

# Simple Shutdown Software ( Linux version )

## Instruction Manual

Thank you for choosing our product.

This document describes the Installation Procedure, How to Use, Precautions for Correct Use and other essential information about the Simple Shutdown Software (Linux version). Please read this before you start using the software.

Also, please read the instruction manual comes with the main body of Uninterruptible Power Supply (UPS) before you start using this software.

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## The intended usages

The software is designed and produced intending to the use on such computer as general industrial and the computer for offices and homes. Never use this software for the following purposes that demand extremely high reliability and safety.

1. Use for the medical equipment directly related to human life.
2. Use for the purpose that can lead to personal injury. (Use for purpose that is directly related to the service, operation or control of aircraft, ship, train, elevators, etc.)
3. Use for the necessary computer system, trunk line communication system, and other public transportation systems.
4. Use for any devices applicable to any of above.

## Precautions for Correct Use

Follow the precautions listed below when using this software and its related documents (hereinafter, collectively referred to as "this program").

1. You can use this program for any purposes, but Omron Corporation (hereinafter, referred to as "the company") does not bear any warranties whatsoever. Warranties here include, but not limited to; warranty of that there is no defect in this program, commercial warranty, warranty of the compatibility, warranty for specific uses, and warranty of non-infringement. If there is some sort of defects in this program, or this program brought any harm or damage, the company does not bear any responsibility. Also, necessary services, restoration, the cost of repair shall be paid by the customer accordingly.
2. The copyright of this program (including its copies) belongs to the company.
3. The customer can copy this program. However, such copies must have the appropriate copyright notation and there should be a clear and proper description that it has no warranty.
4. The customer can copy this program by complying the items listed below.
  - (1) Appropriate copyright should be displayed in this program clearly and properly.
  - (2) If this program has been modified, it should be clearly and properly displayed in this program.

5. The customer can distribute this program to the third party by complying the items below.
  - (1) The appropriate copyright should be clearly and properly displayed in this program.
  - (2) When distributing the program after the modification, it should be clearly and properly displayed in this program according to Paragraph 4 that this program has been modified.
  - (3) The fact that this program is provided through download with no charge, and how to acquire this program should be clearly displayed.
  - (4) The fact that the company does not warranty this program should be clearly and properly displayed.
  - (5) It should clearly describe this precaution and let any recipients of this program comply with it.
6. The customer should not distribute this program to any third party as is without change and with charge.

## **Requests on the operation**

1. The contents of this software and the document may change in the future, without notice.
  2. While we have made every effort to keep perfection of the contents of this software and the document, please let us know if you notice an error or other points by any chance.
  3. Some screens and other visual items shown in this document may differ from the actual screen.
- Linux is a registered trademark of Linus Torvalds.
  - Other company names and product names described in this manual are the trademarks or registered trademarks belong to their respective owners.

## How to connect with the Uninterruptible Power Supply (UPS)

In this section, taking S8BA-24D24D□□□□LF and BU2002RWLG as an example, we explain the procedure for connecting the PC with Uninterruptible Power Supply (UPS) using the attached cable. Connect the PC and Uninterruptible Power Supply (UPS) according to the following procedure.

### [Before connecting the attached cable]

1. Check the instruction manual of each Uninterruptible Power Supply (UPS) for how to connect the AC input plug of the PC and Uninterruptible Power Supply (UPS).
2. Check that the "power switches" of both PC and Uninterruptible Power Supply (UPS) are turned off.

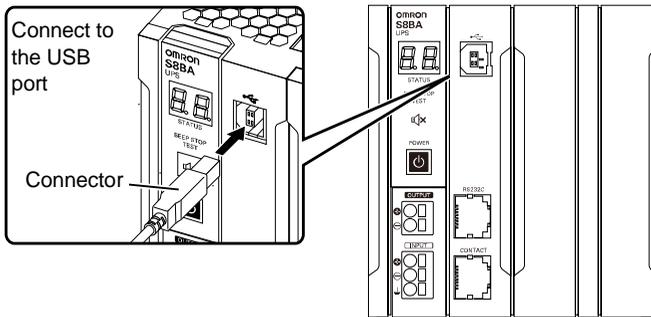
### [When the power switches of PC and Uninterruptible Power Supply (UPS) are turned on]

Shutdown the OS and turn off the "power switch" of PC. Then, turn off the "power switches" of Uninterruptible Power Supply (UPS).

