J90 Lithium Ion UPS

1000VA, 1500VA, 2000VA, 3000VA Models

User & Installation Manual

Table of Contents

1. Important Safety Warning

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.

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.
- 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.
- 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 or maintenance, disconnect the batteries and verify that no current is present and no hazardous voltage exists in the terminals of

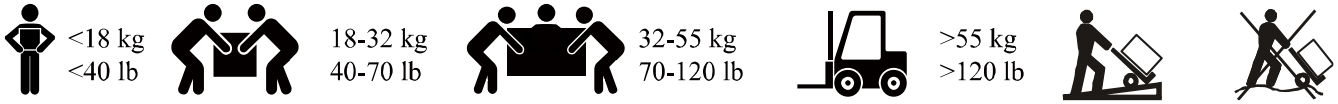
high capability capacitor such as BUS-capacitors. WAIT 5 MINUTES BEFORE REMOVING THE COVER PROTECTIONS!

- 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:
  a) Remove wristwatches, rings and other metal objects
  b) Use only tools with insulated grips and handles.
  c) Wear rubber gloves and boots.
  d) Do not lay tools or metal parts on top of batteries.
  e) Disconnect charging source and load prior to installing or maintaining the battery.
- When changing batteries, install the same number and same type of batteries.
- A battery can present a risk of electric shock and burns by high short-circuit current.
- Failed batteries can reach temperatures that exceed the burn thresholds for touchable surfaces. When replacing batteries, replace with the same type and number of batteries or battery packs.
- 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.
- **WARNING:** This is a category C2 UPS product. In a residential environment, this product may cause radio interference, in which case the user many be required to take additional measures. (only for 208/220/230/240 VAC system)

Only for 110/120 VAC system:

- **NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial envirsonment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- **WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

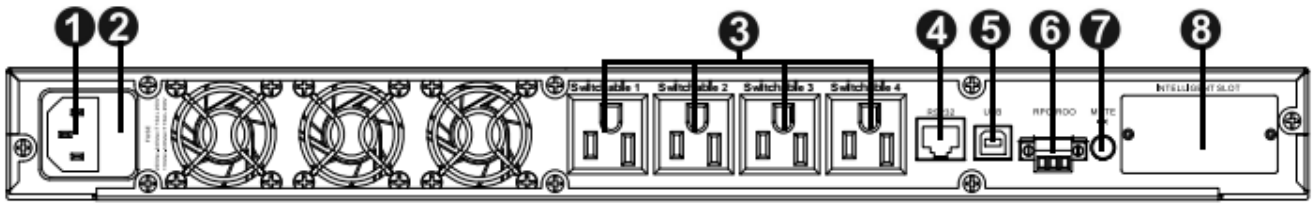
1-6. Product Handling Guidelines



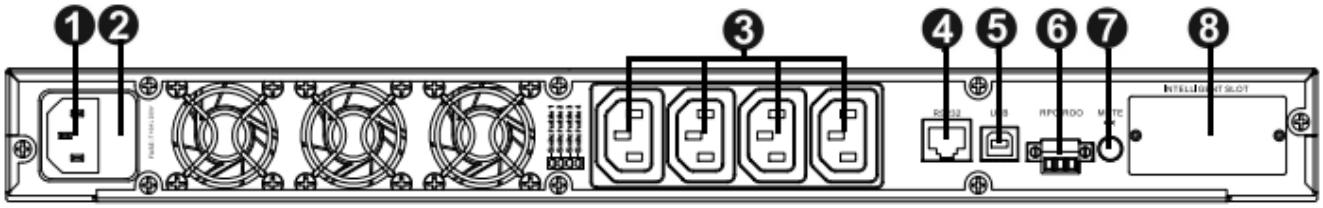
2. Installation and setup

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.

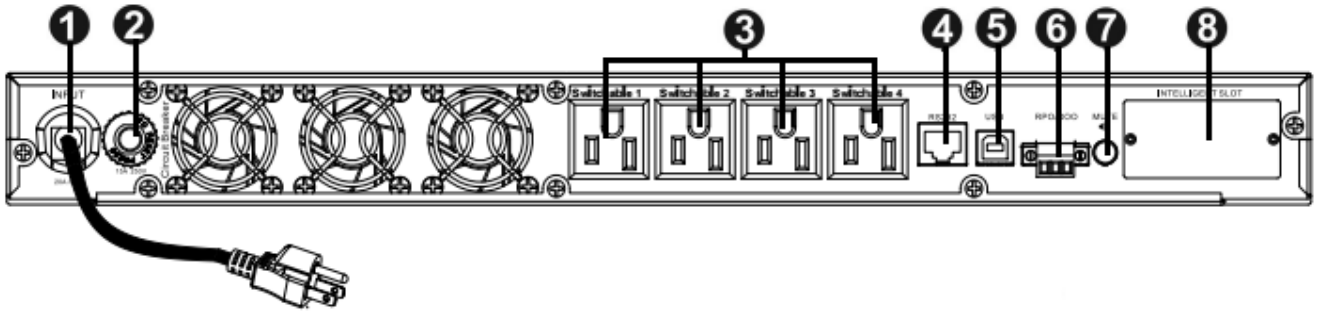
2-1. Rear panel view



J90-1kLiD



J90i-1kLiD



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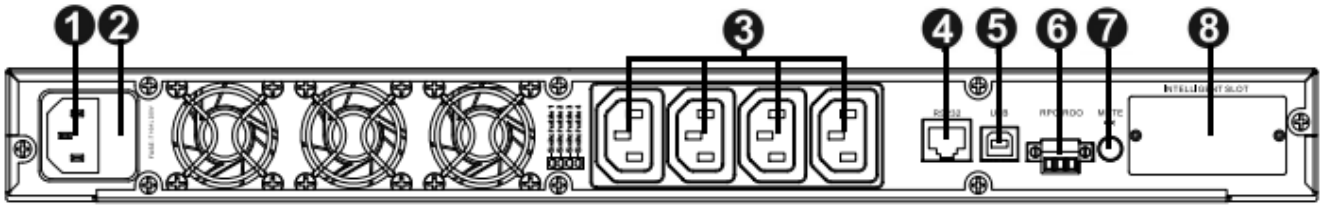

