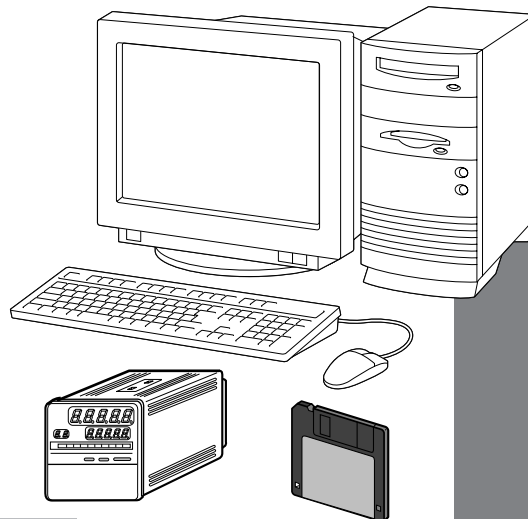


Smart Loader Package SLP-C4A for Digital Indicating Controller SDC40A User's Manual



Thank you for purchasing the Smart Loader Package SLP-C4A for Digital Indicating Controller SDC40A.

This manual contains information for ensuring correct use of the SLP-C4A. It also provides necessary information for installation, maintenance, and troubleshooting.

This manual should be read by those who design and maintain devices that use the SLP-C4A.

Be sure to keep this manual nearby for handy reference.

Yamatake Corporation

RESTRICTIONS ON USE

This product has been designed, developed and manufactured for general-purpose application in machinery and equipment.

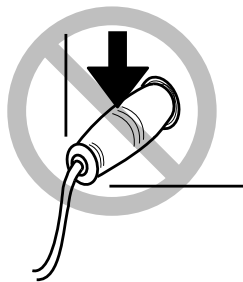
Accordingly, when used in applications outlined below, special care should be taken to implement a fail-safe and/or redundant design concept as well as a periodic maintenance program.

- 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. Failure to do 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 loader plug correctly.

REQUEST

Ensure that this User's Manual is handed over to the user 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 User's Manual are subject to change without notice.

Considerable effort has been made to ensure that this User's Manual is free from inaccuracies and omissions.

If you should find any inaccuracies or omissions, 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 Pentium® and Intel® are registered trademarks of Intel Corporation.

The Microsoft®, MS-DOS®, Windows®, WindowsNT®, Microsoft®Excel are registered trademarks of Microsoft Corporation USA and other countries.

Other company names and product names listed in this manual are registered trademarks or trademarks of respective companies.



Unpacking

Check the following items when removing the SLP-C4A from its package:

1. Check the model No. to make sure that you have received the product that you ordered.
2. Check the SLP-C4A for any apparent physical damage.
3. Check the contents of the package against the Package List to make sure that all accessories are included in the package.

After unpacking, handle the SLP-C4A and its accessories taking care to prevent damage or loss of parts.

If an inconsistency is found or the package contents are not in order, immediately contact your dealer.

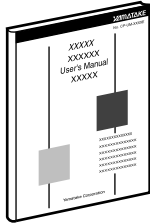
Name	Model No.	Q'ty	Remarks
System disk 	SLP-C4AJ20	1	Floppy disk 3.5 inch disk (1.44MB)
Special cable	-	1	
User's Manual 	CP-UM-5175E	1	This manual

The Role of This Manual

In all, three manuals have been prepared for the SDC40A. Read the manual according to your specific requirements.

The following lists all the manuals that accompany the SDC40A and gives a brief outline of the manual:

If you do not have the required manual, contact Yamatake Corporation or your dealer.



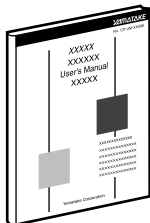
DigitroniK Line SDC40A Digital Indicating Controller User's Manual Manual No. CP-SP-1043E

For filing.

This manual is provided with the SDC40A.

People who are involved in hardware design to build the SDC40A into a control panel and maintenance must read this manual.

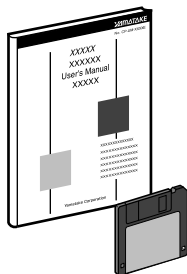
This manual describes the outlines of hardware and controllers, installation/wiring, maintenance/checking, troubleshooting, measures and the hardware specification.



DIGITRONIK CPL Communication SDC40A/40G User's Manual Manual No. CP-UM-1583E

This manual is required reading for those using the CPL communications functions of the SDC40A.

This manual describes an outline of CPL communications, wiring, communications procedures and SDC40A communications data, how to remedy trouble, and communications specifications.



