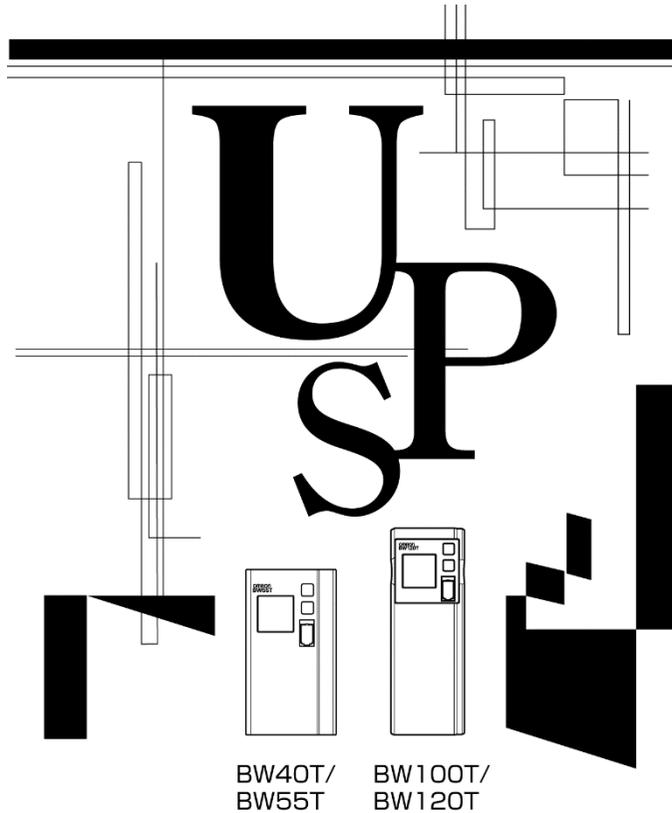


Uninterruptible Power Supply (UPS)

BW40T/BW55T/BW100T/BW120T

Instruction Manual



- This manual describes the significant points to be noted to maintain the safety while using the UPS. Therefore, ensure reading it carefully before installation and start using the UPS.
- Store this manual near the UPS so it can be referenced whenever required.
- This instruction manual may not be reproduced in whole or in part without the express written permission.
- The contents of this instruction manual may change in the future, without notice.
- Warranty is contained in the box.

Introduction

Features of the Product

Thank you for purchasing the uninterruptible power supply (UPS) BW40T/BW55T/BW100T/BW120T. This is an uninterruptible power supply (UPS) dedicated to PC.

- + Protect (backup) the PC, displays, and peripherals of the following power consumption from the abnormal power feed due to the power failure or Voltage fluctuations.
 - BW40T: 400VA/250W
 - BW50T: 550VA/340W
 - BW100T: 1000VA/610W
 - BW120T: 1200VA/730W
- + You can easily replace the battery by yourself.

Read this manual carefully and utilize the UPS to the fullest.

About the Usages of Uninterruptible Power Supply (UPS)

- + The UPS is designed and manufactured for FA (including PC) and OA equipment. Never use this software for the following purposes, which require extremely high reliability and safety.
 - Applications such as medical equipment that are directly related to the safety of human life.
 - Applications that may lead to human injury.
(E.g., applications that are directly related to the operation, running, and control of aircrafts, ships, trains, elevators, etc.)
 - Applications subject to vibration at all times, such as on a vehicle, on a ship.
 - Applications that may cause serious social or public damage or impact when they fail.
(Use for mission-critical computer systems, trunk line communication systems, or public transportation systems.)
 - Any devices applicable to any of the above.
- + For devices involved in human safety and significantly affect the maintenance of public function, the special considerations are required in the operation maintenance and management, including system multiplexing and emergency power generation equipment.
- + Carefully observe the conditions and environment for usage described in this instruction manual.
- + Please contact us at OMRON Electronic Equipment Customer Support Center for the use of the critical systems especially requiring the reliability.
- + Do not modify or process the equipment.
- + The UPS specifications follow the Japanese domestic market. Therefore, contact us first before containing the UPS in any device package for exporting.
 - + You may require permission from the Ministry of Economy, Trade, and Industry before exporting this product (including carrying it by an individual.)
Exporting without required permission can result in the punishment by the law.
 - Failure or fire can often occur due to the difference of power voltages or frequencies.

About the Voluntary Control of Interference by Information Technology Equipment

This device is a Class B information technology device. Although this device is intended for the use in a home environment, it can cause the reception interference if used near radio or television receiver. Follow the instruction manual properly.

VCCI-B

About Disclaimers

We may not respond to the compensation for some damages even if they are caused by the use of our products, including the abnormalities and failures of the equipment, connection devices, and software.

- + Please read the safety precautions described in the beginning carefully before use.
- + Make sure of all documents are attached to the UPS before transferring or selling the UPS to a third party.
The UPS shall comply all the conditions stated in the attached documents.
 - This instruction manual contains the details instructions for assuring safety. Read them carefully before start using the UPS. Contact the purchased store if you lost the manual.
- Windows are registered trademarks of United States Microsoft Corporation in the United States and other countries.
- Other company names and product names are the trademarks, or registered trademarks belong to their respective owners.
- User Registration
Fill out the necessary information on the attached customer loyalty registration card and send us back within one month from the date of purchase.
User registration is accepted at our homepage
(<https://www.oss.omron.co.jp/ups/regist/regist.html>)

Procedure from installation to operation

Shows the procedure from installation to operation.

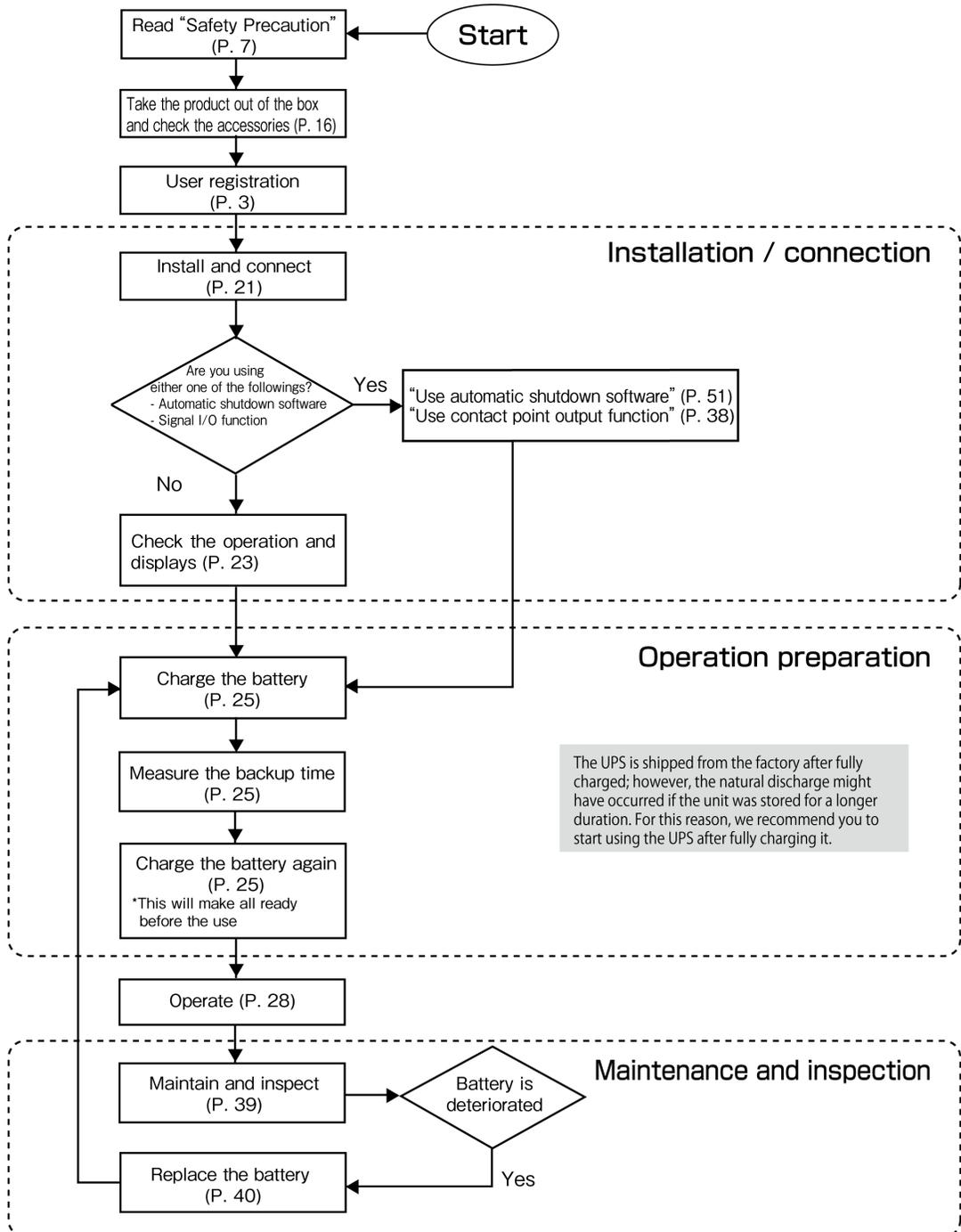


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Safety Precautions

Safety Precautions

Describes important matters for safe use. Please read carefully before installing or using the unit.

+ The symbols and respective meanings regarding the safety of this Instruction Manual are as follows.

	Danger	This symbol indicates that incorrect use may cause death or severe injury.
	Caution	This symbol indicates that incorrect use may cause serious injury or property damage.

* Property damage represents consequential damage to property such as houses, household effects, livestock and pets.

 : This indicates prohibition (what you must not do.) For example,  indicates that disassembling is prohibited.

 : This indicates obligation (what you must do.) For example,  indicates that you should ground to the earth.

However, even a symbol which indicates a caution could cause a severe result according to situations.

Make sure of paying attention to these symbols containing critical indications.

Danger (product applications)

Never use this device for the following purposes, which require extremely high reliability and safety.

- * The UPS is designed and manufactured for FA (including PC) and OA equipment.
- + Applications such as medical equipment and systems that are directly related to the safety of human life.
- + Applications that directly impact on human safety.
(E.g., applications that are directly related to the operation, driving, and control of vehicles, elevators, etc.)
- + Applications that may cause serious social or public damage when they fail.
(E.g., applications for mission-critical computer systems, or trunk line communication systems.)
- + Applications subject to vibration at all times, such as on a vehicle, or on a ship.



Caution (at installation and connection)

Carry the unit with taking the weight and balance into consideration, and place it on a stable and sturdy place.

- + There is a risk of injury if the product falls or drops.
- + Unit mass: BW40T/BW55T: 4.5kg
 BW100T/BW120T: 7.9kg
- + In a case of dropping the UPS, stop using the unit and immediately ask for the inspection and repair.
For information about repair, contact Omron Electronics Repair Center.



Safety Precautions

Keep the plastic package bags away from children.

- + Avoid the risk of a child playing with it to suffocate.



Make sure of connecting the "AC input" plug of this unit to a rated input voltage (AC 100V) with the 50/60Hz frequency of the power outlet (commercial power supply.)

- + Connecting to a power outlet (commercial power supply) with a different voltage and frequency may cause a fire.
- + The UPS fail.



Stop the output by turning off the "Power" button on the UPS and pull the power outlet off of "AC input" plug in a case of abnormality (abnormal noise/odor.)**Connect "AC input" plug in a way it can be immediately pulled off of the power outlet.**

- + For safety, follow the above instructions when maintaining the connected equipment also.



Do not connect the half-wave rectifier where the current flows only in a half cycle of AC power supply, such as dryer and some solenoid valves.

- + Overcurrent may damage the Uninterruptible Power Supply.



Connect to the power outlet (commercial power supply) with the following current capacity.

BW40T: 5.0A or higher
BW55T: 6.0A or higher
BW100T: 11.0A or higher
BW120T: 12.0A or higher

- + Power wiring can catch heat.
- + When the device with the maximum output capacity is connected, the following current flow to the highest.

BW40T: 5.0A
BW55T: 6.0A
BW100T: 11.0A
BW120T: 12.0A



Make sure of setting up the earth connection (grounding.)

- + Check the shape of the power outlet's plug, and insert the UPS's "AC input" plug as is.
Without an earth connection, the unit can fail or cause an electric shock due to the electric leakage.



Do not disassemble, repair, or modify.

- + Electric shock or fire can occur.



Do not install in an undesignated direction.

- + There is a risk of injury if the product falls or drops.
- + Do not install in the direction other than specified; otherwise, the battery leakage cannot be treated.



