 Touch screen Home screen Content

PuREPower home page	PuREPower home page
<div><div>Detail</div><div><div>Machine Type: 5548</div><div>Lcd Version: V 10.01</div></div><div><div>Inverter Type: HPVINV02</div><div>Driver Version: V 10.01</div></div><div><div>Boosting Temper: 26 °C</div><div>Main Version: V 30.03</div></div><div><div>Machine Temper: 27 °C</div></div><div><div>MPPT Temper: 24°C</div></div><div><div>MOS Temper: 27°C</div></div><div><div>IAP Status: Normal</div></div></div> <div><div>↑</div><div>L1</div><div>↓</div></div> <div>Back</div>	<p>This page shows the PuREPower machine model,machine type, booster tube temperature, machine temperature, MPPT temperature, PuREPower board temperature, bottom program is normal, color screen version number, central control board version number, machine control board version number.</p>
PV Page	PV data page details
<div><div>Solar</div><div><div>L1 PV Input: 0.0 V</div><div>0.0 A</div></div><div><div>L1 PV Input Power: 0</div><div>W</div></div><div><div>L2 PV Input: 0.0 V</div><div>0.0 A</div></div><div><div>L2 PV Input Power: 0</div><div>W</div></div><div><div>L3 PV Input: 0.0 V</div><div>0.0 A</div></div><div><div>L3 PV input Power: 0</div><div>W</div></div><div><div>Today: 2.882KWh</div><div>Month: 2.8 KWh</div></div><div><div>Year: 2.8KWh</div><div>Total: 2.8KWh</div></div></div> <div>Back</div>	<p>This page shows the input voltage, current and power of photovoltaic solar panels in detail.It can also record today's photovoltaic power generation,this month's photovoltaic power generation,this year's photovoltaic power generation, and the total photovoltaic power generation.</p>

Battery page	Battery details page
<div><div>Battery</div><div><div><div>Battery Voltage:USE</div><div>BMS COM Function:OFF</div><div>Battery Voltage:49.7V</div><div>Charge Current:0A</div><div>Discharge Current:0A</div><div>L1 Bus Voltage:348V</div><div>L2 Bus Voltage:348V</div><div>L3 Bus Voltage:349V</div><div>Li Battery Active:OFF</div></div><div><div><div>↑</div><div>BAT</div><div>BMS</div><div>↓</div></div></div><div>Back</div></div></div>	<div>This page shows the battery type, BMS current communication status, battery voltage, BAT charging current, BAT discharge current and BUS voltage in detail and Li Battery Active.</div>
BMS page	BMS details page
<div><div>BMS</div><div><div><div>BMS 485 Protocol:NULL</div><div>SOC:100%</div><div>Charge Current:0.0A</div><div>Discharge Current:0.0A</div><div>BMS Temper:0.0°C</div><div>Discharge Limit Voltage:0.0V</div><div>Charge Limit Voltage:0.0V</div><div>Charge Limit Current:100.0A</div></div><div><div>Li Battery Active:</div><div><div><div>↑</div><div>BAT</div><div>BMS</div><div>↓</div></div></div></div><div>Back</div></div></div>	<div>This page displays the BMS current usage protocol, BMS current SOC value, BMS charging current, BMS discharge current BMS temperature, BMS discharge limit voltage, BMS charge limit voltage, BMS charge limit current in detail.</div>
Load page	Load detail page
<div><div>Load</div><div><div><div>L1 Output:230.0V50.0Hz</div><div>L1 Load Percent:0%</div><div>L1 Power:0W0VA</div><div>L2 Output:230.0V49.9Hz</div><div>L2 Load Percent:0%</div><div>L2 Power:0W0VA</div><div>L3 Output:230.1V49.9Hz</div><div>L3 Load Percent:0%</div><div>L3 Power:0W0VA</div></div><div>Back</div></div></div>	<div>This page displays the output mode, output voltage, output frequency, inductive current, active power, and reactive power in detail.</div>
Mains page	Mains details page
<div><div>AC Input</div><div><div><div>L1 Frequency:0.0Hz</div><div>L1 Input Voltage:0.0V</div><div>L1 Ac Input Power:0W</div><div>L2 Frequency:0.0Hz</div><div>L2 Input Voltage:0.0V</div><div>L2 Ac Input Power:0W</div><div>L3 Frequency:0.0Hz</div><div>L3 Input Voltage:0.0V</div><div>L3 Ac Input Power:0W</div></div><div>Back</div></div></div>	<div>This page displays the frequency, input voltage, and power of the grid</div>

5.4.2 System Settings menu

System Settings menu	System Settings menu page
	<p>This is the system Settings page, including battery Settings, system working mode, battery Settings, mains Settings, charging Settings, basic Settings, advanced functions, device information</p>
Basic Settings menu	Basic Settings menu page
	<p>This page can be set PuREPower voltage: 220/230/240V(default 230V) PuREPower frequency: 50/60HZ(default 50HZ) Alarm Control:ON/OFF Over Load Bypass: ON/OFF Over Load Restart: ON/OFF</p>
	<p>This page can be set MIP Cut Off Buz: ON/OFF Over Temp Restart: ON/OFF Auto Back Menu: ON/OFF</p>
System working mode setting menu	System working mode setting menu page
	<p>This page can be set ECO function: Under the battery model, when the load is low, the system will temporarily stop. Output priority: Output source priority option.</p>

