# OMRON

# **Power Supply Monitoring Tool**

## **Operation Manual**



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## **Precautions for Safe Use**

 Use this manual together with the S8VK-X Data sheet (Cat. No. T210) and the Instruction Manual that is provided with the product.

## **Precautions for Correct Use**

- Do not use the Power Supply Monitoring Tool on unsupported operating systems. It may cause malfunction.
- Always exit other applications while the Power Supply Monitoring Tool is running. It may cause communications errors, such as missing sampled log data.

# **Revision History**

A manual revision code appears as a suffix to the catalog number on the front and back covers of the manual.



Revision code	Date	Revised content
01	April 2018	Original production
02	May 2018	Corrected mistakes.

## **Related Documents**

- For details on the S8VK-X, refer to the Data Sheet (Cat. No. T210), and the Instruction Manual that is provided with the product.
- For the details on the communication of the S8VK-X, refer to the S8VK-X Communications Manual (Cat. No. T213).

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# 1

# **Overview**

This section describes the overview of the Power Supply Monitoring Tool.

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## 1-1 Overview and Features

The Power Supply Monitoring Tool performs IP address setting and monitoring of the S8VK-X.

### • Features

- IP address setting of the S8VK-X is available.
- Monitoring and logging the measurement value of the S8VK-X are available (up to 18 Units).
- Alarm determination with the measurement value is available.
- The confirmation of a power supply margin and the simulations of changing power supply capacity are available.



# **1-2 Specifications**

## • Specifications

Item	Description		
Maximum connection number	18 Units (6 Units when the data update cycle is 1 second)		
Data update cycle	Select from 1 second, 10 seconds, 1 minute, or 1 hour		

## • Creating files

File type	File name	Extension	Default save location
Project file	User specified	.s8vk	C: \OMRON\Power Supply Monitoring
			Tool\
Automatic log data file	Project name_Date time	.txt	Project name_Data folder is automat-
	(yyyy_mm_dd_hh_mm)		ically created in the same location as
			the above project file and saved in it.

## • Operating Environment

Item	Description
OS	Windows 7, 8.1 or 10 (32-bit or 64-bit) (Japanese or English)
CPU	1 GHz or more, 32 bit or 64 bit processor
Memory	1 GB or more, or 2 GB or more (64-bit)
Free disk space	16 GB or more, or 20 GB or more (64-bit)
Monitor resolution	1024 × 768 (XGA), High Color 16-bit or more
Others	LAN port: For network connection

1 Overview

# 2

# Installation

This section describes how to install and uninstall the Power Supply Monitoring Tool.

2-1	Installation	:-2
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# 2-1 Installation

Use the following procedure to install the Power Supply Monitoring Tool.

**1** Double-click the **setup.exe**. The following dialog box is displayed.

Select the language to use in Japanese or English, and then click the **Next** Button.



## 2 Click the Next Button.

Power Supply Monitoring Tool - InstallShield Wizard		
Ľ	Welcome to the Installer for Power Supply Monitoring Tool	
	The Installer will install Power Supply Monitoring Tool on your computer. To continue, dick Next.	
	< Back Next > Cancel	

**3** The License Agreement dialog box is displayed.

Read the License agreement for the product carefully. If you agree with all the articles, check *I accept the terms of the license agreement* and click the **Next** Button.

## **4** Click the **Install** Button.

Installation of the Power Supply Monitoring Tool will start.

Power Supply Monitoring Tool - InstallShield Wizard	×
Ready to Install the Program The wizard is ready to begin installation.	Z
Click Install to begin the installation.	
If you want to review or change any of your installation settings, dick Back. exit the wizard.	Click Cancel to
InstallShield	Cancel

**5** Install the.Net Framework 4.0.

If.NET Framework 4.0 is not installed on the PC, the.NET Framework 4.0 Installation dialog box is displayed.

For PCs with Windows 8.1 or 10 OS, the above dialog box is not displayed.

**6** Install the Communications Middleware.

Select *English* or *Japanese* for language setting and click the **Next** Button. If the old version of Communications Middleware is installed, update it as required. If the latest version is already installed, go to step 15.

7 While the installation wizard is running, the following dialog box will be displayed, and then click **Install** Button.



8 The following dialog box will be displayed. Click Install Button.

Windows Security
Would you like to install this device software? Name: OMRON Corporation Ports (COM & LPT)
Publisher: Omron Corporation
Always trust software from "Omron Corporation".
You should only install driver software from publishers you trust. <u>How can I decide</u> which device software is safe to install?