Smart Loader Package SLP-C4A for Digital Indicating Controller SDC40A User's Manual Manual No. CP-UM-5175E

This manual.

This manual is supplied with the Smart Loader Package SLP-C4A. This manual is supplied with the Smart Loader Package SLP-C4A.

The manual describes the software used to make various settings for SLP-C4A using a personal computer. Personnel in charge of design or setting of a system using SLP-C4A 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.

Organization of This User's Manual

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 FUNCTIONS

This chapter describes how to install, start up and quit the Smart Loader Package, its functions, screen configurations and basic operations.

Chapter 3. OPERATION

This chapter describes how to operate the loader for setup and configuration of this software.

Chapter 4. TROUBLESHOOTING

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

Conventions Used in This Manual

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-C4A.

Note

: Notes indicate useful information that the user might benefit by knowing.



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

(1), (2), (3)

: The numbers with the parenthesis indicate steps in a sequence or indicate corresponding parts in an explanation.

[OK] button :

Indicates a selection button in screens displayed on the personal computer.

[File] :

Indicates messages and menus displayed on the personal computer.

[Option]

[Save]

>> :

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

[Tab] key, [A] key :

Indicates keys on the keyboard.

[Ctrl]+[A] key :

Indicates the operation of pressing the [A] key with the [Ctrl] key on the keyboard held down.

Contents

Unpacking	
The Role of This Manual	
Organization of This User's Manual	
Conventions Used in This Manual	

Chapter 1. INTRODUCTION

1-1 Overview	E1
1-2 System Operating Environment	E2
■ Hardware	E2
■ Hardware configuration	E3
■ Compatible equipment	E3

Chapter 2. INSTALLATION AND BASIC FUNCTIONS

2-1 Installation, Starting Up and Quitting the Loader	E4
■ Installation	E4
■ Starting up loader	E7
■ Quitting loader	E7
2-2 Description of Functions	E8
■ SLP functions	E8
2-3 Screen Configuration	E9
■ SLP screen configuration	E9
2-4 Menu Configuration List	E10

Chapter 3. OPERATION

3-1 Setting the Type	E11
3-2 Setting the Environment	E12
3-3 File Operations	E13
■ Making new files	E13
■ Opening existing files	E13
■ Overwriting and saving files	E13
■ Saving files with a new name	E14
■ Outputting CSV format files	E14
3-4 Communications with the SDC	E15
■ Communicating to the SLP from the SDC (reading to SLP)	E15
■ Communicating to the SDC from the SLP (writing from SLP)	E15
3-5 Setting Up Data	E16
■ Selecting setup items	E16
■ Entering numerical data	E16

Chapter 4. TROUBLESHOOTING

■ Communications error messages	E18
■ File error messages	E18
■ Startup error messages	E18

Chapter 1. INTRODUCTION

1 - 1 Overveiw


The SLP-C4A (simply called "SLP" from here on) is an engineering tool for the DigitroniK Line SDC40A Digital Indicating Controller (simply called "SDC" from here on).

The SLP runs on Windows95/98/Me/2000/XP (simply called "Windows" from here on) on a personal computer.

The SLP has the following functions:

1. Parameter setup
2. Communications with SDC (reading/writing of parameters)
3. File operations (reading/writing of parameters)

Note

- Install the SLP on the hard disk following the procedure in  ■ Installation (page E4).
Use the system disk that you have purchased as the backup system.

Handling Precautions

- This disk does not contain the system, and cannot be used as they are.
- This loader is used for the SDC40A, but cannot be used for the SDC40B, or SDC40G.

1 - 2 System Operating Environment

The following system environment is required for using the loader:

■ Hardware

Item	Description	
Personal Computer	Target model	PC/AT compatibles with a Pentium chip or higher
	Memory	32M byte or more
	Operating system	Windows95/98/Me/2000/XP
Peripheral Devices	Display	800 X 600 dot or more, 16 bit color or more
	Serial port	9-pin, serial port, 1ch or more *
	Hard disk drive	Hard disk with at least 40M byte of free space
	Foppy disk drive	At least 1 drive capable of reading the floppy disk in the product package (1.44MB format)
	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-RSAQ2 manufactured by I/O Data

URL: <http://www.iodata.co.jp/prod/mobile/serial/2003/usb-rsaq2/>(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.

