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Publish statement

Thank you for purchasing this series UPS.

This series UPS is an intelligent, single phase in single phase out, high frequency online UPS designed by our R&D team who is with years of designing experiences on UPS. With excellent electrical performance, perfect intelligent monitoring and network functions, smart appearance, complying with EMC and safety standards, The UPS meets the world's advanced level.

Read this manual carefully before installation

This manual provides technical support to the operator of the equipment.

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1. Important Safety Warning

Important safety instructions – Save these instructions

Please comply with all warnings and operating instructions in this manual strictly. Save this manual properly and read carefully the following instructions before installing the unit. Do not operate this unit before reading through all safety information and operating instructions carefully

There exists dangerous voltage and high temperature inside the UPS. During the installation, operation and maintenance, please abide the local safety instructions and relative laws, otherwise it will result in personnel injury or equipment damage. Safety instructions in this manual act as a supplementary for the local safety instructions. Our company will not assume the liability that caused by disobeyingsafety instructions.

1-1 Transportation

 Please transport the UPS system only in the original package to protect against shock and impact.

1-2 Preparation

- Condensation may occur if the UPS system is moved directly from cold to warm environment. The UPS system must be absolutely dry before being installed. Please allow at least two hours for the UPS system to acclimate the environment.
- Do not install the UPS system near water or in moist environments.
- Do not install the UPS system where it would be exposed to direct sunlight or near heater.
- Do not block ventilation holes in the UPS housing.

1-3 Installation

- Do not connect appliances or devices which would overload the UPS system (e.g. laser printers) to the UPS output sockets.
- Place cables in such a way that no one can step on or trip over them.
- Do not connect domestic appliances such as hair dryers to UPS output sockets.
- The UPS can be operated by any individuals with no previous experience.
- Connect the UPS system only to an earthed shockproof outlet which must be easily accessible and close to the UPS system.
- Please use only VDE-tested, CE-marked mains cable (e.g. the mains cable of your computer) to connect the UPS system to the building wiring outlet (shockproof outlet).
- Please use only VDE-tested, CE-marked power cables to connect the loads to the UPS system.
- When installing the equipment, it should ensure that the sum of the leakage current of the UPS and the connected devices does not exceed 3.5mA.

1-4 Operation

- Do not disconnect the mains cable on the UPS system or the building wiring outlet (shockproof socket outlet) during operations since this would cancel the protective earthing of the UPS system and of all connected loads.
- The UPS system features its own, internal current source (batteries). The UPS output sockets or output terminals block may be electrically live even if the UPS system is not connected to the building wiring outlet.
- In order to fully disconnect the UPS system, first press the OFF/Enter button to disconnect the mains.
- Prevent no fluids or other foreign objects from inside of the UPS system.

1-5 Maintenance, service and faults

- The UPS system operates with hazardous voltages. Repairs may be carried out only by qualified maintenance personnel.
- Caution risk of electric shock. Even after the unit is disconnected from the mains (building wiring outlet), components inside the UPS system are still connected to the battery and electrically live and dangerous.
- Before carrying out any kind of service and/or maintenance, disconnect the batteries and verify that no current is present and no hazardous voltage exists in the terminals of high capability capacitor such as BUS-capacitors.
- Only persons are adequately familiar with batteries and with the required precautionary measures may replace batteries and supervise operations. Unauthorized persons must be kept well away from the batteries.
- Caution risk of electric shock. The battery circuit is not isolated from the input voltage. Hazardous voltages may occur between the battery terminals and the ground. Before touching, please verify that no voltage is present!
- Batteries may cause electric shock and have a high short-circuit current. Please take the precautionary measures specified below and any other measures necessary when working with batteries:
 - -remove wristwatches, rings and other metal objects
 - —use only tools with insulated grips and handles.
- When changing batteries, install the same number and same type of batteries.
- Do not attempt to dispose of batteries by burning them. This could cause battery explosion.
- Do not open or destroy batteries. Escaping electrolyte can cause injury to the skin and eyes. It may be toxic.
- Please replace the fuse only with the same type and amperage in order to avoid fire hazards.
- Do not dismantle the UPS system.

1-6 Symbols used in this guide



WARNING!