## **9** Install the WinPCap.

The following dialog box will be displayed, and click the **OK** Button. If WinPCap is already installed, go to step 15.



## 10 Click the Next Button.

🛞 WinPcap 4.1.3 Setup	
	Welcome to the WinPcap 4.1.3 Setup Wizard This Wizard will guide you through the entire WinPcap Installation. For more information or support, please visit the WinPcap home page. http://www.winpcap.org
	Next > Cancel

- **11** After checking the contents, if there is no problem, click **I Agree** Button. The Installation options dialog box is displayed.
- **12** Select the *Automatically start the WinPcap driver at boot time* Option, click the **Install** Button. Installation of WinPCap will be started.

**13** After the installation is completed, click the **Finish** Button.



 $\textbf{14} \text{ Select the network card for communications.}}$ 

Select the network card for communications from the pull-down list in the following dialog box, and then click the **OK** button.



Network Card Setting Example

If there is only one wired LAN port on the PC, select the following.

- With Windows 7, select Local area connection Option.
- With Windows 8.1 or 10, select *Ethernet* Option.

**15** Select the Yes, *I want to restart my computer now* Option, and then click the **Finish** Button. Installation of the Power Supply Monitoring Tool completed.

# 2-2 Uninstallation

Uninstall the Power Supply Monitoring Tool with Uninstall a program on the Windows Control Panel.

# 3

# Set IP address

This section describes how to set an IP address of the S8VK-X.

3-1	Setting Procedures	 3-2
• •	eetting eee aa. ee	 

# 3-1 Setting Procedures

Set the IP address of S8VK-X using the following procedure.

Connect the PC and the S8VK-X with an Ethernet cable directly.
 Even when connecting via the hub, be sure to connect them directly.



**2** Start the Power Supply Monitoring Tool.

Select **All Programs - OMRON - Power Supply Monitoring Tool** from the Windows Start Menu.

**3** The following window will be displayed. Click **IP address** Button.



- 4
- Select the Automatic connection Option in the following Tab Page, and then click Next Button.



3

**5** Click **Connection** Button, and wait for the connection to complete.

Connecting... Message is displayed until the connection is completed.

Power Supply Monitoring Tool		×
+ Add device		
1 Connection to device	Device connection	
2 Download IP address setting	Connect PC with target device. Note: Connect one-to-one between the PC and the device.	
	Click the [Connection] Button when it is ready.	
	<u> </u>	
End	Back	nection

Note If the connection to the S8VK-X fails, the following message will be displayed. Confirm cable connection, if connection can not be obtained refer to 6-1 Troubleshoot List on page 6-2.

Warning	
<b>A</b>	Failed to connect. Click the [Connect] Button again after confirming the cable connections.
	ОК

**6** When the connection is successful, the following Tab Page will be displayed.

Power Supply Monitoring Tool	×
+ Add device	
1 Connection to device	Download IP address setting
2 Download IP address setting	Set the connecting means for the target device.
	Fixed IP Connection
	Acquired from BOOTP server
	Acquired from BOOTP server (Only on the first startup)
	For BOOTP server, input IP address planned for registration to device.
	IP address: 192.168.25020
	Set the subnet mask and the default gateway.
	Sub-net mask: 255.255.2550
	Default gateway:000
End	Back Next

Normally, select the *Fixed IP Connection*, input the IP address, Sub-net mask, and Default gateway, and then click **Next** Button.

To acquire the IP address from the BOOTP server, select one of the usage scenes and input the IP address, sub-net mask, and default gateway to be acquired from the BOOTP server.

Acquired from BOOTP server	Every time the S8VK-X starts up, it acquires the IP address, sub-net mask, and default gateway from the BOOTP server.
Acquired from BOOTP server (Only on the first startup)	The above data is acquired from the BOOTP server only on the first startup of the S8VK-X.
	The S8VK-X does not acquire those data after that, it operates with the first data.

Note If the setting of IP address, sub-net mask, or default gateway is different from the value acquired from the BOOTP server, the S8VK-X cannot be monitored with this tool. In this case, set the IP address again.

7 Click **Execute** Button to start the download.



**8** When the download is completed, the following Tab Page will be displayed.



Setting for the unit is complete.

If another S8VK-X setting is required reconnect the Ethernet cable to it, and then click **Continue** Button. Start with step 4.

# 4

# **Basic Operations**

This section describes the basic operations of this tool.

