



- B. The energy flow diagram area includes information on the state and operation of the energy flow diagram of UPS;
- C. Click the menu bar to enter the menu screen to view more UPS information;
- D. The Meters data area displays the current operating mode of the UPS, total kVA and kW, and their respective percentages. Click this area to view the detailed three-phase data.

Screen saver for 10 minutes, i.e. If stay in any interface and no one click on the screen for 10 minutes, the screen automatically skips to the HOME screen, while turning off the backlight. When clicking on the screen again, the backlight lights up and the backlight restores

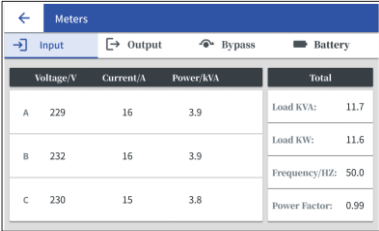
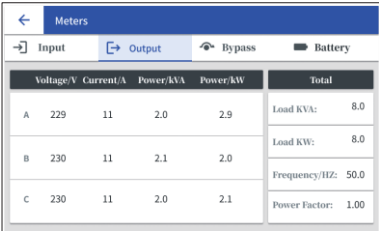
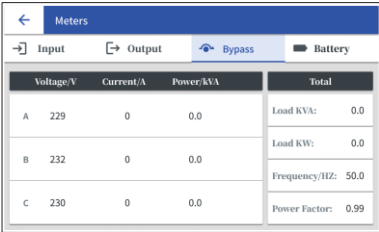

4.2.3 Use of menus

Click the icon “” in the upper left corner of the Home screen to enter the menu screen. The basic menu structure is shown in the following :

Interface	Menu	Option description
	Meters	Display the measurements of the system or critical load
	Control	Access various system control screens
	Log	Access the system logs, including alerts, notices and commands.
	Info.	Display the UPS and HMI information
	Setting	Access various screen control variables for system operation


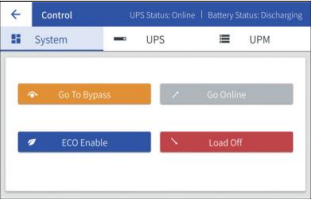
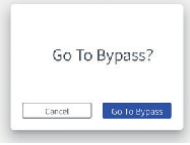
Use of Meters menu

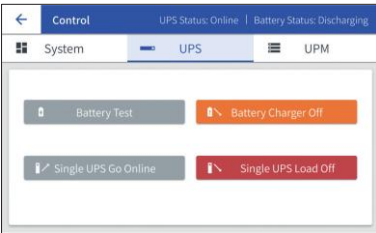


Click the Meters button in the menu screen to enter the Meters screen. The menu structure of Meters is shown in the following :

Interface	Menu	Option description
	Input	The "Input" screen displays the input voltage (per phase), input current (per phase), input power (per phase), and total frequency as well as total kVA, total kW, and power factor measurements of the AC mains.
	Output	The "Output" screen displays the output voltage (per phase), output current (per phase), output power (per phase), and total frequency, as well as total kVA, total kW, and power factor measurements of the AC mains.
	Bypass	The "Bypass" screen displays the bypass input voltage (phase voltage), input current (per phase), input power (per phase), and total frequency as well as total kVA, total kW, and power factor measurements of the bypass.
	Battery	The "Battery" screen displays the battery voltage, cell voltage and battery current.