Riskofelectricshock



CAUTION!

Readthisinformationtoavoidequipmentdamage

2. Installationand setup

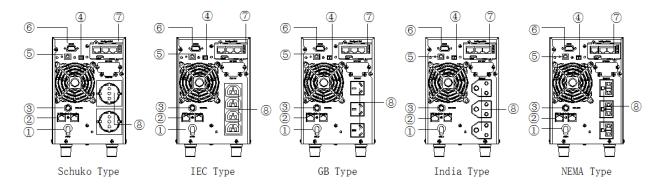
NOTE: Before installation, please inspect the unit. Be sure that nothing inside the package is damaged. Please keep the original package in a safe place for future use.

2-1 Unpack checking

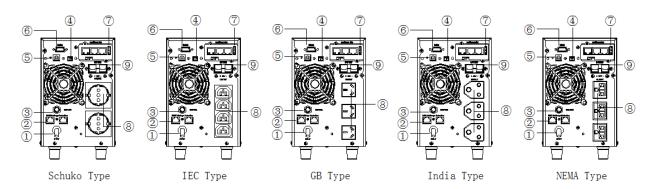
- Don't lean the UPS when moving it out from the packaging
- Check the appearance to see if the UPS is damaged or not during the transportation, do not switch on the UPS if any damage found. Please contact the dealer right away.
- Check the accessories according to the packing list and contact the dealer in case of missing parts.

2-2 Real panel view

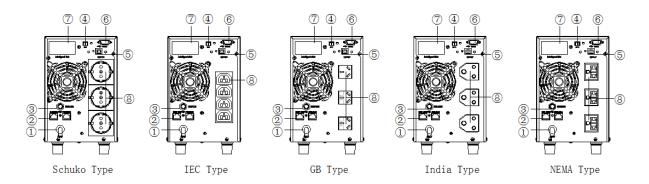
1KVA(S):



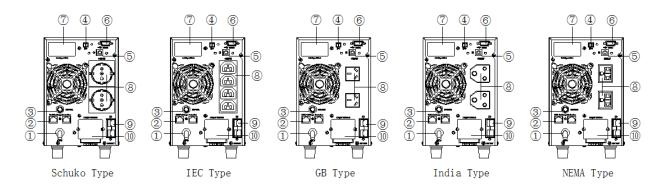
1KVA(H):



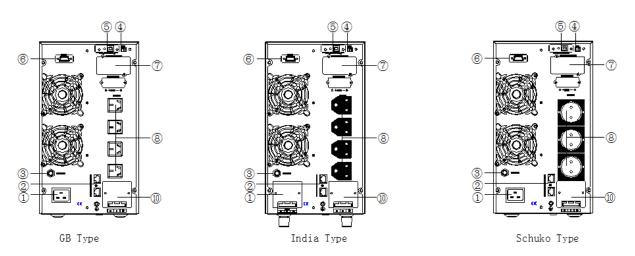
2KVA(S):

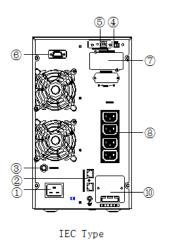


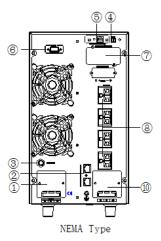
2KVA(H)/3KVA(H)



3KVA(S):

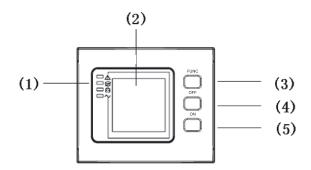






- 1. AC input
- 2. Network /Fax/Modem Surge Protection(option)
- 3. Input circuit breaker
- 4. EPO(option)
- 5. USB communication port(option)
- 6. RS-232 communication port
- 7. SNMP intelligent slot (option)
- 8. Output receptacles
- 9. Battery Terminal
- 10. Output Terminal

2-3 LCD control panel



LCD control panel introduction

(1) LED (from top to bottom: "alarm", "bypass", "battery", "inverter") (2) LCD display (3) Selectbutton:enter to next item (4) Off button (5) On button

2-4 Setup the UPS

Step 1: UPS input connection

Plug the UPS into a two-pole, three-wire, grounded receptacle only. Avoid using extension cords.

