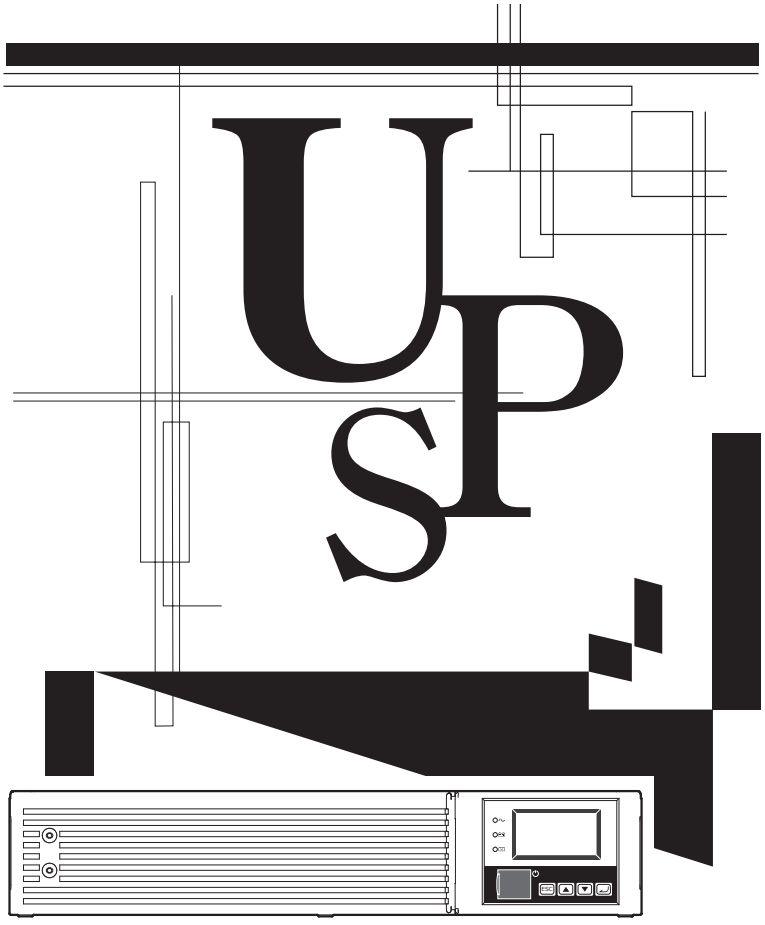
OMRON

Uninterruptible Power Supply (UPS/200-240V model)

BU1002RW

Instruction Manual 使用说明书



- This manual provides important safety-related information. Thoroughly read and understand this manual before installing and using the product.
- Keep this manual in a convenient location so that you can refer to it whenever necessary.
- The contents of this manual are subject to change without notice.

中文使用说明书请参照“10. Notes of Chinese”。

Introduction

Features of this product

Thank you for purchasing Omron's Uninterruptible Power Supply (UPS).

- The UPS protects computers and other devices from power failures, voltage variations, instantaneous voltage drops, and surge voltage such as that caused by lightning (a phenomenon in which extraordinary high voltage occurs instantaneously).
- Under normal conditions, commercial power is converted to direct current, and then it is converted back to a stable sine wave AC power before it is output. When a commercial power failure is detected, the unit switches to battery supply to provide continuous sine wave output. This is especially suitable for use where power supply conditions are poor (for example, when there are large variations in voltage).
- Output capacity is 1000 VA/800 W.

Notes on the use of the Backup Power Supply

- This product is designed and manufactured for use with FA or OA equipment such as personal computers.
  Do not use it when very high reliability and safety are required as listed below.
  - Medical equipment that may cause death directly
  - Applications that may cause injury (applications that directly affect the operation and control of planes, ships, railroads, and so on)
  - Applications that are always subjected to vibration such as cars and ships
  - Applications in which a failure of this product may cause significant damage or effect to the society and public (important computer systems, main communication equipment, public transportation systems, and so on)
  - Equipment with the same level of importance
- For equipment that greatly affects the safety of people and maintaining public functions, special considerations related to operation, maintenance, and management must be taken such as duplicating the system and emergency power generation facilities.
- Observe the contents of this manual such as the use conditions and environments.
- When you want to use this product for an important system that requires very high reliability, contact us;
- Do not modify/alter this product.

Disclaimers

We are not liable for any damage or secondary damage resulting from the use of our product, including malfunction and failure of equipment, connected devices, or software.

- Make sure to read the safety precautions before using the unit.
- In the event you transfer or sell this unit to a third party, please include all of the documentation that came with this unit. This is to ensure that the unit is used in line with the conditions described in the included documentation.
  - This manual contains important safety-related information. Please read and understand the contents of the manual before beginning operation.
    If you discover any omissions or errors in the manual, please contact the shop of purchase.

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IMPORTANT SAFETY INSTRUCTION

1.SAVE THESE INSTRUCTIONS.

This manual contains important instructions for BU1002RW that should be followed when using the UPS and batteries.

2.SYMBOL

This symbol indicates earth ground.

This symbol indicates turning on UPS.

This symbol indicates turning off UPS.

3.INTERNAL BATTERY

Internal battery voltage is 36 VDC.

4.TEMPERATURE RATING

The maximum ambient temperature of the UPS is 40°C.

5.ENVIRONMENT

The unit is intended for installation in a temperature controlled, indoor area free of conductive contaminants.

INSTRUCTIONS DE SÉCURITÉ IMPORTANTES

1. CONSERVER CES INSTRUCTIONS.

Ce manuel contient des informations importantes concernant l'utilisation de ce produit en toute sécurité.

2. SYMBOLE

Ce symbole indique la terre.

Ce symbole indique la mise sous tension de l'ASC.

Ce symbole indique la mise hors tension de l'ASC.

3. BATTERIE INTERNE

La tension de la batterie interne est de 36V DC pour.

4. TEMPÉRATURE NOMINALE

La température ambiante maximale de l'ASC est de 40ºC.

5. ENVIRONNEMENT

L'appareil est conçu pour une installation dans un espace intérieur à la température contrôlée et exempt de contaminants conducteurs.

Procedure from installation to operation

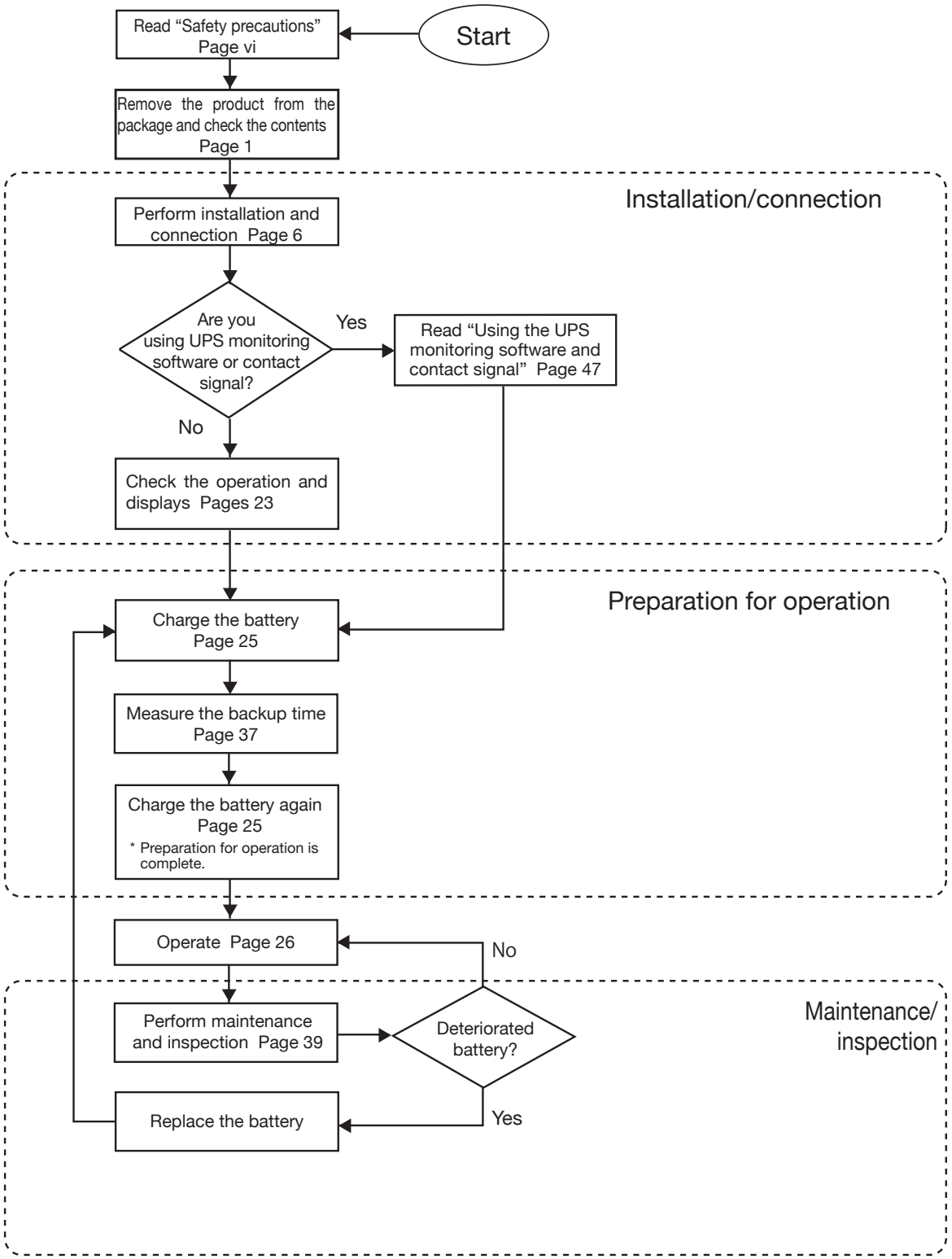


Table of Contents

Introduction i
IMPORTANT SAFETY INSTRUCTION ii
Safety precautions vi
1. Preparation 1
1-1 Unpacking the product 1
1-2 Checking the contents 2
1-3 Name of each part 3
1-4 Explanation of symbols used on unit 5
2. Installation and connection 6
2-1 Precautions and notes on installation and connection 6
2-2 Installation 12
2-3 Connecting the equipment 17
2-4 Connecting the AC input 21
2-5 Checking the operation 23
2-6 Charging the battery 25
2-7 Measuring the initial value of backup time 25
2-8 Recharging the battery 25
3. Operation 26
3-1 Precautions and notes for operation 26
3-2 Start and stop procedures and basic operation 29
3-3 Interpreting beeps and displays 32
4. UPS functions 33
4-1 Suspending a beep 33
4-2 Self-diagnosis test 33
4-3 Battery life counter function 34
4-4 Operation panel setting 34
5. Measuring the backup time 37
5-1 How to measure backup time 37
5-2 Estimated backup time 37
6. Maintenance and Inspection 39
6-1 Checking the battery 40
6-2 Replacing the battery 40
6-3 Cleaning 46
7. Using the UPS monitoring software and contact signal 47
7-1 When using the included UPS monitoring software to perform auto shutdown 49
7-2 When performing auto-save functions using the UPS service in Windows Server 2003/XP/2000 + UPS service driver 51
7-3 When performing auto-save functions using the standard UPS service in Windows Server 2003/XP/2000 51
7-4 Contact signal 52
8. Using SNMP/Web card 56
8-1 Adding SNMP/Web card 56
8-2 SNMP/Web card outline 57
9. Troubleshooting 58
10. Notes of Chinese 59
11. References 71
A. Specifications 71
B. Dimensions 72
C. Circuit block diagram 76
D. Voltage to ground 76
E. Related products 76

Safety precautions

Important information for safe operation is described.
Be sure to read it before installation and start of use.

● The safety symbols and their meaning used in this manual are as follows:

Warning	Misuse may cause death or serious injury.
Caution	Misuse may cause injury or property damage.

* Property damage means damage to houses/household effects, livestock, and pets.

: Indicates prohibition. For example, indicates that disassembly is prohibited.

: Indicates obligation. For example, indicates that grounding is necessary.

Note that events categorized as a caution required matter also may cause more serious results under certain conditions.

Consignes de sécurité

Des informations importantes pour un fonctionnement en toute sécurité sont données.
À lire impérativement avant de commencer l'installation et l'utilisation.

● Les symboles de sécurité et leur signification utilisés dans ce manuel sont les suivants :

Avertissement	Une mauvaise utilisation peut entraîner la mort ou des blessures graves.
Attention	Une mauvaise utilisation peut entraîner des blessures ou des dommages matériels.

* Les dommages matériels signifient les dommages aux habitations / effets mobiliers, bétail et animaux domestiques.

: Indique une interdiction. Par exemple, indique que le démontage est interdit.

: Indique une obligation. Par exemple, indique que la mise à la terre est nécessaire.

Noter que les événements classés comme mise en garde réglementaire peuvent également avoir des conséquences plus graves dans certaines conditions.

⚠ Warning

Do not use this unit when very high reliability and safety are required as listed below. This unit is designed and manufactured for use with FA or OA equipment such as personal computers.

- Medical equipment or system that may cause death directly.
- Applications that directly affect the safety of people (For example, the operation and control of cars).
- Applications in which a failure of the unit may cause significant damage to the society and public (For example, essential computer systems and main communication equipment.)
- Applications with the same level of importance.

⚠ Avertissement

Ne pas utiliser cet appareil si une très haute fiabilité ou sécurité est nécessaire comme dans les cas indiqués ci-dessous. Cet appareil a été conçu et fabriqué pour être utilisé avec des équipements d'automation informatique ou industrielle comme des ordinateurs personnels.

- Équipement ou système médical pouvant directement entraîner la mort.
- Applications qui affectent directement la sécurité des personnes (Par exemple, le fonctionnement et le contrôle des voitures).
- Applications pour lesquelles une défaillance de l'appareil peut causer des dommages importants sur la société et le public (Par exemple, systèmes informatiques essentiels ou matériel de communication principal.)
- Applications d'un niveau d'importance similaire.

⚠ Caution (for installation and connection)

Carry the unit considering its weight and balance, and place it on a stable and robust base.

- Dropping or toppling the unit may cause injury.
- The approximate weights of the units are 18 kg.
- If you drop the unit, stop using it and have it inspected and repaired.
  For repair, contact us; ____

Do not hold the side of the front panel when lifting.

- Injury may result if the panel comes off and falls.

Keep plastic package bags out of reach of children.

- Children may suffocate if they place their heads into plastic bags.

Make sure to connect the unit's AC input to a commercial power source with rated input voltage (200/208/220/230/240VAC) and 50/60 Hz frequency.

- Connecting to a commercial power source with a different rated input voltage or frequency may result in a fire.
- The unit may fail.

When an abnormality (unusual sound or smell) occurs, turn OFF the external breaker installed on the input side.

- When performing maintenance on the connected devices, follow the above instructions to ensure safety.

Do not connect devices such as dryers, some solenoid valves, etc., which have a half-wave rectifier that allows only half-cycle AC power to flow through.

- Overcurrent may damage the UPS.

⚠ Caution (for installation and connection)

Connect the unit to commercial power with the appropriate capacity (7A or greater).

- Otherwise, the power cord may be heated.
- When equipment with the maximum output capacity is connected, a maximum current of 7A flows.

When changing the input cable, make sure to perform the connection as specified.

- When connecting a cable to the terminal block, use a cable that complies with the input current specification of the UPS.
- Failure to do so may result in electric shock or ground fault.

When in use, make sure the terminal block cover is attached. Do not turn ON the power switch when it is detached.

- Voltage is applied to the output terminal block when the power switch is ON, which can result in electric shock.

Provide secure grounding.

- Connect the terminal to a commercial power source and ground it. A failure or leak that occurs when the unit is not properly grounded may result in electric shock.

Do not disassemble, repair, or modify the unit.

- Doing so may cause an electric shock or a fire.

Do not install the unit in other than specified orientations.

- Dropping or toppling the unit may cause injury.
- If you install the unit in an orientation other than specified, the unit cannot be protected from a battery fluid leakage.
- Use the included vertical stand when positioning the unit vertically.

Do not use the unit where the maximum temperature exceeds 40°C.

- The battery deteriorates rapidly.
- Doing so may cause a failure or malfunction of the unit.

Do not exceed the ranges specified for environmental conditions during use/storage.

Do not install or store the unit in the places listed below.

- Do not store in places where the humidity is lower than 10% or higher than 90%.
- Do not use the unit in places where the ambient temperature is lower than 0°C or higher than 40°C. (With no condensation)
- Do not use in places where the humidity is lower than 10% or higher than 90%.
- Do not install/store the unit in closed places such as cabinets with no clearance, places where there is flammable or corrosive gas, places with large amounts of dust, places exposed to direct sunlight, places exposed to shock or vibration, salty or wet places, or outdoors.
- Installation or storing the unit in such a place may cause a fire.

Do not connect equipment that exceeds the output capacity of the unit. You can use plug strip to connect additional devices, but do not connect devices that exceed the current capacity of the plug strip.

- The current protection of the unit may operate, which may stop the output.
- The wiring of the plug strip heats up, which may cause a fire.

Do not pinch or sharply bend the cable.

Do not fold or knot the cable.

- Doing so may cause the cable to be damaged or heated, which may cause an electric shock or a fire.
- If the cable is damaged, stop using the unit and replace it with new cable.

All of the included accessories are designed to be used exclusively with the unit. Do not use the accessories with other devices.

- Doing so may compromise the safety of devices.

⚠ Caution (for installation and connection)

Do not block the air vents (front and rear).

- Doing so will cause the internal temperature to rise, which may cause the unit to fail and the battery to deteriorate.
- Leave at least 5 cm of space between the front vent and the wall, and at least 10 cm of space between the rear vent and the wall.

Do not connect devices that cannot be used with commercial power supply.

- When the unit's power switch is turned ON and an error occurs with the connected device, bypass operation is performed and commercial power supply is supplied as is to the connected devices.

When installing the unit on a rack, place it on the lower shelf.

- Injury may result if the unit falls.

Make sure to use the mounting screws included with the brackets.

- Mounting screws other than those included may not be strong enough to support the unit, causing it to fall.
- If you attach the case using long screws other than those included with the product, you may damage the internal parts of the unit.

When using the unit in the 100V output mode, check that the output voltage is set to 100V, and then turn ON the power switch.

- Connecting a 100V device to the unit while outputting in the 200V mode may cause a failure of the device or a fire.
- The output voltage can be set with "Settings" - "In/Out Settings" - "Output Voltage" in the menu on the LCD.

⚠ Attention (pour l'installation et le raccordement)

Transporter l'appareil en tenant compte de son poids et de son équilibre, et le placer sur un support stable et robuste.

- Une chute ou un renversement de l'appareil peut causer des blessures.
- Les poids approximatifs des unités sont de 18 kg.
- En cas de chute de l'appareil, cesser de l'utiliser et le faire inspecter et réparer.
  Pour les réparations, nous contacter au : ____

Ne pas tenir le côté du panneau avant lorsque l'appareil est soulevé.

- Des blessures peuvent survenir si le panneau se détache et tombe.

Garder les sacs en plastique d'emballage hors de portée des enfants.

- Les enfants peuvent s'étouffer s'ils placent leur tête dans un sac en plastique.

S'assurer de brancher d'entrée AC de l'appareil à une source d'énergie commerciale avec une tension d'entrée nominale (200 / 208 / 220 / 230 / 240 V AC) et une fréquence de 50/60Hz.

- Le raccordement à une alimentation secteur avec une tension d'entrée nominale ou une fréquence différente peut provoquer un incendie.
- L'appareil peut tomber en panne.

Lorsqu'une anomalie (son ou une odeur inhabituelle) se produit, coupez le disjoncteur externe installée sur le côté d'entrée.

- Lors de l'entretien des appareils connectés, se conformer aux instructions ci-dessus pour garantir la sécurité.

Ne pas brancher des appareils tels que des séchoirs, certaines électrovannes, etc., qui ont un redresseur mono-alternance qui ne permet qu'au demi-cycle d'alimentation AC de les parcourir.

- La surtension peut endommager l'ASC.

⚠ Attention (pour l'installation et le raccordement)

Branchez l'appareil à la puissance commerciale avec la capacité appropriée (7A ou plus).

- Sinon, le cordon d'alimentation risque de chauffer.
- Lorsqu'un équipement d'une puissance de sortie maximale est branché, un courant maximum de 7A est délivré.

Lors du changement du câble d'entrée, s'assurer d'effectuer le raccordement comme spécifié.

- Lors de la connexion d'un câble au bornier de sortie, utilisez un câble conforme avec les spécifications du courant d'entrée de l'ASC.
- Ne pas le faire peut entraîner un choc électrique ou une faute à la terre.

En cours d'utilisation, s'assurer que le couvercle du bornier de sortie est bien fixé. Ne pas allumer l'interrupteur d'alimentation quand il n'est pas fixé.

- Une tension est appliquée au bornier de sortie lorsque l'interrupteur d'alimentation est allumé, ce qui peut provoquer un choc électrique.

Assurer une mise à la terre correcte.

- Connectez la borne à une alimentation secteur et mettez à la terre. Une panne ou une fuite se produisant lorsque l'appareil n'est pas correctement relié à la terre peut provoquer un choc électrique.

Ne pas démonter, réparer ou modifier l'appareil.

- Cela peut provoquer un choc électrique ou un incendie.

Ne pas installer l'appareil dans une autre position que celles indiquées.

- Une chute ou un renversement de l'appareil peut causer des blessures.
- Si l'appareil est installé dans une position autre que celles spécifiées, il ne sera plus à l'abri des fuites de liquide de batterie.
- Utilisez le support vertical fourni lors de la mise en place de l'appareil verticalement.

Ne pas utiliser l'appareil lorsque la température maximale dépasse 40ºC.

- La batterie se détériore rapidement.
- Cela peut provoquer une panne ou un dysfonctionnement de l'appareil.

Ne pas dépasser les limites spécifiées comme conditions environnementales lors de l'utilisation / stockage.

Ne pas installer ni ranger l'appareil dans les endroits indiqués ci-dessous.

- Ne pas entreposer dans des endroits où l'humidité est inférieure à 10% ou supérieure à 90 %.
- Ne pas utiliser l'appareil dans des endroits où la température ambiante est inférieure à 0ºC ou supérieure à 40ºC. (En l'absence de condensation)
- Ne pas utiliser dans des endroits où l'humidité est inférieure à 10% ou supérieure à 90%.
- Ne pas installer/stocker l'appareil dans des endroits fermés tels que des armoires sans dégagement, en présence de gaz inflammables ou corrosifs, des endroits soumis à de grandes quantités de poussière, des endroits exposés aux rayons directs du soleil, des endroits exposés à des chocs ou à des vibrations, ou à l'extérieur.
- Installer ou ranger l'appareil dans un endroit de ce type peut provoquer un incendie.

Ne pas brancher d'équipement dépassant l'alimentation de sortie de l'appareil. Il est possible d'utiliser une multiprise pour brancher des périphériques supplémentaires, mais ne pas brancher de périphériques dépassant la capacité électrique de la multiprise.

- La protection contre les surintensités de l'appareil peut se déclencher, ce qui peut empêcher la sortie.
- Le câblage de multiprise chauffe, ce qui peut provoquer un incendie.

⚠ Attention (pour l'installation et le raccordement)

Ne pas pincer ou fortement plier le câble.
Ne pas plier ou nouer le câble.

- Cela peut endommager ou faire chauffer le câble, ce qui peut provoquer un choc électrique ou un incendie.
- Si le câble est endommagé, cessez d'utiliser l'appareil et de le remplacer par un nouveau câble.

Tous les accessoires inclus ont été conçus pour être utilisés exclusivement avec l'appareil. Ne pas utiliser ces accessoires avec d'autres appareils.

- Cela peut compromettre la sécurité des équipements.

Ne pas obstruer les bouches d'aération (avant et arrière).

- Cela peut provoquer une augmentation de la température interne, ce qui peut entraîner une panne de l'appareil et une détérioration de la batterie.
- Laissez au moins 5 cm d'espace entre la sortie avant et la paroi, et au moins 10 cm d'espace entre la sortie arrière et le mur.

Ne pas connecter des périphériques qui ne peuvent pas être utilisés avec une alimentation secteur.

- Lorsque l'interrupteur d'alimentation de l'appareil est allumé et qu'une erreur se produit avec l'équipement branché, une opération de dérivation est effectuée et l'alimentation secteur est fournie telle quelle aux équipements branchés.

Lors de l'installation de l'appareil sur un rack, le placer sur l'étagère la plus basse.

- Des blessures peuvent survenir si l'appareil tombe.

Toujours utiliser les vis de montage fournies avec les supports.

- Des vis de fixation autres que celles fournies peuvent ne pas être assez résistantes pour supporter l'appareil et entraîner sa chute.
- Si le boîtier est fixé à l'aide de longues vis autres que celles fournies avec le produit, les composants internes de l'appareil risquent d'être endommagés.

Lors de l'utilisation de l'appareil en mode de sortie 100V, vérifier que la tension de sortie est réglée sur 100V, puis allumer l'interrupteur d'alimentation.