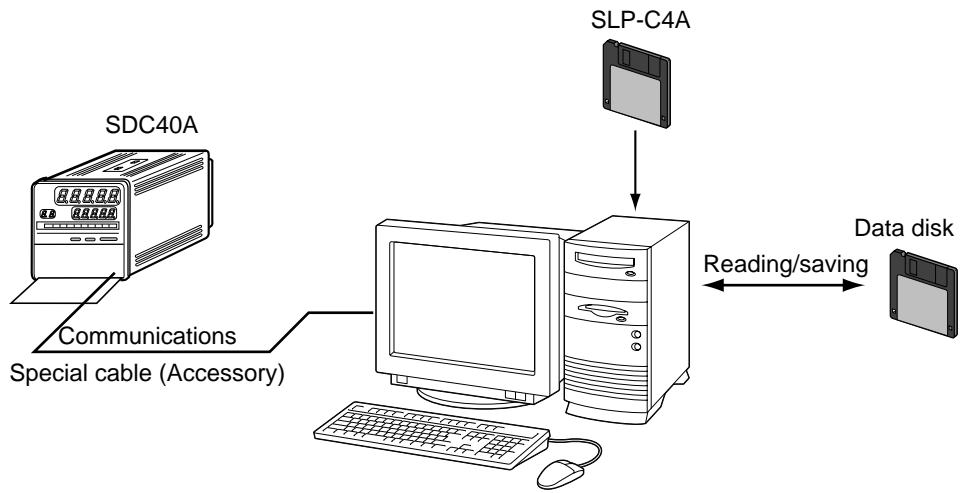
! Handling Precautions

- Before starting up loader, quit all other applications.

If you start up loader while another application is running, loader may not function.

Also, set the power save setting, infrared communications and screen saver to OFF.

■ Hardware configuration



■ Compatible equipment

Manufacturer	Model No.
Dell	OptiPlex Gxi5200
Dell	OptiPlex GX5166
Fujitsu	FMV-5166T3

Chapter 2. INSTALLATION AND BASIC FUNCTIONS

2 - 1 Installation, Starting Up and Quitting the Loader

■ Installation

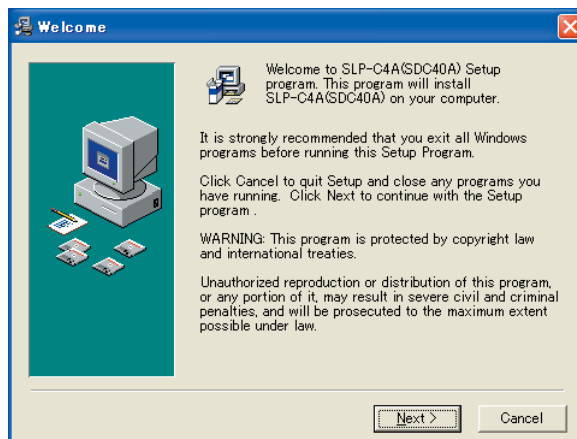
This section describes how to install the loader on a personal computer.

! Handling Precautions

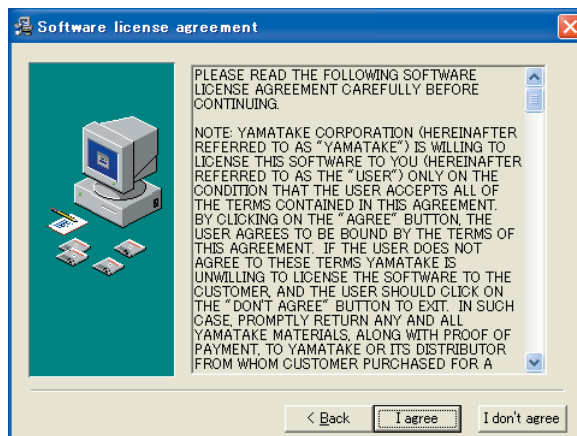
- If you start up the Installer while another application is running, the Installer may malfunction.
Remove other resident applications from their directories before starting up the Installer.
The SLP-C4A sometimes cannot be started up depending on the combination of other applications and drivers.
For details on Windows and personal computer settings, refer to the User's Manuals provided with Windows and the personal computer.

● Installing loader

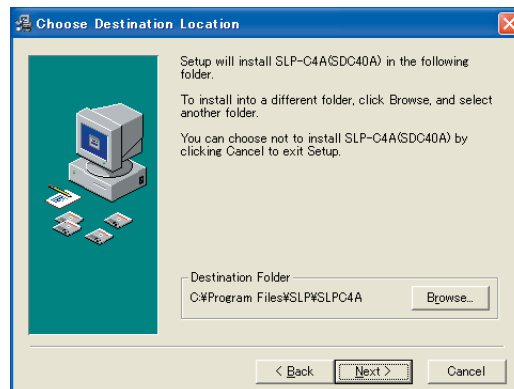
1. Click the [Start] button at the bottom of the screen, and then click [Run...].
2. Enter the message of "A:\setup".
3. Insert the disk provided with the loader package into the disk drive, click [OK] button.
>>The installation program is then started up automatically and the following screen appears:



4. Click [Next >] button.
>>The following screen appears :



5. Click [I agree] button.



Note

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

6. Click [Next >] button.

>>The following screen appears :

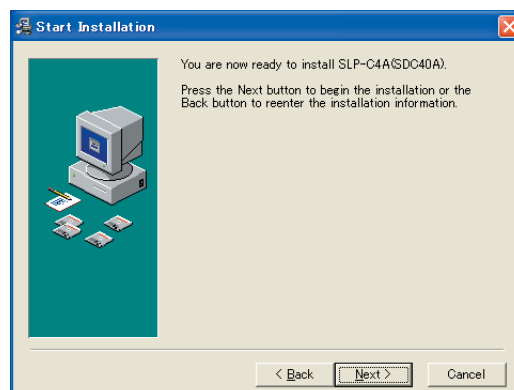
The already existing group indicates the latest group which has been installed.



Note

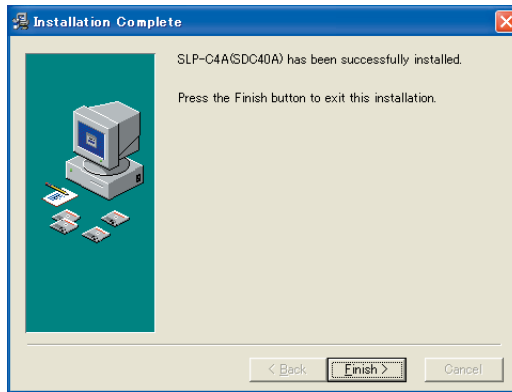
- To change the program folder, enter the new folder name.

7. Click [Next >] button.



8. Click [Next >] button.

>>When installation ends normally, the following screen appears:



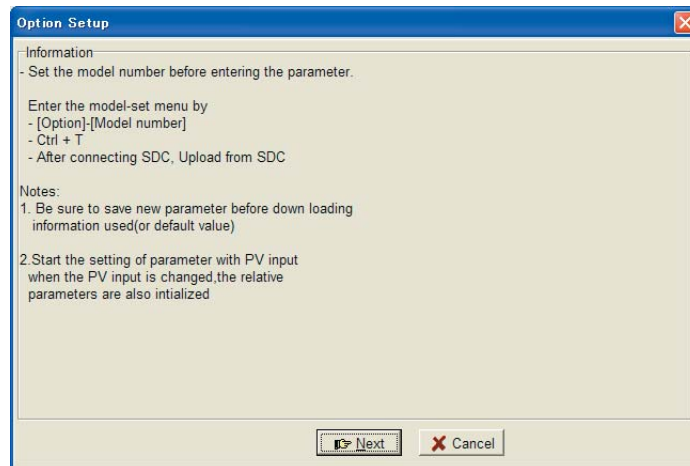
9. Click [Finish >] button.

The installer is finished.

■ Starting up loader

1. Click [Start] at the bottom of the screen, and click the [SLP-C4A (SDC40A)] under [Programs] - [SLP].

>>The SLP is started up, and the opening screen appears.



Note

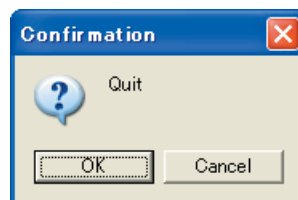
- For details on the operating system and the mouse you are using, refer to the User's Manual provided with Windows.

■ Quitting loader

1. Click  button at the top right of the screen.

The operation is the same by selecting the [File] - [Quit].

>>The following screen appears:



2. Click [OK] button.

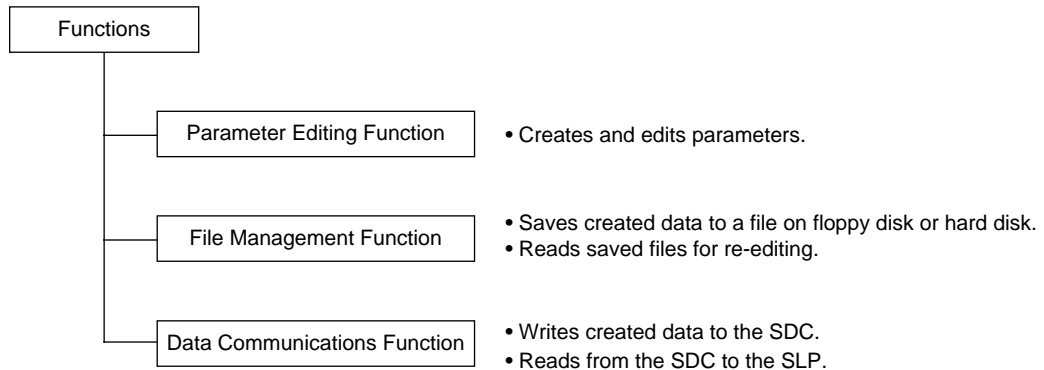
2 - 2 Description of Functions

■ SLP functions

The SLP is provided with the following functions for configuring SDC functions:

- Parameter Editing Function
- File Management Function
- Data Communications Function

The figure below shows operations available by these functions.



