

UPS USER MANUAL DRAGON POWER SIX 6 KVA



Uninterruptible Power Supply

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.

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1. Safety and EMC instructions

Please read carefully the following user manual and the safety instructions before installing the unit or using the unit!

1-1. Transportation and Storage

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

 $m L\Delta$ The UPS must be stored in the room where it is ventilated and dry.

1-2. Preparation

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 nearby heater.

 Δ Do not block ventilation holes in the UPS housing.

1-3. Installation

Do not connect appliances or devices which would overload the UPS (e.g. big motor-type equipment)).

Place cables in such a way that no one can step on or trip over them.

Do not block air vents in the housing of UPS. The UPS must be installed in a location with good ventilation. Ensure enough space on each side for ventilation.

UPS has provided earthed terminal, in the final installed system configuration, equipotential earth bonding to the external UPS battery cabinets.



An appropriate disconnect device as short-circuit backup protection should be provided in the building wiring installation.

An integral single emergency switching device which prevents further supply to the load by the UPS in any mode of operation should be provided in the building wiring installation.

Installation and Wiring must be performed in accordance with the local electrical laws and regulations.

1-4. A Connection Warnings

• There is no standard backfeed protection inside, please isolate the UPS before working according to this circuit. The isolation device must be able to carry the UPS input current.



- This UPS should be connected with **TN** earthing system.
- The input power supply rating must be in accordance with your equipment (i.e., 3-phase, 2-phase or single-phase.) It also must be suitably grounded.
- Use of this equipment in life support applications where failure of this equipment can reasonably be expected to cause the failure of the life support equipment or to significantly affect its safety or effectiveness is not recommended. Do not use this equipment in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.
- Connect your UPS power module's grounding terminal to a grounding electrode conductor.
- The UPS is connected to a DC energy source (battery). The output terminals may be live when the UPS is not connected to an AC supply.

Before working on this circuit

- Isolate Uninterruptible Power System (UPS)
- Then check for Hazardous Voltage between all terminals including the protective earth.



Risk of Voltage Backfeed

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1-5. Operation

Do not disconnect the earth conductor cable on the UPS or the building wiring terminals in any time since this would cancel the protective earth of the UPS system and of all connected loads.

If the external battery cabinet is connected, the UPS output Anderson connector 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" button and then disconnect the mains.



1-6. Standards (only for 3-3 10K, 3-1 10K, 1-1 10K)

* Safety	
IEC/EN 62040-1	
* EMI	
Conducted Emission :IEC/EN 62040-2	Category C3
Radiated Emission:IEC/EN 62040-2	Category C3
*EMS	
ESD:IEC/EN 61000-4-2	Level 4
RS:IEC/EN 61000-4-3	Level 3
EFT :IEC/EN 61000-4-4	Level 4
SURGE: IEC/EN 6	0@% @ - 5
CS:IEC/EN 61000-4-6	Level 3
Power-frequency Magnetic field :IEC/EN 61000-4-8	Level 4
Low Frequency Signals:IEC/EN	61000-2-2
Warning: This is a product for commercial and industrial applications second environment-installation restrictions or additional measure needed to prevent disturbances.	ation in the res may be

2. Operations

2-1. Operation Mode

This modular UPS is on-line, double-conversion and reverse-transfer UPS that permits operation in the following modes:

- Power On Mode
- Standby Mode
- Bypass Mode
- Line Mode
- Battery Mode
- Battery Test Mode
- Fault Mode
- CVCF Mode
- ECO Mode
- Shutdown Mode

2-1-1. Power On Mode

Upon connecting to utility input power or UPS cold start, the UPS is in Power On mode. The load is not powered under this mode.



2-1-2. Standby Mode

Upon connecting to utility input power, the UPS is in Standby mode before UPS is turned on (if BYPASS enable setting is Disabled), and charger function will be active when the battery is present. The load is not powered under this mode.



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2-1-3. Bypass Mode

Upon connecting to utility input power, the UPS is in Bypass mode before UPS is turned on (if BYPASS enable setting is Enabled), and charger function will be active when battery is present.

After UPS has been turned on, if the UPS encounters abnormal situations (over-temperature, overload ..., etc.), UPS will perform the load from the inverter to the bypass source with no interruption. If the transference is caused by a recoverable reason, the UPS will turn back to line mode when abnormal situation is solved.



2-1-4. Line Mode

In Line Mode, the rectifier derives power from the utility power, supplies DC power to the inverter and the charger charges the battery. The inverter filters the DC power and converts it into pure and stable AC power to the load.



2-1-5. Battery Mode

The UPS automatically transfers to battery mode if the utility power fails. There is no interruption in power to the critical load upon failure.

In battery mode, the rectifier derives power from the battery and supplies DC power to the inverter. The inverter filters the DC power and converts it into pure and stable AC power to the load.



Battery Mode Diagram

2-1-6. Battery Test Mode

Users can manually operate UPS to battery test mode. There is no interruption in power to the load. If the test is completed or battery fails, the UPS will return to Line mode or CVCF mode (if CVCF mode is enabled).

In battery test mode, the rectifier derives power from the battery and supplies DC power to the inverter. The inverter filters the DC power and converts it into pure and stable AC power to the load.



2-1-7. Fault Mode

The UPS transfers to fault mode if the UPS fails.

In fault mode, the charger function will be off and the load is not powered under this mode.



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2-1-8. CVCF Mode

The CVCF mode is enabled through the LCD setting menu. The output frequency will be fixed at 50Hz or 60Hz according to setting of "Freq". In CVCF mode, the rectifier derives power from the utility power, supplies DC power to the inverter and the charger charges the battery. The inverter filters the DC power and converts it into pure and stable AC power to the load.



2 -1-9. ECO Mode

The ECO mode is enabled through the LCD setting menu. In ECO mode, the load is powered by bypass when the bypass voltage and frequency are within the acceptable ranges. If the bypass voltage or frequency is out of range, the UPS will transfer the power source of load from bypass to inverter. In order to shorten the transfer time, the rectifier and inverter are working when the UPS is in ECO mode.



ECO Mode Diagram

2-1-10. Shutdown Mode

When the UPS is in the off state and the utility power source is absent, the UPS will enter into shutdown mode.

