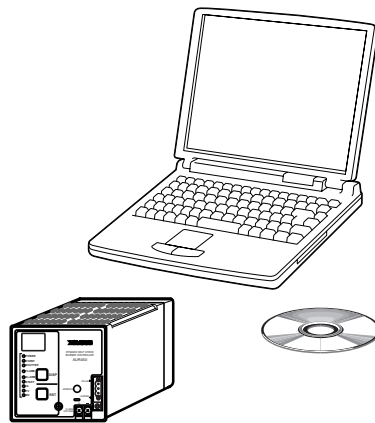


# **SLP-A45**

## **Smart Loader Package**

**for the AUR450C**  
**Flame Safeguard Control**  
**Dynamic Self Check**  
**Burner Controller**

### **User's Manual**



Thank you for purchasing the SLP-A45 for AUR450C.

This manual contains information for ensuring correct use of the SLP-A45. It also provides necessary information for installation, maintenance, and troubleshooting.

This manual should be read by those who design and maintain equipment that uses the AUR450C and SLP-A45. Be sure to keep this manual nearby for handy reference.

Yamatake Corporation

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## RESTRICTIONS ON USE

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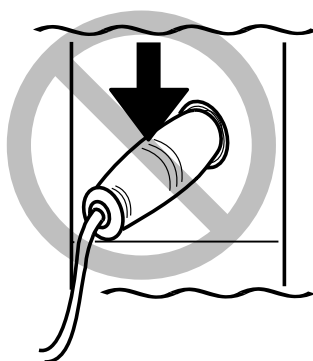
This product has been designed, developed and manufactured for general-purpose application in machinery and equipment. Accordingly, when used in applications outlined below, special care should be taken to implement a fail-safe and/or redundant design concept as well as a periodic maintenance program.

- Safety devices for plant worker protection
- Start/stop control devices for transportation and material handling machines
- Aeronautical/aerospace machines
- Control devices for nuclear reactors

Never use this product in applications where human safety may be put at risk.

### IMPORTANT

Do not apply a strong force while connecting a loader plug. Doing so might damage the instrument.



### Handling Precautions

Application of excessive force to the loader plug might cause communication failure. If such failure happens, reconnect the plug correctly.

### NOTICE

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Be sure that the user receives this manual before the product is used.

Copying or duplicating this user's manual in part or in whole is forbidden. The information and specifications in this manual are subject to change without notice.

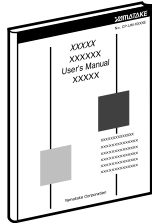
Considerable effort has been made to ensure that this manual is free from inaccuracies and omissions. If you should find an error or omission, please contact Yamatake Corporation.

In no event is Yamatake Corporation liable to anyone for any indirect, special or consequential damages as a result of using this product.

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# The Role of This Manual

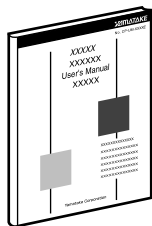
A total of five different manuals are available for the AUR450C. Read them as necessary for your specific requirements. If a manual you require is not available, contact Yamatake Corporation or its dealer.



## **AUR400C/450C Flame Safeguard Control Dynamic Self Check Burner Controller** **Manual No. CP-SP-1196E**

Personnel in charge of design, mounting, operation, and maintenance of combustion equipment using the AUR400C/450C should read this manual.

It describes the mounting, wiring, trial-run adjustment, maintenance, inspection of the AUR400C/450C.

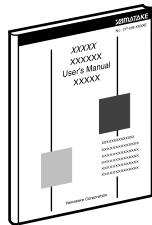


## **AUR450C Flame Safeguard Control Dynamic Self Check Burner Controller "Communications"** **Manual No. CP-SP-1176E**

Those using the communications functions of the AUR450C should read this manual.

It is necessary for making the program of the device that uses AUR450C. An operation status and various data of AUR450C can be read by using the communication.

This manual describes a details of display, outline of CPL communications, communications procedures, a list of communications data, how to remedy trouble, and communications specifications.



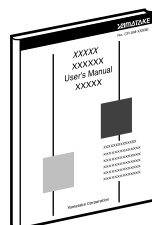
## **SLP-A45 Smart Loader Package for the AUR450C Flame Safeguard Control Dynamic Self Check Burner Controller** **Manual No. CP-SP-1187E**

This manual.

This manual is supplied with the SLP-A35/SLP-A45 Smart Loader Package.

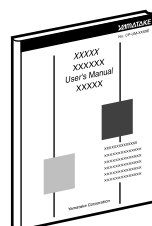
The manual describes the software used to make various settings for SLP-A45 using a personal computer. Personnel in charge of design or setting of a system using AUR450C must thoroughly read this manual.

The manual describes installation of the software into a personal computer, operation of the personal computer, various functions, and setup procedures.



## **AUD300C1000 Flame Safeguard Control Advanced UV Sensor** **Manual No. CP-SP-1141E**

The manual describes the mounting, wiring, maintenance and inspection, and troubleshooting when the AUD300C1000 is built-into the combustion equipment.



## **AUD300C2000 Flame Safeguard Control Advanced UV Sensor** **Manual No. CP-SP-1170E**

The manual describes the mounting, wiring, maintenance and inspection, and troubleshooting when the AUD300C2000 is built-into the combustion equipment.

# Organization of This User's Manual

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This manual is organized as follows:

**Chapter 1. INTRODUCTION**

Be sure to read this chapter before you start using the Smart Loader Package.

This chapter describes the required operating environment for the personal computer and briefly introduces its features.

**Chapter 2. INSTALLATION AND BASIC OPERATION**

This chapter describes how to install, start up and quit the SLP-A45, its functions, screen configurations and basic operations.

**Chapter 3. SETTING UP**

This chapter describes methods of operations relating to the setup such as the environment setup, file operations, communications with the AUR450C and data setup.

**Chapter 4. CHECKING THE STATUS OF THE AUR450C**

This chapter describes how to display the status of the AUR450C, including operating conditions, alarm history, maintenance information, etc.

**Chapter 5. CHECKING COMBUSTION STATUS**

This chapter describes how to display the playback data stored in the AUR450C and the trend monitoring data relating to operating conditions.

**Chapter 6. TROUBLESHOOTING**

This chapter describes error messages that are displayed when trouble occurs and how to remedy trouble.

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## Conventions Used in This Manual

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The following conventions are used in this manual:

 **Handling Precautions:**

Handling Precautions indicate items that the user should pay attention to when handling the SLP-A45.

 **Note:**

Notes indicate information that might benefit the user.



This indicates the item or page that the user is requested to refer to.

(1), (2), (3):

Numbers within parentheses indicate steps in a sequence or parts of an explanation.

[OK] button:

Indicates a selectable button on a personal computer screen.

[Menu]:

Indicates messages and menus displayed on the personal computer.

[Menu] → [Quit]:

Indicates the order to select the [Menu] first and then select the [Quit] displayed on the personal computer.

>>:

Indicates the result of an operation, details displayed on the personal computer or other devices, or the state of the device after operation.

[Ctrl] key, [A] key:

Indicates keys on the keyboard.

[Ctrl]+[A] key:

Indicates the operation of pressing the [A] key on the keyboard while the [Ctrl] key is pressed.

# Chapter 1. INTRODUCTION

## 1 - 1 Overview

---

The SLP-A45 (simply called “SLP” from here on) is an engineering tool for the AUR450C Dynamic Self Check Burner Controller (simply called “AUR450C” from here on).

