azbil

No. CP-SP-1418E



Thank you for purchasing this Azbil Corporation product. This manual contains information for ensuring the correct use of the smart loader package.

Those designing, configuring, or maintaining equipment that uses this product should first read and understand this manual. It provides necessary information not only for initial setup, but also for changing of settings, troubleshooting, etc. Be sure to keep the manual nearby for handy reference.

Azbil Corporation



NOTICE

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 the azbil Group.

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

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Conventions Used in This Manual

■ In describing the product, this manual uses the icons and notations listed below.

! Handling Precautions:

Handling Precautions indicate items that the user should pay attention to when handling this device.

- **Note:** Indicates information that may be useful.
- Indicates an item or page to which the user may refer.
- (1) (2) (3): Numbers inside parentheses indicate steps in a sequence or parts of an explanation.
- [OK] button : Square brackets indicate the names of buttons displayed on the PC screen.
- [Setting] Square brackets indicate a window name, message, or menu shown on the PC screen. [File] :
- >>: Indicates the result of an operation, or the status after the operation.
- Ctrl, A, etc. : Indicates a key on the PC.
- Ctrl + A, etc. : Refers to the operation of pressing the A key while holding down the Ctrl key.

The Role of This Manual

A total of 5 different manuals are available for model C7G/C7S. Read them as necessary for your specific requirements. If a manual you require is not available, contact the azbil Group or its dealer.



User's manual for Smart Loader Package Model SLP-C7/SLP-C7S for Multi-loop Controller with Multifunction Display Model C7G/C7S Document No. CP-SP-1418E

This manual.

This manual describes the software used on a PC to configure model C7G. Those designing or setting up equipment that uses model C7G should read this manual. It describes the installation of the software on a PC, various functions and operations of the loader, and procedures for configuring model C7G.



Installation Manual for Multi-loop Controller with Multifunction Display Model C7G Document No. CP-UM-5847JE

This manual is supplied with model C7G. This manual has descriptions in Japanese and English.

Those designing or manufacturing equipment that uses model C7G should read this manual thoroughly. This manual covers safety precautions, installation, wiring, and primary specifications of model C7G.

For further information about operation, refer to the user's manual below (CP-SP-1402E).



Multi-loop Controller with Multifunction Display Model C7G Installation andConfiguration ManualDocument No. CP-SP-1402E

Those designing, manufacturing, operating, or maintaining equipment that uses model C7G should read this manual thoroughly.

This manual describes the installation, wiring, connections for communication, all functions and settings of the C7G, operation procedures, troubleshooting, and detailed specifications.

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_	▲注意

Installation Manual for Multi-loop Controller with Multifunction Display Model C7S Document No. CP-UM-5953JE

This manual is supplied with model C7S. This manual has descriptions in Japanese and English.

Those designing or manufacturing equipment that uses model C7S should read this manual thoroughly. This manual covers safety precautions, installation, wiring, and primary specifications of model C7S.

For further information about operation, refer to the user's manual below (CP-SP-1435E).



Multi-loop Controller with Multifunction Display Model C7S Installation andConfiguration ManualDocument No. CP-SP-1435E

Those designing, manufacturing, operating, or maintaining equipment that uses model C7S should read this manual thoroughly.

This manual describes the installation, wiring, connections for communication, all functions and settings of the C7S, operation procedures, troubleshooting, and detailed specifications.

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Chapter 1. Introduction

1-1 Overview

The SLP-C7/SLP-C7S Smart Loader Package (hereafter "the loader") is software used to specify various settings of the C7G/C7S Multi-loop Controller with Multifunction Display (hereafter "the controller") on a PC and to monitor the status of operations.

The loader runs on English-version Windows 7, 8.1, and 10 (hereafter "Windows") PCs.

Model SLP-C7 is the loader for the C7G, and model SLP-C7S is the loader for the C7S.

Functions of the Loader

The loader has the following functions:

- Setup
- Monitoring
- SD card
- Health index calculation
- CDS (with paid version of the loader only)
- Firmware update
- Setup

This function is for setting the required controller parameters on the PC and writing (transferring) them to the controller.

Monitoring

After writing the setup parameters to the controller, the user can do a test run and change control constants, tune the controller, switch modes (RUN/READY, AUTO/ MANUAL, etc.), and check the status of operations and alarms.

The operating status can also be checked on the [Trend Monitor] screen, and collected data can be output in CSV format so that it can be used in third-party spreadsheet software such as Microsoft Excel.

! Handling Precautions

• When the PC is connected to the controller using a Micro-USB cable, only one device connected to the controller can be monitored.

SD card function

The CDS data file on the microSD memory card inserted in the controller can be moved or copied to the PC.

Health index function

This is a function to display the health index and other CDS data in a file moved or copied from the microSD memory card to the PC. Diagnostic parameters that help to predict the failure of connected equipment are called the health index.

• CDS function (with the paid version only)

CDS data in files moved or copied from the microSD memory card to a PC can be displayed in graph format.

• Firmware update

This function updates the firmware version of the standard display unit (HMI) and expansion display unit (HMI 2) so that they conform to the firmware version of the controller (MAIN block).

Free Version and Paid Version

• Free version of the SLP-C7 (SLP-C7FJ91 Free Edition)

The free version of the SLP-C7 loader for the C7G has the following functions:

- Setup
- Monitoring
- SD card
- Health index (without graphing)
- Firmware update
- Parameter setting protection
- Lock level / password setting

• Paid version of the SLP-C7 (SLP-C7-J91 Standard Edition)

The paid version of the SLP-C7 loader for the C7G has the following additional functions:

- Advanced monitor
- Health index (with graphing)
- CDS (with graphing)

Paid version of the SLP-C7S (SLP-C7SJ91 Standard Edition)

The paid version of the SLP-C7S loader for the C7S has the following functions:

- Setup
- Monitoring / advanced monitor
- SD card
- Health index (with graphing)
- CDS (with graphing)
- Firmware update
- Parameter setting protection
- Lock level / password setting

! Handling Precautions

• A free version of the SLP-C7S loader is not available.

Hardware

ltem		Description
PC	Compatible PC	Windows PC with an Intel CPU
		Recommended: Core i3–i7 series, 1.5 GHz or more. Minimum: 1 GHz
	Operating system	Japanese, English, or Simplified Chinese version Windows 7 SP1
		Japanese, English, or Simplified Chinese version Windows 8.1
		Japanese, English, or Simplified Chinese version Windows 10, Current branch
	Memory	Recommended: 4 GB or more. Minimum: 2 GB
Peripheral devices	Hard disk	Recommended free space: 20 GB or more. Minimum: 10 GB
	Display	Recommended: 1366 × 768 or more, 32-bit color or more
	PDF	Acrobat reader 2017 or later version
	USB port	1 port or more (at least 1 port is needed if the controller is connected to the PC with a Micro-USB cable)
	Ethernet port	1 port or more (at least 1 port is needed if the controller is connected to the PC with an Ethernet cable)
	Micro-USB cable	USB-to-Micro-USB cable (type A/B) (USB 2.0 support, 5 m max.)*
	Ethernet cable	UTP cable (4P) Cat 5e min. (straight) (ANSI/TIA/EIA-568-B both ends)
	Mouse	Required
	Keyboard	Required
	Optical drive (CD-ROM drive)	Required (to read the CD-ROM when installing the loader)

* Azbil's USB loader cable (81441177-001) cannot be used, because it is a mini-USB cable. Please use an off-the-shelf Micro-USB cable made for data transfer. (A Micro-USB cable designed for charging cannot be used.)

! Handling Precautions

• The loader does not run on Windows Vista, Windows XP, or earlier versions.

1-2 Installing the Loader

The SLP-C7/SLP-C7S loader program and a device driver must be installed to use the loader.

! Handling Precautions

• To do the installation, first login to Windows as an Administrator.

Installing the Loader

- (1) Put the CD-ROM in the CD-ROM drive on the PC.
- (2) Open Explorer and select the CD-ROM drive.
- (3) Double-click the MSI file on the CD-ROM drive.

Use the following MSI file:

For the SLP-C7

setup.msi

For the SLP-C7S

To connect to the C7S: setup.msi

To connect to the B1S: setup_b1s.msi

(The special C7S is built into the B1S.)

>>The installer starts up.





(4) The following screen is displayed. Click the [Next] button.

>>The following screen is displayed.

Please read the fo	lowing license agre	ement carefully			C
PLEASE READ THE Continuing.	FOLLOWING SOFTI	WARE LICENSE AG	REEMENT CAREF	ULLY BE	FORE
NOTE: AZBIL CORF WILLING TO LICEN THE "USER") ONLY TERMS CONTAINED TERMS IN THE LIC BY THE TERMS OF TERMS AZBIL IS U THE USER SHOULD PROMPTLY RETURN	ORATION (HEREIN SE THIS SOFTWAF 'ON THE CONDITI IN THIS AGREEMENT ENSE AGREEMENT THIS AGREEMENT NWILLING TO LIC CLICK ON THE "C ANY AND ALL AZE	NAFTER REFERRE(AE TO YOU (HERB ION THAT THE US ENT. BY CLICKI ' CHECKBOX, THE IF THE USER SENSE THE SOFT(SANCEL" BUTTON BIL MATERIALS,) TO AS "AZBIL EINAFTER REFEF SER ACCEPTS AL NG ON THE "I E USER AGREES DOES NOT AGRE VARE TO THE CU TO EXIT. IN ALONG WITH PF	") IS RED TO L OF TH ACCEPT TO BE E E TO TH ISTOMER, SUCH CA ROF OF	AS IE THE SOUND IESE AND ISE,
✓ I accept the term	is in the License Ag	greement			

(5) Check the [I accept the terms in the License Agreement] check box and click the [Next] button.