When the UPS enters this mode, it is going to shut off the control power of UPS. The rectifier, charger and inverter are all in off state.



2-2. UPS Module Introduction

2-2-1. UPS Module

The capacity of each UPS module is 10kVA/10kW for 3-3, 3-1 and 1-1 models and 6kVA/6kW for 2-2 model. No matter what model you purchase, each UPS module should contain a power factor correction rectifier, a battery charger, an inverter, an bypass circuit and control circuit.



No.	Item	Description
1	Fan	The UPS module uses forced convection cooling by these fans. Cooling air enters the module through ventilation grills and exhalation exhausts through grills located at the rear of the module. Please do not block the ventilation area.
2	Battery Start Button	When AC input is not existing, use this button to start battery power for UPS.
3	LCD display	There is LCD display on the UPS module. It can show the UPS information and the slave UPS information when operating in parallel.
4	Function Keys	There are four function keys in the UPS module. They can control and monitor the single UPS module. Please refer to function key table for the details.
5	LED indicators	There are four LED indicators to show UPS working status. Please refer to LED indicator table for the details.

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2-2-2. Button Operation



Function Keys

There are four buttons on the front panel.

Control Key	Description		
	 Press this button to turn on the UPS. 		
ON/ENTER	 Or press it to confirm the selection in the menu. 		
	 Press this button to turn off the UPS. 		
UFF/ESC	 Or press it to return to the last menu. 		
	 Press this button to select the previous item in the menu. 		
UP	 Or press this button to jump to previous page in the screen. 		
	 Or press this button to increase the number in the setting. 		
	 Press this button to select the next item in the menu. 		
DOWN	 Or press this button to jump to next page in the screen. 		
	 Or press this button to decrease the number in the setting. 		
	• To allow LCD display to rotate 90 automatically, press these two buttons at		
UP + DOWN	the same time. This operation is used to configure the UPS in rack or tower		
	display.		

2-2-3. LED Indicators

There are 4 LEDs on front panel to show the UPS working status:

LED	BYPASS	LINE	BATTERY	ALARM
UPS Power On	•	•	•	•
Standby mode	0	0	0	0
Bypass mode	•	0	0	0
Line mode / CVCF mode	0	•	0	0
Battery mode	0	0	•	0
Fault mode	0	0	0	•
Battery Test mode	0	•	•	0
ECO mode	•	•	0	0

Note: \bullet means LED is lighting, and \circ means LED is faded.

2-2-4. Audible alarm

UPS status	Buzzer status	Muted
Bypass mode	Beeping once every 2 minutes	Yes
Battery / Battery-test mode (normal battery voltage)	Beeping once every 4 seconds	Yes
Battery / Battery-test mode (low battery voltage)	Beeping once every second	Yes
Fault	Beeping continuously	Yes
Warnings (except overload)	Beeping once every second	No
Overload	Beeping twice every second	No

2-3. Single UPS Operation

3-3-1. Turn on the UPS with utility power supply (to Line mode)

 Make sure mains input and battery are connected well, and the Battery pack breaker is at "ON" position; Set the external mains input breaker to "ON" position, then the fan will be running and the UPS supplies power to the loads via bypass; (The UPS is operating in Bypass mode.)

NOTE: When UPS is in Bypass mode, the output voltage comes directly from utility, so the load is not protected by UPS. To protect the precious load, the UPS should be turned on to Line mode.

- 2) When LCD is on home page, press the "ON/ENTER" button, LCD will show a prompt page of "Turn On"; Move the arrow to "Yes" by up or down button, then press "ON/ENTER", the UPS will be starting up with beeping once. You could also enter the "control menu" to select the instruction "Turn On" to startup the UPS. Please refer to the section of "LCD operation".
- 3) A few seconds later, the UPS will enter into Line mode; "Line mode" will be displayed on LCD. (In line mode, if the utility power is abnormal, the UPS will transfer to Battery mode without interruption.)

2-3-2. Turn on the UPS without utility power supply (to Battery mode)

- 1) Make sure the battery is connected well and the Battery pack breaker is at "ON" position;
- 2) Press the "ON/ENTER" button to start up the internal power, the UPS will enter into bypass mode without output;
- 3) When LCD is on home page, press the "ON/ENTER" button, LCD will show a prompt page of "Turn On"; Move the arrow to "Yes" by up or down button, then press "ON/ENTER", the UPS will be starting up with beeping once. You could also enter the "control menu" to select the instruction "Turn On" to startup the UPS. Please refer to the section of "LCD operation".
- 4) A few seconds later, the UPS will enter into Battery mode; "Battery mode" will be displayed on LCD (In Battery mode, it will shutdown automatically when battery is depleted. If the utility power is restored, it will auto restart to Line mode.)

2-3-3. Connect devices to UPS

After the UPS is turned on, you can connect devices (load) to the UPS.

- 1) Turn on the UPS first and then switch on the devices one by one, the LCD panel will display total load level;
- If inductive loads needed to be connected, such as a printer, the in-rush current should be calculated carefully to see if capacity of the UPS can cover due to the huge starting power consumption of this kind of load;
- 3) If the UPS is overload, the buzzer will beep twice every second;
- 4) When the UPS is overload, please remove some loads immediately. It is recommended to have the

total loads connected to the UPS less than 80% of its nominal power capacity for system safety;

5) If the overload time is over duration listed in spec at Line mode, the UPS will automatically transfer to Bypass mode. After the overload is removed, it will return to Line mode. If the overload time is over duration listed in spec at Battery mode, the UPS will become fault status. At this time, if bypass is enabled, the UPS will power to the load via bypass. If bypass function is disabled or the input power is not within bypass acceptable range, it will cut off output directly.

2-3-4. Charge the batteries

- 1) After the UPS is connected to the utility power, the charger will charge the batteries automatically except in Battery mode or during battery test;
- 2) Suggest to charge batteries at least 10 hours before use. Otherwise, the backup time may be shorter than expected;
- 3) Make sure the battery numbers setting on the LCD Panel (Please refer to the section of changing battery quantity) is consistent with actual connection.