Use of Control menu

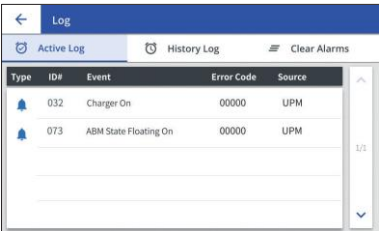
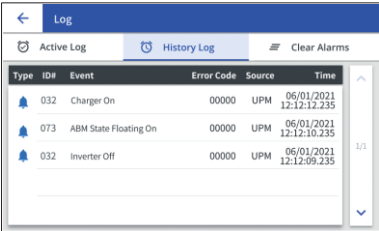
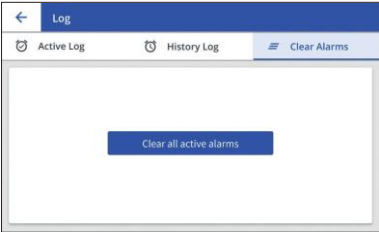
Click the Control button in the menu screen, then enter the initial control password “1111 1111” and click “OK”. When the password is correct, click “Next” to enter the Control screen. The menu structure of Control is shown in the following.

Interface	Menu	Option description
	<p>System</p>	<p>The “System” screen can be used for system go to bypass, go online, load off, and ECO Enable operation. In the upper part of the interface, you can view the UPS status and battery status.</p> <p>Method for switching the system to bypass mode:</p> <p>When the “Go to Bypass” button is not in gray, you can switch to bypass.</p> <ol style="list-style-type: none"> 1. Click the “Go to Bypass” button to enter the switch bypass interface, as shown in the following figure:  <ol style="list-style-type: none"> 2. Click the “Go to Bypass” button in this interface, as shown in the following figure:  <ol style="list-style-type: none"> 3. Click the “YES” button to switch to the bypass mode. <p>It is the same for other button functions.</p>

Interface	Menu	Option description
	<p>UPS</p>	<p>The “UPS” interface is used for battery testing, battery charger on, battery charger off, single UPS go online, single UPS load off operations. When the button is gray, it indicates that this button is currently null. In the upper part of the interface, you can view the UPS status and battery status.</p>
	<p>UPM</p>	<p>The “UPM” interface can view the UPM status, UPS status, and battery status. Click on the interface to enter the UPM turn off interface. When the button is gray, it indicates that this button is currently null. The UPM will be shut down upon a click of the “Turn Off” button on the interface.</p> 

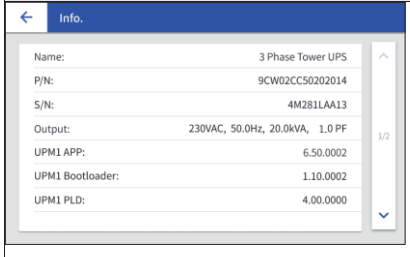
Use of Log menu

Click the Log button in the menu screen to enter the Log screen. The menu structure of Log is shown in the following.

Interface	Menu	Option description
	Active Log	On the “Active Log” screen, you can view all the alert information of the current UPS.
	History Log	On the “History Log” screen, you can view all active logs, 1,024 items on 205 pages at most.
	Clear Alarms	On the “Clear Alarms” screen, you can clear all the alert information on the “Active Log” interface.

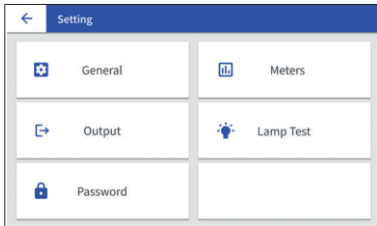
Use of Info. menu

Click the Info. button on the menu to enter the Info. interface. You can view the UPS name, serial number, UPM version number, HMI version number and other information in the Info. screen. The menu structure of the information (Info.) is shown in the following.