The SLP runs on Windows98/Me/2000/XP (simply called "Windows" from here on) on a personal computer.

Installation of the SLP on a personal computer allows the user to check the AUR450C's operating conditions or to configure the AUR450C from the PC. After setup, operation of the AUR450C is more convenient.

In addition, since the data gathered by the AUR450C can be read on the PC, it can be stored there as a file or displayed in graph format using commercially available spreadsheet software.

# 1 - 2 System Operating Environment

The following system environment is required for using the SLP:

## ■ Hardware

Item	Description	
Personal Computer	Target model	PC/AT compatibles with a Pentium chip or higher
	Memory	32M byte or more
	Operating system	Windows9 8/Me/2000/XP
Peripheral Devices	Display	SVGA 800 X 600 dot or more, XGA 1024 X 768 dot or more
	Serial port *	9-pin, serial port, 1channel or more
	Hard disk drive	Hard disk with at least 40M byte of free space
	CD-ROM drive	1 drive or more
	Pointing device	Windows-compatible mouse or equivalent device

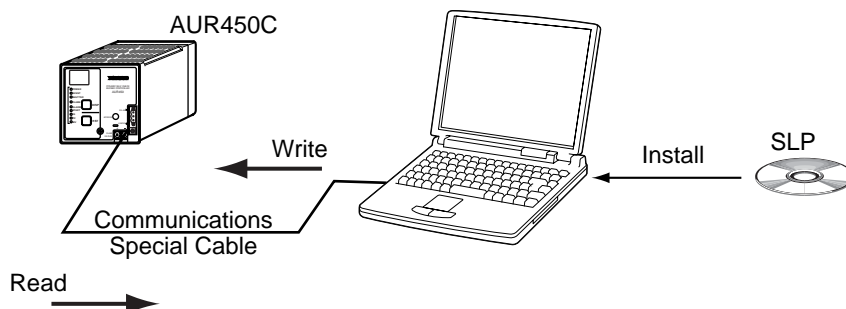
\* : Serial port

It is recommended to use a personal computer with 9-pin serial port built-in. If your personal computer does not have any serial port, you may use any of the extension adaptors listed below to connect the loader cable.

However, note that the operation may become unstable depending on the personal computer environment.

- Special interface (port replicater)  
Adaptor specially designed for each personal computer (special adaptor for each personal computer model)
- CF card adaptor  
CF232 manufactured by Elan Digital systems  
URL: <http://www.elandigitalsystems.com/interface/cf232.php>  
Operation confirmed personal computer, IBM's Thinkpad A31  
REX-CF60 manufacture by RATOOC.  
URL: <http://www.ratocsystems.com/products/subpage/cf60.html>(Japanese)
- USB adaptor  
USB-RSAQ3 manufactured by I•O DATA DEVCE, INC.  
URL: <http://www.iodata.jp/prod/mobile/serial/2004/usb-rsaq3/>(Japanese)  
Operation confirmed personal computer, IBM's Thinkpad A31  
When connecting the USB cable, check the port No.  
The port No. may vary depending on the USB cable connection position.

## ■ Hardware configuration





# Chapter 2. INSTALLATION AND BASIC OPERATION

## 2 - 1 Installation, Starting up and Quitting the SLP

### ■ Installation

Install the SLP on the hard disc of personal computer.

Use the system disk that you have purchased as the backup system.

This section describes how to install the SLP on a personal computer.

#### ! Handling Precautions

- This disk does not contain the operating system, and you cannot use without the operating system.
- If you start up the Installer while another application is running, the Installer may malfunction.  
Remove other resident applications from their directories before starting up the Installer.  
The SLP sometimes cannot be started up depending on the combination of other applications and drivers.  
For details on Windows and personal computer settings, refer to the User's Manuals provided with Windows and the personal computer.

#### ● Installing SLP

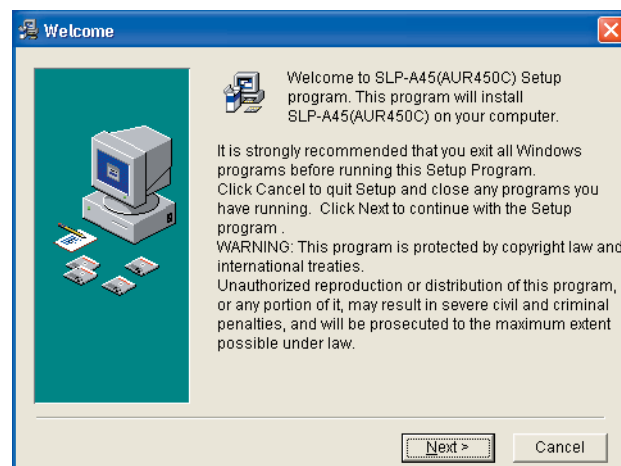
(1) Set the CD-ROM in the CD-ROM drive of your personal computer.

>>The following screen appears:



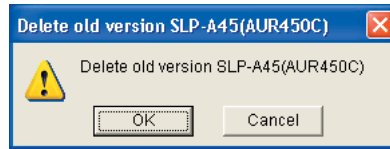
(2) Click [Install SLP-A45 for AUR450C] button.

>>The installation program is then started up automatically and the following screen appears:



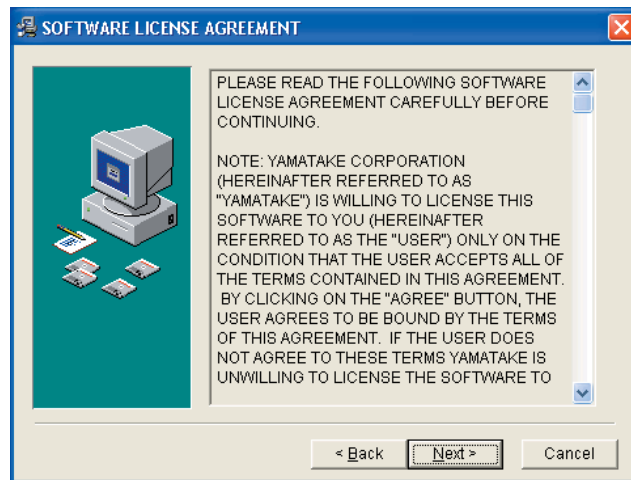
If the SLP having the old version has been installed, the screen shown below appears.

Click the [OK] button to uninstall the SLP-A45 having the old version.



(3) Click [Next >] button.

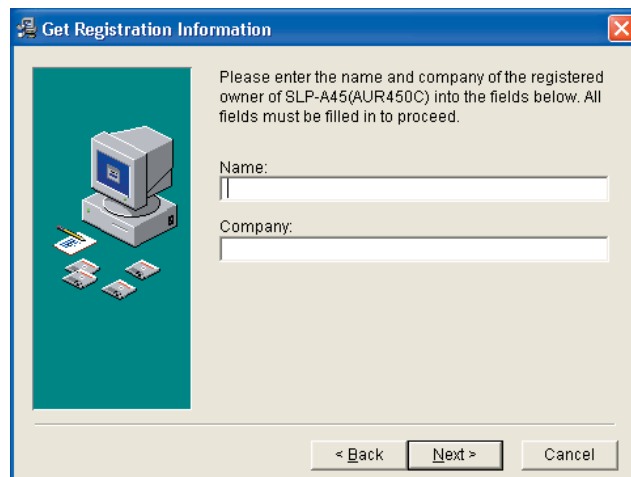
>>The following screen appears :



(4) If you agree to the software license agreement and wish to install the loader, click the [Next >] button.