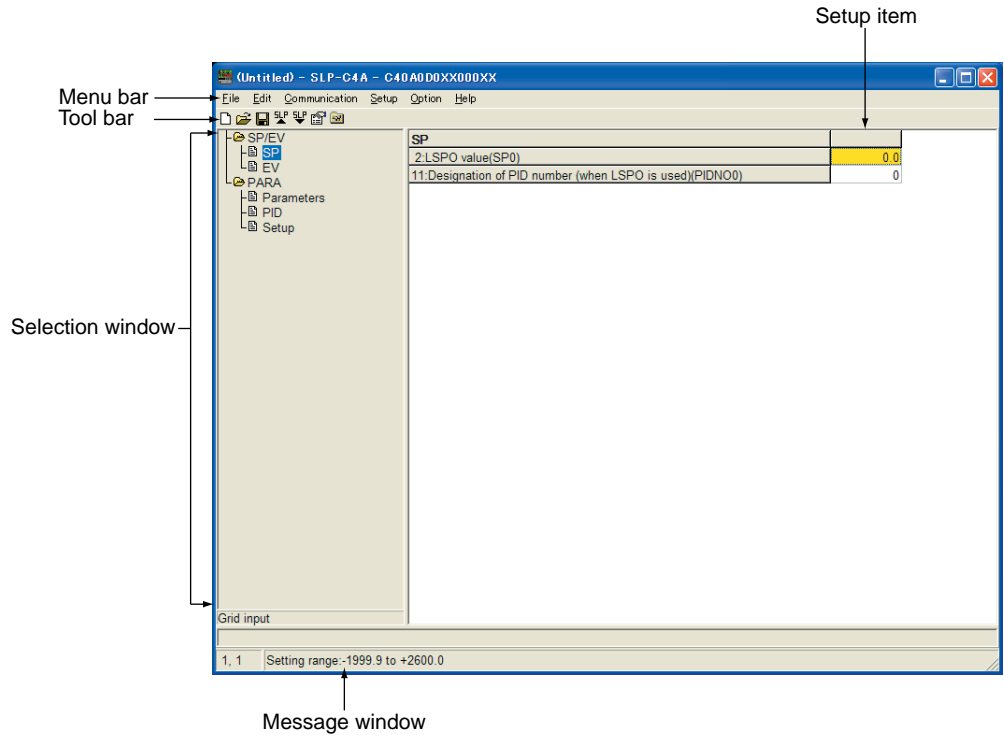
Note

- "One file" refers to data for one SDC.
Each file comprises the various parameter settings and the model number information.

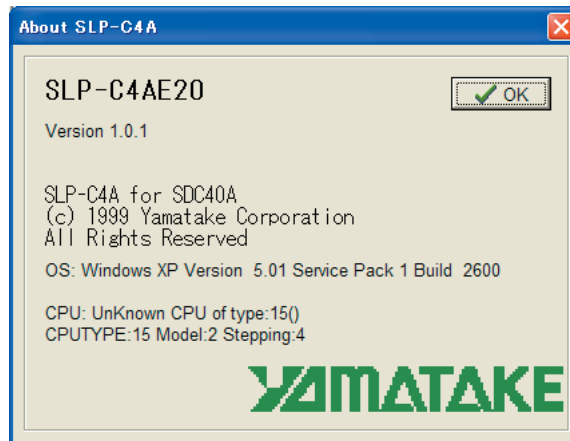
2 - 3 Screen Configuration

■ SLP screen configuration








- Basic SLP screen



- Dialog box displayed when [Help] - [Version] is selected.



