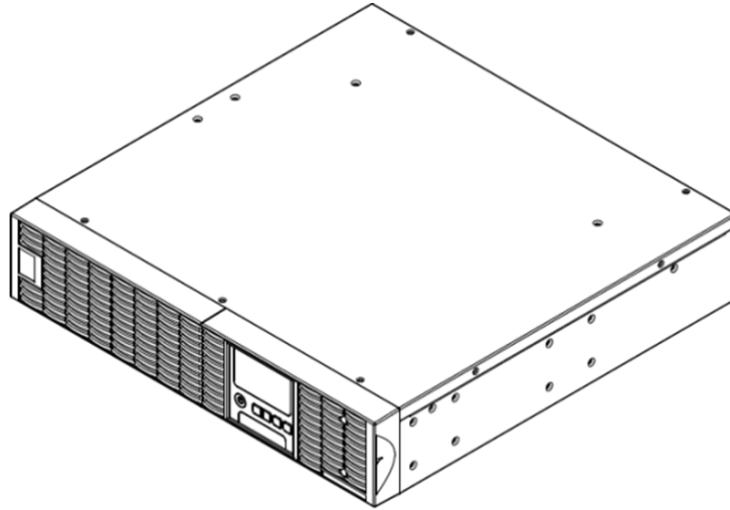


ONLINE UPS

UPS-OL1500R | UPS-OL2200R | UPS-OL3000R



THANK YOU

Thank you for purchasing an online UPS product. Please read these instructions thoroughly before installing this product.

PRODUCT FEATURES

- Provides double-conversion (zero transfer time) online backup protection.
- Expansion battery packs for provisioning additional runtime needs.
- Real time reporting and notifications of battery life and when replacement is required.
- Removable LCD display and power switch for remote convenience.



Middle Atlantic Products

I-00778 Rev F

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IMPORTANT SAFETY INSTRUCTIONS

This manual contains important instructions. Please read and follow all instructions carefully during installation and operation of the unit. Read this manual thoroughly before attempting to unpack, install, or operate the UPS.

CAUTION! The UPS must be connected to a grounded AC power outlet with fuse or circuit breaker protection. DO NOT plug the UPS into an outlet that is not grounded. If you need to power-drain this equipment, turn off and unplug the unit.

CAUTION! The battery can power hazardous components inside the unit, even when the AC input power is disconnected.

CAUTION! The UPS should be placed near the connected equipment and easily accessible.

CAUTION! To prevent the risk of fire or electric shock, install in a temperature and humidity controlled indoor area, free of conductive contaminants. (Please see "Technical Specifications" on page 22 for acceptable temperature and humidity ranges).

CAUTION! (No User Serviceable Parts): Risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

CAUTION! (Non-Isolated Battery Supply): Risk of electric shock, battery circuit is not isolated from AC power source; hazardous voltage may exist between battery terminals and ground. Test before touching.

CAUTION! To reduce the risk of fire, connect the UPS to a branch circuit with 15 amperes (UPS-OL1500R) / 20 amperes (UPS-OL2200R) / 30 amperes (UPS-OL3000R) maximum over-current protection in accordance with the National Electric Code, ANSI/NFPA 70.

CAUTION! The AC outlet where the UPS is connected should be close to the unit and easily accessible.

CAUTION! Please use only UL-marked mains cable, (e.g. the mains cable of your equipment), to connect the UPS to the AC outlet.

CAUTION! Please use only UL-marked power cables to connect any equipment to the UPS.

CAUTION! When installing the equipment, ensure that the sum of the leakage current of the UPS and the connected equipment does not exceed 3.5mA.

CAUTION! The UPS-OL1500R / UPS-OL2200R / UPS-OL3000R models may only be installed by qualified maintenance personnel.

CAUTION! Do not unplug the unit from AC Power during operation, as this will invalidate the protective ground insulation.

CAUTION! To avoid electric shock, turn off and unplug the unit before installing the input/output power cord with a ground wire. Connect the ground wire prior to connecting the line wires!

CAUTION! Do not use an improper size power cord as it may cause damage to your equipment and cause fire hazards.

CAUTION! Wiring must be done by qualified personnel.

CAUTION! DO NOT USE FOR MEDICAL OR LIFE SUPPORT EQUIPMENT! Under no circumstances this unit should be used for medical applications involving life support equipment

and/or patient care.

CAUTION! DO NOT USE WITH OR NEAR AQUARIUMS! To reduce the risk of fire, do not use with or near aquariums. Condensation from the aquarium can come in contact with metal electrical contacts and cause the machine to short out.

CAUTION! Do not dispose of batteries in fire as the battery may explode.

CAUTION! Do not open or mutilate the battery, released electrolyte is harmful to the skin and eyes.

CAUTION! A battery can present a risk of electric shock and high short circuit current. The following precautions should be observed when working on batteries:

1. Remove watches, rings or other metal objects.
2. Use tools with insulated handles.
3. Wear rubber gloves and boots.
4. Do not lay tools or metal parts on top of batteries.
5. Disconnect charging source prior to connecting or disconnecting battery terminals.
6. Determine if battery is inadvertently grounded. If inadvertently grounded, remove source from ground. Contact with any part of a grounded battery can result in electrical shock. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance.

CAUTION! The unit has a dangerous amount of voltage. When the UPS indicators is on, the units may continue to supply power thus the unit's outlets may have a dangerous amount of voltage even when it's not plugged in to the wall outlet.

CAUTION! Make sure everything is turned off and AC power is disconnected completely before conducting any maintenance, battery replacement, repairs or shipment.

CAUTION! Connect the Protection Earth (PE) safety conductor before any other cables are connected.

WARNING! (Fuses): To reduce the risk of fire, replace only with the same type and rating of fuse.

DO NOT INSTALL THE UPS WHERE IT WOULD BE EXPOSED TO DIRECT SUNLIGHT OR NEAR A STRONG HEAT SOURCE!

DO NOT BLOCK OFF VENTILATION OPENINGS AROUND THE HOUSING!

DO NOT CONNECT DOMESTIC APPLIANCES SUCH AS HAIR DRYERS TO UPS OUTPUT SOCKETS!

SERVICING OF BATTERIES SHOULD BE PERFORMED OR SUPERVISED BY PERSONNEL WITH KNOWLEDGE OF BATTERIES AND THEIR REQUIRED PRECAUTIONS. KEEP UNAUTHORIZED PERSONNEL AWAY FROM BATTERIES!

THE SOCKET-OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.

CONSIGNES DE SÉCURITÉ IMPORTANTES

Ce manuel contient des instructions importantes. S'il vous plaît lire et suivre attentivement toutes les instructions lors de l'installation et le fonctionnement de l'unité. Lisez attentivement ce manuel avant de débiller, installer ou utiliser l'onduleur.

ATTENTION! L'onduleur doit être connecté à une prise d'alimentation secteur à la terre avec protection fusible ou un disjoncteur. Ne branchez pas le UPS dans une prise qui ne sont pas mis à la terre. Si vous avez besoin de puissance-drain cet équipement, éteignez et débranchez l'appareil.

ATTENTION! La batterie peut alimenter des composants dangereux dans l'appareil, même lorsque la puissance d'entrée CA est débranché.

ATTENTION! L'onduleur doit être placé près de l'équipement connecté et facilement accessible.

ATTENTION! Pour prévenir le risque d'incendie ou de choc électrique, installer dans une température et humidité contrôlées zone couverte, exempt de contaminants conducteurs. (S'il vous plaît voir "Spécifications techniques" à la page 22 pour température et d'humidité acceptables).

ATTENTION! (Aucune pièce réparable): risque de choc électrique, ne pas retirer le couvercle. Aucune pièce réparable par l'utilisateur. Confiez l'entretien à du personnel qualifié.

ATTENTION! (Alimentation Batterie non-isolé): Risque de choc électrique, le circuit de la batterie est pas isolé de la source d'alimentation; tension dangereuse peut exister entre les bornes de la batterie et la terre. Test avant de les toucher.

ATTENTION! Pour réduire le risque d'incendie, de connecter l'onduleur à un circuit de dérivation de 15 ampères (UPS-OL1500R) / 20 ampères (UPS-OL2200R) / 30 ampères (UPS-OL3000R) maximale de protection de surintensité en conformité avec le Code national de l'électricité , ANSI / NFPA 70.