- Connectez un périphérique de 100V à l'appareil alors que le mode de sortie est réglé sur 200V peut causer une panne du périphérique ou un incendie.
- La tension de sortie peut être réglée avec "Settings" - "In/Out Settings" - "Output Voltage" dans le menu sur l'écran LCD.

⚠ Caution (for use)

Do not allow the unit to come in contact with water.
If you drop the unit, stop using it.

- Doing so may cause an electric shock or a fire.
- If the unit becomes wet or is dropped, immediately stop using it, disconnect the AC input cable from commercial power and have the unit inspected and repaired.
- For repair, contact us; ____.

When the battery is dead, replace it immediately or stop using the unit.

- Continuing the use of it may cause fire or electric shock due to liquid leaks.

Ambient temperature	Expected life
25°C	5 years
35°C	2.5 years

* The values in the table are the expected life under standard use conditions and are not guaranteed.

Using a dry cloth, periodically wipe the dust from the terminal block.

- Accumulated dust may cause a fire.

Do not use the unit in a closed place and do not cover the unit.

- Doing so may cause abnormal heating or a fire.
- Depending on the operating environment, hydrogen gas may be generated from the battery, resulting in a rupture or explosion. Ventilate the area around the unit.

If you notice an abnormal sound or smell, smoke, or leaking fluid, immediately turn OFF the unit's power switch and stop the supply of commercial power.

- Using the unit under such conditions may cause a fire.
- If you notice such a condition, stop using the unit and contact us at _____ for inspection and repairs.
- Position the unit in such a way that you can immediately disconnect the AC input from the commercial power in the event a problem occurs.

If fluid leaks from the unit, do not touch the fluid.

- Doing so may cause blindness or burns.
- If the fluid contacts your eyes or skin, wash it out with lots of clean water and consult your doctor.

Do not place objects heavier than 25 kg on the unit, and do not drop heavy objects onto the unit.

- Doing so may cause distortion/damage to the case or a failure of the internal circuit, which may cause a fire.

The unit is equipped with a bypath circuit which is able to supply electric power to connected devices even when the inner control circuit is broken down by defects or malfunctions

- Output is continuing even when all indicators of the front panel are off.
- If you want to stop the output, either stop the source of commercial power.

Do not sit or stand on top of the product, use it as a step ladder, or lean against it.

- Doing so may cause the unit to fail or to fall over and result in injury.

⚠ Attention (pour l'utilisation)

Ne pas laisser l'appareil entrer en contact avec de l'eau.
Si l'appareil tombe, cesser de l'utiliser.

- Cela peut provoquer un choc électrique ou un incendie.
- Si l'appareil est mouillé ou tombe, arrêtez immédiatement de l'utiliser, débranchez le câble d'entrée secteur de la prise secteur et faites vérifier et réparer l'appareil.
- Pour les réparations, nous contacter au : ____.

Lorsque la batterie est morte, la remplacer immédiatement ou cesser d'utiliser l'appareil.

- Continuer de l'utiliser peut provoquer un incendie ou un choc électrique à cause d'une fuite d'électrolyte.

Température ambiante	Durée de vie prevue
25°C	5 ans
35°C	2.5 ans

* Les valeurs du tableau sont la durée de vie prévue dans les conditions normales d'utilisation mais ne sont pas garanties.

Essuyer régulièrement la poussière de la bornier d'entrée avec un chiffon sec.

- Une accumulation de poussière peut provoquer un incendie.

Ne pas utiliser l'appareil dans un endroit fermé et ne pas le couvrir.

- Cela peut provoquer un échauffement anormal ou un incendie.
- En fonction de l'environnement de fonctionnement, de l'hydrogène gazeux peut être généré par la batterie, et cela peut provoquer une rupture ou une explosion. Aérez la zone autour de l'appareil.

En cas de bruit ou d'odeur anormal, de fumée, ou de fuite de liquide, couper immédiatement l'interrupteur d'alimentation de l'appareil et interrompre l'alimentation secteur.

- L'utilisation de l'appareil dans ces conditions peut provoquer un incendie.
- En cas de constatation d'un tel état, cesser d'utiliser l'appareil et nous contacter au _____ pour inspection et réparation.
- Placez l'appareil de telle manière que vous pouvez immédiatement débrancher l'entrée CA de la puissance commerciale en cas de problème.

En cas de fuite d'électrolyte de l'appareil, ne pas toucher le liquide.

- Cela peut provoquer la cécité ou des brûlures.
- Si le liquide entre en contact avec les yeux ou la peau, rincer abondamment à l'eau claire avant de consulter un médecin.

Ne pas placer d'objet de plus de 25 kg sur l'appareil, et ne pas laisser tomber des objets lourds sur l'appareil.

- Cela peut provoquer une altération/dommages du boîtier ou une panne du circuit interne, ce qui peut provoquer un incendie.

L'appareil est équipé d'un circuit de dérivation qui est capable de fournir une alimentation électrique aux périphériques connectés, même lorsque le circuit de commande interne est défectueux à cause d'un défaut ou d'un mauvais fonctionnement.

- La sortie se poursuit même lorsque tous les indicateurs du panneau avant sont éteints.
- Si vous voulez arrêter la sortie, arrêtez la source de puissance commerciale.

Ne vous asseyez pas ni ne montez sur le produit, ne l'utilisez pas comme marche et ne vous appuyez pas dessus.

- Sinon, cela pourrait provoquer une panne, une chute de l'appareil ou des blessures.

⚠ Caution (for maintenance)

When maintaining the connected equipment, turn OFF the unit's power switch to stop the output, and stop the supply of commercial power.

- Even if commercial power to the UPS is stopped while it is in operation, the power output of this unit does not stop and power is supplied from the output terminal.

Do not disassemble, repair, or modify the unit.

- Doing so may cause an electric shock or a fire.

If fluid leaks from the unit, do not touch the fluid.

- Doing so may cause blindness or burns.
- If the fluid contacts your eyes or skin, wash it out with lots of clean water and consult your doctor.

Do not throw the unit into fire.

- The lead battery in the unit may explode, or leak dilute sulfuric acid.

Do not insert metal objects into the battery connectors.
Do not create a short between the connector terminals.

- Doing so may result in electric shock.

⚠ Attention (pour l'entretien)

Lors de l'entretien de l'équipement connecté, couper l'interrupteur d'alimentation de l'appareil pour arrêter la sortie, et débrancher l'alimentation secteur.

- Même si l'alimentation secteur est arrêtée alors que l'ASC est en marche, l'alimentation de sortie de l'appareil ne s'arrête pas et est fournie par la borne de sortie.

Ne pas démonter, réparer ou modifier l'appareil.

- Cela peut provoquer un choc électrique ou un incendie.

En cas de fuite d'électrolyte de l'appareil, ne pas toucher le liquide.

- Cela peut provoquer la cécité ou des brûlures.
- Si le liquide entre en contact avec les yeux ou la peau, rincer abondamment à l'eau claire avant de consulter un médecin.

Ne pas jeter l'appareil au feu.

- La batterie au plomb dans l'appareil peut exploser ou laisser fuir de l'acide sulfurique dilué.

Ne pas insérer d'objets métalliques dans les connecteurs de la batterie.
Ne pas créer de court-circuit entre les bornes du connecteur.

- Cela peut provoquer un choc électrique.

⚠ Caution (for battery replacement)

Perform replacement on a stable and flat place.
- Handle the battery carefully so that you do not drop it.
- Not doing so could cause injury or burns due to liquid (acid) leakage.

Use a specified battery for replacement.
- Not doing so may cause a fire.
- Replacement battery pack for
  BU1002RW: BUB1002RW

Do not replace the battery in a place where there is flammable gas.
- Spark may occur when connecting the battery, which may cause an explosion or fire.

If fluid (dilute sulfuric acid) leaks from the battery, do not touch the fluid.
- Doing so may cause blindness or burns.
- If it contacts your eyes or skin, wash it out with lots of clean water and consult your doctor.

Do not disassemble or modify the battery.
- Doing so could cause dilute sulfuric acid leak, which could cause blindness and burns.

Do not drop the battery and do not expose it to strong impact.
- Dilute sulfuric acid may leak.

Do not short the battery with metal objects.
- Doing so could cause an electric shock, fire or burn.
- Some electrical energy still remains inside the spent battery.

Do not put the battery into fire and do not break it.
- The battery may explode or leak dilute sulfuric acid.

Do not use a new battery and an old battery at the same time.
- Dilute sulfuric acid may leak.

⚠ Attention (pour le remplacement de la batterie)

Effectuer le remplacement à un endroit stable et plat.
- Manipuler soigneusement la batterie afin de ne pas la laisser tomber.
- Ne pas le faire peut entraîner des blessures ou des brûlures dues au liquide (acide) de fuite.

Utiliser une batterie spécifiée lors du remplacement.
- Ne pas le faire peut provoquer un incendie.
- Batterie de rechange pour le
  BU1002RW: BUB1002RW

Ne pas remplacer la batterie en présence de gaz inflammable.
- Une étincelle peut se produire lors de la connexion de la batterie, ce qui peut provoquer une explosion ou un incendie.

Si du liquide (acide sulfurique dilué) fuit de la batterie, ne pas le toucher.
- Cela peut provoquer la cécité ou des brûlures.
- S'il entre en contact avec les yeux ou la peau, rincer abondamment à l'eau claire avant de consulter un médecin.

Ne pas démonter ou modifier la batterie.
- Cela peut entraîner une fuite d'acide sulfurique dilué, ce qui peut causer la cécité et des brûlures.

Ne pas faire tomber la batterie ni l'exposer à des chocs violents.
- Une fuite d'acide sulfurique dilué peut se produire.

Ne pas court-circuiter la batterie avec des objets métalliques.
- Cela peut entraîner un choc électrique, un incendie ou des brûlures.
- Une batterie usagée peut encore contenir de l'énergie électrique.

Ne pas jeter la batterie au feu ni la briser.
- La batterie peut exploser ou connaître une fuite d'acide sulfurique dilué.

Ne pas utiliser simultanément une batterie neuve et une batterie usagée.
- Une fuite d'acide sulfurique dilué peut se produire.

Notes

When moving the unit from a cold place to a warm place, leave it for several hours before using it.

- If the unit is promptly turned ON after being moved to a warmer place, condensation may form inside the unit and cause it to fail.

Charge the battery soon after purchasing the unit.

- If you do not use the unit for a long time after the purchase, the battery may deteriorate and the battery may become unusable.
- The battery can be charged once the AC input is connected to commercial power.

Recharge the battery for at least 8 hours every 6 months when the storage temperature is 25°C or less, or every 2 months when the storage temperature is 40°C or less.

- The battery self-discharges even when it not being used, and it goes into over-discharge state if it is left for a long period of time. The backup time may become shorter or the battery may become unusable.
- We recommend keeping the temperature 25°C or less when storing the unit for long periods of time.
- Turn OFF the unit's power switch when storing it.

Do not short the output lines of the unit to each other, and do not short the output lines to the ground.

- The unit may fail.

Do not connect the AC input terminal of the unit to its Power Supply Output terminal during the Battery Mode.

- The unit may fail.

Do not connect a page printer (such as a laser printer) to the unit.

- The unit repeatedly and frequently switches between Commercial Power Mode and Battery Mode, which may shorten the life of the battery.
- The page printer has a large peak current, so an excess of the connection capacity or a power failure due to instantaneous voltage drop may be detected.

Do not install or store the unit in a place exposed to direct sunlight.

- The rise of temperature may cause the built-in battery to deteriorate rapidly and become unusable.

Before performing a withstand voltage test or insulation resistance test, make sure to remove the input surge protection GND screw from the back of the unit.

When in use, make sure the input surge protection GND screw is securely fastened.

- Performing the withstand voltage test with the ground wire connected may damage the surge absorption element built into the power supply input circuit.

Before stopping the commercial power to the unit, turn OFF the power switch of the unit.

- The unit enters Battery Mode when commercial power is stopped. If you frequently use the unit in Battery Mode, the battery life may be significantly shortened.

If this unit is used for an inductive device such as a coil, transformer or motor, check the operation beforehand.

- With some types of devices, the effect of inrush current may cause this unit to stop operating properly.

Notes

Check system operation beforehand if the unit is used in combination with a device whose power supply voltage and frequency fluctuate widely, such as a generator.

- If the generator's output voltage/frequency falls out of the input voltage/frequency range, the unit will enter Battery Mode.
- Even if the input frequency is within the range, the unit will enter Battery Mode when a rapid change (5 Hz/sec or greater) occurs.

In the event you transfer or sell this unit to a third party, please include all of the documentation that came with the unit. This is to ensure that the unit is used in line with the conditions described in the included documentation.

- This manual contains important safety-related information. Please read and understand the contents of the manual before beginning operation.

This unit uses lead acid batteries,

- Which are a valuable recyclable resource. Please recycle.

Take measures for handling unforeseen accidents, such as data backup and system redundancy.

- The output may stop when there is a circuit failure in the UPS.

Explanation

Usual operation

- You may either leave the power switch of the unit ON (operation status) or turn it OFF each time when stopping the connected system. Choose whichever operation method is more convenient. We recommend turning OFF the power switch when you do not use connected devices for a long time.
- The battery can be charged once the unit is connected to a commercial power source.

Quitting Battery Mode

- If a power failure lasts for an extended period of time, the battery discharges completely and power output from the unit stops. Shut down your computer after performing appropriate procedures (for example, saving data) while the unit is still supplying power.

Rebooting

- If the battery discharges completely during a power failure, the output stops. After recovery from the power failure, the unit automatically restarts and output begins. If you do not want to restart the connected devices, disable the "Settings" - "Boot Settings" - "Auto reboot" setting in the menu on the unit's LCD, or turn OFF the power switch of the connected devices.

Scheduled operation using the UPS monitoring software

- When performing scheduled operation in which the UPS is stopped and a device such as a breaker is used to stop the UPS at the same time that commercial power stops, specify a period of no more than 3 months for the start of the next operation.
  If you specify a period longer than 3 months, the internal timer is reset and the scheduled operation does not start. Note that this period reduces to approximately half when the battery needs to be replaced. If a period of 3 months is exceeded, you start operation by supplying commercial power and pressing the start switch. However, if the battery needs to be replaced, you may not be able to start operation.
  In this case, replace the battery.

1 Preparation

1-1 Unpacking the product

⚠ Caution

The approximate masses of the units are 18kg. Since the unit is heavy, be careful not to hurt yourself when lifting or transporting it.

Hold the handle of the inner packaging when taking out the product from the package box.

- Hold the handle of the inner packaging when taking out the product from the package box.
- Dropping may cause injury.

⚠ Attention

La masse approximative des appareils est de 18 kg. Comme l'appareil est lourd, faites attention de ne pas vous blesser lorsque vous le soulevez ou le transportez.

Tenez la poignée de l'emballage intérieur quand vous sortez le produit de la boîte d'emballage.

- Tenez la poignée de l'emballage intérieur quand vous sortez le produit de la boîte d'emballage.
- Une chute de l'appareil peut provoquer des blessures.

Open the package box and take out the UPS and accessories.

1-2 Checking the contents

Check whether all the package contents are included and there is no damage found on their appearance.
If you should notice defects or anything wrong, contact us; OMRON Electronic Systems & Equipments Customer Support Center.

(1) Accessories related to the main unit

Item	QTY
Instruction manual (Japanese/English)	1 each
Warranty card (Japanese/Chinese)	1 each
User registration card/sheet	1 each
Vertical stand	2 per set
Support angles compatible with EIA/JIS 19-inch racks	1 set
Omron contact info label	1
Battery replacement date label	1
Rubber feet	4 per set
Serial number label	4
Ear bracket	2 per set
Terminal block cover	1
Cable clamp	2
M3 screw	2

(2) UPS monitoring software related items

Item	QTY
Quick Install Guide	1
CD-ROM	1
Connection cable (RS232C)	1

<Accessories related to main unit>

Instruction manual (Japanese/English edition)

Label (How to determine operating status)

Rubber feet

Battery replacement date label

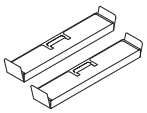
User registration card/sheet

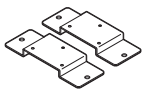
OMRON contact info label

Terminal block cover

Cable clamp

Ear bracket

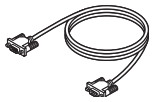

EIA/JIS 19-inch rack mount support angles


Upright stand

<UPS monitoring software>

CD-ROM

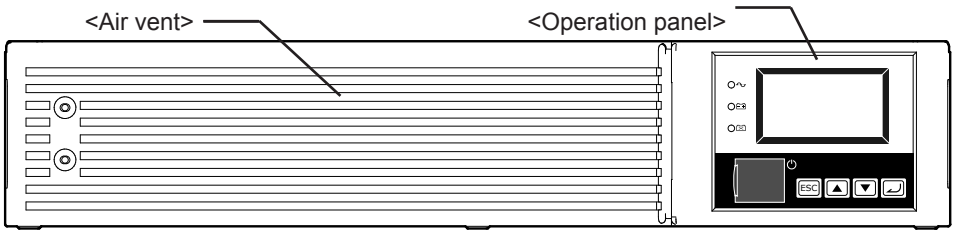
Quick installation guide


Connection cable(RS-232C) (Approx. 2.2 m)

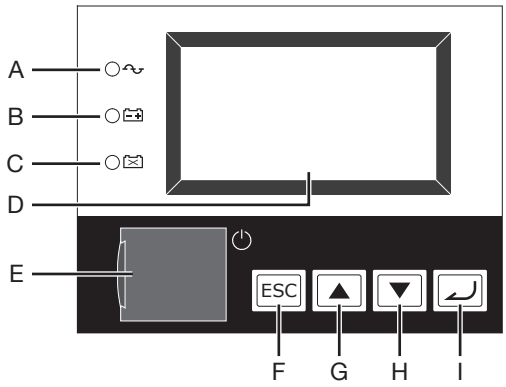
1-3 Name of each part

This section describes the name of each part of the UPS.
For information on the function of each part, refer to "2. Installation and connection" on page 6 and "3. Operation" on page 26 that provides the details.

Front view

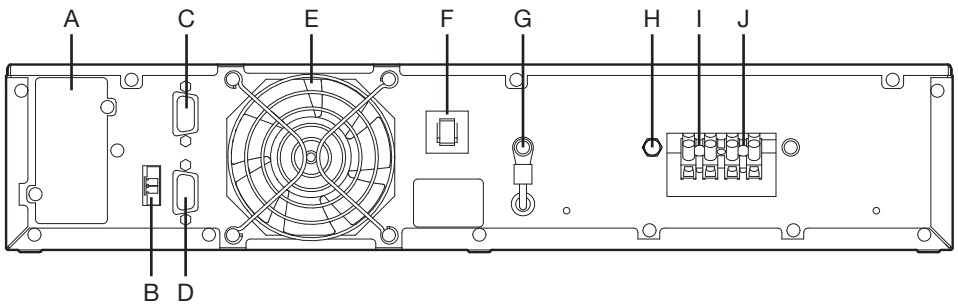


< Enlarged view of the operation panel >



A. Power supply output lamp
B. Battery mode lamp
C. Battery replacement lamp
D. LCD for status and setting display
E. Power Switch Cover / Power Switch
F. ESC switch
G. Up switch
H. Down switch
I. Enter switch

Rear view



A. Option slot
B. Remote ON/OFF port
C. RS-232C port
D. Contact signal port
E. Cooling fan
F. AC input overcurrent protection switch
G. Input surge protection GND
H. Grounding terminal (M4 screw)
I. AC input terminal block
J. AC output terminal block

1-4 Explanation of symbols used on unit

Symbol	Description
	Start the UPS.
	Stop the UPS.
	Suspend a beep.
	UPS output power enabled, supplied by operating on line mode, battery mode.
	Bypass output “ON”.
	UPS output power enabled, supplied by operating on battery mode.
	Batteries at end of useful life, necessary to replace the batteries.

2 Installation and connection

2-1 Precautions and notes on installation and connection

⚠ Caution (for installation and connection)

Carry the unit considering its weight and balance, and place it on a stable and robust base.

- Dropping or toppling the unit may cause injury.
- The approximate weights of the units are 18 kg.
- If you drop the unit, stop using it and have it inspected and repaired.
  For repair, contact us; ____

Do not hold the side of the front panel when lifting.

- Injury may result if the panel comes off and falls.

Keep plastic package bags out of reach of children.

- Children may suffocate if they place their heads into plastic bags.

Make sure to connect the unit's AC input to a commercial power source with rated input voltage (200/208/220/230/240VAC) and 50/60Hz frequency.

- Connecting to a commercial power source with a different rated input voltage or frequency may result in a fire.
- The unit may fail.

When an abnormality (unusual sound or smell) occurs, turn OFF the external breaker installed on the input side.

- When performing maintenance on the connected devices, follow the above instructions to ensure safety.

Do not connect devices such as dryers, some solenoid valves, etc. , which have a half-wave rectifier that allows only half-cycle AC power to flow through.

- Overcurrent may damage the UPS.

Connect the unit to commercial power with the appropriate capacity (7A or greater).

- Otherwise, the power cord may be heated.
- When equipment with the maximum output capacity is connected, a maximum current of 7A flows.

When changing the input cable, make sure to perform the connection as specified.

- When connecting a cable to the terminal block, use a cable that complies with the input current specification of the UPS.
- Failure to do so may result in electric shock or ground fault.

When in use, make sure the terminal block cover is attached. Do not turn ON the power switch when it is detached.

- Voltage is applied to the output terminal block when the power switch is ON, which can result in electric shock.

Provide secure grounding.

- Connect the terminal to a commercial power source and ground it. A failure or leak that occurs when the unit is not properly grounded may result in electric shock.

Do not disassemble, repair, or modify the unit.

- Doing so may cause an electric shock or a fire.

⚠ Caution (for installation and connection)

Do not install the unit in other than specified orientations.
- Dropping or toppling the unit may cause injury.
- If you install the unit in an orientation other than specified, the unit cannot be protected from a battery fluid leakage.

Do not use the unit where the maximum temperature exceeds 40°C.
- The battery becomes weak rapidly, which may cause a fire.
- Doing so may cause a failure or malfunction of the unit.

Do not exceed the ranges specified for environmental conditions during use/storage.

Do not install or store the unit in the places listed below.
- Do not store in places where the humidity is lower than 10% or higher than 90%.
- Do not use the unit in places where the ambient temperature is lower than 0°C or higher than 40°C. (With no condensation)
- Do not use in places where the humidity is lower than 10% or higher than 90%.
- Do not install/store the unit in closed places such as cabinets with no clearance, places where there is flammable or corrosive gas, places with large amounts of dust, places exposed to direct sunlight, places exposed to shock or vibration, salty or wet places, or outdoors.
- Installation or storing the unit in such a place may cause a fire.

Do not connect equipment that exceeds the output capacity of the unit. You can use a plug strip to connect additional devices, but do not connect devices that exceed the current capacity of the plug strip.
- The current protection of the unit may operate, which may stop the output.
- The wiring of the plug strip heats up, which may cause a fire.

Do not pinch or sharply bend the cable.

Do not fold or knot the cable.

Doing so may cause the cable to be damaged or heated, which may cause an electric shock or a fire.
- If the cable is damaged, stop using the unit and replace it with new cable.

The accessories are designed exclusively for use with this unit.

Do not use any of the included accessories with other devices.
- Doing so may compromise the safety of devices.

Do not block the air vents (front and rear).
- Doing so will cause the internal temperature to rise, which may cause the unit to fail and the battery to deteriorate.
- Leave at least 5 cm of space between the front vent and the wall, and at least 10 cm of space between the rear vent and the wall.

Do not connect devices that cannot be used with commercial power supply.
- When the unit's power switch is turned ON and an error occurs with the connected device, bypass operation is performed and commercial power supply is supplied as is to the connected devices.

When installing the unit on a rack, place it on the lower shelf.
- Injury may result if the unit falls.

Make sure to use the mounting screws included with the brackets.
- Mounting screws other than those included may not be strong enough to support the unit, causing it to fall.
- If you attach the case using long screws other than those included with the product, you may damage the internal parts of the unit.

⚠ Caution (for installation and connection)

When using the unit in the 100V output mode, check that the output voltage is set to 100V, and then turn ON the power switch.

- Connecting a 100V device to the unit while outputting in the 200V mode may cause a failure of the device or a fire.
- The output voltage can be set with “Settings” - “In/Out Settings” - “Output Voltage” in the menu on the LCD.

⚠ Attention (pour l’installation et le raccordement)

Transporter l'appareil en tenant compte de son poids et de son équilibre, et le placer sur un support stable et robuste.

- Une chute ou un renversement de l’appareil peut causer des blessures.
- Les poids approximatifs des unités sont de 18 kg.
- En cas de chute de l’appareil, cesser de l’utiliser et le faire inspecter et réparer. Pour les réparations, nous contacter au : _____

Ne pas tenir le côté du panneau avant lorsque l'appareil est soulevé.

- Des blessures peuvent survenir si le panneau se détache et tombe.

Garder les sacs en plastique d'emballage hors de portée des enfants.

- Les enfants peuvent s’étouffer s’ils placent leur tête dans un sac en plastique.