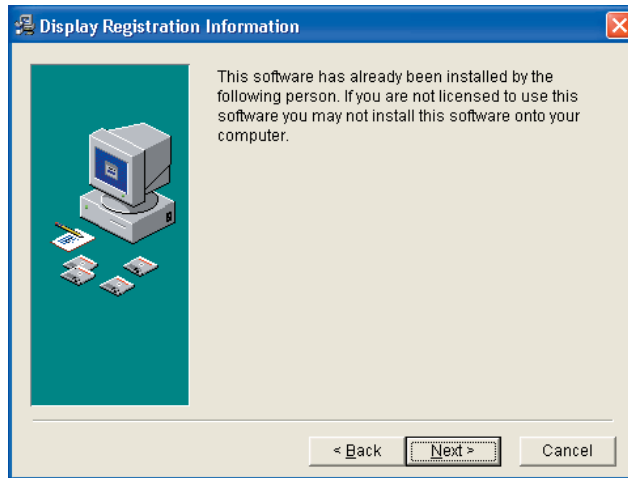
If you abort the installation, click the [Cancel] button.

>>When clicking the [Next >] button, the following screen appears :



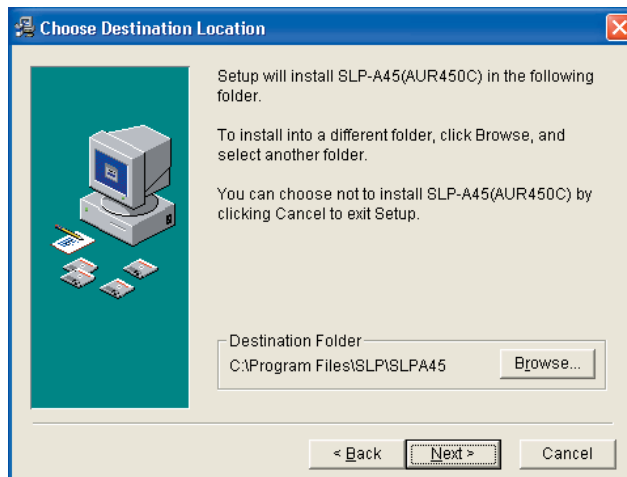
(5) Enter a registered user name and company name, and then click the [Next >] button.

>>The following screen appears :



(6) Click [Next >] button.

>>The following screen appears :

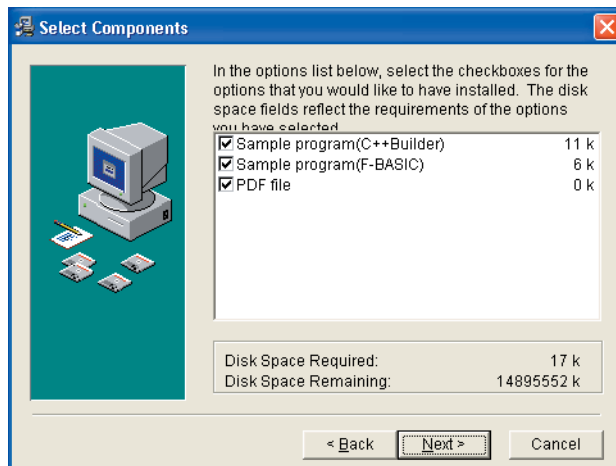


**Note**

- To change the installation destination directory, click [Browse...] button.

(7) Click [Next >] button.

>>The following screen appears :



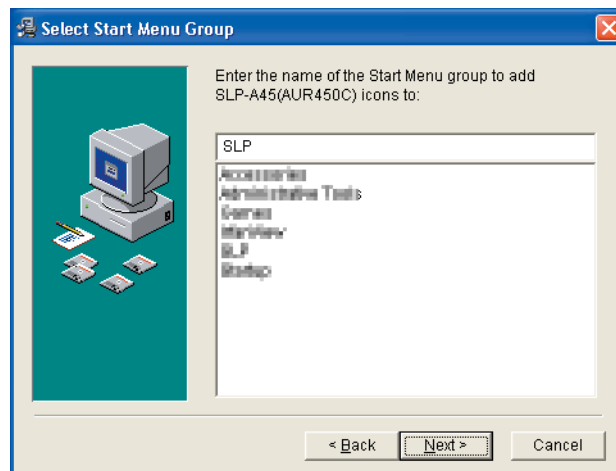
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**Note**

- Check on necessary files.  
To display a PDF file, it is absolutely necessary to install Adobe Reader.  
For details, refer to;  
☞ Note on next page.

(8) Check on (put a check mark : ) software components you wish to install and click [Next >] button.

>>The following screen appears :

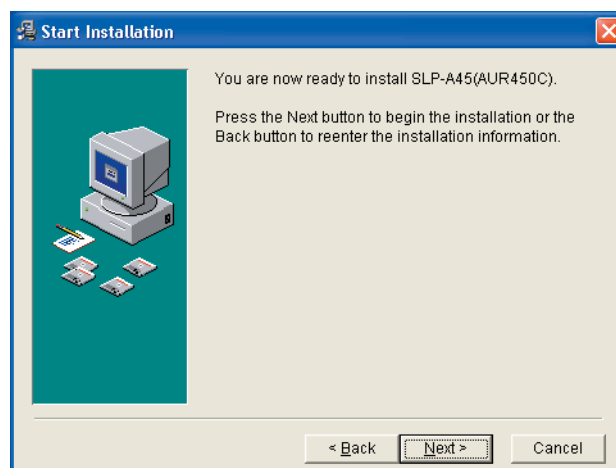


**Note**

- To change the program folder, enter the new folder name.

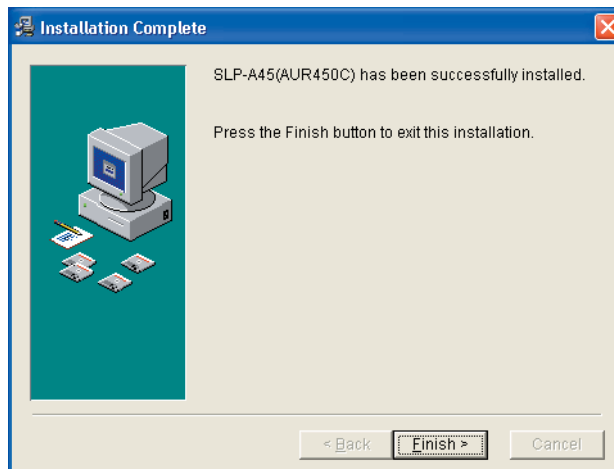
(9) Click [Next >] button.

>>The following screen appears :



(10) Click [Next >] button.

>>The following screen appears :



(11) Click [Finish >] button.


>>When the installation is completed successfully, the screen will return to the Windows screen.

#### Note

- Installation of Adobe Reader  
If the Adobe Reader is not installed in your personal computer, install it using any of the following procedures:
  - Download the Adobe Reader from Adobe Systems' home page.
  - Install [adberdr60\_enu\_full.exe] from the CD-ROM.

---

## ■ Starting up the SLP


Double-click the SLP-A45(AUR450C)  icon on the desk top or click [Start] button at the lower portion of the screen and select [Programs] → [SLP] → [SLP-A45(AUR450C)].

>>The SLP is started up and the menu window is displayed.

### Note

- For the operating system details and the mouse setup, refer to User's Manuals provided with Windows.