ATTENTION! La prise secteur où l'onduleur est connecté doit être proche de l'appareil et facilement accessible.

ATTENTION! S'il vous plaît utilisez uniquement UL marqué câble d'alimentation, (par exemple le câble d'alimentation de votre équipement), pour connecter l'onduleur à la prise secteur.

ATTENTION! S'il vous plaît utiliser les câbles d'alimentation ne UL-marqués pour connecter un équipement à l'onduleur.

ATTENTION! Lors de l'installation de l'équipement, veiller à ce que la somme du courant de fuite de l'onduleur et l'équipement connecté ne dépasse pas 3,5 mA.

ATTENTION! Les UPS-0LEBPR-1 / UPS-0LEBPR-2 modèles doivent être installés par le personnel de maintenance qualifié.

ATTENTION! Ne pas débrancher l'appareil de l'alimentation secteur pendant l'opération, car cela annulerait l'isolation de la terre de protection.

ATTENTION! Pour éviter un choc électrique, éteignez et débranchez l'appareil avant d'installer le cordon d'alimentation d'entrée / sortie avec un fil de terre. Branchez le fil de terre avant de connecter de la lignes.

ATTENTION! Ne pas utiliser une taille incorrecte cordon car cela peut causer des dommages à votre équipement et causer des risques d'incendie.

ATTENTION! Les travaux de câblage doit être effectué par du personnel qualifié.

ATTENTION! NE PAS UTILISER POUR DES APPAREILS DE MÉDICAL OU SOUTIEN DE LA VIE! En aucun cas, cet appareil doit être utilisé pour des applications médicales impliquant l'équipement de soutien de vie et / ou les soins aux patients.

ATTENTION! NE PAS UTILISER AVEC OU PROXIMITÉ D'UN AQUARIUM! Pour réduire le risque d'incendie, ne pas utiliser avec ou près des aquariums. La condensation de l'aquarium

peut entrer en contact avec des contacts électriques métalliques et provoquer à court-circuit.

ATTENTION! Ne jetez pas les batteries au feu, car la batterie pourrait exploser.

ATTENTION! Ne pas ouvrir ni mutiler la batterie, l'électrolyte libéré est nocif pour la peau et les yeux.

ATTENTION! Une batterie peut présenter un risque de choc électrique et de courant de court circuit élevé. Les précautions suivantes doivent être observées lors de travaux sur les batteries:

1. Retirez montres, bagues ou autres objets métalliques.
2. Utilisez des outils isolés.
3. Portez des en caoutchouc gants et des bottes.
4. Ne pas poser d'outils ou de pièces métalliques sur les batteries.
5. Débranchez la source avant de connecter ou déconnecter les bornes de recharge des batteries.
6. Déterminer si la batterie est mise à la terre par inadvertance. Si la terre par inadvertance, retirer la source à partir du sol. Le contact avec une partie d'une batterie mise à la terre peut provoquer un choc électrique. La probabilité d'un tel choc peut être réduite si ces motifs sont supprimés lors de l'installation et la maintenance.

ATTENTION! L'unité dispose d'une quantité dangereuse de tension. Lorsque les indicateurs UPS est en marche, les unités peuvent continuer à alimenter ainsi les points de vente de l'unité peut avoir une quantité dangereuse de tension même quand il est pas branché à la prise murale.

ATTENTION! Assurez-vous que tout est éteint et alimentation secteur est débranchée complètement avant de procéder à tout entretien, le remplacement de la batterie, réparations ou l'expédition.

ATTENTION! Raccorder de la terre de protection (PE) conducteur de sécurité avant tous les autres câbles sont connectés.

AVERTISSEMENT! (Fusibles): Pour réduire le risque d'incendie, ne remplacer avec le même type et calibre du fusible.

NE PAS INSTALLER L'ONduLEUR OÙ IL SERAIT EXPOSÉ DIRECTEMENT AU SOLEIL OU PRÈS D'UNE SOURCE DE CHALEUR!

NE PAS BLOQUER OUVERTURES DE VENTILATION AUTOUR DU BOÎTIER!

NE PAS CONNECTER APPAREILS DOMESTIQUES, POUR LES SÉCHOIRS EXEMPLE CHEVEUX, DANS LES PRISES DE SORTIE DE L'UPS!

ENTRETIEN DES BATTERIES DOIT ÊTRE EFFECTUÉ OU SUPERVISÉ PAR UN PERSONNEL QUI A CONNAISSANCE DE BATTERIES ET LEURS PRÉCAUTIONS REQUISES. GARDER LE PERSONNEL NON AUTORISÉ LOIN DES BATTERIES!

LA PRISE DE COURANT DOIT ÊTRE INSTALLÉE PRÈS DE L'ÉQUIPEMENT ET DOIT ÊTRE FACILEMENT ACCESSIBLE.

REGULATORY COMPLIANCE

Federal Communications Commission (FCC) Compliance Statement

(Used for 2200 and 3000VA Online UPS Models)

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 environment. 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.

REMARQUE: Cet équipement a été testé et jugé conforme aux limites de la classe A des appareils numériques, conformément à la section 15 de la réglementation de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles lorsque l'équipement est utilisé dans un environnement commercial. Cet équipement génère, utilise et peut émettre de l'énergie radiofréquence et, si non installé et utilisé conformément au manuel d'instruction, peut provoquer des interférences dans les communications radio. Le fonctionnement de cet équipement dans une zone résidentielle est susceptible de provoquer des interférences nuisibles, auquel cas l'utilisateur sera tenu de corriger les interférences à ses propres frais.

CAUTION! Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

ATTENTION! Les changements ou modifications non expressément approuvés par le fabricant peuvent annuler le droit de l'utilisateur à utiliser l'équipement.

Industry Canada (IC)

ICES-003 Class A Notice - Avis NMB-003, Classe A This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Federal Communications Commission (FCC) Compliance Statement

(Used for 1500VA Online UPS Models)

CAUTION! Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

ATTENTION: Les changements ou modifications non expressément approuvés par la partie responsable de la conformité pourraient annuler l'autorité de l'utilisateur à utiliser l'équipement.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

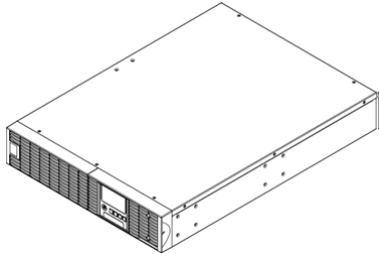
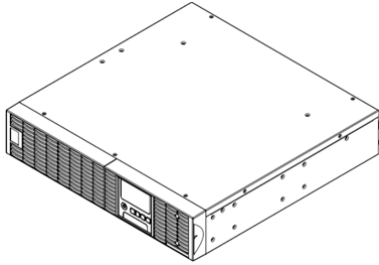
REMARQUE: Cet équipement a été testé et jugé conforme aux limites d'un dispositif numérique de classe B, conformément à la partie 15 des règles de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Cet équipement génère, utilise et peut émettre de l'énergie radiofréquence et, si non installé et utilisé conformément aux instructions, peut provoquer des interférences dans les communications radio. Cependant, il n'y a aucune garantie que des interférences ne se produiront pas dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou de télévision, ce qui peut être déterminé en allumant et éteignant l'équipement, l'utilisateur est encouragé à essayer de corriger l'interférence par une ou plusieurs des mesures suivantes:

- Réorienter ou déplacer l'antenne de réception.
- Augmenter la distance entre l'équipement et le récepteur.
- Brancher l'équipement dans une prise sur un circuit différent de celui sur lequel est branché le récepteur.
- Consulter le revendeur ou un technicien radio / TV expérimenté.