2-3-5. Battery mode operation

- 1) When the UPS is in Battery mode, the buzzer will beep according to different battery capacity. Normally, the buzzer will beep once every 4 seconds in battery mode, but when the battery voltage drops to the alarm level, the buzzer will beep once per second and the UPS will shut down automatically soon. Users could switch off some non-critical loads to disable the shutdown alarm and prolong the backup time. If there is no more load to be taken off at that time, you have to shut down all loads as soon as possible to protect the devices or save data. Otherwise, there is a risk of data loss or load failure.
- 2) In Battery mode, if buzzer sounds annoying, you could enter "Control->Mute" on LCD to silence it. Please refer to the section of "LCD operation".
- 3) The backup time of the long-run model depends on the external battery capacity.
- 4) The backup time may change under different environment temperature and load type.
- 5) The maximum backup time is limited by default 16.5 hours (After discharging 16.5 hours, UPS will shut down automatically to protect the battery). The time could be modified through LCD panel or communication port.

2-3-6. Test the batteries

- If you need to check the battery status or performance when the UPS is running in Line / Converter (CVCF) / ECO mode, you could enter "Control->Bat Test" to instruct the UPS to do battery test. Please refer to the section of "LCD operation";
- 2) Users also can set battery test through monitoring software;
- 3) If the UPS is in battery testing, "Battery test mode" will be displayed on LCD, the buzzer indication will be the same as Battery mode, but both line LED and battery LED will be lit.

2-3-7. Turn off the UPS with utility power supply in Line mode

 When LCD is on home page, press the "OFF/ESC" button, LCD will show a prompt page of "Turn Off"; Move the arrow to "Yes" by up or down button, then press "ON/ENTER", the UPS will be turning off to bypass mode with beeping once. You could also enter the "control menu" to select the instruction "Turn Off" to turn off the UPS. Please refer to the section of "LCD operation";

NOTE: Here, "Turn Off" means that UPS is not working on line / converter / ECO / battery / battery test mode. So even though the UPS is turned off, if input or bypass voltage is normal, the internal power supply will be still working; and if bypass status has been set to "enable", the output voltage of the UPS will be still exist;

2) If you need to fully cut off the output, please switch off the external input breaker. A few seconds later, there is no display shown on the panel and UPS is completely off.

2-3-8. Turn off the UPS without utility power supply in Battery mode

- When LCD is on home page, press the "OFF/ESC" button, LCD will show a prompt page of "Turn Off"; Move the arrow to "Yes" by up or down button, then press "ON/ENTER", the UPS will be turning off to bypass mode with beeping once. You could also enter the "control menu" to select the instruction "Turn Off" to turn off the UPS. Please refer to the section of "LCD operation";
- 2) If there is no bypass input voltage, the UPS will cut off all power supply and there is no display shown on the panel.

2-3-9. Operation of changing battery quantity (number)

- The default battery (12V) quantity of this UPS system is 16 (for one series), but 17, 18, 19, 20 could also be applied in this system. Changing the battery quantity setting, can setup from UPS LCD panel.
- NOTE: This operation should be done by professional technicians, please contact the dealer for support

2-4. LCD Operation on UPS Module

3-4-1. LCD Structure

The entire LCD structure is demonstrated as diagram below.



LCD Structure

2-4-2. Main interface (Home Page)

After initialization, the main screen will display as below chart.



Main screen (Home Page)

- 1) UPS Mode: Current operation mode.
- 2) It will display the UPS running status mode and parallel information as below table.

Short Description	Description
N	New adding module into parallel system.
М	Master
S <n></n>	Slave, <n> means the number of slave module.</n>

- 3) Input and output information.
- 4) Battery capacity, load level and backup time/warning or fault codes. When alarms happen, the warning or fault information will display. When UPS is operated in Battery mode or Battery Test mode, the backup time will display.

When the front panel is not operated for 2 minutes, the display page will return back to home page. Press the "UP" or "DOWN" button to enter the operation menu (Refer to 4.2.3).

When it displays home page in LCD, if UPS is in bypass or standby, you could press the "ON/ENTER" button to turn on the UPS to line / CVCF / ECO / battery mode according to the setting and input status.

Bypass Mode M IP1:110.0V/50.0Hz IP2:110.0V/50.0Hz	Turn On ?	Line Mode M IP1:110.0V/50.0Hz IP2:110.0V/50.0Hz
OP1:110.0V/50.0Hz OP2:110.0V/50.0Hz	→Yes No	OP1:120.0V/50.0Hz OP2:120.0V/50.0Hz
Bat: 96.0V/ 96.0V Load:100/100/%		Bat: 96.0V/ 96.0V Load:100/100/%

When UPS is turned on, you could press the "OFF/ESC" button to allow UPS to bypass mode or standby.

Line Mode M IP1:110.0V/50.0Hz IP2:110.0V/50.0Hz	Turn Off ?	Bypass Mode M IP1:110.0V/50.0Hz IP2:110.0V/50.0Hz
OP1:120.0V/50.0Hz OP2:120.0V/50.0Hz	Yes →No	 OP1:110.0V/50.0Hz OP2:110.0V/50.0Hz
Bat: 96.0V/ 96.0V Load:100/100/%		Bat: 96.0V/ 96.0V Load:100/100/%

2-4-3. Operation menu

2-4-3-1. Main menu



Main screen(Home page) \rightarrow Main menu

- 1) After pressing the "UP" or "DOWN" button on the main screen (Home page), it will display five items in operation menu: Control / Measurement / Setting / Information / Events.
- 2) Press "UP" or "DOWN" button to select item.
- 3) Press "ON/ENTER" button to confirm the selection.
- 4) Press "OFF/ESC" button to return back to main scree (Home page).

2-4-3-2. Control

Control:	
→Turn On Bat Test Turn To Bps SR Off Charger Off	

In "Control" screen, it's real-time command for UPS.

- "Turn On" will be displayed if UPS is not turned on. "Turn Off" will be displayed if UPS is turned on.
- "Bat Test" will be displayed if UPS is not in Battery Test Mode. "Cancel Test" will be displayed if UPS is in Battery Test Mode.
- "Turn to Bps" will be displayed all the time no matter what status UPS is. But this action is only effective when the input power is available.
- "SR Off" will be displayed if UPS is not turned on. "SR On" will be displayed if UPS is turned on.
- "Charger Off" will be displayed if charger is working. "Charger On" will be displayed if charger is turn off.