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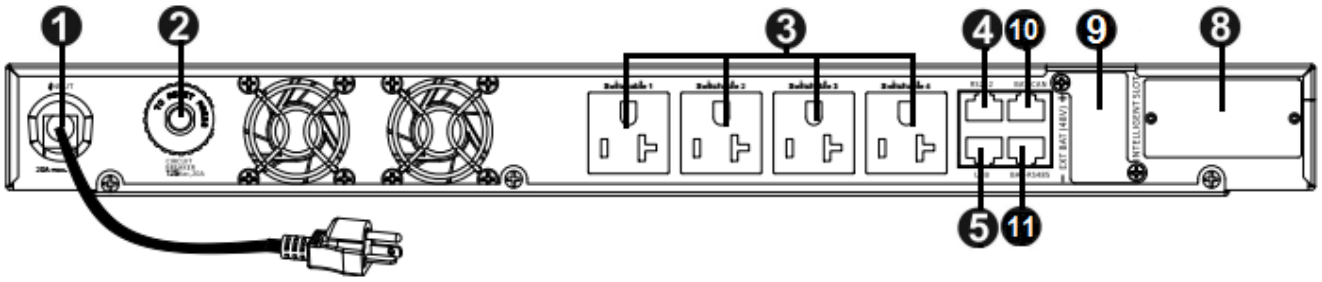
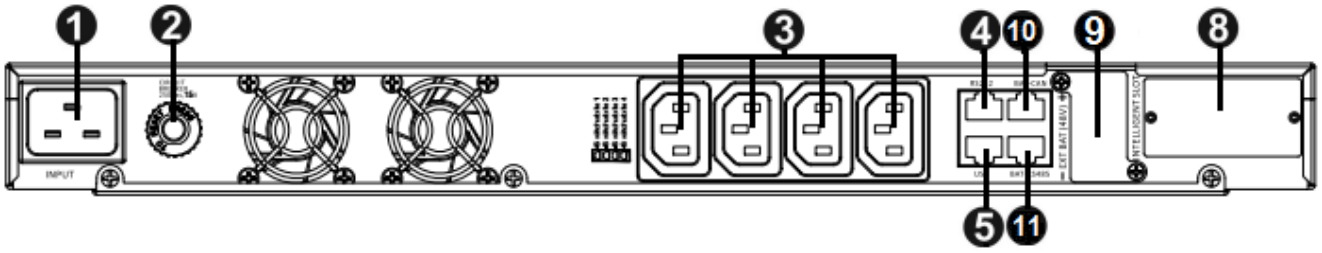
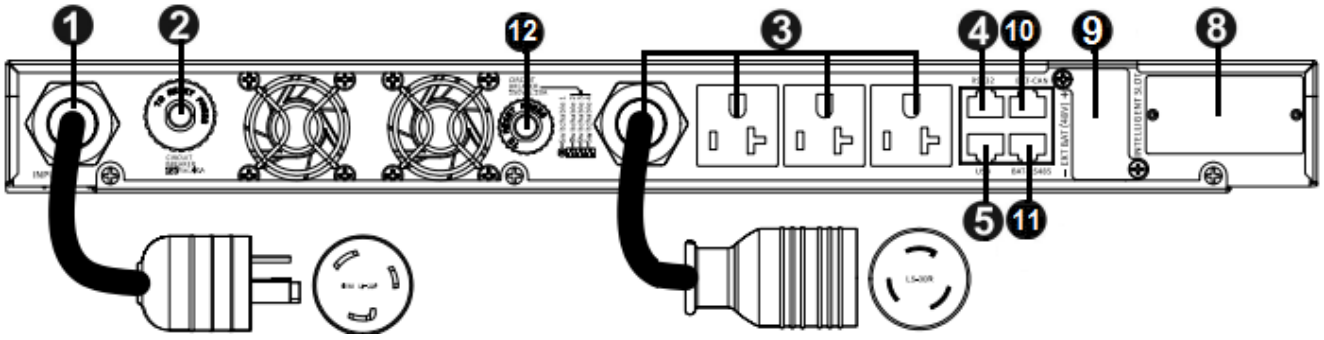


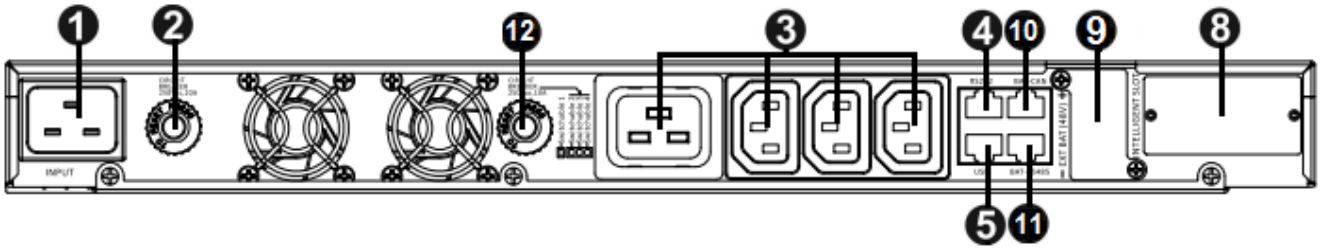
J90-2kLiD



J90i-2kLiD



J90-3kLiD



J90i-3kLiD

1 AC input
2 Input fuse or Input breaker
3 Programmable outlets or out cable
4 RS232 communication (DB9 or RJ45 port)
5 USB serial communication port
6 ROO/RPO function connector
7 Mute button
8 Intelligent slot(SNMP/AS400. etc)
9 External battery connector
10 CAN communication port for external battery
11 RS485 communication port for external battery
12 Breaker for light outlets

2-2. Setup the UPS

Step 1: UPS input connection

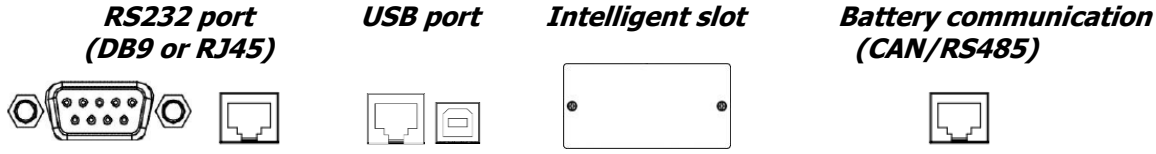
Plug the UPS into a two-pole, three-wire, grounded receptacle only. Avoid using extension cords.

Step 2: UPS output connection

There are four programmable outlets. You can set the programmable outlets via LCD or the communication port.

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

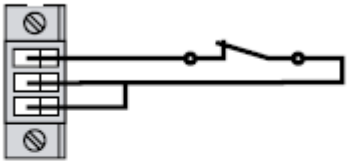
of your PC. With the monitoring software installed, you can schedule UPS shutdown/start-up and monitor UPS status through PC.

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

The UPS for 2K/3K can connect with the external battery pack, and the external battery pack need communicate with UPS or the internal battery via CAN/RS485

Step 4: Disable/Enable ROO/RPO function

ROO

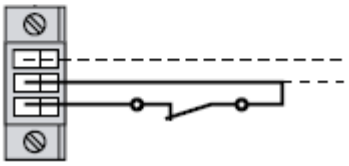


Contact open: UPS shuts down.

Contact closed: UPS start-up (UPS is connected to AC power and AC power is available).

Note: The local ON/OFF control by pressing On/Off button overrides the remote-control function.

RPO



Contact open: UPS shuts down and Fault LED will be ON.

To return to normal operation, de-activate external remote contact (Fault LED will be OFF) and restart the UPS by pressing button.

Step 5: Turn on/off the UPS

Press this button for at least 2 seconds to turn on (with confirmation dialog if not a cold start) the UPS when it is off or turn off (with confirmation dialog) the UPS when it is on.