Do not use the UPS in an environment where the highest temperature becomes more than 40°C.

- + The battery may deteriorate rapidly.
- + The UPS may fail or malfunction.



The use and storage environment should be in the specification scope.

Do not install or store in the following places.

- + Do not store at the places where the humidity is lower than 10% or higher than 90%.
- + Do not use at the places where the ambient temperature is lower than 0 degrees Celsius or higher than 40 degrees Celsius.
- + Do not use at the places where the humidity is lower than 25% or higher than 85%.
- + Other places not recommended for the use or storage are: enclosed spaces such as tightly closed cabinet; places where flammable gas or corrosive gas is stored; places exposed to direct sunlight; extremely dusty places; places subject to vibration and impact; outdoor, etc.
- + It may cause fire.



Do not connect the devices that exceed the output capacity of the UPS.

You can add connected equipment with table taps, etc. However, do not connect devices exceeding the current capacity of the taps.

- + The UPS detects overload and stops the output.
- + The table tap wiring may catch the heat and cause a fire.



Do not clip or bundle the cable while using.

- + Electric shock or fire can occur due to the cable damage or heat generation.
- + Stop using the UPS if the cable has damage and immediately ask for the repair.



For information about repair, contact Omron Electronics Repair Center.

All the accessories packaged together are available only when using the UPS. Do not use it for any other devices.

- + Make sure of observing the followings for the safe use of equipment.



Do not block inlet/outlet ports (top, sides, and rear).

- + The internal temperature may rise, eventually damaging the UPS or deteriorating the battery.
- + Keep the unit away from 5 cm or more from the wall.



Do not connect the voltage converter and insulating transformer to the output side.

- + Overcurrent may cause failure or abnormal behavior on the Uninterruptible Power Supply.
- + The Uninterruptible Power Supply (UPS) may fail or malfunction even when connecting to the input side. Ensure to check the performance before use.



Do not connect devices that don't run on the commercial power supply.



Caution (for use)

Do not get it wet or put water on it.

- + Electric shock or fire can occur.
- + Stop using the unit, unplug the AC input cable from the outlet, and ask for the inspection and repair in a case of the UPS got wet.



For information about repair, contact Omron Electronics Repair Center. Replace the battery as soon as the life ends, or discontinue the use of the UPS.

- + Continue using it may cause a fire or electric shock due to the liquid leakage.

Ambient temperature	Expected life
25 degrees Celsius	5 years
30 degrees Celsius	3.5 years
40 degrees Celsius	1.7 years

* The table on the left shows the expected life under the standard usage conditions, not the guaranteed values.



Wipe off the dust on the "AC input" plug and the power output outlet occasionally.

- + It may cause a fire if the dust residues for a long time.
- + Stop all the connected equipment and the UPS and unplug the "AC input" plug from the power outlet (commercial power supply) before wiping off the dust.



Do not use it in a sealed place, and do not cover it.

- + It may cause an abnormal heat or fire.
- + Depending on your environment, hydrogen gas may be generated from the battery, which can cause burst or explosion. Keep ventilating around the UPS.



In a case of unusual noise or odor, smoke, or liquid leaks from inside, immediately switch off the "Power" button of the UPS and unplug the "AC input" plug from the power outlet (commercial power supply.)

- + It may cause a fire if continue using.
- + In a case of the UPS gets into above-mentioned, immediately stop using it, unplug the AC input cable, and then ask for inspection/repair either for the dealer or Omron Electronics Repair Center.
- + Use the UPS in a state where "AC input" plug can be unplugged from the power outlet (commercial power supply) immediately when an abnormality occurs.



Do not touch the liquid leaked from inside.

- + Doing so may cause blindness or burns.
- + In case the liquid is in touch with an eye or skin, clean it off with a large amount of clean water and see a doctor.



Do not place things on the top, nor drop heavy objects on it.

- + It may cause a fire due to the distortion or breakage of the case, or internal circuit failure.



The UPS is equipped with a bypass output circuit that allows the unit to continue supplying power to the connected devices even when the internal control circuit function stops due to a failure or malfunction.

Stop the supply of "commercial power supply" or unplug the "AC input" plug if you want to stop output.

- + Output continues even if all the displays on the display section is off.
- + The output ON / OFF operation with "Power" button on the front will disable.





Caution (for maintenance)

Always turn off "Power" button of the UPS and unplug "AC input" plug before starting the maintenance of the connected equipment.

- + The power output of the UPS does not stop even if the "AC input" plug is unplugged during the Uninterruptible Power Supply (UPS) is in operation; the output continues.



Do not disassemble, repair, or modify.

- + Electric shock or fire can occur.



Do not touch the liquid leaked from inside.

- + Doing so may cause blindness or burns.
- + In case the liquid is in touch with an eye or skin, clean it off with a large amount of clean water and see a doctor.



Do not throw the UPS into the fire.

- + The lead battery contained may cause an explosion or the dilute sulfuric acid leakage.



Do not insert metal objects in the "power output" outlet of the Uninterruptible Power Supply (UPS.)

- + It may result in electric shock.



Keep out of any short-circuit between the battery connectors.

- + It may result in electric shock.



Cautions (for battery replace)

The battery pack should be replaced on a stable, flat place.

- + Hold the battery pack firmly to prevent it from dropping.
- + The drop of the battery pack may cause injury and burns due to liquid (acid) leakage.



Do not use any other batteries than specified by our company.

It may cause fire.

- + Product models: Battery pack for replace: For BW40T/BW55T: BWB55T
For BW100T/BW120T: BWB120T



Do not replace the battery pack in a place where combustible gas exists.

- + Connecting the battery may bring to spark, causing explosion or fire.



Do not touch the liquid (dilute sulfuric acid) which leaks from the battery.

- + Doing so may cause blindness or burns.
- + In case the liquid is in touch with an eye or skin, clean it off with a large amount of clean water and see a doctor.



The battery should not be disassembled or modified.

- + Doing so could cause dilute sulfuric acid leak, which could cause blindness and burns.



The battery should not be dropped or given any strong impact.

- + Dilute sulfuric acid may leak.





Cautions (for battery replace)

Do not short the battery with metal objects.

- + That may cause electric shock, heat generation or burn injury.
- + Electric energy may remain even in a used battery pack.



Do not throw the battery in the fire or break it.

- + The battery may explode or leak dilute sulfuric acid.



Compliance

Wait for several hours before start using the UPS when it has been moved from a cold place to a warm place.

- + Moving the UPS from a cold place to a warm place can catch the moisture (condensation) on it, which may fail by energizing it in the condition.

Charge the UPS as early as possible (for 12 hours or more) after purchasing.

- + Not using the UPS for a long time after purchase can deteriorate the battery that may result in dysfunction.
- + You can charge the battery by plugging a power outlet (commercial power supply) into the "AC input" plug of the UPS.

When storing the UPS, charge the battery for 12 hours or more, and turn off the power supply switch before storing it.

- + Even if the battery is not used, the battery is naturally discharged inside, and if it is left for a long time, it goes into an over discharge state. In consequence, the backup time may become shorter, or the battery may become unusable.
- + 25 degrees Celsius or below temperature is recommended for storing the UPS for a long term.

Connect the UPS's "AC input" plug to the commercial power outlet for 12 hours or longer, when; the storage temperature is 25 degrees Celsius or below, then after every six months, and the storage temperature is 40 degrees Celsius or below, then after every two months.

- + Turn off "Power" button of the UPS during storage.

Prevent the short circuit between the output lines of the UPS, or the output line on the earth (grounding.)

- + The UPS may fail.

Do not plug in the UPS's "AC input" plug into the UPS's "power output" outlet during the backup operation.

- + The UPS may fail.

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

- + The page printer has a large peak current, which may result in the detection of the excessive connection capacity.

Make sure of checking the operation first before using the UPS in combination with the devices with large fluctuations in power frequency, such as a household power generator.

- + The UPS automatically recognizes the input power frequency when the input power is supplied. Connecting the UPS in a state where the input power frequency is out of the specified value can cause the misrecognition of the power frequency, which may result in the abnormal operation. It is okay for the power to switch from the commercial power supply to the generator's power while the UPS is running. However, adjust the frequency of the generator to match with the commercial power supply.

Do not use the unit for the frequent backup operation.

- + Battery may deteriorate to the extent where the specified backup time cannot be maintained.

Compliance

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

- + The internal battery may deteriorate due to the temperature surge that may result in dysfunction.

Turn off the UPS power before switching off the commercial power supply.

- + Once the commercial power supply stops, it switches to the backup operation. If the frequency of backup operation becomes high, the battery life may be significantly reduced.

When connecting the UPS with the inductive equipment, such as coils, motors, transformers, make sure of checking the operation beforehand.

- + Some types of equipment may prevent the normal operation of the UPS due to the inrush current, etc.

The UPS will not start up unless until the battery is connected.

- + Note that it also does not start in an over-discharge state or the state where the degraded battery is connected.

Do not run the withstand voltage test.

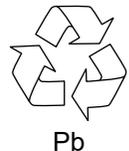
- + The power supply input line contains the surge absorbing elements, which are subject to destruction with the withstand voltage test.
- + Execute the insulation resistance within the range of DC 250V.

Make sure of all documents are attached to the UPS before transferring or selling the UPS to a third party. The UPS shall comply all the conditions stated in the attached documents.

- + This instruction manual contains the details instructions for assuring safety. Read them carefully before start using the UPS.
Contact the store of purchase if you lost the instruction manual.

+ This unit uses lead acid batteries.

The lead acid batteries are precious recyclable resources. Please cooperate recycling.
For more details about recycling, contact Omron Electronics Replace Center, or download the application form for the replacement service from our website, fill the required fields and send it to our Replace Service Center.



Details**About Daily Operation**

- + The UPS 's "Power" button can remain ON (in operation) or be turned off every time the connected system shuts down. You can follow your convenience. However, turning off "Power" button is recommended when it is not in use for a long time.
- + You can charge the battery by plugging a power outlet (commercial power supply) into the "AC input" plug of the UPS.

About Closing Backup Operation

- + When the power failure state continues for an extended time, the battery starts discharging, and the power output from the UPS stops. Shut down the PC by the appropriate procedure (i.e., save the data) while the UPS continues supplying power.

About Restart

- + If the battery discharges during the power failure, the UPS will stop. When the UPS recovers from the power failure or other abnormal power states, it automatically restarts and starts supplying power. When you do not want to operate connected equipment, turn off "Power" button or other connected equipment.

REFERENCE You can enable/disable automatic restart on "Setting" screen (P.30.)

Prepare for an unexpected circumstance, such as the data protection and system redundancy.

- + The Uninterruptible Power Supply (UPS) may stop the output due to the internal circuit failure.

1 Preparation

1-1 Unpack the product

1 Preparation

1-1 Unpack the product

Open the package and take out the Uninterruptible Power Supply (UPS) and accessories.

1-2 Check the accessories

Check that all the accessories are accompanied in the package, and they have no damage in appearance.

In case you find any defect or other problems, please contact your dealer immediately.

Precautions before Use	One
Warranty	One
Customer Registration Card	One
Guide to Customer Registration	One
3P - 2P conversion plug	One
Instructions for Labels Indicating Operating Condition	One
English Labels for Operation Panel	One
Battery Replaced Date Label	One
Connection Cable (USB)	One
Rubber Foot Cover for Horizontal Installation	One Set (four pieces)
Serial Label	One Set (four pieces)
UPS Replacement Service Brochure	One
About the Use of Shutdown Software	One

When using the UPS as a UL standards complied product, do not use 3P - 2P conversion plug.

<Customer Registration>

Fill out the necessary information on the attached customer loyalty registration card and send us back within one month from the date of purchase.