Industry Canada (IC)

ICES-003 Class B Notice - Avis NMB-003, Classe B This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

UNPACKING



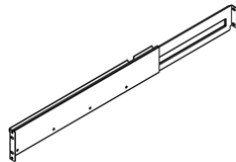
1.5KVA or 2.2K/3KVA UPS



Quick Start Guide



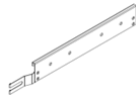
Rackmount Left Rail



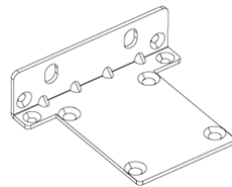
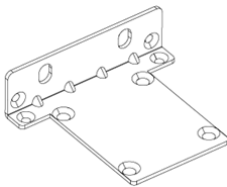
Rackmount Right Rail



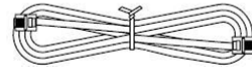
Left Hanging Bracket



Right Hanging Bracket



Rackmount Ears (2)



Phone Line



USB Communication Cable



Serial Interface Cable (RS-232)



Pan Head Screws: M5x12L (4)



Flat Head Screws: M5x7L (8)



Pan Head Screws: M5x6L (6)



Pan Head Screws: 10-32x1/2L (12)



Screw Hole Dust Covers (12)

HARDWARE INSTALLATION

Safety Precautions

CAUTION! This unit is heavy; lift carefully. A two person lift is recommended.

CAUTION! Lift the battery pack out of the shipping box by firmly holding both sides of the unit. Do not lift the battery pack out of the shipping box while holding the front face of the unit, as this may cause damage.

CAUTION! Installation environment should be in a temperature and humidity controlled, indoor area free of conductive contaminants. Do not install this UPS where excessive moisture or heat is present (Please see "Technical Specifications" on page 22 for acceptable temperature and humidity ranges).

CAUTION! Never install a UPS, or associated wiring or equipment, during a lightning storm.

CAUTION! Do not work alone under hazardous conditions.

CAUTION! In case of the risk of electric shock, do not remove the top cover.

CAUTION! The battery can energize hazardous live parts inside even when the AC input power is disconnected.

CAUTION! To prevent the risk of fire or electric shock, only use the supplied hardware to attach the mounting brackets.

Précautions de Sécurité

ATTENTION! Cet appareil est lourd; soulevez avec attention. A deux personnes ascenseur est recommandé.

ATTENTION! Soulevez la batterie hors de la boîte de transport en tenant fermement les deux côtés de l'unité. Ne pas soulever la batterie hors de la boîte de transport tout en maintenant la face avant de l'appareil, car cela pourrait causer des dommages.

ATTENTION! Environnement d'installation devrait être en température et humidité contrôlées espace intérieur exempt de contaminants conducteurs. Ne pas installer cet onduleur où l'humidité excessive ou à la chaleur est présente (S'il vous plaît voir "Spécifications techniques" à la page 22 pour température et d'humidité acceptables).

ATTENTION! Ne pas travailler seul dans des conditions dangereuses.

ATTENTION! Ne jamais installer cet onduleur, batterie, ou le câblage ou équipement correspondant, au cours d'un orage avec foudre.

ATTENTION! Ne pas retirer le couvercle supérieur. Retrait du capot peut risquer un choc électrique.

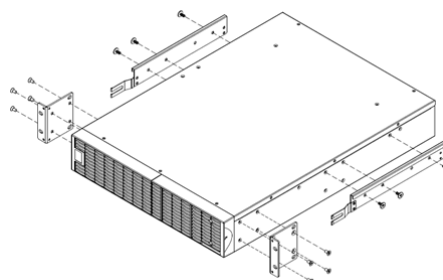
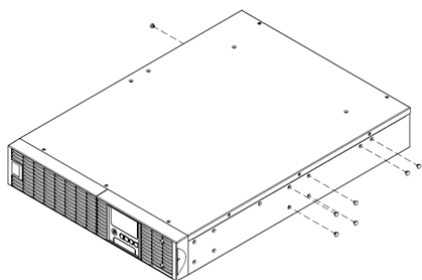
ATTENTION! La batterie peut dynamiser les parties actives dangereuses à l'intérieur même lorsque la puissance d'entrée CA est débranché.

ATTENTION! Pour éviter le risque d'incendie ou de choc électrique, utilisez uniquement le matériel fourni pour fixer les supports de montage.

Rackmount Installation

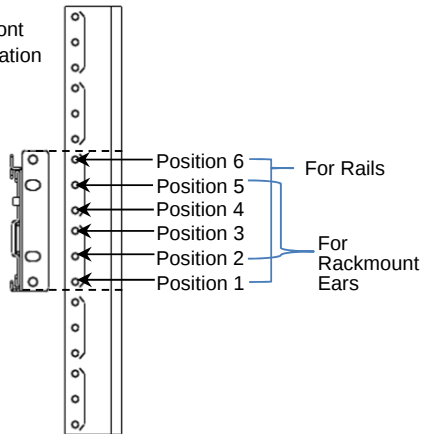
NOTE: Some rackmount steps are pictured with the Online Expansion Battery. The rackmount mounting procedure is the same for both products.

1. Turn off and unplug the unit.
2. Remove the (7) dust covers by prying them from the screw holes.
3. Install (2) rackmount ears using (8) M5x7L flat head screws. Also, install (2) hanging brackets using (6) M5x6L pan head screws.

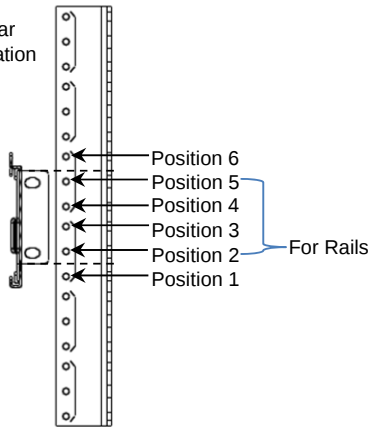


4. Install your rackmount rails. The rails adjust to mount in 48cm (19") panel racks from 52 to 91.5cm (20.5 to 36") deep. Select the proper holes in the rack for positioning the UPS in the rack. The UPS takes up positions 1 through 6.

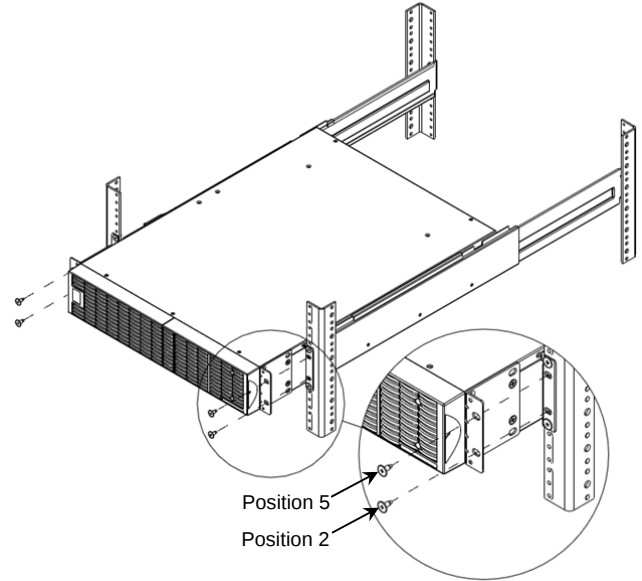
2U Front Installation



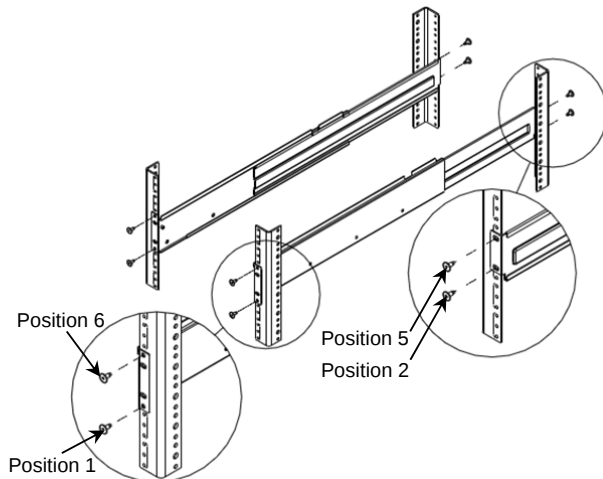
2U Rear Installation



6. Slide hanging brackets on the UPS into the rails mounted in the rack with the front of the unit facing you. Secure the UPS to your rack with (4) 10-32x1/2L screws on the front of the rack (located in positions 2 and 5).