🛃 SLP-C7 Standard 1.6.0 Setup 🛛 —	×
Destination Folder Click Next to install to the default folder or click Change to choose another	Ð
Install SLP-C7 Standard 1.6.0 to:	
C:\Program Files (x86)\slp\SLPC7SE_1_6_0\ Change	
Back Next	Cancel

- (6) Click the [Next] button.
 - >>The following screen is displayed.



(7) Click the [Install] button.

>>Installation of the loader starts and the following screen is displayed.

User Account Control Do you want to allow th unknown publisher to r device?	× nis app from an nake changes to your
D:\setup.msi Publisher: Unknown File origin: CD/DVD drive Show more details	
Yes	No

- (8) Click the [Yes] button.
 - >>When the [Completed the SLP-C7 Standard 1.6.0 Setup Wizard] screen is displayed, installation is complete.

🚽 SLP-C7 Standard 1.6.0 Setup		-		Х
\odot	Completed the SLP-C7 Sta Setup Wizard	ndard	1.6.0	
	Click the Finish button to exit the Setup	o Wizard.		
	<u>B</u> ack <u>Finish</u>		Cancel	

Installing the Device Driver

- (1) Connect the controller to the PC with a Micro-USB cable.
- (2) Select [Control Panel] → [Device Manager].
 If [C7X], [C7X Device], or [Remote NDIS Compatible Device] is displayed under [Network adapters], the device driver has already been installed.
 Proceed to Setting up the USB Network (p. 1-10).

🚔 Device Manager	
<u>File Action View Help</u>	
(+ +) [] [] [] [] [] [] [] [] [] [] [] [] []	
▲ 🛁 sip-PC	
▶ 🎯 Batteries	
⊳ d∰ Computer	
b - i Disk drives	
Display adapters	
DVD/CD-ROM drives	
小環 Human Interface Devices	
DE ATA/ATAPI controllers	
> - Keyboards	
Monitor	
A Network adapters	
Intel(R) PRO/1000 MT Desktop Adapter	
Processors	
Sound, video and game controllers	
> 🐙 System devices	
🖕 📲 Universal Serial Bus controllers	

If [C7X], [C7X Device], or [Remote NDIS Compatible Device] is displayed under [Other devices], install the device driver according to the following procedure.

- (3) Double-click [C7X], [C7X Device], or [Remote NDIS Compatible Device].
 - >>The following screen is displayed.

C7X Prope	erties		×
General	Advanced Drive	er Details	
2	C7X		
	Device type:	Network adapters	
	Manufacturer:	Microsoft Corporation	
	Location:	Port_#0002.Hub_#0001	
- Devic This	e status device is working p	roperty.	*
			Ŧ
		ОК	Cancel

(4) On the [Driver] tab, click [Update Driver].



(5) Click [Browse my computer for driver software].

	×
G 🗓 Update Driver Software - C7X	
Browse for driver software on your computer	
Search for driver software in this location:	
Browse	
☑ Include subfolders	
Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.	
<u>N</u> ext Ca	ncel

- (6) Click [Let me pick from a list of device drivers on my computer].
 - >>The following screen is displayed. (Depending on the PC, the following steps may be unnecessary and installation will end.)
 - For Windows7

iii Update Driver Software - Remote NDIS based Internet Sharing Device	×		
Select Network Adapter Click the Network Adapter that matches your hardware, then click OK. If you have an installation disk for this feature, click Have Disk.			
✓ Show compatible hardware Network Adapter: □ Remote NDIS Compatible Device			
This driver is digitally signed. Have Disk Iell me why driver signing is important			
Next Can	el		

• For Windows10

		×
←	Update Drivers - Remote NDIS Compatible Device	
	Select the device driver you want to install for this hardware. Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.	
	Show compatible hardware Model Remote NDIS Compatible Device State St	
	This driver is digitally signed. <u>Tell me why driver signing is important</u>	
	<u>N</u> ext Cancel	

(7) For Windows 7 and 10, select [Remote NDIS Compatible Device] and click [Next].

Do not select [USB Serial Device] for Windows 10.

>>The following screen is displayed.



(8) Click [Close].

1-3 Configuring the Network

Setting up the USB Network

(1) Click [Control Panel] \rightarrow [Network and Sharing Center].

Network and Sharing Center		- 🗆 X
🗧 🔶 👻 🛧 👯 « All Contro	ol Panel Items > Network and Sharing Center	✓ ひ Search Control Panel の
Control Panel Home	View your basic network inform	nation and set up connections
Change adapter settings	View your active networks	
Change advanced sharing settings	yamatake.local Public network	Access type: No Internet access Connections: I Ethernet
	Unidentified network Public network	Access type: No.network access Connections: Unit Ethernet 2
	Change your networking settings	
	Set up a new connection or net Set up a broadband, dial-up, or	work VPN connection; or set up a router or access point.
	Troubleshoot problems Diagnose and repair network pr	oblems, or get troubleshooting information.
See also		
HomeGroup		
Infrared		
Internet Options		
Windows Defender Firewall		

(2) Click [Ethernet X] or [Local area connection X] ("X" stands for some number).

Ethernet 2 Status	>
General	
Connection	
IPv4 Connectivity:	No network access
IPv6 Connectivity:	No network access
Media State:	Enabled
Duration:	00:05:08
Speed:	100.0 Mbps
Details	
Activity	
Sent —	Received
Packets: 2,066	0
Properties Disable	Diagnose
	Close

🕅 Note

• If several [Ethernet X] or [Local area connection X] items are displayed, select each of them and click [Details...]. The following screen is displayed.

Net	work Connection Detai	ils	Х
Net	work Connection <u>D</u> etails:		
P	roperty	Value	
С	onnection-specific DN		- 1
D	escription	Remote NDIS Compatible Device	
P	hysical Address	00-0D-F5-FF-FF-F3	
D	HCP Enabled	Yes	
A	utoconfiguration IPv4	169.254.43.201	
IF	v4 Subnet Mask	255.255.0.0	
IF	v4 Default Gateway		
IF	v4 DNS Server		
IF	v4 WINS Server		
N	etBIOS over Tcpip En	Yes	
li	nk-local IPv6 Address	fe80::98e1:16f6:6490:2bc9%21	
	V6 Default Gateway		
	V6 DINS Servers	recu:u:u:mm::1%1	
		recu:u:u:m:::2%1	
		recu:u:u:mm::3 % I	
			_
		<u>C</u> lose	

Check that [C7X], [C7X Device], or [Remote NDIS Compatible Device] is displayed for [Description] in the [Property] column, and click [Close].

(3) Click [Properties].

Ethernet 2 Properties	×
Networking Sharing	
Connect using:	
Remote NDIS Compatible Device	
<u>Configure</u>]
Install Uninstall Properties	
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.	
OK Cancel	

(4) Double-click [Internet Protocol Version 4 (TCP/IPv4)].

Internet Protocol Version 4 (TCP/IPv4)	Properties	×
General		
You can get IP settings assigned auton this capability. Otherwise, you need to for the appropriate IP settings.	natically if your network supports ask your network administrator	
O Obtain an IP address automatical	ly .	
• Use the following IP address:		1
IP address:	192 . 168 . 245 . 100	
Subnet mask:	255.255.255.0	
Default gateway:		
Obtain DNS server address autom	natically	
• Use the following DNS server add	resses:	-
Preferred DNS server:		
Alternate DNS server:		
Validate settings upon exit	Advanced	
	OK Cancel	

(5) Enter 192.168.245.100 as the IP address and 255.255.255.0 as the subnet mask, and then click [OK].

! Handling Precautions

• Do not enter any number for the default gateway.

Setting up Ethernet

(1) Click [Control Panel] \rightarrow [Network and Sharing Center].

Network and Sharing Center					-	
	Panel > All Control Panel Items > Network and Shari	ng Center 🗸 🗸	ල 🔎 Searc	h Control Panel		
Control Panel Home	View your basic network information	and set up connections				
Change adapter settings	View your active networks					
Change advanced sharing settings	Network	Access type: Internet				
Media streaming options	Public network	Connections: W Ethernetu				
	Unidentified network Public network	Access type: No network access Connections: Usb_xhci				
	Change your networking settings					
	Set up a new connection or network Set up a broadband, dial-up, or VPN co	nnection; or set up a router or access point.				
	Troubleshoot problems Diagnose and repair network problems,	or get troubleshooting information.				
See also						
Internet Options						
Windows Defender Firewall						

(2) Click [usb_xhci].

>>The following screen is displayed.

📱 usb_xhci Status	×	<
General		
Connection IPv4 Connectivity:	No network access	
IPv6 Connectivity:	No network access	
Media State:	Enabled	
Duration:	00:02:05	
Speed:	100.0 Mbps	
D <u>e</u> tails		
Activity		
Sent —	Received —	
Packets: 103	0	
Properties Disable	Diagnose	
	Close	

(3) Click [Properties].

🖣 usb_xhci Properties 🛛 🗙	
Networking Sharing	
Connect using:	
👮 Remote NDIS Compatible Device	
<u>Configure</u> This connection uses the following items:	
Install Uninstall Properties	
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.	
OK Cancel	

(4) Double-click [Internet Protocol Version 4 (TCP/IPv4)].

>> The following screen is displayed.