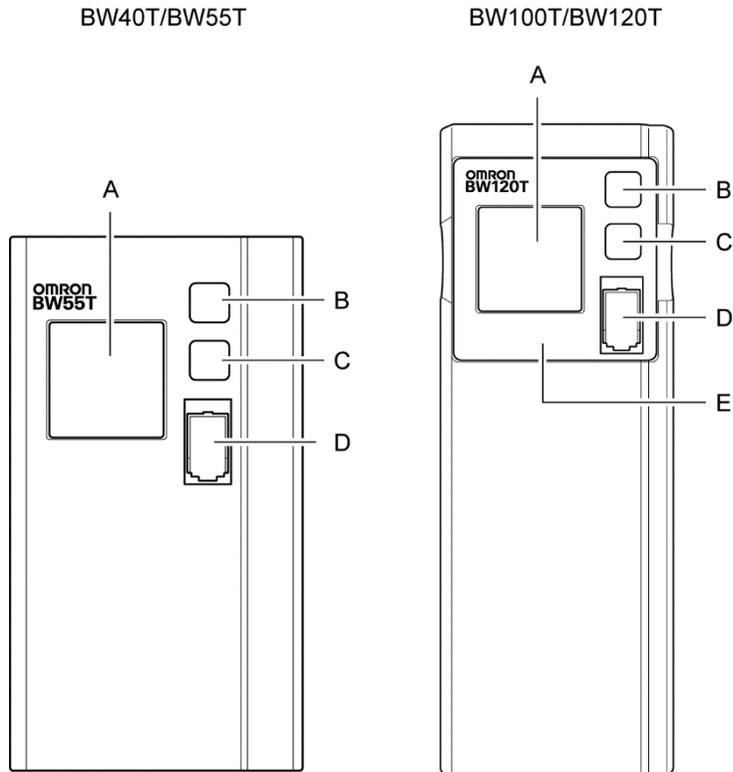
User registration is accepted at our homepage
(<https://www.oss.omron.co.jp/ups/regist/regist.html>)

1-3 Name of Each Part

The followings list the names of the UPS parts.

Refer to "2Installation and connection" (P.20,) "3Operation of the Uninterruptible Power Supply (UPS)" (P.25) and other sections for the details description of each function.

+ Front



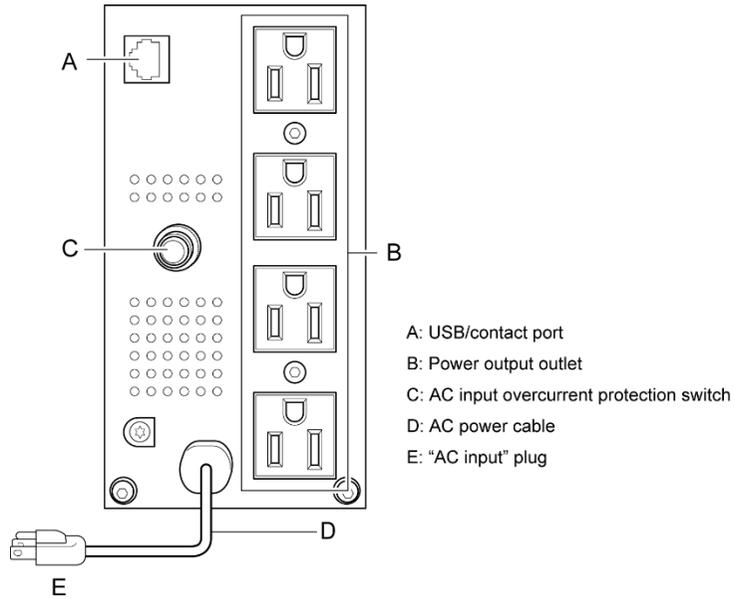
- A: Display
- B: "Buzzer stop/Enter" button
- C: "Select" button
- D: "Power" button
- E: Control panel (BW100T/BW120T only)

1 Preparation

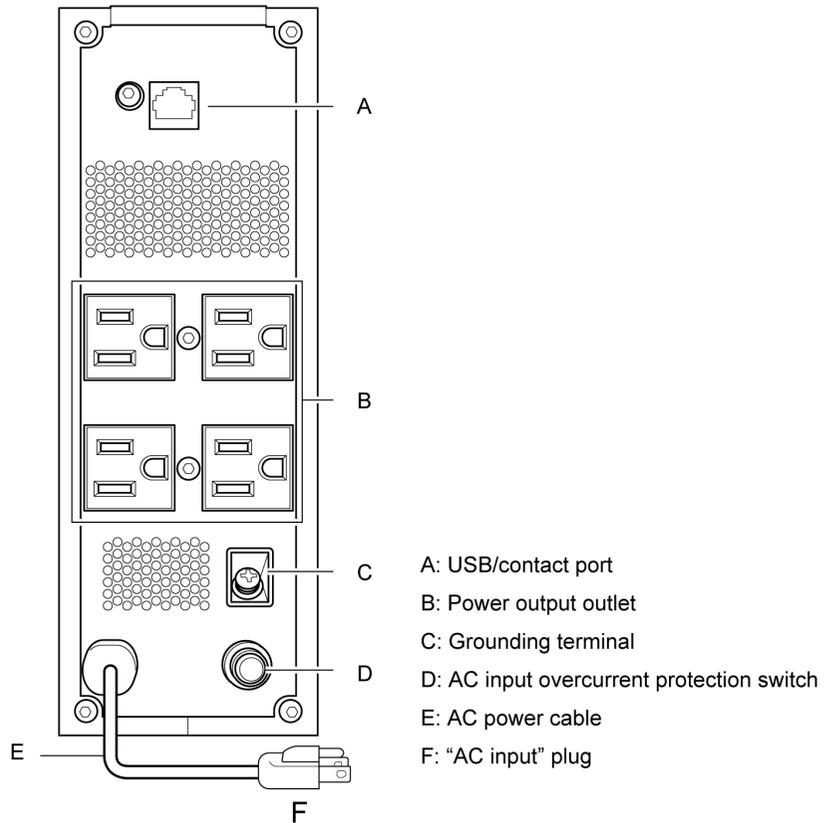
1-3 Name of Each Part

+ Back

BW40T/BW55T



BW100T/BW120T



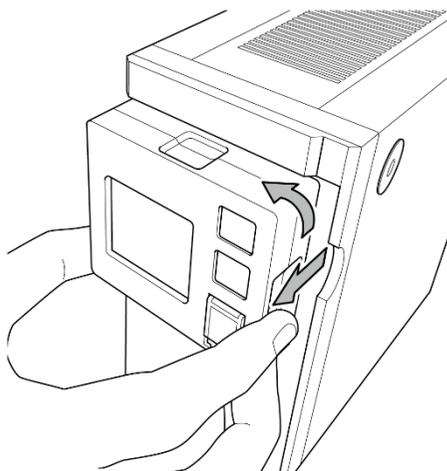
+ Rotation of the display part of the front panel operation

(BW100T/BW120T)

The operation display section can be rotated by 90 degrees by the placement whether it is vertical or horizontal.

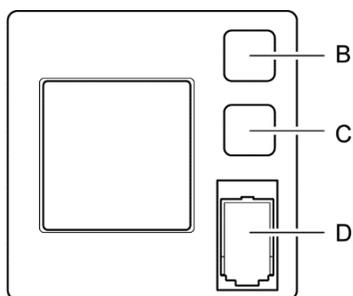
Pull out the operation display section, rotate it, and press it down.

***Do not rotate it 90 or higher degrees. Otherwise, the cord may be damaged.**



1

1-3-1 Button functions



B: "Buzzer stop/Return" button

Stop the buzzer. Confirm the set value changed by pressing and holding the button.

C: "Select" button

Select the set option. Change the set value by pressing and holding the button.

D: "Power" button

Turn ON/OFF the power by pressing and holding the button.

***Pressing " Buzzer stop/Return" button and "Select" button at the same time will switch between the normal screen and set screen.**

2 Installation and connection

2-1 Install

Install the UPS.

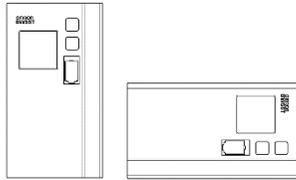
Do not use any other ways than the correct installation direction specified in the figure below.

Compliance

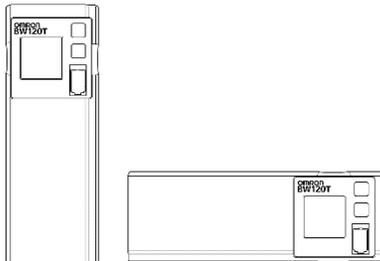
Product serial number is required whenever contacting us.
Check the product serial number on the top of the main body or the serial label on the accessory.

Correct Direction of Installation

<BW40T/BW55T>



<BW100T/BW120T>



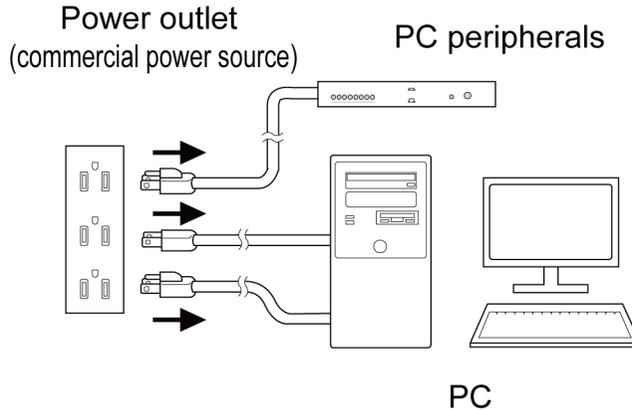
Watch your fingers and other parts of your body to not to be pinched between the parts.

* Paste the rubber feet (for the horizontal installation) in the four corners of the bottom surface.

2-2 How to connect the equipment

2-2-1 Connecting equipment to the "power output"

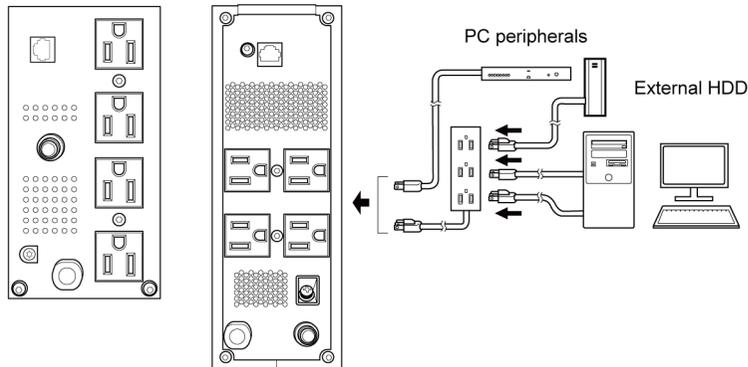
1. Disconnect all the "AC input" plugs of the equipment to back up, including PC, Peripherals, from the power outlet (commercial power supply).



2. Connect the equipment requiring backup to the UPS's "power output" outlet.
*When the UPS's output outlet is insufficient, purchase necessary equipment, such as a table tap, and install it on the output outlet.

<BW40/55T>

<BW100/120T>



- The input plug shape of the connected device is 2P can also be connected to the UPS's "power output" outlet.

The connection here cannot be used when the UPS is used as a UL compliant product.

3. Connect the UPS and PC with a connection cable when using Windows standard UPS service, an automatic shutdown software for free download.

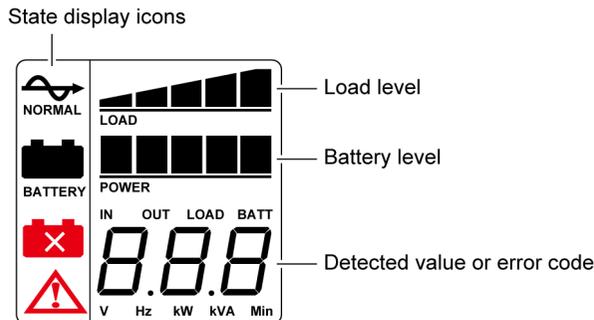
REFERENCE > "8Using the UPS monitoring software" (P.50)

* This operation is not required when not using the automatic shutdown software.

2-3 Check the Operation

Once the connection of equipment for backup with the UPS has been established, check that the backup operation is normally running by the following procedure. This operation check is to simulate the power failure that might occur by unplugging the "AC input" plug from the power outlet (commercial power supply.)

+ How to view the display



* This screen shows "all lighted" state for explanation. When the display is turned off, it turns on again by pressing a button.

1. Press "Power" button on the UPS for at least 3 seconds.

It goes in the backup operation for about 10 seconds and then starts the self-diagnostic test.

During the self-diagnosis, "FU" is displayed in "Detected Value." The status display icon is displayed as shown below.

When the self-diagnosis test ends normally, it switches to AC output from the commercial power supply.

* When the battery voltage is low, the self-diagnostic test will not run; instead, the operation starts directly with the output from the commercial power supply.

Status display	Description
	Power ON Normally operating

2. Activate all connected devices (including the equipment connected to the service outlet of the PC.)

* Please operate in a state where there is no problem even if the power of the connected equipment stops in between.

The UPS is shipped after fully charged; however, the backup time may be shorter due to the natural discharge at the time of first use. We recommend you to start using the UPS after fully charging it.

3. Check the status display of the UPS in this state.

Status display	
Power output outlet	Output the power (in a state where connected equipment is conducted)

The display shows the way as mentioned above -> The operation is normal. Go to the procedure 4.