S'assurer de brancher d'entrée AC de l'appareil à une source d'énergie commerciale avec une tension d'entrée nominale (200 / 208 / 220 / 230 / 240 V AC) et une fréquence de 50/60Hz.

- Le raccordement à une alimentation secteur avec une tension d’entrée nominale ou une fréquence différente peut provoquer un incendie.
- L’appareil peut tomber en panne.

Lorsqu'une anomalie (son ou une odeur inhabituelle) se produit, coupez le disjoncteur externe installée sur le côté d'entrée.

- Lors de l’entretien des appareils connectés, se conformer aux instructions ci-dessus pour garantir la sécurité.

Ne pas brancher des appareils tels que des séchoirs, certaines électrovannes, etc., qui ont un redresseur mono-alternance qui ne permet qu'au demi-cycle d'alimentation AC de les parcourir.

- La surtension peut endommager l’ASC.

Branchez l'appareil à la puissance commerciale avec la capacité appropriée (7A ou plus).

- Sinon, le cordon d’alimentation risque de chauffer.
- Lorsqu’un équipement d’une puissance de sortie maximale est branché, un courant maximum de 7A est délivré.

Lors du changement du câble d'entrée, s'assurer d'effectuer le raccordement comme spécifié.

- Lors de la connexion d’un câble au bornier de sortie, utilisez un câble conforme avec les spécifications du courant d’entrée de l’ASC.
- Ne pas le faire peut entraîner un choc électrique ou une faute à la terre.

En cours d’utilisation, s’assurer que le couvercle du bornier de sortie est bien fixé. Ne pas allumer l'interrupteur d'alimentation quand il n’est pas fixé.

- Une tension est appliquée au bornier de sortie lorsque l’interrupteur d’alimentation est allumé, ce qui peut provoquer un choc électrique.

⚠ Attention (pour l'installation et le raccordement)

Assurer une mise à la terre correcte.

- Connectez la borne à une alimentation secteur et mettez à la terre. Une panne ou une fuite se produisant lorsque l'appareil n'est pas correctement relié à la terre peut provoquer un choc électrique.

Ne pas démonter, réparer ou modifier l'appareil.

- Cela peut provoquer un choc électrique ou un incendie.

Ne pas installer l'appareil dans une autre position que celles indiquées.

- Une chute ou un renversement de l'appareil peut causer des blessures.
- Si l'appareil est installé dans une position autre que celles spécifiées, il ne sera plus à l'abri des fuites de liquide de batterie.
- Utilisez le support vertical fourni lors de la mise en place de l'appareil verticalement.

Ne pas utiliser l'appareil lorsque la température maximale dépasse 40ºC.

- La batterie se détériore rapidement.
- Cela peut provoquer une panne ou un dysfonctionnement de l'appareil.

Ne pas dépasser les limites spécifiées comme conditions environnementales lors de l'utilisation / stockage.

Ne pas installer ni ranger l'appareil dans les endroits indiqués ci-dessous.

- Ne pas entreposer dans des endroits où l'humidité est inférieure à 10% ou supérieure à 90 %.
- Ne pas utiliser l'appareil dans des endroits où la température ambiante est inférieure à 0ºC ou supérieure à 40ºC. (En l'absence de condensation)
- Ne pas utiliser dans des endroits où l'humidité est inférieure à 10% ou supérieure à 90%.
- Ne pas installer/stocker l'appareil dans des endroits fermés tels que des armoires sans dégagement, en présence de gaz inflammables ou corrosifs, des endroits soumis à de grandes quantités de poussière, des endroits exposés aux rayons directs du soleil, des endroits exposés à des chocs ou à des vibrations, ou à l'extérieur.
- Installer ou ranger l'appareil dans un endroit de ce type peut provoquer un incendie.

Ne pas brancher d'équipement dépassant l'alimentation de sortie de l'appareil. Il est possible d'utiliser une multiprise pour brancher des périphériques supplémentaires, mais ne pas brancher de périphériques dépassant la capacité électrique de la multiprise.

- La protection contre les surintensités de l'appareil peut se déclencher, ce qui peut empêcher la sortie.
- Le câblage de multiprise chauffe, ce qui peut provoquer un incendie.

Ne pas pincer ou fortement plier le câble.

Ne pas plier ou nouer le câble.

Cela peut endommager ou faire chauffer le câble, ce qui peut provoquer un choc électrique ou un incendie.

- Si le câble est endommagé, cessez d'utiliser l'appareil et de le remplacer par un nouveau câble.

Les accessoires ont été conçus exclusivement pour une utilisation avec cet appareil.

N'utiliser aucun des accessoires fournis avec d'autres appareils.

- Cela peut compromettre la sécurité des équipements.

Ne pas obstruer les bouches d'aération (avant et arrière).

- Cela peut provoquer une augmentation de la température interne, ce qui peut entraîner une panne de l'appareil et une détérioration de la batterie.
- Laissez au moins 5 cm d'espace entre la sortie avant et la paroi, et au moins 10 cm d'espace entre la sortie arrière et le mur.

⚠ Attention (pour l'installation et le raccordement)

Ne pas connecter des périphériques qui ne peuvent pas être utilisés avec une alimentation secteur.

- Lorsque l'interrupteur d'alimentation de l'appareil est allumé et qu'une erreur se produit avec l'équipement branché, une opération de dérivation est effectuée et l'alimentation secteur est fournie telle quelle aux équipements branchés.

Lors de l'installation de l'appareil sur un rack, le placer sur l'étagère la plus basse.

- Des blessures peuvent survenir si l'appareil tombe.

Toujours utiliser les vis de montage fournies avec les supports.

- Des vis de fixation autres que celles fournies peuvent ne pas être assez résistantes pour supporter l'appareil et entraîner sa chute.
- Si le boîtier est fixé à l'aide de longues vis autres que celles fournies avec le produit, les composants internes de l'appareil risquent d'être endommagés.

Lors de l'utilisation de l'appareil en mode de sortie 100V, vérifier que la tension de sortie est réglée sur 100V, puis allumer l'interrupteur d'alimentation.

- Connectez un périphérique de 100V à l'appareil alors que le mode de sortie est réglé sur 200V peut causer une panne du périphérique ou un incendie.
- La tension de sortie peut être réglée avec "Settings" - "In/Out Settings" - "Output Voltage" dans le menu sur l'écran LCD.

Notes

When moving the unit from a cold place to a warm place, leave it for several hours before using it.

- If the unit is promptly turned ON after being moved to a warmer place, condensation may form inside the unit and cause it to fail.

Charge the battery soon after purchasing the unit.

- The battery self-discharges even when it not being used, and it goes into over-discharge state if it is left for a long period of time.
- The battery can be charged once the AC input is connected to a commercial power source.

When storing the unit, charge the battery for at least 8 hours and turn OFF the power switch.

- Even if the unit is not used, the battery gradually discharges, and if it is left for a long time, it goes into an over discharge state.
  The backup time may become shorter or the battery may become unusable.
- Connect the unit to a commercial power source for at least 12 hours every 6 months when the storage temperature is 25°C or less, or every 2 months when the storage temperature is 40°C or less.
- Turn off the power switch of the unit during storage.

Do not short the output lines of the unit to each other, and do not short the output lines to the ground.

- The unit may fail.

Do not connect the AC input of the unit to its Power Supply Output during the Battery Mode.

- The unit may fail.

Notes

Do not connect a page printer (such as a laser printer) to the unit.

- The unit repeatedly and frequently switches between Commercial Power Mode and Battery Mode, which may shorten the life of the battery.
- The page printer has a large peak current, so an excess of the connection capacity or a power failure due to instantaneous voltage drop may be detected.

Do not install or store the unit in a place exposed to direct sunlight.

- The rise of temperature may cause the built-in battery to deteriorate rapidly and become unusable.

Before performing a withstand voltage test or insulation resistance test, make sure to remove the input surge protection GND screw from the back of the unit.

When in use, make sure the input surge protection GND screw is securely fastened.

- Performing the withstand voltage test with the ground wire connected may damage the surge absorption element built into the power supply input circuit.

Before stopping the commercial power to the unit, turn OFF the power switch of the unit.

- The unit enters Battery Mode when commercial power is stopped. If you frequently use the unit in Battery Mode, the battery life may be significantly shortened.

If this unit is used for an inductive device such as a coil, transformer or motor, check the operation beforehand.

- With some types of devices, the effect of inrush current may cause this unit to stop operating properly.

The battery contains dilute sulfuric acid which is a toxic substance. If fluid leaks from the battery, do not let it contact your skin or clothes. If contacted, wash it out with clean water. In particular, if the fluid gets in your eyes, immediately wash them with clean water and seek medical treatment.

Check system operation beforehand if the unit is used in combination with a device whose power supply voltage and frequency fluctuate widely, such as a generator.

- If the generator's output voltage/frequency falls out of the input voltage/frequency range, the unit will enter Battery Mode.
- Even if the input frequency is within the range, the unit will enter Battery Mode when a rapid change (5 Hz/sec or greater) occurs.

2-2 Installation

The UPS permits the following installing methods. Choose the one best suited for the environment.

2-2-1. Rackmount installation

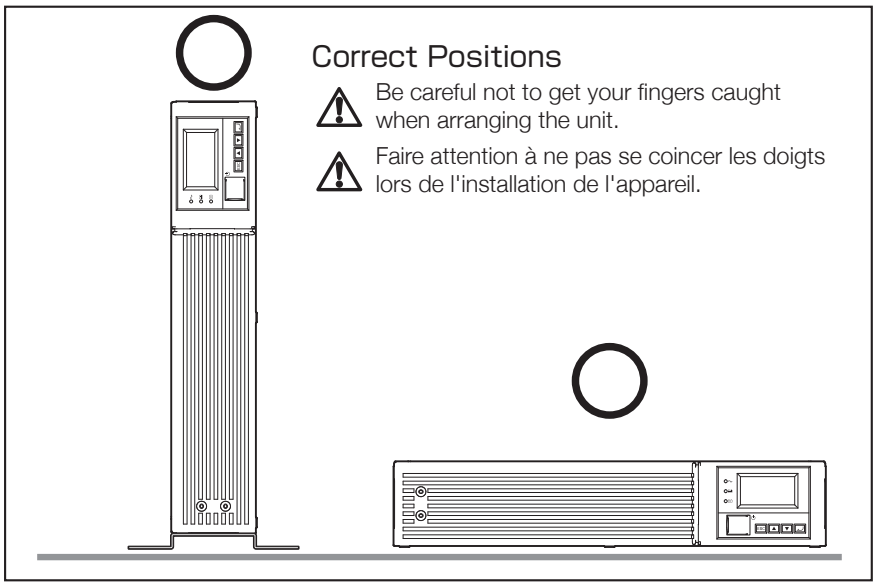
2-2-2. Stationary installation

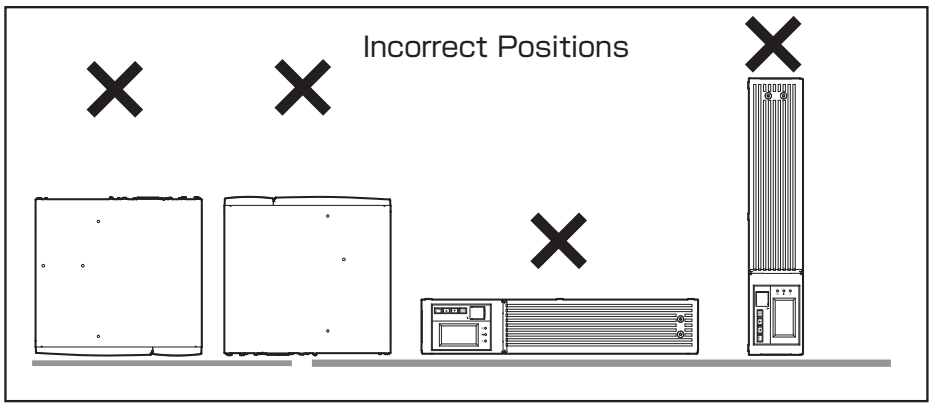
- Horizontal
- Upright intatllation

Do not use this unit in any position other than the “correct positions” indicated in the illustration below.

Note

Before installing this device, make a record of the serial number of this device. The product serial number is required when contacting us about the device. The serial number (S/N) is inscribed on the upper right side of the rear panel. You can also see the serial number using LCD operation. The product serial number label is also included. We recommend you to put the serial number seal under the LCD on the operation panel.





2-2-1. Rackmount installation (EIA /JIS 19-inch rack/server rack)

⚠ Caution

When performing rack installation, ensure that the UPS is supported and stabilized by using both the support angles and the table clamps that were included.

- When installing on a rack, make sure that the UPS is supported by the each unit individually.
- When installing on a rack, make sure to use the support angles and table clamps included with the product. Without the support angles, the front clamp alone cannot support the weight of the UPS.
- The mass of each unit: BU1002RW: Approx. 18kg

In a case where the UPS is to be mounted on a rack, place it on the lower part of the rack.

- Dropping it may result in injury.

Be sure to use the supplied mounting screws.

- Use of long screws other than those supplied for case mounting may damage inside the unit.
- Screws other than those supplied may not be strong enough to support the UPS, causing it to fall.

⚠ Attention

Lorsque d'une installation en rack, s'assurer que l'ASC est supportée et stabilisée à l'aide des équerres de soutien et des pinces de table fournies.

- Lors de l'installation sur un rack, s'assurez que l'ASC est soutenue par chaque unité individuellement.
- Lors de l'installation sur un rack, veiller à utiliser les équerres de soutien et les pinces de table incluses avec le produit. Sans les équerres de soutien, la pince avant ne peut supporter seule le poids de l'ASC.
- La masse de chaque unité: BU1002RW: Env. 18 kg

Dans le cas où l'ASC doit être montée sur un rack, la placer sur la partie la plus basse de ce rack.

- Le laisser tomber peut entraîner des blessures.

Veiller à utiliser les vis de montage fournies.

- L'utilisation de vis longues, autres que celles fournies pour le montage du boîtier, peut endommager l'intérieur de appareil.
- Des vis autres que celles fournies peuvent ne pas être assez résistantes pour supporter l'ASC et entraîner sa chute.

● Items included in the 19-inch rack support angle mounting bracket set

Rack rail (front) L 1
Rack rail (front) R 1
Rack rail (rear) 2
Ear brackets 2

Rail length fixing screws (M4) 4

Ear bracket mounting flat-head screws (M3)..... 8

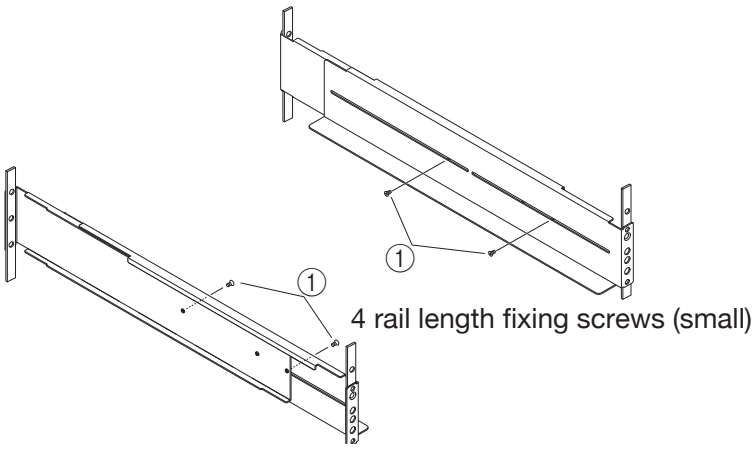
EIA/JIS rack fixing screws (M5) 10

JIS rack fixing flat-head screws (M5)..... 2

EIA rack fixing nuts (M5) 10

● Rack mounting procedure

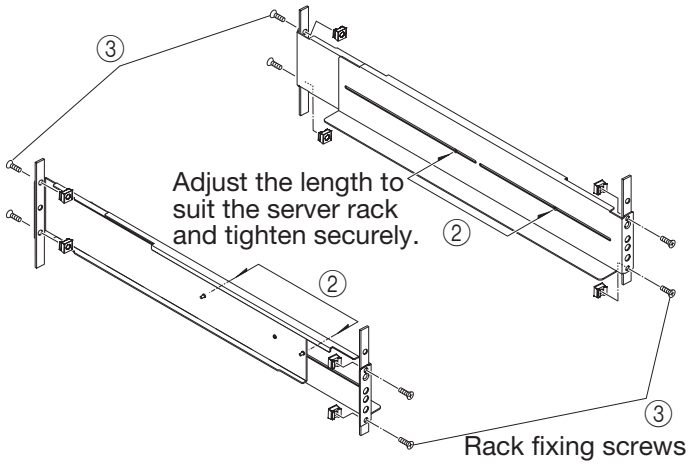
(1) Insert the 4 included rail length fixing screws (M4) and half-tighten them to hold the front and rear rack rails in place. ①



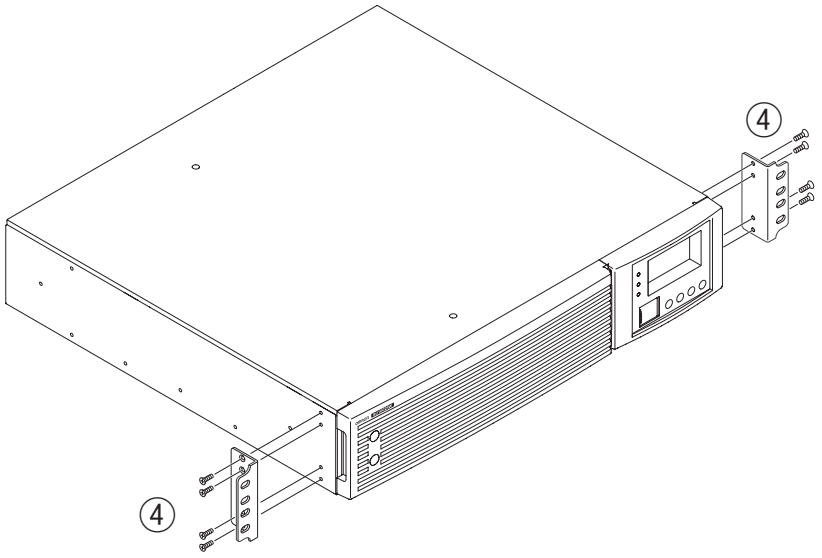
(2) Adjust the length of support angles to suit the server rack, and then securely tighten the screws that were half-tightened in step 1. ②

(3) For EIA standard-compliant installation, use the 8 included EIA rack fixing nuts (M5) and 8 EIA/JIS rack fixing screws (M5) to securely fasten the front (the side displaying “L” or “R”) and the back of the support angles to the server rack. ③ The screw holes are located at the top and bottom for both front and rear.

For JIS standards, use a total of 6 included screws to fix the rack; 1 JIS rack fixing flat-head screw (M5) at a front position of the each of right and left support angles, 2 EIA/JIS rack fixing screws (M5) at 2 rear positions. ③ The screw hole position for the front is at the second screw hole from the top, the rear is at the second screw hole from the bottom.

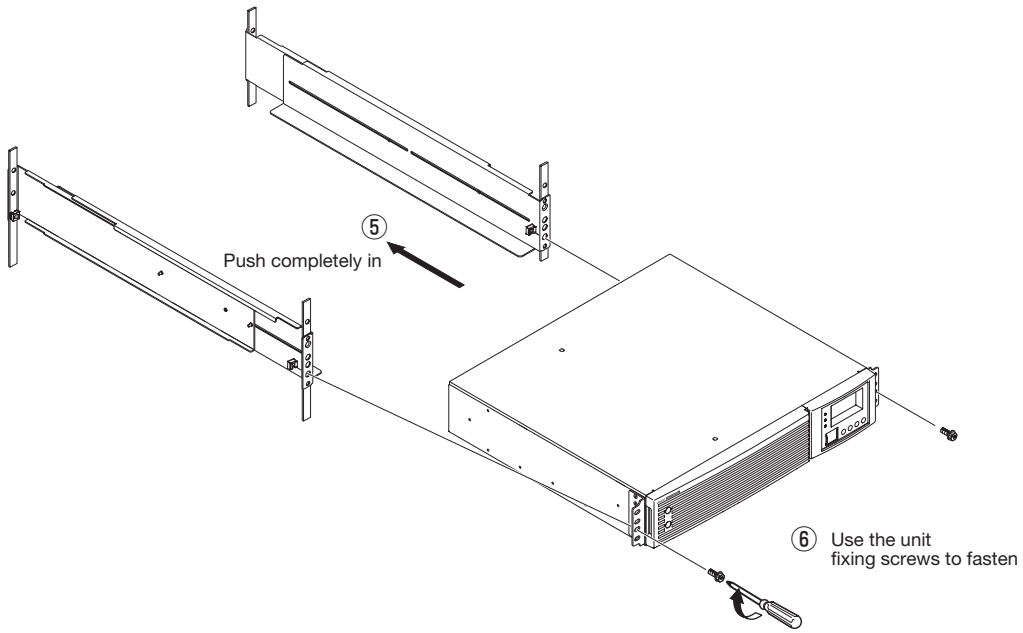


(4) Use the 8 included ear bracket mounting flat-head screws (2 sets of 4 screws) to securely fasten the ear brackets to the left and right sides of the UPS. ④



The support angles cannot be attached to special EIA/JIS racks.

(5) Place the UPS on the support angles and push it completely into the rack ⑤ , and use the 2 included EIA/JIS rack fixing screws (M5) to securely fasten the ear brackets to the server rack. ⑥



⚠ **Always use the support angles.**

⚠ **Utilisez toujours les équerres de soutien.**

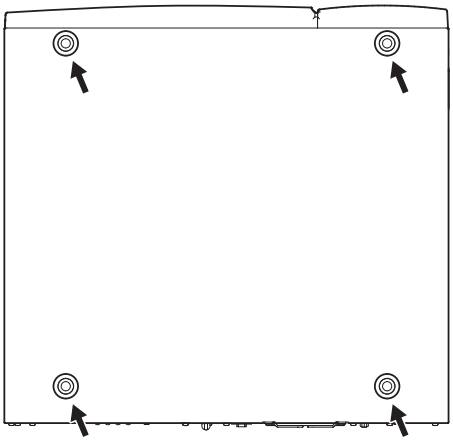
2-2-2. Stationary installation

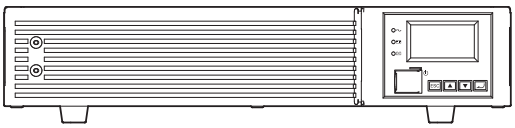
Perform installation only as shown in the diagrams below.

●Horizontal installation

Attach the included rubber feet for horizontal installation with the included screw rivets and position the unit horizontally.

For stationary horizontal installation, make sure that this product does not slide or fall.

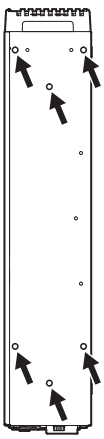


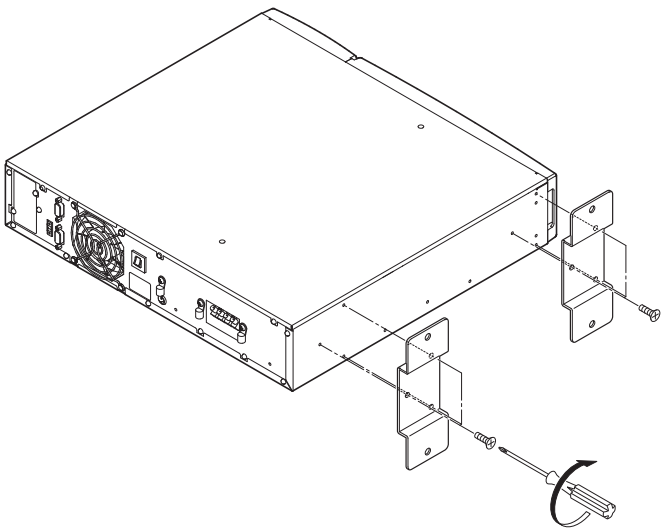


●Upright installation

(1) Upright installation

Use the upright stands (2) and M3 flat-head screws (6) included with the product.





2-3 Connecting the equipment

⚠ Caution

Do not connect devices with rated voltage of other than 200/208/220/230/240/100VAC.

- The rated output voltage of this device is 200/208/220/230/240/100VAC.
- Overcurrent may damage the connected devices.

⚠ Attention

Ne pas connecter un périphérique avec une tension nominale autre que 200/208/220/230/240/100V CA.

- La tension de sortie nominale de cet appareil est de 200/208/220/230/240/100V AC.
- La surtension peut endommager les équipements connectés.

2-3-1. Connecting a device to the power supply output (AC output terminal block)

⚠ Caution

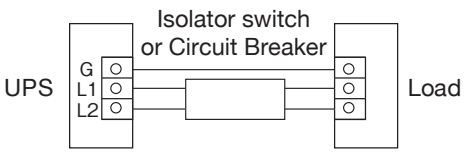
The output wiring work should be performed by a service person.

When in use, make sure the terminal block cover is attached. Do not turn ON the power switch when it is detached.

- Voltage is applied to the output terminal block when the power switch is ON, which can result in electric shock.

When connecting a device to the output terminal block, make sure to include an isolator switch or circuit breaker between the unit and the load.

