

Automatic Shutdown Software

PowerAttendant Basic Edition for Linux Ver.1.1.1

User's Manual

Introduction

This instruction manual contains important information for using this software, so please be sure to read it before using it.

- Please be able to check this instruction manual whenever necessary.
- It is prohibited to copy or reprint part or all of the contents of this instruction manual without permission.
- The contents of this instruction manual are subject to change without notice.
- The screens and illustrations described in this instruction manual are for illustrative purposes only. It may differ from the actual situation.

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- Linux is a registered trademark or trademark of Linus Torvalds in the United States and/or other countries.
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Affected products

- This instruction manual applies to the following products.
 - PowerAttendant Basic Edition

Target Audience

- This instruction manual is intended for the following people.
 - Knowledge of using Linux software and responsible for UPS implementation and operation

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Precautions for Correct Use

<Purpose of use of this software>

This software is designed and manufactured for use in office automation equipment such as computers. Do not use it for equipment or applications that require extremely high reliability and safety, such as:

- Medical devices and systems that directly affect human life
- Applications that may result in personal injury. (Applications directly related to the operation, operation, control, etc. of aircraft, ships, railways, elevators, etc.)
- Applications where vibration may be applied at all times, such as in vehicles and ships
- Applications that may cause significant social or public damage or impact if they fail.
(Major computer systems, trunk line communication equipment, public transportation systems, etc.)
- Equipment and applications equivalent to these

< Use of the Software>

Please use this software in a safe environment where external security measures are taken, such as being protected by a firewall.

< SOFTWARE LICENSE AGREEMENT >

To download, install or use this software, you must agree to the following Software License Agreement. If you do not agree, please do not download, install or use this software.

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1.1 The "Authorized Computers" means the one or more computers those are owned by the User and are provided with power from one OMRON's UPS.

1.2 The "End User(s)" means any end user of the User's Products which incorporates the OMRON's UPS and the Software

1.3 The "OMRON's UPS" means Uninterruptible Power Supply sold by OMRON either directly or through the OMRON's normal distribution channels to the User or End User.

1.4 The "Computer" means to one or more computers owned by a Customer or End User and powered by one OMRON's UPS.

1.5 The "Software" means the computer program "PowerAttendant Basic Edition" and any and all related documentation that are distributed with such computer program.

2 OMRON grants to the User a non-exclusive, non-transferable and limited license as follows: (i) to make one (1) or more copies of the Software and use such copies thereof on the Authorized Computers only for the purpose of monitoring and managing OMRON's UPS ; (ii) to make one of more copies of the Software in object code form only and distribute such copies thereof, either directly or through the User's normal distribution channels, to End User(s), as part of the User's Product which incorporates the OMRON's UPS and the Software, only for the purpose of monitoring and managing such OMRON's UPS on the Authorized Computers; (iii) make copies of the Software in object code form as part of a master hard disk drive (including a hard disk drive image) for cloning the hard disk drive, only for the purpose of the distribution as mentioned (ii) above; and (iv) make one copy of the Software only for backup purpose.

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5 If the User finds substantial non-conformity with the manual on the Software and notice it to OMRON in writing within a period of ninety (90) days after the User's purchase of the Software or installation of the Software, whichever comes earlier, OMRON will replace that Software or correct such non-conformity at OMRON's expense, to the extent that such non-conformity is reproducible and reported by User in writing during such period.

The User acknowledges that all errors or bugs of the Software may not be removed by such replacement or correction.

OMRON may, in its sole discretion, refund the amount paid by User for User's purchase of that Software to User instead of such replacement or correction, in which case this Agreement will terminate.

Notwithstanding the above, the remedy mentioned above shall not apply to any non-conformity resulting from the User's and/or third party's misuse, abuse or improper use of OMRON's UPS, the Software and/or the computer or failure to follow operating instructions, or use with equipment with which it is not intended to be used.

In addition, notwithstanding the first paragraph of this section, if User obtains the Software by means of a software recording medium included in the package of OMRON's UPS or the free download service on the web site of OMRON, the Software is provided on "as-is" basis and such paragraph shall not apply.