The display is different from the above mentioned -> It is abnormal. The display shows either one of those mentioned in "3-3 How to Understand Beep Sound and Display" (P.27.) Go to the procedure 4 after the treatment according to the handling method.

4. Pull out the AC input plug of the UPS from the power outlet (commercial power supply.)

It goes in the backup operation state.

5. Check the status display of the UPS in the backup operation state.



The operation is normal. Go to the procedure 6.

The display is different from the above mentioned -> It is abnormal. Turn off "Power" button once.

- When the display is according to "3-3 How to Understand Beep Sound and Display" (P.27,) treat it according to the handling method and return to the procedure 1 again.
- If the UPS and connected equipment stop without backing up at all, the battery might have required more charging.
Connect the UPS's "AC input" plug to the power outlet (commercial power supply) and charge the battery for over 12 hours, and then return to the procedure 4 again.
- If the problem persists after attempting the above two methods, contact OMRON Electronic Equipment Customer Support Center.

6. Connect "AC input" plug to the power outlet (commercial power supply) again.

The status display goes back to the original.

Status display	Description
	Power ON Normally operating

That's all for the operation check.

The installation process has been completed.

2-4 Battery charge

The battery charging starts automatically by connecting the UPS's "AC input" plug to the power outlet (commercial power supply.) The charging will complete in 12 hours maximum.

*The UPS will charge both ON and OFF states.

- The UPS is shipped from the factory after fully charged; however, the backup time may be shorter due to the natural discharge at the time of first use. We recommend you to start using the UPS after fully charging it.
- Follow the operation in "3Operation of the Uninterruptible Power Supply (UPS)" (P.25) when not performing "2-5 Initial Value Measurement for Backup Time."

2-5 Initial Value Measurement for Backup Time

Measure the initial value of the UPS's backup time in your environment, so it can be a standard when inspecting the battery or deciding the setting value of the automatic shutdown software.

REFERENCE "5.Measuring the backup time" -> (P. 33)

2-6 Battery recharge

The battery completely discharges after measuring the backup time. You need to recharge before use.

*You can use the connected equipment while charging; however, the backup time will shorten in a case of power failure occurs until the charging is completed.

In this case, the backup immediately starts the moment the power failure occurs just after start charging.

REFERENCE "2-4Charging the Battery" (P. 24)

All the preparation for starting the operation has been completed.

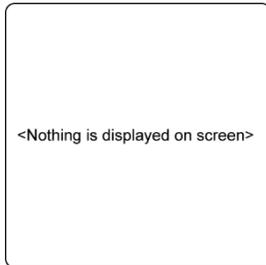
3 Operation of the Uninterruptible Power Supply (UPS)

3-1 Basic operations including running and stopping the unit

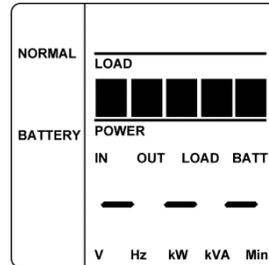
3-1-1 When "AC input" plug is connected to the commercial power supply in the power off

- Power output is stopped.
- Battery starts automatic charging.

When the power button is OFF with AC input OFF



When the power button is OFF with AC input OFF



*No state display icon is lighted.

3-1-2 How to start operation

1. Press "Power" button for three or more seconds.
 - During the self-diagnosis, "FU" is displayed in "Detected Value." The status display icon is displayed as shown below.
When the self-diagnosis test ends normally, it switches to AC output from the commercial power supply.
 - When the self-diagnosis test isn't executed, it immediately switches to AC output from the commercial power supply.

Status display	
Power output outlet	Output the power (in a state where connected equipment is conducted)

- The battery is charged automatically while running.

3 Basic operations including running and stopping the unit

3-1 Basic operations including running and stopping the unit

3-1-3 Action in the power failure

- When a power failure or an abnormal input power occurs, the unit automatically switches to the battery mode and continues the power output from the "power output" outlet with the electricity sourced from the battery.
- In Battery mode, the following icons are displayed.



3-1-4 When recovered from the power failure

- While the power output is from the battery mode, the unit automatically returns to the output from the commercial power supply as soon as it recovers from the power failure or abnormal power. The battery starts automatic charging.
- Once the battery runs down completely, the UPS's power output stops. Then, the UPS automatically restarts and starts supplying power again the moment it recovers from the power failure or other abnormal input power states. The consumed battery is charged automatically.

REFERENCE You can enable/disable automatic restart on "Setting" screen (refer to P. 30.)

3-1-5 How to stop the operation

Press "Power" button for three or more seconds in power ON state.

- Power output stops.
- Even in power OFF state, the battery is automatically charged as long as the commercial power supply is available.

3-1-6 Pausing the beep sound

The activated beep sound pauses by pressing "Stop buzzer/Enter" button.

REFERENCE You can enable/disable beep sound on "Setting" screen (P. 30.)

3-2 Beep sound - How to see the display

○: Lighted ●: Extinguished ◻: Blinking

No.	Status display	Status Display Icon	Buzzer	Output	Charge	Description	Solution
1		None	None	OFF	OFF	No AC input Operation halted	
2	---	None	None	OFF	ON	AC input "Power" button "off"	
3	*1		None	ON	ON	"Power" button [on] Normally operating	
4	FU		None	ON	OFF Discharging	In the self-diagnosis test	
5	*2		Intermittent, at 4s intervals	ON	OFF Discharging	Backup operation due to power failure or AC input error. Output stops if backup operation is continued.	Process the termination of the connected devices you are using, and then stop the devices.
6	BL		Intermittent, at 1s intervals	ON	OFF Discharging	(Same as above) Output stops soon due to low battery level.	Process the termination of the connected devices you are using, and then stop the devices.
7	BE	None	None	OFF	OFF Discharging	Output stopped due to low battery.	Charge the battery.
8	HH	None	None	OFF	(ON)	AC input error (over) When the voltage is high: The left digit only blinks When the frequency is high: The right digit only blinks When both voltage and frequency are high: Both blink	Use in the AC input voltage range and frequency described in the specification.
9	LL	None	None	OFF	(ON)	AC input error (under) When the voltage is low: The left digit only blinks When the frequency is low: The right digit only blinks When both voltage and frequency are low: Both blink	
10	OL		Continuation 0.5 second Interval	ON	ON Or, Discharging	Too many devices are connected. The capacity rating has been exceeded. Output stops if the state continues for a certain duration	Reduce the connected devices.
11	EO		Successful	OFF	ON Or, Discharging	Output stops due to exceeded connection capacity	Turn OFF all the power switches on the UPS and connected devices, reduce the connected devices, and then turn ON the "Power" button on the UPS and connected devices.
12	ES		Successful	OFF	ON Or, Discharging	Output has stopped due to the short circuit	Check that the AC input of any of the connected devices is not short-circuited and that connections did not exceed the rated capacity.
13	EE		Successful	ON	-	Abnormal operation or failure has occurred	Turn OFF all the power switches on the UPS and connected devices, and turn ON only the "Power" button on the UPS again. If the displayed detail does not change, ask for the repair as a problem is suspected with the UPS. The changes in the display content may be due to the combination of connected equipment. Contact Electronic Equipment Customer Support Center for any doubts.
14	E1		Successful	OFF	-	Stopped due to the abnormal output voltage (over)	
15	E2		Successful	OFF	-	Stopped due to the abnormal output voltage (under)	
16	E3		ON	OFF	-	Charge stopped due to abnormal charging voltage of the battery (over)	Ask for the repair as a problem is suspected with the UPS.
17	E4		ON	OFF	-	Charge stopped due to abnormal charging voltage of the battery (under)	

3 Beep sound - How to see the display

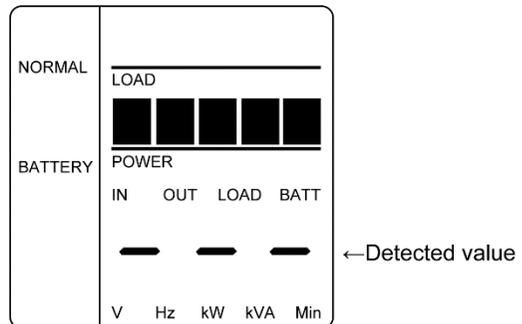
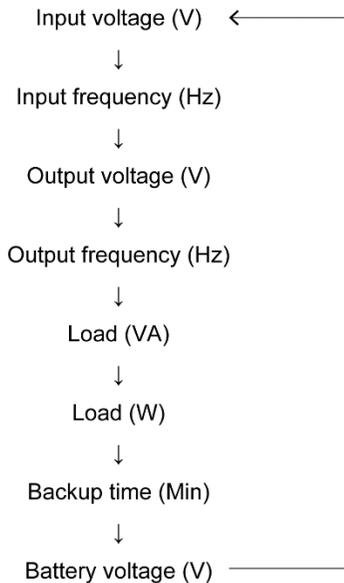
3-2 Beep sound - How to see the display

18	E6		ON	OFF	-	Abnormal internal temperature occurred	This may be caused by the UPS's ambient temperature surging. Check the ambient temperature of UPS. If the UPS temperature exceeds 40 degrees Celsius, cool down the ambient temperature. Turn OFF all the power switches on the UPS and connected devices, and turn ON only the "Power" button on the UPS again. Ask for the repair as a problem is suspected with the UPS if the temperature is 40 degrees Celsius or below.
19	E9	None	Successive	ON	-	An abnormality occurred in the internal communication.	Turn OFF all the power switches on the UPS and connected devices, and turn ON only the "Power" button on the UPS again. If the displayed detail does not change, ask for the repair as a problem is suspected with the UPS.
20	EoB		Continuation 1 second Interval	ON	OFF	Abnormal battery temperature occurred	Turn OFF all the power switches on the UPS and connected devices, and turn ON only the "Power" button on the UPS again. If the displayed detail does not change, ask for the repair as a problem is suspected with the UPS.
21	EoU		Successive	ON	OFF	UPS product life has ended.	Replace the UPS.
22	On		Continuation 2 seconds Interval	ON	ON	Battery deterioration or disconnection has been detected. (Alarm only; output continues)	Connect or replace the battery. Get an optional replacement battery, and you can replace the battery on your own.
23	H5		None	OFF	ON	UPS keep standby due to Battery low.	UPS is charging, continue charging until it starts up.

*1 Output voltage displays.

*2 Backup standard time displays.

The status display can be switched among each detected value with "Select" button. The detected value transits as follows.

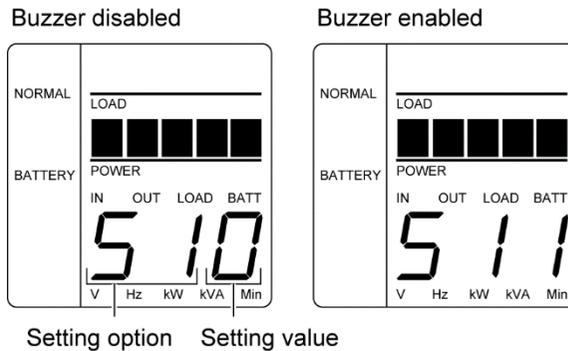


How to view and set the setting screen

This operation is available in both the power ON and OFF.

1. Pressing "Stop buzzer/Enter" switch and "Select" switch at the same time, the screen switch to the Setting screen (the buzzer sounds).
2. Press the "Select" switch to select the items you want to set.
3. By selecting the setting option and pressing the "Select" switch for 2 to 3 seconds, the setting options and set values turn from a lighted state to blinking state (if it does not blink, repeat the step from the procedure 2.)
4. Pressing the "Select" switch can change the setting value.
5. Press the "Stop buzzer/Enter" switch for about 1 second to confirm the setting. The switch turns from a lighted state to blinking state (if it does not blink, repeat the step from the procedure 4.)
6. Press the "Stop buzzer/Enter" switch and "Select" switch at the same time to return to the normal screen (the buzzer sounds).

(Example) Buzzer setting screen



3 Beep sound - How to see the display

3-2 Beep sound - How to see the display

List of setting options and values

Setting options	Description	Setting values
S1	Buzzer	0: Disabled 1: Enabled (factory setting)
S2	Auto restart	0: Disabled 1: Enabled (factory setting)
S3	Self-diagnosis test	0: Disabled 1: Enabled (factory setting)
S5	Input voltage sensitivity	1.2: Standard sensitivity (Factory setting: 1) 3: High Sensitivity
S7	Cold start	0: Disabled (factory setting) 1: Enabled
S8	Battery life counter	0: Disabled 1: Enabled (factory setting)
S9	Power button shutdown	0: UPS shutdown (factory setting) 1: UPS + PC shutdown
SC	Restart level	0-9: 0-90% 0: (factory setting)
SJ	Maximum Backup Time	0.1-9: 0.1-9 minutes * (Factory setting: 0 second)
SL	LCD auto-off	0: Always ON (factory setting) 1: Turned OFF after 30 seconds 2: Turned OFF after 3 minutes
C00	Self-diagnosis test (manual)	Run the self-diagnosis test
C01	Battery life counter reset	Resets the battery life counter

* Range of values

With period: SJ.1 - SJ.9 = Up to 54 seconds by 6 minutes.