- In the event of an accident, the power supply to the device can be stopped by pressing the isolator switch or circuit breaker.
- To reduce the risk of fire, connect only to an isolator switch or circuit breaker with a minimum rating of 250V/15A. When the unit is used in compliance with UL standards, follow the National Electrical Code (ANSI/NFPA 70).
- Install the isolator switch or circuit breaker where it is easy to operate.



⚠ Attention

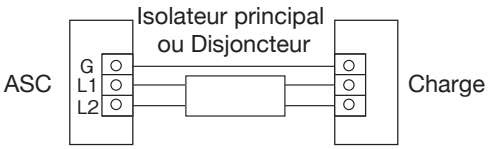
Les travaux de câblage de sortie doivent être effectués par une personne qualifiée.

En cours d'utilisation, s'assurer que le couvercle du bornier de sortie est bien fixé. Ne pas allumer l'interrupteur d'alimentation quand il n'est pas fixé.

- Une tension est appliquée au bornier de sortie lorsque l'interrupteur d'alimentation est allumé, ce qui peut provoquer un choc électrique.

Lors de la connexion d'un périphérique au bornier de sortie, s'assurer d'intégrer un isolateur principal et un disjoncteur entre l'appareil et la charge.

- En cas d'accident, l'alimentation de l'appareil peut être interrompue en appuyant sur l'isolateur principal ou sur le disjoncteur.
- Pour réduire le risque d'incendie, connectez uniquement à un isolateur principal avec une classe minimale de 250V/15A. Lorsque l'appareil est utilisé en conformité avec les normes UL, respectez le Code national de l'électricité (ANSI/NFPA 70).
- Installez l'isolateur principal ou le disjoncteur dans un endroit où il peut être utilisé facilement.



(1) Connect the devices that require backup to the power supply output terminal block of the unit.
Attach two cable clamps to the terminal block cover with fasten torque according to Figure 1.
Run the wires to be connected through the hole in the terminal block cover (with cable clamp). (See Figure 1.)
If you have trouble running the wire through the hole, loosen the cable clamp dial by turning it counter-clockwise.
Use a flat head screwdriver to loosen the terminal block screws, insert the wire stripped to the specified length into the terminal block from the bottom at an angle as far as it will go, and then retighten the terminal block screws. (See Figure 2.)

G terminal : Connect the ground wire
L1 terminal : Connect the L1 line
L2 terminal : Connect the L2 line

Crimp the ring type crimp terminal that is UL/CSA listed to the ground wire, and tighten the ground terminal screw. (See figure2)

Ring type crimp terminal (M4)
ex. AWG14:V2-M4(JST) , AWG12:V5.5-4(JST)

If you cannot get specified ring type crimp terminals, please contact our Electronic Systems & Equipments customer support center.

2.Installation and connection

Figure 1

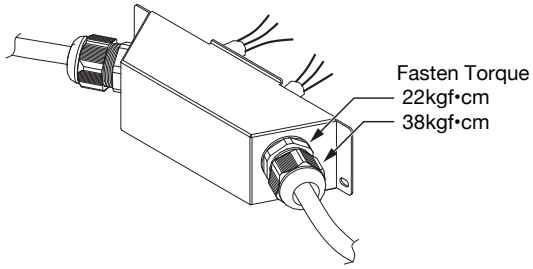


Figure 2

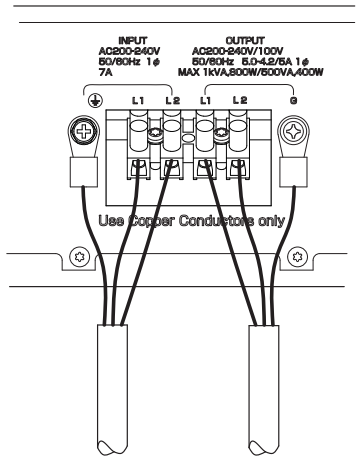
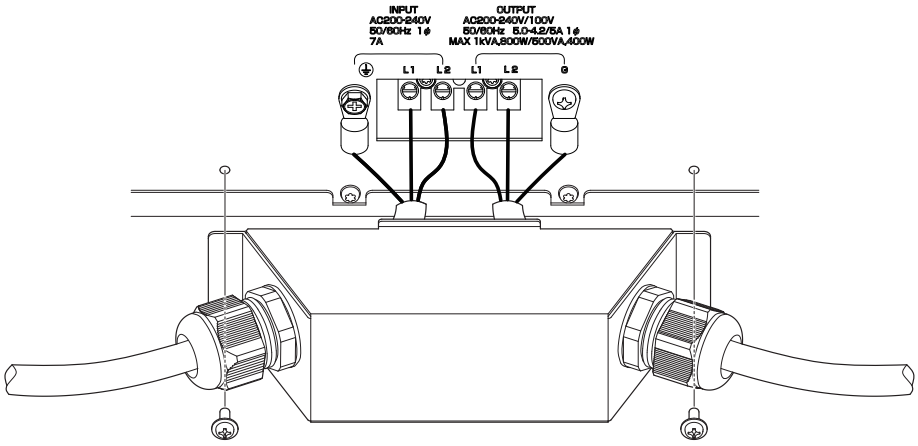


Table 1

Connectable wire type		Flexible cord
Cord diameter		8.8 to 11 mm
Connectable wire size		2 to 4 mm^2 (AWG14 to AWG12)
Recommended cable size		2 mm^2 (AWG14)
L1, L2	Amount of stripped wire	6 to 8 mm
	Tightening torque	0.8 N•m (7 lb-in)
⏚, FG	Tightening torque	1.5 N•m (13 lb-in)

(2) Attach the terminal block cover (with cable clamp) to the unit.
Insert the upper part of the terminal block cover into the slit of the unit, and tighten it with two of the included M3 screws.
Tighten the cable clamp dial to stabilize the wire.



2-3-2. Connecting to a computer

When using the included UPS monitoring software, the Windows standard UPS service, or the contact signal, use the connection cable to connect the unit to the PC.

See also “7. Using the UPS monitoring software and Contact Signal” on page 47.

* If you do not use the UPS monitoring software and Contact Signal, this step is not required.

2-4 Connecting the AC input

When installation and connection are complete, connect the unit's AC input to a commercial power source.

⚠ Caution

This product is designed to be connected to a commercial power with transient overvoltages of 2500 Vpeak or less.

- When the transient overvoltages of commercial power exceed 2500 Vpeak, additional surge protection devices shall be provided external to the equipment to limit the transient overvoltages less than 2500 Vpeak.

Make sure to connect the AC input of the unit into a commercial power with rated input voltage (200/208/220/230/240VAC).

- Connecting to a commercial power of a different rated voltage may result in fire.
- The unit may fail.

⚠ Attention

Ce produit est conçu pour être connecté à une alimentation secteur avec des surtensions transitoires de 2500 V en crête.

- Lorsque les surtensions transitoires de l'alimentation secteur dépassent 2500 V en crête, il est nécessaire d'ajouter un dispositif supplémentaire pour limiter les surtensions transitoires à moins de 2500V en crête.

S'assurer de connecter l'entrée secteur de l'appareil sur une prise secteur avec une tention d'entrée nominale (200/208/220/230/240V CA).

- Une connexion à une tension secteur de tension nominale différente peut provoquer un incend-ie.
- L'appareil peut tomber en panne.

2-4-1. Connecting to the input terminal block

⚠ Caution (for installation and connection)

When connecting the AC input directly from a power switchboard, make sure that the wiring work is performed by a qualified electrical engineer (with Type II certification or higher).

- To use the BU1002RW with up to 1000VA/800W, a wiring capacity of 7A or required.

Make sure to properly match the AC input terminal. Turn off the external breaker when performing work on the unit's AC input terminals. Be sure to attach the terminal block cover.

- Failure to do so may result in electric shock or ground fault.

Include a breaker (double pole) between the unit and the commercial power, and install the breaker where it is easy to operate.

⚠ Attention (pour l'installation et le raccordement)

Lors de la connexion de l'entrée secteur directement à partir d'un tableau électrique, assurez-vous que le travail de câblage est effectué par un électricien qualifié (avec une certification de type II ou supérieur).

● Pour utiliser le BU1002RW jusqu'à 1000VA/800W, une capacité de câblage de 7A ou plus est nécessaire.

S'assurer de bien connecter la borne d'entrée secteur. Couper le disjoncteur externe lors de l'exécution des travaux sur les bornes d'entrée secteur de l'appareil. S'assurer de fixer le couvercle du bornier de sortie.

● Ne pas le faire peut entraîner un choc électrique ou une faute à la terre.

Insérez un disjoncteur bipolaire entre l'appareil et l'alimentation secteur, et installez le disjoncteur sur un endroit où la manipulation est facile.

Connection procedure

(1) Remove the terminal block cover.

(2) Run the wires through the terminal block cover (with cable clamp).

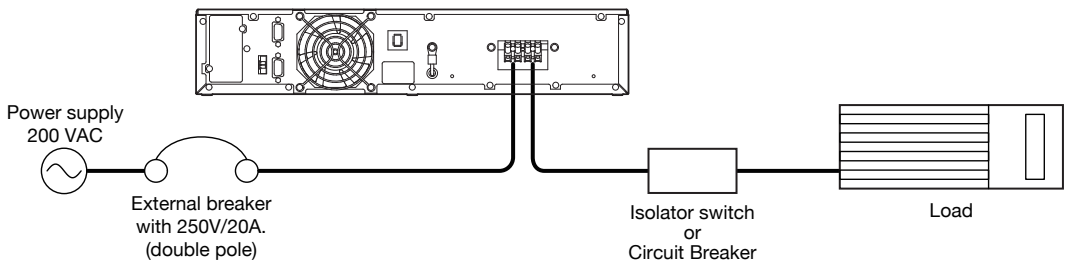
(3) Connect the L1 line to L1. Connect the L2 line to L2, and connect the ground wire to ⏚. Connections to the terminal block shall comply with the standards in Table 1.

(4) Fix the terminal block cover with the screws, and then turn the clamp to stabilize the wires.

Table 1

Connectable wire type		Flexible cord
Cord diameter		8.8 to 11 mm
Connectable wire size		2 to 4 mm^2 (AWG14 to AWG12)
Recommended cable size		2 mm^2 (AWG14)
L1, L2	Amount of stripped wire	6 to 8 mm
	Tightening torque	0.8 N•m (7 lb-in)
⏚, FG	Tightening torque	1.5 N•m (13 lb-in)

(Example of connection)



- **The unit was charged before shipment, but it may have self-discharged during shipment, resulting in a reduced backup time.**
  We recommend charging the unit before use.
- **You can perform "2-5 Checking the operation" on page 23 also before charging the battery.**

2-5 Checking the operation

When you finish connecting the unit, confirm that the backup operation works properly.

Check that the Battery Mode is performed normally according to the following procedure.

(In this operation check, the effects of a power failure are reproduced by disconnecting the AC input from the commercial power.)

(1) Starting the UPS and setting the LCD menu language.

Supply a commercial power source with the unit's power switch OFF. The status indicator displays ⏻Standby mode or ⏻ｽﾀﾝﾊﾞｲﾓｰﾄﾞ.
The original LCD display language is Japanese. To select English language setting, follow the next steps.

1) Press "Enter switch" to move to the top menu.
2) Select " 設定 " by pressing "UP/Down switch" and then press "Enter switch".
3) Select " ローカル設定 " by pressing "UP/Down switch" and then press "Enter switch".
4) Select " 表示言語 " by pressing UP/Down switch" and then press "Enter switch".
5) Select " 英語 " by pressing UP/Down switch and then press "Enter switch".
6) Press "ESC switch" few times to return to the status screen.

(2) Setting output voltage and frequency.

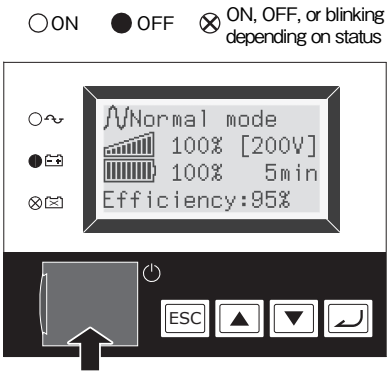
The output voltage and the output frequency can be set with the operating panel.

1) Press "Enter switch" to move to the top menu.
2) Select "Settings" by pressing "UP/Down switch" and then press "Enter switch".
3) Select "In/Out Settings" by pressing "UP/Down switch" and then press "Enter switch".
4) Select "Output voltage" by pressing "UP/Down switch" and then press "Enter switch".
5) Select an output voltage by pressing "UP/Down switch" and then press "Enter switch".
6) Press "ESC switch" to return to the "In/Out Settings" screen.
7) Select "Sync. Mode" by pressing "UP/Down switch" and then press "Enter switch".
8) "Sync standard" or "Sync Wide" or "Async 50Hz " or "Async 60Hz" can be set.

(3) Press the unit's power switch to turn ON the power.

The beeper sounds and the current settings are displayed on the LED.
Self-diagnosis starts automatically.
When the self-diagnosis test finishes normally, the unit's operation switches to commercial power and the status indication below is displayed.

Status indicator	Description
	Power switch "ON" Operating normally



(4) Bring all the connected devices into operation.

(Including devices connected to the AC outlet of your PC.)

The unit was charged before shipment, but it may have self-discharged during shipment, resulting in a reduced backup time. We recommend charging the unit before use.

(5) Under this condition, check the the unit's LCD and beep sound.

Are they in the same status as shown below?

Status indicator	
Beep	None
Power supply output	Outputs power (connected devices are powered)

If the same as the one shown above: → The operation is normal. Proceed to (6).
If not the same as the one shown above: → The operation is abnormal. One of the cases described in "4. Display and beeps when there is an equipment failure" of "3-3 Interpreting beeps and displays" on page 32 must apply.
Take necessary measures and then proceed to (6).

(6) Disconnect the unit's AC input from the commercial power. When the AC input cable is connected to the terminal block, turn off the external breaker.

The unit enters Battery Mode.

(7) In Battery Mode, check the unit's LED display and beep sound.

Does the status indicator appear as one of those shown below?

Status indicator	Beep	Output	Description
	Intermittent 4-second intervals	ON	Backup is operating due to power failure or AC input error. Output will stop if Battery Mode continues.
	Intermittent 1-second intervals	ON	(Same as above.) Battery level is low, so output will stop soon.
	None	OFF	Battery is dead, so output stopped.

If not the same as one of those shown above: → Operation is abnormal. Check the status of lamps and beep, and then press and hold the power switch to turn OFF the power.

- If the display is one of those shown in “4. Displays and beeps when there is an equipment failure” in “3-3 Interpreting beeps and displays” on page 32, take the necessary measures and then go back to (3) on page 23.
- If no Battery Mode is performed and the UPS and the devices connected to the UPS stop, this may be attributed to an insufficient battery charge.

  After connecting the AC input to the commercial power and charging the battery, go back to step (6).
- If the problem persists after checking the 2 points above, contact us; ____

See also Beeper ON/OFF can be set with “Settings” - “Local Setting” - “Audible alarm” in the menu on the LCD.

(8) Reconnect the AC input to the commercial power source. Turn on the external breaker.
The status indicator returns to its normal state and the beeping sound stops.
(The status is as shown below.)

Status indicator	Description
	Power switch “ON” Operating normally

Checking the operation is now complete.

Installation and connection is now complete.

2-6 Charging the battery

The battery automatically starts charging when the unit is connected to a commercial power source.
(This occurs regardless of whether the power switch is ON or OFF.)
The charging takes 8 hours to complete.

- The unit was charged before shipment, but it may have self-discharged during shipment, resulting in a reduced backup time. We recommend charging the unit before use.
- If you do not perform the initial backup time measurement described below in “2-7 Measuring the initial value of backup time”, proceed to “3. Operation. → Page 26”

2-7 Measuring the initial value of backup time

- When you measure the backup time initial value of the unit in your environment, this value can be used as a guide when checking the battery and deciding the UPS monitoring software setting values.
  See also "5. Measuring the backup time" → Page 37

2-8 Recharging the battery

The battery is discharged completely when the backup time is measured, so you need to recharge it before using the UPS.

- You can use connected devices while recharging the battery, but the backup time when a power failure occurs is shorter until the battery is fully charged.
  (If a power failure occurs immediately after the start of charging, backup stops immediately.)
  See also Charge the battery as described in "2-6 Charging the battery."

Preparation for starting operation is now complete.

3 Operation

3-1 Precautions and notes for operation

Take notice of following items during operation.

⚠ Caution (for use)

Do not allow the unit to come in contact with water. Do not drop the unit.

- Doing so may cause an electric shock or a fire.
- If the unit becomes wet, immediately stop using it, disconnect the AC input cable from commercial power and have the unit inspected and repaired.
  For repair, contact us:_____

When the battery is dead, replace it immediately or stop using the unit.

- Continuing the use of it may cause fire or electric shock due to liquid leaks..

Ambient temperature	Expected life
25°C	5 years
35°C	2.5 years

* The values in the table are the expected life under standard use conditions and are not guaranteed.

Using a dry cloth, periodically wipe the dust from the AC input and output terminal block.

- Accumulated dust may cause a fire.

Do not use the unit in a closed place and do not cover the unit.

- Doing so may cause abnormal heating or a fire.

If you notice an abnormal sound or smell, smoke, or leaking fluid, immediately turn OFF the unit's power switch and stop the supply of commercial power.

- Using the unit under such conditions may cause a fire.
- If you notice such a condition, stop using the unit and contact us at _____ for inspection and repairs.
- Position the unit in such a way that you can immediately disconnect the AC input from the commercial power in the event a problem occurs.

If fluid leaks from the unit, do not touch the fluid.

- Doing so may cause blindness or burns.
- If the fluid contacts your eyes or skin, wash it out with lots of clean water and consult your doctor.

Do not place objects heavier than 25kg on the unit, and do not drop heavy objects onto the unit.

- Doing so may cause distortion/damage to the case or a failure of the internal circuit, which may cause a fire.

The unit is equipped with a bypath circuit which is able to supply electric power to connected devices even when the inner control circuit is broken down by defects or malfunctions

- Output is continuing even when all indicators of the front panel are off.
- If you want to stop the output, either stop the source of commercial power, or disconnect the AC input from the commercial power.

Do not sit or stand on top of the product, use it as a step ladder, or lean against it.

- Doing so may cause the unit to fail or to fall over and result in injury.

⚠ Attention (pour l'utilisation)

Ne pas laisser l'appareil entrer en contact avec de l'eau. Si l'appareil tombe, cesser de l'utiliser.

- Cela peut provoquer un choc électrique ou un incendie.
- Si l'appareil est mouillé, arrêtez immédiatement de l'utiliser, déconnectez le câble d'entrée secteur de l'alimentation secteur et faites vérifier et réparer l'appareil.
  Pour les réparations, nous contacter au : ____.

Lorsque la batterie est morte, la remplacer immédiatement ou cesser d'utiliser l'appareil.

- Continuer d'utiliser l'appareil peut provoquer un incendie, un choc électrique à cause d'une fuite d'électrolyte.

Température ambiante	Durée de vie prevue
25°C	5 ans
35°C	2.5 ans

* Les valeurs du tableau sont la durée de vie prévue dans les conditions normales d'utilisation mais ne sont pas garanties.

Essuyer régulièrement la poussière de la bornier d'entrée avec un chiffon sec.

- Une accumulation de poussière peut provoquer un incendie.

Ne pas utiliser l'appareil dans un endroit fermé et ne pas le couvrir.

- Cela peut provoquer un échauffement anormal ou un incendie.

En cas de bruit ou d'odeur anormal, de fumée, ou de fuite de liquide, couper immédiatement l'interrupteur d'alimentation de l'appareil et interrompre l'alimentation secteur.

- L'utilisation de l'appareil dans ces conditions peut provoquer un incendie.
- En cas de constatation d'un tel état, cesser d'utiliser l'appareil et nous contacter au _____ pour inspection et réparation.
- Placez l'appareil de telle manière que vous pouvez immédiatement débrancher l'entrée CA de la puissance commerciale en cas de problème.

En cas de fuite d'électrolyte de l'appareil, ne pas toucher le liquide.

- Cela peut provoquer la cécité ou des brûlures.
- Si le liquide entre en contact avec les yeux ou la peau, rincer abondamment à l'eau claire avant de consulter un médecin.

Ne pas placer d'objet de plus de 25 kg sur l'appareil, et ne pas laisser tomber des objets lourds sur l'appareil.

- Cela peut provoquer une altération/dommages du boîtier ou une panne du circuit interne, ce qui peut provoquer un incendie.

L'appareil est équipé d'un circuit de dérivation qui est capable de fournir une alimentation électrique aux périphériques connectés, même lorsque le circuit de commande interne est défectueux à cause d'un défaut ou d'un mauvais fonctionnement.

- La sortie se poursuit même lorsque tous les indicateurs du panneau avant sont éteints.
- Si vous voulez arrêter la sortie, arrêtez la source de puissance commerciale.

Ne vous asseyez pas ni ne montez sur le produit, ne l'utilisez pas comme marche et ne vous appuyez pas dessus.

- Sinon, cela pourrait provoquer une panne, une chute de l'appareil ou des blessures.

Notes

Before stopping the commercial power to the unit, turn OFF the power switch of the unit.

- The unit enters Battery Mode when commercial power is stopped. If you frequently use the unit in Battery Mode, the battery life may be significantly shortened.

Take measures for handling unforeseen accidents, such as data backup and system redundancy.

- The output may stop when there is a circuit failure in the UPS.

Explanation

Usual operation

- You may either leave the power switch of the unit ON (operation status) or turn it OFF each time when stopping the connected system. Choose whichever operation method is more convenient. We recommend turning OFF the power switch when you do not use connected devices for a long time.
- The battery can be charged once the AC input is connected to commercial power.

Quitting Battery Mode

- If a power failure lasts for an extended period of time, the battery discharges and power output from the unit stops. Shut down your computer after performing appropriate procedures (for example, saving data) while the unit is still supplying power.

Rebooting

- If the battery discharges completely during a power failure, the unit stops. After recovery from the power failure, the unit automatically restarts and supplies power. If you do not want to restart the connected devices, disable the “Settings” - “Boot Settings” - “Auto reboot” setting in the menu on the unit’s LCD, or turn OFF the power switch of the connected devices.

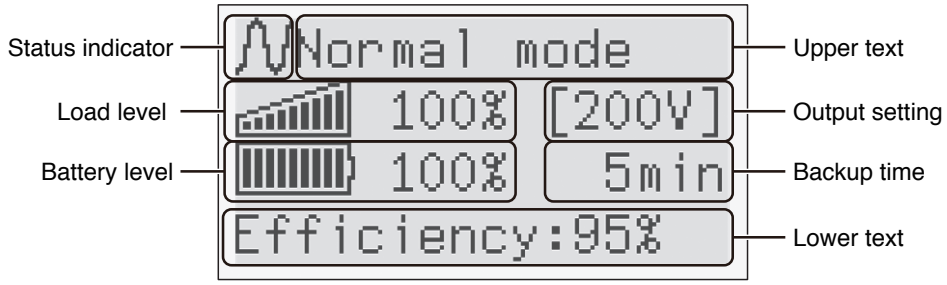
Scheduled operation using the UPS monitoring software

- When performing scheduled operation in which the UPS is stopped and a device such as a breaker is used to stop the UPS at the same time that commercial power stops, specify a period of no more than 3 months for the start of the next operation. If you specify a period longer than 3 months, the internal timer is reset and the scheduled operation does not start.
  Note that this period reduces to less than half when the battery needs to be replaced.
  If a period of 3 months is exceeded, you start operation by supplying commercial power and pressing the Start Switch. However, if the battery needs to be replaced, you may not be able to start operation. In this case, replace the battery.

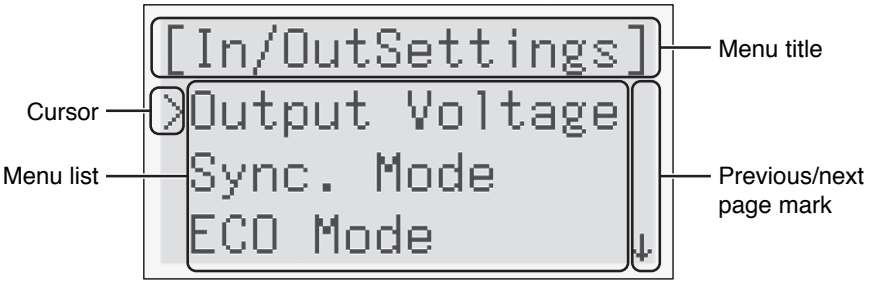
3-2 Start and stop procedures and basic operation

The UPS status indicators and UPS setting change menu are displayed on the control display panel on the front of the unit.

● UPS status indicators (status screen)



● UPS setting change menu screen



Basic operations on the menu screen

Switch	Description
[▲] [▼]	Move cursor up/down or increase/decrease values
[↵]	Selection of menu or determine the value
[ESC]	Return to menu or cancel

- **When the unit is connected to a commercial power source with the power switch OFF and commercial power is supplied to it**
  - The status indicator displays " ⏻ ".
  - Power output is stopped.
  - The battery automatically starts recharging.
  - The standby screen appears on the LCD.