<div>System working mode setting menu</div> <div><div><div>System Work Mode</div><table><thead><tr><th>Setting Parameter</th><th>Current Value</th><th>Set Value</th><th></th><th></th></tr></thead><tbody><tr><td>ECO</td><td>OFF</td><td>OFF</td><td><input checked="" type="checkbox"/></td><td rowspan="5">Work Mode page 1/1</td></tr><tr><td>Output Priority</td><td>SUB</td><td>SUB</td><td><input checked="" type="checkbox"/></td></tr><tr><td>Output TYPE</td><td>PAL</td><td>PAL</td><td><input checked="" type="checkbox"/></td></tr><tr><td>Clear Generation</td><td>OFF</td><td>OFF</td><td><input checked="" type="checkbox"/></td></tr><tr><td>Reset Factory Setting</td><td>OFF</td><td>OFF</td><td><input checked="" type="checkbox"/></td></tr></tbody></table></div></div>	Setting Parameter	Current Value	Set Value			ECO	OFF	OFF	<input checked="" type="checkbox"/>	Work Mode page 1/1	Output Priority	SUB	SUB	<input checked="" type="checkbox"/>	Output TYPE	PAL	PAL	<input checked="" type="checkbox"/>	Clear Generation	OFF	OFF	<input checked="" type="checkbox"/>	Reset Factory Setting	OFF	OFF	<input checked="" type="checkbox"/>	<div>System working mode setting menu page</div> <div><p>SUB: Solar energy as the first priority for the load, if the solar energy is not enough to supply all connected loads, the utility grid energy will supply the load at the same time. Solar power is the first priority, providing power for the load output source priority selection.</p><p>SBU: If the solar energy is not enough to supply all the connected loads, the battery energy will supply the loads simultaneously. The mains supply power to the load only when the battery voltage drops to a low level warning voltage or when the solar and battery are insufficient.</p><p>Output TYPE:SIG/PAL/3P1/3P2/3P3 Remove the power generation capacity: tick the check box and click "YES". Clear Generation: OFF/ON</p><p>Reset Factory Setting: To restore the default values, tick the check box and click "YES".</p></div>										
Setting Parameter	Current Value	Set Value																																			
ECO	OFF	OFF	<input checked="" type="checkbox"/>	Work Mode page 1/1																																	
Output Priority	SUB	SUB	<input checked="" type="checkbox"/>																																		
Output TYPE	PAL	PAL	<input checked="" type="checkbox"/>																																		
Clear Generation	OFF	OFF	<input checked="" type="checkbox"/>																																		
Reset Factory Setting	OFF	OFF	<input checked="" type="checkbox"/>																																		
<div>Main grid Settings menu</div> <div><div><div>Grid Setting</div><table><thead><tr><th>Setting Parameter</th><th>Current Value</th><th>Set Value</th><th></th><th></th></tr></thead><tbody><tr><td>Input Voltage Range</td><td>APL</td><td>APL ▼</td><td><input checked="" type="checkbox"/></td><td rowspan="4">Grid Setting page 1/2</td></tr><tr><td>Grid-Connected Regulation</td><td>India</td><td>India ▼</td><td><input checked="" type="checkbox"/></td></tr><tr><td>Grid Feed Enable</td><td>OFF</td><td>OFF ▲</td><td><input checked="" type="checkbox"/></td></tr><tr><td>Grid Feed Current</td><td>10A</td><td>10A</td><td><input checked="" type="checkbox"/></td></tr></tbody></table></div></div> <div><div>Grid Setting</div><table><thead><tr><th>Setting Parameter</th><th>Current Value</th><th>Set Value</th><th></th><th></th></tr></thead><tbody><tr><td>AC CHA Open Time</td><td>0:00</td><td>0:00 ▼</td><td><input checked="" type="checkbox"/></td><td rowspan="2">Grid Setting page 2/2</td></tr><tr><td>AC CHA Stop Time</td><td>0:00</td><td>0:00 ▼</td><td><input checked="" type="checkbox"/></td></tr></tbody></table></div>	Setting Parameter	Current Value	Set Value			Input Voltage Range	APL	APL ▼	<input checked="" type="checkbox"/>	Grid Setting page 1/2	Grid-Connected Regulation	India	India ▼	<input checked="" type="checkbox"/>	Grid Feed Enable	OFF	OFF ▲	<input checked="" type="checkbox"/>	Grid Feed Current	10A	10A	<input checked="" type="checkbox"/>	Setting Parameter	Current Value	Set Value			AC CHA Open Time	0:00	0:00 ▼	<input checked="" type="checkbox"/>	Grid Setting page 2/2	AC CHA Stop Time	0:00	0:00 ▼	<input checked="" type="checkbox"/>	<div>Main grid Settings menu page</div> <div><p>This page can be set Input Voltage Range: APL/UPS</p><p>Grid-Connected Regulation: India/ Germen/SouthAmerica</p><p>Grid Feed Enable: Disable / Enable Grid Feed Current: Default 20A</p><p>This page can be set</p><p>AC CHA Open Time: The value ranges from 0 to 23.</p><p>AC CHA Stop Time: The value ranges from 0 to 23.</p></div>
Setting Parameter	Current Value	Set Value																																			
Input Voltage Range	APL	APL ▼	<input checked="" type="checkbox"/>	Grid Setting page 1/2																																	
Grid-Connected Regulation	India	India ▼	<input checked="" type="checkbox"/>																																		
Grid Feed Enable	OFF	OFF ▲	<input checked="" type="checkbox"/>																																		
Grid Feed Current	10A	10A	<input checked="" type="checkbox"/>																																		
Setting Parameter	Current Value	Set Value																																			
AC CHA Open Time	0:00	0:00 ▼	<input checked="" type="checkbox"/>	Grid Setting page 2/2																																	
AC CHA Stop Time	0:00	0:00 ▼	<input checked="" type="checkbox"/>																																		

Charging Settings menu	Charging Settings menu page																								
<div><div>Charge Setting</div><table><thead><tr><th>Setting Parameter</th><th>Current Value</th><th>Set Value</th><th></th></tr></thead><tbody><tr><td>CHA Source Priority</td><td>SNU</td><td>SNU ▼</td><td>✓</td></tr><tr><td>MAX Utility CHA CUR</td><td>30A</td><td>30 A</td><td>✓</td></tr><tr><td>MAX CHA Current</td><td>40A</td><td>40 A</td><td>✓</td></tr><tr><td>Solar Supply Priority</td><td>BLU</td><td>◀ BLU</td><td>✓</td></tr></tbody></table><div>Charge Setting page 1/1</div></div>	Setting Parameter	Current Value	Set Value		CHA Source Priority	SNU	SNU ▼	✓	MAX Utility CHA CUR	30A	30 A	✓	MAX CHA Current	40A	40 A	✓	Solar Supply Priority	BLU	◀ BLU	✓	<p>This page can be set</p> <p>CHA Source Priority: Set the charging priority</p> <p>1.CSO: Solar energy will give priority to battery charging. Alternating current only charges the battery when solar power is not available.</p> <p>2.SNU: Solar and mains power will charge the battery at the same time.</p> <p>3.OSO: Solar energy will be the only source of chargers, whether there is AC or not.</p> <p>Note: If the PuREPower is operating in battery mode, only solar energy can charge the battery. If there is enough solar energy, the solar energy will charge the battery.</p> <p>MAX Utility CHA CUR: MAX CHA Current is smaller than that in program in MAX Utility CHA CUR, the PuREPower will apply charging current from program MAX CHA Current for utility charger.</p> <p>MAX CHA Current: MAX CHA Current To configure total charging current for solar and utility chargers</p> <p>Solar Supply Priority: BLU solar power priority to provide energy to battery/LBU solar power priority to provide energy to the load.</p>				
Setting Parameter	Current Value	Set Value																							
CHA Source Priority	SNU	SNU ▼	✓																						
MAX Utility CHA CUR	30A	30 A	✓																						
MAX CHA Current	40A	40 A	✓																						
Solar Supply Priority	BLU	◀ BLU	✓																						
Advanced Settings menu	Advanced Settings menu page																								
<div><div>Advanced Function</div><table><thead><tr><th>Setting Parameter</th><th>Current Value</th><th>Set Value</th><th></th></tr></thead><tbody><tr><td>Dual Mode</td><td>ON</td><td>◀ ON</td><td>✓</td></tr><tr><td>Dual BAT VOL Under</td><td>44.0V</td><td>44.0V</td><td>✓</td></tr><tr><td>Dual BAT SOC Under</td><td>20%</td><td>20%</td><td>✓</td></tr><tr><td>Dual BAT VOL Receiver</td><td>52.0V</td><td>52.0V</td><td>✓</td></tr><tr><td>Dual BAT SOC Receiver</td><td>50%</td><td>50%</td><td>✓</td></tr></tbody></table><div>Adv page 1/3</div></div>	Setting Parameter	Current Value	Set Value		Dual Mode	ON	◀ ON	✓	Dual BAT VOL Under	44.0V	44.0V	✓	Dual BAT SOC Under	20%	20%	✓	Dual BAT VOL Receiver	52.0V	52.0V	✓	Dual BAT SOC Receiver	50%	50%	✓	<p>This page can be set</p> <p>Dual mode: ON/OFF</p> <p>Dual BAT VOL Under: 44V/22V, if the battery voltage is lower than the PuREPower inverter setting, the dual output is cut off.</p>
Setting Parameter	Current Value	Set Value																							
Dual Mode	ON	◀ ON	✓																						
Dual BAT VOL Under	44.0V	44.0V	✓																						
Dual BAT SOC Under	20%	20%	✓																						
Dual BAT VOL Receiver	52.0V	52.0V	✓																						
Dual BAT SOC Receiver	50%	50%	✓																						