## ■ Quitting the SLP

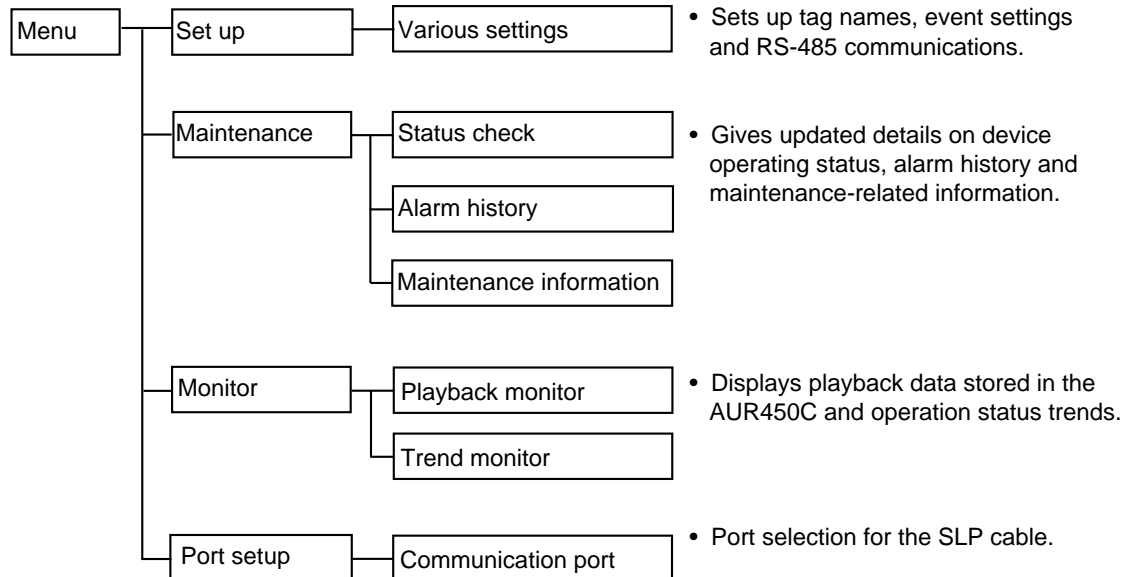
Click  icon at the top right of the screen.

The operation is the same by selecting the [Menu] → [Quit].

## 2 - 2 Description of Functions

### ■ SLP functions

The figure below shows the various functions and what they do.







## ■ Screen explanations

### ● Menu screen

The picture below is basic SLP screen. When the SLP starts up and when subscreens are exited, this menu screen appears.



### • Menu configuration list

Menu	Icon	Sub Menu	Description	Shortcut Keys
Menu		Setup	Displays the setup window.	[Ctrl]+[S]
		Maintenance	Displays the maintenance window.	[Ctrl]+[J]
		Monitor	Displays the monitor window.	[Ctrl]+[M]
		Port setup	Changes the communication environment. For details how to setup, refer to; ☞●Step 1(setting up the port) (page 12).	[Ctrl]+[E]
	-	Quit	Quits the SLP.	[Ctrl]+[Q]
Help	-	Version(A)	Displays the version information.	[Ctrl]+[A]



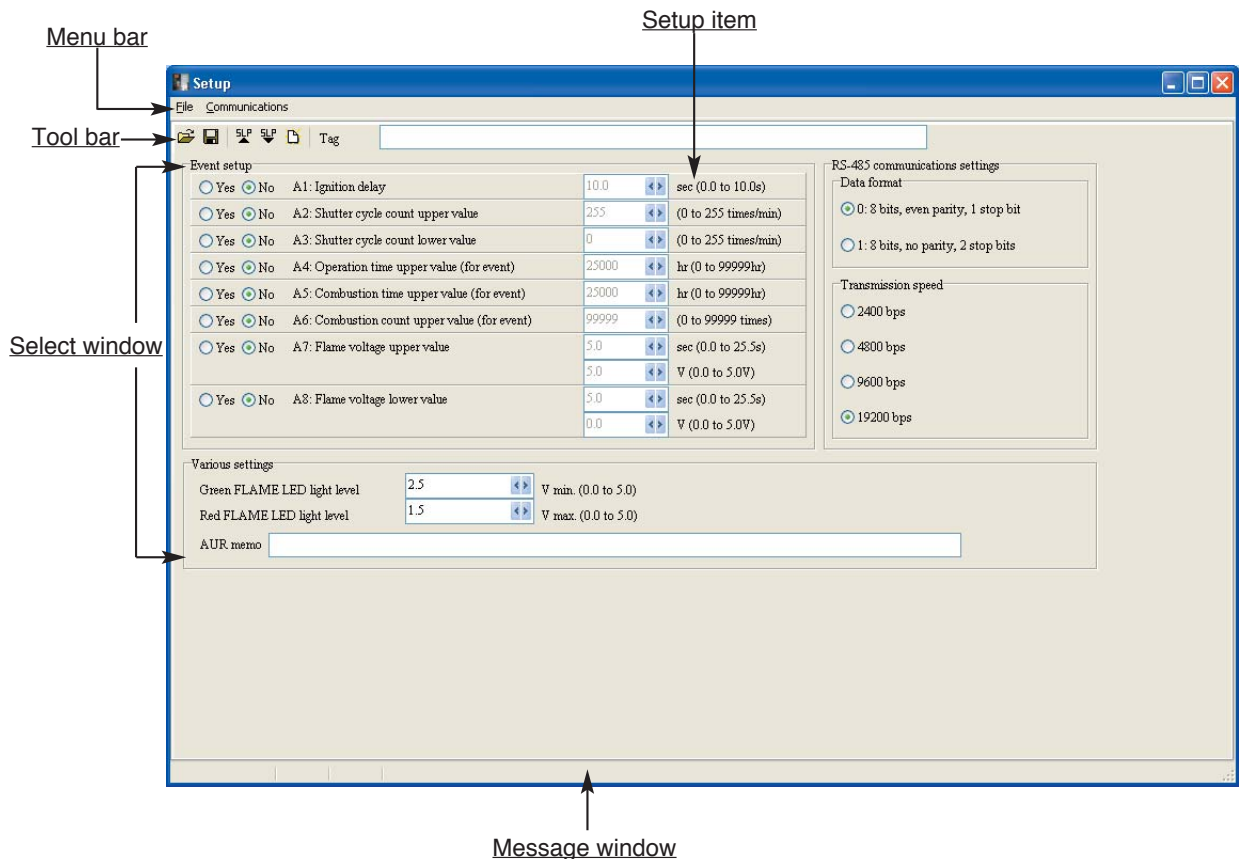
# Chapter 3. SETTING UP

## 3 - 1 Setup screen and Menu configuration list

### Overview

The setup screen is used to configure settings and write them to the AUR450C so that it functions according to the user's particular control requirements.