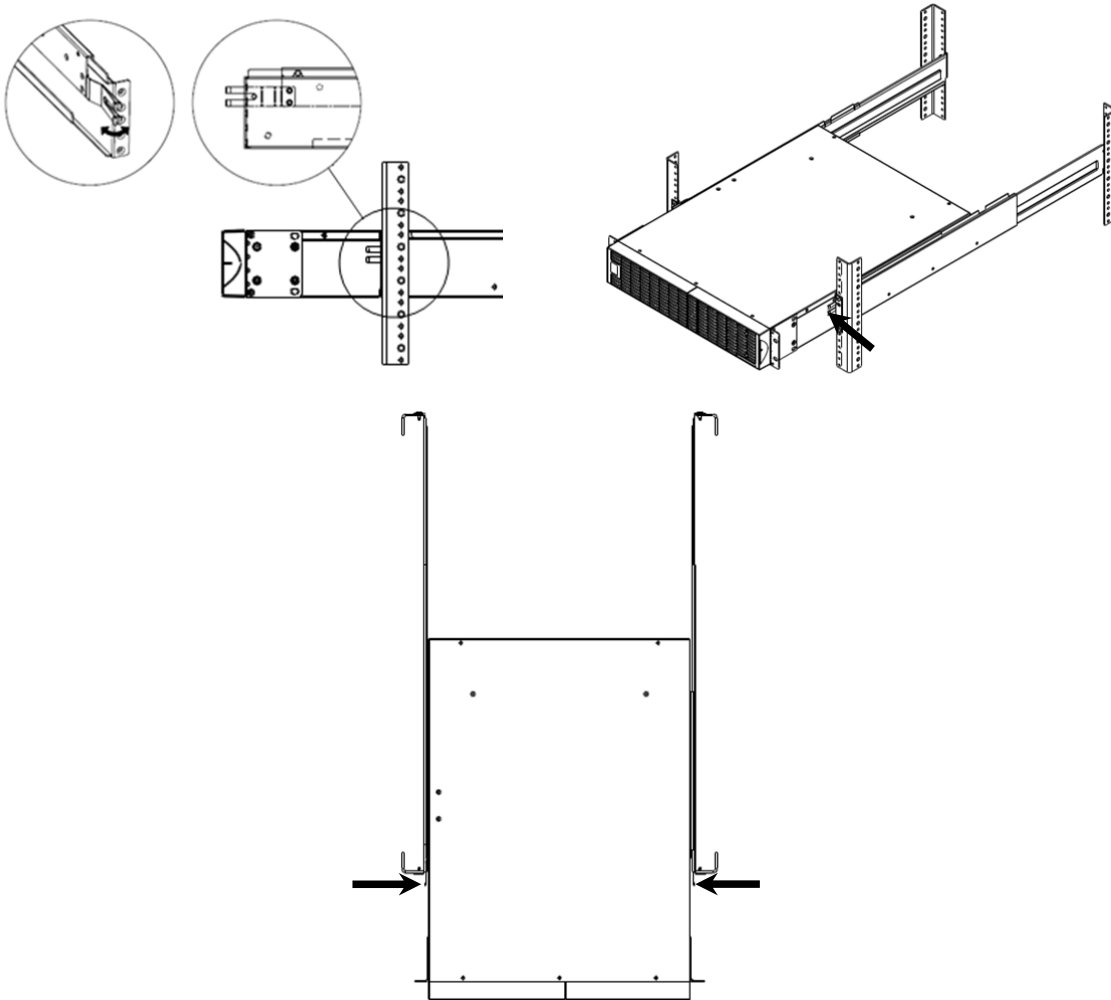


5. Adjust the rackrail depth within specified mounting ranges from step 4. Attach the rackmount rail to your rack with (8) 10-32x1/2L screws and (2 screws for both front and back and for each rail). Tighten all screws.



Sliding Out the UPS From the Rackrail

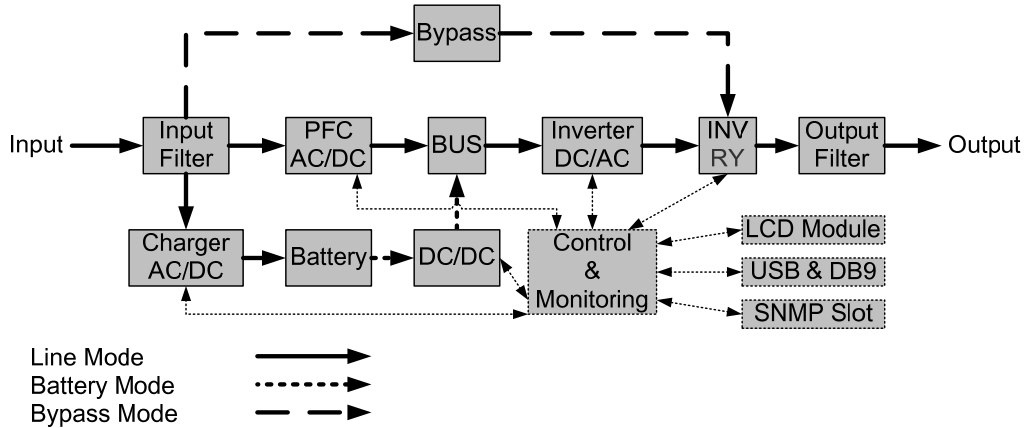
1. Turn off and unplug the unit.
2. The UPS is secured from being pulled out of the rack any further than its mid-length by a safety lock mechanism. Use both hands to hold the UPS and press the safety locking tabs to pull the UPS out of the rack.



INSTALLING YOUR UPS SYSTEM

NOTE: The steps in this section should only be performed after completing the hardware installation procedures. For more information, see "Hardware Installation" on page 8.

System Block Diagram



Hardware Installation Details

1. Battery charge loss may occur during shipping and storage. Before using the UPS, it's strongly recommended to charge the batteries for four hours to ensure their maximum charge capacity. To recharge the batteries, plug the UPS into an AC outlet.
2. When using the software, connect either the serial or the USB cable between the computer and the corresponding port on the UPS.
NOTE: If the USB port is used, the serial port will be disabled. They cannot be used simultaneously.
After connecting to either the USB port or the Serial port on the UPS, a computer with the Middle Atlantic Power Manager Software installed can control the operating schedule, battery test, outlets, as well as obtain UPS status information. However, other computers with Middle Atlantic Power Manager Software can only obtain UPS status information via LAN connection.
3. Connect your computer, monitor, and any externally powered data storage device (hard drive, tape drive, etc.) into the outlets only when the UPS is off and unplugged. DO NOT plug a laser printer, copier, space heater, vacuum, paper shredder or other large electrical device into the UPS. The power demands of these devices will overload and possibly damage the unit.
4. To protect a fax machine, telephone, modem line or network cable, connect the telephone or network cable from the wall jack outlet to the jack marked "IN" on the UPS and connect a telephone cable or network cable from the jack marked "OUT" on the UPS to the modem, computer, telephone, fax machine, or network device.
5. Press the ON/OFF switch to power on the UPS. The Power-On indicator light will display when activated. If an overload is detected, an audible alarm will sound and the UPS will continuously emit two beeps per second. Before resetting the unit, unplug some equipment from the outlets first. Make sure your equipment carries a load current within the unit's safe range. See "Technical Specifications" on page 22 for more information.