Without period: SJ1 - SJ9 = Up to 9 minutes by 1 minute.

The setting utility allow to set up to 9999 minutes within 10 - 59 seconds by 1 second.

4 UPS functions

4-1 Suspending a beep

You can suspend a beep by pressing and holding the Beep Stop/Select Button while a beep is sounding.

4-2 Self-diagnostic test

This test performs a failure diagnosis on the UPS and performs an easy test to check for battery deterioration.

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

If the battery is not fully charged, the self-diagnostic test is not executed immediately. After charging is complete, it is automatically executed.

1. Connect your computer and other devices to the UPS and then turn on the power button of the UPS.
2. The self-diagnostic test starts automatically.
The Battery Mode starts for testing purpose. (No beep sounds.)
When the test is complete, the normal operation automatically starts.
3. If the status indicator/battery replacement lamp blinks and the beeper sounds:
SEE ALSO Follow the directions for the solutions described in "3-2Beep sound - How to see the display (Page 27)."

Manual testing

1. By pressing "Buzzer stop/Enter" button and "Scroll" button simultaneously, the buzzer which sounds like 'p' (continuous sound) will beep and the setting display will appear.
2. Press "Scroll" button, display of setting items change continuously [S11], [S21],,,[C00].
3. By choosing [C00] and pressing "Scroll" button for a long time, [C00] blinks. By pressing "Buzzer stop/Enter" button, self-diagnostic test start and display [FU].
4. As the test complete normally, [C00] stops blinking, and the self-diagnostic test is complete.
5. Press "Buzzer stop/Enter" button and "Scroll" button simultaneously. The buzzer sounds like 'p' (continuous sound) and back to the normal screen.

4-3 UPS setting utility software

UPS setting utility software is software for various UPS settings. This software facilitates various UPS setting changes.

For example) Possible to stop UPS without using monitoring software at the time of power failure

->Set the "Maximum backup time setting.

[Items available]

- (1) Complete beep stop
- (2) Voltage sensitivity mode setting
- (3) Cold start setting
- (4) Maximum backup time setting
- (5) Automatic self-diagnostic testing
- (6) Startup delay time setting
- (7) Startup battery charge capacity setting

For details, refer to the UPS utility software instruction manual.

UPS setting utility software and UPS setting utility software instruction manual can be downloaded from our website

(<https://www.oss.omron.co.jp/ups/support/download/download.html>).

5 Measuring the backup time

5-1 How to measure backup time

1. Connect the AC Input Plug of the UPS to a wall outlet (commercial power) and charge it for approximately over 12 hours.
2. Turn ON all connected device.
Turn ON devices connected to the AC outlet of your computer.
Operate them in a way in which it is allowable that power supply to the connected devices stops.
3. Disconnect the AC Input Plug of the UPS and measure the backup time.
Measure the time until the unit automatically stops and all displays disappear with the plug disconnected.

The backup time you measure for the first time after purchase is the "initial value of the backup time."
After charging is complete, it is automatically executed.

5-2 Estimated backup time

The backup time varies depending on the capacity of connected devices.
After calculating the total capacity of connected devices, refer to the graph of the backup time to obtain an estimation of the initial value of the backup time. (This is also applied to checking the battery.)

1. Unify the total capacity (power consumption) of connected devices to W (Watt).
For the indication of connected devices, check your computer and the rear of the display.

There are 3 types of indication: VA (Volt·Ampere) indication, A (Ampere) indication, and W indication.

Example 1) 100 VAC, 50/60Hz, 145 W

Example 2) 100 VAC, 50/60Hz, 1.8 A

Example 3) 100 VAC, 50/60Hz, 150 VA

Indication	Value
VA	$W = VA \times \text{power factor}$
A	$W = VA \times \text{power factor} \times 100$

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.

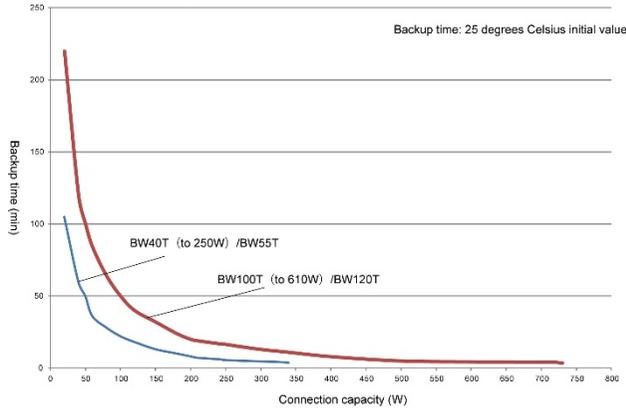
When the power factor is unknown, enter "1". The power factor usually ranges between 0.6 and 1.

5 Measuring the backup time

5-2 Estimated backup time

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

Estimated backup time



Backup time-table

Load/Type	20	40	50	60	80	100	120	150	180	200	210	240	250	270	300	330	340	400	500	600	610	700	720	730
BW40T	105	60	50	36	28	22	18	13	10	8	7	6	5.4	-	-	-	-	-	-	-	-	-	-	-
BW55T	105	60	50	36	28	22	18	13	10	8	7	6	5.4	5	4.5	4	3.6	-	-	-	-	-	-	-
BW100T	220	120	100	84	64	50	40	32	24	20	19	17	16.5	15	13	11.5	11	8	5	4.5	4.3	-	-	-
BW120T	220	120	100	84	64	50	40	32	24	20	19	17	16.5	15	13	11.5	11	8	5	4.5	4.3	4.2	4	3.6

- * These backup times are for reference only. Times may vary according to battery life and external environmental conditions (temperature, etc.).
- * The maximum value of the estimated backup time display is 99.9 minutes on LCD.

6 Contact signal functions

The UPS can use USB/connection port as the contact signal.

When using as the contact signal, use a contact signal cable (type: BUC31) separately sold.

* When using as USB, use the attached USB cable.

6-1 Type of input and output signals

The UPS has the following input signals and four kinds of output signals.

The output circuit consists of an open collector circuit using a photo coupler (a kind of electronic switch).

Pin assignment and signal name of contact port

Signals	Descriptions
Input of backup stop signal (BS)	The input signal for stopping the output of the UPS
Backup Signal output (BU)	Stays ON during backup operation at a power failure.
Trouble Signal output (TR)	Goes ON when an internal failure of the UPS occurs or when the battery life counter expires.
Battery Replacement Signal output (WB)	Goes ON when the self-diagnostic test determines that battery replacement is necessary due to deterioration or when the battery life counter goes off-scale.

6-2 Pin assignment of USB/Contact port

●Pin assignment and signal name of contact port

IO	Signal name	Contact port
IO	It is not used as USB D+/contact signal.	1
IO	It is not used as USB D-/contact signal.	2
O	Backup Signal output (BU)*	3
-	COMMON (COM)	4
I	It is not used as USB-Vbus/contact signal.	5
I	Input of backup stop signal (BS)	6
O	Trouble Signal output (TR)*	7
O	Battery Replacement Signal output (WB)*	8

* Factory default setting By setting utility, it is possible to change the combination of output signals and to allocate the battery LOW signal output (BL). Also, it is possible to set the time until output stopped by backup stop signal (BS). You can download the setting utility for free from our homepage.

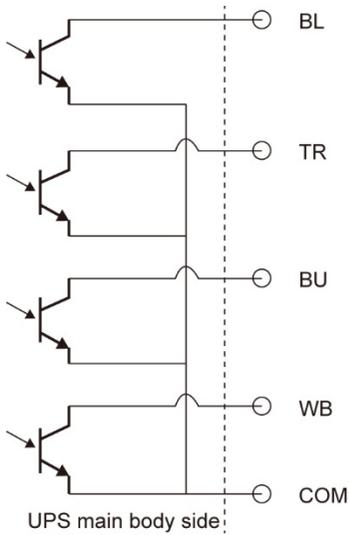
Note: Dealing with unused signal cables

To prevent the malfunction, take measures such as to cut or isolate stripped wires (exposed conductive part) to prevent to contact.

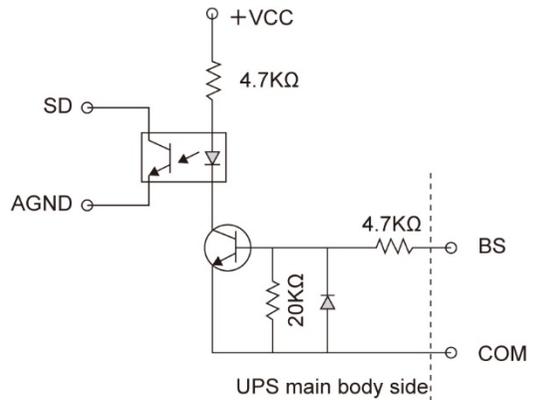
-Signal terminal specifications-

Signal output (BU/BL/TR/WB)	Type of signals	Isolated output through a photo coupler
	Rated	Voltage: 35V or less Maximum current: 50mA
Input of backup stop signal (BS)	Signal condition	Input Voltage: 5V-15V
	Input circuit	Isolated input by a photo coupler

Signal output circuit (reference)



Input circle of backup stop signal (reference)



7 Maintenance and Inspection

Caution (maintenance)

When maintaining the connected equipment, turn OFF the power switch and disconnect the AC input plug.

- The backup function continues to supply power from the power output receptacles while the UPS is operating, even when the AC input plug is disconnected.



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 power supply output receptacles of the UPS.

- Doing so may result in electric shock.



Do not insert any metal in a battery connector.

- Doing so may result in electric shock.



7-1 Checking the battery

The sealed lead battery used in the unit has a limited life. 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.

7-1-1 Life of battery (estimated replacement timing)

Ambient temperature	Life of battery
25 degrees Celsius	5 years
30 degrees Celsius	3.5 years
40 degrees Celsius	1.7 years

7-1-2 Methods for checking the battery

There are two methods for checking the battery.

- Perform a self-diagnostic test. (See page 31.)
- Measure the backup time. (See page 33.)

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

If the measured value is less than half the value of the "initial value of the backup time," replace the battery.

- * 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

7-1-3 Guidelines for how often to check the battery (measure the backup time)

Ambient temperature	Check once every six months	Check once a month
25 degrees Celsius	For the first 3 years after purchase	When 3 or more years have passed since purchase
30 degrees Celsius	For the first 1.5 years after purchase	When 1.5 or more years have passed since purchase

- * The battery deteriorates even if it is stored. The higher the temperature is, the shorter the life becomes.
After charging is complete, it is automatically executed.

7-2 Replacing the battery

The battery can be replaced either while the unit is stopped (power supply output stopped) or while it is in operation (outputting power supply).

Caution

When the unit is used in compliance with UL standards, do not replace the battery while in operation (while power is being output). Replacing the battery while in operation does not comply with UL standards. Make sure to stop the operation of the unit before replacing the battery.

- * When replacing the battery, stop the connected devices, turn OFF the power switch of the UPS, and disconnect the AC input plug from the wall.
- * 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 not to drop it.
- Not doing so, could cause blindness or burns by the leaked fluid (dilute sulfuric acid).



Do not use other than the batteries specified by our company.

- It may cause fire.
- Product model: BWB55T (Replacement battery pack for BW40T / BW55T)
BWB120T (Replacement battery pack for BW100T / BW120T)



Do not replace the battery pack in a place where combustible gas exists.

- Connecting the battery may bring to spark, causing explosion or fire.



Do not touch the liquid (dilute sulfuric acid) which leaks from the battery.

- 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.



The battery should not be disassembled or modified.

- Doing so could cause dilute sulfuric acid leak, which could cause blindness and burns.



The battery should not be dropped or given any strong impact.

- Dilute sulfuric acid may leak.



Do not short the battery with metal objects.

- That may cause electric shock, heat generation or burn injury.
- Electric energy may remain even in a used battery.



Do not throw the battery in the fire or break it.

- The battery may explode or leak dilute sulfuric acid.



● This unit uses lead-acid batteries.

The lead-acid batteries are precious recyclable resources. Please cooperate recycling.
For information on recycling, please contact the replacement service center of OMRON, otherwise after downloading and filling out the replace service application from our homepage, send it to our replacement service center.