### Setup screen



### Menu configuration list

Menu	Icon	Sub Menu	Description	Shortcut Keys
File		Open	Loads an existing settings data file.	[Ctrl]+[O]
		Save As	Saves the settings to a file with a file name provided by the user.	[Ctrl]+[S]
	-	Quit	Quits setup and returns to the main menu screen.	[Ctrl]+[Q]
Communications		Read (AUR450C to SLP)(R)	Reads settings from the AUR450C.	[Ctrl]+[R]
		Write (SLP to AUR450C)(W)	Writes settings to the AUR450C.	[Ctrl]+[W]
		Initialize settings (AUR450C)	initializes the AUR450C using the default settings.	[Ctrl]+[N]

## 3 - 2 Method of Setup

---

Set up in the following steps:

- Step 1: Setting up the port
- Step 2: Setting up the data
- Step 3: Saving setup data
- Step 4: Writing the setup data

### Handling Precautions

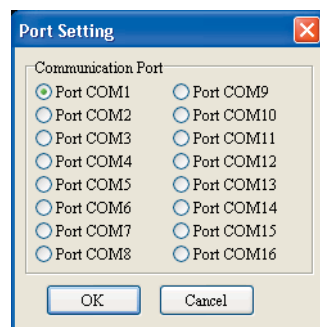
- When writing from the SLP to the AUR450C, or reading from the AUR450C to the SLP, be sure to perform step 1, setting up the port. Otherwise, [Can't open the communication port] is displayed and communications are not possible. After the environment setup has been done once or after a file operation, further setup is not required.

#### ● Step 1 (setting up the port)

(1) Click the [Port setup] on the menu screen.

The operation is the same by selecting the [Ctrl] + [E] keys.

>>The Port Setting dialog box appears.



(2) Set the communications port. Select the port to which the SLP cable is connected.

(3) Click [OK] button.

## ● Step 2 (setting up the data)

Click [Setup] on the menu screen. Set the various data.

### • Setup screen

The screenshot shows a 'Setup' window with the following sections:

- Event setup:** A table with 8 rows, each containing a radio button for 'Yes' or 'No', an event name (A1-A8), a numerical value in a text box, and a unit/range. A1: Ignition delay (10.0, sec (0.0 to 10.0s)). A2: Shutter cycle count upper value (255, (0 to 255 times/min)). A3: Shutter cycle count lower value (0, (0 to 255 times/min)). A4: Operation time upper value (for event) (25000, hr (0 to 99999hr)). A5: Combustion time upper value (for event) (25000, hr (0 to 99999hr)). A6: Combustion count upper value (for event) (99999, (0 to 99999 times)). A7: Flame voltage upper value (5.0, sec (0.0 to 25.5s)). A8: Flame voltage lower value (5.0, V (0.0 to 5.0V)).
- RS-485 communications settings:** Data format (0: 8 bits, even parity, 1 stop bit selected; 1: 8 bits, no parity, 2 stop bits). Transmission speed (2400 bps, 4800 bps, 9600 bps, 19200 bps selected).
- Various settings:** Green FLAME LED light level (2.5, V min. (0.0 to 5.0)). Red FLAME LED light level (1.5, V max. (0.0 to 5.0)). AUR memo (empty text box).

#### [Tag]

If desired, enter a name for the device being used (etc.). Up to 33 characters, or 16 double-byte characters, can be entered.

#### [Event setup]

Select if each event condition is enabled ([Yes]) or disabled ([No]).

#### [RS-485 communications settings]

Set the data format and transmission speed.

#### [Various settings]

Input a light level for each color of FLAME LED.

#### [AUR memo]

Store information on maintenance, etc. as a memo. Up to 85 characters, or 42 double-byte characters, can be entered. Enter according to need.

## ! Handling Precautions

- Set the red FLAME LED light level  $\leq$  the green FLAME LED light level. Failure to set correctly will result in the error message, [The red FLAME LED light level is  $\geq$  the green FLAME LED light level,] and it will not be possible to save the settings.

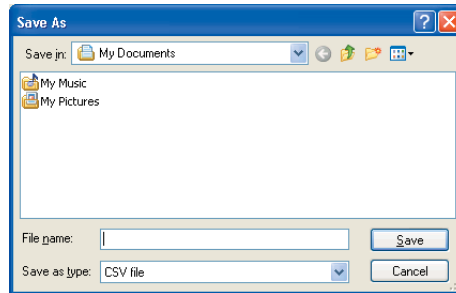
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### ● Step 3 (saving setup data)

When all setup is finished (basic setup, extended setup, and playback setup), save the settings to a file. If the same parameters are desired again, setup will be easy.

(1) The operation is the same by selecting the [File] → [Save As] or [Ctrl]+[A] keys.

>>The Save As dialog box appears.




(2) Enter the file name, and click [Save] button.

### ● Step 4 (writing the setup data)

Write settings from the SLP or settings called up from a saved file to the AUR450C.

(1) Use the special cable to connect the personal computer to the AUR450C body.

(2) Turn the AUR450C ON.

(3) Click  icon. The operation is the same by selecting [C]ommunications → [W]rite (SLP to AUR450C)] in the menu bar.


>>The message [Save the settings to the AUR450C?] is displayed.

(4) Click [OK] button.


>>This starts writing of the setup data. When writing ends, [Save completed.] is displayed.

(5) Click [OK] button.

### Handling Precautions

- If writing is not possible, refer to;  
 Chapter 6. TROUBLESHOOTING.

To verify the saved settings, read them back from the AUR450C.

(1) Click  icon.

The operation is the same by selecting [C]ommunications → [R]ead (AUR450C to SLP)] in the menu bar.

>>The message [Read settings from the AUR450C?] is displayed.

(2) Click [OK] button.

>>When reading ends, [Reading completed.] is displayed.

(3) Click [OK] button.

# Chapter 4. CHECKING THE STATUS OF THE AUR450C

## ■ Overview

The status of the AUR450C, including operation status, alarm history and maintenance information, can be checked. To do so, click [Maintenance] on the main menu screen (page 10).

The maintenance screen is divided into two tabbed windows, as explained in detail on the following pages:

- **Status check**  
Displays information such as flame voltage and equipment information about the AUR450C.
- **Alarm history**  
Displays alarm history for the past 16 alarms.
- **Maintenance information**  
Displays equipment information for the AUR450C.

## ! Handling Precautions

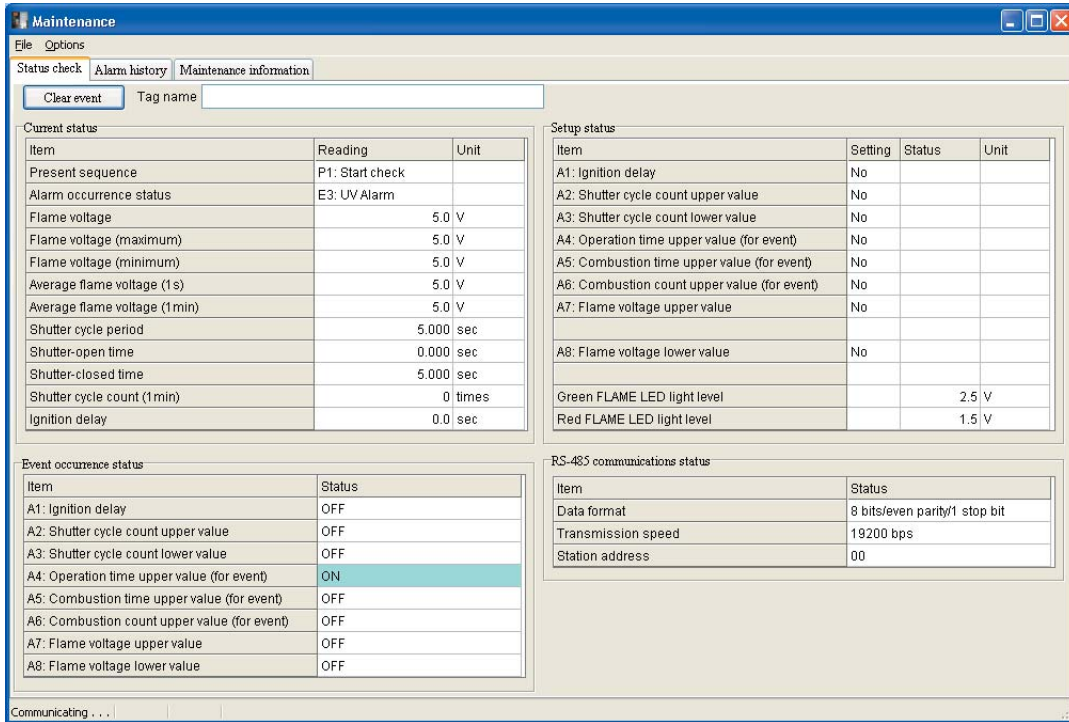
- When writing data from the SLP to the AUR450C, or reading from the AUR350C to the SLP, be sure that the communications port has been set. Once the port has been set, no further setup is required unless the environment changes. For details how to setup, refer to;  
👉●Step 1 (setting up the port) (page 12)