6. This UPS is equipped with an auto-charge feature. When the UPS is plugged into an AC outlet, the battery will automatically charge, even when the unit is switched off.
7. To maintain an optimal battery charge, leave the UPS plugged into an AC outlet at all times.
8. Before storing the UPS for an extended period of time, turn the unit OFF. Then cover it and store it with the batteries fully charged. Recharge the batteries every three months to ensure their full capacity and maintain the longest possible battery life. Maintaining a good battery charge will help prevent possible damage to the unit from battery leakage.
9. The UPS has one USB port (default) and one Serial port that allow connection and communication between the UPS and any attached computer running the Middle Atlantic Power Manager Software. The UPS can control the computer's shutdown during a power outage through the connection while the computer can monitor the UPS and alter various programmable parameters.
NOTE: Only one communication port can be used at a time. The port not in use will automatically become disabled or the serial port will be disabled if both ports are attached.
10. EPO (Emergency Power Off) Port: EPO ports allow administrators the capability to connect the UPS unit to customer-supplied EPO switches. These installations give operators a single access point to immediately power-off all equipment connected to the UPS during an emergency.
11. To avoid electric shock, turn the unit OFF and disconnect the unit from utility power before plugging in the power cord. The power cord must be connected to a properly wired and grounded outlet.
12. The internal UPS temperature increases when fans are not in operation or ventilation is obstructed. When the high temperature sensor activates protection, the UPS generates an alarm and shuts down to avoid unexpected equipment damage. If overtemperature occurs, see "Troubleshooting" on page 23. If the condition persists, contact Middle Atlantic Product's technical support at 1-800-266-7225.

BASIC OPERATION

Power Module Front/Rear Panel Descriptions

- 1. Power Button / Power on Indicator:**
Master ON/OFF for the UPS. Indicates that the UPS is on and supplying power.

- 2. UPS Status / Fault / Replace Battery LED Indicator:**
Indicates the status of the UPS, displaying whether it is operating in Line, Battery or Bypass Mode, if it has an internal fault or if the battery needs to be replaced.

- 3. Multifunction LCD Readout:**
Shows UPS status, information, settings and events.

- 4. Function Buttons:**
Scroll up, scroll down, select and cancel LCD menu.

- 5. Input Circuit Breaker:**
Provides input overload and fault protection.

- 6. Battery Backup and Surge Protected Outlets:**
Provides battery backup and surge protection. They ensure power is provided to connected equipment over a period of time during a power failure.

Critical / Noncritical Load:

Allows the creation of load priorities to ensure that battery power reserves are transferred to specified outlets during a power outage. The unit can be programmed to provide additional runtime for equipment connected to the "CRITICAL" outlets, while stopping the power supply to equipment connected to "NONCRITICAL" outlets after a designated period of time.

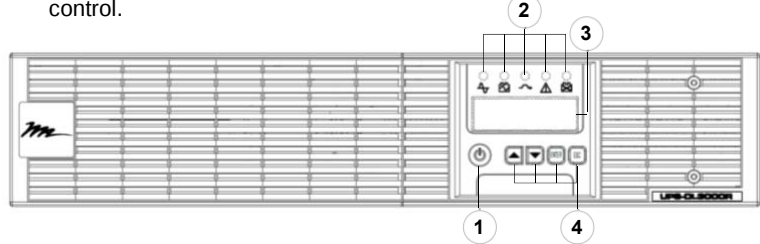
- 7. Serial Port:**
The serial port provides communication between the UPS and the computer. The UPS can control the computer's shutdown during a power outage through this connection while the computer can monitor the UPS and alter its various programmable parameters.

- 8. USB Port:**
This is a connectivity port which allows communication and control between the UPS and the connected computer. It is recommended to install the Middle Atlantic Power Manager Software on the PC or Server connected using the USB cord provided.

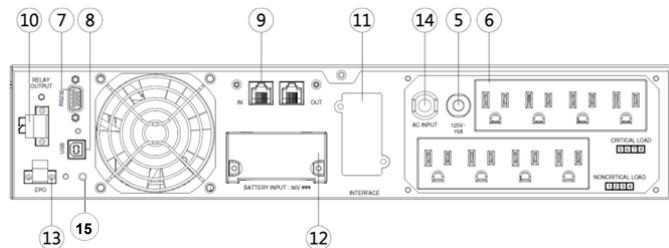
- 9. Surge Protected Communication Ports RJ-45:**

These ports are used to protect standard RJ-45-based products (LAN lines) and cabling systems from surges.

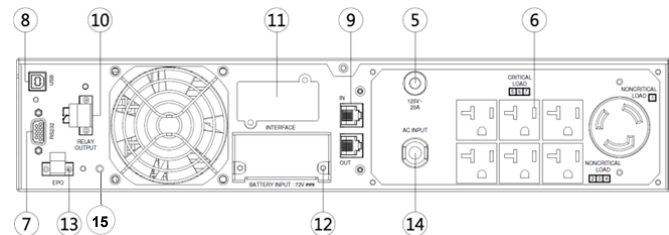
- 10. Relay Output Connector:**
Converts UPS signals into a single dry-contact output for industrial control.



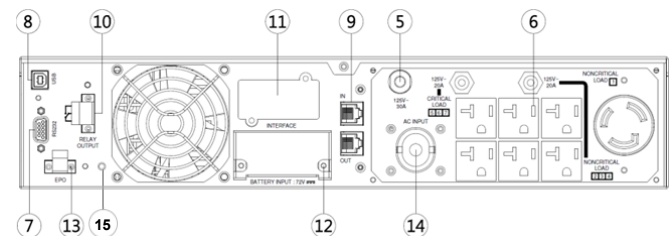
- 11. SNMP/HTTP Network Slot:**
Slot to install the optional UPS-OLIPCARD for remote network control and monitoring.



UPS-OL1500R



UPS-OL2200R



UPS-OL3000R

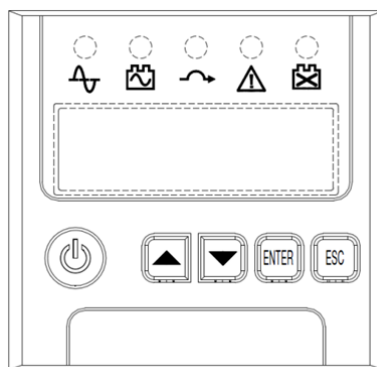
- 12. Extended Runtime Battery Module Connector:**
Connection for additional Middle Atlantic External Battery modules.

- 13. EPO (Emergency Power Off) Connector:**
Enables an emergency UPS Power Off from a remote location.

- 14. AC Input Inlet:**
Connect the AC Power cord to a properly wired and grounded outlet.

- 15. Output Shutoff Switch:**
Pressing this button causes the UPS output to turn off. To re-activate the outputs, press and hold the power button for a few seconds until the front panel display reads READY ON.

OPERATION INSTRUCTIONS FOR LCD MODULE



LED Indicators – UPS Status

LED Indicators	Color	UPS Status Description
ON/OFF	White	UPS power is on.
	Green	UPS is operating in Line Mode.
	Yellow	UPS is operating in Battery Mode.
	Yellow	UPS is operating in Bypass Mode, Manual Bypass or ECO (Economy) Mode.
	Red	UPS has an internal fault. See “Troubleshooting” on page 23 for more information.
	Red	Battery will soon need to be replaced due to insufficient runtime.

LCD Screen – UPS Status

LCD Screen	UPS Status Description
Line Mode	UPS is operating in Line Mode. This state provides constant sinewave output regardless of the input voltage state.
Battery Mode	UPS is operating in Battery Mode. This state is enabled whenever utility power is disengaged.
Bypass Mode	UPS is operating in Bypass Mode. This state is enabled when the UPS detects an overload, DC bus (Bus Fault), inverter (High O/P V or Low O/P V), or over temperature (Over Temp) fault.
Manual Bypass	UPS is operating in Manual Bypass. This state allows you to force a change of output (to bypass).
ECO Mode	UPS is operating in ECO (Economy) Mode. An operating state that reduces wasted energy by bypassing the rectifier and inverter when AC power input is detected to be within a pure sine wave standard.

Button Operation

Button	Operation Description
ON/OFF	Press this button to turn the UPS on or off.
▲	Press this button to scroll up in the LCD menu.
▼	Press this button to scroll down in the LCD menu.
ENTER	Press this button to select an option.
ESC	Press this button to cancel or return to previous LCD menu.

LCD SETUP FUNCTIONS

Multi-Function LCD Main Menu

Press “Enter” button to activate “MAIN MENU”.

MAIN MENU submenu	Function Description
Information	Displays the UPS information.
Configure	Displays the UPS settings that can be configured by the user.
Event Log	Displays the five most recent events by event count, time (day/hour/minute), and event description.

LCD Information Readout

There are 19 types of UPS information available for display.