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4-3	Creating a project	4-5
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# 4-1 **Description flow**

The basic operations of this tool are described in the following order.

Complete IP address setting of the S8VK-X before the following operations. Regarding to IP address setting, refer to *Section 3*.

Procedure	Outline
4-2 PC settings on page 4-3	Set the IP address of the PC for monitoring.
↓	
4-3 Creating a project on page 4-5	Create a new project and register a S8VK-X to be monitored.
$\downarrow$	
4-4 Monitoring on page 4-10	Monitor the S8VK-X with the created project.
$\downarrow$	
4-5 Automatic logging on page 4-13	Automatic logging of monitoring data.

# 4-2 PC settings

When monitoring S8VK-X with this tool, IP address settings are required for the PC.



Set the IP address with the following procedure.

However, when using the PC for other purposes, record the IP address used for the S8VK-X before setting and reset the IP address to the original value after use. If original settings are not correctly set the original network connection may not be available.

## Setting method for each Windows OS

- Windows 7
  - 1 Open the Control Panel from the Windows Start Menu and then select **Network and Sharing** Center - Change adapter settings.
  - 2 Right-click Local Area Connection, and select Properties.
  - 3 Select Internet Protocol Version 4 (TCP / IPv4) Option, and click Properties.
  - 4 Check *Use the following IP address* and set the IP address by referring to the subsequent setting example.

### • Windows 8.1

- **1** Right-click **Start** Button, and select **Network connections**.
- 2 Right-click *Ethernet* icon, and click *Properties*.
- **3** Select Internet Protocol Version 4 (TCP / IPv4) Option, and click **Properties**.
- 4 Check *Use the following IP address* and set the IP address by referring to the subsequent setting example.

### • Windows 10

- 1 Open the *Windows System Tools* from the Windows Start Menu, and select the *Control Panel* and then select *Network and Sharing Center Change adapter settings*.
- 2 Right-click *Ethernet* icon, and click *Properties*.
- **3** Select Internet Protocol Version 4 (TCP / IPv4) Option, and click **Properties**.
- 4 Select *Use next IP address* Option, and set the IP address by referring to the subsequent setting example.

## IP Address Settings Example

Set the IP address and subnet mask using the following table. It is not necessary to set the default gateway.

<b>Configuration Devices</b>	IP address	Sub-net mask	Default gateway
Computer	192.168.250.100	255.255.255.0	Blank
S8VK-X 1st Unit	192.168.250.1	255.255.255.0	0.0.0.0
S8VK-X 2nd Unit	192.168.250.2	255.255.255.0	0.0.0.0
S8VK-X 3rd Unit	192.168.250.3	255.255.255.0	0.0.0.0

Set the subnet mask to the same value as the S8VK-X. When the subnet mask is "255.255.255.0", the range of IP addresses that can be set for the S8VK-X is 192.168.250.1 to 192.168.250.254. Set the IP address within this range so that it does not duplicate with the S8VK-X.

# 4-3 Creating a project

This section describes the procedure of creating a new project to register the S8VK-X.

**1** Start this tool.

Select *All Programs - OMRON - Power Supply Monitoring Tool* from the Windows Start Menu.

**2** Create a new project.

The following screen is displayed. Click Create new Button.

Power Supply Monitoring Tool				
Power Supply Monit	toring Tool			
UC11 Operation				
Create new				
<b>1</b> Edit				
XXX. IP address				
	Close			

**3** Register a S8VK-X in the project.

When the following is displayed, click **Communications settings** Button.



4 Input the IP address and connect this tool to the S8VK-X.

When the following dialog box is displayed, select the *Fixed IP Connection* Option, enter the S8VK-X device IP address, and then click **Next** Button.

Power Supply Monitoring Tool	×
+ Add device	
1 Connection to device	Select the connecting
2 Download IP address setting	Connect to device. Select the connecting method. Automatic connection Fixed IP Connection Specify the IP address that is registered to device. (Specify 122.168.250.20 in the case of an initial state at factory settings.) 192.168.25020
End	Back Next

Click **Connection** Button, and wait for the connection to complete.

Connecting... Message is displayed until the connection is completed.

Power Supply Monitoring Tool	×
+ Add device	
1 Connection to device	Download IP address setting
2 Download IP address setting	Click the [Execute] Button when it is ready.
	S8VK-X09024A-EIP
End	Back Execute

Note If the connection to the S8VK-X fails, the following message will be displayed. Operate according to the message. If you cannot connect, refer to 6-1 *Troubleshoot List* on page 6-2.