## ● Menu configuration list

Menu	Sub Menu	Description	Shortcut Keys
File	Save all	Saves all information displayed on the maintenance screen.	-
	Quit	Quits the maintenance screen.	[Ctrl]+[Q]
Options	Command line	Displays a command line.	-

## ■ Screen explanations

### ● Status check



The status check screen displays the following information:

[Tag name]

Displays the tag that was entered on the basic setup screen (see page 13).

[Current status]

Displays current status.

[Setup status]

Displays current setup status.

[Event occurrence status]

Displays the event occurrence status.

[RS-485 communications status]

Displays settings for RS-485 communications.

### ● Button configuration list

Button	Description
Clear event	Clear the present event.

### Note

- When communications are normal, [Communicating ...] is displayed on the bottom left of the screen.

● Alarm history

Alarm history	Alarm code	Sequence code on lockout	Operation time	Unit	Combustion time	Unit	Combustion count	Unit
1	E3: UV Alarm	P1: Start check	941 hr		0 hr		9 times	
2	E3: UV Alarm	P1: Start check	941 hr		0 hr		9 times	
3	E3: UV Alarm	P1: Start check	859 hr		0 hr		9 times	
4	E2: False flame	P1: Start check	848 hr		0 hr		9 times	
5	E2: False flame	P1: Start check	680 hr		0 hr		9 times	
6	E1: Interlock alarm	P1: Start check	438 hr		0 hr		9 times	
7	E1: Interlock alarm	P1: Start check	438 hr		0 hr		9 times	
8	E1: Interlock alarm	P1: Start check	383 hr		0 hr		9 times	
9	E1: Interlock alarm	P1: Start check	383 hr		0 hr		9 times	
10	E1: Interlock alarm	P1: Start check	383 hr		0 hr		9 times	
11	E1: Interlock alarm	P1: Start check	383 hr		0 hr		9 times	
12	E1: Interlock alarm	P1: Start check	383 hr		0 hr		9 times	
13	E1: Interlock alarm	P1: Start check	383 hr		0 hr		9 times	
14	E1: Interlock alarm	P1: Start check	349 hr		0 hr		9 times	
15	E1: Interlock alarm	P1: Start check	287 hr		0 hr		9 times	
16	E1: Interlock alarm	P1: Start check	272 hr		0 hr		9 times	

The alarm history screen displays alarm history for the past 16 alarms. The most recent alarm history is displayed as [Alarm history 1]. When a 17th alarm occurs, the oldest alarm history is deleted.

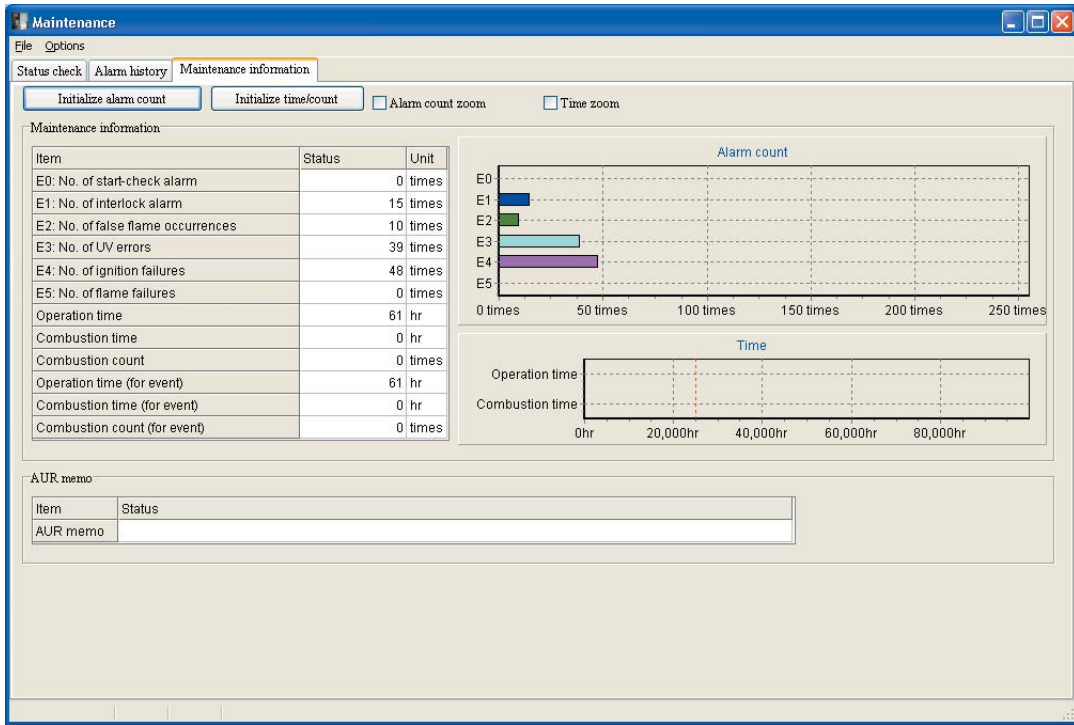
[Alarm history]

For each alarm occurrence, the alarm code, sequence code on lockout, cumulative operation time, cumulative combustion time and cumulative combustion count are displayed.

● Button configuration list

Button	Description
Initialize alarm history	Initializes the designated alarm history.

● Maintenance information



The maintenance screen displays the following information:

[Maintenance information]

Displays cumulative alarm count and other times/counts that are useful for maintenance.

[AUR memo]

Displays the AUR memo entered on the extended setup screen (see page 13).

● Button configuration list

Button/Check box	Description
Initialize alarm count	Allows each alarm count to be initialized.
Initialize time/count	Allows each event time/count to be initialized.
Alarm count zoom	Zooms in on the alarm count graph when the checkbox is checked.
Time zoom	Zooms in on the time graph when the checkbox is checked.



# Chapter 5. CHECKING COMBUSTION STATUS

## ■ Overview

Playback data stored in the AUR450C can be displayed, and the trend monitoring data relating to operating conditions can be checked. To do so, click [Monitor] on the main menu screen (page 10).

### ● Monitor screen

There are two monitoring screens, one for playback and one for trends. Details are explained on the following pages:

#### • Playback monitor

This screen displays the four (max.) playback data items stored in the AUR450C. The displayed playback data can be saved and later read back.

- Saving of playback data as a CSV file
- Reading of saved playback data
- Copying of playback screen to the Windows clipboard

#### • Trend monitor

This screen is for monitoring the running state of the AUR450C in the form of a trend graph.