2 - 4 Menu Configuration List

Menu	Icon	Sub Menu 1	Sub Menu 2	Description	Shortcut keys
File		New	-	Creates a new data	Ctrl+N
		Open	-	Opens a existing data	Ctrl+O
		Save	-	Saves the active data	Ctrl+S
		Save As	-	Saves the active data with a new name	Ctrl+A
		CSV Out (X)	-	Saves the active data in CSV format	Ctrl+X
		Quit	-	Quits the application	-
Edit		Data Check	-	Checks all setting values	Ctrl+D
Communication		Read (SDC40A to SLP)	-	Reads the device data	Ctrl+R
		Write (SLP to SDC40A)	-	Writes the data to the device	Ctrl+W
Setup		SP/EV	SP	Displays the SP	Ctrl+Shift+A
			EV	Displays the EV	Ctrl+Shift+B
		PARA	Parameters	Displays the Variable parameter	Ctrl+Shift+C
			PID	Displays the PID parameter	Ctrl+Shift+D
			Setup	Displays the setup parameter	Ctrl+Shift+E
Option		Type Setting	-	Changes the type setup	Ctrl+T
		Environment Setting	-	Changes the environment setup	Ctrl+E
Help		Version	-	Displays the version information	-

Chapter 3. OPERATION

3 - 1 Setting the Type

First, set the SLP type matched to the SDC model No.

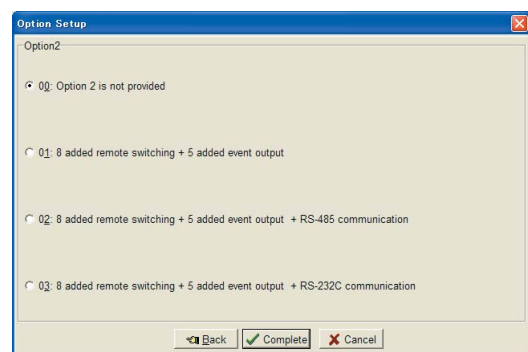
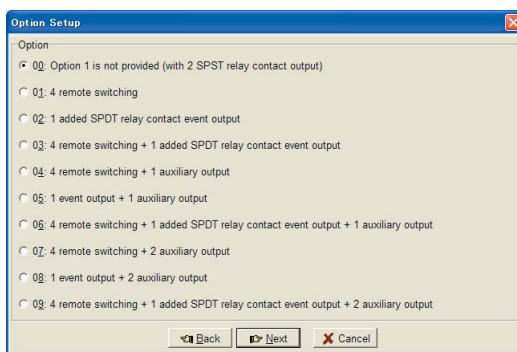
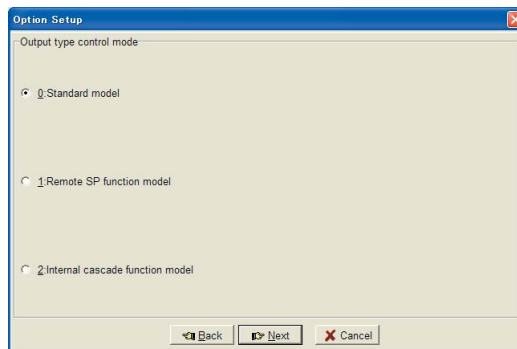
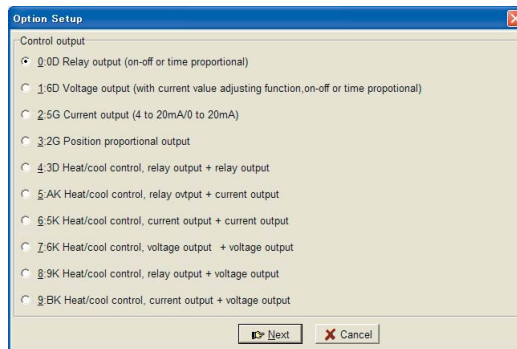
1. Click  button.



The operation is the same by selecting the [Option] - [Type Setting] command or the [Ctrl] + [T] keys.

>>The Type Setting dialog box appears.

Set in the following procedure:

Control output setting → Function setting → Option setup 1
→ Option setup 2



2. Set the basic model No., output type control mode and option.
3. Click [Next] button.
4. Select the desired setting from each of the 2, 3.
5. Click [Complete] button.

Handling Precautions

- The model No. you set here is for internal use by the SLP.
- The model No. of the SDC does not change even if the type is changed on the SLP.

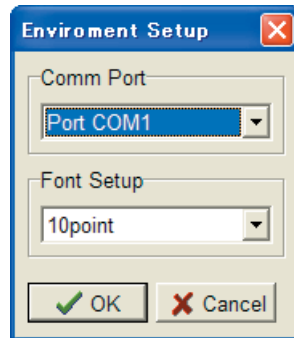
3 - 2 Setting the Environment


Set the communications port and font on the personal computer.

1. Click  button.

The operation is the same by selecting the [Option] - [Environment Setting] command or the [Ctrl] + [E] keys.

>>The Environment Setup dialog box appears.