Generally speaking, only one selection will be displayed in the screen and it depends on UPS status.

1) Turn On/Turn Off

This item is for turning on/off the UPS.

a) On Bypass mode, it will display "Turn On" in control menu. If it is selected and confirmed, the UPS will transfer to line mode, CVCF mode, ECO mode, or battery mode according to the setting and input status.



NOTE: You may simply turn on UPS by pressing "ON/ENTER" button in main scree (Home page). It's not necessary to enter control menu to turn on the UPS.

b) On line mode, CVCF mode, ECO mode or battery mode, it will display "Turn Off" in control menu. If it is selected and confirmed, the UPS will transfer to bypass mode or shutdown mode.



NOTE: You may simply turn off UPS by pressing "OFF/ESC" button in main scree (Home page). It's not necessary to enter control menu to turn off the UPS.

2) Battery Test / Cancel Test

a) It is to check if the UPS could work well in battery mode and test the battery performance. Except UPS is in Battery Test mode, "Battery Test" selection will be displayed under all operation modes.



Bat Test Mode S1 IP1:110.0V/50.0Hz IP2:110.0V/50.0Hz
 OP1:110.0V/50.0Hz OP2:110.0V/50.0Hz
Bat: 96.0V/ 96.0V Load:100/100/% Backup Time: 10M

However, it could execute this test in Line/Converter mode and reminder will pop up in the screen. When "Yes" is selected, the screen will return back to home page with "Battery Test Mode" displayed on top. If the test is completed, the displayed status will change back to UPS current mode. There are four battery test types to select. Refer to below table.

Table: Battery Test Type

Setting Item	Sub Item	Explanation
Short Time		10-second test time.
Battery Test Type	Long Time	 When testing time is longer than 1 minute, please select "Long Time" and the duration is able to set up. (1~99min) 10 min (Default)
	Till to Bat Low	Test until the battery is low voltage.

b) On Battery Test mode, it will display "Cancel Test" in control menu. When "Cancel Test" is selected, the screen will change back to UPS current mode.

Control: Turn On	Cancel Test ?	Line Mode S1 IP1:110.0V/50.0Hz IP2:110.0V/50.0Hz
Turn To Bps SR On SR On	→Yes No	OP1:110.0V/50.0Hz OP2:110.0V/50.0Hz
Charger On		Bat: 96.0V/ 96.0V Load:100/100/% Warning: 01

3) Turn to Bypass

If it is selected and confirmed, the UPS will transfer from Line mode to Bypass mode.

Control: Turn On	Turn To Bps ?	Bypass Mode M IP1:110.0V/50.0Hz IP2:110.0V/50.0Hz
Bat Test →Turn To Bps SR Off	→Yes No	OP1:110.0V/50.0Hz OP2:110.0V/50.0Hz
Charger OII		 Bat: 96.0V/ 96.0V Load:100/100/%

4) SR On / SR Off

a) On Line/Battery/Battery Test/CVCF/ECO mode, it will display "SR On" in control menu. If it is

selected and confirmed, shutdown and restore time can be setting. Please refer to setting range table for shutdown and restore time.

When "Shutdown Time" countdown ends, the UPS will turn off. Then, the "Restore Time" will start to count. When countdown ends, the UPS will be turned on and back to current mode.



Table: Setting range for Shutdown & Restore Time

Setting Item	Sub Item	Explanation
	Shutdown Time	Set system shutdown time (0.2~99min)0.2 min (Default)
SK UI/SK UI	Restore Time	Set system restore time (0~9999min) ● 1 min (Default)

b) On Standby/Bypass/Fault mode, it will display "SR Off" in control menu. If it is selected and confirmed, the screen will return back to home page and system will back to current mode. If "SR On" is selected and confirmed, When UPS in Line/Battery/Battery Test/CVCF/ECO mode, it will display "SR Off" in control menu. If it is selected and confirmed, the screen will return back to home page and system will cancel this function.

Control: Turn On	SR Off ?	Bypass Mode M IP1:110.0V/50.0Hz IP2:110.0V/50.0Hz
Bat lest Turn To Bps →SR Off Chausan Off	→Yes No	OP1:110.0V/50.0Hz OP2:110.0V/50.0Hz
charger Off		Bat: 96.0V/ 96.0V Load:100/100/%

5) Charger Off / Charger On

a) This selection will be displayed under all UPS modes when charger is working. If it is selected

and confirmed, the screen will return back to home page. And charger will stop charging the battery.



b) This selection will be displayed under all UPS modes when charger is turned off. If it is selected and confirmed, the screen will return back to home page. And charger will charging the battery.

		_
Control:		Charger On ?
Turn On		
Cancel Test		
Turn To Bns		→Yes
rain to bps		105
SR On		No
→Charger On		
-		
	\rightarrow	

2-4-3-3. Measurement

Measurement displays the measurement value of the parameters such as voltage / current / frequency / power / capacity / time etc. Each UPS could display the measured value of the whole system. Press "
or "
"
button to explore the pages.

	Measurement:
Control	
	→Local
→Measurement	Master
	Slave1
Setting	Slave2
	Slave3
Information	Slave4
	Slave5
Events	\rightarrow >>>

"Local" means the current UPS module, "Master" and "Slave<n>" means the other UPS module in this parallel system.



2-4-3-4. Setting

This page is used to configure the parameter settings. It's necessary to enter password to enter submenus. The default password is 0729. There are submenus under the Setting, including Bypass, ECO, Output, SystemTime, Others and Battery, as shown below.



NOTE: Some settings will be only available in some operation modes. If the setting is not available in current mode, the LCD will show prompt message with "Item can't be set in this mode". Press any button or just wait for several seconds until this message fades.