- Screen display of trends for max. of eight data items
- Saving of sampled data as CSV file
- Reading of CSV data
- Copying of trend screen to the Windows clipboard
- Data type
  - Flame voltage, Shutter cycle period, relay output,
  - User-defined data (any analog data that can be communicated)
- Sampling cycle
  - Variable within the range 1 to 3600s
- Max. sampling count
  - 60,000

#### Note

- A "CSV file" is the data format that can be handled in third-party spreadsheet software such as Microsoft Excel. In this format, sampled trend data can be interpreted in spreadsheet software.

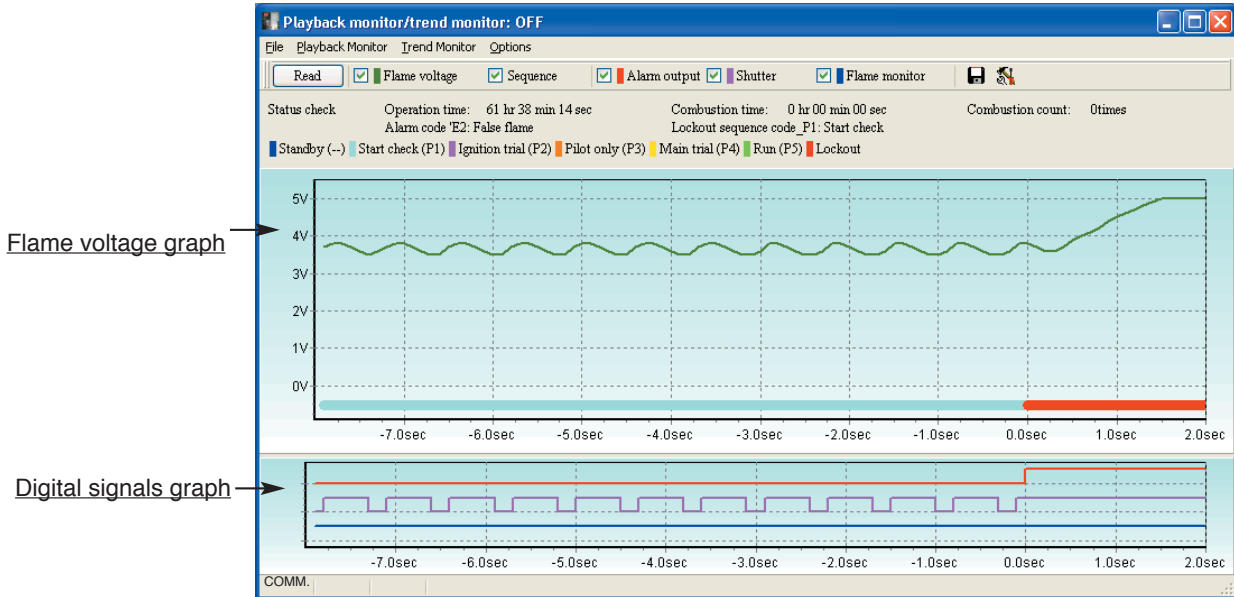
## Handling Precautions

- Sampling cycle may change depending on the communications timing. When measuring with exact timing, use a recorder or data logger.



## ■ Screen explanations

### ● Playback monitor

The playback monitor displays playback data for 8 seconds before the occurrence of the latest lockout and for 2 seconds after the occurrence.



### • Menu configuration list

Menu	Icon	Sub Menu	Description	Shortcut Keys
File	-	Quit	Quit the playback monitor	[Ctrl]+[Q]
	-	Read	Read the playback data.	-
Playback monitor	-	Open CSV	Reads and displays CSV data saved in a file.	-
		Save CSV... *	Outputs the playback data in CSV data format.	-
	-	Copy flame voltage graph to Clipboard	Copies a flame voltage graph to the Windows clipboard.	-
	-	Copy digital signals graph to clipboard	Outputs a digital signals graph to the Windows clipboard.	-
Trend monitor	-	-	Changes the display to the trend monitor.	-
Options		Command Line	Displays the command Line window.	-

\*: The CSV data output function saves playback monitor data that has been read from the AUR450C to a file. After CSV data has been read once and modified it cannot be saved to another CSV file.

### Note

- When communications are normal, [COMM.] is displayed on the bottom left of the screen.

---

## ● How to operate the playback monitor

### • Reading playback data

The playback monitor displays playback data for 8 seconds before the occurrence of the latest lockout and for 2 seconds after the occurrence. Therefore, be sure to wait 2 seconds after lockout before reading the data. If the data is read within 2 seconds, it might not be correctly displayed. If this happens, click [Read] again. In this case, the playback display background color will be blue.

When the AUR450C and the loader are correctly connected, the operations described below are also available.

### • Saving playback data

The data sampled using the playback monitor can be saved into a file in the CSV format. The sampled data saved in CSV format can be processed using spreadsheet applications, such as Microsoft Excel.

#### Handling Precautions

- Before quitting the SLP, save the playback data. If not saved, the data will disappear.


### • Reading of saved playback data

Playback data saved in CSV format can be displayed on the playback monitor screen. In this case, the screen background is orange.

### • Use of the command line

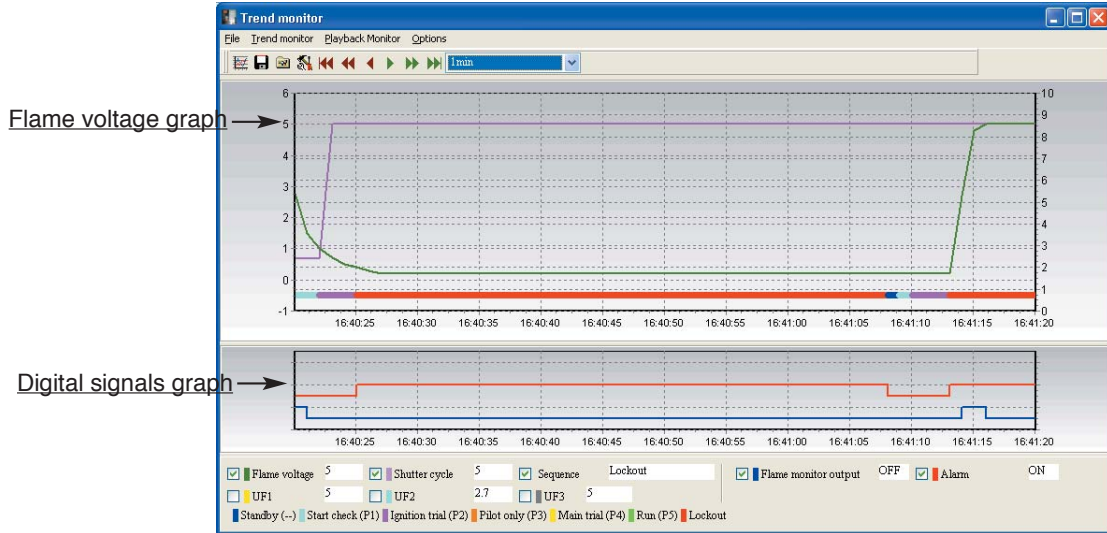
Data can be read or written or the mode switched by directly entering communications commands on the command line.

#### Handling Precautions





- Transmission of the wrong command may result in trouble on the AUR450C. For this reason, take sufficient care when describing command types, addresses, data and other information.
- For details on communications commands and data addresses, refer to;  
 AUR450C "Communications" User's Manual CP-SP-1176E.