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8 If the User will modify, de-compile, reserve engineer, or otherwise attempt to discern the source code of the Software, OMRON shall have no liability for any claim of patent, utility model right, trade secret or copyright infringement whenever the User was claimed by the third party who consented OMRON to use the Software or by the other third party.

9 In any event, OMRON's entire liability to the User for any cause shall not exceed the amount actually paid by the User to purchase the OMRON's UPS which is monitored and managed by the Software or the amount actually paid by the User to purchase license(s) of the Software, whichever is lower.

10 If the User breaches this Agreement, OMRON may terminate this Agreement upon notice to the User. In that event, the User shall return the Software and all copies thereof.

11 This Agreement shall be governed by and construed under the laws of Japan.

12 If the User is a person living in Japan or a corporation organized and existing under the laws of Japan, any dispute, controversy or difference which may arise between the parties hereto arising out of or in relation to or in connection with this Agreement shall be solely resolved through a legal proceedings before the District Court of Tokyo, which shall have the exclusive jurisdiction over the dispute.

In other cases, any and all dispute, controversy or difference which may arise between the parties hereto out of or in relation to or in connection with this Agreement shall be finally settled by arbitration in Tokyo in accordance with the Arbitration Rules of the Japan Commercial Arbitration Association. The award rendered by arbitrator(s) shall be final binding upon the parties hereto.

13 This English version of this Agreement is prepared for reference purpose only. In the event of any conflict or inconsistency between the Japanese version and this English version, the Japanese version shall prevail.

How to read the instruction manual

What is described in this instruction manual

It provides an overview of the software's functions, how to operate it, how to set it up, and how to connect it to an uninterruptible power supply (UPS).

For instructions on the UPS itself, refer to the instruction manual of each UPS.

About the mark



request

Indicates that the software should be implemented or avoided in advance in order to prevent inoperability, malfunction, or adverse effects on the performance or functionality of the software.



reference

This is an item that you should read as needed. It explains useful information to know and what to use as a reference.

About notation

In this instruction manual, the items and buttons on the software screen are described as follows.

「 」An item displayed on the screen that represents the screen name or setting value.

Example: "Shutdown Parameters" tab

[] buttonAn item displayed on the screen that represents the object to be operated (buttons that can be clicked).

Example: [Next] button

Software 「Power Attendant Basic Edition」It refers to.

Terminology

In this instruction manual, the following terms are used except where otherwise noted.

term	explanation
UPS	An uninterruptible power supply. In the event of an abnormality in the commercial power supply, this device provides a stable supply of power to connected devices.
Connected devices	A device that is connected to a UPS and receives power from the UPS battery in the event of a power outage.
Utility Power	It is the power transmitted from the electric power company.
AC Input	It is the power supplied to the UPS from the utility power supply.
Commercial operation, commercial mode	This is an operating state in which power is supplied to the UPS from the utility power supply, and power is supplied from the UPS to the connected devices.
Back-up operation, Battery Mode	This is an operating state in which an abnormality occurs in the AC input and power is supplied from the UPS battery to the connected devices.
GUI	Graphical User Interface. A screen that can be visually operated using the mouse.

Operating environment

The operating environment of this software is as follows.