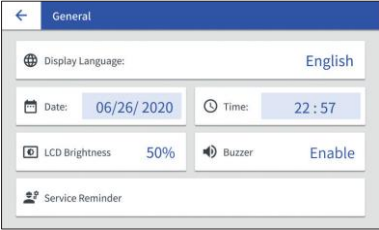
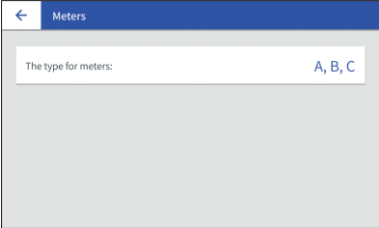
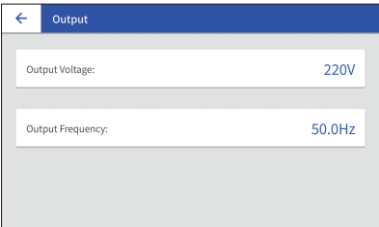
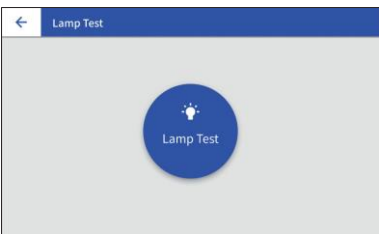
Interface	Menu	Option description
	<p style="text-align: center;">Info.</p>	<p>The "Info." screen can view the UPS name, serial number, UPM version number, HMI version number and other information.</p>

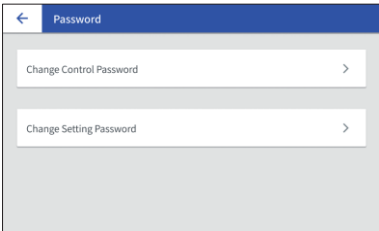
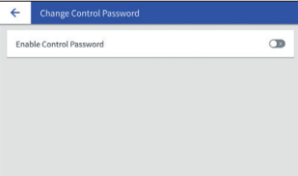


Use of Setting menu

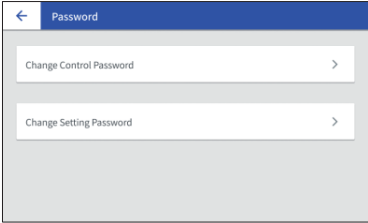



Click the Setting button in the menu interface, then enter the initial password "0101 0101" and click the "OK" button. When the password is correct, click "Next" to enter the setting interface. As shown in the following figure:



On the Setting interface, you can not only set the language, time, brightness, output voltage and frequency, but also modify the password. The menu structure of Setting is shown in the following table:

Interface	Menu	Option description
	General	<p>The “General” interface sets the HMI display language, date, time, and brightness.</p> <p>Click the “Time” button on the “General” interface to set the hour, minute and second. When the setting is complete, click the “Save” button to save the time of this setting. Click the “Cancel” button to return to the “General” interface.</p>
	Meters	<p>On the “Meters” interface, you can set the UPS measurements.</p>
	Output	<p>On the “Output” interface, you can set the UPS output voltage and frequency.</p>
	Lamp Test	<p>The “Lamp Test” interface detects whether the indicator lamp on the touch control panel is normal.</p>

Interface	Menu	Option description
	<p style="text-align: center;">Password</p>	<p>On the “Password” interface, you can modify the control password and setting password.</p> <p>The “Change Control Password” interface is used to change the password that enters the control interface:</p> <ol style="list-style-type: none"> 1. Click the “Enable Control Password” button in this interface.  <ol style="list-style-type: none"> 2. The keyboard and password display cabinet for modifying the control password are displayed, and the control password can be changed at this time.  <ol style="list-style-type: none"> 3. Click the password keyboard on the right side of the interface to enter the old password and the new one, and then click the “OK” button on the keyboard. If the old password is entered correctly, the text “New Password Saved” is displayed on the interface. 

Interface	Menu	Option description
	<p style="text-align: center;">Password</p>	<p>If the old password is entered incorrectly, the text “Wrong Old Password” is displayed on the interface, and you need to re-enter the password at this time.</p>  <p>On the “Password” interface, you can modify the control password and setting password.</p>  <p>The “Change Setting Password” interface is used to modify the password that enters the “Setting” interface:</p> <ol style="list-style-type: none"> 1. The keyboard and password display cabinet for modifying the setting password are displayed, and the setting password can be modified at this time.  <ol style="list-style-type: none"> 2. Click on the keyboard on the right side of the interface to enter the old password and the new one, then click the “OK” button on the keyboard. If the old password is entered correctly, the interface displays the text “New Password Saved”. If the old password is entered incorrectly, the interface displays the text “ Wrong Old Password”. At this time, you need to re-enter the password.。

Chapter 5 Communication Interface

The UPS provides expansion slots, parallel interfaces, REPO and SERVICE monitoring communication interface for technical personnel authorized by our company.