### [Connect with S8BA-24D24D□□□□LF]

1. Connect the UPS to the computer.  
Connecting via USB port: Use the USB cable that comes with the UPS.  
Connecting via RS-232C port: A separately sold transmission cable (Model S8BW-C01) is required.

#### ■ Connecting via the USB port

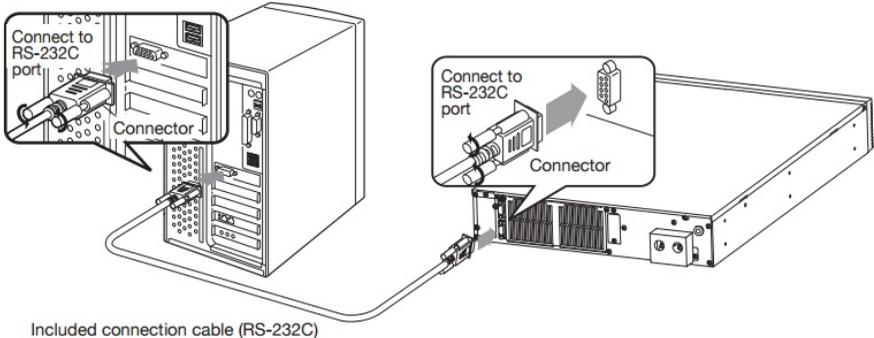




[Connect with BU2002RWLG]

Make sure you follow the steps show in the diagram below when connecting the PC and Uninterruptible Power Supply (UPS) using the attached cables for establishing the communication between them. Tighten the connector fixture screws of the attached cable and make sure of fixing the connector.

**Note: Use the attached cable included in the package of Uninterruptible Power Supply (UPS) or optional parts when connecting.**



### **[Turn on the power switch]**

1. Turn on the "power switch" of Uninterruptible Power Supply (UPS.)
2. Turn on the "power switch" of PC.

### **[Caution while connecting the cable]**

- Use the attached cable included in the package of Uninterruptible Power Supply (UPS) and its options when connecting the RS-232C port of Uninterruptible Power Supply (UPS) and the serial port of PC, or the USB ports of Uninterruptible Power Supply (UPS) and PC.
- Make sure that you are using Omron's Uninterruptible Power Supply (UPS) and the attached cable dedicated to the Uninterruptible Power Supply (UPS) supplied by the OEM made by Omron, while connecting the cable. Do not use this cable for any communication devices or other company's Uninterruptible Power Supply (UPS.)
- There is some PC model that has two serial ports, but the BIOS setting of Serial 2 (Serial B) setting is set to "Disabled." Therefore, change the setting to "Enabled" when using Serial 2 (Serial B) in such model. It depends on the PC that how to check and change the setting of BIOS. For the details, please refer to the PC's instruction manual, or inquire PC manufacturer's support center.

#### **<Reference information>**

Please select the PC that fulfills the following conditions when you are considering the system where PC is to automatically startup once the input power is recovered. For the PC operation when the input power is supplied, please refer to the PC's instruction manual, or inquire PC manufacturer's support center.

[Conditions]

It should be such PC that the power supply is turned on just by providing the input power, without pressing the power switch.

## Before installing the software

This chapter explains the matters necessary to know before installing the software.

### [Precaution while installation]

- Start the software installation after checking that the OS can be normally terminated. Here, the software shutdown won't be normally carried out if it is installed in the environment where OS cannot be normally terminated.
- "UPS Setting Utility" cannot be used together with OMRON's other automatic shutdown software (such as PowerAct Pro and SimpleShutdownSoftware). If other shutdown software is installed, right click the power supply plug symbol " " in task tray and click "Agent Stop" on the menu screen before configuring the UPS or prepare another computer for configuring the UPS. Otherwise, PC can not connect with UPS.
- After setting with "UPS Setting Utility", shutdown "UPS Setting Utility" and right-click the power supply plug symbol " " in task tray and click "Agent Start" to restart shutdown software.
- Read "How to Connect with Uninterruptible Power Supply (UPS)", make the connection and then install this software.
- This software can be used only on Omron's Uninterruptible Power Supply (UPS) and other Uninterruptible Power Supply (UPS) supplied by the OEM made by Omron. Refer to the "operation environment" for the target models of Uninterruptible Power Supply (UPS). Check Omron homepage for the latest information.