Internet	Protocol Version 4 (TCP/IPv4)	Prop	erties	5			×
General	Alternate Configuration						
You car this cap for the	n get IP settings assigned autor bability. Otherwise, you need to appropriate IP settings.	natica ask j	ally if y your n	our networ	etwork su k adminis	ipports trator	
00	btain an IP address automatical	ly					
	e the following IP address: —						
IP ac	ddress:]	
Subr	net mask:]	
Defa	ult gateway:]	
	btain DNS server address auton	natica	lly				
-O u	e the following DNS server add	resse	s:				
Pref	erred DNS server:]	
Alter	nate DNS server:]	
v	alidate settings upon exit				Ad <u>v</u> ar	nced	
				OK		Cancel	

(5) Select [Use the following IP address].

Internet Protocol Version 4 (TCP/IPv4) Properties	×
General		
You can get IP settings assigned auto this capability. Otherwise, you need to for the appropriate IP settings.	matically if your network supports o ask your network administrator	
O Obtain an IP address automatica	lly	
• Use the following IP address:		
IP address:	192 . 168 . 255 . 1	
Subnet mask:	255.255.255.0	
Default gateway:		
Obtain DNS server address autor	matically	
• Use the following DNS server add	dresses:	
Preferred DNS server:		
<u>A</u> lternate DNS server:		
Validate settings upon exit	Ad <u>v</u> anced	
	OK Cancel	

(6) Enter 192.168.255.1 as the IP address and 255.255.255.0 as the subnet mask, and then click [OK].

Handling Precautions

- The explanation above is for the case where the IP address setting for the C7 is 192.168.255.254 (the default value). Of the four sections of the IP address (delimited by "."), set the left three sections to the same value for the PC and the C7. The rightmost section should be set to different values.
- Do not enter any number for the default gateway.

1-4 Starting and Exiting the Loader

Starting the Loader

Double-click the SLP-C7/SLP-C7S/SLP-C7S(B1S) icon **C7** on the desktop.

>> The loader starts up and the following main menu screen is displayed.

GT SLP-C7 2.1.0		
Menu 言語選択(Language	e) Help	
🔑 Setup		SD card
Health Index	CDS	Communication Route

- Clicking the [Setup] button displays the setup screen.
- Clicking the [Monitor] button displays the [Numeric Monitor] screen and the [Trend Monitor] screen.
- Clicking the [SD card] button displays the [SD card data operation] screen.
- Clicking the [Health Index] button displays the [Health Index] screen.
- Clicking the [CDS] button displays the [CDS] screen.
- Clicking the [Communication route] button displays the [Communication route] screen.



- While the [SD card operation] screen or the [Communication route] screen is open, the other screens cannot be used. Other screens can be used while other screens are open.
- For details on the OS or the use of the mouse, please see the user's manuals provided with those products.

Exiting the Loader

Click the imes icon in the upper right corner of the screen

or select [Menu] \rightarrow [Quit].

>>The loader closes.

Selecting the Communication Route

Clicking the [Communication route] button displays the [Communication route] screen.

Select the type of communication between the loader and controller (either USB or Ethernet).

For Ethernet, set the controller settings for IP address and Modbus/TCP port number to the same values as the settings on the [Communication route] screen for Ethernet address and Modbus/TCP port number.

Туре	Ethernet		
USB	IP address	192 . 168 . 255 . 2	254
🔊 Ethernet	Modbus/TCP port n	number 502	
	OK Cancel	Help	

Chapter 2. Setup

2-1 Main Menu Screen

Overview

Screen

67 SLP-C7 2.4.0 Menu 言語選択(Language)	Help	_		×
F Setup	Monitor	🖉 S	D car	d
Health Index	CDS	Comm	unica oute	tion

• Menu list

Menu	lcon	Submenu	Description
Button	۶	Setup	Displays the setup screen.
	▦	Monitor	Displays the [Numeric Monitor] screen and the [Trend Monitor] screen.
	(estate	SD card	Displays the [SD card data operation] screen.
	-	Health Index	Displays the [Health Index] screen.
	-	CDS	Displays the [CDS] screen.
	_	Communication Route	Displays the [Communication Route] screen.
			Click [Help] to display communication- related procedures.
Menu	-	Select Window display	Displays the [Select] window again.
	-	Quit	Exits the loader.
Language	-	Japanese	Switches to Japanese.
	-	English	Switches to English.
	-	Chinese (SLP-C7 only)	Switches to Chinese.
	-	Auto	Switch to Japanese if the language of Windows is Japanese, and English if it is not Japanese.
Help	-	Version	Displays version information for the loader.
			Click [Version History] to display the version history of the loader.
			Clicking [SLP-C7 latest edition] will display a website.*
	-	C7 firmware update	Display the firmware update screen of the display unit (HMI block)

* To upgrade the SLP-C7 to the latest version, download and install the update program from:

https://www.azbil.com/products/factory/factory-product/controller-recorder/controller/c7/index.html

! Handling Precautions

- Login to Windows as an administrator to upgrade the loader.
- Do not uninstall the old version when upgrading the software.

2-2 Setup Screen

Overview

On the setup screen, parameters necessary for the controller to operate can be set and written to the controller.

Parameter settings can be saved to a file for use by the loader and can be output as a Microsoft Excel file.

• Structure of the Screen



The screen of the SLP-C7S has a different menu bar and toolbar.

Menu	lcon	Submenu	Description
File		New	Creates a file for new settings.
		Open	Reads settings into the loader from a file.
	B	Save	Writes the settings specified with the loader to a file.
	_	Export XLS	Outputs a saved file as a Microsoft Excel file.
	×	Quit	Closes the setup screen.
Edit	-	Copy to Clipboard (Excel)	Copies the table of settings to the clipboard in Excel-compatible format.
	-	Copy to Clipboard (text)	Copies the table of settings to the clipboard in plain text format.
	~	Linearization table graph	Displays a graph based on the linearization table.
	⊨ ∎1	Logical operation	Displays the logical operation screen.
	_	Copy pattern	Copies the setting for one pattern (valid only while patterns 1 to 16 are being set)
	_	Insert segment	inserts one segment (valid only while patterns 1 to 16 are being set)
	-	Delete segment	Deletes one segment (valid only while patterns 1 to 16 are being set)

• Items on the Menu Bar and Toolbar

Menu	lcon	Submenu	Description
Communication	Ċ	Read (C7 to SLP)	Reads settings from the controller to the loader.
	t b	Write (SLP to C7)	Writes the settings specified with the loader to the controller.
	-	C7 initialize	Resets the settings of the controller.
	-	C7 restart	Restarts the controller.
		C7 clock	Sets the time on the controller.
Option	\$	Model setting	Selects the model number of the controller.
	PV PID n vl	Loop type	For selecting the loop type.
	_	Unit Strings	Sets the unit of measurement (as a sequence of single-byte alphanumeric characters and/or symbols) for the analog input linear range.
	{··}	Ethernet	Changes the Ethernet settings.
	-	User-defined address hex display	Changes the user-defined address display from decimal to hexadecimal.

-

Menu	lcon	Submenu	Description
None (toolbar only)		PLCLink	Configures a link to the PLC.
	-	Pattern	Select [No pattern operation] or [16 patterns × 16 segments].
	A	Protect	Parameter settings are not protected.
			Click this icon and enter a password to protect the settings.
			The file extension differs depending on whether the file was protected or unprotected when it was saved.
	A	Protect	Parameter settings are protected.
	†		If the file is protected, parameter settings are not displayed.
			Click this icon and enter the password to remove protection.
			The file extension differs depending on whether the file was protected or unprotected when it was saved.
	Ъ	Lock	The [Lock level] setting retained by the loader is "0" (disabled).
			Clicking this icon opens the [Lock] screen for changing the [Lock Level] and [Password] settings.
			Click [Write (SLP to C7)] to write the [Lock level] and [Password] settings to the controller along with the other parameters.
	6	Lock	The [Lock level] setting retained by the loader is "1" (parameter lock).
			Clicking this icon opens the [Lock] screen for changing the [Lock Level] and [Password] settings.
			Click [Write (SLP to C7)] to write the [Lock level] and [Password] settings to the controller along with the other parameters.
			When the [Lock level] setting retained by the loader is "1" (parameter lock), if parameters are written to a controller whose [Lock level] setting is "0" (disabled), parameter reading from or writing to the controller will be blocked thereafter.
			To enable parameter reading from or writing to the controller, change the [Lock Level] setting to "0" (disabled) on the display of the controller, or, on the Setup screen of the loader, select [Communication] from the menu bar and then select [C7 initialize]

• Key Operation

Operation
New
Open
Save
Read
Write
Moves the focus in the tree view and grid view.
Moves the selected item.

• Communication when controller power supply is shut off

When a PC and the controller are connected with a Micro-USB cable, settings can be read and written even if the controller's power is off.

Selecting the file extension

In the file opening procedure, the desired file extension can be selected from the pull-down menu at the bottom right of the [Open] screen. The file extension differs depending on the version of the loader that saved the file and the status of parameter setting protection.



! Handling Precautions

- Even if the parameter settings are protected, if parameters with a lock level of 0 are written to the controller, they can be displayed on the settings screen of the loader by displaying them on the controller display and using the loader to read them from the controller.
- Even if the parameter settings are not protected, if parameters with a lock level of 1 are written to the controller, they cannot be displayed on the controller display and the loader cannot read them from the controller.
- If the version of your SLP-C7 differs from the version supported by the controller (MAIN block) firmware, the following message is displayed.

Write		Х
The version according to the SLP-C7 is diffe C7. Write the data?	rent from that of the connected	
	OK Cancel	

Compared to the version of SLP-C7 supported by the controller (MAIN block) firmware,

• If your SLP-C7 is newer

The parameters in the controller (MAIN block) can be written. However, since the SLP-C7 will display parameters based on the latest information, parameters that are not supported by your C7G may be displayed. This will not affect the operation of the controller.