Advanced Settings menu

Advanced Function

Setting Parameter	Current Value	Set Value	
Dual Mode	ON	ON	✓
Dual BAT VOL Under	44.0V	44.0V	✓
Dual BAT SOC Under	20%	20%	✓
Dual BAT VOL Receiver	52.0V	52.0V	✓
Dual BAT SOC Receiver	50%	50%	✓

Adv page 1/3

Advanced Settings menu page

This page can be set

Dual BAT SOC Under: Default 20%, if the BMS capacity is lower than the SOC setting the second output will be cut.

Dual BAT VOL Receiver: Default 52V/26V, if the battery voltage is higher than the PuREPower inverter setting, the dual will be restored.

Dual BAT SOC Receiver: Default 50%, if the BMS capacity is higher than the SOC setting, the second output will be restored.

Advanced Function

Setting Parameter	Current Value	Set Value	
Dual Discharge Time	Disable	0min	✓
Dual Recover Delay Time	5 Min	5 Min	✓
Dual Output On Time	0:00	0:00	✓
Dual Output Off Time	0:00	0:00	✓

Adv page 2/3

This page can be set

Dual Discharge Time:
The value ranges from 0-990min Configure Discharge Time to turn off second output, and waiting time to turn on the second output when the PuREPower is back to Line mode or Battery is in charging status.

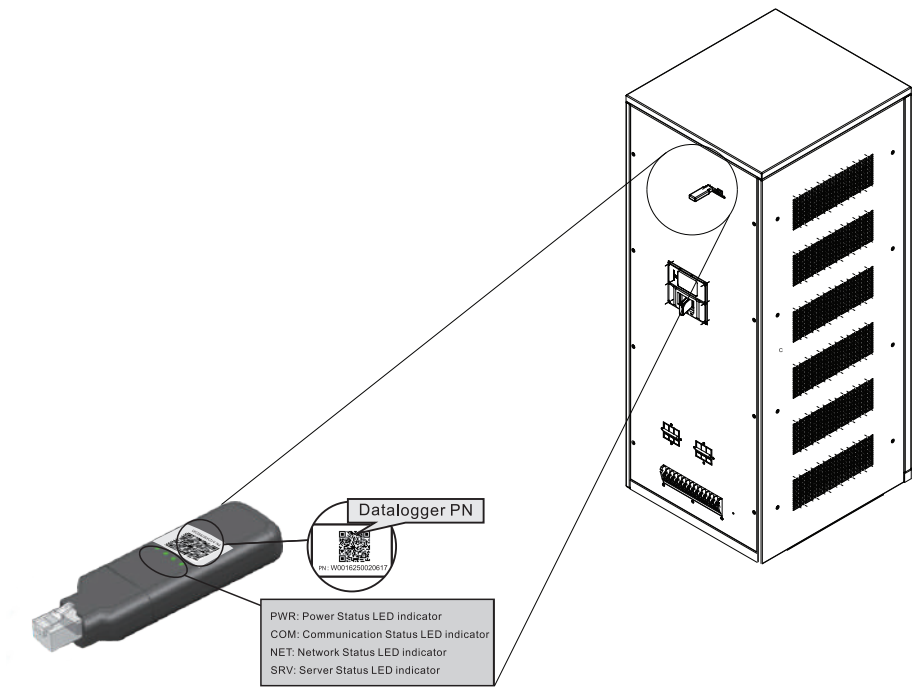
Dual Recover Delay Time:
Configure the second output recovery delay. Even if Dual BAT VOL Receiver and Dual BAT SOC Receiver conditions are met, enable the second output after the recovery delay ends, The value ranges from 0-60min.

Dual Output On Time: The value ranges from 0 to 23.

Dual Output Off Time: The value ranges from 0 to 23.

<div><div>Advanced Function</div><div><table><thead><tr><th>Setting Parameter</th><th>Current Value</th><th>Set Value</th><th></th></tr></thead><tbody><tr><td>Output Open Time</td><td>0:00</td><td>◀ 0:00</td><td>✓</td></tr><tr><td>Output Stop Time</td><td>0:00</td><td>◀ 0:00</td><td>✓</td></tr></tbody></table><div>Adv page 3/3</div></div></div>	Setting Parameter	Current Value	Set Value		Output Open Time	0:00	◀ 0:00	✓	Output Stop Time	0:00	◀ 0:00	✓	<p>This page can be set</p> <p>Output Open Time: The value ranges from 0 to 23.</p> <p>Output Stop Time: The value ranges from 0 to 23..</p>
Setting Parameter	Current Value	Set Value											
Output Open Time	0:00	◀ 0:00	✓										
Output Stop Time	0:00	◀ 0:00	✓										
Device information setting menu	Device information setting menu page												
<div><div>Device Info</div><div><div>System Time:0000-00-00 00:09</div><div>2000 Year 0 Month 0 Day 0 H 9 M 0 S</div><div>Back Light: <div></div></div><div>RGB Switch: <div>ON</div></div></div><div><div>✓</div><div>✓</div></div></div>	<p>This page can be set</p> <p>System time: year/month/day/hour/minute /second.</p> <p>Back Light: From dark to light.</p> <p>RGB Switch: ON/OFF</p>												

ESS Smart Datalogger connecting position and LED indication



6. ESS Smart Wi-Fi Connectivity

6.1 Wi-Fi ESS Smart App Connectivity Procedure

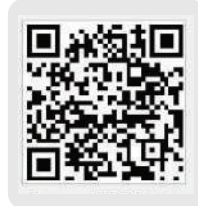
6.1.1 APP Download

Step 1 : Scan the QR, click on the link to download the app. or

Step 2 : Search in the Play Store to download the APP named "ESS Smart" for download.