## Installation of Simple Shutdown Software

### 1. Operation environment

Check the operation environment before the installation.

|                                    |  |                       |
|------------------------------------|--|-----------------------|
| Supported PCs                      | DOS/V computer<br>(Apple's Macintosh computers or equivalent cannot be used)                                 |                       |
| Verified OS and Platform           | Red Hat Enterprise Linux Ver.6.x<br>CentOS ver5.x  | x86<br>AMD64<br>EM64T |
| RAM                                | 64MB or more   |                       |
| Hard disk capacity                 | 80MB or more   |                       |
| Interface                          | RS-232C / USB  |                       |
| Uninterruptible Power Supply (UPS) | S8BA-24D24D120LF/ S8BA-24D24D240LF<br>S8BA-24D24D360LF/ S8BA-24D24D480LF<br>BU2002RWLG/BU3002RWLG/BU5002RWLG |                       |

#### <Reference information>

|       |   |
|-------|---|
| EM64T | Intel's 64 bit CPU (Pentium4, Xeon, etc.) where Intel 64-bit Extension Technology is mounted. |
| AMD64 | AMD's 64 bit CPU (Opteron, Athlon, etc.)  |
| X86   | 32 bit CPU by Intel and AMD64 (Pentium4, Xeon, Celeron, Athlon, etc.)                         |

## 2. Installation procedure

### <Precaution>

- Install the shutdown software by logging in with the user name having the administrator authority.
- Two separate versions are provided: 32bit version and 64bit version. Use the version that suits your environment.

(1) The files necessary for installation are stored in the "Release" directory.  
Execute the following procedure.

[To install this software by using the installation CD-ROM]

Copy the "Release" directory into any directory in the computer in which you are going to install the software.

[When this software is downloaded from our Website]

Unzip the downloaded file.

(2) Change the access permission for files and folders under the "Release" directory to Full Access Permission.

Command: `chmod -R 777 Release`

(3) Move to the "Release" directory.

Command: `cd Release`

(4) Execute the following command to install the software.

Command: `./install.sh`

(5) "Software License Agreement" appears.

When "Do you agree this license?" appears last, type "y" if you agree, and otherwise, type "N".

If you type "N", the installation process does not start.

(6) When the installation process is executed, the message below will appear and the installation process will become complete.

```
Simple Shutdown Daemon program has been installed completely.  
Please run below command and setup the parameters of  
Simple Shutdown Daemon to meet your system.
```

Command: `/usr/lib/ssd/master/config.sh`

According to the content of the message, set the shutdown parameters.

## Configuration Setting

Set the shutdown parameter of the PC connected to Uninterruptible Power Supply (UPS.)

### [Procedure]

1. Enter the following command to start setting parameters.  
`/usr/lib/ssd/master/config.sh`

2. Set the shutdown parameters.

The setting screen and display details are as follows:

#### (1) Port Selection Mode

Select the port that is connected to the Uninterruptible Power Supply (UPS) automatically or manually.

```
1. Port Selection Mode:
  1. Auto Mode(Select all COM and USB device)
  2. Semiautomatic Mode(Only select all USB device)
  3. Manual Mode(Only select pointed COM port)
   (Default Mode is "Auto Mode(Select all COM and USB device)")
   Select Number:
```

#### (2) Select USB communication mode

Select the mode to use for USB communication between Libusb and HID

```
2. Select USB communication mode
  1. Libusb 2. HID
   (Default Mode is "Libusb")
   Select Number:
```

#### (3) AC fail delay time

Set the delay time from when an abnormality occurs in the power supply until shutdown operation starts.

```
3. AC fail delay time
   (Default value is 60 Sec)
   [Information]
   * When UPS detects "AC fail" condition doesn't start shutdown action
     until pass this delay time.
   * The range of AC fail delay time is from 0 Sec to 36000 Sec.
   * The step between "0 Sec to 36000 Sec" is "1 Sec".
   AC fail delay time(Sec):
```

#### (4) External Command Line

4. External Command Line  
[Information]
  - \* After the AC fail delay time this External Command line will be execute
  - \* Please setup an External CommandExternal Command Line:

#### (5) External Command needs time

5. External Command needs time  
(Default value is 0 Sec)  
[Information]
  - \* Please setup an External Command needs time from External Command start to External Command finish.
  - \* The range of External Command need time is from 0 Sec to 600 Sec.
  - \* The step between "0 Sec to 600 Sec" is "60 Sec".
  - \* If you use External Command for Virtual Server shutdown, please setup External Command needs time for Guest OS shutdown.External Command needs time (Sec):

#### (6) OS shutdown need time

Set the time necessary for shutting down the OS.