1. Press the “ENTER” button to activate the “MAIN MENU”.
2. Press the “▲” and “▼” buttons to scroll to the “Information” option.
3. Press the “ENTER” button to select the “Information” submenu.
4. Press the “▲” and “▼” buttons to scroll through the “Information” submenu in the following table.
5. Press the “ESC” button to return to UPS Status.

Information Submenu	Description
O/P Volt = XXX.XV	Displays the Output Voltage
O/P Freq = XX.XHz	Displays the Output Frequency
I/P Volt = XXX.XV	Displays the Input Voltage
I/P Freq = XX.XHz	Displays the Input Frequency
O/P Load = XXX%	Displays the Output Load as a Percentage of Maximum load
O/P Amp = X.XA	Displays the Output Current
O/P Watt = XXXXXW	Displays the Output Wattage
O/P VA = XXXXXVA	Displays the Output VA
BAT Volt = XXX.XV	Displays the Battery Voltage
BAT Cap = XXX%	Displays the Estimated Percentage of Battery Capacity
BAT Runtime = XXXM	Displays the Estimated Battery Runtime in Minutes
EBM Number = X	Displays the External Battery Module Number
TEMP = XX°C / XXX°F	Displays the Approximate inside Temperature in both °C(Celsius) and °F(Fahrenheit) for the UPS
SBM = XXXXX XH(M)	Displays the stage of Smart Battery Management with Operation Time
Rating = XXX VA	Displays the UPS Rating
MCU Ver = XXXX	Displays the MCU Firmware Version
Model Name	Displays the UPS Model Name
Date & Time -- -- / -- -- --:--	Displays the present Date and Time
Next BAT Change XXX / XXXX	Displays the next Battery Change Date and Time

LCD Event Log

Five UPS Event Logs can be recorded.

1. Press the **"ENTER"** button to activate the **"MAIN MENU"**.
2. Press the **"▲"** and **"▼"** buttons to scroll to the **"Event Log"** option.
3. Press the **"ENTER"** button to select the **"Event Log"** submenu.
4. Press the **"▲"** and **"▼"** buttons to scroll through the **"Event Log"** submenu in the following table.
5. Press the **"ESC"** button to return to UPS Status.

Event Log Submenu	Description
(X)	XXDXXHXXM (without Middle Atlantic Power Manager Software or UPS-OLIPCARD) - - / - - - - - (with Middle Atlantic Power Manager Software or UPS-OLIPCARD)
Event Content	

LCD Settings Configuration

There are 22 UPS settings that can be configured by the user.

1. Press the **"ENTER"** button to activate the **"MAIN MENU"**.
2. Press the **"▲"** and **"▼"** buttons to scroll to the **"Configure"** option.
3. Press the **"ENTER"** button to select the **"Configure"** submenu.
4. Press the **"▲"** and **"▼"** buttons to scroll to the **"Configure"** submenu in the following table.
5. Press the **"ENTER"** button to select the setting you want to configure.

The first configuration parameter will be displayed on the second column of LCD screen.

6. Press the **"▲"** and **"▼"** buttons to scroll through the different parameters.
7. Press the **"ENTER"** button to select the parameter you want to change.

You may be prompted to save the selection, if so press the **"ENTER"** button to save the setting. Some options are saved and started automatically. (See the following table for more information.)

8. Press the **"ESC"** button to cancel or return to the previous LCD menu.

Configuration Submenu	Available Settings	Default Setting	Description
Output Voltage¹	= [100V] [110V] [115V] [120V] [125V]	120V	Configures the output voltage.
Sync Freq Window	Range= [+/- 1%] [+/- 2%] [+/- 3%] [+/- 4%] [+/- 5%] [+/- 6%] [+/- 7%] [+/- 8%] [+/- 9%] [+/-10%]	+/- 5%	Allows you to specify a permitted output frequency range.
Bypass V Window	Range= [+10%/-10%] [+10%/-15%] [+10%/-20%] [+15%/-10%] [+15%/-15%] [+15%/-20%]	+10%/-15 %	Allows you to specify a permitted bypass output voltage range.
Bypass Condition	[Check Freq/Volt] [Check Volt Only] [No Bypass]	Check Freq/Volt	Transfers UPS to Bypass mode when the specified condition is met.
ECO Mode²	[Disable] [Enable]	Disable	When enabled, the UPS operates in Bypass mode for higher efficiency. In the event of a power failure, the UPS transfers to the inverter in less than 10 ms.
	[V Range= +/-15%] [V Range= +/-10%] (for [Enable])	V Range= +/-10%	
Manual Bypass	[Disable] [Enable]	Disable	Enables or disables bypass mode manually.

Configuration Submenu	Available Settings	Default Setting	Description
UPS Diagnostic	[Battery Test] [Alarm Test] [Indicator Test] [Fan Test]	Battery Test	Initiates a self-test for the battery/alarm/indicator/fan.
	[Activate?]	None	
Audible Alarms	[Disable] [Enable]	Enable	Enables or disables audible alarms.
EBM Number	= [0] [1] [2] [3] [4] [5] [6] [7] [8] [9] [10]	0	Used for setting the number of extended battery modules in order to calculate the correct estimated runtime value.
Wiring Fault	[Disable] [Enable]	Disable	Enables or disables a check for the input plug connection.
NCL Control	[Outlet On] [Outlet Off]	Outlet On	Controls the non-critical load output via corresponding outlets.
Generator Mode³	[Disable] [Enable]	Disable	Provides stable sine wave output that is free of harmonics and distortion without switching to battery mode when running on generator input power.
Communication	[Disable] [Enable]	Enable	Enables or disables all communication.
Dry Relay Set	[I/P Power Fail] [Battery Low] [Summary Alarm] [UPS On Bypass] [UPS Fail]	I/P Power Fail	The dry relay may be set to close when assigned to one of the five available conditions.
Converter Mode⁴	[Converter Off] [O/P Freq = 50Hz] [O/P Freq = 60Hz]	Converter OFF	Sets the UPS converter to OFF, 50Hz, or 60Hz.
Screen Saver	[Disable] [1 Minutes] [5 Minutes]	5 minutes	When enabled, sets the LCD screen saver to initiate after either 1 or 5 minutes of inactivity.
Clear Event Log	[Activate?]	None	Clears all LCD event log information from the UPS.
Button OFF LOCK	[Disable] [Enable]	Disable	When enabled, disables ON/OFF button functionality.
Charger Function	[SBM] [Constant]	SBM	When charging batteries, this sets the charger function to either SBM (smart battery management) or constant voltage.
Signal Inputs	[Disable] [EPO] [ROO]	Disable	When enabled, sets the signal inputs as either EPO (emergency power off) or ROO (remote on or off) to remote control the UPS. An open circuit activates the EPO. In ROO mode, an open circuit turns the UPS off.
Charger Check	[Disable] [Enable]	Disable	When enabled, checks the electric circuit of the charger.
Reset ReplaceBAT	[Activate?]	None	When the replace battery LED is flashing, replace the battery and reset the battery timer.

¹ UPS-OL1500R/UPS-OL2200R/UPS-OL3000R, 100V is derated by 20%, 110V/115V is derated by 10%

Output voltage default setting varies by country.

² This function can't be set when Manual Bypass, Generator Mode or Converter Mode is enabled.

³ UPS has no bypass when Generator Mode is enabled.

⁴ UPS has no bypass when Converter Mode is enabled. This function can only be set before the UPS is on.

Silencing Audible Alarms

1. Press any of the four function buttons on the LCD module.

NOTE: the alarm cannot be turned off for a **"Battery Low"** condition. This condition will still result in an audible alarm.

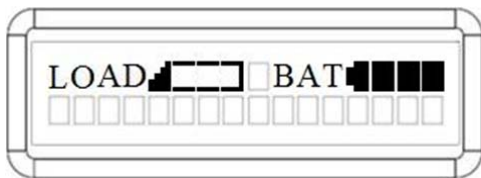
2. Change the **'Audible Alarms'** option to **'Disable'** in the LCD screen and it will no longer sound an alarm when malfunctions occur.