- **Start procedure**

Operation **Press the power switch of the UPS.**

- After a few seconds, output begins in inverter operation.
- The status indicator displays " 🔍 ", and the self-diagnostic test is performed.
- When the self-diagnosis test finishes normally, the unit enters the normal operating state through inverter operation.
- When the self-diagnostic test is not performed, AC output begins immediately inverter operation.

Status indicator	Beep	Output	Description	Solution
	None	ON	Commercial Power Mode	-

- During operation, the battery is charged automatically.

Operation after a power failure

- If a power failure or abnormal input power supply occurs, the UPS automatically switches to Battery Mode, continuing power output from the Power Supply Output terminal block supplied from the battery.
- The LCD and the beeper's intermittent sounds alert the user.

See also "Local Settings" in the menu on the LCD can be used to set the beeper ON/OFF.

Status indicator	Beep	Output	Description	Solution
	Intermittent 4-second intervals	ON	Backup is operating due to power failure or AC input error.	Shut down the connected devices to stop them.
	Intermittent 1-second intervals	ON	Battery level is low, so output will stop soon.	
	Intermittent 2-second intervals	OFF	Battery is dead, so output stopped.	Charge the battery.

Operation during recovery from a power failure

- The unit automatically resumes output via commercial power if it recovers from a power failure/input power supply error while it is providing power supply output. The spent battery starts charging.
- If a power failure or abnormal power input is resolved after the battery is discharged completely and power output is stopped, the UPS restarts automatically and resumes power output. The expended battery begins to charge.

See also "Boot Settings" in the menu on the LCD can be used to enable or disable auto restart.

Stop procedure

Operation **Press the power switch of the UPS.**

- The power output from the UPS stops.

Status indicator	Beep	Output	Charging	Description
	None	OFF	ON	Power switch OFF

- Even if you turn off the power switch, if AC is supplied from commercial power, the battery is automatically charged.

3-3 Interpreting beeps and displays

No.	Status indicator	Mode	Beep	Description	Solution
1		Standby Mode	None	Power switch OFF Operation stopped	-
2		Commercial Power Mode	None	Power switch ON Operating normally	-
3		Bypass Mode	None	AC input is bypassed to the output due to an internal failure of the UPS or other reason	Refer to the message displayed on the LCD.
4		Test Mode	None	Self-diagnostic test in progress	Commercial Power Mode is recovered after a certain period of time.
5		UPS Event	None	Waiting; startup conditions are not fulfilled	Refer to the displayed message.
6		Battery Mode	Intermittent 4-second	Backup is operating due to power failure or AC input error	Shut down the connected devices to stop them.
7		Battery Low	Intermittent 1-second	Battery level is low, so output will stop soon	Shut down the connected devices to stop them.
		Battery Empty	Intermittent 2-second	Battery is dead, so output stopped	Charge the battery.
8		Battery Deterioration	Intermittent 2-second	Battery has deteriorated	Replace the battery.
9		Overload	Intermittent 0.5-second	High connection load	Reduce the connection load.
10		UPS Failure	Continuous	Failure or warning has occurred	Refer to the message displayed on the LCD.

● Load/battery level meter

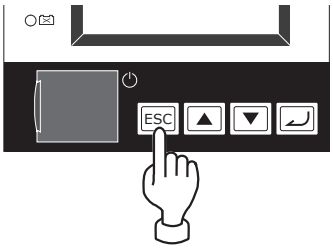
The load level meter displays the power consumption of the connected devices as a percentage.
BU1002RW: Displayed in 10 levels, with 100% indicating 1000VA/800W.

The battery level meter displays the remaining battery level as a percentage.

4 UPS functions

4-1 Suspending a beep

When the beep is sounding, you can suspend it by pressing and holding the beep ESC switch for 0.5 seconds or longer.



4-2 Self-diagnosis test

This test performs a failure diagnosis on the unit and performs a test to check for battery deterioration.

Use the procedure below to check whether a circuit failure has occurred inside the unit and whether battery replacement is required.

This test is performed if the “Power” switch is ON or performed automatically (You do not have to perform any special operations). Automatic test is performed once every 4 weeks after the unit is connected to a commercial power source and power distribution begins.

If the battery is not charged for at least 8 hours, the self-diagnostic test is not executed immediately.
After charging is complete, it is automatically executed.

(1) When the self-diagnostic test is executed, the Battery Mode starts automatically (No beep sounds). After the test is complete, the normal operation automatically starts.

(2) If an error message appears on the LCD:
Follow the directions for the solutions described earlier in this document.

* This test can also be run from the included UPS monitoring software.
For more details, refer to the online help for the UPS monitoring software.

4-3 Battery life counter function

This function notifies you with LCD and beep sound when the battery needs to be replaced. The battery life counter operates while commercial power is supplied after shipment. (When the ambient temperature of the battery is higher than 25°C, the value of the counter will be incremented at a faster pace.)

When the battery needs to be replaced, the battery replacement lamp will light up and beep will sound.

* Be sure to reset the battery life counter after replacing the battery.

4-4 Operation panel setting

A list of menu items on the LCD is shown in the table below. Menu items displayed vary depending on the menu type setting.

The menu type can be set with “Settings” - “Local Settings” - “Menu Type”. There are two types of menu: “Standard Mode” (for general users) and “Advanced Mode” (for administrators).

<Meaning of the Note column>

*1: Displayed only when the menu type is “Advanced Mode”. (Not displayed in “Standard Mode”.)

*2: The setting can be changed only when the UPS is stopped. During operation, the setting can be checked but not changed.

Menu		Description	Note
Measurements	Load Meter	Display the applied load in VA and W.	
	Input/Output	Display the input/output voltage and frequency.	
	Battery Meter	Display the status of the built-in battery.	
	Longevity	Display the estimated lifespan of the UPS in 5 levels.	
	Efficiency	Display the efficiency of the UPS as a percentage.	*1
	Cumulat. Power	Display the amount of power used so far and the number of days elapsed.	*1
	Average Power	Display the average amount of power used so far.	*1
Control	Function Test	Perform a self-diagnosis and a test to check for battery deterioration, and then display the results.	
	ResetB.L.cnt	Reset the battery life counter.	
	Reset Failure	Reset a failure.	
	ResetPow.Usage	Reset the values of cumulative power usage and average power usage.	*1
	DryContactTest	Perform a contact signal test.	*1 *2
	Initialization	Return each of the UPS settings to the factory settings.	*1 *2

4. UPS functions

Menu			Description	Note
Settings	Local Settings	Language	Set the language to be displayed on the LCD.	
		LCD Setting	Change the contrast of the LCD.	
		LCD Auto off	Set the amount of time after which the LCD turns off automatically.	
		LCD Test	Check that the LCD and LEDs light up.	
		Audible alarm	Set the beeper status.	
		Calendar	Set the calendar information for the UPS.	
		UPS Inst. Date	Set the date you started using the UPS.	
		UPS life count	Set the UPS life counter status.	
		Menu Type	Select the menu to be displayed. "Standard" displays frequently used items only.	
	In/Out Settings	Output Voltage	Set the output voltage.	*2
		Sync. Mode	Set the frequency synchronous mode.	*2
		ECO Mode	Set the ECO mode.	*2
	Boot Settings	Auto reboot	Set auto restart from power failure.	
		Delay time	Set the delay time for recovery from power failure.	*1
		Battery level	Set the battery voltage for restarting the UPS.	*1
		Reboot Mode	Set the mode for rebooting.	*1
		Power SW off	Switch the operating mode of the power switch.	*1
	Bat. Settings	Function Test	Set the timing at which to execute the self-diagnostic test.	
		Bat.L.Counter	Set whether to be notified of the battery life.	
		Bat.Inst.Date	Set the date you replaced the battery.	
		Max.BackUpTime	Set the output of the UPS to stop after a specified amount of time.	*1
		Low Battery	Set the level at which to detect low battery.	*1
	Dry Contact	BS Valid Range	Set the status for receiving the BS signal.	*1
		BS Delay Time	Set the delay time for the BS signal.	*1 *2
		BU Delay Time	Set the delay time for the BU signal.	*1
		DryCont. Logic	Set the logic of each contact signal.	*1
		Remote Logic	Set the logic of the remote signal.	*1

* ECO mode is the mode of operation to reduce the power consumption of the UPS on the commercial power mode.

Menu		Description	Note
Identification	Type	Display the names of the UPS and battery pack.	
	Serial Number	Display the serial number of the UPS.	
	Firmware Ver.	Display the firmware version of the UPS.	*1
	Memorandum	You can record information of 20 alphanumeric characters.	*1
Log	Fault Log	Display up to 10 fault log records (time of occurrence and details of each failure).	*1
	Shutdown log	Display up to 10 reasons for shutdown of the UPS.	*1
	Event Log	Display up to 10 event log records.	*1
	Reset all log	Clear each log.	*1

5 Measuring the backup time

5-1 How to measure backup time

The backup time you measure for the first time after purchase is the “initial value of the backup time.” You can precisely judge the deterioration condition of the battery if you measure the “initial value of the backup time” in advance at the time of a battery check.

(1) Connect to commercial power and charge the battery for 8 hours (Charging time is extended 24 hours per unit, if additional battery unit is connected).

(2) Turn ON all devices connected to the unit.

(3) Turn off the commercial power and measure the backup time.
In Battery Mode, measure the time until the unit automatically stops and all displays disappear.

> The power supply output of the unit will stop when the battery discharges. Conduct measurement under a condition in which no problem occurs even if the power supply of the connected device stops during the process. Do not conduct measurement if there is a possibility of a failure when the power supply stops.

5-2 Estimated backup time

(1) Convert the total capacity (power consumption) of the connected devices to watts (W).
For the indication of connected devices, check your computer and the rear of the display.
The indicator can show values in three different ways: volt-amperes (VA), amperes (A), and watts (W).

Example 1) 200 VAC, 50/60Hz, 145 W
Example 2) 200 VAC, 50/60Hz, 1.8 A
Example 3) 200 VAC, 50/60Hz, 150 VA

Indication	Value
VA	× power factor = W
A	× power factor × power supply voltage = W

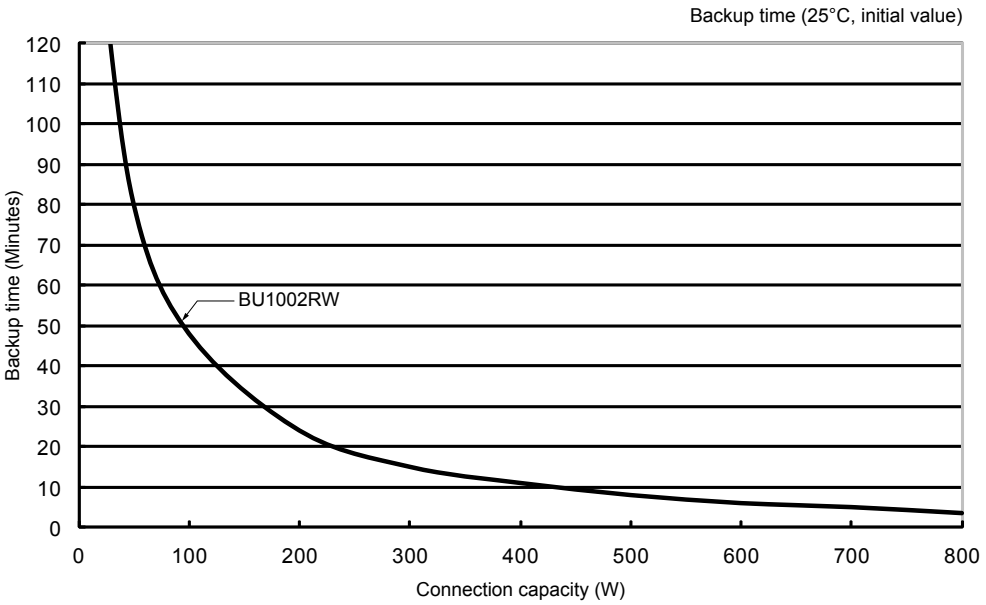
For devices that use the VA or A indication, convert the capacity into W. Multiply the value indicated on devices by the value in the right table for conversion.

(When the power factor is unknown, enter “1”. The power factor usually ranges between 0.6 and 1.)

(2) Add the values converted into W to obtain the total capacity of the connected devices.

(3) Calculate the initial value of the backup time for the total capacity of the connected devices from the graph below.

- Graph of backup time (graph of initial values for products that have not been used at 25°C)
  The backup time becomes shorter than the graph (table) below when temperature is lower.
- The smaller the capacity of connected devices becomes, the longer the backup time becomes.



Backup time table

Time unit: (Minutes)

Type	Connection capacity (Watt)									
	20W	50W	100W	200W	300W	400W	500W	600W	700W	800W
BU1002RW	140	80	48	24	15	11	8	6	5	3.5

* These backup times are for reference only. Times may vary according to battery life and external environmental conditions (temperature, etc.).

6 Maintenance and Inspection

⚠ Caution (for maintenance)

When maintaining the connected equipment, turn OFF the unit's power switch to stop the output, and stop the supply of commercial power.

- Even if commercial power to the UPS is stopped while it is in operation, the power output of this unit does not stop and power is supplied from the terminal.

Do not disassemble, repair, or modify the unit.

- Doing so may cause an electric shock or a fire.

If fluid leaks from the unit, do not touch the fluid.

- Doing so may cause blindness or burns.
- If the fluid contacts your eyes or skin, wash it out with lots of clean water and consult your doctor.

Do not throw the unit into fire.

- The lead battery in the unit may explode, or leak dilute sulfuric acid.

Do not insert metal objects into the battery connectors.
Do not create a short between the connector terminals.

- Doing so may cause an electric shock.

⚠ Attention (pour l'entretien)

Lors de l'entretien de l'équipement connecté, couper l'interrupteur d'alimentation de l'appareil pour arrêter la sortie, et débrancher l'alimentation secteur.

- Même si l'alimentation secteur est arrêtée alors que l'ASC est en marche, l'alimentation de sortie de l'appareil ne s'arrête pas et est fournie par la borne de sortie.

Ne pas démonter, réparer ou modifier l'appareil.

- Cela peut provoquer un choc électrique ou un incendie.

En cas de fuite d'électrolyte de l'appareil, ne pas toucher le liquide.

- Cela peut provoquer la cécité ou des brûlures.
- Si le liquide entre en contact avec les yeux ou la peau, rincer abondamment à l'eau claire avant de consulter un médecin.

Ne pas jeter l'appareil au feu.

- La batterie au plomb dans l'appareil peut exploser ou laisser fuir de l'acide sulfurique dilué.

Ne pas insérer d'objets métalliques dans les connecteurs de la batterie.
Ne pas créer de court-circuit entre les bornes du connecteur.

- Cela peut provoquer un choc électrique.

6-1 Checking the battery

The lead battery used in the unit has a limited lifespan.
(The life varies depending on your storage/use environment and backup frequency.)
The nearer the end of the life is, the more rapidly deterioration proceeds.

1. Battery life expectancy (* Not a guaranteed performance)

Ambient temperature	Battery life expectancy
25°C	5 years
35°C	2.5 years

2. Methods for checking the battery

There are two methods for checking the battery.

- Perform a self-diagnostic test. (See page 33.)
- Measure the backup time. (See page 37.)

By measuring the backup time, the battery life can be determined more accurately.

- When you compare the "initial value of the backup time" you measured and the current backup time, make the capacity of devices connected to the UPS same as when you measured the initial value to make judgment accurately.

3. Guidelines for how often to check the battery (measure the backup time)

Ambient temperature	6-month check	Monthly check
25°C	For the first 4 years after starting use	When 4 years or more have passed after starting use
35°C	For the first 2 years after starting use	When 2 years or more have passed after starting use

*** The battery deteriorates even if it is stored. The higher the temperature is, the shorter the life becomes.**

6-2 Replacing the battery

The battery can be replaced while the unit is stopped (power supply output stopped).

⚠ Caution
When the unit is used in compliance with UL standards, battery replacement should be performed or supervised by personnel familiar with the danger of batteries and the required precautions.

⚠ Attention
Lorsque l'appareil est utilisé en conformité avec les normes UL, le remplacement de la batterie doit être effectué ou supervisé par un personnel connaissant bien le danger des batteries et les précautions requises.

* When the battery replacement LED lights up/blinks and beeper sounds, press "ESC switch" for 0.5 seconds to stop the beeper. (Lighting/blinking of "battery replacement" LED does not disappear.)
* If an input power supply error such as a power failure occurs when replacing the battery while in operation, backup cannot be performed and output stops.
* Do not replace the battery during backup operation. Output will stop.

⚠ Caution (for battery replacement)

Perform replacement on a stable and flat place.
- Handle the battery carefully so that you do not drop it.
- Not doing so could cause injury or burns due to liquid (acid) leakage.

Use a specified battery for replacement.
- Not doing so may cause a fire.
- Replacement battery pack for BU1002RW: BUB1002RW

Do not replace the battery in a place where there is flammable gas.
- Spark may occur when connecting the battery, which may cause an explosion or fire.

If fluid (dilute sulfuric acid) leaks from the battery, do not touch the fluid.
- Doing so may cause blindness or burns.
- If it contacts your eyes or skin, wash it out with lots of clean water and consult your doctor.

Do not disassemble or modify the battery.
- Doing so could cause dilute sulfuric acid leak, which could cause blindness and burns.

Do not drop the battery and do not expose it to strong impact.
- Dilute sulfuric acid may leak.

Do not short the battery with metal objects.
- Doing so could cause an electric shock, fire or burn.
- Some electrical energy still remains inside the spent battery.

Do not put the battery into fire and do not break it.
- The battery may explode or leak dilute sulfuric acid.

Do not use a new battery and an old battery at the same time.
- Dilute sulfuric acid may leak.
- A battery can present a risk of electrical shock and high short circuit current.The following precautions should be observed when working on batteries:
  1) Remove watches, rings, or other metal objects from the hands.
  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 batteries terminals.
- Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.

⚠ Attention (pour le remplacement de la batterie)

Effectuer le remplacement à un endroit stable et plat.
- Manipuler soigneusement la batterie afin de ne pas la laisser tomber.
- Ne pas le faire peut entraîner des blessures ou des brûlures dues au liquide (acide) de fuite.

Utiliser une batterie spécifiée lors du remplacement.
- Ne pas le faire peut provoquer un incendie.
- Batterie de rechange pour le BU1002RW: BUB1002RW

Ne pas remplacer la batterie en présence de gaz inflammable.
- Une étincelle peut se produire lors de la connexion de la batterie, ce qui peut provoquer une explosion ou un incendie.

Si du liquide (acide sulfurique dilué) fuit de la batterie, ne pas le toucher.
- Cela peut provoquer la cécité ou des brûlures.
- S'il entre en contact avec les yeux ou la peau, rincer abondamment à l'eau claire avant de consulter un médecin.

Ne pas démonter ou modifier la batterie.
- Cela peut entraîner une fuite d'acide sulfurique dilué, ce qui peut causer la cécité et des brûlures.

Ne pas faire tomber la batterie ni l'exposer à des chocs violents.
- Une fuite d'acide sulfurique dilué peut se produire.

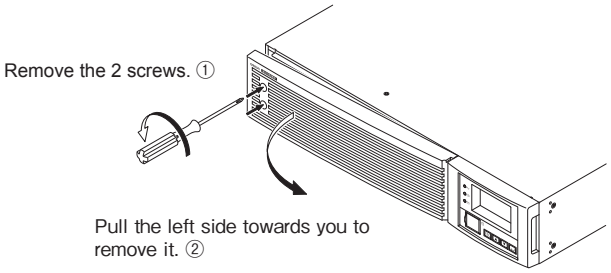
Ne pas court-circuiter la batterie avec des objets métalliques.
- Cela peut entraîner un choc électrique, un incendie ou des brûlures.
- Une batterie usagée peut encore contenir de l'énergie électrique.

Ne pas jeter la batterie au feu ni la briser.
- La batterie peut exploser ou connaître une fuite d'acide sulfurique dilué.

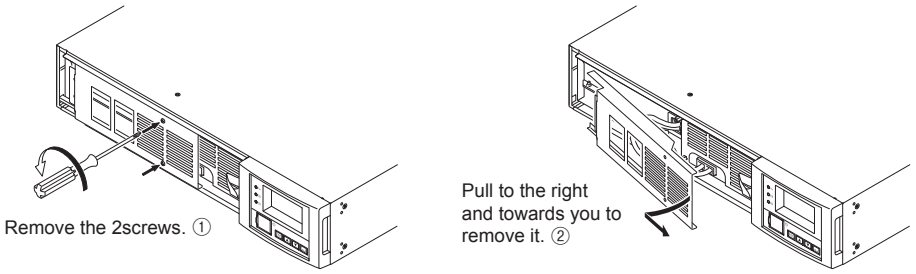
Ne pas utiliser simultanément une batterie neuve et une batterie usagée.
- Une fuite d'acide sulfurique dilué peut se produire.
- Une batterie peut présenter un risque de choc électrique et de courant élevé de court-circuit. Les précautions suivantes doivent être prises lors des interventions sur les batteries :
  1) Retirer les montres, bagues ou autres objets métalliques des mains.
  2) Utiliser des outils pourvus de poignées isolées.
  3) Porter des gants et bottes en caoutchouc.
  4) Ne pas poser d'outils ou de pièces métalliques sur les batteries.
  5) Débrancher la source de chargement avant de connecter ou déconnecter les bornes des batteries.
- L'entretien des batteries doit être effectué ou supervisé par un personnel connaissant bien les batteries et les précautions nécessaires. Tenir le personnel non autorisé à l'écart des batteries.

■ Procedure for recycling the battery

1. Use a screwdriver to remove (turn counter-clockwise) the 2 screws at the left side of the front panel of the unit. ①
Pull the left side of the front panel towards you to remove it. ②



2. Remove (turn counter-clockwise) the 2 screws that holds the plate cover in place. ①
Pull the right side of the plate cover towards you to remove it. ②



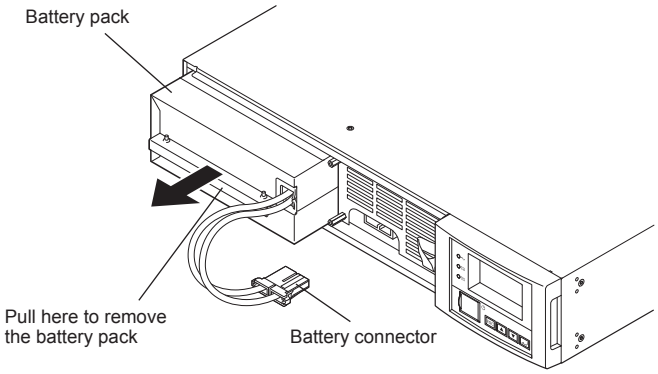
3. Pull out the battery connector holding its both ends to disconnect the connector.

4. Remove the battery pack by pulling the L-type hold on the front face of the battery pack.

Caution: Do not hold the battery pack by the connector or cable.

Attention: Ne pas tenir pas la batterie par le connecteur ou le câble.

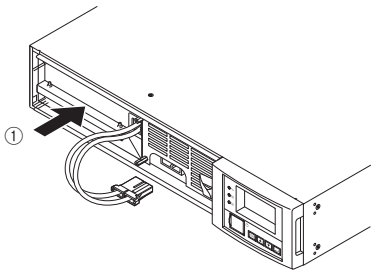
Use the line on the label on top of the battery pack, which is 10 cm from the inner edge of the battery, to gauge how much further you need to pull the battery to remove it. Hold the battery securely with both hands so as not to drop it.



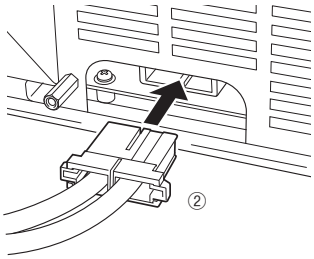
5. Insert the new battery on the straight into the unit as far as it will go. ①

- Replacement battery pack

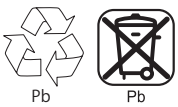
  For BU1002RW: Model BUB1002RW



Securely connect the connectors. ②



Description	Specification
Nominal voltage of total battery strings	36 VDC (12 V×3 PCS)
Nominal capacity of each battery	7.8 Ah

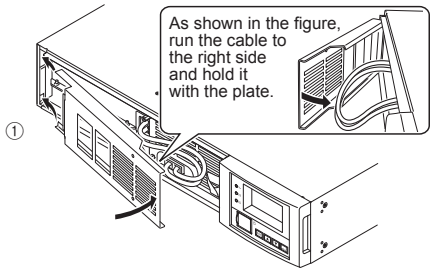


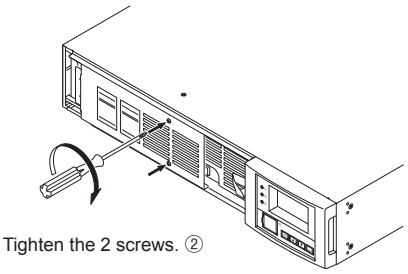
- **CONTAINS SEALED LEAD-ACID BATTERY.**
- **BATTERY MUST BE RECYCLED.**
- **CONTIENT UNE BATTERIE ACIDE-PLOMB ETANCHE.**
- **LA BATTERIE DOIT ETRE RECYCLE.**

6. Attach the plate cover.

Insert the tab on the left side of the plate cover into the hole in the UPS body ①, and push the plate cover toward the body.