• For 200/208/220/230/240VAC models: The power cord is supplied in the UPS

package.

Step 2: UPS output connection

- For socket-type outputs, simply connect devices to the outlets.
- For terminal-type input or outputs, please follow below steps for the wiring configuration:
 - a) Remove the small cover of the terminal block
 - b) Suggest using AWG14 or 2.1mm² power cords for 3KVA (200/208/220/230/240VAC models).
 - c) Upon completion of the wiring configuration, please check whether the wires are securely affixed.
 - d) Put the small cover back to the rear panel.

Step 3 Communication connection

Communication port:



To allow for unattended UPS shutdown/start-up and status monitoring, connect the communication cable one end to the USB/RS-232 port and the other to the communication port of your PC. With the monitoring software installed, you can schedule UPS shutdown/start-up and monitor UPS status through PC.

The UPS is equipped with intelligent slot perfect for either SNMP or Relay card. When installing either SNMP or Relay card in the UPS, it will provide advanced communication and monitoring options.

NOTE: USB port and RS-232 port can't work at the same time.

Step 4: Turn on the UPS

Press the ON button on the front panel for two seconds to power on the UPS.

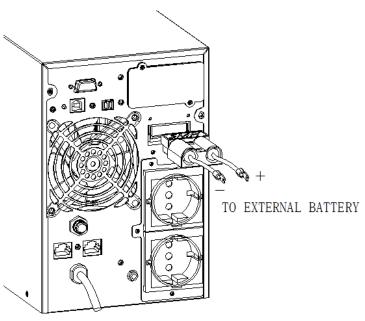
Note: The battery charges fully during the first five hours of normal operation. Do not expect full battery run capability during this initial charge period.

Step 5: Install software

For optimal computer system protection, install UPS monitoring software to fully configure UPS shutdown. You may insert provided CD into CD-ROM to install the monitoring software.

Step 6: External battery connection

If your UPS is not including batteries. Please connect external batteries as below chart.