 If your SLP-C7 is older Use the latest version of the SLP-C7 (p. 2-1).

🗒 Note

• Chapter 3, "Model SLP-C7/SLP-C7S Version History" (p. 3-1, for combinations of compatible versions)

2-3 Monitoring Screens

Overview

There are two types of monitoring screen: [Numeric Monitor] and [Trend Monitor]. They are displayed at the same time.



[Numeric Monitor] Screen

Structure of the Screen



In the monitoring of numeric values, data is monitored on the shortest possible cycle.

Controller settings cannot be read or written when the numeric monitor is running.

• Menus on the Menu Bar

Menu	Submenu	Description
File	Quit	Closes the [Numeric Monitor] screen.
Numeric Monitor	Monitor Start	Starts numeric monitoring.
		(The submenu is displayed only when the monitor is not running.)
	Monitor Stop	Stops numeric monitoring.
		(The submenu is displayed only when the monitor is running.)
Option	Alarm	Displays the [Alarm] screen.
Setting	_	Displays the setup screen.
Trend	-	Displays the [Trend Monitor] screen.

• Tools on the Toolbar

Tool	lcon	Description
Monitor Start	===	Starts numeric monitoring.
	E	(The tool is displayed when the monitor is not running.)
Monitor Stop	EHH	Stops numeric monitoring.
		(The tool is displayed only when the monitor is running.)
Alarm	A	Displays the [Alarm] screen.
		💭 [Alarm Screen] (p. 2-11)
		The tool is red when there is an alarm.
Custom	*	The [Custom setting] screen for the custom parameter
	-	pane is displayed (the tool is not displayed during monitoring)
	101.04.0	Custom setting] Screen (p. 2-10)
Setting	Ju .	Displays the setup screen.
Trend		Displays the [Trend Monitor] screen.
		Frend Monitor] Screen (p. 2-13)

Key Operation

Кеу	Operation
Ctrl + Q	Quit
Ctrl + M	Start or stop monitoring
Ctrl + A	Alarm
Ctrl + S	Setup screen
$\uparrow,\downarrow,\leftarrow,\rightarrow$	Moves the selected item.

• Communication when controller power supply is shut off

Monitoring cannot start if the controller is powered off, even if the controller is connected to the computer with a Micro-USB cable. If the controller is turned off during monitoring, a communication error occurs and monitoring stops.

Status Pane

Mode status

The following parameters are displayed.

- RUN/READY
- AUTO / MANUAL (SLP-C7 only)
- LSP/RSP
- Auto Tuning (SLP-C7 only)

• Terminal status

The status of the following is displayed.

- DI terminal (DI/DO block)
- DI terminal (DI block of slots A3 and B3) (SLP-C7 only)
- DO terminal (DI/DO block)
- DO terminal (DO block of slots A1 and B1)
- DO terminal (DO block of slots A3 and B3) (SLP-C7S only)
- VP terminal (V-P block of slots A1, A2, B1, and B2) (SLP-C7 only)
- Event
- Segment event

Green color indicates ON status.

The seven terminals of the DI/DO block can be assigned to either DI or DO functions. The terminal number (1–7) is displayed for assigned terminals. Otherwise, "–" is displayed.

Alarm

Indicates all ongoing alarms.

Current alarms are shown in red.

• Motor feedback (MFB) status

Displayed when the loader is communicating with a controller that has a motor drive output block. (SLP-C7 only)

Displays the status of the motor.

Parameter Pane

When monitoring starts, parameter settings for loops that are in use are displayed.

When monitoring stops, the immediately preceding value is retained.

During monitoring, settings other than the PV can be changed. Note that some changes are invalid, depending on the operation status of the controller. For example, if the RUN/READY parameter is set to RUN, a change in the MV setting will be invalid.

Double-clicking a parameter, or pressing the Enter key or any of the numeric keys on the PC displays the parameter change screen in the center of the monitoring screen.

Parameter	Settings	Note
RUN/READY	0: RUN	
	1: READY	
AUTO/MANUAL	0: AUTO	SLP-C7 only
	1: MANUAL	
LSP/RSP	0: LSP	
	1: RSP	
Auto Tuning	0: AT stop	SLP-C7 only
	1: AT start	
Fixed Value / Pattern	0: Fixed value operation	
	1: Pattern operation	
HOLD	0: OFF	
	1: ON	
G.SOAK wait state	0: Not Wait	
	1: Wait	

For the following parameters, select one of the two modes.

Numerical values are displayed for the following parameters, but the values cannot be changed.

- Pattern number
- Segment number
- Pattern remaining time
- Segment remaining time
- Number of remaining cycles (SLP-C7 only)
- Number of executed cycles (SLP-C7S only)

Custom Parameter Pane

Parameters that are displayed in this pane can be customized as required.

Clicking [Custom] on the toolbar opens the [Custom setting] screen where the user can specify which parameters to display.

• [Custom setting] Screen



Parameters to display in the custom parameter pane can be specified by dragging parameters from the tree on the left and dropping them on the right side of the screen, or by entering parameter numbers in the [Data] column.

The settings specified here will not be reset when the loader is restarted.

Menus on the Menu Bar

Menu	Description	
Save file	Saves the data displayed on this screen.	
Load file	Reads a saved custom menu file and shows its data on this screen.	

In the [Data name] column, specify the names to display in the custom parameter pane on the [Numeric Monitor] screen

if names other than the ones displayed in [Data] are desired.

• [Alarm Screen]

This screen is displayed by clicking the [Alarm] button on the [Numeric Monitor] screen toolbar.

There are two display modes, Block and Function.

Clicking the [Mode] button toggles between the two display modes.



Buttons

The [Alarm screen] button is common to the block display mode and function display mode.

The buttons are displayed in the same positions when display mode or display size is changed.

Button	Operation
[Mode] button	Clicking the [Mode] button switches between block display mode and function display mode. Green indicates the currently selected mode
[Size] button	Changes the size of the screen.
	Each time the button is pressed, the screen size changes in the order: small \rightarrow medium \rightarrow large \rightarrow small, and so on.
	The default size is medium.

Block Display Mode Screen



During monitoring, blocks with alarms are displayed in red.

When monitoring starts, the model number of the controller is read and the blocks of the controller are displayed.

When monitoring ends, the screen retains the last status of the blocks.

• Function Display Mode Screen

Alarm				x
Mode Block Function	Size			
PV1	PV2	PV3	PV4	
RSP1	RSP2	RSP3	RSP4	
Memory	CT/VT(AO-C)	Block	DO	
SD Card	CT(V-P)	BATTERY		
USER1	USER2	USER3	USER4	

Buttons for functions with alarms are displayed in red.

Buttons for unused functions are displayed in gray.

[Trend Monitor] Screen

Structure of the Screen



In trend monitoring, data is monitored on the cycle selected from [Option].

Controller settings cannot be read or written when the trend monitor is running.

During trend monitoring, the monitored data is saved to a log file, which is stored in the specified destination folder.

The name of the saved log file is "log_year_month&day_time.csv."

Ex.: log_2016_0915_123405.csv (for monitoring at 12:34:05 on September 15, 2016)

The trend monitor and numeric monitor can run simultaneously.

The [Trend Monitor] screen closes when the [Numeric Monitor] screen is closed.

Menus on the Menu Bar

Menu	Submenu	Description
File	CSV Read	Displays the dialog box for selecting a log file.
		The selected log file is displayed on the [Trend Monitor] screen.
	Quit	Closes the [Trend Monitor] screen.
Trend Monitor	Trend Start	Starts trend monitoring. (The submenu is displayed only when the trend monitor is not running.)
	Trend Stop	Stops trend monitoring. (The submenu is displayed only when the trend monitor is running.)
Option	Toolbar not display	Hides the toolbar. (The submenu is displayed only when the toolbar is displayed.)
	Toolbar display	Shows the toolbar. (The submenu is displayed only when the toolbar is not displayed.)
	Trend Setting	Displays the [Trend setting] screen.
		[Frend setting] Screen (p. 2-16)

• Tools on the Toolbar

Tool	Description			
Trend Start	Starts trend monitoring. (The submenu is displayed only when the trend monitor is not running.)			
Trend Stop	Stops trend monitoring. (The submenu is displayed only when the trend monitor is running.)			
CSV Read	Displays the dialog box for selecting a log file.			
	The selected log file is displayed on the [Trend Monitor] screen.			
Configuring trend monitoring settings	Displays the [Trend setting] screen.			
\$	[Trend setting] Screen (p. 2-16)			
Trend graph scroll buttons	Scrolls all trend graphs.			
<< << < >>>>>	<pre> << Scrolls to the start time.</pre>			
	<< Scrolls back ½ screen.			
	< Scrolls back ¼ screen.			
	> Scrolls forward ¼ screen.			
	>> Scrolls forward ½ screen.			
	>> Scrolls to the current time.			
☑LOOP1-☑EVENT	Check the checkbox to show the related graph.			
LOOP1 LOOP2 LOOP3 LOOP4 EVENT	When unchecked, the related graph is not displayed.			
	When communication with the controller starts, loops that are not present are grayed out and their checkbox cannot be checked.			
Time span for trend graph	Select the time span for the graph			
1min ++	from the following options.			
	·1 min			
	· 2 min			
	• 10 min			
	·1h			
	· 2 h			
	· 12 h			
	· 24 h			
	·Auto			
Vertical/Horizontal	Displays graphs vertically or horizontally.			
Vertical				

• Key Operation

Кеу	Operation
Ctrl + Q	Quit
Ctrl + M	Starts/stops trend monitoring
Ctrl + L	Reads log file
Ctrl + S	Configuring trend monitoring settings
Ctrl + B	Shows/Hides the toolbar

• Trend Graph

When trend monitoring begins, graphs are displayed.