For SmartESS(Android)

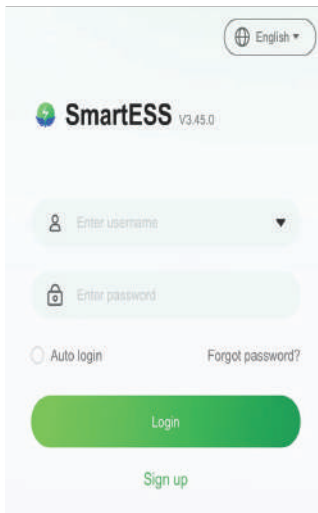


For SmartESS(iOS)

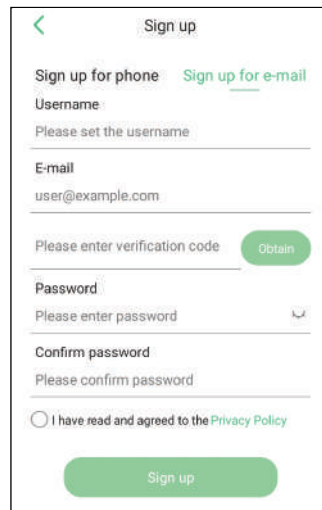
6.1.2 Create Account And Datalogge

Step 3: Create Account

Open the App and according to the prompt information, complete creating an account in Sign up.as shown in below



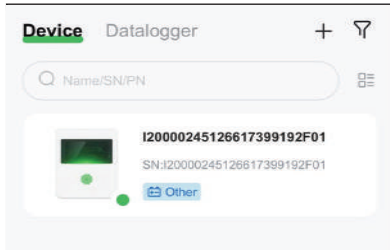
The image shows the login screen of the SmartESS app. At the top right, there is a language selector set to 'English'. The app logo 'SmartESS' with version 'V3.45.0' is at the top left. Below the logo, there are two input fields: 'Enter username' with a user icon and 'Enter password' with a lock icon. There are radio buttons for 'Auto login' and a link for 'Forgot password?'. A large green 'Login' button is at the bottom, and a green 'Sign up' link is at the very bottom.



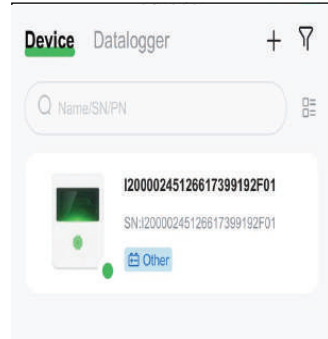
The image shows the sign-up screen of the SmartESS app. At the top left is a back arrow. The title 'Sign up' is at the top right. There are two options: 'Sign up for phone' and 'Sign up for e-mail' (which is highlighted in green). Under 'Sign up for e-mail', there are three input fields: 'Username' with the placeholder 'Please set the username', 'E-mail' with the placeholder 'user@example.com', and 'Please enter verification code' with an 'Obtain' button. Below these are 'Password' and 'Confirm password' fields, both with the placeholder 'Please enter password'. At the bottom, there is a radio button for 'I have read and agreed to the Privacy Policy' and a green 'Sign up' button.

6.1.3 Add Wi-Fi Datalogger

Login the account and click the list button on the bottom of the home page.
Tap the + button on the top-right corner of the list page.as show in below

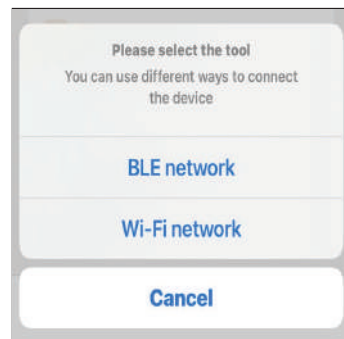
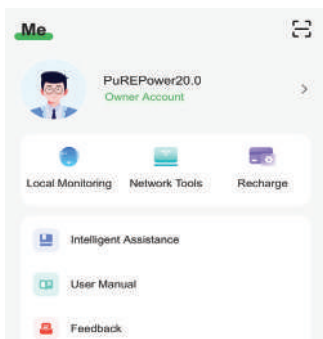


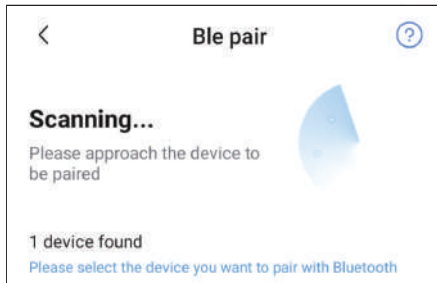
Scan the data logger PN on the WFBLE RTU Plug Pro, or input it manually. According to the prompts, type in the information to finish add the data logger.



6.1.4 Wireless Router Connection

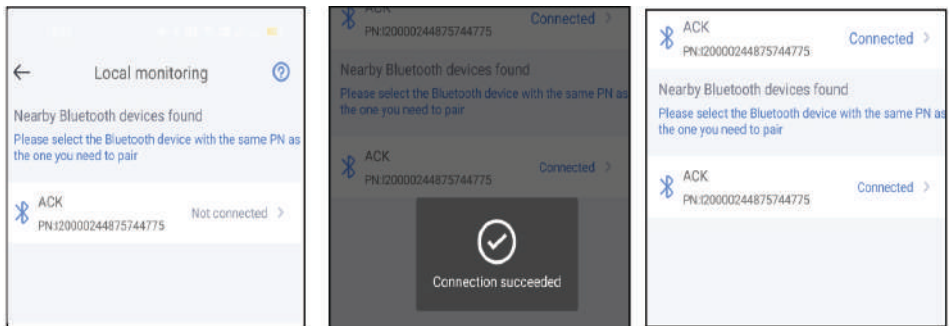
Open the APP and select "BLE network" on the local monitoring interface, as below.





6.1.5 Wi-Fi Configuration

Wait for the APP to scan for nearby Bluetooth devices and select the Bluetooth device with the same PN number as the WFBLE.RTU Plug Pro for pairing and connection.