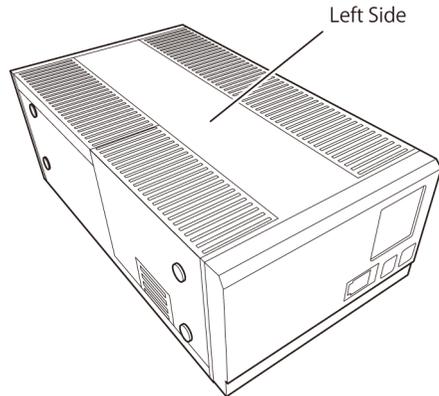
Pb

7-2-1 How to replace a battery

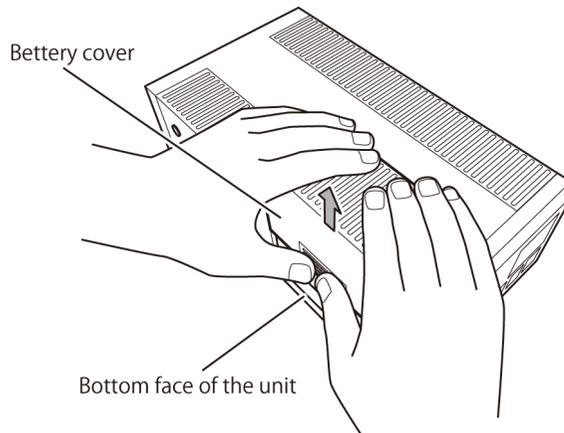
- BW40T/BW55T

* Work carefully not to slide and fall the unit.

1. Lay it slowly so that the left side of the unit is upward.



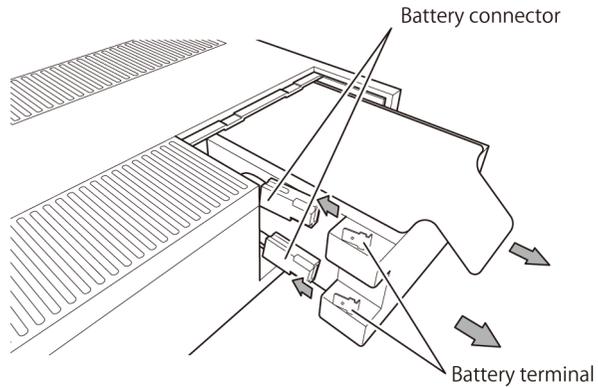
2. both hands put on the battery cover and slide it above to remove while putting the nail plate on the lower of the cover.



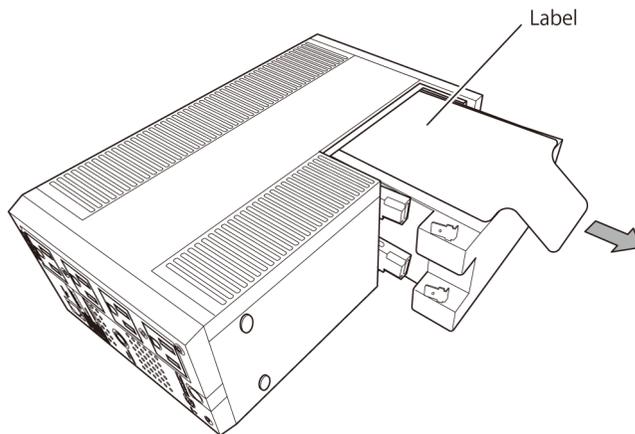
7 Maintenance and Inspection

7-2 Replacing the battery

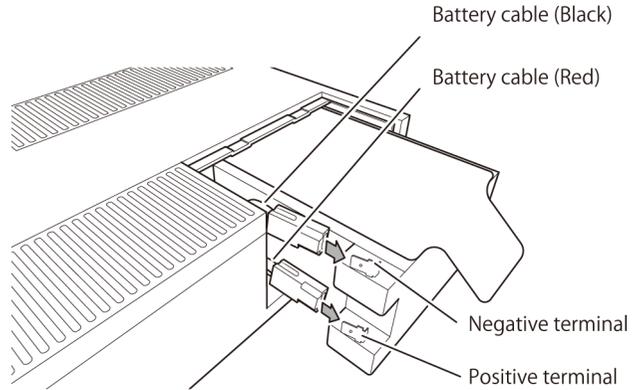
- 3.** Holding the battery with your right hand and grabbing the battery cable (red) connector with your left hand, pull it out from the battery connector.
*When it is difficult to pull it out, because of tight connection, pull it out while rocking the connector part back and forth.
Then, grabbing the battery cable (black), pull it out from the battery connector.



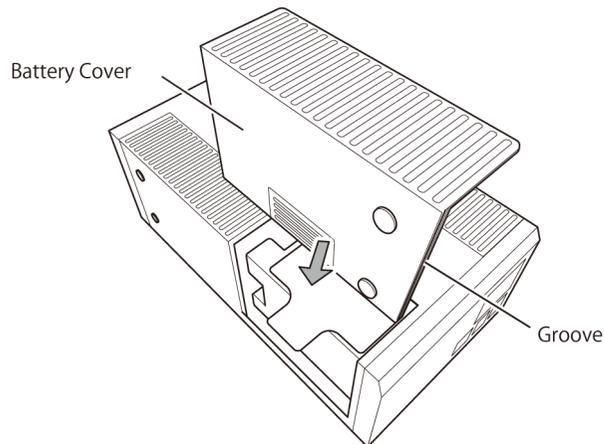
- 4.** Remove the battery having the label.
Remove the battery with both hands while being careful not to drop it.



- 5** Insert the two connectors of the battery cables until clicking.
Hold the battery with your right hand and insert the connector of the battery and battery cable (red) to the plus terminal with your left hand.
Then, insert the connector of the battery cable (black) to the negative terminal.
•Replacement battery pack
For BW40T / BW55T: Model BWB55T



- 6.** Fit the groove of the battery cover to the unit and slide it to attach it.



- 7.** Reset the battery life counter.
* Refer to the next page for reset the buttery life counter.

7 Maintenance and Inspection

7-2 Replacing the battery



Make sure to reset the battery life cycle counter right after replacing the battery.
If you do not reset the battery life counter, a battery deterioration alarm may occur earlier than the expected battery life.

<When replacing it while [the AC input] plug is connected to a wall outlet>

1. By pressing "Buzzer stop/Enter" button and "Scroll" button simultaneously, the buzzer which sounds like 'p' (continuous sound) will beep and the setting display will appear.
2. Press "Scroll" button, display of setting items change continuously [S11], [S21],..., [C00]. By choosing [C00] and pressing "Scroll" button for a long time, [C00] blinks. By pressing "Buzzer stop/Enter" button, self-diagnostic test start and display [FU]. As the test complete normally, [C00] stops blinking.
3. Press "Scroll" button again, [C01] is displayed. Press "Scroll" button for a long time, [C01] is blinked.
4. Press "Buzzer stop/Enter" button for a long time. The buzzer which sounds like 'p' (continuous sound) will beep and the battery life counter will be reset. After finishing blinking [C01], the reset is complete.
5. Press "Buzzer stop/Enter" button and "Scroll" button simultaneously. The buzzer which sounds like 'p' (continuous sound) will beep and the screen will go back to normal.

<When replacing it while [the AC input] plug is not connected to a wall outlet>

Connect [the AC input] plug to a wall outlet and do the above operation No. 1,3,4,5.

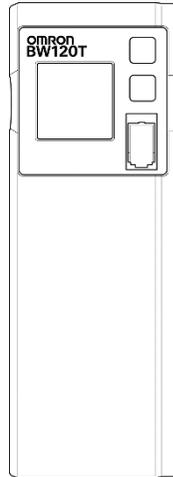


Write the battery replacement date on the included battery replacement date label, and attach the label on the visible place.

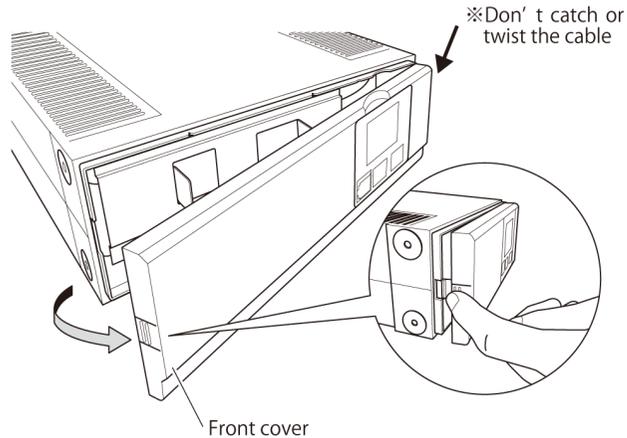
- BW100T/BW120T

* Work carefully not to slide and fall the unit.

1. Lay it slowly so that the left side of the unit is upward.



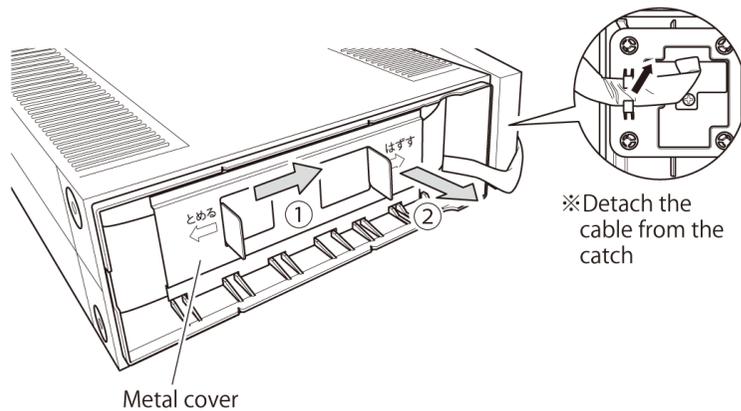
2. Pull the front cover towards you to remove it by hooking a finger.
*Don't twist the cable and put the cable between the battery while taking the front cover off. Doing so will cause disconnection.



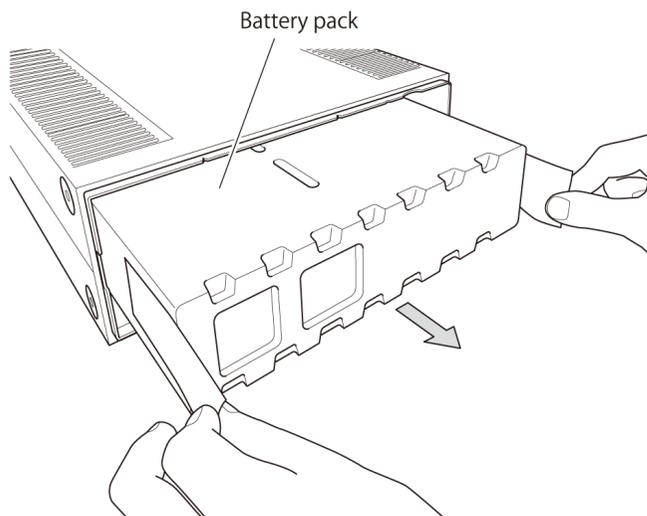
7 Maintenance and Inspection

7-2 Replacing the battery

3. Slide it by holding the protruding portion of the plate cover to the right (1) and pull it towards you (2) to remove it.
*If lay the front cover aside, detach the cable from the catch.

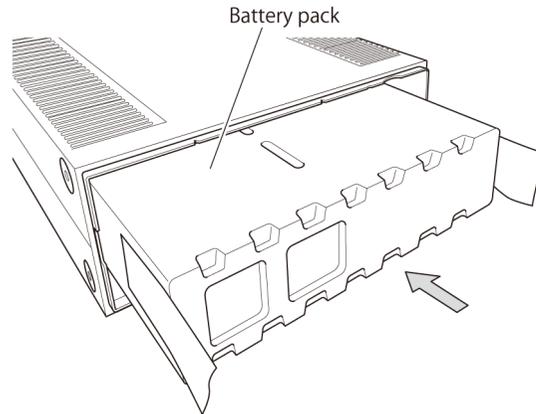


4. Remove the battery pack by pulling the tapes in its both sides.

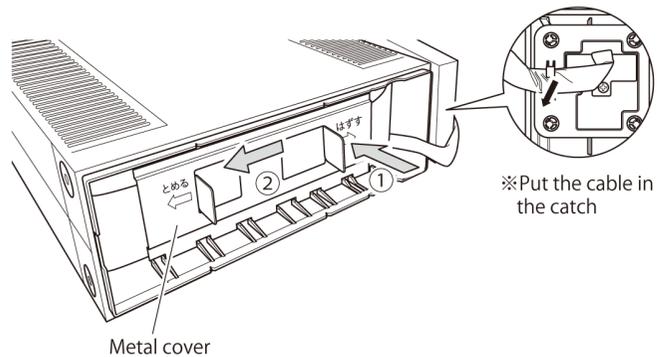


5. Insert the new battery pack. Securely push the battery pack until the connector on the rear of the battery pack is connected to the unit.
- Battery pack for replacement
- For BW100T / BW120T: Model BWB120T

You may hear a “pop” sound when you connect the battery, but this sound is not abnormal.