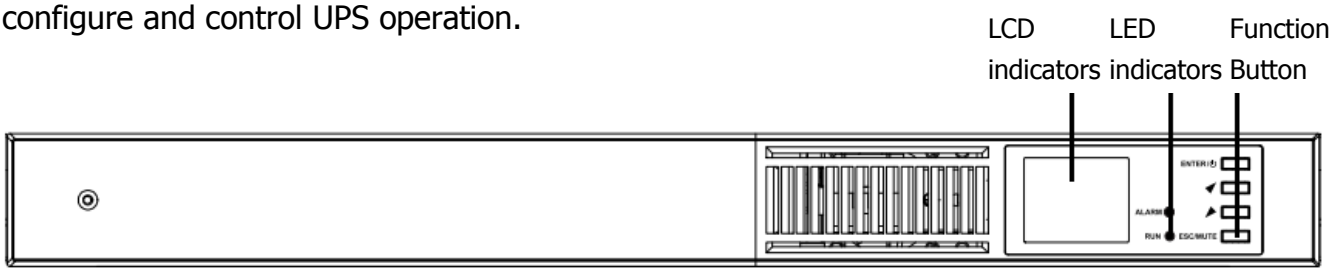
Step 6: Install software

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. If not, please follow steps below to download and install monitoring software from the internet:

1. Go to the website **http://www.power-software-download.com**
2. Click ViewPower software icon and then choose your required OS to download the software.
3. Follow the on-screen instructions to install the software.
4. When your computer restarts, the monitoring software will appear as an orange plug icon located in the system tray, near the clock.

3. Operations and display panel

The operation/display panel includes LED indicators, function keys, and an LCD interface to configure and control UPS operation.



3-1. Button Function

Button	Function
ESC/MUTE	➢ Mute the alarm: Press and hold this button at least 2 seconds to mute an active alarm. ➢ Esc Key: Press this button to exit from menu or cancel the setting.
UP/RIGHT ◀	➢ Press this button to select the upper item in the menu or next page in the screen or increase the number in the setting.
DOWN/LEFT ▶	➢ Press this button to select the lower item in the menu or previous page in the screen or decrease the number in the setting.
ENTER/⏻	➢ Turn on/off the UPS: Press this button for at least 2 seconds to turn on (with confirmation dialog if not a cold start) the UPS when it is off or turn off (with confirmation dialog) the UPS when it is on. ➢ Enter main menu: Press this button to enter main menu. ➢ Enter Key: Press this button to confirm the selection.

3-2. LED Indicators

The LEDs on the front-panel display indicate operation and alarm status of the UPS.

Indicator	LED Color	LED Status	Indicates
Run indicator	Green	On	No alarm, no fault
		Off	Alarm or warning occur
Alarm indicator	RED	On	Fault occurs
		Blinking	Alarm occurs
		Off	No alarm, no fault

3-3. LCD Indicators

1.77" LCD Module with 128x160 resolution 65K true color display for J90(i) models.

3-3-1. Display structure tree

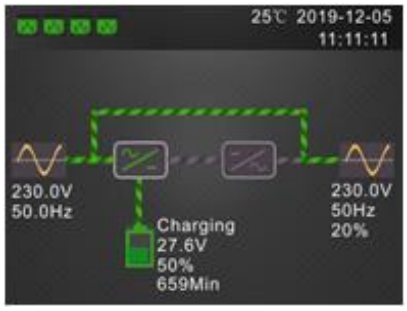
Startup Image	Header Area					
	Outlets/Temp/Date/Time					
	Content Area					
	Default Page	Main menu Page	Sub Menu Page	Tabs	Items	Remarks
	Default Page	Main menu Page	Status	Input	L-N voltage(V)	
					Frequency(Hz)	
				Battery	Battery status	
					Battery voltage(V)	
					Backup time(Min)	
					Remaining capacity(%)	
				Output	L-N voltage(V)	
					L-N current(A)	
					Frequency(Hz)	
				Load	Sout(KVA)	
					Pout(KW)	
					Power factor	
					Load percent(%)	
			Settings	Output	Voltage selection	
				Battery	Auto charge current enable	
					Max chg curr	
					Low Battery time	
					Battery periodic test enable	
					Dischg protect time	
					Charger voltage +	
					Charger voltage -	
				ECO	Eco enable	
					Eco voltage hight loss	
					Eco voltage low loss	
				Bypass	Bypass Forbiding	
					Bypass when UPS is off	
					Bypass voltage high loss	
					Bypass voltage low loss	
					Bypass frequency high loss	
					Bypass frequency low loss	
				Monitor	Date	
					Time	
					Audible alarm	
					Change settings password	
				System	Auto restart	
					Auto restart delay	
				Outlet	Turn off outlet	Available when

				1/2/3/4		UPS is ON
					Reboot outlet	Available when UPS is ON
					Turn off when UPS on battery	
					Discharge time limits for outlet(min)	
			Control	Control	Turn on/off	
					Mute/Unmute audible alarm	
					Start/Stop battery manual test	
					Clear faults	
					Reset power statistics	
			Log	Current		
				History		
			About	Product	Product type	
					Serial number	
					Time since startup	
					UPS FW version	
					Communication FW version	
					LCD module FW version	
				Network	MAC address	
					IPv4 address	
			Maintenance	Maintenance	Restore factory defaults	
	Pop-up Area					
	The Pop-up window only appears in a particular situation. Every alarm should generate a pop up on screen regardless of where you are in the menu that says "New alarm present. Show log?" with Yes/No buttons.					

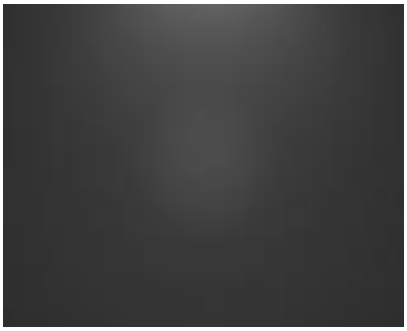
3-3-2. Default Screen and Flow Screens

At start-up, the UPS executes a system test with black screen for about 10 seconds.

After the test completes, an overview screen shows status information, the active (green) power path, and the non-working power path (gray).



NOTE: While the UPS is operating, the LCD will dim and display a screen saver if there is no active alarm or user interaction for two minutes. After 5 minutes, the screen will turn off. Any button press will wake it. If an alarm or fault occurs or if any button is pressed, the UPS-flow screen displays.



3-3-3. Main menu Screen

To access the main menu, press Enter while at the flow screen. Use the arrow buttons to select the sub -menu options, and press Enter to open the sub menu. Press ESC to return to the flow screen.

3-3-4. Status Screen

The status screen displays voltages, currents, frequencies, and parameters on individual tabs for input, battery , output, and load status.

To view the UPS status information:

1. At the main menu, select the Status icon, and press Enter.
2. Use the arrow buttons to move the cursor left/right and select a tab, then press Enter to display the status information for the selected tab.

Input Status Options

L-N voltage (V)

Line-neutral voltage of input power.