Location map of communication interface:

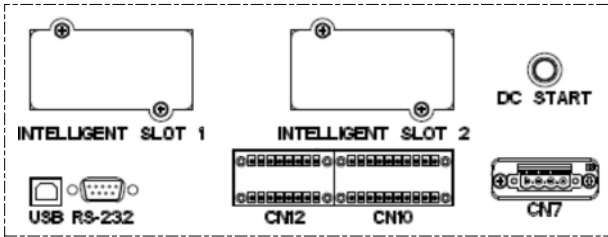


Figure 5-1: Communication Interface

- **Communication expansion slots:** The UPS has two communication expansion slots for installing MINI communication cards. MINI communication cards can be quickly installed and hot-swappable. For more information, please refer to Section 6.4 MINI Communication Card.
- **CN7 :** The Terminal CN7 for External Backfeed Driver Signal.

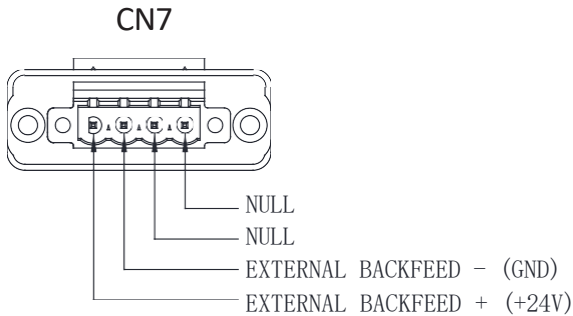


Figure 5-2 : CN7

- **CN10:** The terminal CN10 contains the parallel CAN communication signal, Pull-Chain signal, REPO signal.

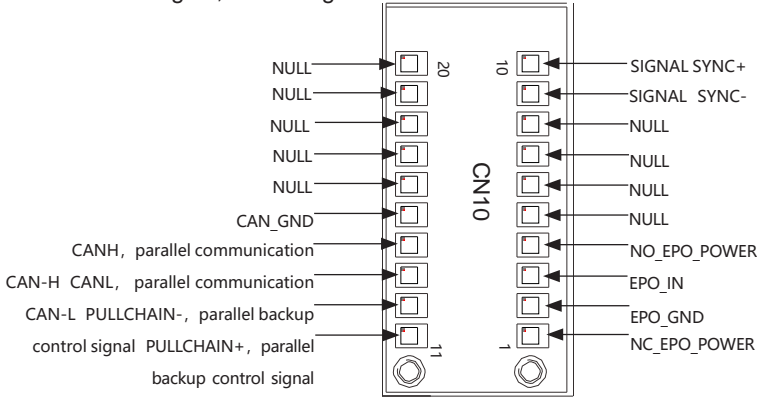
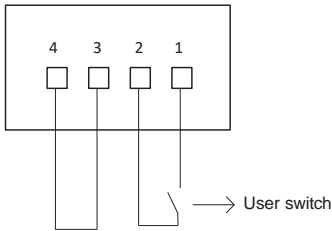


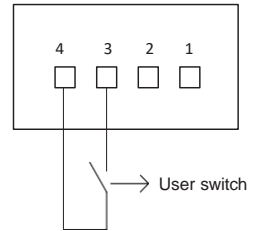
Figure 5-3: CN10

REPO external wiring diagram:

CN10



CN10



3-4 are connected with a short cable, and keep them connected. When 1-2 are open, the UPS will perform emergency power off.

When 3-4 are closed, the UPS will perform emergency power off. 1-2 are idle.