3. Operations

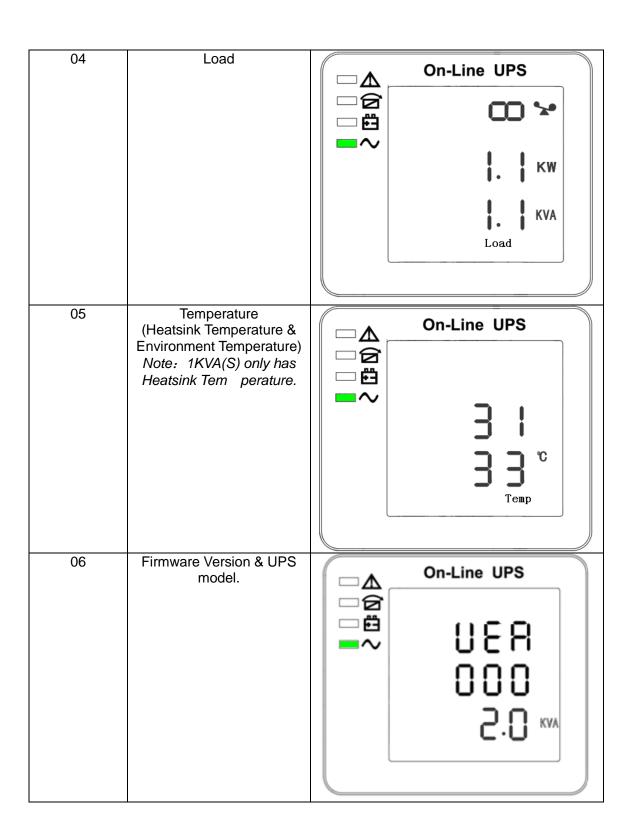
3-1 Button operation

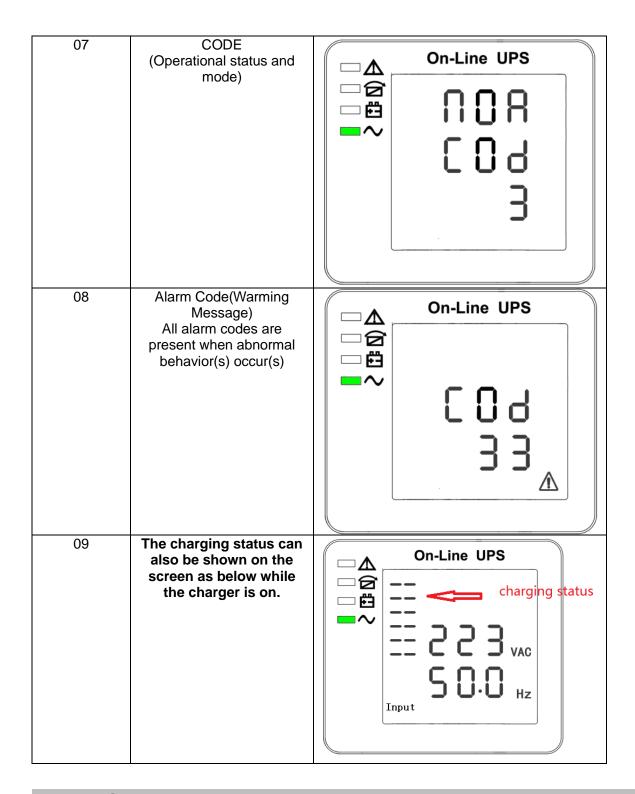
Button	Function
	 Turn on the UPS: Press and hold ON button for at least 2 seconds to turn on the UPS. Down key: Press this button to display next selection in
ON Button	UPS setting mode.
	Exit setting mode: Press this button to confirm seletion and exit setting mode when LCD display the last selection in UPS setting mode.
OFF Button	 Turn off the UPS: Press and hold this button at least 2 seconds to turn off the UPS in battery mode. UPS will be in standby mode under power normal or transfer to Bypass mode if the Bypass enable setting by pressing this button. Switch to bypass mode: When the main power is normal, press and hold this button for 2 seconds. Then UPS will enter to bypass mode. This action will be ineffective when the input voltage is out of acceptable
	range. > Up key: Press this button to display previous selection in UPS setting mode.
Select/Mute Button	 Switch LCD message: Press this button to change the LCD message for input voltage, input frequency, battery voltage, output voltage and output frequency etc. Mute the alarm: When the UPS is on battery mode, press and hold this button for at least 2 seconds to disable or enable the alarm system. But it's not applied to the situations when warnings or errors occur. Switch to UPS self-test mode: Press and hold this button for 2 seconds to enter UPS self-testing while in AC mode.
OFF + Select Button	Setting mode: Press and hold this button for 5 seconds to enter UPS setting mode.

3-2 LCD display

There are 8 interfaces available in the LCD display

Item	Interface Description	Content Displayed
01	Input voltage	On-Line UPS
02	Battery voltage	On-Line UPS On-Line UPS DED Battery
03	Output voltage	On-Line UPS On-Line UPS On-Line UPS On-Line UPS Hz Output





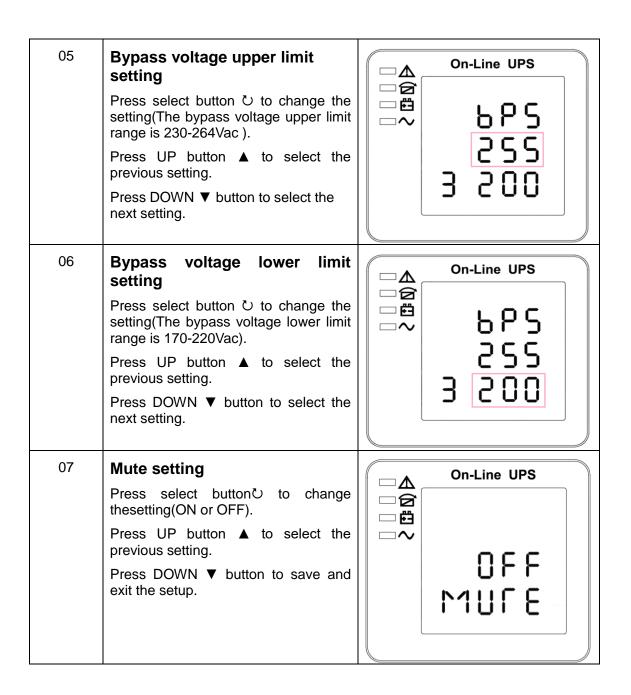
3-3 UPS setting

The setting fuction is controlled by 3 buttons (Enter/SelectŮ,Off/up ▲, On/down▼): Enter Ů+Off/up ▲---goes into the setting page,Enter Ů--- value adjustment; Off ▲ & On ▼---for choosing different pages.