■ Supported OS

Red Hat Enterprise Linux

10.0 / 9.6 / 9.5 / 9.4 / 9.3 / 9.2 / 9.1 / 9.0

8.10 / 8.9 / 8.8 / 8.7 / 8.6 / 8.5 / 8.4 / 8.3 / 8.2 / 8.1 / 8.0

AlmaLinux

10.0 / 9.6 / 9.5 / 9.4 / 9.3 / 9.2 / 9.1 / 9.0

8.10 / 8.9 / 8.8 / 8.7 / 8.6 / 8.5

Rocky Linux

10.0 / 9.6 / 9.5 / 9.4 / 9.3 / 9.2 / 9.1 / 9.0

8.10 / 8.9 / 8.8 / 8.7 / 8.6 / 8.5

MIRACLE LINUX

9.6 / 9.4 / 9.2 / 9.0

8.10 / 8.8 / 8.6 / 8.4

Oracle Linux

10.0 / 9.6 / 9.5 / 9.4 / 9.3 / 9.2 / 9.1 / 9.0

8.10 / 8.9 / 8.8 / 8.7 / 8.6 / 8.5

Ubuntu

24.04 / 22.04 / 20.04

Debian

13.0 / 12.11 / 11.11

■ Supported UPS

S8BA-24D24D120LF

S8BA-24D24D240LF

S8BA-24D24D360LF

S8BA-24D24D480LF

S8BA-24D24D480SBF

S8BA-24D24D960SBF

■ Connection Interfaces

Connection with UPS : USB / RS-232C

1. Functional Overview

PowerAttendant Basic Edition (hereinafter referred to as "this software") can perform an automatic shutdown function.

The automatic shutdown function constantly monitors the status of the uninterruptible power supply (UPS) connected to the computer, and in the event of an input power failure (such as a power outage), the computer is shut down normally to prevent damage to the OS and hard disk.

1-1 Key features

This section describes the main functions of this software.

(1) Automatic shutdown in case of input power failure

In the event of an input power failure (such as a power outage), the computer shuts down normally according to the preset settings.

(2) External command execution

Executes the external command set at the start of the shutdown.

(3) Logs

We record an "Event Log" that records events that occur on the UPS or the Software, and a "Data Log" that records the status of the UPS.

2. Connecting to a Computer

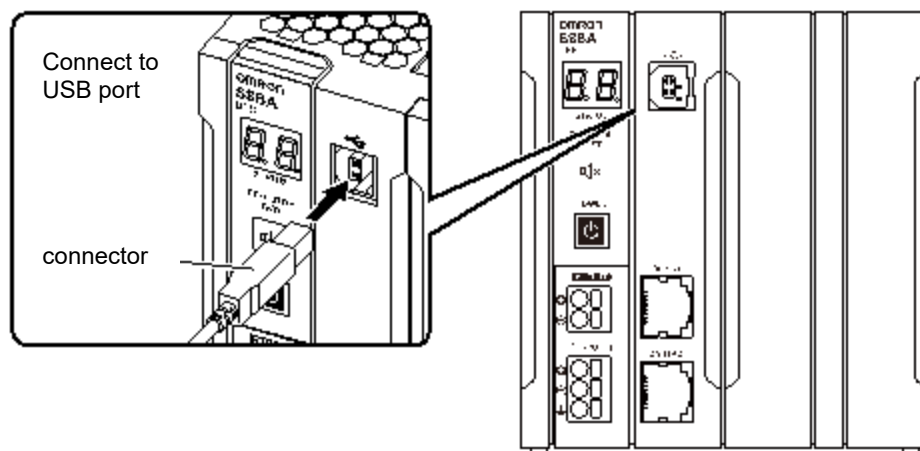
Connect the computer to the UPS with a USB cable or RS232C cable.

2-1 USB connection

Connect the computer to the UPS with a USB cable.

1. Turn off the computer.
2. Connect the UPS to the computer with the included USB cable.

(Connection example: for model S8BA-24D24D120LF)



3. Turn on the UPS → computer in that order.



reference

The USB cable can be plugged in after the computer has booted up.

3. Install

3-1 Install Procedure

This section describes how to install this software.

3-1-1 Before you install

- This software can only be used with OMRON UPS.
- If you are using other automatic shutdown software, be sure to uninstall the software and restart the OS before installing this software.
For details on how to uninstall each software, refer to the respective instruction manual.
- Before installing this software, connect to a UPS.
- Root privileges are required to install this software.
- Close other applications that are running.

OS	Recommended Installation Procedure
RHEL8.X series *1 RHEL9.X series *2	3-1-2 Installing the Software Becoming the root user with the su command (page 12)
RHEL10.X series *3	3-1-2 Installing the Software Using the sudo command (page 13)
Ubuntu、Debian	3-1-2 Installing the Software Using the sudo command (page 13)

*1 RHEL8.X series includes AlmaLinux8.X, Rocky Linux8.X, Oracle Linux8.X, and MIRACLE LINUX8.X.