Frequency (Hz)

Frequency of input of input power.

Battery Status Options

Battery status

Current battery state: charging, discharging, or fully-charged

Battery voltage (V)

Voltage of battery power

Backup time (Min)

Amount of back-up time remaining for battery

Remaining capacity (%)

Percent of capacity remaining for battery

Output Status Options

L-N voltage (V)

Line-neutral voltage of output power

L-N Current (A)

Line-neutral current of output power

Frequency (Hz)

Frequency of output power

Load Status Options

Sout (kVA)

Apparent output power

Pout (kW)

Active output power

Power factor

Power factor of output power

Load percent (%)

Percentage of recent power rated to output power

3-3-5. Setting Submenu

The settings screen consists of tabs that list UPS settings for configuration and adjusting parameters with tabs for:

- Input
- Output
- Battery
- Monitor
- System
- Outlet1/Outlet2/ Outlet3/ Outlet4

NOTE: Do not change parameter settings or reset to factory defaults when powering-off the UPS.

To modify UPS settings:

1. At the main menu, select the Settings icon, and press Enter.
2. Use the arrow buttons to move the cursor left/right and select a tab, then press Enter to display the parameter list for the selected tab.

NOTE: Parameter settings are password protected, the detail see chapter **3.5.2.12**

Output Parameter Options

Voltage selection

Nominal voltage setting. Set the nominal system voltage to match the input voltage of the UPS

LV model :

- 110 V
- 120 V(default)

HV model:

- 208 V
- 220 V
- 230 V(default)
- 240 V

Battery Parameter Options

Auto charge current enable (2K/3K models only)

If this function is enable, UPS can adjust the charger current via battery capacity.

If battary capacity is more than 480Wh, the charger current will be 7.5A

If battary capacity is less than 480Wh, the charger current will be 4.5A

- Enable(default)
- Disable

PS : the internal battery is 240Wh

Max chg curr (2K/3K models only)

Sets the maximum charge current for the battery. A higher charge current will charge the battery more quickly but can shorten battery life. A lower value will lengthen the battery charge time and can increase battery life. The load is always prioritized and the charge current will be decreased internally if necessary to support the load.

- 1/2.5/4.5/7.5 A (default of 2.5A)

NOTE : The maximum setting of this value always shows as 7.5A on the display however it varies based on internal battery size and the number of EBMs connected. If the value does not save after it is selected, it is too high for the model.

Low battery time

Sounds an alarm when the selected amount of time remaining for the UPS to operate in Battery mode.

- 2 - 30 minutes (default of 2)

Battery periodic test enable

The UPS can periodically self-test the battery.

- Enable (default)
- Disable

Discharge protect time

Sets the maximum discharge time for the UPS. The default setting is the maximum allowing the battery to fully discharge. This can be set lower to limit the amount of time the UPS will provide battery protection after which it will shut down. If the discharge time remaining on the battery is lower than the setting value, it will have no effect.

- 1 - 4320 minutes
- Disable (default)

Charger voltage +

Add the charger voltage, and the charger voltage will be added 0.5V every time.

Charger voltage -

Reduce the charger voltage, and the charger voltage will be reduced 0.5V every time.

Monitor Settings Options

Date

Selects the current date for the UPS display, YYYY-MM-DD

Time

Selects the current time for the UPS display, HH:MM:SS

Audible alarm

If enabled, the UPS will beep when an alarm is generated. If disabled, it will be silent.

- Enable (default)
- Disable

Change settings password

Opens the dialog to change the password used to access and update the UPS parameter settings.

System Parameter Options

Auto restart

Allows the automatic restart of the UPS when input power is restored after a complete shutdown of the UPS system.

- Enable = The UPS will restart automatically when the input power is restored after a complete shutdown (default)
- Disable = The UPS will not restart automatically

Auto restart delay

Length of time to elapse before an automatic restart after input power is restored.

- 0 - 999 seconds (default 0)

Outlet1/2/3/4 Parameter Options Turn off outlet

Opens the dialog to turn off the programmable outlet. And it is avilable when UPS is on.

Reboot outlet

Opens the dialog to turn on the programmable outlet. And it is avilable when UPS is on.

Turn off when UPS on battery

Attention: To enable any of the functions below, the check box must be marked "yellow". If the check box of a function is "empty", it is disabled.

When this option is enabled, the programmable outlet will turn off when UPS is on battery mode

- Enable
- Disable (default)

Discharge time limits for outlet(min)

Sets the discharging time threshold of turning off of programmable outlet.

- 0 - 999 minutes (default of 0)

3-3-6. Setting Submenu

The Control screen offers UPS-control options.

To adjust the UPS controls:

1. At the main menu, select the Control icon, and press Enter.
2. Use the arrow buttons to move the cursor to the option, then press Enter to select the control.

Control Options

Turn on/off

Opens the dialog to change operating modes.

Mute/Unmute audible alarm

Silences or un-silences the audible alarm.

Start/Stop battery manual test

Starts the battery self test manually. If the manual self test is already running, stop the self test.

Clear faults

Clears displayed faults after the issue causing the fault is resolved.

Reset power statistics

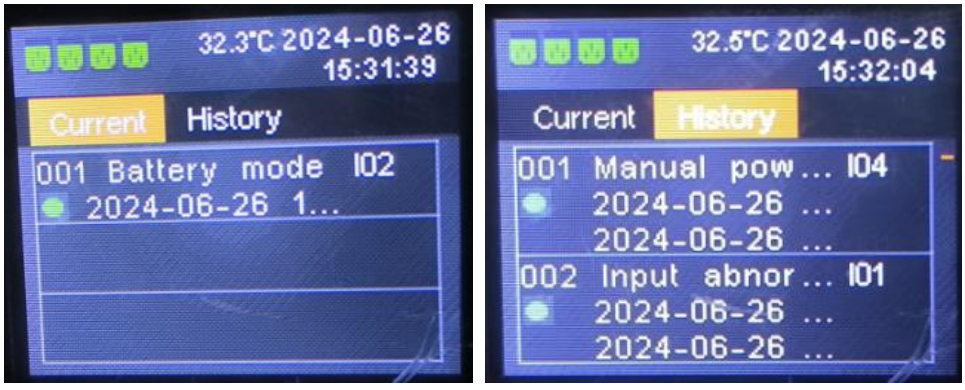
Resets the statistics information.

3-3-7. Log Screen

The Log Screen offers tabs that list the current alarms and the alarm/event history. Below table, describes the alarm messages you may see in the logs.

To view the logs:

1. At the main menu, select the Log icon, and press Enter.
2. Use the arrow buttons to move the cursor left/right and select a tab, then press Enter to display the log for the selected tab.