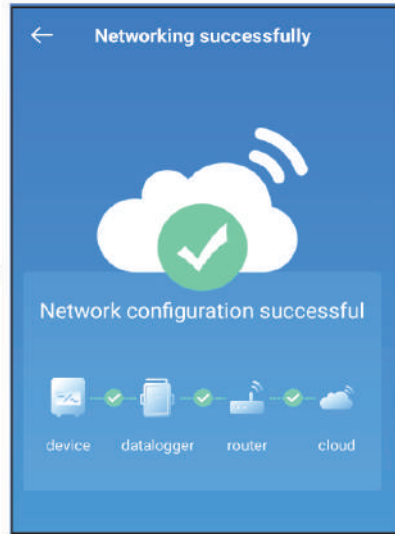
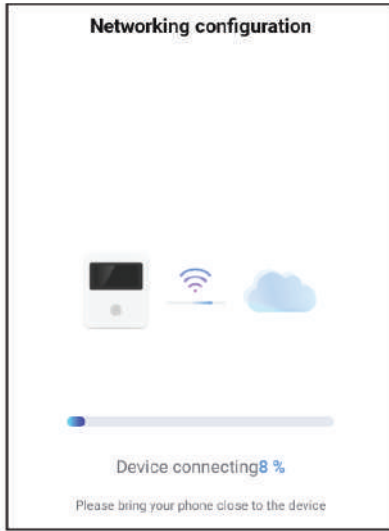


After the connection is successful, go to "Network Settings"

6.1.6 Network Setting

On the "Network Settings" page, select a Wi-Fi router and password that can access the Internet, and click "Settings" to complete the network settings.





After the data collector is restarted successfully and shows that the Wi-Fi configuration is successful, click the confirm button.

6.1.7 Monitoring Data:

After successfully installing the PuREPower hybrid system, the following monitoring data will be accessible:

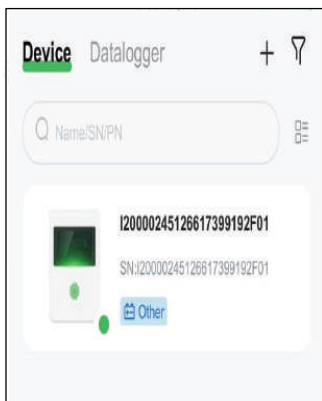
Performance Metrics: Real-time energy flow between solar input, battery storage, and load.

Solar Energy Metrics: Solar power generation in real-time.

Load Details: Power consumed by connected loads.

Alerts and Notifications: Fault detection, system warnings, and maintenance alerts.

Historical Data and Trends: Solar energy production trends.



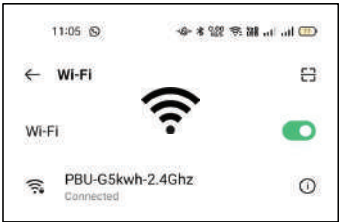
7. Wi-Fi connectivity procedure :

7.1 PURE BMS App Download Procedure

Search and download PURE BMS App from Play Store (Android) or App Store (iOS).

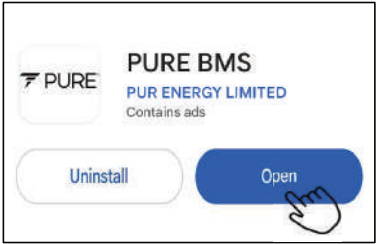
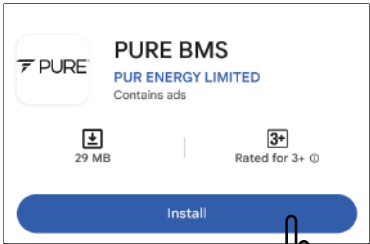
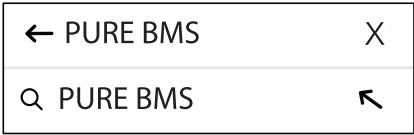
Step 1:

- Ensure that Bluetooth and Wi-Fi are switched on in your mobile device.
- Make sure to have the Wi-Fi router password handy for later use.
- Verify that the Wi-Fi network is operating on a 2.4GHz frequency.



Step 2 :

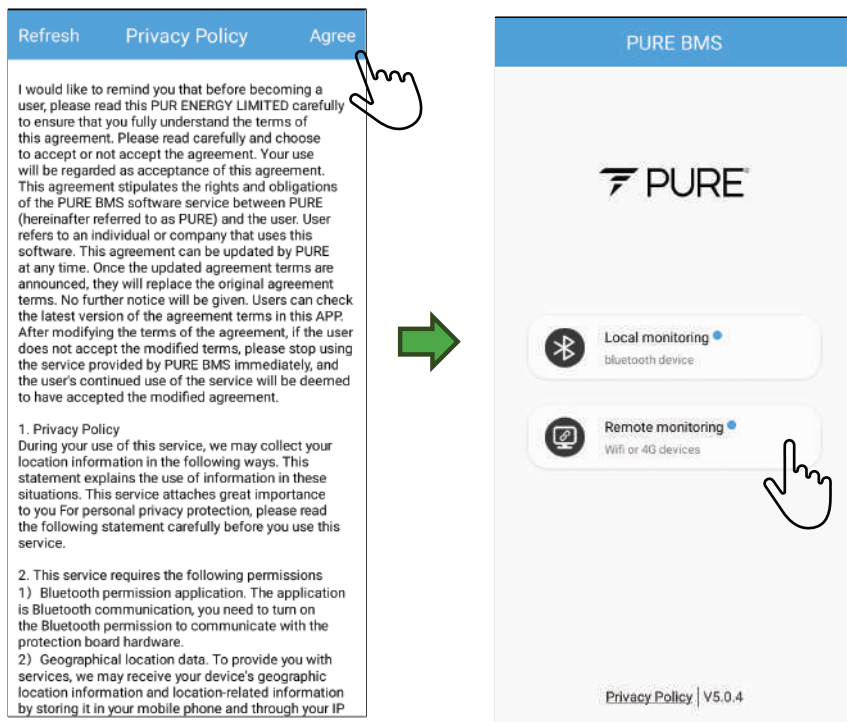
- Open either the Play Store (Android) or App Store (iOS).
- Search for PURE BMS and install the app. Once installed, open the app.



7.2 PURE BMS App Operation

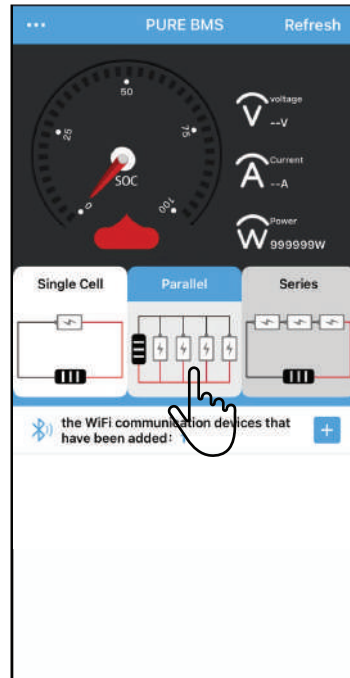
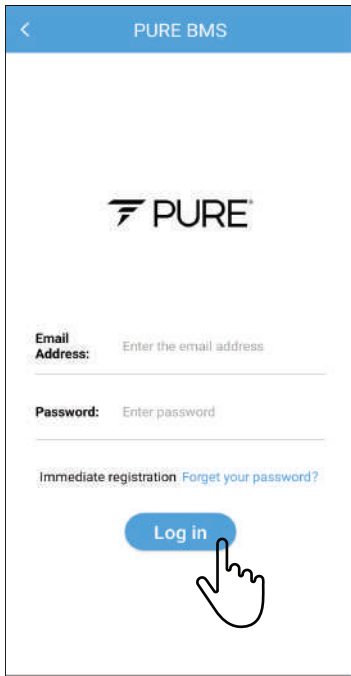
Step 3 :

Click on Agree, then select "Remote Monitoring."