After the UPS turn ON, press buttons ひ& ▲ for 5seconds and then goes into the setting interface page.

Note: Figure at left corner is the page number of the setting pages.

Item	Settings	Content Displayed
01	Mode setting Press select button ひ to change the setting (ECO or NOR). Press UP button ▲ to select the previous setting. Press DOWN ▼ button to select the next setting.	On-Line UPS CONTROLLED CONTR
02	Output voltage setting Press select button ひ to change the setting (100,110,115,120,127 or 200,208 , 220, 230, 240). Press UP button ▲ to select the previous setting. Press DOWN ▼ button to select the next setting.	On-Line UPS ECO VAC 1 60 Hz
03	Frequency setting Press select button ひ to change the setting (50 or 60Hz). Press UP button ▲ to select the previous setting. Press DOWN ▼ button to select the next setting.	On-Line UPS CON-Line UPS CON
04	Battery capacity setting Press select button ひ to change the setting (Battery capacity range is 1-200Ah). Press UP button ▲ to select the previous setting. Press DOWN ▼ button to select the next setting.	On-Line UPS On-Line UPS Ah Battery



3-4 Operating Mode Description

Operating mode	Description	Display
Online mode	When the input voltage is within acceptable range, UPS will provide pure and stable AC power to output. The UPS will also charge the battery at online mode.	Inverter led light
ECO mode	Energy saving mode: When the input voltage is within voltage regulation range, UPS will bypass voltage to output for energy saving.	Bypass led light
Battery mode	When the input voltage is beyond the acceptable range or power failure and alarm is sounding every 4 second, UPS will backup power from battery.	Battery led light
Standby mode	UPS is powered off and no output supply power, but still can charge batteries.	All LEDs turn off
Bypass mode	When input voltage is within acceptable range but UPS is overload, UPS will enter bypass mode or bypass mode can be set by front panel. Alarm is sounding every 10 second.	Bypass led light

3-5 Operational Status and Mode(s)

item	Content Displayed
1	Initialized
2	Standby Mode
3	No Output
4	Bypass Mode
5	Utility Mode
6	Battery Mode
7	Battery Self-diagnostics
8	Inverter is starting up
9	ECO Mode
10	EPO Mode
11	Maintenance Bypass Mode
12	Fault Mode

3-6 Alarm or Fault reference code

Event log	UPS Alarm Warning	Buzzer	LED
1	Rectifier Fault	Beep continuously	Fault LED lit
2	Inverter fault(Including Inverter bridge is shorted)	Beep continuously	Fault LED lit
9	Fan fault	Beep continuously	Fault LED lit
13	Battery Charger fault	Beep continuously	Fault LED lit
15	DC Bus over voltage	Beep continuously	Fault LED lit
16	DC Bus below voltage	Beep continuously	Fault LED lit
17	DC bus unbalance	Beep continuously	Fault LED lit
18	Soft start failed	Beep continuously	Fault LED lit
19	Over Temperature	Twice per second	Fault LED lit
26	Battery over voltage	Once per second	Fault LED blinking
29	Output Short-circuit	Once per second	Fault LED blinking
30	Input current limit	Once per second	Fault LED blinking
31	Bypass over current	Once per second	BPS LED blinking
32	Overload	Once per second	INV or BPS LED blinking
33	No battery	Once per second	Battery LED blinking
34	Battery under voltage	Once per second	Battery LED blinking
35	Battery low pre-warning	Once per second	Battery LED blinking
36	Over load time out	Once per 2 seconds	Fault LED blinking
37	DC component over limit.	Once per 2 seconds	INV LED blinking
39	Mains volt. Abnormal	Once per 2 seconds	Battery LED lit
40	Mains freq. abnormal	Once per 2 seconds	Battery LED lit
41	Bypass Not Available		BPS LED blinking
42	Bypass unable to trace		BPS LED blinking
43	Inverter on invalid		
44	Not at Inverter side		

4. Troubleshooting

If the UPS system does not operate correctly, please solve the problem by using the table below.