**5** When the connection is successful, the following dialog box is displayed. Click **Next** Button.





Click Execute Button to start the download.



**7** Registration is complete.

The screen returns to the Edit Screen and the information of the registered S8VK-X is displayed.

二 「 四 四 ノ	NewProject	
✓ Group1 PS1	PS1	<b>الد</b> ر
<ul><li>Group2</li><li>Group3</li></ul>	Model: Serial No.: IP address:	S8VK-X48024A-EIP 22431243 192.168.250.20
	Output voltage 🐇 📃 v	
	Output curre	ent <sup>*</sup> A

**8** To continue to register any other S8VK-X.

Click the + Button shown below and add the required number of S8VK-X. Then click **Communi**cations settings Button and perform the procedure from step 4 onward.

In case of adding an incorrect S8VK-X, select the power supply name to be deleted from the left end of the screen and click **Delete** Button.

Power Supply Monitoring T	aol		- D ×			
<b>第 16 18 1</b> 1	NewProject		🔛 Operation 📝 Edit			
Group1     P51     P52     Group2     Group3	PS1 Model: 58VK-X48024A-EI Serial No.: 22431243 IP address: 192.168.250.20 Output current * A Pask hold current * A Yoary until	PS2     PS2     Model Serial No:     P Models     Paddress: Not set.     Output voltage 4     Output current 7     Pask hold     current 7     replacement 4	Communications settings			
	Total run time 🕈 📃 ki	4 Total run time *	kit			
Click +	Click + Button, add power supply box area.					
+ IA 👘	Delete					

The maximum number of S8VK-X Units that can be registered on one screen is 6. To register more than 6, Select "Group 2" or "Group 3" at the left end of the screen and register the S8VK-X. Up to 18 Units can be registered.

In case of registering more than 6 Units, the following message will be displayed, click **OK** Button. For the sampling cycle, refer to step 3 in *4-4 Monitoring* on page 4-10.

Warning	
A	Sampling cycle is changed to 10s because the number of connectable power supplies exceeds the limit in the sampling cycle 1s.
	OK Cancel

## 9

To change the registered power supply name and group name.

Changing the name makes it easier to distinguish which power supply of which equipment.

Power Supply Monitoring T	lool			
<b>严可正灵 /</b>	NewProject			🔡 Operation 🛛 🖉 Edit
✓ Board1     480W	This name can	be changed.	₽°¢	
Sroup2	Serial No.: 22431243 IP address: 192.168.250.20	Serial No.: IP address: Not set.		
➤ Group3	Output voltage	Output voltage * Output current * Peak hold <sub>*</sub> current	V A Apk	
	Years until * Yrs	Years until 🔬	Yrs	
	Total run time * kH	Total run time 👘	kн	
	_			
Change n	ame			
+ IA 👘				

- Double click the power supply name (or group name) or select the power supply name (or group name), and then click **Change name** Button.
- The name can be up to 20 characters. Do not duplicate the name.

## **10** Save the project.

Finally, save the created project. Click **Save as a new file** Button and save according to the displayed dialog box.

Power Supply Monitoring Tool						
1. <b>-</b> 11 🔣 ·	NewProject	NewProject				
🗸 Board1	480W 24V	120W_24V				
480W_24V	Save as a new file	Medel: C9V				
120W_24V	Serial No.: 22431243	Serial No.: 305				
90W_24V	IP address: 192.168.250.20	IP address: 192.				
> Group2	Output voltage * v	Output voltage				
Sroup3	Output current T	Output current <sup>7</sup>				
	Peak hold The	Peak hold <sup>7</sup> current				
	Years until replacement	Years until replacement				
	Total run time * kH	Total run time <sup>1</sup>				

## 4-4 Monitoring

This section describes how to monitor with the created project.

**1** Go to the operation mode.

After creating the project, click **Operation** Button.