Step 4 :

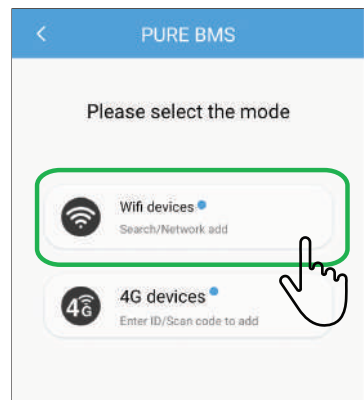
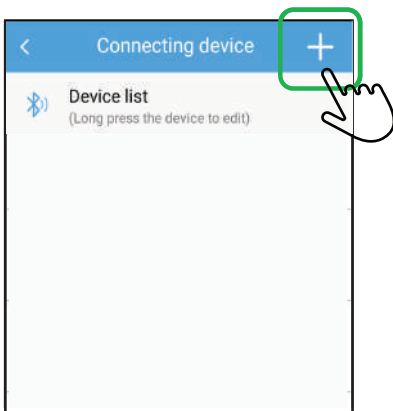
- Enter the provided email and password, then click Login.(if you are a new login please click on immediate registration)
- Choose the "Parallel" mode. During this process, allow all pop-up access requests.



7.3 Wi-Fi Connectivity Procedure :

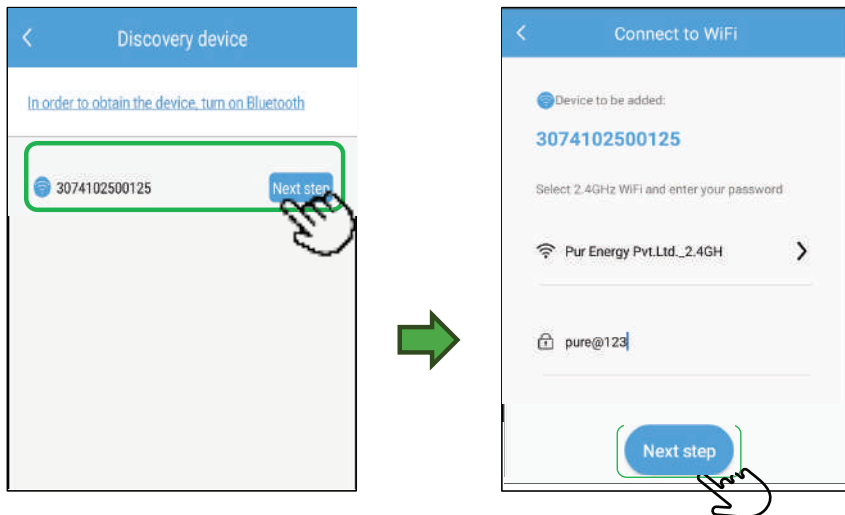
Step 5 :

- In the PURE BMS app, click on the "Connecting Devices +" icon in the upper-right corner and select "Wi-Fi Devices."



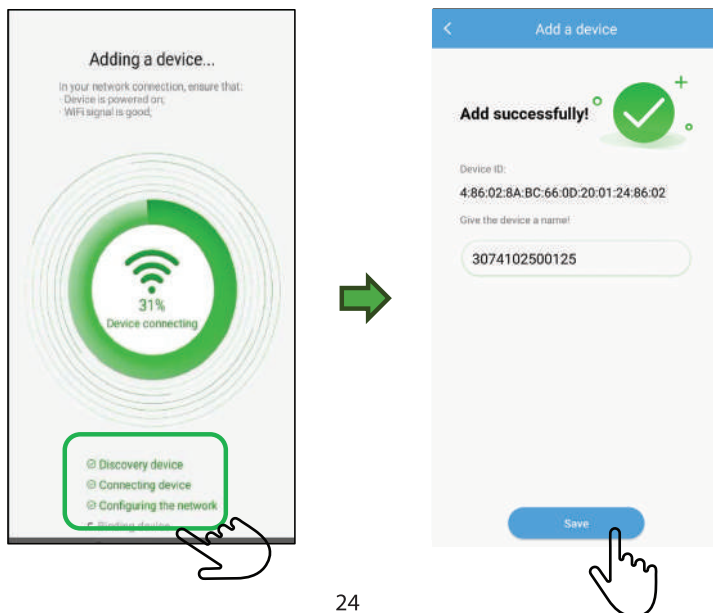
Step 6 :

- Select the desired Wi-Fi device name, then click Next Step.
- Enter your Wi-Fi router password and proceed to the next step.



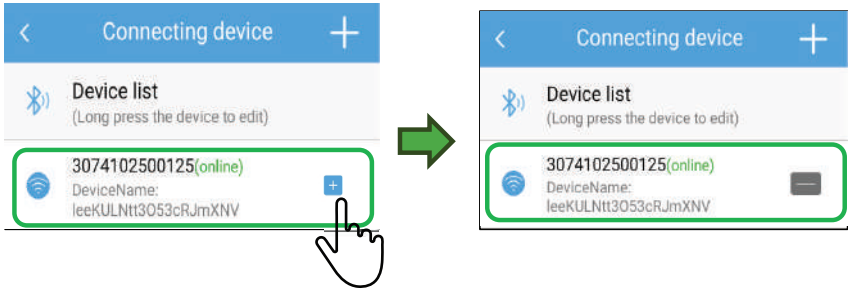
Step 7 :

- After successfully connecting to the device, you should see the "Binding Device" message. Click Save to complete the process.



Step 8 :

- The network and device allocation process will now be complete. On the “Connect Device” page, the corresponding Wi-Fi module will appear. If the status shows “Online,”you can select the PuREPower device and open it, as shown in the figures below.



7.4 PuREPower SoH Monitor Using Wi-Fi

Now we can monitor PuREPower State of Health(SoH) like SoC%(State of Charge), Voltage, Current, No.Cycles, and Temperature etc.



















8. LCD Display Icons

8.1 Function and alarm description

- Fault : The PuREPower enters the fault mode, the red LED light is always on and the LCD displays the fault code.