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1) Bypass setting (only available	or effective on bypass mode and standby mode)
Interface	Description
	1. Status
	1.1 Open/Forbid:
	Open: Bypass allowed. When selected, UPS will run at Bypass
	mode depending on hypass enabled/disabled setting
	Forbid: Bypass not allowed. When selected, it's not allowed for
	running in Bypass mode under any situations
	The default actting is Open
	1.2 Enclus (Dischle
	Enable: Bypass enabled. When selected, Bypass mode is
Bamace.	activated.
Dypass:	Disable: Bypass disabled. When selected, automatic bypass is
	acceptable, but "manual bypass" is not available. "Manual bypass"
→Status: Open	means users manually operate UPS to Bypass mode (for example,
Enable	in AC mode turning off the UPS to Bypass mode). Then, the UPS
HighLoss V:140V	will go to bypass mode but without output if it is turned off in AC
LowLoss V: 88V	mode.
Highloss F:54Hz	The default setting is Enable.
LowLoss F:46Hz	5
LOWL033 1.40112	NOTE: The following items are only available in bypass mode.
	2. Highl oss V: Set the acceptable high voltage for bypass. Setting
	range is from (Rated Output Volt +11V) to 276V and the default
	3 Low loss V: Set the accentable low voltage for hypass. Setting
	J. LOWLOSS V. Set the acceptable low Voltage for bypass. Setting
	value is 110V
	Value is 110V.
	4. HighLoss F: Set the acceptable high frequency for bypass.
	50 Hz system: Setting range is from 51Hz to 54 Hz.
	60 Hz system: Setting range is from 61Hz to 64Hz.
	The default value is 54.0Hz/64.0Hz.
	5. LowLoss F : Set the acceptable low frequency for bypass.
	50 Hz system: Setting range is from 46.0Hz to 49.0Hz.
	60 Hz system: Setting range is from 56.0Hz to 59.0Hz.
	The default value is 46Hz/56Hz.
2) ECO setting (only available or	effective on bypass mode, standby mode, Line mode and ECO mode)
Interface	Description
	1. Status
	Fnable: ECO function enabled
	Disable: ECO function disabled
	If ECO function is disabled voltage range and frequency range
	for ECO mode still can be set, but it is meaningless unless the
ECO:	ECO function is anabled. The default softing is Disable
	2 Highl and V. High voltage point in ECO mode. The acting range
→Status Disable	2. HighLoss V: High voltage point in ECO mode. The setting range
Wight one Wil26V	is from (Raled Oulput voil +11v) to (Raled Oulput voil +24v)
	and the default setting is (Rated Output Voit +11V).
LOWLOSS V:114V	3. LOWLOSS V: Low voltage point in ECO mode. The setting range is
Highloss F:52Hz	trom (Rated Output Volt -24V) to (Rated Output Volt-11V) and
LowLoss F:48Hz	the default setting is (Rated Output Volt -11V).
	4. HighLoss F: Set High frequency point for ECO mode.
	50 Hz system: Setting range is from 52Hz to 54Hz.
	60 Hz system: Setting range is from 62Hz to 64Hz.
	The default value is 52Hz/62Hz.

5. LowLoss F: Set Low frequency point for ECO mode. 50 Hz system: Setting range is from 46Hz to 48Hz. 60 Hz system: Setting range is from 56Hz to 58Hz. The default value is 48Hz/58Hz.

3) Output setting (only available or effective on bypass mode and standby mode)

Interface	Description
Output :	 Volt: Volt: 208: Presenting the rated output voltage with 208Vac 220: Presenting the rated output voltage with 220Vac 230: Presenting the rated output voltage with 230Vac 240: Presenting the rated output voltage with 240Vac The default value is 240Vac. Freq:
→Volt: 110V Freq: 60Hz CVCF: Disable	 SOHz: The output frequency is setting for 50Hz. GOHz: The output frequency is setting for 60Hz. NOTE: CVCF should be enabled first to modify this item. If CVCF is disabled, output frequency will be decided according to the latest normal utility frequency. If it is within 46Hz and 54Hz, the output frequency will be 50.0Hz. If it is within 56Hz to 64Hz, the output frequency will be 60.0Hz. CVCF: Enable or disable CVCF (converter) mode. Enable: The output frequency will be fixed at 50Hz or 60Hz according to setting of "Freq". The input frequency could be from 46Hz to 64Hz. Disable: The output frequency will synchronize with the input frequency within 46~54 Hz for 50Hz system or within 56~64 Hz
	for 60Hz system. NOTE: CVCF means Constant Voltage and Constant Frequency. It represents converter mode. The default setting is Disable.

4) SystemTime setting (available or effective on all mode)

Interface	Description
SystemTime:	SystemTime:
	Date, time and calendar date can be modified via this interface. Input
→2016-04-26	the actual time, the unit will automatically adjust timer after " 🗲 🦺
11:10:26	button is pressed.
Tuesday	

5) Others setting

Interface	Description
Others: →Hot Standby: Disable Audible Alarm: Disable Redundancy: 00 Factory reset	 Hot standby(only available or effective on bypass mode and standby mode): Enable: Hot standby function is enabled. It means that the current UPS is set to be host of hot standby system, and it will automatically restart after AC recovery even without battery connected. Disable: Hot standby function is disabled. The UPS is running at normal mode and can't restart without battery. The default setting is Disable. Audible Mute(available or effective for all mode): Enable: It is to mute the buzzer. Disable: It is to enable the buzzer when UPS have alarms or UPS is working in bypass mode or battery mode. The default setting is Disable. Redundancy (available or effective on all mode): It is to set the quantity of redundant UPS module. The setting range is 0~9. The

Others:	setting quantity must be less than the total number of UPS modules in the system. The default value is 0.
Bat Mute: Disable Fault Mute: Disable	 4. Factory Reset(only available or effective on bypass mode and standby mode): Restore to factory default setting. 5. Bat Mute(available or effective on all mode): Enable: It is to mute the buzzer when UPS is in battery mode. Disable: It is to enable the buzzer when UPS is in battery mode.
Bypass Mute: Disable	 The default setting is Disable. 6. Fault Mute(available or effective on all mode): Enable: It is to mute the buzzer when UPS is in fault mode. Disable: It is to enable the buzzer when UPS is in fault mode.
	The default setting is Disable . 7. Bypass Mute (available or effective on all mode): Enable : It is to mute the buzzer when UPS is in bypass mode. Disable : It is to enable the buzzer when UPS is in bypass mode.
	The default setting is Disable.