Securely tighten the 2 screws that were removed from the right side of the plate cover. ②

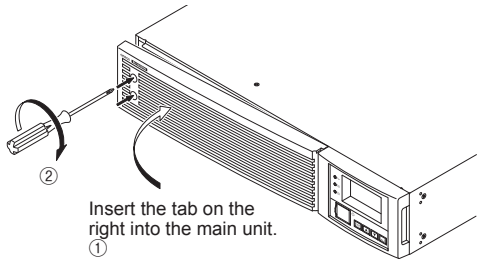




7. Attach the front panel.

Insert the tab on the right side of the front panel into the hole in the main unit ①, and push the plate cover towards the main body.

Use a screwdriver to securely tighten (turn clockwise) the 2 screws on the left side of the front panel. ②



Battery replacement is complete.

<Be sure to reset the battery life counter after replacing the battery.>

The battery life counter can be reset with “Control” - “ResetB.L.cnt” in the menu on the LCD.

- In Commercial Power Mode (power supply switch ON): When the beeper changes from intermittent beeps to a sustained beep, release the switch.

If you do not reset the battery life counter, a battery deterioration alarm may occur faster than the expected battery life.

<Perform a self-diagnostic test after replacing the battery while the UPS is in operation>

After replacing the battery, select [Control] - [Function Test] from the LCD menu of the UPS, and perform a self-diagnostic test.

Write the battery replacement date on the included battery replacement date label, and attach the label to the unit. You can manage the battery replacement date with the included Simple Shutdown Software (PowerAct Pro).

<Assurez-vous de remettre à zéro le compteur de vie de la batterie après le remplacement de la batterie.>

Le compteur de vie de la batterie peut être remis à zéro avec “Control” - “ResetB.L.cnt” dans le menu sur l’écran LCD.

- En mode d’alimentation commerciale (interrupteur d’alimentation allumé): Quand le bip sonore change des bips intermittents à un bip soutenu, relâchez l’interrupteur.

Si vous n’avez pas remis à zéro le compteur de vie de la batterie, une alarme peut se déclencher plus rapidement que prévu.

Écrivez la date de remplacement de la batterie sur l’étiquette de date de remplacement de la batterie incluse, et fixer l’étiquette sur l’appareil. Vous pouvez gérer la date de remplacement de la batterie avec le logiciel Simple Shutdown inclus (PowerAct de Pro).

6-3 Cleaning

1. Cleaning the UPS

Moisten a soft cloth with water or detergent, squeeze it tightly, and wipe the product lightly.

Do not use chemicals such as thinner and benzene. (They cause deformation or discoloration.)

2. Removing dust from the input terminal block, and output terminal block of the UPS

Stop all the connected devices and the UPS and disconnect the AC input from the commercial power.

Then, remove dust with a dry cloth and make the connection again.

(For information on the connection procedure:)

See also "2-3 Connecting the equipment" → Page 17

7 Using the UPS monitoring software and contact signal

*** If you do not use the UPS monitoring software and contact signal, this step is not required.**

■ UPS monitoring software

"PowerAct Pro", "Simple Shutdown Software" and "UPS service driver" UPS monitoring software is included with this product. Refer to the table below for details about compatibility. Choose which one to use based on the application. Refer to the table below for details about compatibility. For further details about the software functions, refer to the separate "UPS Monitoring Software Quick Installation Guide."

• UPS monitoring software selection table

OS	Communication method	UPS monitoring software	Required options (sold separately)	Reference
Windows 8 Windows 7 Windows Vista Windows Server2012 Windows Server2008 (including R2) Windows Storage Server2012 Windows Storage Server2008 (including R2)	Serial (RS232C)	PowerAct Pro 4.x (Note 1) Simple Shutdown Software (Note 1)	-	→ See 7-1
	LAN	PowerAct Pro 4.x (Slave Agent) (Note1)	SC20G	→ See 8-1
Windows server2003 x64 Edition Windows XP x64 Edition	Serial (RS232C)	PowerAct Pro 4.x (Note 1) Simple Shutdown Software (Note 1)	-	→ See 7-1
		UPS service (OS standard) + UPS service driver (included software)	-	→ See 7-2
	Contact signal (Note 2) (Note 3)	UPS service (OS standard)	BUC26	→ See 7-3
	LAN	PowerAct Pro 4.x (Slave Agent) (Note1)	SC20G	→ See 8-1
Windows server2003 Windows XP	Serial (RS232C)	PowerAct Pro 4.x (Note 1) Simple Shutdown Software (Note 1)	-	→ See 7-1
		UPS service (OS standard) + UPS servicedriver (included software)	-	→ See 7-2
	Contact signal (Note 2) (Note 3)	UPS service (OS standard)	BUC26	→ See 7-3
	LAN	PowerAct Pro 4.x (Slave Agent) (Note1)	SC20G	→ See 8-1
Linux (Note 2) Unix	Serial (RS232C)	PowerAct Pro (Note 1) Simple Shutdown Software (Note 1)	-	→ See 7-1
	LAN	PowerAct Pro (Slave Agent) (Note1) Shutdown Agent	SC20G	→ See 8-1
Mac OS X v10.8/v10.7/v10.6/v10.5 Mac OS X Server v10.8/v10.7/v10.6/v10.5	LAN	PowerAct Pro 4.x (Slave Agent) (Note1)	SC20G	→ See 8-1
VMware	LAN	PowerAct Pro 4.x (Slave Agent) (Note1)	SC20G	→ See 8-1

Note 1: The most recent version can be downloaded from our homepage (https://www.oss.omron.co.jp/ups/support/download/download.html).
Note 2: Files cannot be automatically saved.
Note 3: The UPS automatically stops once the battery is depleted.

• UPS monitoring software function list

● Supported ▲ Limited — Unsupported

Function \ Software title		General applications (Simple functions, standalone)			Network management applications (Advanced functions, network support)	SNMP management applications (Advanced functions, network support)
		UPS service driver	OS standard UPS service	Simple Shutdown Software	PowerAct Pro 4.x	SNMP/Web card
Required options		—	BUC26	—	—	SNMP/Web card SC20G
Software function	Auto shutdown (*1)	●	● (*1)	●	●	●
	UPS monitoring (operating status)	●	●	—	●	●
	UPS monitoring (data)	▲ (*2)	●	—	●	●
	Pop-up notification	●	●	—	●	●
	End when OS is inactive (*3)	●	●	—	●	●
	Schedule operation	—	●	—	●	●
	UPS setting change	—	●	—	●	●
	External command execution	●	●	●	●	●
	Event log save	—	—	—	●	●
	Data log save	—	—	—	●	●
	Coordinated shutdown (shutdown of multiple units)	—	—	—	●	●
	Output receptacle control	—	—	—	●	●
	Redundant power supply support	—	—	—	●	●
	Remote UPS management	—	—	—	●	●
	Mail send	—	—	—	●	●
	SNMP management	—	—	—	—	●
	Telnet connection	—	—	—	—	●
	SYSLOG support	—	—	—	●	●

*1) The UPS automatically stops only when the battery is depleted. (Battery Mode continues until the battery is depleted.)
*2) Only the battery capacity can be monitored.
*3) This function is available only for Windows, not for Linux.

[Explanation of software functions]

1	Auto shutdown	The computer can be shut down automatically when a problem occurs with the power supply.
2	UPS monitoring (operating status)	The operating status of the UPS can be monitored (in Commercial Power Mode/Battery Mode).
3	UPS monitoring (data)	Monitoring can be performed for input voltage value, connection capacity, battery capacity, etc.
4	Pop-up notification	When a problem such as a power failure occurs, a pop-up window that shows the details of the problem can be displayed.
5	Shutdown when OS is inactive	Shutdown can be performed when the computer is in an inactive state. The operating status is retained at shutdown in inactive state, so operation details are not lost.
6	Schedule operation	Schedule settings can be made for UPS stop/start.
7	UPS setting change	UPS settings (beep ON/OFF, etc.) can be changed. (Items that can be set vary according to the UPS.)
8	External command execution	By executing commands at shutdown, items such as application programs can be launched.
9	Event log save	Information of events that occur on the UPS (power supply problems, setting changes, occurrences of failure, etc.) are saved as a log.
10	Data log save	Data of input/output voltage value, connection capacity, etc. is periodically saved as a log (the save frequency can be set).
11	Coordinated shutdown	When a problem occurs with the power supply, multiple computers connected to the UPS can coordinate to perform auto shutdown.
12	Redundant power supply support	Two or more UPS can be connected to computers equipped with redundant power supply. Shutdown is not performed when a power supply proble affects only one of the units. Shutdown is performed only when a power supply problem occurs with both UPS, so the system's operating rate is improved.
13	Remote UPS management	The UPS can be managed remotely from a computer on the network.
14	Mail send	When a problem such as a power failure occurs, a notification email describing the problem can be sent to the system administrator.
15	SNMP management	UPS management information can be sent to the SNMP manager.
16	Telnet connection	Settings such as shutdown parameters can be made via the Telnet connection.
17	SYSLOG support	UPS management information can be recorded in SYSLOG.

7-1 When using the included UPS monitoring software to perform auto shutdown

● When using PowerAct Pro

"PowerAct Pro" UPS monitoring software

The included "PowerAct Pro" UPS monitoring software allows you to perform shutdown processing of your PC when a power failure occurs.(It is possible to shut down multiple computers on the network.)

Also, you can perform desired operation by setting the automatic start/stop of the UPS based on the schedule setting.

* The time between the occurrence of a power failure and the shutdown of your PC must be within the backup time measured in "5-1 How to measure backup time" on page 37.
For more information, refer to the Instruction Manual and online help of the UPS monitoring software.

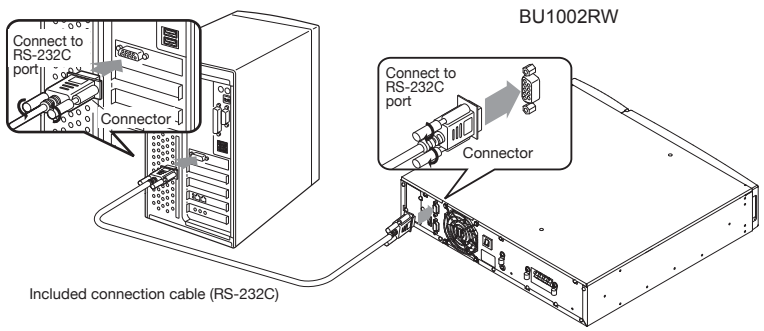
● When using Simple Shutdown Software

The included “Simple Shutdown Software” allows you to automatically shut down the PC when a power failure occurs. For more information, refer to the manual in the CD-ROM.

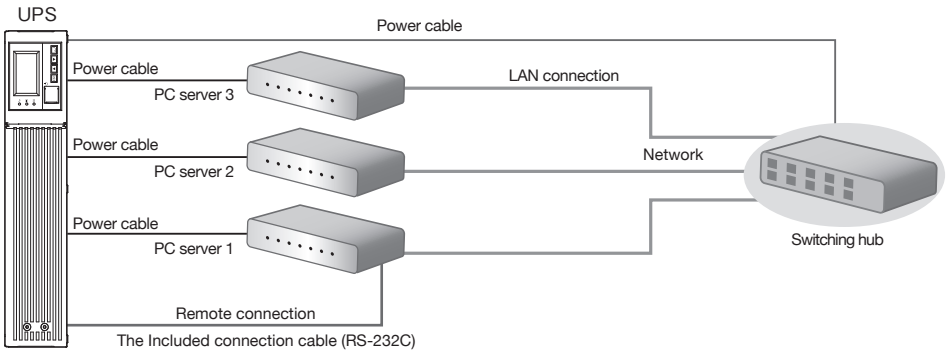
1. Connect the UPS to a computer.

Cable: Included connection cable (RS-232C)

<RS-232C>



*** When connecting 2 or more computers to the UPS (Only when using PowerAct Pro)**



2. Install the included “PowerAct Pro 4.x” or “Simple Shutdown Software” to the PC you want to shutdown.

Installation method:
For “PowerAct Pro 4.x”, refer to the installation guide (for Windows) in the CD-ROM, or the separate “Quick Installation Guide for UPS Monitoring Software”.
Refer to the manual in the CD-ROM for “Simple Shutdown Software.”

Explanation

Scheduled operation using the UPS monitoring software

● When performing scheduled operation in which the UPS is stopped and a device such as a breaker is used to stop the UPS at the same time that commercial power stops, specify a period of no more than 3 months for the start of the next operation.
If you specify a period longer than 3 months, the internal timer is reset and the scheduled operation does not start.
Note that this period reduces to approximately half when the battery needs to be replaced.
If a period of 3 months is exceeded, you start operation by supplying commercial power and pressing the Start Switch. However, if the battery needs to be replaced, you may not be able to start operation. In this case, replace the battery.

Start of operation in scheduled operation using the UPS monitoring software

● To manually start up this unit after it has been stopped by a scheduled operation, turn OFF the power switch and turn it back ON again.
To stop the unit when it is in operation, turn OFF the power switch.

Auto restart after OS closing processing using the UPS monitoring software

● When a power failure occurs, certain PCs (*1) automatically restart immediately after the OS is shut down by auto shutdown.
In this case, the UPS stops during or after the restart of the PC, which may damage files and the hard disk. You can avoid this phenomenon by disabling POWER MANAGEMENT in the BIOS settings of the PC.
*1) Certain PC: It is known that this phenomenon occurs for MICRON's Millennia Mme.

Precautions when “setting the UPS to stop automatically” after OS shutdown

● If, after a power failure occurs, the power is restored while auto shutdown processing is being performed, UPS output stops once after the set time elapses. After shutdown processing is complete, do not turn ON the computer until the UPS has finished restarting.

7-2 When performing auto-save functions using the UPS service in Windows Server 2003/XP + UPS service driver

When using the included "UPS service driver", the OS standard UPS service in Windows Server 2003/XP can be used. When there is a power failure the computer can be shut down.

1. Connect the UPS to a computer.

* Only 1 computer can be connected to the UPS

Cable: Included connection cable (RS-232C)

For the connection procedure, refer to “7-1 When using the included UPS monitoring software to perform auto shutdown” on page 49.

2. Install the included “UPS service driver” on the computer.

Software to install: UPS service driver
How to install: Refer to the separate “UPS monitoring software installation guide”.

7-3 When performing auto-save functions using the standard UPS service in Windows Server 2003/XP

When using the product with the optional BUC26 cable, the OS standard UPS service in Windows Server 2003/XP can be used. When there is a power failure, the computer can be shut down.

1. Connect the UPS to a computer.

* Only 1 computer can be connected to the UPS

Connection cable (BUC26), sold separately (Connect to contact signal port)

2. Perform UPS service setup.

You need to make Windows settings in order to perform auto shutdown. There is no need to install software.

7-4 Contact signal

Contact signals are included as standard for the unit.

Contact Signal

You can develop your unique system based on the following specifications to automate the process at a power failure. You can perform power-failure processing by allowing the system to detect the backup signal and also perform system shutdown processing by allowing the system to detect the Low battery level signal. Also, by inputting the backup stop signal from the system, you can stop the UPS with a sufficient battery level to prepare for the next occurrence of a power failure.

7-4-1. Signal output

The UPS has 4 kinds of output signals. The output circuit consists of an open collector circuit using a photo coupler (a kind of electronic switch).

- **Backup Signal output: BU**
  Stays ON during backup operation at a power failure.

BU-COM	ON when a power failure occurs

- **Low battery level signal output: BL**
  Goes ON when the battery becomes weak during backup operation at a power failure.

BL-COM	ON when the battery is low

- **Trouble Signal output: TR**
  Goes ON when a failure of the UPS occurs or when the battery life counter expires.

TR-COM	ON when a power failure occurs

- **Battery Replacement Signal output (WB)**
  Goes ON when the test determines that battery replacement is necessary due to deterioration or when the battery life counter goes off-scale.

WB-COM	ON when replacing the battery

7-4-2. Signal input

- **Input of the UPS Stop Signal (BS)**

BS-COM	UPS stops

When the BS signal is ON (High), the output of the UPS is stopped after the time period specified in advance has elapsed. The following settings are available on the LCD.

(1) BS Valid Range: "Settings" - "Dry Contact" - "BS Valid Range"

- Always enabled : The BS signal is received either in Commercial Power Mode or Battery Mode.
- Enabled during Battery Mode: The BS signal is received only in Battery Mode.

(2) BS Delay Time: "Settings" - "Dry Contact" - "BS Delay Time"

You can set the amount of time between when the BS signal is received and when the output of the UPS is stopped.

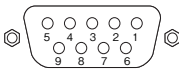
- **Remote ON/OFF Signal**

Remote ON/OFF signals can be used to start and stop the UPS, by using either an externally connected contact or the ON/OFF status of the open collector circuit.

Connection terminals are at contact signal connector pins 6 ,7.

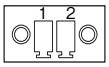
External contact	Operate
Open	Start
Close	Stop

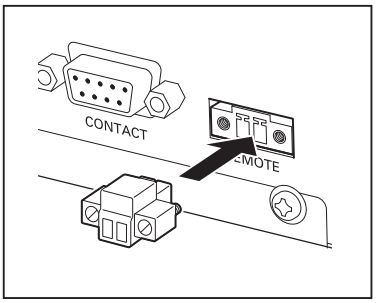
7-4-3. Contact signal I/O connector (female DSUB9P)

Pin assignment	Pin number	Item
 Front view Screw size: inch screw #4-40 UNC	1	Battery LOW signal output (BL)
	2	Trouble signal output (TR)
	3	Backup stop signal input (BS)
	4	NC
	5	COMMON (COM)
	6	Remote ON/OFF input (-)
	7	Remote ON/OFF input (+)
	8	Backup signal output (BU)
	9	Deteriorated battery signal output (WB)

Note: The COMMON (COM) terminal (pin 5) is connected to the frame ground.

7-4-4. Remote ON/OFF port

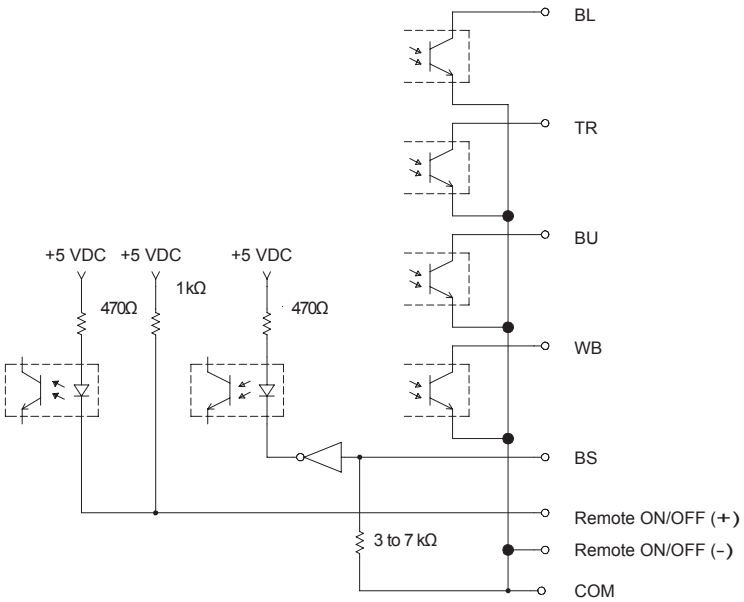
Pin assignment	Pin number	Signal name
	1	Remote ON/OFF (+)
	2	Remote ON/OFF (-)
Front view Screw size: Inch screw #4-40 UNC		



7-4-5. Contact Signal ratings

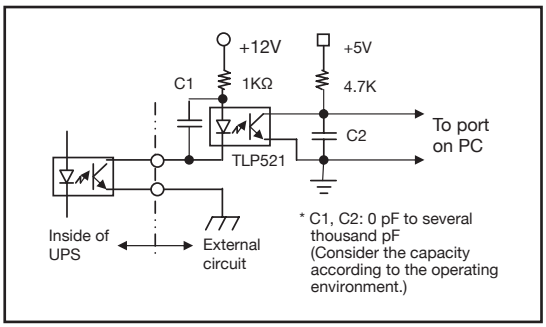
- Signal output (BL, TR, BU, WB)
  - Photo coupler ratings
  - Appliable voltage: 50VDC or less
  - Maximum current: 50 mA
- Remote ON/OFF
  - Voltage between terminals: 5 VDC
  - Current when closed: 15 mA max.
- UPS Stop Signal input (BS)
  - Input voltage: HIGH(ON) 3 to 24 VDC
  - LOW(OFF) 0.5 VDC or less
  - Input current: 1 to 8 mA

7-4-6. Contact Signal circuit inside the UPS

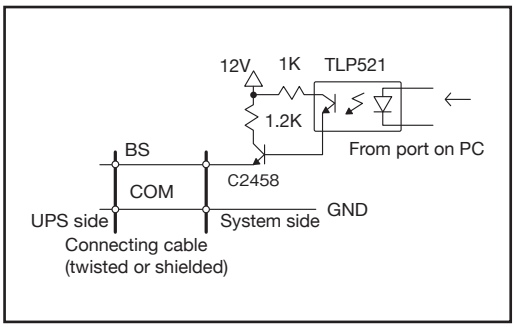


7-4-7. Example of the use of the Contact Signal circuit

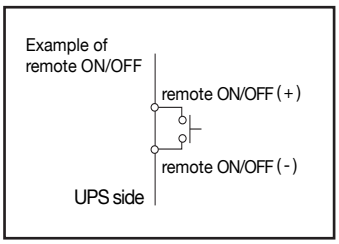
● **Example of BU signal output circuit and the connected circuit**



● **Example of BS signal input circuit and the connected circuit**



● **Remote ON/OFF circuit**



7-4-8. Precautions and notes for the use of the Contact Signal

Notes

- When connecting a device such as a relay that generates counter electromotive force to the signal output circuit, connect diodes that prevent counter electromotive force to both ends of the relay.

Explanation

- When power is restored after the unit stopped automatically during a power failure, the unit automatically restarts and supplies power. If you do not want to start the connected devices, turn OFF their switches or set the auto startup setting after recovery from power failure (“Settings” - “Boot Settings” - “Auto reboot” on the LCD) to “disable”. (See page 35.)

8 Using SNMP/Web card

⚠ Caution

Adding SNMP/Web card should be performed by a service person.
Attention

⚠ Attention

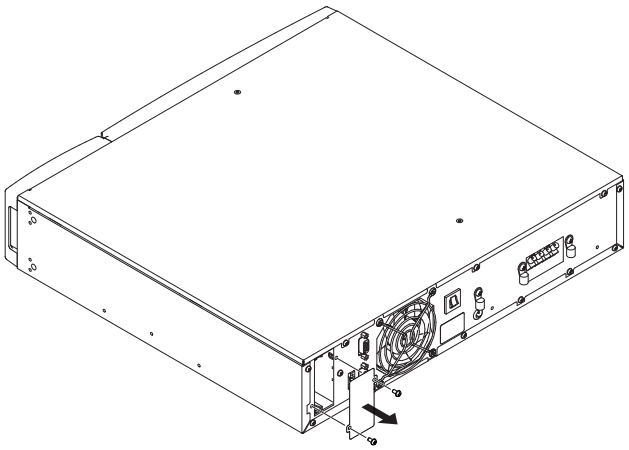
L'ajout d'une carte SNMP / Web doit être effectué par une personne qualifiée.

8-1 Adding SNMP/Web card

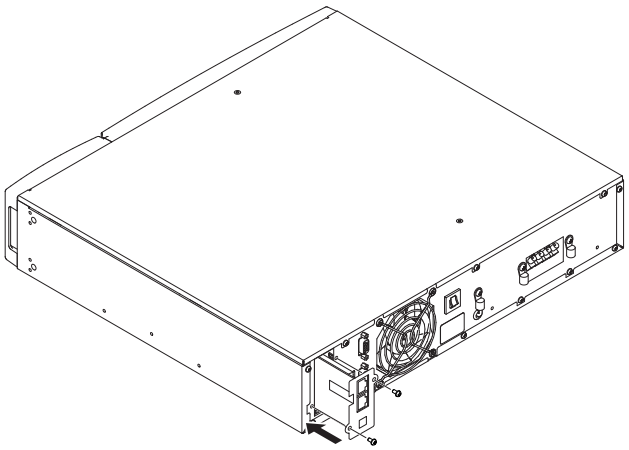
SNMP/Web card can be loaded into the option slot on the back of the unit.

- SNMP/Web card (model number: SC20G), sold separately

(1) Turn OFF the power switch and disconnect the AC input. Remove the 2 screws, and remove the cover.



(2) Carefully insert the SNMP/Web card (model number: SC20G), and securely tighten the 2 screws.