- CN12:** This standard function can be used to connect an external alarm signal to the corresponding interface terminal of the UPS, such as a smoke alarm or an overheating alarm signal. Please use twisted-pair wires to connect the alarm device and the corresponding UPS terminals. For the configuration of external alarm signals, you need to consult our company.

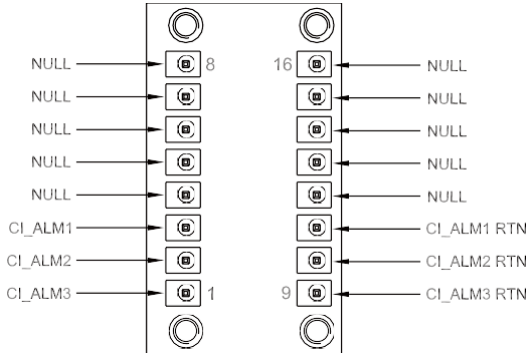


Figure 5-4: CN12

For the use of the above communication interface, please contact our customer service.

Chapter 6 Introduction of Optional Accessories

Intelligent Card (Optional)

Intelligent Card allow the UPS to communicate with different types of devices in variety of networking environments. Sollatek Maxima could use the following connectivity cards, please contact your local distributor for details

Notice: A connectivity card is must to monitor the UPS. The USB and RS232 ports are used for service only.

- **NMC G1 Card**

NMC provides access information and send commands for the UPS. NMC supports communicating protocols which are SNMP, Modbus TCP and HTTP/HTTPS for application. Through NMS (Network Management Station) or web browser user can access UPS information via Ethernet directly, meanwhile user can manage both UPS and NMC parameters as well. NMC provides shutdown protection for different OS, an application program which named SPS (System Protect Software) for multi-server shutdown purpose. The program provides shutdown function for different operating systems when shutdown events are appearing on UPS. Shutdown events are configurable by user. The shutdown software will proceed the automatic shutdown orderly to prevent the abnormal shut-off of the clients or servers.

- **EMP**

Supports temperature and humidity sensors for remote environment monitoring, EMP should work with NMC Card.

- **CMC G2 Card**

supports standard Modbus RTU communication with standard RS485 signal. Users can carry out centralized monitoring of multiple UPSs in the local area through CMC card, for getting UPS information and status in time.

- **Relay Card-MS**

The Relay Card - MS offers two types of interfaces via a DB9 connector:

Dry contacts (contact mode)

RS232 serial interface (RS232 mode)

All UPSs from us equipped with a Mini slot can be connected to a number of electrical-management applications.

Jumpers are used to select the interface (contacts or RS232).

Chapter 7 Transportation, Maintenance and Troubleshooting

Transporting UPS

Please follow the following steps to prepare for UPS transportation.

Note: As the UPS is very heavy, special equipment (such as forklifts) is needed for loading and unloading.

1. Turn off all devices connected to the UPS and remove all cables connected to the UPS terminal block.
2. Disconnect the UPS AC mains power switch and battery pack switch.

Servicing and Maintenance

The preventive maintenance of the UPS system is more convenient to carry out. It includes regular inspection and maintenance. It is advised that such work is performed by professional maintenance personnel of the manufacturer, so as to ensure that the equipment work normally and that the battery is in sound condition.

1. If the battery is disconnected, loads will not be protected from power failure.
2. Under normal circumstances, early replacement should be made if the battery is found not in good condition. The battery should only be replaced by qualified personnel. Users should not replace the battery themselves. The following precautions should be observed:
 - Before replacing the battery, please shut down the UPS and disconnect the AC mains power.
 - Remove watches, rings, or other metal objects.
 - Use screwdrivers with insulated handles, and do not lay tools or metal objects on the battery. Otherwise, the battery can present a risk of electrical shock or explosion from high short-circuits current.
 - Short circuit or reverse connection between the positive and negative terminals of the battery is strictly forbidden.
3. It is not recommended to replace batteries individually. All batteries should be replaced at the same time only by authorized personnel following the instructions from the battery supplier.
4. Please note that the ventilation of the UPS cooling hole is smooth. Clean the dust at the side panel and the fan vent every six months (please turn off the AC mains power and battery switch before cleaning).