6) Battery

Interface	Description
Interface Bat: →DisChg Protect: Enable Backup Time: 990 Minute Cold Start: Enable Charger Test >>> Bat:	 Description 1. Dischg Protect: Enable or disable battery discharge protection. Enable: Battery discharge protection function is enabled. When UPS have been continuously working in "battery/battery test mode", the UPS will automatically shut down when the backup time set next is achieved. Disable: Battery discharge protection function is disabled. Backup Time: When discharge protection is enabled, this setting time can be counted. 1~990: The maximum discharge time can be set from 1 to 990 minutes. UPS will shut down to protect battery after backup time arrives when the "Dischg Protect" is enabled. If "Dischg protect" is disabled, then this setting does not make sense whatever the value is. The default value for this setting is 990 minutes. 2. Cold Start: Enable: UPS could be turned on without mains. Disable: UPS could not be turned on without mains.
→Low Volt: 11.2V UnderVolt:10.7V Periodic Test: Enable Periodic Time: 30 Day	 3. Charger Test: Test the battery charger even without battery. After entering this item, it will pop up a screen showing "Yes" and "No". If selecting "Yes", the UPS will execute charger test. After test, the LCD screen will return to main scree (home page) and show battery voltages on BAT+ and BAT 4. Low Volt: Set battery low warning voltage. The setting range is from 10.5~11.5V per piece and the default value is 11.2V.
Bat: →BatNum: 8 ChgCur: 04A Bat Groups:01 Bat Cap: 9AH Factor: 1.0 <<<	 5. Under Volt: Set battery low cut off voltage. The setting range is from 9.6~10.7V per piece and the default value is 9.6V. 6. Periodic Test: Enable: UPS will test the battery periodically; Disable: UPS will not test the battery periodically. 7. Periodic Time: When periodic test is enabled, please set up battery test interval. The setting range is from 7 days to 99 days. The default value is 30-day. 8. BatNum: Set battery number in the system. The setting range is from 8 to 10
	pieces. The default value is 8. 9. Chg Curr: Set maximum charge current. The setting range is from 0~40A. The default value is 4A.

10. Bat Groups: Set the number of battery group ranging from 1 to
10. The default value is 1 group.
11. Bat Cap: Set the battery capacity such as 7AH, 9AH, 10AH, 12AH,
17AH, 26AH, 40AH, 65AH, 100AH and so on. The default value is 9AH.
12. Factor: Calibrate the displayed backup time by adjusting this
multiplier factor. The formulation is listed below:
Displayed backup time=Original calculated backup time x Multiplier
factor
The value of default factor is 1.0. The setting range is from 0.5 to 2.
Item 10~12 are used for the battery backup time calculation.

2-4-3-5. Information

In Information page, you can check the serial number, firmware versions, system configuration and settings of the UPS. There are submenus under the Information, including Identification, System and Battery, as shown below. Information displays all parameter setting value and status.

1) Identification item shows the UPS Module name, serial no, UPS display version, communication module version, CPU version and system LCD version.

Information:	Identification:	Identification:
→Identification System Bat	Module Name: Arena 2-2 6KL Serial NO: ********* ******** Display Ver:	Control Ver: 00.00 Main Ver: 20.01 20.01 MiniLcd Ver:
	00.05 >>>	10.01 <<<

2) System shows the UPS configuration.

Information:	System: Bypass	System: Eco
Identification →System Bat	Status : Open Enable HighLoss V: 140V LowLoss V: 88V Highloss F: 54Hz LowLoss F: 46Hz >>>	Status : Disable HighLoss V: 126V LowLoss V: 114V Highloss F: 52Hz LowLoss F: 48Hz >>>
System: Output	System: TimeTemp	System: Other
Volt: 110V Freq: Auto CVCF: Disable	System Time: 2016-04-26 11:10:26 Tuesday Temperature: 30C >>>	Hot Standby: Disable Audible Alarm: Disable Redundancy: 00