Power Supply Monitoring T	'ool						_	• X
<b>第 16 18 1</b> 1	NewProject					提 Op	eration 🛛 🜌	Edit
V Board1		154	120W_24V		154	90W_24V		ħ,
120W_24V 90W_24V	Model: S8VK-X48024A-I Serial No.: 22431243 IP address: 192.168.250.20		Model: Serial No.: IP address:	S8VK-X12024A- 305419897 192.168.250.21		Model: Si Serial No.: 30 IP address: 19	3VK-X09024 )5419896 92.168.250	IA-EIP 22
<ul> <li>Group2</li> <li>Group3</li> </ul>	Output voltage *		Output volta	nge ≭		Output voltage	*	v
	Peak hold The current		Peak hold current	*		Peak hold current Vears until	*	Apk
	replacement Total run time ▼		replacement Total run tin	: * ne *		replacement Total run time	*	Yrs kH
+ JA Ü								

To exit this tool and restart it, click **Operation** Button on the Startup Screen and select the saved project file.



#### 2 Start monitoring.

Communications with the S8VK-X begins, by displaying each measured value such as output voltage.



The names and functions of each part are below.

### Power supply box area

The following values can be monitored.

Power su	upply name	
90W_24V		
Output voltage	22.5 <sub>v</sub>	Output voltage (unit: V)
Output current	<b>0.0</b> A	Output current (unit: A)
Peak hold current	<b>0.2</b> Apk	Peak hold current (unit: A)
Years until replacement	14.9 <sub>Yrs</sub>	Years until replacement (unit: year)
Total run time	0.0 <sub>kH</sub>	Total run time (unit: 1000 hours)

Note If a communications error occurs, all monitor values are blank. Also, if a power supply error occurs, the following will be displayed on the monitor value.

Monitoring value	Display	Error name	Description
Output voltage	ERR	Voltage measure-	It cannot be measured normally due to noise or
		ment error	other effects.
Output current	ERR	Current measure-	
Peak hold current		ment error	
Years until replace-	HOT	Overheating alarm	Product overheating has continued for less than
ment			180 minutes. Lower the temperature.
	ERR	Product overheat	Product overheating has continued for over 180
		abnormality	minutes. Replace the S8VK-X, as the internal
			parts may be deteriorated.

### • Configuration editing area

Displays the communications status and alarm status of each power supply and group.



Display part	lcon	Description
Communications status	4	Normal communication.
	\$	A communications error has occurred.
Alarm condition		Normal operation.
		An alarm or a power supply error has occurred.

If a communications error or alarm occurs on one of the power supplies, the same icon is displayed next to the group name for which the power is registered. For a power supply error, refer to *6-1 Troubleshoot List* on page 6-2. For alarms, refer to *5-1 Perform alarm value settings* on page 5-2. For a power supply error, refer to the previous page.

## **3** Change the update interval of monitoring

In the initial state, all monitored values are updated at intervals of 1 second (10 seconds in case of 7 or more).

To change the update interval, click **Edit** Button and **System setting** Button in order, and then change *Sampling cycle*.

Select *Sampling cycle* from 1 second, 10 seconds, 1 minute, and 1 hour in the following dialog box. If the number of registered Units is 7 or more, 1 second cannot be set.

Note Depending on the operating conditions, such as PC processing speed, number of S8VK-X Units to be monitored, and communications error, data may not be collected at the set update interval of monitoring.

Power Supply Monitoring T	Fool		
たっ正成人	NewProject		🔛 Operation 🛛 🖉 Edit
<ul> <li>Board1</li> <li>480W_24V</li> </ul>	System setting	120W_24V	<sup>1</sup> ℓ 90W_24V <sup>1</sup> ℓ
120W_24V 90W_24V	Serial No.: 22431243 IP address: 192.168.250.20	Model: S8VK-X12024A-EI Serial No.: 305419897 IP address: 192.168.250.21	IP Model: S8VK-X09024A-EIP Serial No.: 305419896 IP address: 192.168.250.22
<ul> <li>Croup2</li> <li>Group3</li> </ul>	Output voltage	Output voltage 4 v Supply Monitoring Tool em setting saving period 1h v word to shift to the editing mod	e
é Aĩ +		ocond (6 minutes)	Cancel

# 4-5 Automatic logging

This tool logs the monitored data during operation mode.

For the logging specifications, refer to the table below.