Manual Battery Test

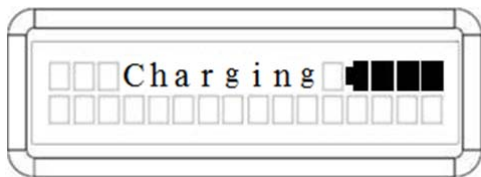
Select **'Active'** in the **'Battery Test'** portion of the LCD screen and the unit will perform a manual battery test.

Graphical Load /Battery Capacity Display

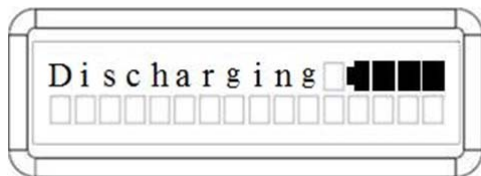
1. Press the **"ESC"** button to return to UPS Status.
2. Press the **"▲"** and **"▼"** buttons to scroll to the **"LOAD"** and **"BAT"** Capacity.
3. Press the **"▲"** and **"▼"** buttons to scroll to the **"Charging"** or **"Discharging"** Capacity.

**LOAD and BAT Capacity**

The LCD screen displays the Load and Battery capacity with a graphical icon.

**Charging Capacity**

The LCD screen displays the battery capacity during charging with a graphical icon while on Line Mode.

**Discharging Capacity**

The LCD screen displays the remaining battery capacity with a graphical icon while on Battery Mode.

LCD MODULE REMOTE CONTROL and WALL-MOUNTING INSTRUCTIONS

Safety Precautions

CAUTION! These steps must only be performed by qualified personnel.

CAUTION! To avoid electric shock, turn off and unplug the unit before performing "Remote Control" or "Wall-Mounting Instructions".

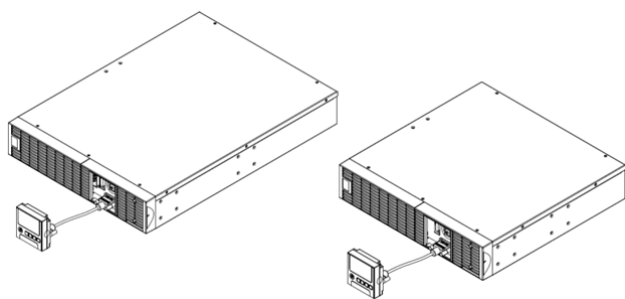
Précautions de Sécurité

ATTENTION! Ces étapes doivent être réalisées uniquement par du personnel qualifié.

ATTENTION! Pour éviter un choc électrique, éteignez et débranchez l'appareil avant d'effectuer "Remote Control" ou "Instructions Mur-Montage".

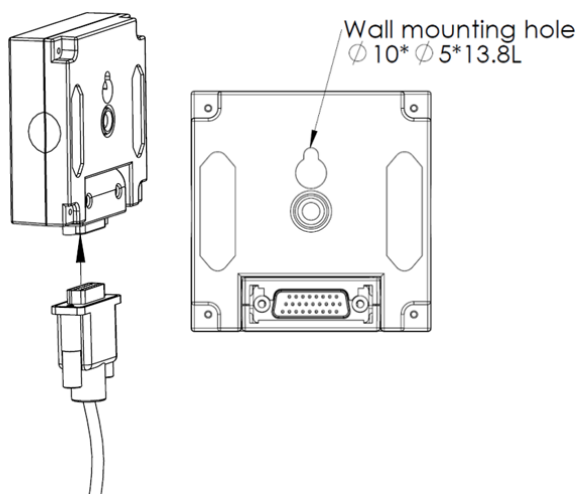
Remote Control

1. Turn off and unplug the unit.
2. Remove the multifunction LCD module by unscrewing the right panel, separating it from the UPS, and gently lifting the LCD module out. Reinstall the right panel.
3. Connect the DB26 cable from LCD module to the "Remote Control Port" on the front panel as shown in the following figure.



Wall-Mounting Instructions

1. Remove the multifunction LCD module by unscrewing the right panel separating it from the UPS, and gently lifting the LCD module out. Reinstall the right panel.
2. Rotate the DB26 connector LCD module.
3. Connect the DB26 cable from LCD module to the "Remote Control Port" on the front panel as shown in the previous figure.
4. Mount the LCD module on the wall.



MAINTENANCE

Safety Precautions

CAUTION! Make sure everything is turned off and AC power is disconnected completely before conducting any maintenance, battery replacement, repairs, or shipment.

CAUTION! Only use replacement batteries which are certified by Middle Atlantic Products. Use of incorrect battery type is an electrical hazard that could lead to explosion, fire, electric shock, or short circuit.

CAUTION! Batteries contain an electrical charge that can cause severe burns. Before servicing batteries, please remove any conductive materials such as jewelry, chains, wrist watches, and rings.

CAUTION! Do not open or mutilate the batteries. Electrolyte fluid is harmful to the skin/eyes and may be toxic.

CAUTION! To avoid electric shock, turn off and unplug the UPS from the wall receptacle before servicing the battery.

CAUTION! Only use tools with insulated handles. Do not lay tools or metal parts on top of the UPS or battery terminals.

Précautions de Sécurité

ATTENTION! Assurez-vous que tout est éteint et alimentation secteur est débranchée complètement avant de procéder à tout entretien, le remplacement de la batterie, réparations, ou l'expédition.

ATTENTION! Utilisez uniquement des batteries de remplacement qui sont certifiées par Middle Atlantic Products. L'utilisation de batterie de type incorrect est un danger électrique qui pourrait provoquer une explosion, un incendie, un choc électrique ou un court-circuit.

ATTENTION! Les piles contiennent une charge électrique qui peut causer de graves brûlures. Avant batteries desservant, s'il vous plaît supprimer tous les matériaux conducteurs comme des bijoux, chaînes, montres-bracelets, et bagues.

ATTENTION! Ne pas ouvrir ni mutiler la batterie, l'électrolyte libéré est nocif pour la peau et les yeux.

ATTENTION! Pour éviter un choc électrique, éteindre et de débrancher l'onduleur de la prise murale avant de réparer la batterie.

ATTENTION! Utilisez uniquement des outils avec des poignées isolées. Ne posez pas d'outils ou de pièces métalliques sur le dessus de l'onduleur ou bornes de la batterie.

Please read and follow the Safety Precautions before servicing the battery. Battery replacement should be performed by trained personnel who are familiar with the procedures and safety precautions. Make a note of the replacement Battery tray number.

Storage

Cover your UPS and fully-charge the batteries when storing the unit for an extended period of time. Recharge the batteries every three months to ensure their full capacity and maintain the longest possible battery life.

Replacement Batteries

Please refer to the front side of the UPS for the model number of the correct replacement batteries.

Battery Disposal

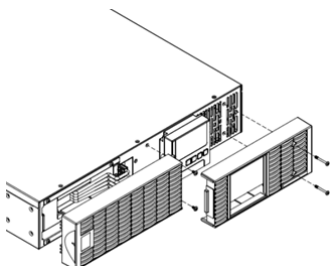
Batteries are considered hazardous waste and must be disposed of properly. Contact your local government for more information about proper disposal and recycling of batteries. Do not dispose of batteries in fire.

Middle Atlantic Products encourages environmentally sound methods for disposal and recycling of its UPS products. Please dispose and/or recycle your UPS and batteries in accordance with your local state regulations.

Battery Replacement

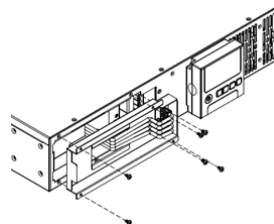
NOTE: For qualified service personnel, the battery is hot swappable. Non-qualified service personnel are strongly urged to follow the first step to power off the unit and disconnect it from its AC power source.

1. Power off the unit and disconnect it from its AC power source.

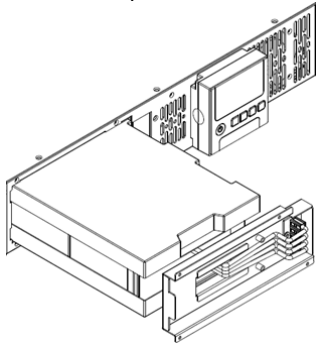


2. Remove the front panels.

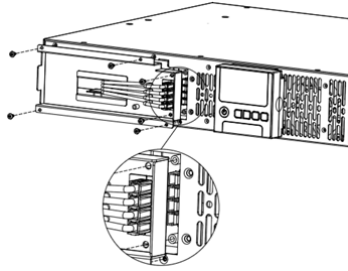
3. Remove the retaining screws from the cable protection cover and then remove the cover itself.