Alarm Messages table

No.	Name	Code	Type	Description
0	Input abnormal	I01	Event Information	The mains voltage and frequency exceeding normal range.
1	Battery mode	I02	Event Information	The UPS operating in battery mode. The alarm will clear when utility power is restored.
2	Battery to utility transition	I03	Event Information	The UPS has transferred the load to the mains power from the battery.
3	Manual power-on	I04	Event Information	The system was turned on via the display panel.
4	Manual shutdown	I05	Event Information	The system was shut down via the display panel.
12	Battery test fail	I13	Event Information	The periodic or manual self-test was run. Battery replacement is Recommended.
13	Battery test started	I14	Event Information	The battery periodic self-test or manual self-test was started.
14	Battery test stopped	I15	Event Information	The battery periodic self-test or manual self-test has finished. This will display in the log whenever the event occurs.
15	EOD turn off	I16	Event Information	The UPS is off due to EOD.
16	Load off due to output short	I17	Event Information	A short has occurred on the output. Check the output cables and for any equipment that may have shorted.
17	Shutdown due to over temp	I18	Event Information	During the UPS operation, the system checks that the heat sink temperature exceeds the setting range.
18	Output off due to overload	I19	Event Information	The output is off due to an overload of the UPS output.
20	Restore factory defaults	I21	Event Information	On the Maintenance page, "Restore Factory Defaults" has been set while the UPS is in the stand-by state. This will return settings to their factory settings.
21	Faults cleared	I22	Event Information	The faults have been cleared using Settings > Controls > Clear faults.
22	Setting login	I23	Event Information	LCD parameter setting password verification pass
23	Password change	I24	Event Information	Password change success.

24	Main FW update	I25	Event Information	Main UPS firmware updates.
25	LCD module FW update	I26	Event Information	LCD module firmware updates.
26	Communication FW update	I27	Event Information	Communication board firmware updates.
28	Pre-warning for charger failure	W13	Alarm	No output from charger.
29	Battery overcharge	W06	Alarm	Battery charger voltage exceeds the acceptable voltage range
30	Pre-warning for over temp	W12	Alarm	Fan failure or the cooling air is blocked.
31	Pre-warning for low battery	W07	Alarm	This warning occurs when the Battery approaches the EOD.
32	Pre-warning for overload	W08	Alarm	UPS is overload. Remove excess loads from UPS output
35	Battery bad	W65	Alarm	Battery voltage is abnormal.
36	Out of bypass voltage range	W66	Alarm	The output is off due to out of bypass voltage or frequency range of the UPS.
37	Bypass frequency unstable	W05	Alarm	The UPS can’t switch to line mode from bypass because the inverter can't sync mains input which frequency is changing all the time.
38	Battery replacement	W55	Alarm	Abnormal battery needs to be replaced.
39	No battery	W00	Alarm	No battery is detected. Check if battery and battery cable is connected
40	EEPROM failure	W61	Alarm	Parameter access failure in non-volatile memory
41	Communication failure	W67	Alarm	Internal communication is abnormal
42	Bus start failure	F01	Fault	The DC bus voltage can’t reach to acceptable value within a prescribed time when the DC/DC soft starts.
43	Bus over-voltage	F02	Fault	The inverter is off due to DC bus voltage is higher than the normal voltage range
44	Bus under-voltage	F03	Fault	The inverter is off due to DC bus voltage is lower than the normal voltage range.
45	Bus Unbalance	F04	Fault	The inverter is off due to the difference between +DC bus oltage and -DC bus voltage is too large.

46	Inverter soft start failure	F11	Fault	The inverter output voltage is out of the acceptable range when inverter soft starts.
47	Inverter voltage high	F12	Fault	The inverter is off due to inverter output voltage is higher than the normal voltage range.
48	Inverter voltage Low	F13	Fault	The inverter is off due to inverter output voltage is lower than the normal voltage range.
49	Inverter output short	F14	Fault	The UPS shuts down automatically because short circuit occurs on the output.
50	Battery voltage too high	F27	Fault	The UPS shuts down automatically because battery voltage is higher than the normal voltage range.
51	Battery voltage too low	F28	Fault	The UPS shuts down automatically because battery voltage is lower than the normal voltage range.
53	Over temperature	F41	Fault	The UPS shuts down automatically because over temperature occurs on the internal UPS.
54	Overload	F43	Fault	The UPS shuts down automatically because of overload on the output
55	Charger failure	F45	Fault	The charger output voltage is abnormal, and the charger is off.

3-3-8. About Screen

The About screen offers tabs that list information about the product.

- Product tab - shows UPS identification information, firmware versions, and information about the communication card (when the card is installed).

To view the product information:

1. At the main menu, select the about icon, and press Enter.

2. Use the arrow buttons to move the cursor left/right and select a tab, then press Enter to display the information for the selected tab.

Product Information

Product Type

UPS model name.

Serial number

UPS serial number.

UPS FW version

Version of UPS firmware on the control board.

Communication FW version

Version of communication firmware on the communication board.

LCD module FW version

Version of LCD module firmware on the display panel.

Network

MAC address

Shows the MAC address of the SNMP card. This is only shown when the SNMP card is installed.

IPv4 address

Shows the IPv4 address of the SNMP card. This is only shown when the SNMP card is installed.

3-3-9. Maintenance Screen

The Maintenance screen offers operation of restore factory default.

To restore factory default:

1. At the main menu, select the Maintenance icon, and press Enter.
2. Use the arrow buttons to move the cursor to the option, then press Enter to select the control.

Note : The operation is password protected. The password is 12345. Restore factory default

If the operation success, it will restore configuration to factory defaults.

3-3-10. Editing Display and Operation Settings

You may adjust the display settings and UPS configuration via the LCD. The display and operation settings are password protected. The default password is 111111 (six ones).

To enter the password:

1. Press the up-arrow button to change the digit shown, then press the down-arrow button to move to the next digit.
2. Repeat to select each digit, and press Enter to submit the password.

Settings Prompts

While using the operation and display panel, prompts display to alert you to specific conditions or require confirmation of commands or settings. Flowing table lists the prompts and their meaning.

Display Prompts and Meanings

PROMPT	MEANING
Cannot set this online, please shut down output	Appears when changing important output settings (output voltage, output frequency.).
Password is correct	Appears when the Settings password is input correctly.
Incorrect password, please input again	Appears when the Settings password is input incorrectly.
Input new password	Appears when the attempting to change the Setting password.
Confirm new password	Appears when the attempting to change the Setting password.
Password changed OK	Appears upon successful change of the Settings password.
Fail to change password, please try again	Appears when attempting to change the Settings password but the new and confirmation passwords do not match.
Operation failed, condition is not met	Appears when attempting to execute a operation for which the required conditions are not met.
Turn on failed, condition is not met	Appears when proper conditions are not met for UPS power-on. Applies when using the power button or when execute the command of 'Turn on/Turn off' on the LCD panel 'Control' page.
Turn on UPS?	Appears when execute the command of 'Turn on' on the LCD panel 'Control' page.
Turn off UPS?	Appears when execute the command of 'Turn off' on the LCD panel 'Control' page.
Mute audible alarm?	Appears when execute the command of 'Mute audible alarm' on the LCD panel 'Control' page.
Unmute audible alarm?	Appears when execute the command of 'Unmute audible alarm' on the LCD panel 'Control' page.
Start battery manual test?	Appears when execute the command of 'Start battery manual test' on the LCD panel 'Control' page.
Stop battery manual test?	Appears when execute the command of 'Stop battery manual test' on the LCD panel 'Control' page.
Clear faults?	Appears when execute the command of 'Clear faults' on the LCD panel 'Control' page.
Reset power statistics?	Appears when execute the command of 'Reset power statistics' on the LCD panel 'Control' page.
New alarm present	Appears when new alarm occurs.
Reset all battery statistics?	Appears when execute the setting of 'Replace battery' on the LCD panel 'Setting/Battery' page.
Restore factory defaults?	Appears when execute the command of 'Restore factory defaults' on the LCD panel 'Maintenance' page.
Password for settings	Appears when password protected operation is executed for setting operation.
Password for maintenance	Appears when password protected operation is executed for maintenance operation.
Turn off outlet?	Appears when execute the setting of 'Turn off outlet' on the LCD panel 'Setting/outlet1' page.
Reboot outlet?	Appears when execute the setting of 'Reboot outlet' on the LCD panel 'Setting/outlet1' page.
This item can only be set in standby mode	Appears when execute the command of 'Restore factory defaults' on the LCD panel 'Maintenance' page.
Operation succeeded!	Appears when setting operation succeeded