*2 RHEL9.X series includes AlmaLinux9.X, Rocky Linux9.X, Oracle Linux9.X, and MIRACLE LINUX9.X.

*3 RHEL10.X series includes AlmaLinux10.X, Rocky Linux10.X, and Oracle Linux10.X.

3-1-2 Installing the Software

Becoming the root user with the su command

- 1.** Place the zip file (PABV111_linux.zip) of this software downloaded from our website in a directory of your choice.
- 2.** Start a terminal and run the following command to become the root user.
su
- 3.** Unzip the zip file of this software.
unzip PABV111_linux.zip
- 4.** Run the shell script for installation.
./PABinstall.sh
- 5.** The following will be displayed, and you can select the language you want to use with this software. Select "J" for Japanese and "E" for English.
Japanee or English? (J/E):
- 6.** The End User License Agreement for this software is displayed. If you agree, enter Y.
Do you agree to the software license? (Y/N) :Y
If you enter "N", it will end here and the software will not be installed.
- 7.** Start the installation.
/opt/OMRON/PowerAttendantBasic/
is displayed, and the installation is complete. Go back to being a regular user.
exit

Using the sudo command

- 1.** Place the zip file (PABV111_linux.zip) of this software downloaded from our website in a directory of your choice.
- 2.** Launch the terminal and unzip the zip file of this software
unzip PABV111_linux.zip
- 3.** Run the shell script for installation.
sudo ./PABinstall.sh
- 4.** The following will be displayed, and you can select the language you want to use with this software. Select "J" for Japanese and "E" for English.
Japanee or English? (J/E):
- 5.** The End User License Agreement for this software is displayed. If you agree, enter Y.
Do you agree to the software license? (Y/N) :Y
If you enter "N", it will end here and the software will not be installed.
- 6.** Start the installation.
/opt/OMRON/PowerAttendantBasic/
is displayed, and the installation is complete.

4. Screens and Controls

4-1 Startup of the screen

- ① Navigate to the installation directory.
cd /opt/OMRON/PowerAttendantBasic
- ② Launch "PABsetting.sh".
./PABsetting.sh
- ③ The settings screen appears.

```
----PowerAttendant Basic Edition Version:1.1.1----
 1:View Status
 2:View Setting Items
 3:Setting Connected Device
 4:Setting Delay Time
 5:Setting External Command
 6:Setting Run Time for External Command
 7:Setting Required Time for OS Shutdown

Please select a menu number. [0:exit]
>
```

5. Screen description

This section describes the screen on which you can configure the settings of this software.

```

----PowerAttendant Basic Edition Version:1.1.1----
 1:View Status
 2:View Setting Items
 3:Setting Connected Device
 4:Setting Delay Time
 5:Setting External Command
 6:Setting Run Time for External Command
 7:Setting Required Time for OS Shutdown

Please select a menu number. [0:exit]
>

```

number	Item Name	explanation
1	Indication of health status	<p>Displays the operating status of this software.</p> <pre> Please select a menu number. [0:exit] >1 ----PowerAttendant Basic Edition Version:1.1.1---- Service Running Status:Running UPS Model:S8BA-24D24D240LF UPS Status:Normal Operation Press any key... </pre> <p>Service Health Displays the operating status of this software. "Running": The software is running. "Stop": The software is stopped.</p> <p>UPS Model If a UPS is connected, displays the model of the connected UPS. If the UPS is not connected, "Not connected" will be displayed.</p> <p>Driving condition If a UPS is connected, the operating status of the connected UPS is displayed. "Normal operation": Operation on utility power. "Battery operation ": Running on battery.</p>
2	Displaying settings	<p>Displays the current settings.</p> <pre> Please select a menu number. [0:exit] >2 ----PowerAttendant Basic Edition Version:1.1.1---- Connection Type :USB Delay Time(sec) :60 External Command : Run Time for External Command(sec):0 Required Time for OS Shutdown(min):3 Press any key... </pre>
3	Connected Devices Configuring	<p>Configure the settings for connecting to the UPS. If you want to connect via USB, select "USB". When connecting via RS-232C, select "AUTO" to automatically search for the serial port. If you want to manually specify the serial port, select the name of the connected device to which the UPS is connected from the list.</p>