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```
System Others:
Bat Mute:
Disable
Fault Mute:
Disable
Bypass Mute:
Disable
```

3) Battery shows the battery configuration.



2-4-3-6. Events

In Event pages, you can check the current events, history events and reset events.

1) Currents Events

Events:	Current Events:
→Current Events History Events Reset Events	Fault Events: No Fault Warning Events: 00:BatOpen 07:BatLow

2) History Events

The detailed event information is saved in history events. It can save up to 160 pages in history events. When a warning occurs, it will display alarm code, alarm time and UPS mode. When a fault event occurs, it will display fault code, alarm time/date and UPS operation mode. (Refer to **Chapter 4** Troubleshooting)

Events:	History Events:	
	Fault: 100/160	
Current Events	Ul:Bus Start Fail	
→History Events	Warning:	
Reset Events	00:BatOpen	
	01:cIpNLoss	
	07:BatLow	
	Line Mode	
	2016-04-26	
	J1:10:26	

3) Reset Events



2-5. Parallel UPS Operation

You can add one new UPS into the parallel system when whole system is running at any mode. The additional UPS will automatically match with the Master UPS. Then, fasten the UPS through the screw of mounting ears.

NOTE:

- Before parallel operation, please make sure all the connections are correctly (refer to Section 2-5).
- The maximum parallel quantity is 10.
- Be sure the load is less than the maximum capacity of whole UPS system. Otherwise, the UPS will overload fault.

3. Trouble Shooting

3-1. Warning status

When Fault LED flashes and the buzzer beeps once every second, it means that there are some problems with UPS. Users can see the warning code from LCD panel and refer to the trouble shooting table to check what problem probably happen.

3-2. Fault mode

- 1) When Fault LED illuminates and the buzzer beeps continuously, it means that there is a fatal error about UPS. Users can get the fault code from LCD panel. Please refer to the trouble shooting table to check what problems probably happen.
- 2) Don't try to turn on the UPS again before the problem is clear. If the problems can't be fixed, please contact the distributor or service people immediately.
- 3) For emergency case, please cut off the connection from utility, external battery, and output immediately to avoid more risk or danger.

3-3. Trouble shooting table

Most of the fault and warnings need to be released by authorized service personnel. Few of them can be solved by users themselves.

LCD Message	Explanation	Solution		
	The rectifiers could not start within	Turn off UPS and then restart the UPS.		
Fault 01:Bus Start Fail	specified time due to low DC-bus	If it fails again, contact service		
	voltage.	personnel.		
Fault 02:Bus Over Volt	DC-bus voltage exceeds the maximum	Contact service personnel.		
	voltage.			
Fault 03:Bus Under Volt	DC-bus voltage is lower than the	Contact service personnel.		
	minimum value.			
Fault 04:Bus Unbalance	DC-bus voltage is not balanced	Contact service personnel.		
Fault 05:Bus Volt Vary	DC-bus voltage changes too fast.	Contact service personnel.		
Fault 06:PEC Over Curr	PFC current is higher than the	Contact service personnel		
	maximum current.	contact service personnel.		
	The temperature in LIPS is higher than	Check if the ambient temperature is		
Fault 07:Over Temperature	85°C At this time, the LIPS is off	over specification.		
		Or contact service personnel.		
Fault 08:Batt SCR Short	Battery SCR is short circuited.	Contact service personnel.		
Fault 11 Inv Start Fail	Inverter voltage cannot reach desired	Turn off UPS and then restart it. If it		
	voltage within specified time.	fails again, contact service personnel.		
Fault 12:Inv Volt High	Inverter voltage is too high.	Contact service personnel.		
Fault 13:Inv Volt Low	Inverter voltage is too low.	Contact service personnel.		
Foult 14 Inv Chart D	R phase inverter output is short	Contact convice personnal		
	circuited	contact service personnel.		
Foult 1 Filmy Chart C	S phase inverter output is short	Contact convice personnal		
	circuited	contact service personnel.		
Foult 16:Inv Short T	T phase inverter output is short	Contact convice personnel		
	circuited			
Fault 17:Inv Short RS	R-S inverter output is short circuited	Contact service personnel.		
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Fault 18:Inv Short ST	S-T inverter output is short circuited	Contact service personnel.	
Fault 19:Inv Short TR	T-R inverter output is short circuited	Contact service personnel.	
Fault 1A:Nega Dower P	R phase inverter output negative	Contact convice percennel	
Tault IA.Nega Fower R	power is beyond the range.	contact service personnel.	
Fault 18:Nega Power S	S phase inverter Output Negative	Contact service personnel	
Tault 1D.Nega Tower 5	Power is beyond the range.	contact service personnel.	
Fault 1C:Nega Power T	T phase inverter Output Negative	Contact service personnel	
	Power is beyond the range.	contact service personnel.	
Fault 21:Inv STS Open	Inverter relay or STS is open.	Contact service personnel.	
Fault 22:Inv STS Short	Inverter relay or STS is short circuited.	Contact service personnel.	
Fault 23:Op STS Open	Output relay or STS is open.	Contact service personnel.	
Fault 24:Op STS Short	Output relay or STS is short circuited.	Contact service personnel.	
Fault 25:Wiring Fail	The wiring is wrong.	Contact service personnel.	
Fault 26:Bat Fuse Open	Battery fuse is broken.	Contact service personnel.	
Fault 27:Charge Short	The battery is short circuited.	Contact service personnel.	
Fault 31:Para Comm Fail	The communication between UPS	Contact service personnel	
	modules is interrupted.	contact service personnel.	
Fault 32:Host Line Fail	The host line between UPS modules fails.	Contact service personnel.	
Fault 33:OP Curr Unbal	The load share line between UPS modules fails.	Contact service personnel.	
Fault 34:Ver Incompat	The firmware version between UPS modules is incompatible.	Contact service personnel.	
Fault 41:DSP Comm Fail	The internal communication in UPS module is interrupted.	Contact service personnel.	
Fault 42:Over load	Heavy overload causes UPS fault.	Reduce some load.	
Fault 43:Charger Fail	Battery polarity is connected reversely or charger voltage is abnormal.	Contact service personnel.	
Fault 44:Model Fault	UPS model is not able to identify.	Contact service personnel.	
Fault 45:Mcu Comm Fail	As stated.	Contact service personnel.	
Fault 46:CT Satiation	Load current sensor is abnormal.	Contact service personnel.	
		Make sure fans work well when UPS is	
Fault 47:Fan Fault	The two fans are stuck or broken.	working.	
Warning 01, Datl out	Pattor veltaga is low	Charge the battery when the mains is	
Warning UI:BalLow	Ballery vollage is low.	normal.	
Warning 02:BatOpen	Battery is not connected.	 Check battery breaker status. Check if the battery connection is well connected. Check the setting of Nominal Battery voltage. Contact service personnel if necessary 	
Warning 03:BatPhasel oss	The voltage between positive and	Check the battery connection.	
	negative battery is different.		
Warning 04:LineIpNLoss	Neutral loss	Check if the Neutral connection is well and contact service personnel.	