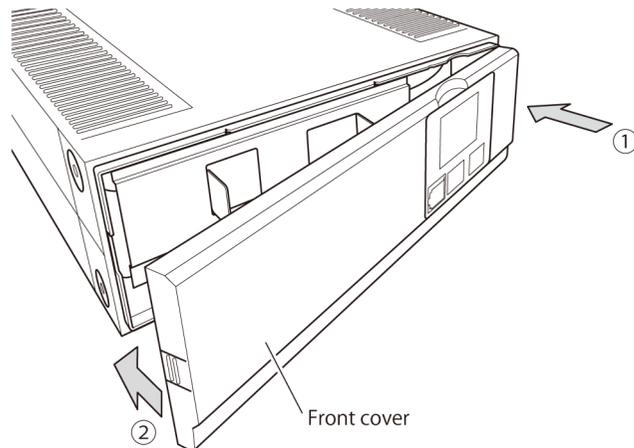
6. Attach the metal cover to the unit (1) and slide it the left (2) to fix it.
*If you detach the cable from the catch, put the cable in the catch.



7 Maintenance and Inspection

7-2 Replacing the battery

7. Attach the right side of the front cover to the unit (1), and push the left side to fix it to the unit (2).



8. Reset the battery life counter.



Be sure to reset the battery life counter after replacing the battery. If you do not reset the battery life counter, a battery deterioration alarm may occur earlier than the expected battery life.

<When replacing it while [the AC input] plug is connected to a wall outlet>

This operation is available in both the power ON and OFF.

1. By pressing "Buzzer stop/Enter" button and "Scroll" button simultaneously, the buzzer which sounds like 'p' (continuous sound) will beep and the setting display will appear.
2. Press "Scroll" button, display of setting items change continuously [S11], [S21],..., [C00]. By choosing [C00] and pressing "Scroll" button for a long time, [C00] blinks. By pressing "Buzzer stop/Enter" button, self-diagnostic test start and display [FU]. As the test complete normally, [C00] stops blinking.
3. Press "Scroll" button again, [C01] is displayed. Press "Scroll" button for a long time, [C01] is blinked.
4. Press "Buzzer stop/Enter" button for a long time. The buzzer which sounds like 'p' (continuous sound) will beep and the battery life counter will be reset. After finishing blinking [C01], the reset is complete.
5. Press "Buzzer stop/Enter" button and "Scroll" button simultaneously. The buzzer which sounds like 'p' (continuous sound) will beep and the screen will go back to normal.

<When replacing it while [the AC input] plug is not connected to a wall outlet>

Connect [the AC input] plug to a wall outlet and do the above operation No. 1,3,4,5.



Write the battery replacement date on the included battery replacement date label, and attach the label on the visible place.

7-3 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 AC input plug, power supply output receptacles of the UPS

Stop all the connected devices and the UPS and disconnect the AC input plug from a wall outlet (commercial power).

Then, remove dust with a dry cloth and connect again.

SEE ALSO Connecting the equipment “2-2How to connect the equipment” Page21

8 Using the UPS monitoring software

When using the UPS monitoring software, connect and set as the followings.

8-1 The outline on the UPS monitoring software

When an input power supply abnormality (power failure, etc.) occurs, UPS monitoring software can be used for shutting down connected computers. According to usage, download and use necessary software from our home page: (<https://www.oss.omron.co.jp/ups/support/download/download.html>). Refer to the following table for the response situation for OS.

Notes

When manually starting during the 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 manually stop the unit during the scheduled operation, turn OFF the power switch.

Under the setting of auto stop the UPS after OS closing processing, when the power is restored while auto shutdown processing is being performed

- If a power failure occurs and then the power is restored while auto shutdown is still in progress, UPS output will stop temporarily after the set time elapses. After shutdown is finished, do not turn on the computer until the UPS has finished restarting.

8-1-1 The supported OS of the UPS monitoring software

Compatible OSs	Communication method	UPS monitoring software
Windows 10 Windows Server 2016 Windows Storage Server 2016 Windows 8.1 Windows 8 Windows Server 2012 R2 Windows Storage Server 2012 R2 Windows Server 2012 Windows Storage Server 2012 Windows 7 Windows Vista (Ultimate/Business/Home Premium/Home Basic) Windows Server 2008 R2 Windows Storage Server 2008 R2 Windows Server 2008 Windows Storage Server 2008	Serial (USB 1.1)	Power Attendant Lite
		PowerAct Pro
		Simple Shutdown Software*2
Windows Server2003 Windows Server2003 x64 Editions Windows XP Windows XP Professional x64 Edition	Serial (USB 1.1)	PowerAct Pro
		Simple Shutdown Software
Linux Cent OS Ver.7.x/Ver.6.x/Ver.5.x Red Hat Linux Ver.7.x/Ver.6.x/Ver.5.x Asianux Server 3	Serial (USB 1.1)	PowerAct Pro*1
		Simple Shutdown Software*1*4
macOS 10.12 Mac OS X v10.11/v10.10/v10.9/v10.8/v10.7/v10.6/v10.5 Mac OS X Server v10.11/v10.10/v10.9/v10.8/v10.7/v10.6/v10.5	Serial (USB 1.1)	Power Attendant Lite
	Serial (USB 1.1)	PowerAct Pro*3

*1 Files cannot be automatically saved.

*2 Windows Storage Server 2008 R2/Windows Storage Server 2008 are not supported.

*3 PowerPC version is not supported When using macOS 10.12/Mac OS X 10.11 and Mac OS X Server v10.11 in Ver.4.7, it is necessary to set OS. For details, refer to our homepage.

*4 Cent OS Ver.6.x、Red Hat Linux Ver.5.x、Asianux Server 3 is not supported.

8 Using the UPS monitoring software

8-1 The outline on the UPS monitoring software

8-1-2 The functions list of the UPS monitoring software

●Standard support ○Optional support ▲, Partial limitation

Descriptions		Soft name	General use (single function, stand-alone)	Use for network management (High function, supporting network)	
			Simple Shutdown Software	PowerAct Pro	PowerAttendantLite
Functions of softs	Auto shutdown		●	●	●
	UPS monitoring (operating status)		-	●	●
	UPS monitoring (data)		-	●	●
	Pop-up notification		-	●	●
	Shutdown OS in hibernate.		-	●	●
	Auto file save		-	●	-
	Schedule Action		-	●	●
	UPS setting change		-	●	●
	External command execution		●	●	●
	Event log save		-	●	●
	Datalog save		-	●	●
	Linked shutdown		-	●	●
	Redundant power supply support		-	●	-
	Remote UPS management		-	●	●
	Mail send		-	●	-
	Telnet connection		-	●	●
SYSLOG support		-	●	-	

* This function is available only for windows. Mac and Linux are NOT available.

With the UPS monitoring software, the following functions can be used.

Auto shutdown	The computer can be shut down automatically when a problem occurs with the power supply.
UPS monitoring (operating status)	The operating status of the UPS can be monitored (in Commercial Power Mode/Battery Mode).
UPS monitoring (data)	Monitoring can be performed for input voltage value, connection capacity, battery capacity, etc.
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.
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.
Auto file save	Files such as open Word and Excel documents are automatically saved at shutdown.
Schedule operation	Schedule settings can be made for UPS stop/start.
UPS setting change	UPS settings (beep ON/OFF, etc.) can be changed. Items that can be set vary according to the UPS.
External command execution	By executing commands at shutdown, items such as application programs can be launched
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.
Datalog save	Data of input/output voltage value, connection capacity, etc. are periodically saved as a log (the save frequency can be set).
Coordinated shutdown	When a problem occurs with the power supply, multiple computers connected to the UPS can coordinate to perform auto shutdown.
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 problem 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.
Remote UPS management	The UPS can be managed remotely from a computer on the network.
Mail send	When a problem such as a power failure occurs, a notification email describing the problem can be sent to the system administrator.
Telnet connection	Settings such as shutdown parameters can be made via the Telnet connection.
SYSLOG support	UPS management information can be recorded in SYSLOG.

8-2 How to use the UPS monitoring software

8-2-1 PowerAct Pro

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 the desired operation by setting the automatic start/stop of the battery mode operation based on the scheduled setting.



References

Set the time from when a power outage occurs until PC is shut down as to complete within the backup time measured by “5-1 How to measure backup time” on Page 33.

For details, see the manual for the above software.

8-2-2 Simple Shutdown Software

“Simple Shutdown Software” allows you to automatically shut down your PC when a power failure occurs.

For details, see the manual for the above software.

Visit our website to download the manual for this software:

<https://www.oss.omron.co.jp/ups/support/download/download.html>

8-2-3 What is the Power Attendant Lite

Using the included “PowerAct Pro” UPS monitoring software allows you to automatically shut down your computer when a power failure occurs.

Also, you can perform the desired operation by setting the automatic start/stop of the battery mode operation based on the scheduled setting.

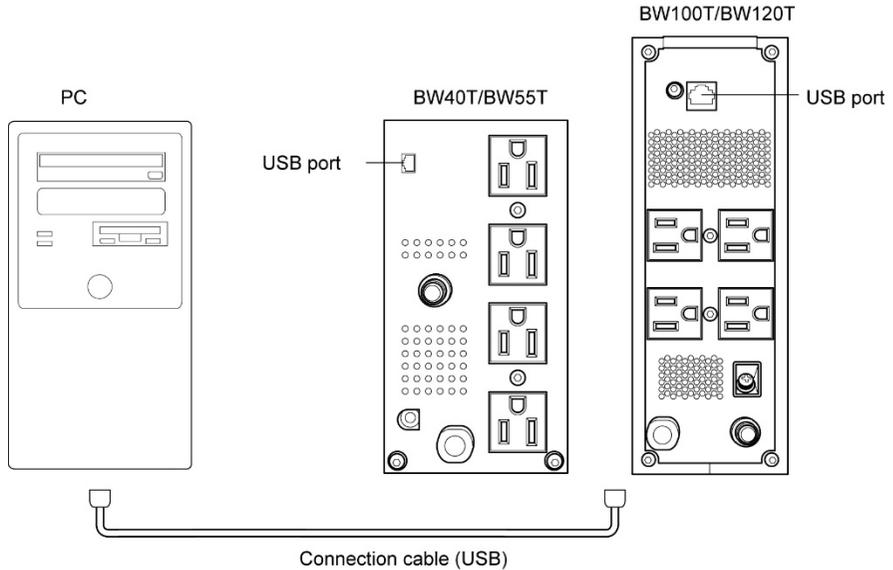
For details, see the manual for the above software.

Visit our website to download the manual for this software:

<https://www.oss.omron.co.jp/ups/support/download/download.html>

1. Connect the UPS to a computer.

Cable: Included connection cable (USB)

**2. Install the included "PowerAct Pro," "Simple Shutdown Software" or "Power Attendant Lite" to the PC you want to shut down.**

Installation method: See the manual for the above software.

Visit our website to download the manual for this software:

<https://www.oss.omron.co.jp/ups/support/download/download.html>

8-2-4 The setting of the UPS monitoring software**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 is dead.

If a period of 3 months is exceeded, you start operation by supplying commercial power and pressing the power button. However, if the battery is dead, you may not be able to start operation. In this case, replace the battery according to "7-2 Replacing the battery" on page 39.

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 button and turn it back ON again.

To stop the unit when it is in operation, turn OFF the power switch.

8 Using the UPS monitoring software

8-2 How to use the UPS monitoring software

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.