8.1.1 Fault Reference Code

Fault Code	Fault Event	Icon on
01	Fan is locked when PuREPower is off.	
02	Over over-temperature or NTC is not connected well.	
03	Battery voltage is too high.	
04	Battery voltage is too low.	
05	Output short-circuits or over-temperature is detected by internal converter components.	
06	Output voltage is too high.	
07	Over load time out.	
08	Bus voltage is too high	
09	Bus soft start failed	
51	Overcurrent's or surges	
52	Bus voltage is too low	
53	PuREPower soft start failed	
55	Over DC voltage in AC output	
57	Current sensor failed	
58	Output voltage is too low	
59	PV voltage is over limitation	

Alarm: The red LED flashes, and the LCD displays an alarm code, the PuREPower does not enter the failure mode

8.2 Warning Indicator

Warning Code	Warning Event	Audible Alarm
01	Fan is locked when PuREPower is on	Beep three times every second
02	Over temperature	None
03	Battery is over-charged	Beep once every second
04	Low battery	Beep once every second
07	Overload	Beep once every 0.5 second
10	Output power derating	Beep twice every 3 seconds
15	PV energy is low.	Beep twice every 3 seconds
16	High AC input (>280VAC) during BUS soft start	None
E9	Battery equalization	None
bP	Battery is not connected	None

8.3 Fault Code Display

Fault Code	Description
60	If PuREPower status is not allowed to charge and discharge after the communication between the inverter and battery is successful, it will show code 60 to stop charging and discharging battery
61	Communication lost
69	If PuREPower status is not allowed to charge after the communication between the inverter and battery is successful, it will show code 69 to stop charging battery

Fault Code	Description
70	If PuREPower status must to charged after the communication between the inverter and battery is successful, it will show code 70 to charge the PuREPower.
71	If PuREPower status is not allowed to discharge after the communication between the inverter and battery is successful, it will show code 71 to stop discharge battery
80-82	Problem occurs parallel status, cables, parallel boards connection

8.4 Dry Contact Signal

There is one dry contact (3A/250VAC) available on the rear panel. It could be used to deliver signal to external device when battery voltage reaches warning level.



Dry contact port

Unit Status	Condition		Dry Contact Port: NC & C	Dry Contact Port: NC & C
Power OFF	Unit is OFF and no output is powered		Close	Open
Power ON	Output is powered from battery or solar	Normal mode Battery voltage < Low DC warning voltage	Open	Close
		Battery voltage > Float charging voltage	Close	Open
		Solar first mode Battery voltage < Solar to AC voltage	Open	Close
		Battery voltage > AC to DC voltage	Close	Open

8.5 Troubleshooting Guide

This section provides guidance on identifying and resolving common issues encountered with the unit. Refer to the problem, symptoms, possible causes, and recommended corrective actions below

Problem	LCD/LED/Buzzer	Explanation/Possible Cause	What To Do
Unit shuts down automatically during startup process	LCD/LEDs and buzzer will be active for 3 seconds and then complete off.	The battery voltage is too low	1. Re-charge battery. 2. Replace battery.
No response after power on.	No indication	1. The battery voltage is far too low 2. Internal fuse tripped	1. Contact repair center for replacing the fuse. 2. Re-charge battery. 3. Replace battery. Check if AC breaker is tripped and AC wiring is connected well.
Mains exist but the unit works in battery mode.	The battery image lights up, but there is no response from the mains image	Input protector is tripped	
		Insufficient quality of AC power. (utility or Generator)	1. Check if AC wires are too thin and/or too long. 2. Check if generator (if applied) is working well or if input voltage range setting is correct. (UP-->Appliance).
		Set 'Solar First' as the priority of output source.	Change output source priority to Utility first.
When the unit is turned on, internal relay is switched on and off repeatedly.	Battery is disconnected.	Battery is disconnected.	Check if battery wires are connected well.
Buzzer beeps continuously and red LED is on.	Fault code 07	Overload error. The PuREPower is overloaded 105% and time is up.If PV input voltage is higher than specification, the output power will be derated.	Reduce the connected load by switching off some equipment. Reduce the number of PV modules in series or the connected load.

Buzzer beeps continuously and red LED is on.	Fault code 05	Output short circuited	Check if wiring is connected well and remove abnormal load.
	Fault code 02	Temperature internal converter component is over 120°C.	Check whether the airflow of the unit is blocked or whether the ambient temperature is too high.
	Fault code 03	Battery is over-charged. The battery voltage is too high.	Return to repair center. Check if spec and quantity of batteries meet requirements
	Fault code 01	Fan fault	Replace the fan.
	Fault code 06/58	Output abnormal (PuREPower voltage below 190Vac or higher than 260Vac)	1. Reduce the connected load. 2. Return to repair center.
	Fault code 08/09/53/57	Internal components failed.	Return to repair center.
	Fault code 51	Over current or surge.	Restart the unit
	Fault code 52	Bus voltage is too low	Restart the unit; if the error happens again, please return to repair center.
	Fault code 58	Output voltage is unbalanced.	Return to repair center.
	Fault code 59	PV input voltage is beyond the specification	Reduce the number of PV modules in series.
	Fault code 61	Communication lost	Restart the unit
	Fault code 80-82	CAN fault	Restart the unit / Problem occurs parallel status, cables, parallel boards connection

9. WHAT TO DO IN CASE OF AN EMERGENCY

If PuREPower is making unusual noises:

- Turn off all PuREPower, then turn off the AC breaker to PuREPower.
- Turn off the PuREPower integrated DC MCB.
- Ensure that nothing is blocking the air intake or in the fan
- In all cases, once the situation is stable, contact the Certified Installer who installed the system..

10. Warranty Policy :

PuREPower provides a warranty of 60 months for the battery and 36 months for both the inverter and protection board (BMS), beginning from the date of purchase. The warranty that the battery will retain at least 70% of its capacity for the duration of the warranty period. All other components are covered for one year warranty

S No	Item	Base Warranty
1	Battery Pack	5 Years
2	BMS	3 Years
3	Integrated Mother-board	3 Years
4	All Electrical Items & Consumables	1 Years
5	Cloud AI Support	5 Years
6	Firmware Upgrades	3 Years
7	Remote Data Monitoring	3 Years
8	Cloud Alerts	3 Years
9	Deep Discharge Coverage	Applicable only if 24x7 Wi-Fi Available and Limited to 5 Years

The repair or replacement of the PuREPower is subject to the terms and conditions mentioned in the battery warranty policy.

The Warranty Stands Void in Case of the Following Cases :

- Warranty claims will not be accepted under any circumstances if the damage or defect arises from the following causes. These conditions fall outside the scope of PuR Energy Ltd warranty obligations.
- Damage caused by insufficient ventilation or restricted airflow, resulting in reduced cooling performance, is not covered under warranty.
- Warranty is void if the product is installed improperly or by an installer who is not accredited by PuR Energy Ltd.
- Any defects arising from incorrect or non-compliant use, installation, commissioning, start-up, or operation of the product are not eligible for warranty claims.
- Damage caused by improper wiring, including electrical arcing or harm to the product or its components, is excluded from warranty coverage.
- Mishandling or misuse of the product by the installer or end-user, such as dropping the product during installation, will void the warranty.