Changing the Password

The default password is 111111 (six ones). You must use the current password to change the password.

1. At the main menu, select the Settings icon, and press Enter.

2. At the password prompt, use the up-arrow to select the first digit, press the down-arrow to move to the next digit, repeat for each digit, then press Enter to access the settings.

3. Use the arrow buttons to select the Monitor tab, then press Enter.

4. Use the down arrow to highlight Change Settings Password, press Enter, and re-enter the current password. The Input new password dialog opens, see below.

5. Enter the new password, then confirm the new password. A confirmation dialog opens to indicate a successful password change.

6. Press ESC to return to the settings or main menu.

New and Confirm Password dialogs

3-4. Operating Mode Description

Operating mode	Description
Online mode	When the input voltage is within acceptable range, UPS will provide pure and table AC power to output. The UPS will also charge the battery at online mode.
ECO Mode	Energy saving mode: When the input voltage is within voltage regulation range, UPS will bypass voltage to output for energy saving. The UPS will also charge the battery at ECO mode.
Frequency Converter mode	When input frequency is within 40 Hz to 70 Hz, the UPS can be set at a constant output frequency, 50 Hz or 60 Hz. The UPS will still charge battery under this mode.
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 seconds.
Battery mode	When the input voltage is beyond the acceptable range or power failure, the UPS will backup power from battery and alarm is sounding every 10 seconds.
Standby mode	UPS is powered off and no output supply power, but still can charge batteries.
Fault mode	When a fault has occurred, there is not output supply power.

3-5. Faults

Fault	Cause
Bus start failure	The DC bus voltage can't reach to acceptable value within a prescribed time when the DC/DC soft starts.
Bus over-voltage	The inverter is off due to DC bus voltage is higher than the normal voltage range
Bus under-voltage	The inverter is off due to DC bus voltage is lower than the normal voltage range.
Bus Unbalance	The inverter is off due to the difference between +DC bus voltage and -DC bus voltage is too large.
Inverter soft start failure	The inverter output voltage is out of the acceptable range when inverter soft starts.
Inverter voltage high	The inverter is off due to inverter output voltage is higher than the normal voltage range.
Inverter voltage Low	The inverter is off due to inverter output voltage is lower than the normal voltage range.
Inverter output short	The UPS shuts down automatically because short circuit occurs on the output.
Battery voltage too high	The UPS shuts down automatically because battery voltage is higher than the normal voltage range.
Battery voltage too low	The UPS shuts down automatically because battery voltage is lower than the normal voltage range.
Over temperature	The UPS shuts down automatically because over temperature occurs on the internal UPS.
Overload	The UPS shuts down automatically because of overload on the output

3-6. Alarm

Alarm source	**Alarm**
UPS Fault	Continuously sounding
Bypass Mode	Sounding every 10 seconds
Battery Mode	Sounding every 10 seconds
Battery low pre-warning	Sounding every 2 seconds
Overload pre-warning	Sounding every second
No battery	Sounding every 2 seconds
Battery overcharge	Sounding every 2 seconds
Over temp pre-warning	Sounding every 2 seconds
Charger fail pre-warning	Sounding every 2 seconds
Battery fault	Sounding every 2 seconds (At this time, UPS is off to remind users something wrong with battery)
Out of bypass voltage range	Sounding every 2 seconds
Bypass frequency unstable	Sounding every 2 seconds
Battery replacement	Sounding every 2 seconds
EEPROM fail	Sounding every 2 seconds
Communication failure	Sounding every 2 seconds

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 though the mains is normal.	The AC input power is not connected well.	Check if input power cord firmly connected to the mains.
	The AC input is connected to the UPS output.	Plug AC input power cord to AC input correctly.
The mains is normal but fault LED is flashing. The alarm is sounding every second.	The internal or external battery connection is wrong.	Please re-connect battery wires with correct polarity.
The alarm is sounding twice every second and fault LED is flashing.	UPS is overload	Remove excess loads from UPS output.
	After repetitive overloads, the UPS is locked in the Bypass mode. Connected devices are fed directly by the mains.	Remove excess loads from UPS output first. Then, shut down the UPS and restart it.
The mains is normal. But the unit is on battery mode.	Battery is not fully charged.	Please charge battery at least 5 hours. If battery is still in low battery level, please contact local dealer.
	Battery defect.	Replace the battery with the same type of battery.
Fault LED is on and alarm is sounding continuously.	UPS fault.	Please contact local dealer directly.

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 -50°C	Every 3 months	1-2 hours
50°C -55°C	Every 2 months	1-2 hours