9 References

9-1 Specifications

Model		BW40T	BW55T	BW100T	BW120T
Method	Operation method	Full-time commercial power supply method			
	method	Natural air cooling			
	Connectable devices	PC, display, and peripherals			
Input	Rated input voltage	AC100V			
	Startup voltage range and input voltage range	Standard sensitivity setting 86±3 to 114±3 VAC High voltage sensitivity setting 95±3 to 108±3 VAC			
	Input Frequency	50/60Hz±4Hz			
	Maximum current	5A	6A	11A	12A
	Phase	Single-phase, two-wire (grounded)			
	Input plug	NEMA5-15P			
	Input protection	Reset-type over current protection			
	Input protection capacity	10A		15A	
	Output	Output capacity (shared maximum) *1	400VA/250W	550VA/340W	1000VA/610W
Output voltage (In Commercial Power Mode)		Input voltage through output			
Output voltage (In Battery Mode)		AC100V±6%			
Output frequency (In Commercial Power Mode)		Input frequency through output			
Output frequency (In Battery Mode)		50/60Hz±0.1Hz			
Phase		Single-phase, two-wire (grounded)			
Output waveform (In Commercial Power Mode/□ Battery Mode)		Sine wave/sine wave			
Waveform distortion rate (In Battery Mode)		25% or less			
Output receptacle		NEMA 5-15R x 4 receptacles			
Switching time		10 msec. max			
Battery		Backup time (*2)	5.4 min. or more	3.6 min. or more	4.3 min. or more
	Type	Compact sealed lead battery			
	Battery life expectancy	5 years (long operating life) *At ambient temperature of 25			
	Battery capacity (V/Ah/quantity)	12 VDC / 7.8Ah / 1		12 VDC / 7.8Ah / 2	
	Charging time	12 hours			
Environ ment	Operating environment temperature/humidity	0 to 40 degrees Celsius / 25 to 85% RH (with no condensation)			
	Storage environment temperature/ humidity	-15 to 40 degrees Celsius / 10 to 90% RH (Store with battery fully charged and with no condensation)			
Lightening surge protection function		Available			
Dimensions (W x D x H) *3		90 x 291 x 165 mm		85 x 342 x 235 mm	

9 References

9-2 Dimensions

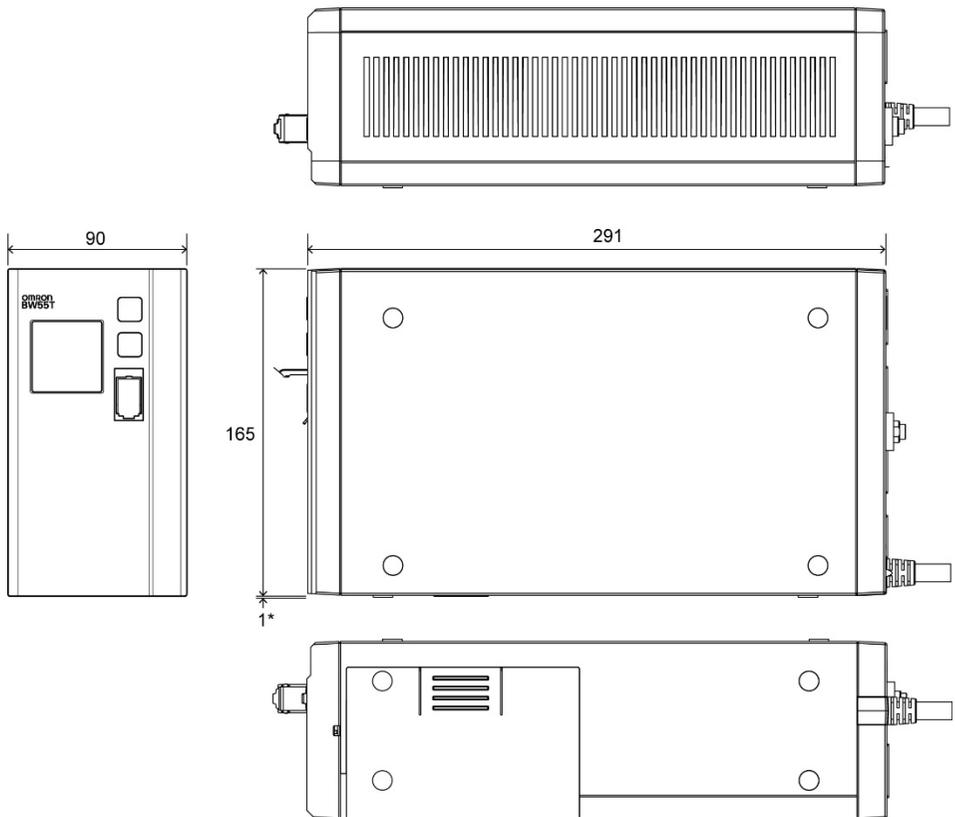
Weight of unit	4.5 kg	7.9 kg
Internal power consumption Norma/Max	10W/20W (under no load) 15W/25W (under lated load)	15W/35W (in no-load) 30W/45W (under lated load)
Communication interface	USB / contact	
Noise regulation	VCCI Class B	
Safety standard compliance	UL1778	
Noise	40 dB max.	

- *1: Make sure that both the VA value and the W value of the load capacity connected to the UPS are within the range specified here.
- *2: At ambient temperature of 25 degrees Celsius and with battery in initial state.
- *3: The height does not include the height of rubber feet.

9-2 Dimensions

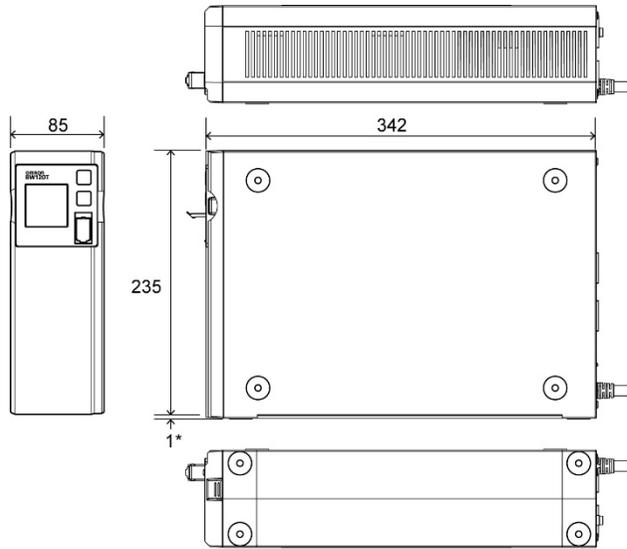
Unit: mm

<BW40T/BW55T>



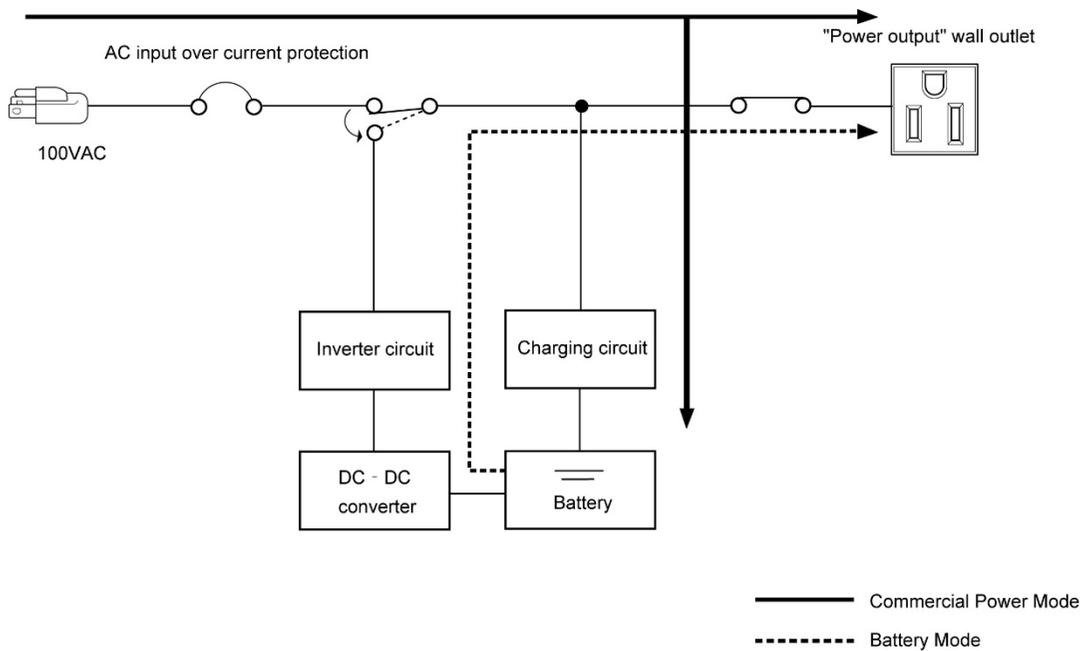
* The thickness of rubber feet is 2 mm, but the main body has depressions, so the height is 1 mm.

<BW100T/BW120T>



* The thickness of rubber feet is 2 mm, but the main body has depressions, so the height is 1 mm.

9-3 Circuit block diagram

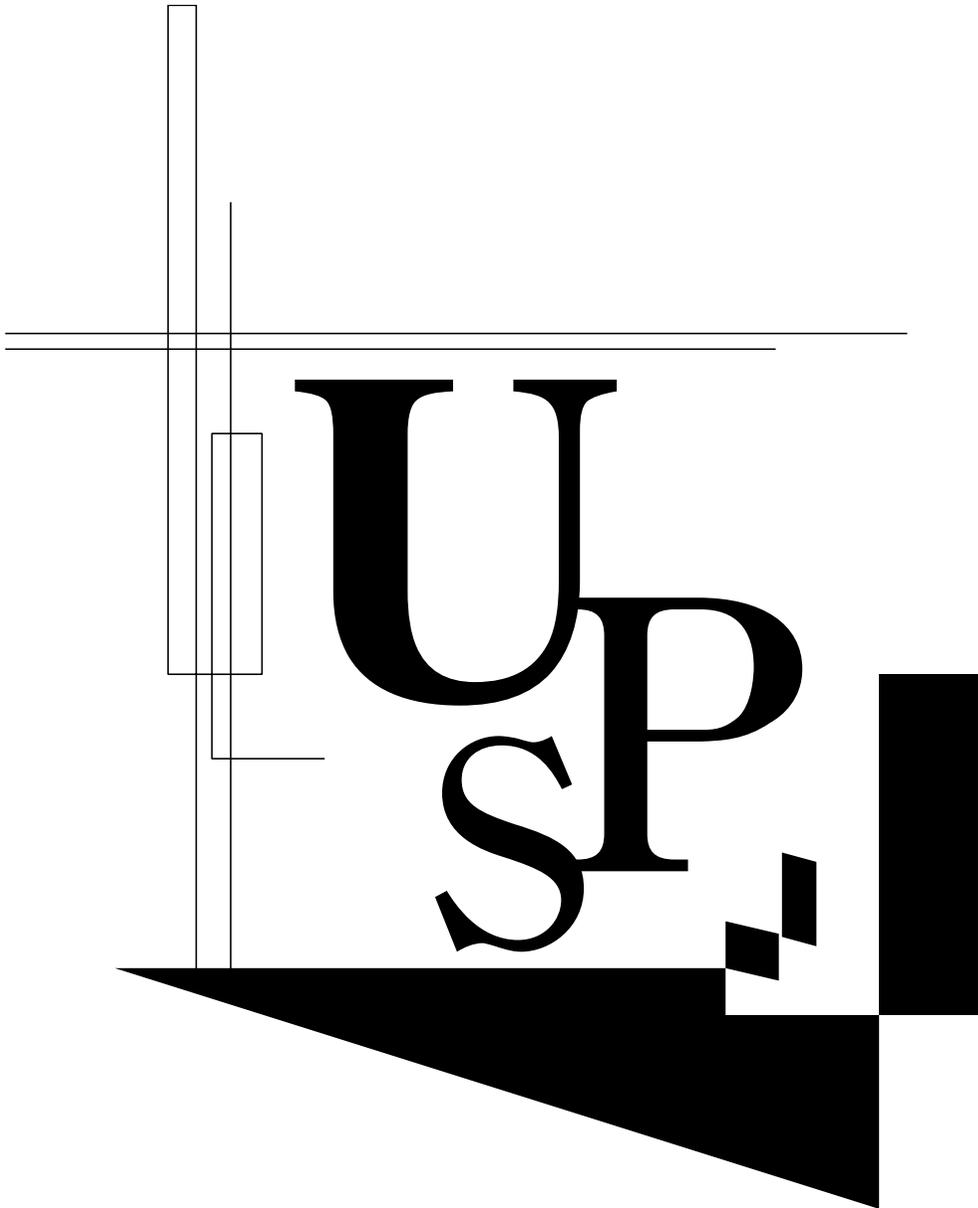


9 References

9-4 Related products

9-4 Related products

	For BW40T/BW55T	For BW100T/BW120T
Replacement battery pack	BWB55T	BWB120T
Bracket	BWP55T	BWP120T
USB cable	BUC30	
Contact signal cable	BUC31	



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