6. OS shutdown need time  
(Default value is 180 Sec)  
[Information]
  - \* Please setup an OS shutdown needs time from OS shutdown start to OS shutdown finish.
  - \* The range of OS Shutdown need time is from 0 Sec to 600 Sec.
  - \* The step between "0 Sec to 600 Sec" is "60 Sec".OS shutdown needs time (Sec):

#### (7) Send Message to login users

Select whether to display a warning message when an event occurs.

7. Send Message to login users  
1. Disable 2. Enable  
(Default Value is "Disable")  
Select Number:

## (8) System closing mode

Select how to exit between Shutdown and Hibernate.

```
8. System closing mode
  1. Shutdown 2. Hibernate
  (Default Mode is "Shutdown")
  Select Number:
```

\* If the installation environment is not a virtual environment using KVM, the setting procedure ends in (8). When the setting operation in (8) is performed, the List screen for the entered details appears.

## (9) Virtual Server shutdown mode

Select which to use for exiting between the settings of the system and the settings of this software.

```
9. Virtual Server shutdown mode
  1. Shutdown by Linux system 2. Shutdown by Simple Shutdown
  (Default Mode is "Shutdown by Linux system")
  Select Number:
```

\* If 1.Shutdown by Linux system is selected in (9), the setting procedure ends in (9). In this case, the guest OS is exited according to the settings of the Linux system. When the setting operation in (9) is performed, the List screen for the entered details appears.

## (10) Guest OS shutdown mode

Select how to exit the guest OS.

```
10. Guest OS shutdown mode
  1. Shutdown 2. Suspend
  (Default Mode is "Shutdown")
  Select Number:
```

3. When the shutdown parameters are all set, the List screen for the entered details appears. Check the entered details. If no correction is required, enter '1'. If you start again from the beginning by deleting the entered details, enter '2'.

```
*****
[Reconfirm shutdown parameter of the PE1950-localhost.localdomain (Master Agent)].
*****
1. Port Selection Mode:          Auto Mode(Select all COM and USB device)
2. Select USB communication mode : Libusb
3. AC fail Delay time (Sec):    60
4. External Command Line:
5. External Command needs time (Sec): 60
6. OS Shutdown needs time (Sec): 120
7. Send Message to login users: Enable
8. System closing mode :        Shutdown
9. Virtual Server shutdown mode : Shutdown by Simple Shutdown
10. Guest OS shutdown mode :    Shutdown
*****
1.OK 2.Cancel
Select Number:
```

When the setting operation is completed, the simple shutdown daemon (hereinafter called as the "Agent") starts up.

## Startup and stop of the agent

Explain how to startup and stop the agent.

### [Procedure]

1. Enter the following command:  
`/usr/lib/ssd/master/AgentManager`
2. When the screen below appears, stop or start the Agent and select "0. Exit" to close the menu.
  1. Agent Start
  2. Communication Port
  3. Version Information
  0. Exit

#### <Precaution>

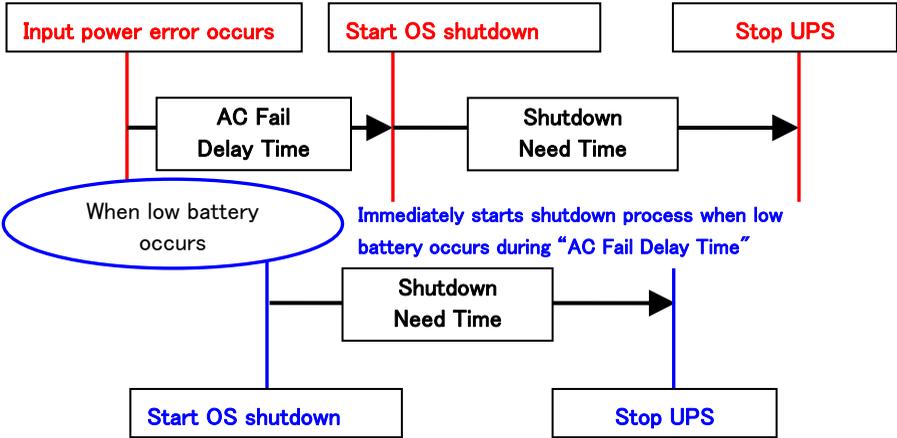
Execute Config.sh when the agent is stopped. (The agent is stopped immediately after the installation process is completed.)

#### <Additional notes>

##### [1. Agent Stop/Start]

Startup or stop of the master agent is possible. "Stop" and "Start" appears alternately each time a choice is made.