6. Specifications

MODEL		J90-1kLiD J90i-1kLiD	J90-1.5kLiD J90i-1.5kLiD	J90-2kLiD J90i-2kLiD	J90-3kLiD J90i-3kLiD
CAPACITY*		1000 VA / 900 W	1500 VA / 1350 W	2000 VA / 1800 W	3000 VA / 2700 W
INPUT					
Rated voltage		110-120 VAC or 208/220/230/240 VAC			
Voltage Range	Low Line Transfer	80VAC/70VAC/60VAC/55VAC ± 5 % or 160VAC/140VAC/120VAC/110VAC ± 5% (based on load percentage 100% -80 % / 80 % -70 % / 70 -60 % / 60 % -0)			
	Low Line Comeback	85VAC/75VAC/65VAC/60VAC ± 5 % or 170VAC/150VAC/130VAC/120VAC ± 5% (based on load percentage 100% -80 % / 80 % -70 % / 70 -60 % / 60 % -0)			
	High Line Transfer	150 VAC ± 5 % or 300 VAC ± 5 %			
	High Line Comeback	140 VAC ± 5 % or 290 VAC ± 5 %			
Rated frequency		60Hz or 50Hz			
Frequency Range		40Hz ~ 70 Hz			
Phase		Single phase with ground			
Power Factor		≧0.99 @ Nominal voltage (full load)			
AC Input Fuse/breaker		HV:10A fuse LV:15A fuse	HV: 10A fuse LV: 15A breaker	HV: 15A breaker LV: 20A breaker	HV: 20A breaker LV: 40A breaker
Input Cable**		HV: 6FT C14 to C13 or other cables with same specification LV:6FT NEMA 5-15P to C13 or other cables with same specification	HV：6FT C14 to C13 or other cables with same specification LV：6FT with plug NEMA 5-15P or other cables with same specification	HV: 6FT C14 to C13 or other cables with same specification LV: 6FT with plug NEMA 5-20P or other cables with same specification	HV: 6FT C20 to C19 or other cables with same specification LV: 6FT with plug NEMA L5-30P or other cables with same specification
OUTPUT					
Short-Circuit Current		HV：Approx.128A peak, 1.9A rms LV：Approx.192A peak, 2.9A rms		HV：Approx.160A peak, 2.9A rms LV：Approx.250A peak, 3.9A rms	
Output voltage		110/120 VAC or 208/220/230/240 VAC**			
AC Voltage Regulation		± 1%			
Frequency Range (Bat. Mode)		60Hz or 50 Hz± 0.3 Hz			
Overload		100%~105%: audible warning 105%-130%: UPS shuts down in 10 seconds at battery mode or transfers to bypass mode after 2min when the utility is normal. >130%: UPS shuts down immediately at battery mode or transfer to bypass mode after 10s when the utility is normal.			
Current Crest Ratio		3:1			
Harmonic Distortion		≦3 % THD (Linear Load) ≦ 5 % THD (Non-linear Load)			
Transfer Time	AC Mode to Bat Mode	Zero			
	Inverter to Bypass	4 ms (Typical)			
Waveform (Bat Mode)		Pure Sinewave			
EFFICIENCY					
AC Mode		~ 90% @ 100% load	~ 90% @ 100% load	~ 94% @ 100% load	
Battery Mode		~ 89% @ 100% load	~ 89% @ 100% load	~ 90% @ 100% load	
BATTERY					
Battery Type		Lithium-iron battery, 25.6V / 6Ah	Lithium-iron battery, 38.4V / 6Ah	Lithium-iron battery, 48V / 5Ah	
Numbers		1	1	1	

Charger current	1.5A	1.5A	1/2.5/4.5/7.5A, 2.5A as default***	
Recharge Time	4 hours recover to 90% capacity	4 hours recover to 90% capacity	1 hours recover to 90% capacity	
Battery fuse	30A/32V*2PCS	40A/58V*2PCS	40A/58V*4PCS	
PHYSICAL				
Dimension, D X W X H (mm)	477 x 438 x 44	510 x 438 x 44	580 x 438 x 44	
Net Weight (kg)	HV:12; LV:12.2	HV:12.5; LV:12.7	HV:14.3; LV:15.5	HV:14.6; LV:16.1
ENVIRONMENT				
Operating Temperature	0 °C to 50 °C			
Operating	0 -2000 m			
Storage	0 -2000 m			
Operation Humidity	20-90 % RH @ 0-50°C (non-condensing)			
International Protection Code	IP20			
Applicable Power Grid Power Distribution System	TN Power System			
Pollution Degree	2			
Overvoltage category	II for normal mode			
Noise Level	Less than 50dBA @ 1 Meter			
MANAGEMENT				
USB/RS-232	Supports Windows® 2000/2003/XP/Vista/2008/7/8, Linux, Unix and MAC			
Optional SNMP	Power management from SNMP manager and web browser			

*For the safety request, the capacity of LV models is as follow:
J90-1.5kLiD: 1500VA/1350W for 120Vac input or 1500VA/1250W for 110Vac input
J90-2kLiD: 2000VA/1800W for 120Vac input or 2000VA/1650W for 110Vac input
J90-3kLiD: 3000VA/2700W for 120Vac input or 3000VA/2550W for 110Vac input
**When input power cord is provided, please use incidental power cord in the package.
***When output voltage is 208Vac, the power will be derated to 80%.
****If UPS connect with the external battery, the charge current will be changed to 7.5A.
But when Load is higher than 75%, the charger current will be reduced to 1A.

Obtaining Service

If the UPS requires Service:

1. Use the TROUBLESHOOTING section in this manual to eliminate obvious causes.
2. Verify there are no circuit breakers tripped.
3. Call your dealer for assistance. If you cannot reach your dealer, or if they cannot resolve the problem, call Xtreme Power Conversion Corp Technical Support at 800.582.4524. Technical support inquiries can also be made at support@xpcc.com. Please have the following information available BEFORE calling the Technical Support Department:

- Your name and address.
- The serial number of the unit.
- Where and when the unit was purchased.
- All of the model information about your UPS.
- Any information on the failure, including LED's that may or may not be illuminated.
- A description of the protected equipment, including model numbers if possible.
- A technician will ask you for the above information and, if possible, help solve your problem over the phone. In the event that the unit requires factory service, the technician will issue you a Return Material Authorization number (RMA).

If you are returning the UPS to Xtreme Power for service, please follow these procedures:

1. Pack the UPS in its original packaging. If the original packaging is no longer available, ask the Technical Support Technician about obtaining a replacement set of packaging material. It is important to pack the UPS properly in order to avoid damage in transit. Never use Styrofoam beads for a packing material.
2. Include a letter with your name, address, daytime phone number, RMA number, a copy of your original sales receipt, and a brief description of the problem.
3. Mark the RMA number on the outside of all packages. Xtreme Power cannot accept any package without the RMA number marked on the outside of the boxes.
4. Return the UPS by insured, prepaid carrier to the address provided by the Technician.
5. Refer to the Warranty statements in this manual for additional details on what is covered.

Xtreme Power Conversion Limited Warranty

Xtreme Power Conversion (XPC) Corporation warrants Xtreme Power Conversion equipment, when properly applied and operated within specified conditions, against faulty materials or workmanship for a period of **five years (USA & Canada) or three years (outside USA & Canada) for J90-Series products** from the date of purchase. XPC Corporation warrants **internal batteries for a period of five years** from the date of purchase. For equipment sites within the United States and Canada, this warranty covers repair or replacement, at the sole discretion of XPC Corporation. The customer is responsible for the costs of shipping the defective product to XPC Corporation. XPC Corporation will pay for ground shipment of the repaired or replacement product. For equiptment outside the US & Canada, the warranty does not include shipping to and from XPC service depot. This warranty applies only to the original purchaser.

If equipment provided by XPC Corporation is found to be **Dead-on-Arrival (DOA)**, XPC Corporation will be responsible for the costs of shipping product to and returning equipment from the customer in a timely manner as agreed to with the customer, once the customer has requested and received a **Return Material Authorization (RMA)** number. DOA equipment is defined as equipment that does not properly function according to user documentation when initially received and connected in conjunction with proper procedures as shown in the user documentation or via support provided by XPC Corporation personnel or authorized agents.