Item	Description			
Log data	The following data of S8VK-X X number of registered units			
	Group name			
	Power supply name			
	• Model			
	Serial No			
	IP address			
	Date time			
	S8VK-X status *1			
	Output voltage (unit: V)			
	Output current (unit: A)			
	Peak hold current (unit: A)			
	Years until replacement (unit: years)			
	Percentage until replacement (unit: %)			
	Total run time (unit: hours)			
	Continuous run time (unit: minutes)			
	Tab-delimited text file.			
Interval for saving log data	1 to 24 hours			
	It can be changed by system setting. Refer to step 3 in 4-4 Monitoring on page			
	4-10 for the moving to system settings.			
Log data saving timing	Other than the storage interval, data is saved during the following actions:			
	Entering edit mode			
	Exiting this tool			
Log data save location	Within the [Project name_ Data] folder in the same location as the project file.			
	The default save location is below.			
	C: \OMRON\ Power Supply Monitoring Tool \ [project name_+Data]\			
File name of log data	Project name_Date time when saved (yyyy_mm_dd_hh_mm).txt			

\*1. For details of the status, refer to the Switch-mode Power Supplies Communications Manual (T213).

# 5

# **Other functions**

This section describes functions such as alarm determination and power supply margin.

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## 5-1 Perform alarm value settings

Alarm setting can be performed on the monitor value.

Alarm values can be set for each monitor value, and when the monitor value exceeds or falls below the alarm value, it will be shown on the screen.

Power Supply Monitoring	Tool				
	s8vk-Project1			🔐 Operation	😰 Edit
✓ Board1 480W_24V	Alarm occurs.	120W_24V	⊡ 🗠 90'	W_24V	
120W_24V 90W_24V	Output voltage <b>24.2</b>	V Output voltage	<b>24.2</b> v	Output voltage	22.5
Sroup2	Output current	A Output current	<b>0.0</b> A	Output current	<b>0.0</b> Alarm occurrs.
Group3	Peak hold 0.1	Peak hold Apk current	<b>0.2</b> Apk	Peak hold current	<b>0.2</b> Apk
	Years until replacement <b>14.9</b>	Set alarm value monitor value.	for each	Years until replacement	<b>14.9</b> Yrs
	Total run time <b>0.0</b>	kH Total run time	0.0 <sub>kH</sub>	Total run time	<b>0.0</b> <sub>kH</sub>

Use the following procedure.

**1** Go to the edit mode and set an alarm value for each monitor value.

Set an alarm value for the monitor value you want to perform alarm value settings. The alarm has a upper and lower limit alarm, and the icon at the beginning of each monitor value gives an available alarm type.

lcon	Alarm	Notification condition	Types of monitor values
个	Upper limit alarm	The monitor value is greater than the alarm value	Output current, Peak hold current, Total run time
$\downarrow$	Lower limit alarm	The monitor value is smaller than the alarm value	Output voltage, Years until replacement

Leave it blank if you do not want to use the alarm value setting function. However, even if the alarm value is not set for the output current and the peak hold current, the rated current value is automatically set as an alarm value.



## **2** Go to the operation mode.

Alarm value setting is performed on the monitor value for which it is set. When an alarm occurs, the background of the monitor value turns red. At the same time the alarm mark is displayed both at the power supply name on the left end of the screen and on the group name to which the power supply belongs.

Power Supply Monitoring T	Fool					_ C X
	s8vk-Project1				🔐 Operat	ion 🛛 Edit
✓ Board1 ● I <sup>1</sup> 480W_24V ↓	480W_24V		120W_24V	D L	90W_24V	J L
120W_24V ● ♪ 90W 24V ● ♪	Output voltage	<b>24.2</b> v	Output voltage	<b>24.0</b> <sub>v</sub>	Output voltage	<b>22.5</b> <sub>v</sub>
Sroup2	Output current	<b>0.0</b>	Output current	<b>0.0</b>	Output current	<b>0.0</b>
→ Group3	Peak hold current	0.1 Apk	Peak hold current	6.2 Apl	Peak hold current	<b>0.2</b> Apk
	Years until replacement	14.9 <sub>Yrs</sub>	Years until replacement	<b>1.0</b> Yrs	Years until replacement	14.9 <sub>Yrs</sub>
	Total run time	<b>0.0</b> <sub>kH</sub>	Total run time	20.0 kH	Total run time	0.0 <sub>kH</sub>

# 5-2 Confirm the margin of the power supply

To confirm the margin of the power supply to the load ratio and ambient temperature under the usage environment is available.

Be sure to use this function under the following conditions. If this condition cannot be satisfied, it will not operate properly.

- The mounting interval of the S8VK-X is 15 mm or more
- The output voltage is within 100 to 101% of the rated voltage.
- Use at altitude less than 2,000 m

The method to confirm the margin of the power supply is shown below.

**1** Go to *Derating display* Tab Page.

In operation mode, click the **Derating display** icon or **Power supply name**. If you want to display the list again, click **Group name**.