		<p>Please select a menu number. [0:exit] >3</p> <p>-----PowerAttendant Basic Edition Version:1.1.1----- 0:USB 1:AUTO 2:/dev/ttyS0 3:/dev/ttyS1 4:/dev/ttyS2 5:/dev/ttyS3 6:/dev/ttyUSB0 7:/dev/ttyUSB1 Select the number of the Device [ESC:Cancel] ></p>
4	Setting the Wait Time	<p>Sets the waiting time before starting shutdown after an input power failure. If the UPS detects an input power failure, it will not initiate a shutdown operation until the wait time set here has elapsed.</p> <p>Please select a menu number. [0:exit] >4</p> <p>-----PowerAttendant Basic Edition Version:1.1.1----- Set the value of Delay Time (0 sec to 36,000 sec) [ESC:Cancel] ></p>
5	External Commands Configuring	<p>After the wait time has elapsed, execute the external command that was set before the shutdown started. Enter the external command you want to execute. Be sure to set it with the full path. Example: /home/omron/test.sh When using this function, be sure to set the external command execution time.</p> <p>Please select a menu number. [0:exit] >5</p> <p>-----PowerAttendant Basic Edition Version:1.1.1----- Set the External Command (within 256 bytes). ></p>
6	External Commands Setting the time	<p>Sets the amount of time required to execute an external command. When this time has elapsed, shutdown will start, so set the time when the configured external command can be completed.</p> <p>Please select a menu number. [0:exit] >6</p> <p>-----PowerAttendant Basic Edition Version:1.1.1----- Set the Run Time for External Command (0 sec to 7200 sec). [ESC:Cancel] ></p>
7	Setting the Time Required for Shutdown	<p>Select the amount of time you need before shutting down the operating system and shutting down the UPS.</p> <p>Please select a menu number. [0:exit] >7</p> <p>-----PowerAttendant Basic Edition Version:1.1.1----- Set the Required Time for OS Shutdown (0 min to 20 min). [ESC:Cancel] ></p>
0	end	Exit the settings screen.

When connected to UPS via USB, if this software is running, the UPS is automatically recognized and communication with the UPS is opened.
Begin. When connecting via RS-232C, if this software is running, set it in "3: Connection Device Settings".
Use the port to initiate communication with the UPS.

6. log

This software can record "event logs" and "data logs".

6-1 Event log

Record events that occur on the UPS or the Software.

The event log is stored as a csv file in the /opt/OMRON/PowerAttendantBasic/EventLog directory.
It is stored.

[Example of event log]

①	2024/9/5	②	17:22:12	③	Install:OK
	2024/9/5		17:22:12		Start of service
	2024/9/5		17:24:54		UPS Connected: S8BA-24D24D240LF

num ber	Item Name	explanation
①	date	The date, month, and day when the event occurred.
②	time	The time at which the event occurred.
③	detail	The nature of the event that occurred.

6-2 Data logging

Record the status of the UPS. The data log is stored as a csv file in the /opt/OMRON/PowerAttendantBasic/DataLog directory.