Troubleshooting

Go through the following checklist if the UPS is operating abnormally:

1. Check if the input wiring of the UPS is connected correctly.
2. Check if any over-current circuit breaker has tripped.
3. Check if input voltage is within the specified limits.

Please refer to Table 4-1 Details of the status indicator lamp for appropriate handling

If there is a warning condition that is not in the list, or if the exception still exists after handling, be sure to provide the following information:

- UPS model, CTO number, equipment batch number (S/N).
- The date when the problem arose.
- A complete description of the problem (including HMI information, indicator lamp display, buzzer call, power condition, load capacity, etc.).

Appendix 1 20-80k UPS Technical Parameters

Model		20k	30k	40k	60k	80k
Rated capacity		20kVA/20kW	30kVA/30kW	40kVA/40kW	60kVA/60kW	80kVA/80kW
Efficiency (Input/Output)	Linear Load, Double Conversion Mode @ 400V/50Hz	95.34%	95.81%	95.53%	95.71%	95.58%
	Thermal dissipation	1.0kW	1.3kW	1.8kW	2.6kW	3.6kW
Input	Input type	Three-phase + Neutral Wire + Ground Wire				
	Frequency	40-72Hz				
	Power factor	≥0.99				
	Mains Voltage Range	Rated 230/400Vac (Optional:220/380, 240/415) 190/330 ~ 276/478Vac (-15%, +20%) , under 100% load 116/201 ~ 276/478Vac (-50%, +20%) , under 50% load				
	Bypass Voltage Range	Rated 230/400VAC (Optional: 220/380, 240/415) 207/359-253/438 VAC (range rated voltage ±10% by default, maximum optional range ±20%)				
Output	Rated voltage	230/400 VAC, Three Phase + Neutral Wire + Ground Wire, (Optional: 220/380, 240/415)				
	Power factor	1.0				
	Frequency Tolerance	Synchronous bypass frequency range of ±4Hz				
	Overload Time	102-110% load 60 mins, 111-125% load 10 mins, 126-150% load 1 min, > 151% load 150 ms				
Operating environment	Ambient temperature	0-40°C UPS work in more than 40 °C condition, please contact our company for more information				
	Storage Temperature	-5 ~ +55°C (packing intact) For other storage conditions, please see storage requirements in the section on precautions.				
	Ambient humidity	5-95%, no condensation. The difference between the dry bulb temperature and the wet bulb temperature of the hygroscope shall always be at least 1 degree Celsius (1.8 degrees Fahrenheit) to achieve a condensation-free environment.				

	Altitude	<p>The altitude of UPS during normal operation shall be not more than 1,000 meters (3,300 feet). If it exceeds 1,000 meters, it shall be reduced in accordance with GB/T 3859.2. If the customer operates the UPS in more than 2,000 meters, please contact our company for more information.</p>
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Model		20k	30k	40k	60k	80k
Rated capacity		20kVA/20kW	30kVA/30kW	40kVA/40kW	60kVA/60kW	80kVA/80kW
Battery voltage range with batteries		320V ~ 552V				
Battery voltage range without batteries (KS)		320V ~ 607V				
Battery internal configuration		32-40 batteries +N-				
Battery external configuration		32-44 batteries +N-				
Weight	Net weight without batteries (KS)	40kg	45kg	45kg	96kg	97kg
	Gross weight without batteries (KS)	55kg	60kg	60kg	134kg	134kg
	Net weight with batteries	134kg	136kg	139kg	227 kg	230 kg
	Gross weight with batteries	149kg	151kg	154kg	247 kg	250 kg
	Battery weight 1*GTBM023	~105kg	~105kg	~105kg	~105kg	~105kg
	Battery weight 2*GTBM023	~210kg	~210kg	~210kg	~210kg	~210kg
	Battery weight 3*GTBM023	N/A	N/A	N/A	~315kg	~315kg
	Battery weight 4*GTBM023	N/A	N/A	N/A	~420kg	~420kg
Cabinet Dimensions (WxDxH)		500*859*887	500*859*887	500*859*887	500*846*1500	500*846*1500
Shipping Dimensions (WxDxH)		800*1100*1195	800*1100*1195	800*1100*1195	800*1100*1800	800*1100*1800
Safety standard		IEC/62040.1				
EMC		IEC/62040.2				