Power Supply Monitoring 1	Fool					_ C X
ま り 正 取 ノ	s8vk-Project1				🔐 Operat	tion 🛛 🖉 Edit
✓ Board1 ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	480W_24V		.20W_24V		90W_24V	
120W_24V ↓ 90W_24V 4₽↓1	Output voltage	2 Deratir	ng display	<b>24.2</b> v	Output voltage	<b>22.5</b> v
Sroup2	Output current	U.U.A	Output current	<b>0.0</b>	Output current	<b>0.0</b>
> Group3	Peak hold current	<b>0.1</b> Apk	Peak hold current	<b>0.2</b> Apk	Peak hold current	<b>0.2</b> Apk

**2** Set the Input voltage.

The following is displayed. Set the input voltage applied to the S8VK-X using *Input voltage* pull-down list at the bottom of the Tab Page. The input voltage can be selected from 100 VAC, 115 VAC, 200 VAC, or 230 VAC. Select a value close to actual input voltage.

📲 🐂 📲 🖾 🔧 s8vk-Project1 🔐 Operation	Edit
✓ Board1	
480W_24V 🕴	
120W_24V I	1
90W_24V 😲 🕅 120	v
Group2 Output current 0.0	<u>م</u>
Croup3	
80 Peak hold 0.1	Apk
Years until 14.9	)/
	πs
$\frac{1}{40}$ Waiting for stabilizing the temperature. Total run time <b>0.0</b>	kН
20	11.570
Model: S8VK-X4802	4A-EIP
0 Senai No.: 22431243	
Ambient temperature (deg C) MAC address: 00000AB94	05C
IP address: 192.168.250	0.20
Sub-net mask: 255.255.255	5.0
Default gateway: 0.0.0.0	
Input voltage 200VAC	
+ IA iii If the mounting space is 15mm or less, this function	

The default value of Input voltage is 200 VAC.

## **3** Estimate the ambient temperature.

It takes 10 minutes for the estimation to shift in the operation mode. After 10 minutes, a green circle is displayed in the derating display. At this circle position, verify the load ratio and ambient temperature margin.

However, if the ambient temperature or load on the power supply is not stable, the state will wait for the temperature to become stable.\*1

\*1. This condition occurs when the ambient temperature is within ± 1 °C.



**4** Check the load ratio and ambient temperature margin.

The horizontal axis of the derating display is the estimated ambient temperature and the vertical axis is the load ratio. The graph is updated every minute.

When the ambient temperature is not stabilized, the circle is displayed large. When it is stabilized, the dot will become smaller.

Unstable temperature condition









Temperature estimated from internal temperature of the S8VK-X. Load ratio: Output current value (A)  $\div$  Rated output current (A)

The advice according to the derating condition is displayed at the bottom portion of the graph. Review application conditions according to the message.

- · There are sufficient margins. Use it as it is.
- There is no margin on load ratio. Consider increasing the capacity.
- There is no margin on ambient temperature. Consider improving the operating environment.
- The load ratio may exceed 100%. Consider increasing the capacity, otherwise, the S8VK-X failure may occur.
- The ambient temperature may exceed 70°C. Consider increasing to improving the operating environment, otherwise, the S8VK-X failure may occur.

When the estimated ambient temperature exceeds the display range, or if a communications error occurs, the following display will be shown.

Estimated ambient temperature is 25°C or less. Estimated ambient temperature may exceed 80°C.

Communications error occurred.







## **5** Simulate the capacity change

In addition to the review of the power supply capacity, simulation can be done with this tool.

Select the **Simulation** tab below and select the model number to simulate from the **Model** pull-down list. Output voltages 5 V and 12 V are not subject to simulation because there are no other types with this output.



The left side is the current value and the right side is the simulation value. The graph is updated every minute.

Refer to this result and to review the power supply capacity.

# 5-3 Graph display of voltage and current

The output voltage and current can be displayed on the graph, and can be trended. The method to review the alarm setting and graphed trend is below.

**1** Go to *Display the graph* Tab Page.

In the operation mode, click **Display the graph** Button of the power supply to be displayed in the graph. If you want to return to the list again, click **Group name**.