2. Set the communications port. Select the various settings.
3. Set the font size. Select the various settings.
4. Click [ OK] button.

Handling Precautions

- Normally, use "COM1".

Even if another communications port can be selected, it sometimes cannot be used depending on its shape of connector.

3 - 3 File Operations

■ Making new files

1. Click  button.

The operation is the same by selecting the [File] - [New] command or the [Ctrl] + [N] keys.

>>The New dialog box appears.

2. Click [OK] button.

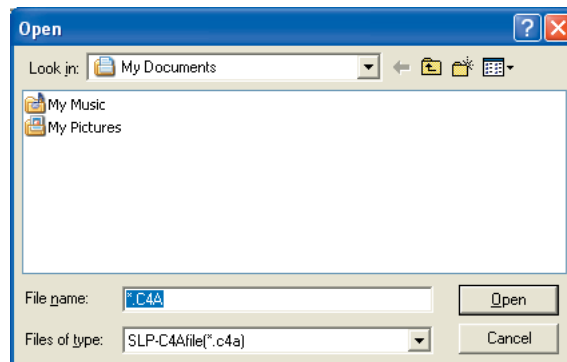
>>A new file opens.

■ Opening existing files

1. Click  button.

The operation is the same by selecting the [File] - [Open] command or the [Ctrl] + [O] keys.

>>The Open dialog box appears.



2. Select the folder name in [Look in:].

3. Select the file name.

4. Click [Open] button.

>>The file having the name that you set opens.

■ Overwriting and saving files

1. Click  button.

The operation is the same by selecting the [File] - [Save] command or the [Ctrl] + [S] keys.

>>The file is overwritten and saved.

■ Saving files with a new name

1. The operation is the same by selecting the [File] - [Save As] command or the [Ctrl] + [A] keys.
>>The Save As dialog box appears.
2. Select the folder name under [Save in].
3. Enter the file name to [File name].
4. Click [Save] button.
>>The file is saved under the file name that you set.



Note

- The file is overwritten and saved when you click (select) the file name at the File name window.

■ Outputting CSV format files

1. Select the [File] - [CSV Out] command.
The operation is the same by selecting the [Ctrl] + [X] keys.
The CSV Output dialog box appears.
2. Select the folder name under [Save in].
3. Enter the file name to [File name].
4. Click [Save] button.
>>The file is output under the file name that you set.



Note

- The file is overwritten and saved when you click (select) the file name at the File name window.

A CSV format file is a text file delimited by commas, and can be used in Microsoft Excel or other off-the-shelf spreadsheet applications.

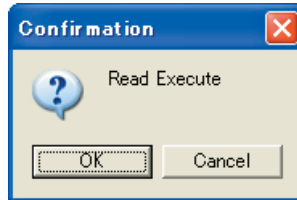
3 - 4 Communications with the SDC

■ Communicating to the SLP from the SDC (reading to SLP)

1. Click  button.

The operation is the same by selecting the [Communications] - [Read(SDC40A to SLP)] command or the [Ctrl] + [R] keys.

>>The Confirmation dialog box appears.



2. Click [OK] button.

>>Reading to the SLP starts.

■ Communicating to the SDC from the SLP (writing from SLP)

1. Click  button.

The operation is the same by selecting the [Communications] - [Write(SLP to SDC40A)] command or the [Ctrl] + [W] keys.

>>The Confirmation dialog box appears.

2. Click [OK] button.

>>Writing to the SDC starts.

3 - 5 Setting Up Data

■ Selecting setup items

● Moving the highlight section on the display by operating the keyboard

1. Press the [←], [↑], [↓], or [↵] key to move the highlighted section on screen.

● Moving the highlight section on the display by operating the mouse

1. Click the section you want to move.
2. Click the scroll bar to scroll the screen.
>>The screen cannot be scrolled beyond the topmost or bottommost rows on screen.

● Changing operation windows

1. Click [Tab] key.
>>The screen moves to the target operation window.



Note

- Setup items are moved to in order on screen.

■ Entering numerical data

● Entering numerical values

- To enter a numerical value
Press the [0] to [9] keys on the keyboard.
- To enter a hexadecimal value
Press the [0] to [9] keys and the [A] to [F] on the keyboard.
- To enter a decimal point
Press the [.] key at the desired decimal point position.
- To enter a minus value
Press the [-] key.
- To cancel a wrong entry
Press the [Back Space] key.
>>The currently displayed value is deleted.
- To cancel the currently entered numerical value
Press the [Esc] key.
>>Original set value is redisplayed.

● Select the setup item

Entering numerical data by the [0] to [9] keys to select the setup item.