Warning 05:LinePhaseError	As stated.	Check if the Mains phase sequence is correct and contact service personnel.	

Warping Of LingVoltError	As stated	Check if the input wiring is correct or	
	AS Stateu.	contact service personnel	
Warning 07:LinePhaseFail	As stated.	Contact service personnel	
Warning 08:OverCharge	Battery voltage is too high	Check the setting of Nominal Battery	
	battery voltage is too high.	voltage and contact service personnel.	
	Battery voltage is detected as low		
Warning 09:ChgFail	level. However, the charge is able to	Contact service personnel.	
	work.		
	The temperature in UPS is higher than	Check if the ambient temperature is	
Warning 0A:OverTemp	75°C. At this time, the UPS is still	over specification.	
	running.	Or contact service personnel.	
Warning 0B:PFCCurUnbal	PFC current is unbalance.	Contact service personnel	
Warning OC EanError	Fon orror	Check if the fan is blocked or contact	
		service personnel.	
		Turn off UPS and replace a good one	
Warning ODd in Fuse Onen		with the broken one. If UPS fails again	
	ruse is broken.	after you do this, contact the service	
		personnel.	
Warning 0E:IICEepromFail	EEPROM operation error	Contact service personnel.	
Warning	Neutral Ison	Check if the Neutral connection is well	
11:BypassIpNLoss	Neutral loss.	and contact service personnel.	
	Durana ukana away	Check if the Bypass phase sequence is	
Warning 12:BpsPhaseError	Bypass phase error.	correct and contact service personnel.	
		Check the wiring or contact service	
warning 13:BpsvoitError	Bypass voltage error.	personnel	
Warning 14:BpsPhaseFail	As stated.	Contact service personnel	
	In line mode, the connected devices		
Warning 15:OverLoad	are demanding more power than the	Reduce some load and check output	
	UPS can supply.	Load-Capacity in specification.	
	The connected devices are demanding		
Warning 16, Overlandlade	more power than the UPS can supply.	Reduce some load and check output	
	UPS will transfer to bypass mode from	Load-Capacity in specification.	
	line mode.		
Marning 17: Englishing	Charly the EPO connector	Check if the connector is loose when	
	Check the EPO connector.	EPO acts abnormally.	
		Check if the 2-pin plate is not	
Warning 10. Maintain On an	The LIPC is in maintenance mode	connected to EMBS connector on the	
warning 18:MaintainOpen	The UPS is in maintenance mode.	back panel of communication module	
		when it acts abnormally.	
	Each module gets different line voltage		
warning 19:LineDim	when they are in parallel.	Contact service personnel.	
	Each module gets different bypass		
warning IA:BypassDiff	voltage when they are in parallel.	Contact service personnel.	
Warning 1B:InvCurUnbal	As stated.	Contact service personnel.	
_	UPS switches between bypass mode	· · · · ·	
Warning 1C:BpsUnstable	and standby mode five times in 30	Contact service personnel.	
	minutes due to abnormal utility.	-	

Warning 1D:RedundancyFail	As stated.	Check if redundancy setting is correct or not. Then, contact service personnel.	
Warning! Battery Age Alert	Battery life is expired.	Check if the battery has been used over its service age. Or contact service personnel.	
Warning! Dry Contact Input Alarm 1	As stated.	Remove the node	
Warning! Dry Contact Input Alarm 2	As stated.	Remove the node	
Warning! Control Module SPS 1 Fault	As stated.	Contact service personnel.	
Warning! Control Module SPS 2 Fault	As stated.	Contact service personnel.	

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4. Storage and Maintenance

4-1. Storage

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

For the battery pack, please charge it at least 7 hours before storage.

4-2. Maintenance

The UPS system operates with hazardous voltages. Repairs may be carried out only by qualified maintenance personnel.

Even after the unit is disconnected from the mains, components inside the UPS system are still connected to the Battery packs which are potentially 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.

Verify that no voltage between the battery terminals and the ground is present before maintenance or repair. In this product, the battery circuit is not isolated from the input voltage. Hazardous voltages may occur between the battery terminals and the ground.

m L Batteries may cause electric shock and have a high short-circuit current. Please remove all

wristwatches, rings and other metal personal objects before maintenance or repair, and only use tools with insulated grips and handles for maintaining or repairing.



When replace the 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. The batteries must be rightly deposed according to local regulation.

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.

 Δ Do not disassemble the UPS system.

5. Specifications

	MODEL	3/3-10K	3/1-10K	1/1-10K	2/2-6K
PHASE		3 phase in /	3 phase in /	3 phase in / 1 phase in /	
САРАСІТ	v	3 phase out 1 phase out 1 phase out		2 pnase out 6000 VA / 6000 W	
CABINET		100KVA/100KW		60KVA/60KW	
ONE POV CAPACIT	VER MODEL		10KVA/10KW		6KVA/6KW
MAX. PO NO.	WER MOUDULE			10	
MAX. BA	TTERY SET NO.			10	
INPUT					
Nominal V	/oltage	3 x 360VAC/380VAC/400VAC/415VAC (3Ph+N+PE) 208VAC/220VAC/ 230VAC/240VAC (1Ph+N+PE)		100/200, 110/220, 120/208, 120/240, 127/220 VAC (2P+N+PE)	
Voltage R	ange	190-520 VAC (3-p 305-478 VAC (3-pł	hase) @ 50% load nase) @ 100% load	110-300 VAC @ 50% load 176-276 VAC @ 100% load	88V- 155V (L-N) 152- 269V (L-L)
Frequency	/ Range		40^	-70Hz	
Power Fac	ctor		≧ 0.99 (۵ 100% load	
THDi	_		< 5% @ ft	ull linear load	
OUTPU	Т				
Output Vo	oltage	360VAC/380VAC/ 400VAC/415VAC (3Ph+N)	208*/220/230/240VAC (L+N)		100/200, 110/220, 120/208, 120/240, 127/220 VAC (2P+N)
AC Voltag Mode)	e Regulation (Batt.	± 1%			
Frequency (Synchron	/ Range nized Range)	46~54Hz or 56~64Hz			
Frequency Mode)	/ Range (Batt.		50 Hz ± 0.1 Hz	or 60 Hz ± 0.1 Hz	
Current C	rest Ratio		3:1	(max.)	
Harmonic	Distortion	≦ 2 ≦ 4	2 % THD (Linear Loa % THD (Non-linear	ıd); Load)	≦3% (Linear Load); ≦5% (Non-linear Load)
Transfer	AC Mode to Batt. Mode		Z	ero	(
Time	Inverter to Bypass		zero		
Waveform	n (Batt. Mode)		Pure S	linewave	
EFFICI	ENCY				
AC Mode		94%		91%	
ECO Mode		97%			
Battery M	ode	91%		89%	
Battery Vo	umborc	± 12V			
Battery Numbers		10 ~ 20 pcs (adjustable) X 2		000000000000000000000000000000000000	
Nominal V	/oltage	+/-192V (12V x 32 pcs)		pcs)	
Maximum	Voltage	+	/- 240V (12V x 40 pc	s)	16pcs)
Minimum Voltage +/-		/-192V (12V x 32 pc	s)	16pcs)	

Charging Voltage	± 218V	± 109V	
Typical Recharging Time	9 hours recover to 90% capacity		
Charging Current	+/- 4A		
INDICATORS			
LCD/LED Display	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions		
PHYSICAL			
Dimension, D X W X H (mm)	635 X 418 X 132		
Net Weight (kgs)	22		
ENVIRONMENT			
Operation Humidity	0-95 % RH @ 0- 40°C (non-condensing))	
Noise Level	Less than 55dB @ 1 Meter Less than 58dB @ Meter		
MANAGEMENT			
Smart USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows®	7/8, Linux and MAC	
Optional SNMP	Power management from SNMP manager and web browser		

*Derate capacity to 90% of capacity when the output voltage is adjusted to 208VAC.

**Product specifications are subject to change without further notice.

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