● Trend monitor

By means of the connection to the AUR450C, operational trends are always drawn in real time.










• Menu configuration list

Menu	Icon	Sub Menu	Description	Shortcut Keys
File	-	Quit	Quit the trend monitor	[Ctrl]+[Q]
Trend monitor		Trend monitor Start/Stop	Starts/stops the trend monitor	[Ctrl]+[T]
	-	CSV Read	Reads CSV data that has been saved to a file.	-
		Save CSV... *	Outputs the trend data in CSV format.	[Ctrl]+[X]
	-	Copy flame voltage graph to & clipboard	Copies a flame voltage graph to the Windows clipboard.	-
	-	Copy digital signals graph to clipboard	Outputs a digital signals graph to the Windows clipboard.	-
Playback monitor	-	-	Changes the display to the playback monitor.	-
Options		Setup Trend monitor	Displays the Setup window.	-
		User function	For details, refer to; next page.	
		Command Line window.	Displays the Command Line.	-

\*: The CSV data output function saves playback monitor data that has been read from the AUR450C to a file. After CSV data has been read once and modified it cannot be saved to another CSV file.

• Icon list

Icon	Description
	Returns the graph to the start time.
	Returns the graph by 1/2 screen.
	Returns the graph by 1/4 screen.
	Advances the graph by 1/4 screen.
	Advances the graph by 1/2 screen.
	Advances the graph to the latest time.
	Specify a time scale of the graph. 1min. 2min. 10min. 1hr. 12hrs. 24hrs. Auto

● How to operate the trend monitor screen

• Setup

From the monitoring screen, select [Options] → [Setup] to modify the settings shown below. Cycle, display high limit, and display low limit apply to all trends.


• Trend monitor

Setting Item	Description	Setting Range	Factory Setting
Cycle	Setting of sampling cycle	1 to 3600s	1
Display low limit of left axis	Lower value of vertical axis of screen display	-1999 to display upper limit	-1
Display high limit of left axis	Upper value of vertical axis of screen display	Display lower limit to 9999	6
Display low limit of right axis	Lower value of vertical axis of screen display	-1999 to display upper limit	-1
Display high limit of right axis	Upper value of vertical axis of screen display	Display lower limit to 9999	6

• User function

Setting Item	Description	Setting Range
Axis	Specify an axis used for the graph.	0 : Left 1 : Right
User-defined address	Address of relevant data when the data type is set as "user type"	Address of communicable data
Decimal point	Number of digits to be displayed after the decimal point	0 to 3

 **Note**

- For User-defined address, refer to;  
 AUR450C "Communications" User's Manual CP-SP-1176E.

 **Handling Precautions**

- When the user-defined address is specified, make the decimal point setting.

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- Starting the data sampling

When the setup is completed, start up the trend monitor.

Click  icon.

The same operation can be started by selecting [Trend Monitor] → [Trend Monitor Start].

The data sampling is started, and then the trend of the specified parameters is displayed on the screen.

- Once the trend monitor is started, it continues until the stop operation is performed or the data for 60,000 cycles is sampled.
- If the trend monitor is not stopped, it will continue until data has been sampled 60,000 times.
- The screen can be changed to the "Numeric Monitor" screen while the trend monitor is running. However, the loader cannot be exited and the screen cannot be changed to the "Setup" screen without first quitting the trend monitor.

- Stopping the data sampling

Select [Trend Monitor] → [Trend Monitor Stop].

The trend monitor is then stopped.

- Saving sampled data

The data sampled using the trend monitor can be saved into a file in the CSV format. The sampled data saved in the CSV format can be processed using spreadsheet applications, such as Microsoft Excel.

 **Handling Precautions**

- The data can be saved into a file even while the trend monitor is running.
- Before quitting the SLP, save the playback data. If not saved, the data will disappear.

- Reading the data sampling

Trend monitor data that has been saved can be displayed on the trend monitor screen. In this case, the screen background is indigo blue.






- Saving copy flame voltage graph and copy digital signals graph to clipboard

The information displayed on the trend monitor screen can be saved as is by copying it to the Windows clipboard.

# Chapter 6. TROUBLESHOOTING

## 6 - 1 Error Messages

### ■ Communications error messages

Category	Message	Description	Remedy
Communications error	Can' t open the communications port.	Other software that uses the communications port has tried to use the port at the same time.	Do not use, at the same time, other software that uses the communications port.
		Wrong communications port number.	Refer to;  section 6-2, " Remedies for Communication Errors" (page 27)
	A communications error occurred. Abort: End the program. Retry: Try again to connect.	A system error occurred.	 After checking section 6-2, " Remedies for Communication Errors" (page 27), either quit or restart the loader.
	A communications error occurred. The program has ended.		 After checking section 6-2, " Remedies for Communication Errors" (page 27), restart the loader.
A communications error occurred. To resume, read/write/clear again.	 After checking section 6-2, " Remedies for Communication Errors" (page 27), try the loader operation again.		
AUR450C status error	Can' t support the connected SLP-A45	The loader currently in use is not compatible with the AUR450C.	Contact Yamatake Corporation or its dealer.
	Connected instruments may not be supported by this loader. Check the listing.	Wrong communications port number. SLP jack is not fully connected. No power supply of AUR450C.	Refer to;  section 6-2, " Remedies for Communication Errors" (page 27)

### ■ File error messages

Category	Message	Description	Remedy
File name error	This filename is not valid.	An invalid file name has been entered.	Enter the correct file name.
	This file cannot be found. Make sure that the correct path and filename are given.	A non-existent file name has been entered.	Correctly enter the name of an existent file.
	This filename is a reserved device name. Use a different filename.	A file name reserved as a device name has been entered.	Enter the correct file name.
Disk error	Not enough free space on disk.	There is not enough free space on disk.	Secure enough free space on disk.
	The device is not ready.	The disk is not prepared.	Prepare a disk, and repeat the operation.
	Cannot make file.	The save destination is a CD-ROM.	Save to a different destination.
	File name too long.	The file name is too long.	Limit file names to 255 or less characters.
File error	Not a configuration file.	The indicated file is not a valid configuration file.	Select a valid configuration file.

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## ■ Startup error messages

Category	Message	Description	Remedy
Loader system error	Can't start up two or more SLP-A45s at once.	An attempt was made to start up three or more SLP-A45s at once.	Click [OK] button.

## ■ Other error messages

Message	Description	Remedy
The red FLAME LED light level is $\geq$ the green FLAME LED light level.	The value set for the red FLAME LED light level was not less than or equal to the value of the green FLAME LED light level.	Set the red FLAME LED light level $\leq$ green FLAME LED light level.



## 6 - 2 Remedies for Communications Errors

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- **When [Can't open the communications port] is displayed.**

From the Windows control panel, use the device manager to check the current COM port setting.

- WindowsXP /Windows2000

[Control Panel] → [System] → [Hardware] → [Device Manager]

- Windows98 /Windows Me

[Control Panel] → [System] → [Device Manager]

After checking the COM port, set the SLP port setting (see page 12) to the correct port.

If a USB cable is used, the COM port may differ according to the USB connector location.

- **When [A communications error occurred] is displayed.**

Check the SLP cable. The SLP may not be fully connected. Make sure that power is being supplied to the devices.

- **When [Connected instruments may not be supported by this loader. Check the listing] is displayed.**

Change the connecting instruments to the AUR450C.

Check the SLP cable. The SLP may not be fully connected. Make sure that power is being supplied to the devices.

# Revision History

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