8-2 SNMP/Web card outline

■ Description (features)

- Direct connection between UPS and network
  Inserting an SNMP/Web card (SC20G) into the UPS enables a LAN connection, allowing the UPS to be controlled via computers with no serial port.
- Remote UPS management
  Using a commercially available SNMP manager or web browser, you can control the UPS via a computer connected to the network.
- Possible to make function settings for the UPS and SNMP/Web card via a computer on the network UPS and SNMP/Web card (SC20G) parameter settings can be made via any SNMP management station or internet browser. (Functions that act as an SNMP agent can make settings via Telnet and serial connection.)
- Enhanced security functions
  For HTTP and SNMP connections, access can be controlled for each IP.
- Coordinated shutdown
  Multiple UPS can coordinate with each other to perform shutdown.
- Log function
  * The UPS power status, battery status, etc. can be stored in the built-in flash memory.
  * Compatible with SYSLOG.
- Auto shutdown function
  Shutdown is automatically performed when there is a power supply error or when a shutdown has been scheduled. Scheduled operations (auto startup and auto shutdown) can be performed over the network.
- Equipped with UPS standard MIB (RFC1628) and proprietary MIB (swc mib)
- Using JAVA applet to monitor the power supply status
  The power supply status can be visually checked on a graph display.

■ Specifications

LAN port	10/100 Mbit
Network protocol	SNMP, HTTP, APR, RARP, TFTP, ICMP
Other communication route	Serial connection: asynchronous method (setting only)
Number of controllable computers	32 max. (including slave UPS when coordinated shutdown is enabled)
Support MIB	UPSMIB (RFC1628) OMRON MIB
Operating temperature/humidity	0 to 40°C/25 to 85% * Note that the range of the operating temperature/humidity differs from that of BU-RW.
Other	Equipped with real-time lock

For more details, refer to the instruction manual included with the SNMP/Web card.
The most recent firmware can be downloaded from our homepage(https://www.oss.omron.co.jp/).

9 Troubleshooting

Perform the checks shown below if the unit is operating abnormally.
If the unit continues to operate abnormally, please contact our Electronic Systems & Equipments customer support center at _____.

Problem	Check and remedy
The LCD does not appear when the UPS is connected to commercial power and the power switch is turned ON.	1. Make sure the AC input is securely connected to commercial power. 2. AC input overcurrent protection is activated and power is cut. (For BU1002RW, the black button has popped up.) • If the black INPUT PROTECTION button pops up, there are too many connected devices or there was a short-circuit with the connected devices. Disconnect all the connected devices, press the black INPUT PROTECTION switch (overcurrent protection switch), and turn on the power switch. • If the status indicator does not display properly after you perform the above operation, there is a problem with the unit. (See "3-3 Interpreting beeps and displays" on page 32.)
Backup is not possible. The computer stops when a power failure occurs.	The battery may not be fully charged. Perform the test after charging the battery for at least 8 hours. The battery can be charged just by connecting to a commercial power. The "Power" switch can be either ON or OFF.
Backup is performed too frequently. Frequent switching is performed although a power failure does not occur. You hear the sound of switching.	Variations (decrease) in the input power occur frequently. Or, noise may be included that significantly distorts the voltage waveform of the input power. ● Try and check what happens when connecting the unit to a different commercial power located some distance away from the device consuming a large amount of power. ● This problem may occur also when you connect many devices to a plug strip or extension cord connected to the UPS if it is a long or thin cable.
Does not turn ON when power switch is pressed.	The unit does not start up when the input power supply voltage/frequency is abnormal. ("AC I/P abnormal" is displayed on the LCD.) Check the voltage and frequency of the input power supply. See also A. Specifications Input voltage range, Input frequency see Page 71
The display is abnormal. ● The display is unstable. ● White lines occur. ● Noise increases.	The probable cause is noise that occurs inside the UPS. ● Ground all devices connected to the UPS. Connect them to the commercial power or connect their Grouding Termnal. ● This problem may occur when power cords are long or placed closely or when the UPS and devices to be backed up are placed closely. Rearrange them. ● If the UPS or devices connected to the UPS are contained in a metal rack, attempt to ground the rack itself.
The battery replacement lamp lights up or blinks, and the beeper sounds at 2-second intervals.	● When the battery replacement lamp blinks: Judged as battery deterioration by self-diagnosis test. Replace the battery as only the short backup operation time is available. See also 4-2 Self-diagnosis test → page 33 ● When the battery replacement lamp is ON: Battery life counter went off-scale. The life of the battery has expired. Replace the battery. See also 4-3 Battery life counter function → page 34
"Overload" is displayed.	There are too many connected devices. Reduce the number of connected devices until the error is resolved.
"Over load time out" is displayed.	Output stopped due to exceeded connection capacity. Turn OFF all power to the unit and connected devices, and reduce the number of connected devices. Then, turn the power to the unit and connected devices back ON and check whether the error is resolved.

10 Notes of Chinese

不间断电源（UPS） 使用注意事项 OMRON

承蒙惠购本公司的不间断电源 (以下简称 UPS)，谨致谢意。
使用前，请务必仔细阅读本文的“使用注意事项”。

1. 前言

UPS 的用途

- 本装置的设计和生产目的是为了用于计算机等 FA、OA 设备。
  请勿用于要求高度可靠性或安全性的下述用途。
  · 直接关系到人类生命安全的医疗设备
  · 可能导致人体受伤的用途。（直接影响飞机、船舶、铁路等运行、运转、控制等用途）
  · 车载、船舶等可能随时发生振动的用途。
  · 发生故障后可能对社会、公共财物造成重大损失或影响的用途。
  （主要的电子计算机系统、中枢通信设备、公共交通系统等）
  · 相当于上述用途的设备
- 关系到人类生命安全、可能对维护公共职能带来重大影响的装置等在实现系统多元化、紧急备用发电设备等的应用维护及管理方面尤其需要慎重。
- 使用时请务必严守使用说明书中所记载的使用条件、环境要求等。
- 尤其在要求高度可靠性的重要系统等上使用时，请务必向 欧姆龙自动化（中国）有限公司进行咨询。
- 请勿对装置进行改造或加工。

免 责 事 项

即使是因使用本公司产品而发生的事故，本公司对于包括装置・连接设备・软件的异常、故障所造成的损失及其他次生损失的所有损失赔偿概不负责。

其 他

- 我们在首页记述了安全注意事项，请务必在仔细阅读后正确使用。
- 将本装置转让、转卖于第三方时，请务必连同本装置附带的所有资料等一并转让。
  本装置符合附件资料等所记载的条件标准。
  · 说明书中记载了相关安全事项等。请务必确认相关内容后再开始使用。
  此外，万一使用说明书遗失，请联系 欧姆龙自动化（中国）有限公司。

- Windows 是美国微软公司在美国及其他国家的注册商标。
- 同时，所记载的各公司名称、各公司产品名称均为各公司的商标或注册商标。

2. 安全注意事项

为了确保安全使用，以下将就相关重要事项进行说明。
设置或开始使用前请务必仔细阅读。

● 本使用说明书中的相关安全符号及其含义如下所述。

⚠ 危 险	表示操作失误可能会导致人员伤亡的内容。
⚠ 注 意	表示操作失误可能会致残、导致物质损失的内容。

※ 所谓物质损失，是指房屋、家产以及家畜、宠物相关的连带损失。

：表示禁止（不可发生的行为）。例如 表示禁止擅自拆卸。

：表示强制（必须的行为）。例如 表示必须进行接地连接。

此外，即使是注意事项中所记载的内容，也可能根据不同的状况而导致严重后果。
这里记述的均为重要内容，请务必严守。

⚠ 危 险（产品用途）

不得将本装置用于下述要求高度可靠性或安全性的用途。

※ 本装置的设计和生产目的是为了用于计算机等 FA、OA 设备。

- 直接关系到人类生命安全的医疗设备或系统。
- 直接关系到人身安全的相关用途。（例如：车辆等的运行、运转、控制等）
- 发生故障后可能对社会、公共财物造成重大损失的用途。（例如：主要的电子计算机系统、中枢通信设备等）
- 相当于上述用途的设备

⚠ 注 意（设置・连接时）

以下机种的搬运、取出、设置作业需 2 人以上执行。

● 有受伤、掉落、翻倒等危险。

搬运时应注意重量分配平衡，并放置于安全稳定的场所使用。

● 一旦翻倒或掉落可能导致受伤。
● 万一掉落时，请立即停止本装置的使用，并委托相关单位进行检查和维修。
主机重量请参照使用说明书。
维修事宜请向 欧姆龙自动化（中国）有限公司 客户服务中心维修部 咨询。

包装用塑料袋请放置于幼儿无法触及的场所。

● 万一幼儿蒙住头部则可能导致呼吸困难的危险。

⚠ 注 意（设置・连接时）

本装置的“AC 输入”插头必须连接至符合产品规格的额定输入电压、频率 50/60Hz 的电源插座。

- 如果连接至不同电压、频率的电源插座，则可能引起火灾。
- 可能导致本装置发生故障。

发现异常（异常声响、异味）时，应关闭“电源”开关停止输出，然后从电源插座上拔掉“AC 输入”插头。
“AC 输入”插头应设置为可从电源插座上随时拔去的状态。

- 为了确保安全，连接设备维修保养时等也应按上述标准执行。

不得连接烘干机、部分电磁阀等电流只在交流电源半周期内流动的半波整流设备。

- 可能因过电流而导致不间断电源发生故障。

应连接至电流容量在产品规格的最大电流以上的电源插座。

- 电源配线可能会发热。
- 连接了最大输出容量的设备时所流动的电流值请参照使用说明书。

应正确进行接地连接（接地）。

- 请在确认电源插座的插头形状后，再将本装置的“AC 输入”插头直接插入插座。
  若未执行接地连接，则可能因故障或漏电而导致触电事故的发生。
- 需要拆除接地连接（接地）时，请务必将“AC 输入”插头从电源插座上拔掉后再执行。

不得擅自拆卸、维修、改造。

- 可能有导致触电、火灾的危险。

不得设置于指定范围以外的方向。

- 一旦翻倒或掉落可能导致受伤。
- 若设置于指定范围以外的方向，电池发生漏液时则无法发挥保护作用。

不得在超出产品标准运转环境温度的场所使用。

- 电池快速老化。
- 可能导致本装置发生故障、操作失误。

使用保管环境不得超出规格范围。
不得在以下场所执行设置或保管。

- 不得在超出产品标准保管温度、湿度的状态下保管。
- 不得在超出产品标准运转环境温度、湿度的状态下使用。
- 无缝隙的橱柜等封闭性场所／存在易燃性气体或腐蚀性气体的场所、阳光直射的场所、灰尘极多的场所、产生振动或施加冲击力的场所、室外等。
- 可能导致火灾等的发生。

⚠ 注 意（设置・连接时）

不得连接超出本装置输出容量的设备。
可通过电源板等增设连接设备，但这种情况下不得连接超出电源板等电流容量的设备。
- 本装置检测到过载（超负荷），停止输出。
- 电源板的配线发热，可能导致火灾。

不得在夹住或捆住电缆的状态下使用。
- 可能因电缆损伤或发热而发生触电、火灾的危险。
- 若电缆上发现伤痕，请立即停止本装置的使用，并委托相关单位进行维修。

维修事宜请向 欧姆龙自动化（中国）有限公司 客户服务中心维修部 咨询。
同一捆包的所有附件仅限本装置使用。请勿在其他设备上使用。
- 为了确保设备的安全使用，请务必遵守。

吸排气口不得堵塞。
- 内部温度上升可能导致本装置发生故障、电池老化。
- 请设置于前面距离墙面5cm以上，背面距离墙面10cm以上的场所。

不得将变压器、绝缘变压器等连接至输出侧。
- 可能因过电流而导致不间断电源（UPS）发生故障、或运转异常。
- 即使连接至输入侧，也依然可能导致不间断电源（UPS）发生故障、或运转异常。请务必事先检查运转状态后再开始使用。

不得连接无法通过商用电源运转的设备。

AC 输入插头和电缆的颜色不得搞混。
不得在连接商用电源的状态下执行本装置的 AC 输入插头连接作业。
- 更换作业详细内容请参照产品的使用说明书。

设置于机架上使用时，应将本产品设置于机架的最下层。
- 一旦掉落可能导致受伤。
- 安装时应使用附带的螺钉。

不得连接额定电压超出 AC200V ～ 240V 以上的设备。
- 本装置的额定输出电压为 AC200 ～ 240V。
- 可能因过电压而导致连接设备发生故障。
- 使用时应安装输出用接线排的外盖。此外，已取下外盖的状态下不得开启“电源”开关。开启“电源”开关后，可能会因输出用接线排施加了电压而导致触电。

⚠ 注 意（使用时）

不得沾湿、浇水。

- 可能会导致触电、火灾。
- 万一沾水时，请立即停止本装置的使用、拔掉 AC 输入电缆，并委托相关单位进行检查和维修。
  维修事宜请向 欧姆龙自动化（中国）有限公司 客户服务中心维修部 咨询。

已达到使用寿命的电池应立即更换、或停止本装置的使用。

- 继续使用可能会因漏液而导致火灾、触电事故的发生。

环境温度	平均寿命
25℃	5 年
35℃	2.5 年

※ 以上为标准使用条件下的平均寿命，非确定值

“AC 输入”插头、电源输出插座上的灰尘应及时用干布擦去。

- 灰尘长期附着可能会导致火灾的发生。

不得在封闭性场所、或盖上外盖的状态下使用。

- 可能会导致异常发热或火灾。

发现异常声响或异味、冒烟、内部溢出液体现象时，应立即切断本装置的“电源”开关，并从电源插座上拔去“AC 输入”插头。

- 若在这种状态下继续使用，则会导致火灾的发生。
- 若发生这种状况，请立即停止使用，并拔去 AC 输入插头，然后委托购买产品的店铺、或 欧姆龙自动化（中国）有限公司 客户服务中心维修部 进行检查和维修。
- 使用中发生异常时，请从电源插座上拔去“AC 输入“插头后待机。

不得触摸从内部溢出的液体。

- 有导致失明、烧伤的危险。
- 若接触到眼睛或皮肤，请立即用水充分冲洗，并接受医生的诊治。

机箱上面不得放置其他物品、也不得有重物落下。

- 可能因机箱的歪斜或损坏、内部电路故障而导致火灾的发生。

即使因内部控制电路功能发生故障或操作错误而停止，依然可以提供向连接设备供电的旁路输出电路。

- 即使前面板显示全部消失，输出依然会继续。
- 前面的输出电源开关将无法执行 ON/OFF 切换。
  想要停止输出时，请切断商用电源的供给源、或从电源插座上拔去 AC 输入插头，则请关闭本装置背面的输入过电流保护开关“INPUT PROTECTION”。

若输入插头在运转状态下脱落，绝对不得触摸输入插头的金属部位。

- 有触电的危险。
- 本装置单机漏电在安全标准（漏电：3.5mA）以下，但连接设备的漏电增加，故请绝对不要触摸输入插头的金属部位。
- 本装置在运转状态时，无论运转时间长短，均会通过内部电路在输入插头的金属部位产生电压。

⚠ 注 意（维护时）

进行连接设备保养时，必须在关闭本装置的“电源”开关、并拔掉“AC 输入”插头的状态下执行。

● 本装置的电源输出在不间断电源（UPS）为运转状态时，即使拔掉“AC 输入”插头也不会停止输出，将会以插座作为供电源进行供电。

不得擅自拆卸、维修、改造。

● 可能有导致触电、火灾的危险。

不得触摸从内部溢出的液体。

● 有导致失明、烧伤的危险。
● 若接触到眼睛或皮肤，请立即用水充分冲洗，并接受医生的诊治。

不得将本装置扔至火中。

● 本装置内置铅酸蓄电池，故可能会发生电池爆炸、稀硫酸泄漏。

不得将金属物体插入不间断电源（UPS）的“电源输出”插座。

● 可能会导致触电

不得将金属物体插入电池连接口。

● 可能会导致触电。

更换作业应在稳定且平坦的场所执行。

● 请小心托住以防电池掉落。
● 可能因掉落而导致受伤、或因漏液（酸）而导致烧伤等危险。

不得使用指定范围以外的更换电池。

● 可能导致火灾的发生。

不得在有易燃性气体的场所更换电池。

● 连接电池时会产生火花飞溅现象，可能会导致爆炸或火灾。

电池发生漏液时不得触摸泄漏的液体（稀硫酸）。

● 有导致失明、烧伤的危险。
● 若接触到眼睛或皮肤，请立即用水充分冲洗，并接受医生的诊治。

不得擅自对电池进行拆卸、改造。

● 不得触摸泄漏的稀硫酸，否则可能会导致失明、烧伤等。

小心电池掉落、不得对其施加强大冲击力。

● 可能会发生稀硫酸泄漏。

⚠ 注 意（更换电池时）

不得通过金属物体使电池短路。

● 可能会导致触电、起火、烧伤等。
● 即使是使用后的电池，其内部依然会残存电能。

不得将电池扔至火中、或将其毁坏。

● 电池可能会发生爆炸，稀硫酸可能会发生泄漏。

不得将新旧电池混合使用。

● 可能会发生稀硫酸泄漏。

注 意 事 项

由低温场所移动至温暖场所后，请搁置数小时后再开始使用。

● 突然移动至温暖场所后会有水分附着（结露），若直接通电则可能导致故障发生。

购买后请尽快充电（应达到产品标准充电时间以上）。

● 购买后若长时间搁置，则可能导致电池性能退化以致无法使用。
● 将本装置的“AC 输入”插头插入电源插座即可对电池进行充电。
本装置的“AC 输入”插头请务必连接至符合产品规格的额定输入电压、频率 50/60Hz 的电源插座。

保管本装置时，请对电池进行产品标准充电时间以上的充电后再关闭“电源”开关。

● 电池即使不使用也会在内部自然放电，长时间搁置后会呈现过放电状态。由此导致后备时间缩短、以致无法使用。
● 需长期保管时，推荐环境温度为 25℃以下。

保管温度在 25℃以下时请在 6 个月以内、40℃以下时请在 2 个月以内将本装置的“AC 输入”插头连接至达到产品标准充电时间以上的电源插座。

● 保管期间请关闭本装置的“电源”开关。

请注意避免本装置输出电路之间、以及输出电路接地上发生短路。

● 可能导致本装置发生故障。

请勿在后备式运转状态下将“AC 输入”插头插入本装置的“电源输出”插座。

● 可能导致本装置发生故障。

请勿将页式打印机（激光打印机等）连接至本装置。

● 页式打印机的峰值电流较大，可能会被检测到连接容量过载。

将本装置与自备电源等电源频率较大变动的设备配套使用时，请务必事先检查运转状态后再开始使用。

● 本装置在接收输入电源时会自动识别输入电源频率。若在输入电源频率非规定值的状态下连接本装置，则可能导致电源频率的错误识别、以致无法正常运转。（在本装置已启动的状态下从商用电源切换为发电装置的电源时不会发生异常。但是，请确保发电机和商用电源的频率达到一致。）

注 意 事 项

请勿将本装置放置于阳光直射的场所进行保管。

● 可能会因温度上升而导致内置电池快速老化以致无法使用。

切断商用电源前，请先关闭本装置的“电源”开关。

● 切断商用电源后，即会进入后备式运转。后备式运转的频率越高，表示电池使用寿命可能越来越短。

将本装置用于线圈、马达等感应性设备上时，请务必事先检查运转状态后再开始使用。

● 有些种类的设备可能会因冲击电流等影响而导致本装置无法正常运转。

请勿执行耐压试验。

● 电源输入线中装有浪涌吸收器，若执行耐压试验则会导致浪涌吸收器受损。

● 执行绝缘电阻试验时，请在 DC250V 范围内执行。

将本装置转让、转卖于第三方时，请务必连同本装置附带的所有资料等一并转让。本装置符合附件资料等所记载的条件标准。

● 本说明书中记载了相关安全事项等。请务必确认相关内容后再开始使用。
此外，万一使用说明书遗失，请联系购买产品的店铺。

请勿使用会因产品标准切换时间内的瞬间停电而发生异常的设备。

● 后备式、在线互动式不间断电源（UPS）在停电时进入后备式运转需要切换时间。在要求具有……高度电源稳定性的设备上使用时，可能会因输出电压的瞬间变动而导致连接设备停止运转。切换时间相关内容请参照使用说明书。

若在“输出 200V 模式”范围以外使用本装置，则请务必事先检查运转状态后再开始使用。

● 后备式运转时，输出（正弦波）的最大电压值（峰值电压）有时会低于商用电源下运转时的数值。因此，根据不同的连接设备，有时可能无法正常运转。

本产品中使用了铅酸蓄电池 (铅蓄电池)。

● 铅酸蓄电池需要进行回收。使用后的电池请寄至以下地址。

欧姆龙自动化（中国）有限公司
http://www.fa.omron.com.cn/

讲　解

关于日常运转方法

● 本装置的“电源”开关既可始终为开启状态（运转状态）、也可在每次停止连接系统运转时切换为关闭状态。请用户采用便于使用的方法即可。长期不使用连接设备时，建议关闭“电源”开关。

● 将本装置的“AC 输入”插头插入电源插座即可对电池进行充电。
本装置的“AC 输入”插头请务必连接至符合产品规格的额定输入电压、频率 50/60Hz 的电源插座。

关于后备式运转的退出

● 长时间停电后，电池会发生放电现象，来自本装置的电源输出将会停止。请在本装置尚处于供电状态下正常退出计算机系统（保存数据等操作）。

讲　解

关于重启

●若电池在停电中发生放电现象，本装置将会停止运转。之后若停电等电源异常恢复正常，本装置将会自动重启并重新开始供电。无需运转连接设备时，请关闭本装置的“电源”开关、或连接设备的开关。

关于自动关机软件的排程运转

●若想在停止本装置运转的同时、执行通过断路器等停止商用电源供电的排程运转，请将开始下次运转的间隔时间设定为 3 个月以内。超出 3 个月时，内部定时器将会被复位，故不会按排程设定开始运转。
同时，该期间若电池寿命缩短则会减半。
超出 3 个月后，通过供电和开启“运转”开关即可开始运转，但若电池已达到使用寿命时，则可能无法开始运转。这种情况下，请按使用说明书所记述的方式更换电池。

请采取对策，以防数据保护或系统冗余化等无法预测的事态发生。

●不间断电源（UPS）有时会因内部电路的故障而停止输出。

关于自动关机软件的排程运转

●采用排程运转时，若在排程停止期间停止商用电源的输入，那么开始下次运转的间隔时间最多请设定为 1 个月。
停止商用电源输入期间，定时器通过内置电池执行操作。
定时器停止时，则不会按排程设定开始运转。

关于通过自动关机软件使停止中的排程开始运转

●在排程停止期间开始运转不间断电源时，请关闭电源开关一次，然后再重新开启电源开关。
通过手动方式启动不间断电源。

关于通过关机软件退出 OS 后的自动重启

●在特定计算机 *1 上，停电时会发生通过自动关机软件退出 OS、然后计算机立即重启的现象。
这种情况可能会导致不间断电源在计算机重启中或启动后停止运转，以致文件或硬盘受损。
将计算机 BIOS 设定内的 POWER MANAGEMENT 改为 Disable（无效）即可防止此现象的发生。

*1）特定计算机：此现象已在 MICRON 生产的 Millennia Mme 上得到确认。

●计算机无法自动重启时，请在计算机的 BIOS 设定中选择“输入电源恢复后的系统启动”设定项目（例：Restore on AC/Power Loss）、并将其设定修改为“输入电源恢复后启动系统”（例：Power On）。另外，根据所使用的计算机的不同，BIOS 的设定方法或显示项目有所差异。请查看所使用的计算机使用说明书、或联系计算机支持中心。

●若您正在探讨输入电源恢复后使计算机自动重启的系统课题，则请选择满足以下条件的计算机。关于通过输入电源进行供电时的计算机运转状况，请查看计算机使用说明书、或联系计算机支持中心。

【条件】
通过输入电源供电时，计算机无需开启自身的电源开关即可启动。

●停电时，若刚退出即恢复供电，不间断电源则会自动启动并开始供电。无需运转连接设备时，请关闭设备的电源开关。

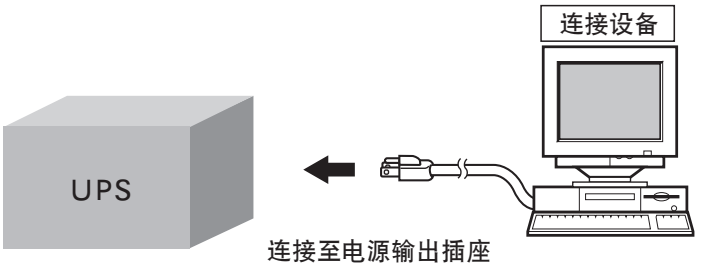
●使用附带的自动关机软件后，还可设定为无需自动重启。

3.不间断电源使用说明书(简易版)