Symptom	Possible cause	Remedy		
No indication and alarm even	The AC input power is not connected well.	Check if input power cord firmly connected to the mains.		
though the mains is normal.	The AC input is connected to the UPS output.	Plug AC input power cord to AC input correctly.		
Alarm code is shown as "33" and battery led blinking.	The external or internal battery is incorrectly connected.	Check if all batteries are connected well.		
Alarm code is shown as "26" and battery led blinking.	Battery voltage is too high or the charger is fault.	Contact your dealer.		
Alarm code is shown as "34" and battery led blinking	Battery voltage is too low or the charger is fault.	Contact your dealer.		
Alarm code is shown as "32" and INV or BYPASS led blinking.	UPS is overload	Remove excess loads from UPS output.		
Alarm code is shown as "29" and FAULT led light.	The UPS shut down automatically because short circuit occurs on the UPS output.	Check output wiring and if connected devices are in short circuit status.		
Alarm code is shown as "9" and FAULT led light.	Fan fault.	Contact your dealer.		
Alarm code is shown as "01,02, 15,16,17,18"	A UPS internal fault has occurred.	Contact your dealer.		
Battery backup time is shorter than nominal value	Batteries are not fully charged	Charge the batteries for at least 5 hours and then check capacity. If the problem still persists, consult your dealer.		
	Batteries defect	Contact your dealer to replace the battery.		

5. Storage and Maintenance

Operation

The UPS system contains no user-serviceable parts. If the battery service life (3~5 years at 25°C ambient temperature) has been exceeded, the batteries must be replaced. In this case, please contact your dealer.



Be sure to deliver the spent battery to a recycling facility or ship it to your dealer in the replacement battery packing material.

Storage

Before storing, charge the UPS 5 hours. Store the UPS covered and upright in a cool, dry location. During storage, recharge the battery in accordance with the following table:

Storage Temperature	Recharge Frequency	Charging Duration
-25°C - 40°C	Every 3 months	1-2 hours
40°C - 45°C	Every 2 months	1-2 hours

6. Specification

MODEL		1KVA(S)	1KVA(H)- B	1KVA(H)	2KVA(S)	2KVA(H) B	2KVA(H)	3KVA(S)	3KVA(H)- B	3KVA(H)	
PHASE		Single phase with ground									
Capacity (VA/	1000VA / 900W 2000VA / 1800W 3000VA / 2700W						0W				
INPUT											
Nominal volta	ge			100/110/	115/120/12	27VAC o	r 200/208/22	0/230/240V	AC		
	Low line transf er		85 or 160Vac±5% @100%-80% load; 75 or 140Vac±5% @80%-70% load; 65 or 120Vac±5% @70%-60% load; 55 or 110Vac±5% @60%-0% load; (Ambient Temp. <35°¢ 95 or 175Vac±5% @100%-80% load;								
Operating voltage range	Low line come back				85 or 155 75 or 135 65 or 125	Vac±5% Vac±5% Vac±5%	@100%-80% @80%-70% @70%-60% @60%-0% l emp. <35°¢	load; load;			
	High line transf er				1	45 or 300)Vac ±5%				
	High line come back		140 or 290Vac ±5%								
Operating free range	quency		40-70Hz								
Power factor		0.990 @100% load(Nominal Input Voltage)									
Bypass voltaç	ge range	115-13 170-22	For 200/208/220/230/240 VAC models: 230-264: setting the high voltage point in LCD from 230Vac to 264Vac. (Default: 264Vac) For 100/110/115/120/127 VAC models: 115-132: setting the high voltage point in LCD from 115Vac to 132Vac(Default: 132Vac) Bypass low voltage point For 200/208/220/230/240 VAC models: 170-220: setting the low voltage point in LCD from 170Vac to 220Vac. (Default: 170Vac) For 100/110/115/120/127 VAC models: 95-110: setting the high voltage point in LCD from 95Vac to 110Vac. (Default: 95Vac)								
ECO range		33-11	U . Setting	ine mgn				ic to 110 vai	J. (Delault.	33 vac)	
Generator inp	out	Same as bypass Support									
OUTPUT		συμμοτι									
Output voltag	e			100/110/	/115/120/1	27VAC o	r 200/208/22	0/230/240\	/ac		
Power factor				- -		0.					
Voltage regula	ation					±1%(Bat					
Frequency	Line Mode (synchro nized range)	47-53Hz or 57-63Hz									
	Bat. Mode				(50/60±0.1)Hz						
Crest factor		3:1									
Harmonic distortion (THDv)		≤3% THDwith linear load ≤6% THD with non linear load									
Waveform						Pure Sir	newave				
Transfer time AC mode <->Batt. mode		Zero									
					18						