- Damage resulting from force majeure events—such as lightning strikes, overvoltage, storms, fire, or flooding—is not covered under this warranty.
- Any damage incurred during incorrect or careless transportation of the product is not covered by the warranty. Unauthorized repair, modification, or reinstallation of the product will void all warranty obligations
- Water ingress, corrosive gas damage, or installation in dirty environments, causing particles to affect performance — is not covered under this warranty.
- If PuREPower Unit is idle/ inoperative condition for more than 6 months can lead to void in warranty terms

11.Do's and Don'ts

Do's

- Ensure installation is performed by authorized personnel
- Verify proper grounding and secure electrical connections.
- Use the app or cloud platform to monitor performance and receive alerts regularly.
- Ensure the unit is placed in a well-ventilated, dry area and away from direct sunlight to prevent overheating.
- Report faults immediately and ensure repairs are performed by authorized technicians
- If you plan to leave for a long time (≥ 30 days), you should comply with the following requirement to ensure that the SOC system of the battery is above 60% and the power switch is kept OFF. Keep in mind that the system should restart to charge the battery within 90 days.

Don'ts :

- Do not connect loads exceeding the rated capacity of the system.
- Do not attempt to repair or modify the unit without consulting authorized service personnel.
- Do not expose the unit to water, direct sunlight, corrosive chemicals, or physical shocks.
- Do not ignore fault alerts or fail to address them promptly.
- Do not remove the Wi-Fi module or disable the cloud monitoring setup.

12 . Instructions For Servicing

When the PuREPower is not functioning or for any query follow below instructions:

- Connect to the installer/dealer for immediate assistance or call toll-free No:1800 212 6440
- Our service team will guide you whether PuREPower to be sent back for repair or can be serviced near your location.

- The on-site visit charges are applicable as per the standards. In case of any warranty component replacements, only components are covered under warranty.
- PuREPower installation charges are applicable.
- Do not remove the Wi-Fi module or disable the cloud monitoring setup.

13. Disposal and Recycling Information

13.1 Environmentally Safe Disposal Practices

To minimize environmental impact and ensure the safe disposal of this PuREPower, users are advised not to dispose of the product with regular household waste. Instead, it should be handed over to an authorized electronic waste collection centre or returned to the manufacturer for proper recycling or disposal. Improper disposal may lead to environmental hazards or pose health risks.

This product is designed in compliance with applicable environmental standards and should be disposed of by local laws and regulations governing electronic waste.

13.2 Battery Disposal and Recycling

- If the PuREPower includes a built-in or external battery, please note:
- Batteries contain hazardous substances and must be disposed of carefully to avoid soil and water contamination.
- Do not incinerate, dismantle, or puncture the battery.
- Used batteries must be returned to the authorized collection centers or recyclers approved under the E-Waste (Management) Rules, 2022, as notified by the Ministry of Environment, Forest and Climate Change, Government of India.
- For lithium-ion batteries, users should consult local battery recycling programs or contact the manufacturer for take-back options.
- By disposing of this product and its components responsibly, you contribute to environmental conservation and support sustainable waste management practices.

14. Legal Disclaimers

14.1 Limitation of Liability

- The manufacturer and its authorized distributors shall not be liable for any direct, indirect, incidental, consequential, or special damages arising out of the use or inability to use this product, even if advised of the possibility of such damages. This includes, but is not limited to, damages for loss of profits, data, business interruption, or personal injury.
- The total liability of the manufacturer, whether in contract, tort, or otherwise, shall in no case exceed the purchase price of the product.

14.2. Misuse Disclaimer

This product is designed to be used strictly in accordance with the instructions provided in this manual. The manufacturer shall not be held responsible for any damage, injury, malfunction, or loss caused due to:

- Improper installation
- Unauthorized modification
- Operation under abnormal conditions (e.g., excessive load, extreme temperatures, or humidity)
- Use of incompatible or substandard accessories
- Failure to perform recommended maintenance

Any such use shall immediately void the warranty and the user shall bear all responsibility for resulting consequences.

14.3. Third-Party Component Exclusions

- This PuREPower may require integration with third-party components such as external batteries, solar panels, wiring, or circuit protection devices. The manufacturer disclaims all liability for performance issues, malfunctions, or damage resulting from the use of :
- Non-recommended or substandard third-party components
- Improper installation of such components
- Lack of compatibility or certification

The warranty shall not extend to any issues arising from the failure or malfunction of third-party accessories not supplied or recommended by the manufacturer

14.4. Governing Law and Jurisdiction

- This product and any disputes arising out of or in connection with its purchase, usage, warranty, or interpretation of this manual shall be governed by and construed in accordance with the laws of India.
- All disputes, claims, or proceedings arising out of this product shall be subject to the exclusive jurisdiction of the competent courts at Hyderabad, Telangana, and no other court shall have jurisdiction in such matters

15 . Technical datasheet

Model		PuREPower20.0
Input	Input Sources	3-Phase
	Rated Input Voltage	3 x 415 VAC
	Voltage Range	155-483 VAC
	Frequency	50 Hz/60 Hz (Auto sensing
Output	Output Rating Power	20000W
	Output Voltage	415VAC \pm 5%
	Waveform	Pure sine wave
	Transfer Time	10 ms
	Surge Power	36000VA
Grid-connected operation	Power Factor Range	>0.99
	Maximum conversion efficiency (DC/AC	>97%
	Max. Continuous Discharging Curren	90A X 4
Battery	Battery Voltage	54.6 V
	Max. Continuous charging Current	40A
SOLAR CHARGER & AC CHARGER	PV Charging Mode	Triple MPPT
	MAX PV Input Power	3X8500W
	MPPT Tracking Range	90~ 450VDC
	MAX. PV Input Voltage	450VDC
	MAX. Input current	3X 27 A
	MAX AC/ PV Charging Current	360A
Display	LCD interface	Operating mode/load/etc.
General Data	Dimension, W x D x H (mm)	540 (W) x 490 (D) x1325 (H)
	Net Weight (kg)	210 Kgs
	Cooling concept	Advanced Nano PCM
	Communication Interface	BMS, Dry-contact,CAN, Bluetooth,Wifi,AI Cloud

16.PuREPower WARRANTY REGISTRATION CARD

CUSTOMER NAME: _____

ADDRESS 1: _____

_____CITY_____

STATE_____PIN CODE_____

MOBILE NO: +91_____

MAIL ID: _____

PuREPower MODEL : _____PuREPower S.NO: _____

SOLD ON: DD_____MM_____YY_____ DEALER CODE: _____

STAMP & SIGNATURE DEALER

CUSTOMER SIGNATURE

17.QR codes for PuREPower Installation Guidelines

For Installation videos



For Safety Protocol

After completing the installation of PuREPower, scan the below provided QR code and complete all the mandatory steps for successful installation and warranty registration.



For I&C Warranty registration link

Note: Filling out the form linked via the QR code is mandatory. Failure to provide installation details will result in the product's warranty being deemed null and void.



PuR Energy Limited

H. No 10-38/2, Survey no 424/AA3, Beside Arya College of Pharmacy Near IIT Hyderabad, Kandi
Village, Sangareddy, Pin Code: 502285
Customer Care: 1800 212 6440