Power Supply Monitoring 1	Tool				
	s8vk-Project1			🔛 Operatio	on 🛛 🖉 Edit
✓ Board1 ● I* 480W_24V ↓	480W_24V	D 20W_2	24V 🗅 🗠	90W_24V	
120W_24V ↓ 90W 24V ↓	Output voltage	24.2 v Display t	the graph <b>!4.2</b> v	Output voltage	<b>22.5</b> <sub>v</sub>
Group2	Output current	O.O <sub>A</sub> Outpu	it current <b>0.0</b> <sub>A</sub>	Output current	<b>0.0</b>
> Group3	Peak hold	0.1 Apk Peak I	hold <b>0.2</b> Apk	Peak hold	0.2 Apk

**2** The output voltage and current is displayed on the graph.

As shown below, a graph of the output voltage is displayed on the top and a graph of the output current (green line) and the Peak hold current (red line) is displayed on the bottom.



Note When the mouse is placed on the graph, the current value will be displayed on the tooltip.

The graph is updated every sampling cycle and the data of the past 360 samplings are shown from the latest data.

Sampling cycle	Graph display section
1 second (default)	6 minutes
10 seconds	60 minutes
1 minutes	360 minutes
1 hour	360 hours

The graph display section for each sampling cycle is as follows.

For setting the sampling cycle, refer to step 3 in 4-4 Monitoring on page 4-10.

## 5-4 Setting the password

The administrator can set the password so that the settings cannot be changed by anyone other than the administrator.

Click Edit Button, and then click System setting Button, and then set *Password to shift to the editing mode.* 

Passwords can be only alphanumeric characters, up to 8 digits. If the password is not set, this function is invalid.



When the password is set, the password entry dialog box will be shown during the following operation.

- · Entering edit mode.
- Click the Edit Button from the Startup Screen to read the project file.

If the password is forgotten, confirm the following file and save location.

Save location: C:\OMRON\Power Supply Monitoring Tool\Password

File name: (project name)\_PASSWORD.txt

# 6

# Troubleshooting

This section describes troubleshooting when using the Power Supply Monitoring Tool and other countermeasures.

6-1	Troubleshoot List	6-	2
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## 6-1 Troubleshoot List

First, check the following:

- Make sure that the DC ON indicator of the S8VK-X is lit.
- Make sure that the MS indicator of the S8VK-X is lit green. When this is lit, there is an issue with the power supply and it should be replaced.
- LAN cable is connected correctly.

If that cannot be solved, follow the situations below.

Situation	Problems	Cause	Possible Correction
IP Address settings	When you entered the IP address, "The set- ting has the value that is impossible to use." was displayed.	Setting IP address is out of range.	Enter an IP address according to the IP address rule.
	Automatic connec- tion is not available.	Multiple S8VK-Xs are con- nected.	With <b>Automatic connection</b> , only one S8VK-X can be connected. Connect only one.
		The network card setting of Communications Middle- ware Utilities is incorrect.	Select <i>All Programs - OMRON - Com-</i> <i>munications Middleware Utilities -</i> <i>DirectEthernetUtility</i> and change the setting. For the setting example, refer to the step 14 in <i>2-1 Installation</i> on page 2-2.
	Fixed IP Connection is not available.	The input IP address is incorrect.	Input correct value.
		The IP address of S8VK-X or the subnet mask is not set, or the setting is incorrect.	Refer to Section 3 Set IP address.
		The IP address of the PC has not been set or the set- ting is incorrect.	Refer to 4-2 PC settings on page 4-3.
When moni- toring begins.	Monitoring is not avail- able (The monitor value is blank, and a commu-	The IP address of the PC has not been set or the set- ting is incorrect.	Refer to 4-2 PC settings on page 4-3.
	nications error occurred).	After the S8VK-X was replaced, IP address has not been set.	Refer to Section 3 Set IP address.
While moni- toring	The interval for updat- ing the monitor value is long.	A communications error occurred in the monitoring S8VK-X.	Refer to the step 2 in <i>4-4 Monitoring</i> on page 4-10 and confirm the S8VK-X model of communications error.
Displaying derating	The Tab Page does not change from <i>Waiting for stabilizing the tem-</i>	10 minutes have not passed since entering Operating mode.	Wait for 10 minutes.
	perature Message.	10 minutes have elapsed, but the ambient tempera- ture is not stable.	Check the opening and closing of the cab- inet. Stabilize the ambient temperature.

The countermeasures for other cases are as follows.

Case	Action	
Replace S8VK-X with new one.	Set the IP address of a new S8VK-X and replace the old S8VK-X with the new S8VK-X. For how to set the IP address, refer to Section 3 Set IP address.	
Forgotten password	Refer to 5-4 Setting the password on page 5-8.	

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