	Inverter <->					4ms(Typi	cal)			
bypass Efficiency			%(AC mod		>89%(AC mode) >87%(DC mode)			>90%(AC mode) >88%(DC mode)		
BATTERY			70(20			7. 78(2.0 1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, 33	73(2 0	
Battery Type		12V9A H	depends on the capacity of 12V9A external H batteries		12V9A H	depends on the capacity of external batteries		depends on the capacity of external batteries		ity of
Numbers		2	2	3	4	4	6	6	6	8
Backup time			Lor	ng run ui	nit depend	ls on the ca	pacity of ex	kternal batte	eries	
Typical recha				4 h	ours reco	ver to 90%	capacity (Typical)		
Charging volt	age	27.4 VDC ±1%	27.4 VDC ±1%	41.0 VDC ±1%	54.7 VDC ±1%	54.7 VDC ±1%	82.1 VDC ±1%	82.1 VDC ±1%	82.1 VDC ±1%	109.4 VDC ±1%
Charge currer	nt	1A	12.		1A		2A	1A	12	
SYSTEM FEA										
Overload @35°C	Line Mode Battery Mode	Ambient Temp.<35°C 105%~110%: UPS shuts down after 10 minutes at battery mode or transfer to bypass when the utility is normal 110%~130%: UPS shuts down after 1 minute at battery mode or transfer to bypass when the utility is normal >130%:UPS shuts down after 3 seconds at battery mode or transfer to bypass when the utility is normal 35°QAmbient Temp.<40°C 105%~110%: UPS shuts down after 1 minutes at battery mode or transfer to bypass when the utility is normal >110%:UPS shuts down after 3 seconds at battery mode or transfer to bypass when the utility is normal								
	Bypass Mode	8A(lı	nput break	(er)	16/	A(Input brea	aker)	25A(Input breaker)		
Short Circuit		Hold Whole System								
Overheat		Line Mode: Switch to Bypass; Backup Mode: Shut down UPS immediately								
Low battery v	oltage	Alarm and Switch off								
EPO (optional)	Shut down UPS immediately								
Audible & Visu	ual alarms	Line Failure, Battery Low, Overload, System Fault								
Comunication		USB(or RS232), SNMPcard(optional), Relay card (optional)								
ENVIRONME	NTAL	T								
Operating ten	•	0℃~40℃								
Storage temp		-25℃~55℃								
Humidity rang	ge	20-90 % RH @ 0- 40°C (non-condensing)								
Altitude		< 1500m								
Noise level		Less than 50dBA at 1 Meter								
PHYSICAL	L. D	44000			44000			104555		
Dimension W×H×D (mm)		144*209* 293	144*20		144*209* 399		09*399	191*337*46 0	144*20	9*399
Net Weight (kg)		8.9	4.2	2	16.2	6	.3	24.8	6.	5
STANDARDS		ı								
Safety		IEC/EN62040-1,IEC/EN60950-1 IEC/EN62040-2,IEC61000-4-2,IEC61000-4-3,IEC61000-4-4,								
EMC		l IE	C/EN6204				-4-3,IEC61 -4-6,IEC61			

^{*} Derate to 80% of capacity when the output voltage is adjusted to100/200/208VAC ** Product specifications are subject to change without further notice.