This warranty shall be void if (a) the equipment is repaired or modified by anyone other than XPC Corporation or a XPC Corporation approved third party; (b) the equipment is damaged by the customer, is improperly used or stored, is subjected to an adverse operating environment, or is operated outside the limits of its electrical specifications; or (c) the equipment has been used or stored in a manner contrary to the equipment's operating manual, intended use or other written instructions. Any technical advice furnished by XPC Corporation or a XPC Corporation authorized representative before or after delivery with regard to the use or application of Xtreme Power Conversion equipment is furnished on the basis that it represents XPC Corporations best judgment under the situation and circumstances, but it is used at the recipient's sole risk.

EXCEPT AS STATED ABOVE, XPC Corporation DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

EXCEPT AS STATED ABOVE, IN NO EVENT WILL XPC Corporation BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF Xtreme Power Conversion EQUIPMENT, including but not limited to, any costs, lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, cost of substitutes, or claims by third parties. Purchaser's sole and exclusive remedy for breach of any warranty, expressed or implied, concerning Xtreme Power Conversion equipment, and the only obligation of XPC Corporation under this warranty, shall be the repair or replacement of defective equipment, components, or parts; or, at XPC Corporations sole discretion, refund of the purchase price or substitution of an equivalent replacement product.

Avertissement important concernant la sécurité

Veuillez respecter tous les avertissements et toutes les consignes d'instruction strictement décrits dans ce manuel. Sauvegardez ce manuel soigneusement et lisez attentivement les instructions suivantes avant d'installer l'unité. N'utilisez pas cette unité avant d'avoir lu attentivement toutes les consignes de sécurité et d'instruction.

Transport

- Veuillez transporter le système d'ASI seulement dans l'emballage d'origine pour le protéger contre les chocs et les impacts.

Préparation

- La condensation peut se produire si le système d'ASI est déplacé directement d'un environnement froid à un environnement chaud. Le système d'ASI doit être complètement sec avant d'être installé. Veuillez attendre au moins deux heures pour que le système d'ASI s'acclimate à l'environnement.
- N'installez pas le système d'ASI à proximité de l'eau ou dans un environnement humide.
- N'installez pas le système d'ASI où il serait exposé à la lumière directe du soleil ou à proximité d'un appareil de chauffage.
- Ne bloquez pas les trous de ventilation dans le boîtier d'ASI.

Installation

- Ne branchez pas les appareils ou les dispositifs qui pourraient surcharger le système d'ASI (p. ex. les imprimantes à laser) aux prises de sortie de l'ASI.
- Placez les câbles de manière à ce que personne ne puisse marcher dessus ou trébucher.
- Ne branchez pas les appareils ménagers tels que les séchoirs à cheveux aux prises de sortie de l'ASI.
- L'ASI peut être utilisé par toute personne qui ne possède aucune expérience antérieure.
- Branchez le système d'ASI seulement à des prises qui doivent être facilement accessibles, mises à terre et résistantes à des chocs et à proximité du système d'ASI.
- Lors de l'installation de l'appareil, assurez-vous que le courant de fuite total de l'ASI et des dispositifs connectés ne dépassent pas 3,5 mA.

Utilisation

- Ne débranchez pas les câbles principaux du système d'ASI ou des prises de courant du bâtiment (prise de sortie résistante aux chocs) lorsque le système fonctionne puisque ceci annulera la protection de mise à la terre du système d'ASI et de toutes les charges connectées.
- Le système d'ASI est doté de sa propre source de courant interne (batteries). Les prises de sortie de l'ASI ou les blocs à bornes de sortie peuvent être sous tension même si le système d'ASI n'est pas branché à la prise de courant du bâtiment.
- Empêchez du liquide ou des corps étrangers de pénétrer à l'intérieur du système d'ASI.

Entretien, service et défaillances

- Le système d'ASI fonctionne sous tension dangereuse. Les réparations peuvent être effectuées seulement par un personnel d'entretien qualifié.
- **Mise en garde -** risque de choc électrique. Même après avoir débranché l'unité du secteur principal (prise de courant du bâtiment), les composants à l'intérieur du système d'ASI sont encore connectés à la batterie; autrement dit, sous tension et dangereux.
- Avant d'effectuer tout service ou entretien, débranchez les batteries et vérifiez qu'aucun courant n'est présent et qu'il n'existe aucune tension dangereuse dans les bornes des condensateurs de grande capacité tels que les condensateurs bus c.c.

- Seules les personnes qui ont une connaissance adéquate des batteries et des mesures de précaution requises peuvent remplacer les batteries et superviser le fonctionnement de l'unité. Les personnes non autorisées doivent s'éloigner des batteries.
- **Mise en garde -** risque de choc électrique. Le circuit de batterie n'est pas isolé de la tension d'entrée. Des tensions dangereuses peuvent être présentes entre les bornes de batterie et le sol. Avant d'y toucher, veuillez vérifier qu'aucune tension n'est présente!
- Les batteries peuvent provoquer des chocs électriques et un fort courant de court-circuit. Veuillez prendre les mesures de précaution précisées ci-dessous et toute autre mesure nécessaire quand vous travaillez sur des batteries :
  Retirer les montres-bracelets, bagues et tout autre objet métallique.
  Utilisez seulement les outils à prises et poignées isolantes.
  Portez des gants et des bottes en caoutchouc.
  Ne déposez jamais les outils ou les pièces métalliques sur les batteries.
  Débranchez la source de courant et la charge avant d'installer ou d'entretenir la batterie.
- Lors du changement des batteries, installez le même nombre et même type de batteries.
- Ne tentez pas de jeter les batteries en les brûlant. Ceci peut provoquer une explosion de la batterie.
- N'ouvrez pas ou ne détruisez pas les batteries. La fuite d'électrolyte peut causer des blessures aux yeux et à la peau. L'électrolyte peut être toxique.
- Veuillez remplacer le fusible uniquement avec le même type et même ampérage afin d'éviter les risques d'incendie.
- Ne démontez pas le système d'ASI.
- **ATTENTION:** Ce produit est de catégorie C2. Pendant l'utilisation en milieu résidentiel, ce produit peur émettre radiofréquences. En ce cas l'utilisateur peut adopter des dispositions additionnelles. (Uniquement pour le système de 208/220/230/240 VCA)

Uniquement pour le système de 110/120 VCA:

- NOTE : Cet appareil a été testé et déclaré conforme aux limites pour appareils numériques de classe A, selon l'article 15 des règlements de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles lorsque l'appareil est utilisé dans un environnement commercial. Cet appareil produit, utilise et peut émettre de l'énergie radiofréquence et, s'il n'est pas installé et utilisé conformément au manuel d'instruction, peut causer des interférences nuisibles aux radiocommunications.
  L'utilisation de cet appareil dans un endroit résidentiel peut entraîner des interférences nuisibles, lesquelles devront être corrigées aux frais de l'utilisateur.
- AVERTISSEMENT : Tout changement ou toute modification non expressément approuvés par la partie responsable de la conformité pourrait annuler le droit de l'utilisateur à utiliser cet appareil.