• Zoom Function

Enlarges the area defined by the mouse.

Place the cursor at the top left of the area to be enlarged. While holding down the left mouse button, drag the cursor to the bottom right of the desired area. When the button is released at the desired position, the area will be enlarged.



To restore the original size, place the cursor at any position in the graph display, and while holding down the left mouse button, drag the cursor to the top left of the graph and release it at a convenient position.

000-				1.8		
800-				1.3		
600-	-				1	
400				1		-
200				1.3		
200-					1	
0-			1		V	
-200		and the second	101.0			

In addition, the graph can be scrolled by dragging the graph while holding down the right mouse button.

Double-clicking the trend graph displays the [Change axis limit] screen for changing the scale of the axes.

LC	DOP1
Axis limit	Setting
Left low	-200
Left high	1200
Right low	-10
Right high	110

• Selecting Items to Display



Remove a check to stop displaying a graph.

Add a check to display the related graph.

• [Trend setting] Screen

• Screen Layout (Free Version of the Loader)

Settings for trend graph axes						s for trend graph axes	
C7	Trend setting					×	
Save file Load file							
Set	ting						
	Axis limit	LOOP1	LOOP2	LOOP3	LOOP4	Monitoring cycle	
	Left axis low	-200	-200	-200	-200		 Monitoring cycle
	Left axis high	1200	1200	1200	1200	© 250ms	
	Right axis low	-10	-10	-10	-10	© 500	
	Right axis high	110	110	110	110	© 500ms	
Saving folder C:#Users#Administrator#Documents						ocuments	 Destination folder for saved trend log files
]	Number of log data 60000 🗸 🚽	 Number of trend log data records
			OK		Cancel	Decimal point position 1	 Number of decimal places

Trend monitoring settings can be changed on this screen. The settings specified here will not be reset when the loader is restarted.

• Setting items

ltem	Description
Settings for trend graph axes	Specifies the display area for graphs.
	If a low limit exceeding the high limit or a high limit below the low limit is entered, the value immediately before the mistaken entry is restored.
Monitoring cycle	The cycle for reading trend monitor data can be selected from the following options.
	· Desired number of seconds (integer)
	· 250 ms
	• 500 ms
Destination folder for saved trend log files	Select where to save the log file.
Number of trend log data records	Specify the maximum number of data records to be saved to a log file during monitoring.
	When the specified maximum number of data records is reached, a new log file is created.
Number of decimal places	Log data is saved with the specified number of decimal places.



• Screen Layout (Paid Version of the Loader)

In the paid version of the loader, [Monitor type] for selecting the type of trend monitoring is displayed.

If [Normal monitor] is selected, the [Advanced monitor communication] field is not displayed. Normal monitoring is simple monitoring of the PV, SP, and MV of loops. Only normal monitoring is available for the free version of loader.

If [Advanced monitor] is selected, the [Advanced monitor communication] field is displayed, and the [Advanced monitor setting] tab is displayed beside the [Setting] tab.

When advanced monitoring is selected, the user can choose which trend data to monitor.

📖 Note

• C Advanced Monitoring Settings (Paid Version of the Loader) (p. 2-18) (for details on advanced monitoring)

Item	Description		
Settings for trend graph axes	Specifies the display area for graphs.		
	If a low limit exceeding the high limit or a high limit below the low limit is entered, the value immediately before the mistaken entry is restored.		
Monitoring cycle	The cycle for reading trend monitor data can be selected from the following options.		
	· Desired number of seconds (integer)		
	• 250 ms		
	• 500 ms		
Destination folder for saved trend log files	Select where to save the log files.		
Number of trend log data records	Specify the maximum number of data records to be saved to a log file during monitoring.		
	When the specified maximum number of data records is reached, a new log file is created.		
Number of decimal places	Log data is saved with the specified number of decimal places.		
Monitor type	If [Advanced monitor] is selected, communication type can be selected for advanced monitoring. Advanced Monitoring Settings (Paid Version of the Loader) (p. 2-18)		

٦

• Advanced Monitoring Settings (Paid Version of the Loader)

If [Advanced monitor] is selected in the [Monitor type] field on the [Trend setting] screen, the communication settings for monitoring can be specified.

• [Setting] tab

• Screen Layout



 Setting 	items
-----------------------------	-------

ltem	Description			
Monitoring type	Specify the communication type for advanced monitoring.			
	·Single Monitor The loader communicates with a single controller. To specify communication settings, select [Menu] \rightarrow [Communication Route]. (\bigcirc 2 - 1 Main Menu Screen (p. 2-1))			
	•Multi Monitor (Ethernet only) The loader communicates with multiple controllers according to the settings specified for [Controller1–Controller4].			
Number of C7Gs	Specify the number of controllers communicating with the loader. The settings can be specified when [Multi Monitor (Ethernet only)] is selected.			
Controllers 1–4	Specify the settings necessary for communication with the controllers.			

• [Advanced monitor setting] Tab

This tab is displayed when [Advanced monitor] is selected.

Specify the parameters to be displayed on the [Trend Monitor] screen, using the graph data sheet.

Screen Layout



• Setting items

ltem	Description	
Function buttons	 [Copy] button Copies the data selected on the graph data sheet. 	
	 [Paste] button Pastes the copied data to the data field selected on the graph data sheet. 	
	 [Delete] button Deletes the [C7Gs], [Data type], [Axis], and [Point] settings that are selected on the graph data sheet. 	
	 [All Del] button Deletes all settings on the graph data sheet. 	
Controller selection	The buttons are displayed if [Multi Monitor (Ethernet only)] is selected for [Monitor type] in the [Advanced monitor communication] field.	
	Green indicates a selected button.	
	When a parameter in the parameter tree is dragged and dropped onto the graph data sheet, the controller number selected here is input to [C7Gs].	
Parameter tree	A list of parameters that can be set on the graph data sheet is displayed.	
	Which data to monitor can be specified by dragging parameters from the parameter tree and dropping them onto the graph data sheet.	

ltem	Description
Graph data sheet	For specifying which data to monitor.
	Up to 40 items (analog data: 32, digital data: 8) can be set.
	If any of [C7Gs], [Data type], [Axis], or [Point] is not specified, an error message appears when the [OK] button on the [Setting] tab of the [Trend Monitor] screen is pressed, and the screen cannot be closed. Make sure to enter a value for each field of the data.
	 [C7Gs] Enter a value from 1 to 4. The value indicates which of the communication settings, which are specified in [Controller 1–4] in the [Advanced monitor communication] field (Page 2-18), is applied.
	• [Data type] Set which data to monitor by entering a parameter number. If the number of a parameter that does not exist is entered, the setting will not be accepted. There are two types of data, analog and digital. Enter analog data in the top four tables of the graph data sheet and digital data in the table at the bottom.
	 [Axis] Enter "0" (for left) or "1" (for right) to specify which axis to use when the trend data is displayed on the graph.
	• [Point] Enter a value from 0–4 to specify the number of decimal places.

2-4 [SD card data operation] Screen

The loader can access a microSD memory card inserted in the controller.

Screen Layout

• SLP-C7



• SLP-C7S



! Handling Precautions

• To access the microSD memory card, connect the computer and the controller with a USB cable. The card cannot be accessed via an Ethernet connection.

Item	Description			
[SD card identification]	Reads the free space and used space on the microSD memory card and CDS data folders.			
button	Press this button to activate the [Start move] button and the [Start copy] button.			
Free space	Clicking the [SD card identification] button displays the free space on the microSD card.			
	The amount of free space (MB) out of the total space is displayed.			
Used space bar graph	The used space on the microSD card is indicated by a bar graph.			
	When the amount of free space drops to a low level, the color of the bar graph changes from green to red.			
Destination folder	When the [Start move] or [Start copy] button is clicked, CDS data is moved or copied to the folder specified by this field.			
Data selection (for SLP-C7)	Select the type of CDS data ([Standard/custom] or [Ring]) to read from the microSD memory card.			
	If [Standard/custom] is selected, the CDS data from the "CDS" folder on the microSD memory card is displayed in the data folder list.			
	If [Ring] is selected, the CDS data from the "LOG" folder on the microSD memory card is displayed in the data folder list.			
Data selection (for SLP-C7S)	Select the type of CDS data ([Standard], [Custom] or [Ring]) to read from the microSD memory card.			
	If [Standard] is selected, the CDS data from the "CDS/Standard" folder on the microSD memory card is displayed in the data folder list.			
	If [Custom] is selected, the CDS data from the "CDS/Custom" folder on the microSD memory card is displayed in the data folder list.			
	If [Ring] is selected, the CDS data from the "CDS/Ring" folder on the microSD memory card is displayed in the data folder list.			
CDS data folders	Clicking the [SD card identification] button displays the CDS data folder on the microSD card.			
	Select a folder to move or copy.			
[Start move] button	Moves the CDS data in the folder selected in [CDS data folders] to the subfolder specified by [Destination folder].			
	The subfolder is named after the date and time when the move begins.			
	The CDS data on the microSD memory card is sequentially deleted from the source location.			
	The data moving process can be cancelled by clicking the [Cancel] button.			
[Start copy] button	Copies the CDS data in the folder selected in [CDS data folders] to the subfolder specified by [Destination folder].			
	The subfolder is named with the date and time when the copy begins.			
	The CDS data on the microSD memory card remains unchanged.			
	The data copying process can be cancelled by clicking the [Cancel] button.			
[All Delete] button	Deletes all CDS data on the microSD memory card.			