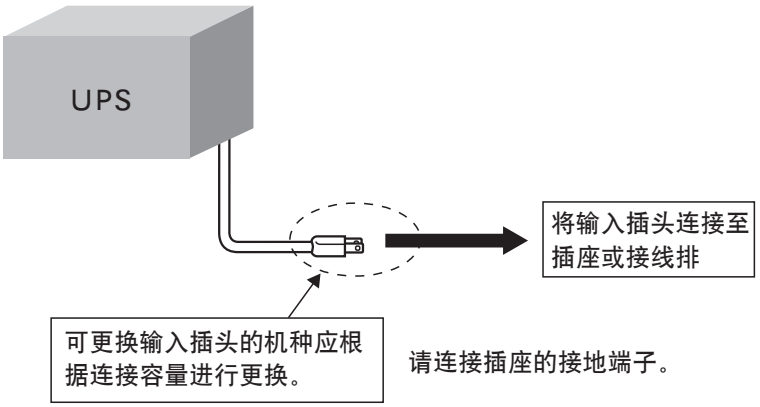
承蒙惠购欧姆龙的不间断电源(以下简称UPS)，谨致谢意。请通过传真(一同捆包的『用户登录单』)或本公司网站进行用户登录。
详细内容请参照英文版使用说明书(以下简称“Instruction Manual”)。

使用方法

(1) 将 UPS 和连接设备相互连接
连接至 UPS 输出插座或接线排的设备总容量请勿超出 UPS 的额定输出容量。



(2) 连接 UPS 的 AC 输入插头
请将 UPS 的 AC 输入插头连接至商用电源。



(3) 启动 UPS
将 UPS 的“ 电源 ”开关切换至“ON”状态。
然后，请使所有连接设备均进入运转状态。
停电及电压变动时，UPS 会进入后备式运转状态，由此维持对连接设备的正常供电。

其他功能

(1) 接点信号 I/O
用户可根据接点信号规格自行开发系统，使停电时的操作实现自动化。可通过系统检测后备信号来执行停电时的操作，还可通过系统检测电池容量下降信号来执行退出系统操作。此外，通过系统将后备停止信号输入 UPS 后，即可停止 UPS 运转。

(2) 自动关机软件
通过产品附带的自动关机软件“Power Act Pro”、“UPS 服务驱动程序 ”，即可在停电时保存文件并退出系统。

上述接点信号I/O及自动关机软件的详细内容请参照“Instruction Manual”。

蜂鸣・显示的浏览方式

显示面板的含义请参照以下内容。

以下未尽事项请参照“Instruction Manual”。

编号	图标	模式	蜂鸣	说明	处理方法
1		待机模式	无	「电源」开关处于 OFF 状态。电源输出处于停止状态。	-
2		商用模式	无	「电源」开关处于 ON 状态。逆变器正在输出。	-
3		旁路模式	无	在旁路模式下，商用电源继续输出。	请参照 LCD 上显示的信息。
4		测试模式	无	正在自测。	测试判断为正常时，返回商用模式。
5		UPS 事件	无	发生警告（报警）。	请参照显示的信息。
6		后备式运转	间断 4 秒	停电或 AC 输入异常，已进入后备式运转状态。	请关闭您使用的接续机，并停止作业。
7		电池电量低	间断 1 秒	因电池剩余电量不足，输出即将停止。	请关闭您使用的接续机，并停止作业。
		电量空	间断 2 秒	因电池电量耗尽，输出已停止。	请充电。
8		电池老化	间断 2 秒	电池测试中已检测到电池老化或电池寿命计数器的计数值已满。	请更换电池。
9		超载	间断 0.5 秒	连接设备过多，已超出额定容量。	请减少连接设备。
10		UPS 故障	连续	发生了故障。	请参照 LCD 上显示的信息。

感觉异常时

现象	确认 · 对策
不运转。 即使将 AC 输入插头连接至商用电源并开启电源开关，LED 也依然不显示。 装有输入保护开关的机种时，即使连接商用电源并开启输入保护开关和电源开关，LED 也依然不显示。	① 请检查 AC 输入插头是否正确连接至商用电源。 装有输入保护开关的机种时，请确认输入过电流保护开关为开启状态。 ② 若输入过电流保护开关为关闭状态，则可能是连接设备过多或连接设备发生短路所致。请拆除所有连接设备，然后开启保护开关和主机电源开关。 若执行上述操作后依然未能恢复正常状态显示，则表示产品发生故障。 ※ 输入过电流保护开关请参照“Instruction Manual”的“Name of each part”章节。
无法进入后备式运转。	可能充电不足。请充电 8 小时以上后重新确认。
频繁进入后备式运转。 未发生停电却频繁切换运转模式。 发出咔嚓咔嚓的声响。	可能是输入电源的电压频繁发生变动所致。 ● 请尝试更换连接主机的插座。更换时，可尝试更换为远离高耗电量设备的商用电源或插座。 ● 若连接主机的电源板或接线板等细长电缆上连接过多的设备也会导致该现象发生。
开启电源开关却无法接通电源。	输入电源的电压或频率发生异常时会导致无法启动主机。 详细内容请查看“Instruction Manual”的“Status indicator”章节。
连接 UPS 的显示器，画面发生异常。 ●画面晃动 ●画面上出现白线 ●杂音越来越大	可能是主机内部产生的干扰所致。 ● 请将连接主机的设备进行接地。 ● 可能是显示器的电源线过长、过于接近等原因所致。请尝试更换配置。 ● 主机或连接主机的设备被放置于金属性机架上时，请尝试对机架进行接地。
更换电池指示灯闪烁、蜂鸣器鸣响。	已确定为电池老化所致。 目前只能执行短时间的后备式运转，故请更换电池。 尤其在自测中检测到老化现象时，表示老化已相当严重，必须立即更换。
显示［Overload］（超载异常）。	连接设备过多。请减少连接设备直至错误消失。
显示［Over load time out］（超载停止）。	因连接容量超载已停止输出。切断所有主机和连接设备的电源，减少连接设备后，重新接通主机和连接设备的电源，请确认错误是否消失。

11 References

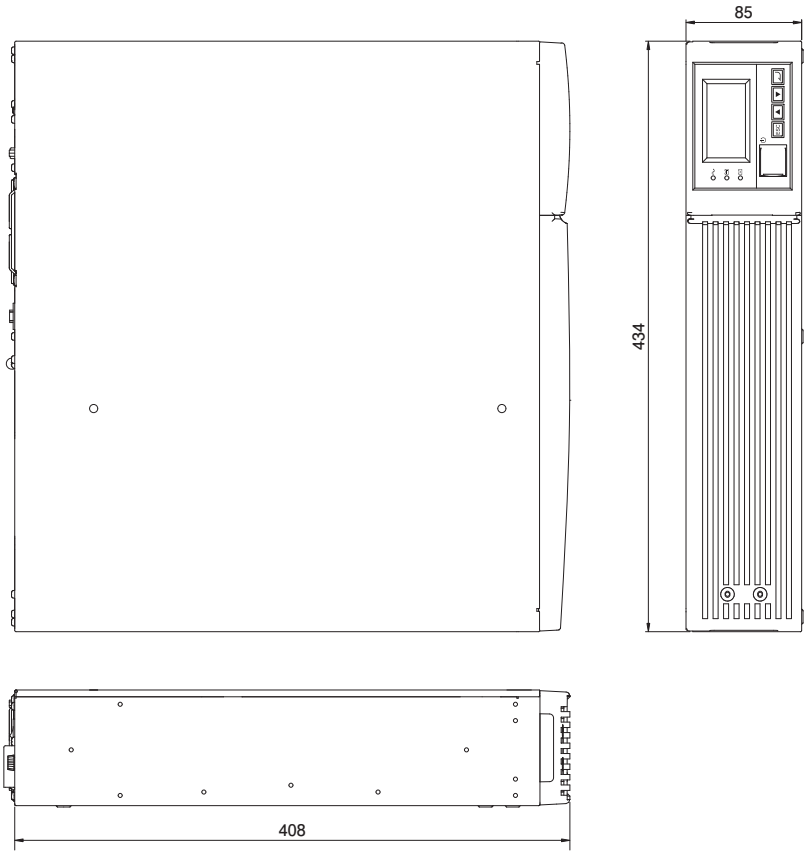
A. Specifications

		BU1002RW
Operation method		Full-time inverter supply method
AC input	Rated input voltage	200 to 240 VAC
	Startup voltage range	140±2 to 279±2 VAC
	Input voltage range	145±2 to 276±2 VAC (with less than 85% connection load) 170±2 to 276±2 VAC (with 85% or more connection load)
	Input frequency	Synchronous operation: 50/60Hz±5Hz Asynchronous operation: 40 to 70Hz
	Maximum current (at rated voltage/ minimum input voltage)	6A/7A
	Phase	Single-phase, two-wire (*1)
	Input terminal	Terminal block
	Input protection	NFB
	Input protection capacity	8A
AC output	Output capacity (upper limit)	1000VA/800W (500VA/400W in 100V mode)
	Rated current (output rating voltage)	5A
	Switching time	Uninterrupted
	Commercial direct shipment (switching time)	Uninterrupted
	Rated output voltage	200 to 240VAC / 100VAC
	Output voltage (commercial operation)	200Vmode: AC200V±2%, 208Vmode: AC208±2% 220Vmode: AC220V±2%, 230Vmode: AC230±2% 240Vmode: AC240V±2%, 100Vmode: AC100V±5%
	Output voltage (backup operation)	200Vmode: AC200V±2%, 208Vmode: AC208±2% 220Vmode: AC220V±2%, 230Vmode: AC230±2% 240Vmode: AC240V±2%, 100Vmode: AC100V±5%
	Output frequency (commercial operation)	Synchronous operation: Synchronized with input frequency Asynchronous operation: 50/60Hz ±0.5 Hz
	Output frequency (backup operation)	50/60Hz±0.5Hz
	Output waveform (In Commercial Power Mode/Battery Mode)	Sine wave / Sine wave
	Waveform distortion rate	6% max. (Rectified load, at rated output) 3% max. (Resistance load, at rated output)
	Phase	Single-phase, two-wire
	Output terminal	Terminal block
Battery	Sealed lead battery life expectancy	5 years (ultralong operating life) (ambient temperature 25°C)
	Battery capacity (V/Ah) (x Quantity)	12 VDC/ 7.8 Ah (x 3)
	Charging time	8 hours
Backup time (25°C, initial characteristics)		5 min. (700 W)/3.5 min. (800 W)
Dimensions (W x D x H mm)		434 x 408 x 85 (2U)
Weight of unit		Approx. 18kg
Operating environment temperature/humidity		0°C to 40°C, 25 to 85%RH with no condensation
Storage environment temperature/humidity		-15°C to 50°C, 10 to 90%RH (with battery fully charged, stored with no condensation)
Noise regulation		VCCI Class A compliant
Safety standard compliance		UL1778
Internal power consumption (normal/maximum)		70W (*2)/145W (*3)
Noise		50dB max.
Cooling method		Forced air cooling
Serial communication (RS-232C) (interface)		●(D-sub 9pin)
Contact signal (interface)		● (D-sub 9pin)

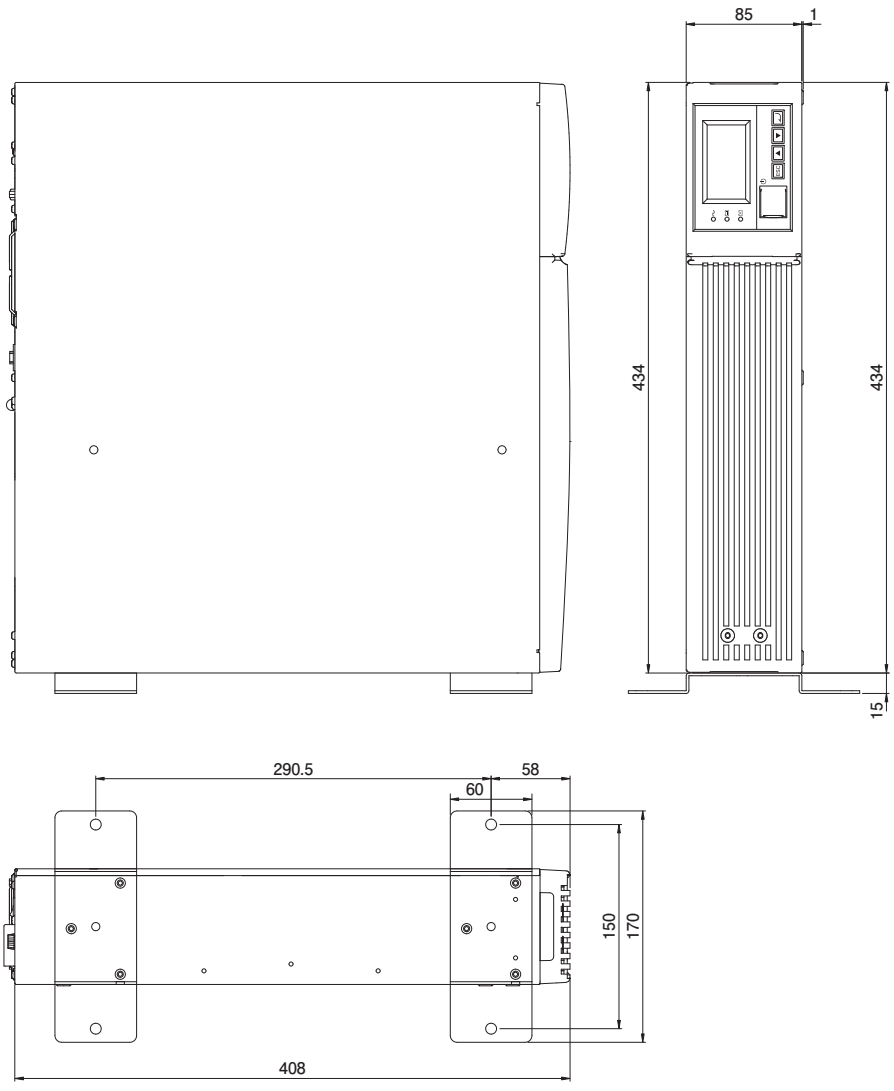
*1: This unit can be connected to IT power distribution system.
*2: Rated load/ Rated input voltage/ When fully charged
*3: Rated load/ Rated input voltage/ When battery charge current is at maximum

B. Dimensions

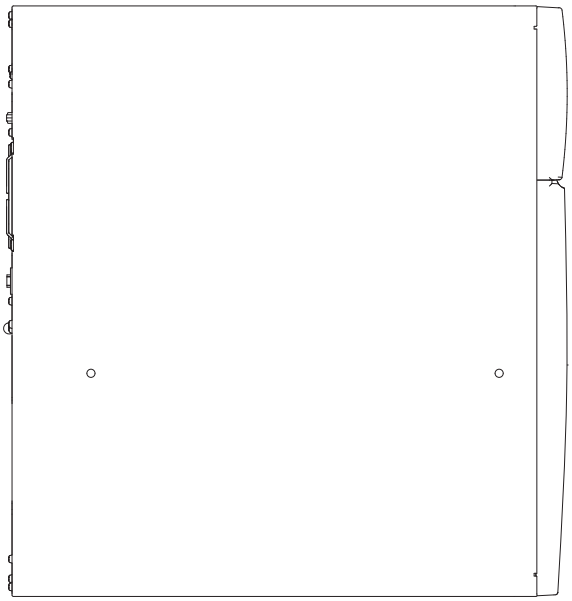
• BU1002RW <Unit: mm/ Tolerance: ±2mm for total length, ±1mm for other measurements>

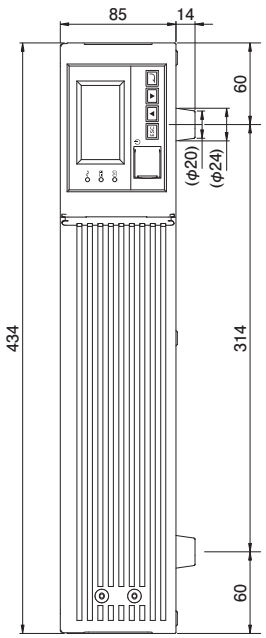


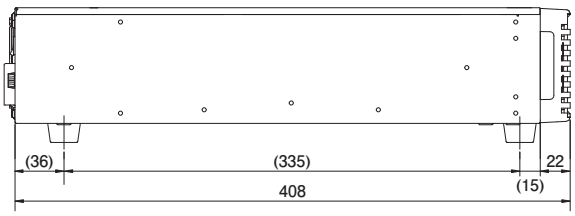
• Upright stand <Unit: mm/ Tolerance: ±2mm for total length, ±1mm for other measurements>



• Rubber feet <Unit: mm/ Tolerance: ±2mm for total length, ±1mm for other measurements>

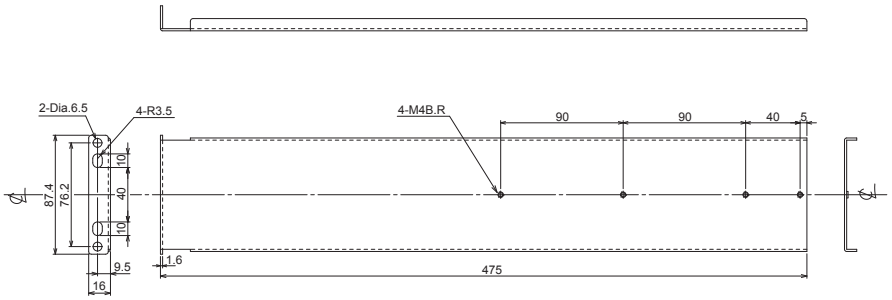




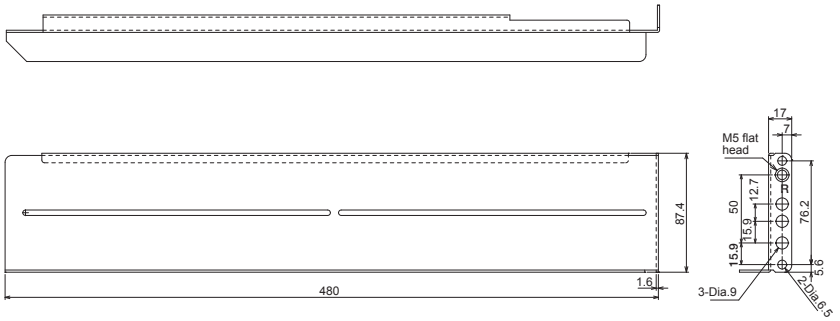


- Support angles

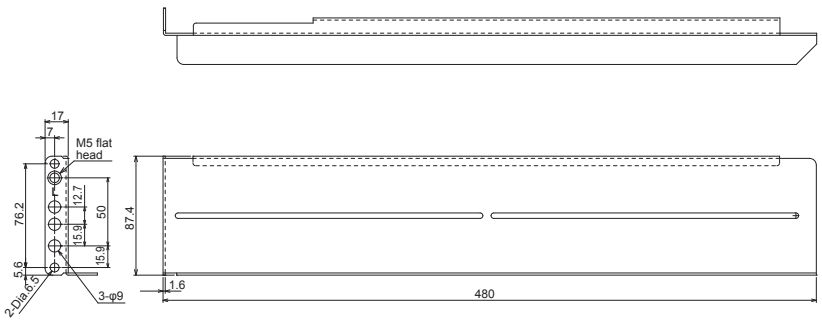
After installation of rack rails



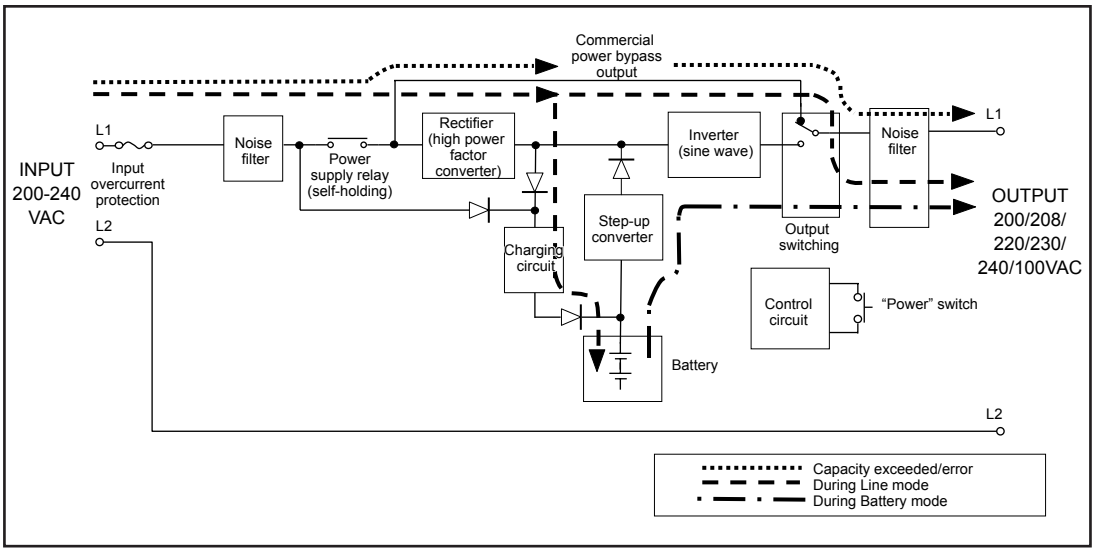
Rack rail (Front right)



Rack rail (Front left)



C. Circuit block diagram

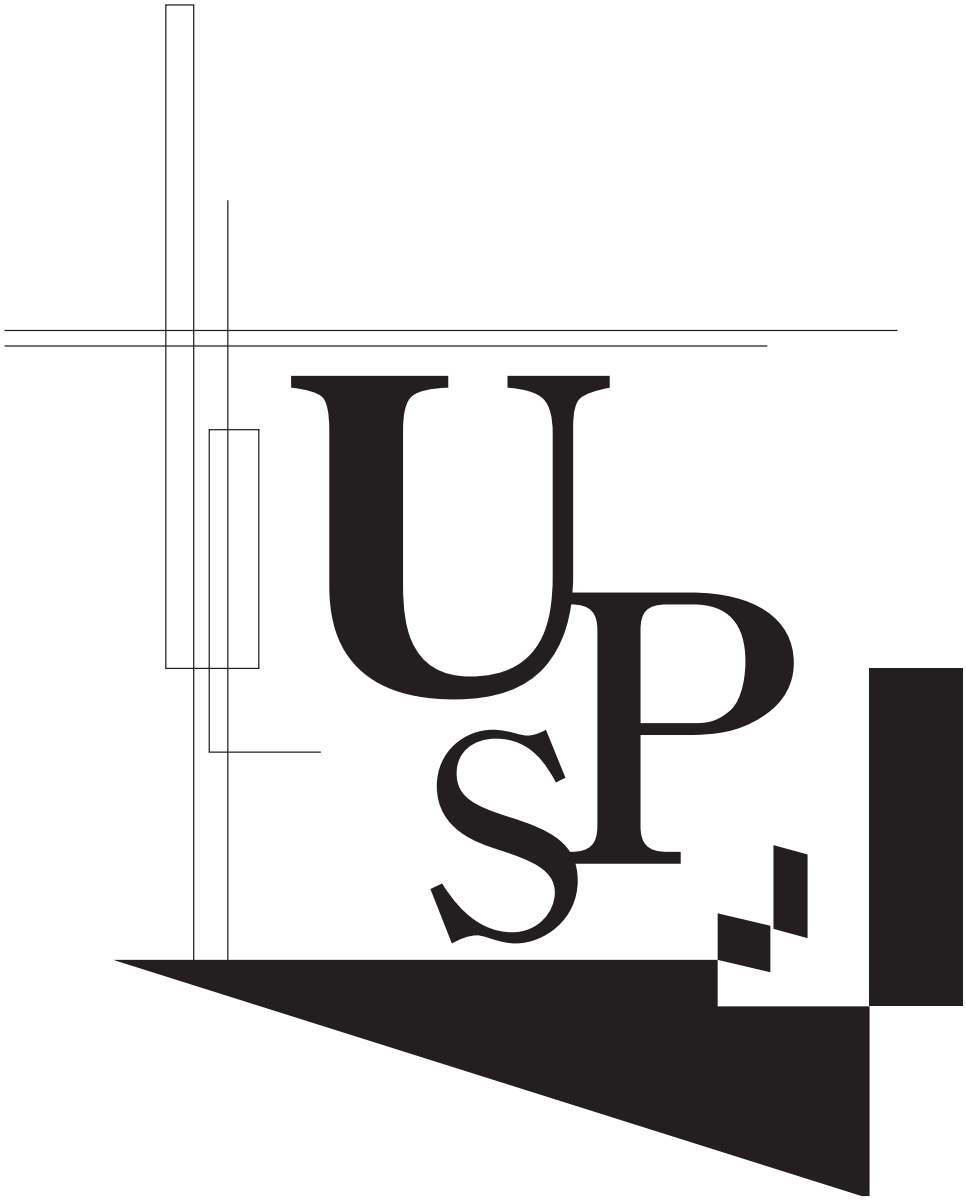


D. Voltage to ground

Input	Output	
	L1 to FG	L2 to FG
Earthed L1	$\lvert V_{out} - V_{in} \rvert$	V_{in}
Earthed L2	V_{out}	0
Earthed Neutral of single-phase three-wire system	$\left\lvert V_{out} - \frac{V_{in}}{2} \right\rvert$	$\frac{V_{in}}{2}$

E. Related products

Description	Model Name
Replacement battery pack	BUB1002RW
SNMP/Web card	SC20G
Connection cable for Windows UPS service	BUC26



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K1L-D-13003G