Appendix 2 20-80ks UPS Technical Parameters

Model		20ks	30ks	40ks	60ks	80ks
Rated capacity		20kVA/20kW	30kVA/30kW	40kVA/40kW	60kVA/60kW	80kVA/80kW
Efficiency (Input/Output)	Linear Load, Double Conversion Mode @ 400V/50Hz	95.34%	95.81%	95.53%	95.71%	95.58%
	Thermal dissipation	1.0kW	1.3kW	1.8kW	2.6kW	3.6kW
Input	Input type	Three-phase + Neutral Wire + Ground Wire				
	Frequency	40-72Hz				
	Power factor	≥0.99				
	Mains Voltage Range	Rated 230/400Vac (Optional:220/380, 240/415) 190/330 ~ 276/478Vac (-15%, +20%) , under 100% load 116/201 ~ 276/478Vac (-50%, +20%) , under 50% load				
	Bypass Voltage Range	Rated 230/400VAC (Optional: 220/380, 240/415) 207/359-253/438 VAC (range rated voltage ±10% by default, maximum optional range ±20%)				
Output	Rated voltage	230/400 VAC, Three Phase + Neutral Wire + Ground Wire, (Optional: 220/380, 240/415)				
	Power factor	1.0				
	Frequency Tolerance	Synchronous bypass frequency range of ±4Hz				
	Overload Time	102-110% load 60 mins, 111-125% load 10 mins, 126-150% load 1 min, > 151% load 150 ms				
Operating environment	Ambient temperature	0-40°C UPS work in more than 40 °C condition, please contact our company for more information				
	Storage Temperature	-5 ~ +55°C (packing intact) For other storage conditions, please see storage requirements in the section on precautions.				
	Ambient humidity	5-95%, no condensation. The difference between the dry bulb temperature and the wet bulb temperature of the hygroscope shall always be at least 1 degree Celsius (1.8 degrees Fahrenheit) to achieve a condensation-free environment.				

	Altitude	The altitude of UPS during normal operation shall be not more than 1,000 meters (3,300 feet). If it exceeds 1,000 meters, it shall be reduced in accordance with GB/T 3859.2. If the customer operates the UPS in more than 2,000 meters, please contact our company for more information.				
Rated capacity		20kVA/20kW	30kVA/30kW	40kVA/40kW	60kVA/60kW	80kVA/80kW
Battery voltage range without batteries (KS)		320V ~ 607V				
Battery external configuration		32-44 batteries +N-				
Weight	Net weight without batteries (KS)	40kg	45kg	45kg	96kg	97kg
	Gross weight without batteries (KS)	55kg	60kg	60kg	134kg	134kg
Cabinet Dimensions (WxDxH)		330*700*525	330*700*525	330*700*525	330*772*977	330*972*977
Shipping Dimensions (WxDxH)		440*800*695	440*800*695	440*800*695	585*880*1148	585*880*1148
Safety standard		IEC/62040.1				
EMC		IEC/62040.2				

Warning: This product is used for commercial and industrial fields in the second type of environment and may require installation restrictions or additional measures to curb harassment.

* Non-default battery cell configuration, please make sure that you are confirmed with our sales or technical support.



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