Buttons and Fields on the Screen

2-5 [Health Index] Screen

Overview

The [Health Index] screen function is present in both the free version and the paid version of the loader. CDS data moved or copied from the microSD memory card inserted in the controller to the PC can be displayed on the [Health Index] screen.

With the free version, the fixed R value can be displayed numerically. With the paid version, SP, PV, MV, R value, etc., graphs can be displayed in addition to the numerical display of the fixed R value.

! Handling Precautions

• The screen on which CDS data can be displayed varies depending on the "data selection" setting in the CDS bank of the controller parameter. With the "0: Standard" setting, recorded CDS data can be displayed on the [Health Index] screen. With the "1: Custom" or "2: Ring" setting, recorded CDS data can be displayed on the [CDS] screen.

• Screen Layout (Free Version of the Loader)

	er Health Index	
Toolbar —►	Loop1 Loop2 Loop3 Loop4	
Click to specify a folder —►		8

• Tools on the Toolbar

Tool	lcon	Description
Loop 1		Searches R values of loop 1 and lists them on the screen.
Loop 2	Loop1 Loop2 Loop3 Loop4	Searches R values of loop 2 and lists them on the screen.
Loop 3		Searches R values of loop 3 and lists them on the screen.
Loop 4		Searches R values of loop 4 and lists them on the screen.
Specifying a folder		Select the folder on the SD card from which to move/ copy data.

- How to Display Health Index Data
 - (1) Move or copy the CDS data from the microSD memory card in the controller to a folder on the PC.
 - (2) On the [Health index] screen, select the folder on the computer which is to be the move/copy destination for the CDS data.
 - (3) Click [Loop1/Loop2/Loop3/Loop4] on the [Health Index] screen.

>>File names are displayed with health index data.

c7 Health Index	
Loop1 Loop2 Loop3 Loop4	
C:¥Users¥Administrator¥Documents¥BLK0_20180927_163328¥	B
49800010.dat: 00000.000 49800020.dat: 00000.000	

(4) Double-click a file to display the health index data in Notepad.

Note Note

• 🖙 2 - 4 [SD card data operation] Screen (p. 2-21)

• Screen Layout (Paid Version of the Loader)



• Tools on the Toolbar

Tool	lcon	Description
Loop 1		Searches R values of loop 1 and lists them on the screen.
Loop 2	Loop1 Loop2 Loop3 Loop4	Searches R values of loop 2 and lists them on the screen.
Loop 3		Searches R values of loop 3 and lists them on the screen.
Loop 4		Searches R values of loop 4 and lists them on the screen.
Vertical graph arrangement	Graph Vertical Graph Horizontal	Arranges graphs vertically.
Horizontal graph arrangement		Arranges graphs horizontally.
Graph overlap	Graph Overlap	Displays superimposed graphs in a separate window.
Graph window display	Graph Window	Displays graphs in separate windows.
Graph setting	Graph Setup	Displays the [Graph setup] screen for setting the high and low limits of graph axes. (CP [Graph setting] screen (p. 2-32)
Time span for graph	Auto 👻	Select the time span for graphs from the following options. • 1 min • 2 min • 10 min • 1 h • 2 h • 12 h • 24 h • Auto
Zoom synchronization	Zoom Sync	If a graph is enlarged with this option checked, the other graph is also enlarged.
Specifying a folder		Select a folder on the SD card from which to move/ copy data.

• [Graph setup] Screen

Display	Graph1	Graph2
eft axis low	-200	-200
eft axis low	1200	1200
Right axis	-10	-10
Dight avic	110	110

The high and low limits of graph axes can be changed.

• Graph Toolbar

Tool	lcon	Description
SP	🔳 SP	Shows/hides the SP graph.
PV	PV	Shows/hides the PV graph.
MV	MV	Shows/hides the MV graph.
R	— R	Shows/hides the R graph.
DT5	DT5	Shows/hides the DT5 graph.
DT6	DT6	Shows/hides the DT6 graph.
DT7	🔳 DT7	Shows/hides the DT7 graph.
Time	00:00:01	Changes the time span by which graphs are scrolled when a scroll button is pressed.
Scroll –	Scroll -	Scrolls graphs to the left for the time span specified by the time tool.
Scroll +	Scroll +	Scrolls graphs to the right for the time span specified by the time tool.

Right-click the graph toolbar to display a pop-up menu.



The graph's color can be changed by right-clicking the color box on the graph toolbar.

- How to display graphs and lists
 - (1) Move or copy the CDS data from the microSD memory card in the controller to a folder on the PC.
 - (2) On the [Health index] screen, select the folder on the computer which will be the move/copy destination for the CDS data.
 - (3) Click [Loop1/Loop2/Loop3/Loop4] on the [Health Index] screen.

>>A list of files is displayed.

Health Index Image: Comparison of Comparison o				
trator¥Documents¥8LK0 20181005 115654¥	1			
0115_00005_0.doi:00000.000 0115_0007_0.doi:0000.000 0115_0007_0.doi:0000.000 0115_0011_0.doi:0000.000 0115_0011_0.doi:0000.000 0115_0011_0.doi:0000.000 0115_0011_0.doi:0000.000 0115_0011_0.doi:0000.000 0115_0011_0.doi:0000.000	1000 00 5 600 60 400 20 20 0 0 20 0 0 0			
0118_00025_0.dat:01149.501 0118_00027_0.dat:01275.815 0118_00029_0.dat:01149.407 0118_00031_0.dat:01149.407 0118_00033_0.dat:01277.999	SP PV MV R DTS DTS DT5 DT7 O0:00:01 Scroll - Scroll +			
U18_0003_0.doi:100000.000 1018_00037_0.doi:00000.000 0118_00039_0.doi:01261.120	100 100 00 60 00 60 00 60 00 60 00 20 0 20 0 0 0 0 0 0			
	SP PV MW R DTS DTS DT5 DT7 Option: Scroll +			

(4) To display a .dat file, right-click it.

>>A pop-up menu is displayed.

(5) Click [Graph1 display] on the pop-up menu.

>>Data starting from the selected .dat file will be displayed in graph 1.

(6) Click [Graph2 display] on the pop-up menu.

>>Data starting from the selected .dat file will be displayed in graph 2.

- (7) Click [List display] on the pop-up menu.
 - >>Data starting from the selected .dat file will be displayed on a separate screen in a table format.

Note Note

• 🕼 2-4 [SD card data operation] Screen (p. 2-21)

• Displaying Superimposed Graphs



- (1) Adjust the window size.
- (2) Display Graphs 1 and 2.
- (3) Click the [Graph Overlap] button on the toolbar.

>>Graph 2 is displayed on top of Graph 1.

(4) Graph 2 can be moved by dragging it up or down, left or right while holding down the right mouse button.

• Arranging Graphs Vertically



- (1) Adjust the window size.
- (2) Display Graphs 1 and 2.
- (3) Click the [Graph Vertical] button on the toolbar.

>>Graphs 1 and 2 are stacked vertically on the screen.

• Arranging Graphs Horizontally



- (1) Adjust the window size.
- (2) Display data on Graphs 1 and 2.
- (3) Click the [Graph Horizontal] button on the toolbar.

>>Graphs 1 and 2 are arranged side-by-side on the screen.

• Displaying Graphs in Separate Windows



- (1) Adjust the window size.
- (2) Display Graphs 1 and 2.
- (3) Click the [Graph Window] button on the toolbar.

>>Graphs 1 and 2 are displayed in separate windows.

• Graph Zoom Function

Enlarges the area defined by the mouse.

Place the cursor at the top left of the area to be enlarged. While holding down the left mouse button, drag the cursor to the bottom right of the desired area. When the button is released at the desired position, the area will be enlarged.



To restore the original size, place the cursor at any position in the graph display, and while holding down the left mouse button, drag the cursor to the top left of the graph and release it at a convenient position.



The graph can be scrolled right or left by dragging it while holding down the right mouse button. (The graph cannot be scrolled up or down.)

Dragging the cursor from the top left to the bottom right will restore the original display.

Graphs can be closed by clicking the [×] button.

To display graphs again, click [Graph Vertical], [Graph Horizontal], [Graph Overlap], or [Graph Window].

2-6 [CDS] Screen

Overview

The [CDS] screen function is available only in the paid version of the loader. CDS data moved or copied from the microSD memory card in the controller to the PC can be displayed on the [CDS] screen.

! Handling Precautions

• The screen on which CDS data can be displayed varies depending on the "data selection" setting in the CDS bank of the controller parameter. With the "0: Standard" setting, recorded CDS data can be displayed on the [Health Index] screen. With the "1: Custom" or "2: Ring" setting, recorded CDS data can be displayed on the [CDS] screen.

• Screen Layout



Tools on the Toolbar

Tool	lcon	Description
Graph setting	Graph Setup	Displays the [Graph setup] screen for setting the high and low limits of graph axes. Graph setup] Screen (p. 2-26)
Time span for the graph	Auto 👻	Select the time span for the graph from the following options. • 1 min • 2 min • 10 min • 1 h • 2 h • 12 h • 24 h • Auto
Graph	Graph Simple Ocompare	Select either Simple or Compare.
Specifying a folder		Select the folder on the SD card from which to move/copy data.