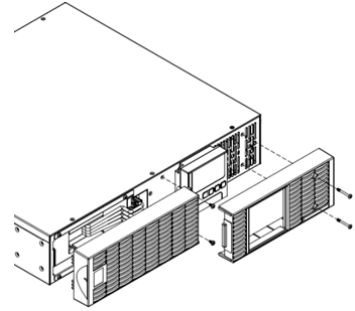
4. Pull the battery tray out slowly and then put the new battery tray back into the compartment.



5. Fasten back the connectors on the battery retaining cover. Then insert the battery connectors and tighten the screws of battery retaining cover.



6. Reinstall the front panels.



UPS MODELS AND CORRESPONDING BATTERY PACKS

The following table shows Middle Atlantic Products, Inc. online UPS units and their corresponding online expansion battery packs. Contact technical support at 1-800-266-7225 for more information about Middle Atlantic Product's Battery Replacement Program.

MAP UPS or EBPR Part Number	Description	Compatible Expansion Battery Packs	UPS-OLRBP-1	UPS-OLRBP-2	UPS-OLRBP-3	UPS-OLRBP-4
UPS-OL1500R	1500VA UPS	UPS-OLEBPR-2			X	
UPS-OL2200R	2200VA UPS	UPS-OLEBPR-1	X			
UPS-OL3000R	3000VA UPS	UPS-OLEBPR-1	X			
UPS-OLEBPR-1	2200/3000VA UPS Expansion Battery	NA		X (2 each)		
UPS-OLEBPR-2	1500VA UPS Expansion Battery	NA			X (Left)	X (Right)

TECHNICAL SPECIFICATIONS

Model	UPS-OL1500R	UPS-OL2200R	UPS-OL3000R
Configuration			
Capacity (VA)	1500VA	2200VA	3000VA
Capacity (Watts)	1350W	1800W	2700W
Form Factor	Rackmount		
Energy-saving Technology	Yes, ECO Mode Efficiency > 93%		
Input			
Input Voltage Range	100~125Vac		
Input Frequency Range	50 / 60Hz		
Input Power Factor	0.99		
Cold Start	Yes		
Output			
Output Waveform	Sine wave		
Output Voltage*	100, 110, 115, 120, 125Vac (Configurable) ±2%		
Output Frequency	50 / 60Hz (Auto-Sensing or Configurable) ±0.25Hz		
Transfer Time (Typically)	0ms		
Rated Power Factor	0.9	0.82	0.9
Harmonic Distortion	THD < 3% at Linear Load, < 5% at Non-linear Load		
Crest Factor	3 : 1		
ECO Mode Voltage Regulation	±10%, ±15% (Configurable)		
UPS Outlets	(8) NEMA 5-15R	(6) NEMA 5-20R, (1) L5-20R	(6) NEMA 5-20R, (1) L5-30R
Protection			
Surge Protection	IEC 61000-4-5 Level 3		
Phone / Network Protection	RJ11/RJ45 (One In/One Out)		
Overload Protection	Line Mode : 105~125% Load for 1 min, 126~150% Load for 10 sec Battery Mode : 105~130% Load for 10 sec, 131~150% Load for 2 sec		
Short Circuit Protection	UPS Output Cut off Immediately or Input Fuse / Circuit Breaker Protection		
Battery			
Specifications	(3) 12V/9AH	(6) 12V/9AH	
Recharge Time (Typically)	5 hours for 0-100% Capacity; 4 hours for 0-90% Capacity		
Sealed, Maintenance Free	Yes		
Hot-Swappable	Yes		
Status Indicators			
LCD Screen	Multi-Function LCD Readout that Supports: (19) Types of Read Out, (22) Types of Function Setting, (5) Event Logs		
LED Indicators	Power On (White), Line Mode (Green), Battery Mode (Yellow), Bypass Mode (Yellow), Fault (Red), Replace Battery (Red)		
Audible Alarms	Battery Mode, Battery Low, Overload, UPS Fault		
Environment			
Operating Temperature	32°F to 104°F (0°C to 40°C)		
Operating Relative Humidity	0 to 90% Non-Condensing		
Management			
On-Device Features	Self-Test, Auto-Charge, Auto-Restart, Auto-Overload Recovery		
Connectivity Ports	(1) Serial Port (RS232), (1) USB Port, (1) Relay Out		
Expansion Slot	(1) Expansion Slot for optional remote management cards (With optional UPS-OLIPCARD)		
Software			
Power Management Software	www.middleatlantic.com/downloads		
Physical			
Dimensions	L x W x H = 16.9 x 17 x 3.5in. (43 x 43.3 x 8.8cm)	L x W x H = 23.6 x 17 x 3.5in. (60 x 43.3 x 8.8cm)	L x W x H = 23.6 x 17 x 3.5in. (60 x 43.3 x 8.8cm)
Net Weight	39.6lbs(18Kg)	68.2lbs(31Kg)	68.2lbs(31Kg)
Safety			
Conformance Approvals	UL		
RoHS	RoHS Compliant		

* 100V are derated by 20%, 110V/115V are derated by 10%

TROUBLESHOOTING

Problem	Possible Cause	Solution
Warning		
O/P Overload	Your equipment requires more power than the UPS can provide. If the UPS is in Line Mode then it will transfer to Bypass Mode; if the UPS is in Battery Mode it will shut down.	Shut off non-essential equipment. If this solves the overload problem, the UPS will transfer to normal operation.
Load Over XXX%	Your equipment requires more power than the setting in the Middle Atlantic Power Manager Software will allow.	Shut off the non-essential equipment or increase the level in the Power Management Software.
Battery Mode	UPS is operating on battery power.	Save your data and perform a controlled-shutdown.
Battery Low	UPS is operating on battery power and will be shutting down soon due to extremely low battery voltage.	UPS will restart automatically when acceptable utility power returns.
BAT Disconnected	Missing battery power.	Check battery connector and battery breaker.
Battery Failure	UPS has failed a Battery Test.	1. Check battery connector and battery breaker. 2. Contact technical support at 1-800-266-7225 for more information about Middle Atlantic Product's Battery Replacement Program.
Replace Battery	Battery will soon need to be replaced due to insufficient runtime.	Contact technical support at 1-800-266-7225 for more information about Middle Atlantic Product's Battery Replacement Program.
EPO OFF	Missing the EPO connection.	Check the EPO connection.
Wiring Fault	Line and neutral wires are reversed.	Have a qualified electrician exchange line and neutral wires.
	Missing ground wire.	Have a qualified electrician connect a ground wire.
	No ground wire.	Disable Wiring Fault alarm on LCD panel.
Line Abnormal	Wrong utility power backed up during UPS auto-restart.	Check whether voltage or frequency of utility power is out of range.
Output Short	Output short circuit.	Your attached equipment may have problems, please remove them and check again.
Over Temperature	High temperature sensor activates protection.	Check the fan for operation and if the ventilation hole has been covered.
Coldstart Lock	UPS is locked to prevent consuming battery power during shipping.	Plug into utility power for first-time operation.
Autorestart Lock	"Automatic Restore" is disabled in Middle Atlantic Power Manager Software	Press "ON/OFF" button to turn on UPS
Fault		
Over Charge	Battery is overcharged.	1. Remove battery connector and check charger voltage. 2. Contact Middle Atlantic Products technical support team to schedule a repair.
Charger Failure	Charger has failed.	
High O/P V	Output voltage is too high.	1. Shut down UPS and turn off input breaker. 2. Contact Middle Atlantic Products technical support team to schedule a repair.
Low O/P V	Output voltage is too low.	
Bus Fault	Internal DC bus voltage is too high or too low.	
Fan Error	Internal Fan has failed.	

WARRANTY

For warranty information, refer to www.middleatlantic.com/terms.

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At Middle Atlantic Products we are always listening. Your comments are welcome.

Middle Atlantic Products is an ISO 9001 and ISO 14001 Registered Company.