1. Select the setup item to highlight it.
2. Enter the desired set value by the [0] to [9] keys.
3. Press the key.
The operation is the same by pressing the [↑] or [↓] key.
>>The set value is fixed.



Note

- After you have fixed the numerical value by pressing the [↑] or [↓] key, the highlight section moves on screen. When you have moved a setup item using the mouse, the set value is not fixed.
- When a set value is invalid, the original set value is redisplayed.
To cancel a set value midway during entry, press the [Esc] key before you fix the set value.

● Selecting and entering data

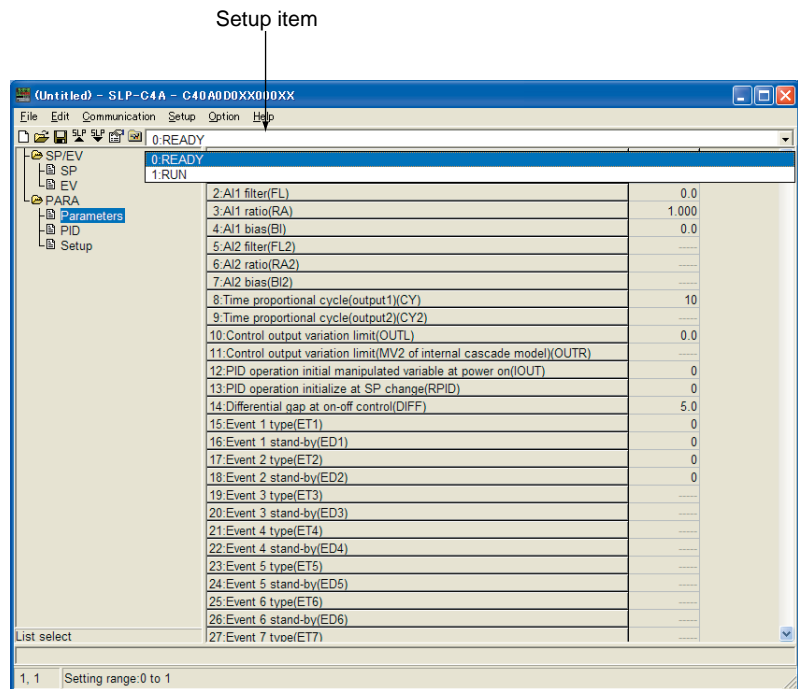
Note

- Items that can be selected and entered are automatically displayed.

1. Press a setup item button.

The operation is the same by selecting the [Tab] or [Alt] + [↓] keys.

>>Selection item is displayed.



2. Select the setup item by the mouse.

The operation is the same by selecting the [←], [↑], [↓], or [→] key, or the [Enter] key.

>>The set value is fixed.

Note

- When you use the mouse, the set value is fixed at the same time that you select it with the mouse.

Chapter 4. TROUBLESHOOTING

■ Communications error messages

Category	Message	Description	Remedy
Communication error	Time out.	The message cannot be received within a period of the time-out time. An instrument other than SDC. The main unit is not connected.	Check the cable connections and contacts. Use the loader with it connected to SDC.
	Cannot open communications port.	The communication port cannot be opened.	Do not run the loader and other application using the communication port at the same time.
	Communications error has occurred.	The system error occurs.	Re-operate or quit the loader to restart Windows.
SDC status error	Cannot support currently connected SDC.	The loader currently in use is not applicable to the version of the main unit.	Contact Yamatake Corporation or its dealer.

■ File error messages

Category	Message	Description	Remedy
File name error	This filename is not valid.	An invalid file name is input.	Input a correct file name.
	This file cannot be found. Make sure that the correct path and filename are given.	A file name not existing is input.	Input an existing file name.
	This filename is a reserved device name. Use a different filename.	A file name reserved for the device name is input.	Input a correct file name.
Disk error	Not enough free space on disk.	The disk free capacity is insufficient.	Keep a sufficient disk free capacity.
	The device is not ready.	The disk is not ready.	Prepare the disk and restart the operation.
	Cannot make file.	The CD-ROM is specified as save destination.	Save the file to another directory.
	File name too long.	The file name is too long.	Use 256 characters or less for the file name.
Path name error	The path does not exist. Make sure that the correct path is given.	An illegal path name is input.	Input a correct path name and restart the operation.
File information error	Illegal file size.	The file is corrupted.	Corrupted file cannot be used.
	Illegal file information.		Create a file again.

■ Startup error messages

Category	Message	Description	Remedy
Loader system error	Can't start up two or more SLP-C4As at once.	Two or more loaders are started at the same time.	Click [OK] button.

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