• [Graph setting] screen

Display	Graph1	Graph2
Left axis low	-200	-200
Left axis low	1200	1200
Right axis	-10	-10
Pight avis	110	110

The high and low limits of graph axes can be changed.

• Graph Toolbar

Tool	lcon	Description
Data display button		Click to toggle the graph display of the target data on/off.
		Right click to select a different graph color or left/right axis allocation.
Scroll –	Scroll -	Scrolls graphs to the left along the time axis.
Scroll +	Scroll +	Scrolls graphs to the right along the time axis.

• How to Display Graphs

- (1) Move or copy the CDS data from the microSD memory card in the controller to a folder on the PC.
- (2) On the [CDS] screen, select the folder on the computer to serve as the move/ copy destination for the CDS data.

>>>>A list of files is displayed.

(3) Select a csv file.

>>The graph is displayed.

Note

• 🕼 2-4 [SD card data operation] Screen (p. 2-21)

• Compare two graphs

(1) On the toolbar of the [CDS] screen, select [Compare] in the "Graph" field.

>>The following screen is displayed.



- (2) In the folder specification area on the left of the second graph, select the folder on the computer which was the move/copy destination of the CDS data.
 - >>A list of files is displayed.
- (3) Select a csv file.

>>The second graph is displayed.

Graph zoom function

As on the [Health Index] screen, the graph can be enlarged.

Note

• Graph Zoom Function (p. 2-30)

2-7 Firmware Update

This updates the firmware of the standard display unit (HMI) and the expansion display unit (HMI2) so that it conforms to the firmware version of the controller (MAIN block).

Background

The controller and the display units must be used in a combination in which the firmware versions are compatible. If a firmware version is incompatible, the displayed items may be too many/few for the monitor and parameter screens, or the display may stop functioning. At the time of product shipment, each combination is compatible.

However, the firmware version may not be compatible if the display unit from one box is used separately from the controller, or if an optional expansion display unit is added.

In such a case, updating the firmware of the display unit will adapt it to the firmware version of the controller.

! Handling Precautions

- While the firmware of the display unit is being updated, nothing is indicated on the display. In addition, the functions of the main unit such as control, alarm, recording, and communication are stopped.
- Only the SLP-C7 can update the firmware of the C7G display unit.
- Only the SLP-C7S can update the firmware of the C7S display unit.

Procedure

- (1) Turn off the power of the controller. If an external power supply is connected to the display unit, turn off the external power supply also.
- (2) Connect the controller, the standard display unit, and the expansion display unit with a LAN cable not longer than 30 m or an integrated installation cable. (If they are already connected, leave them as is.)
- (3) Connect the controller to the PC with a Micro-USB cable. (If it is already connected, leave it as is.)
- (4) Turn on the power to the controller.
- (5) Start the loader program. (If it is already running, leave it as is.)
- (6) On the loader main menu screen, click [Help], and then click [C7 Firmware update].

C7 SLP-C7 2.4.0		-	- 🗆	×
Menu 言語選択(Language)	Help			
Sotup	Version			h
Setup	C7 Firmware update		SD Car	u
Health Index	CDS	Con	imunica	ation
	CD3		route	

>>The [F/W version update] screen opens.

7 F/W versio	n update			
This function is ex Make sure that th [Check version]	xclusive for USB comm e HMI is connected to button.	unication. the main unit, a	nd then click	

(7) Click the [Check Version] button on the [F/W version update] screen of the loader. "F/W" is an abbreviation for firmware.

>>The results of the version check will be displayed.

(8) If updating is unnecessary, "No update required" is displayed for HMI and HMI2. To check the version of another controller, click the [Back] button. Otherwise, click the [Close] button.

67 F/W version File	n update					×
C7 F/W	C7 F/W version update					
Checked t Click [Sta	Checked the firmware file. Click [Start update] button and update will start.					
	Current ve	rsion		Version to	update	
	Main	6.2.0		6.2.0]	
	HMI	6.2.0		6.2.0	No update required	
	HMI2]	
			Back	Sta	rt update Close	

(9) If updating is necessary, "Update required" is displayed in red for HMI and HMI2. Click the [Start update] button.

In the version table, Main is the controller, HMI is the standard display unit, and HMI2 is the expansion display unit.

67 F/W version File	72 F/W version update >						×
C7 F/W ve	C7 F/W version update						
Checked the firmware file. Click [Start update] button and update will start.							
	Current version Version to update						
	Main	6.2.0		6.2.0			
	HMI	6.0.1		6.2.0	Update requ	uired	
	HMI2						
			Back	Start	update	Close	

>>The firmware update confirmation screen is displayed.



- (10) Click the [OK] button on the firmware update confirmation screen.
 - >>A message saying that the firmware is being updated is displayed.

c7 F/W version upd File	ate	×
C7 F/W vers	sion update	
The firmware Please wait for Do not change	of the HMI block is being updated. • a while. the power, display unit connection, PC connection.	
	1%	

(11) The following screen is displayed when the firmware has been successfully updated. To check the version of another controller, click the [Start over] button. Otherwise click the [Close] button.

C7 Fil	F/W version update le	×
0	C7 F/W version update	
	FW update is completed. Restart the external power supply to the HMI connected to the external power supply. (1) Click the [Start over] button to update another C7 firmware . (2) Click the [Close] button to end the firmware update.	
	Close Start over	

- >>Clicking the [Start over] button returns the display to the screen before the version check screen.
- (12) The following screen is displayed if the firmware update fails.Take the countermeasure displayed on the screen, and click the [Start over] button.

C/ 1/W Ve	rsion update		
Try again wi (1) Check th (2) Turn off (3) Disconne (4) Turn on (5) Click the	the the following procedule connection between C the power of the C7. ct the PC and C7, and t the power of the C7. [Start over] button.	ıre. 7 and HMI. hen connect them again.	

>>The display returns to the screen before the version check screen. Try updating the firmware again.

After starting over, if an error such as [Can not communicate with C7G.] or [The C7G power is off.] is displayed, click the [Close] button. Turn off the power supply of the controller after shutting down the loader, disconnect the PC from the controller and start again from the beginning.

Chapter 3. Model SLP-C7/SLP-C7S Version History

SLP-C7

Version	Model C7G (MAIN block) firmware version	Configuration file extension	Revision date	Changes
1.0.0	1.x.x	c7g	June 2016	
1.2.0	2.x.x	c7g2	Sept. 2016	Windows10 support
1.3.0 to 1.3.2	2.x.x to 3.x.x	c7g3	Dec. 2016	PLCLink support
1.5.0 to 1.5.1	2.x.x to 4.x.x	c7g4	June 2017	Reading of a configuration file with extension c7g2 or c7g3 was added.
1.6.0	2.x.x to 5.x.x	c7g4	Aug. 2017	Setting items that are unavailable depending on the model number and loop type were hidden.
				A window for logical operation settings was added.
				A graph based on the linearization table was added.
2.0.0	2.x.x to 6.x.x	c7g4	Aug. 2018	Buttons of the main menu changed
				Pattern operation
				Association of files whose extension is c7g4 (to enable double click and drag & drop)
				Display unit firmware update
2.1.0	2.x.x to 6.x.x	c7g4	Oct. 2018	Buttons of the main menu changed
				Graph display added on [Health Index] screen
				Setup screen update cycle shortened
2.2.0	2.x.x to 6.0.x	c7g4	Feb. 2019	"Chinese" was added to [Language]
2.3.0	2.x.x to 6.1.x	c7g4	Apr. 2019	The options "12," "22," and "23" were added to [Loop type]
				"Keyence KV" was added as a connectible PLC to the PLC link settings
2.4.0	2.x.x to 6.2.x	c7g5 (unprotected) c7g5x (protected)	Jan.2020	Control-related functions, the power supply voltage compensation function, the numerical operation function, the lock and password functions, and the parameter setting protection function were added.
2.5.x	2.x.x to 6.3.x	c7g5 (unprotected) c7g5x (protected)	May 2021	Numerical operation types and control functions were added.

SLP-C7S

Version	Model C7S (MAIN block) firmware version	Configuration file extension	Revision date	Changes
1.0.0	1.0.x	c7s (unprotected) c7sx (protected)	Aug. 2019	
2.0.1	2.x.x	c7s (unprotected) c7sx (protected)	Jan. 2021	CDS function, FTP function, CT input / VT input functions were added.

SLP-C7S(B1S)

-

Version	Model C7S (MAIN block) firmware version	Configuration file extension	Revision date	Changes
1.103.1	1.103.x	b1s (unprotected) b1sx (protected)	Jan. 2021	Support for the C7S built into the B1S was added.

-MEMO-

Revision History of CP-SP-1418E

Date	Rev.	Revised pages	Description	
May 2018	1			
Dec. 2018	2		Overall revision. 2nd ed = 5th Jp ed.	
July 2019	3	1-9	Descriptions in step 7 changed	
		2-1	Table was changed.	
		2-2	Descriptions in "Menus on the Menu Bar" changed	
		3-1	SLP-C7 version history updated	
		End of the document	AAS-511A-014-10	
Nov. 2019	4		Document title was changed.	
		1-1, 1-2, 1-4, 1-10,	Descriptions of the new model (SLP-C7S) were added.	
		1-11, 1-13		
		2-1, 2-6	Related user's manuals added	
		ii	"Menus on the Menu Bar" was changed to "Items on the Menu Bar and	
		2-2 to 2-3	Toolbar."	
			The table in "Parameter Pane" was changed.	
		2-8	The screen layout for the SLP-C7S was added.	
		2-20	The table in "Buttons and Fields on the Screen" was changed.	
		2-21	The table for the SLP-C7 was changed. Version history for the SLP-C7S was	
		3-1	added.	
May 2020	5	1-3	Operating system No. was changed.	
		1-12	■ Setting up Ethernet added.	
		2-3	In the table in "Protect" the description was changed.	
		2-5	●Selecting the file extension added.	
		2-7	Handling Precautions added.	
		2-34 to 2-37	main menu screen was changed.	
May 2021	6	C2	B1S connect was added.	
		1-3	Operating system and PDF version were changed.	
		1-4	MSI file was added.	
		1-15	"/SLP-C7S(B1S)" was added.	
		2-21	Handling Precautions added.	
		3-1	Version history for the SLP-C7S was added.	
Mar. 2023	7	2-5	"Handling Precautions": Added descriptions.	
		2.1	Added "Notes."	
		3-1	Version history for the SLP-C7 was added.	