# Shutdown sequence



## Uninstallation of Simple Shutdown Software

### [Procedure]

#### <Precaution>

Uninstall the shutdown software by logging in with the user name having the administrator authority.

- (1) Move to the directory where the shutdown software was unzipped.  
Command: `cd /*/Release` (\* is the name of the unzip destination directory)
- (2) Execute the following command to uninstall the software.  
Command: `./uninstall.sh`
- (3) Restart the OS when the uninstallation process is completed.

### For use on a distribution other than Red Hat Enterprise Linux and CentOS

1. Compile the source files (\*1), create the execution files, "AgentManager", "Config.sh", "omronctl", "ssdService", and "ssdDaemon", and place them under the "/Release/master" directory.  
Modify the source, if necessary.
2. Place the "install.sh" file into the "/Release" directory and execute install.sh.  
Command: `./install.sh`

\*1: Refer to "Compiling the source files" in the next section.

## Compiling the source files

The source files for Simple Shutdown Software (Linux version) are stored in the "/Source" directory as follows:



The directories "AgentManager", "Config", "omronctl", "ServiceKernel", and "ShutdownSoftware" store source files and "Makefile".

These source files and "Makefile" correspond to the execution files for AgentManager, Config.sh, omronctl, ssdService, and ssdDaemon.

[Compile]

- *AgentManager: Program for starting up/stopping the Agent*  
Execute the "make" command in the "/Source/AgentManager" directory. (\*2)  
*AgentManager* is created in "/Release/master".
- *Config.sh: Program for setting the shutdown operation*  
Execute the "make" command in the "/Source/Config" directory. (\*2)  
*Config.sh* is created in "/Release/master".
- *omronctl: Program for setting the schedule*  
Execute the "make" command in the "Source/omronctl" directory. (\*2)  
*omronctl* is created in "/Release/master".
- *ssdService: Program for executing the SimpleShutdownSoftware service*  
Execute the "make" command in the "/Source/ServiceKernel" directory. (\*2)  
*ssdService* is created in "/Release/master".

- *ssdDaemon: Main program for executing such operation as shutdown*  
Execute the "make" command in the "/Source/ShutdownSoftware" directory. (\*2)  
ssdDaemon is created in "/Release/master".
  - *All modules (AgentManager, Config.sh, omronctl, ssdService, ssdDaemon)*  
Execute the "make" command in the "/Source" directory. (\*2)  
AgentManager, Config.sh, omronctl, ssdService, and ssdDaemon are  
generated together in "/Release/master".
- \*2: To execute the "make" command, the gcc package is needed.  
Install the gcc package from the OS CD-ROM.

## Scheduled operation

By executing "omronctl" contained in the /usr/lib/ssd/master/ directory, you can perform scheduled operation in conjunction with the UPS.

Note that you cannot execute omronctl if the Agent of Simple Shutdown Software is not running.

| Command:                     | Function   |
|------------------------------|--|
| omronctl                     | Shut down the OS and the UPS.<br>To restart the UPS, turn on the power switch on the UPS unit. |
| omronctl -O YYYY/MM/DD.hh:mm | Restart the UPS at the specified time after shutting down the OS and the UPS.                  |
| omronctl /f/r                | Restart the system.  |

When omronctl is executed from another application, if the execution result turns out to be an error, returns one of the following error codes to the application that executed omronctl.

| Error code | Description   | Correction  |
|------------|---|---|
| 501        | The Agent of Simple Shutdown Software is stopped.   | Start up the Agent of Simple Shutdown Software.   |
| 502        | Cannot communicate with the UPS.  | Check that the UPS and the computer are connected to each other correctly with the communication cable. |
| 503        | The command is executed twice.  | Wait until the active command is completed.   |
| 504        | The set parameter is not correct.   | Set a correct parameter.  |
| 505        | The scheduled operation cannot be performed because the time for turning the power ON is set earlier than the time the UPS stops. | Set the power-ON time later than the time the UPS stops.  |

## Helpful tips

- I would like to know whether Simple Shutdown Software is running.  
Answer:  
Enter the "ps -e | more" command: If "ssdService, ssdDaemon" is displayed in the list, the shutdown software is running.
- I would like to know what kinds of files "Shutdown.cfg" and "S99SimpleShutdownDaemon" are.  
Answer:  
Shutdown.cfg: A file in which the shutdown parameters are recorded.  
S99SimpleShutdownDaemon: A file for automatically starting "ssdService" at OS startup.

- Check Omron homepage for the latest product information.
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Rev. K1L-D-16029A