[Example of data log]

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
date	time	Input voltage	Input Frequenc y	Output voltage	Output frequenc y	Battery Voltage	Connectio n Capacity	Internal temperatur e	Battery Capacity
2024/9/ 5	17:24:5 5	105.4	---	0	---	27.7	0	23.6	96
2024/9/ 5	17:25:5 6	105.8	---	0	---	27.8	0	23.6	96

num ber	Item Name	explanation
①	date	The date on which the UPS status was acquired.
②	time	The time at which the UPS status was retrieved.
③	Input voltage	Input Voltage (V)
④	Input Frequency	Input frequency (Hz) If the input power is DC, "---" is displayed.
⑤	Output voltage	Output voltage (V)
⑥	Output frequency	Output frequency (Hz) If the output power is DC, "---" is displayed.
⑦	Battery Voltage	Battery Voltage (V)
⑧	Connection Capacity	Capacity of the load connected to the UPS (%)
⑨	Internal temperature	UPS Internal Temperature (°C)
⑩	Battery Capacity	Battery Capacity (%)

7. uninstall

This section describes the procedure for uninstalling this software.



request

If you use other shutdown software, be sure to uninstall this software.
If this software is still installed, the UPS may not be recognized properly.

6-1 Before uninstalling

- Root privileges are required to uninstall this software.
- Close other applications that are running.

6-2 Uninstall this software

Becoming the root user with the su command

1. Navigate to the installation directory.
cd /opt/OMRON/PowerAttendantBasic
2. Become the root user.
su
3. Run the shell script for uninstallation.
./PABuninstall.sh
4. Start uninstalling.
Uninstall completed
is displayed, and the uninstall is complete.

Using the sudo command

1. Navigate to the installation directory.
cd /opt/OMRON/PowerAttendantBasic
2. Run the shell script for uninstallation.
sudo ./PABuninstall.sh
3. Start uninstalling.
Uninstall completed
is displayed, and the uninstall is complete.



reference

Files in the installation directory (/opt/OMRON/PowerAttendantBasic/) will not be deleted. You can leave it as it is, but if you do not need it, delete the installation directory and all files contained in the installation directory after uninstalling.

■ Event List

level	type	Event Information
information	system	Service Start
	system	Service Stop
	system	External command start: (<i>command name</i>)
	UPS	UPS Testing
	UPS	UPS Test Finished
	UPS	Power Recovery
	UPS	UPS Connected: (<i>Model Name</i>)
	UPS	Battery Fault Event Recovery
	UPS	Battery Connected
	UPS	Battery OverCharge Event Recovery
	UPS	Battery UnderCharge Event Recovery
	UPS	BatteryPacket Misconnection Event Recovery
	UPS	UPS Fault Detect Event Recovery
	UPS	Overload Event Recovery
	UPS	Output Voltage Over Event Recovery
	UPS	Output Voltage Low Event Recovery
	UPS	DC Bus Voltage Abnormal Event Recovery
	UPS	Output Short Abnormal Event Recovery
	UPS	Over Temperature Event occurred
	UPS	BMS Over Current Event Recovery
	UPS	BMS Internal Error Event Recovery
	UPS	Charger Fail Event Recovery
	UPS	BMS Cell Over Voltage Event Recovery
	UPS	BMS Cell Under Voltage Event Recovery
	UPS	Transformer Abnormal Event Recovery
	UPS	Fan Abnormal Event Recovery
	UPS	Battery Replaced
warning	system	OS Shutdown Is Started
	UPS	UPS Disconnected
	UPS	Power Failure
	UPS	Battery Low Event occurred
	UPS	Battery Replace Warning Event occurred, Battery needs to be replaced
error	UPS	Battery Fault Event detected
	UPS	Battery Disconnect Event detected
	UPS	Battery OverCharge Event occurred
	UPS	Battery UnderCharge Event occurred
	UPS	BatteryPacket Misconnection Event occurred
	UPS	UPS Fault Detect Event detected
	UPS	Overload Event occurred
	UPS	Output Voltage Over Event occurred
	UPS	Output Voltage Low Event occurred
	UPS	DC Bus Voltage Abnormal Event occurred
	UPS	Output Short Abnormal Event occurred
	UPS	Over Temperature Event occurred
	UPS	BMS Over Current Event occurred
	UPS	BMS Internal Error Event occurred
	UPS	Charger Fail Event occurred
	UPS	BMS Cell Over Voltage Event occurred
	UPS	BMS Cell Under Voltage Event occurred
	UPS	Transformer Abnormal Event occurred
	UPS	Fan Abnormal occurred

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