Terms and Conditions

We would like to express our appreciation for your purchase and use of Azbil Corporation's products.

You are required to acknowledge and agree upon the following terms and conditions for your purchase of Azbil Corporation's products (system products, field instruments, control valves, and control products), unless otherwise stated in any separate document, including, without limitation, estimation sheets, written agreements, catalogs, specifications and instruction manuals.

1. Warranty period and warranty scope

1.1 Warranty period

Azbil Corporation's products shall be warranted for one (1) year from the date of your purchase of the said products or the delivery of the said products to a place designated by you.

1.2 Warranty scope

In the event that Azbil Corporation's product has any failure attributable to azbil during the aforementioned warranty period, Azbil Corporation shall, without charge, deliver a replacement for the said product to the place where you purchased, or repair the said product and deliver it to the aforementioned place. Notwithstanding the foregoing, any failure falling under one of the following shall not be covered under this warranty:

- (1) Failure caused by your improper use of azbil product (noncompliance with conditions, environment of use, precautions, etc. set forth in catalogs, specifications, instruction manuals, etc.);
- (2) Failure caused for other reasons than Azbil Corporation's product;
- Failure caused by any modification or repair made by any person other than Azbil Corporation or Azbil Corporation's subcontractors;
- (4) Failure caused by your use of Azbil Corporation's product in a manner not conforming to the intended usage of that product;
- (5) Failure that the state-of-the-art at the time of Azbil Corporation's shipment did not allow Azbil Corporation to predict; or
- (6) Failure that arose from any reason not attributable to Azbil Corporation, including, without limitation, acts of God, disasters, and actions taken by a third party.

Please note that the term "warranty" as used herein refers to equipment-only-warranty, and Azbil Corporation shall not be liable for any damages, including direct, indirect, special, incidental or consequential damages in connection with or arising out of Azbil Corporation's products.

2. Ascertainment of suitability

You are required to ascertain the suitability of Azbil Corporation's product in case of your use of the same with your machinery, equipment, etc. (hereinafter referred to as "Equipment") on your own responsibility, taking the following matters into consideration:

- (1) Regulations and standards or laws that your Equipment is to comply with.
- (2) Examples of application described in any documents provided by Azbil Corporation are for your reference purpose only, and you are required to check the functions and safety of your Equipment prior to your use.
- (3) Measures to be taken to secure the required level of the reliability and safety of your Equipment in your use Although azbil is constantly making efforts to improve the quality and reliability of Azbil Corporation's products, there exists a possibility that parts and machinery may break down. You are required to provide your Equipment with safety design such as fool-proof design,^{*1} and fail-safe design^{*2} (anti-flame propagation design, etc.), whereby preventing any occurrence of physical injuries, fires, significant damage, and so forth. Furthermore, fault avoidance,^{*3} fault tolerance,^{*4} or the like should be incorporated so that the said Equipment can satisfy the level of reliability and safety required for your use.
 - *1. A design that is safe even if the user makes an error.
 - *2. A design that is safe even if the device fails.
 - *3. Avoidance of device failure by using highly reliable components, etc.
 - *4. The use of redundancy.

3. Precautions and restrictions on application

3.1 Restrictions on application

Please follow the table below for use in nuclear power or radiation-related equipment.

	Nuclear power quality*5 required	Nuclear power quality*5 not required
Within a radiation controlled area*6	Cannot be used (except for limit switches for nuclear power*7)	Cannot be used (except for limit switches for nuclear power*7)
Outside a radiation controlled area*6	Cannot be used (except for limit switches for nuclear power*7)	Can be used

- *5. Nuclear power quality: compliance with JEAG 4121 required
- *6. Radiation controlled area: an area governed by the requirements of article 3 of "Rules on the Prevention of Harm from Ionizing Radiation," article 2 2 4 of "Regulations on Installation and Operation of Nuclear Reactors for Practical Power Generation," article 4 of "Determining the Quantity, etc., of Radiation-Emitting Isotopes,"etc.
- *7. Limit switch for nuclear power: a limit switch designed, manufactured and sold according to IEEE 382 and JEAG 4121.

Any Azbil Corporation's products shall not be used for/with medical equipment.

The products are for industrial use. Do not allow general consumers to install or use any Azbil Corporation's product. However, azbil products can be incorporated into products used by general consumers. If you intend to use a product for that purpose, please contact one of our sales representatives.

3.2 Precautions on application

you are required to conduct a consultation with our sales representative and understand detail specifications, cautions for operation, and so forth by reference to catalogs, specifications, instruction manual, etc. in case that you intend to use azbil product for any purposes specified in (1) through (6) below. Moreover, you are required to provide your Equipment with fool-proof design, fail-safe design, antiflame propagation design, fault avoidance, fault tolerance, and other kinds of protection/safety circuit design on your own responsibility to ensure reliability and safety, whereby preventing problems caused by failure or nonconformity.

- (1) For use under such conditions or in such environments as not stated in technical documents, including catalogs, specification, and instruction manuals
- (2) For use of specific purposes, such as:
 - * Nuclear energy/radiation related facilities [When used outside a radiation controlled area and where nuclear power quality is not required] [When the limit switch for nuclear power is used]
 - Machinery or equipment for space/sea bottom
 - * Transportation equipment
 - [Railway, aircraft, vessels, vehicle equipment, etc.]
 - * Antidisaster/crime-prevention equipment
 - * Burning appliances
 - * Electrothermal equipment
 - * Amusement facilities
 - * Facilities/applications associated directly with billing
- (3) Supply systems such as electricity/gas/water supply systems, large-scale communication systems, and traffic/air traffic control systems requiring high reliability
- (4) Facilities that are to comply with regulations of governmental/public agencies or specific industries
- (5) Machinery or equipment that may affect human lives, human bodies or properties
- (6) Other machinery or equipment equivalent to those set forth in items (1) to (5) above which require high reliability and safety
- 4. Precautions against long-term use

Use of Azbil Corporation's products, including switches, which contain electronic components, over a prolonged period may degrade insulation or increase contact-resistance and may result in heat generation or any other similar problem causing such product or switch to develop safety hazards such as smoking, ignition, and electrification. Although acceleration of the above situation varies depending on the conditions or environment of use of the products, you are required not to use any Azbil Corporation's products for a period exceeding ten (10) years unless otherwise stated in specifications or instruction manuals.

5. Recommendation for renewal

Mechanical components, such as relays and switches, used for Azbil Corporation's products will reach the end of their life due to wear by repetitious open/close operations.

In addition, electronic components such as electrolytic capacitors will reach the end of their life due to aged deterioration based on the conditions or environment in which such electronic components are used. Although acceleration of the above situation varies depending on the conditions or environment of use, the number of open/close operations of relays, etc. as prescribed in specifications or instruction manuals, or depending on the design margin of your machine or equipment, you are required to renew any Azbil Corporation's products every 5 to 10 years unless otherwise specified in specifications or instruction manuals. System products, field instruments (sensors such as pressure/flow/level sensors, regulating valves, etc.) will reach the end of their life due to aged deterioration of parts. For those parts that will reach the end of their life due to aged deterioration, recommended replacement cycles are prescribed. You are required to replace parts based on such recommended replacement cycles.

6. Other precautions

Prior to your use of Azbil Corporation's products, you are required to understand and comply with specifications (e.g., conditions and environment of use), precautions, warnings/cautions/notices as set forth in the technical documents prepared for individual Azbil Corporation's products, such as catalogs, specifications, and instruction manuals to ensure the quality, reliability, and safety of those products.

7. Changes to specifications

Please note that the descriptions contained in any documents provided by azbil are subject to change without notice for improvement or for any other reason. For inquires or information on specifications as you may need to check, please contact our branch offices or sales offices, or your local sales agents.

8. Discontinuance of the supply of products/parts

Please note that the production of any Azbil Corporation's product may be discontinued without notice. After manufacturing is discontinued, we may not be able to provide replacement products even within the warranty period.

For repairable products, we will, in principle, undertake repairs for five (5) years after the discontinuance of those products. In some cases, however, we cannot undertake such repairs for reasons, such as the absence of repair parts. For system products, field instruments, we may not be able to undertake parts replacement for similar reasons.

9. Scope of services

Prices of Azbil Corporation's products do not include any charges for services such as engineer dispatch service. Accordingly, a separate fee will be charged in any of the following cases:

- (1) Installation, adjustment, guidance, and attendance at a test run
- (2) Maintenance, inspection, adjustment, and repair
- (3) Technical guidance and technical education
- (4) Special test or special inspection of a product under the conditions specified by you

Please note that we cannot provide any services as set forth above in a nuclear energy controlled area (radiation controlled area) or at a place where the level of exposure to radiation is equivalent to that in a nuclear energy controlled area.



Azbil Corporation Advanced Automation Company

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