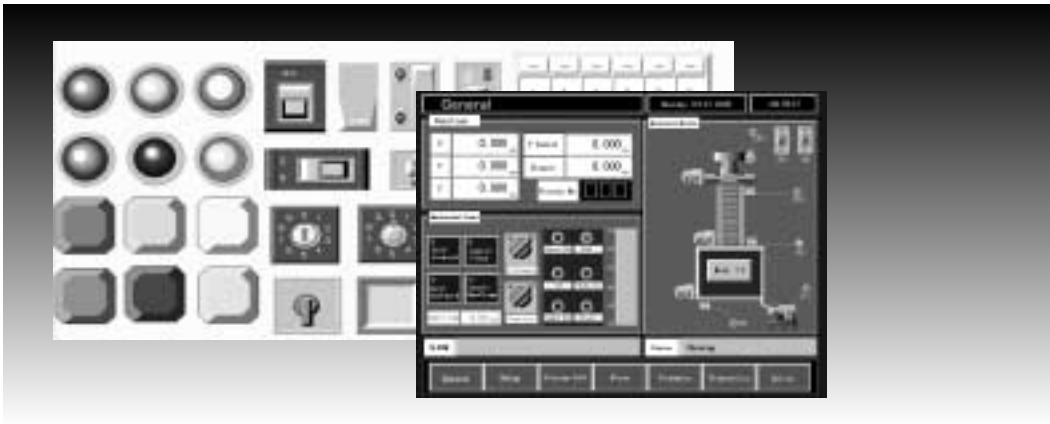
Machine Controller MP2500

Drawing Tools for MotionScreen USER'S MANUAL

Run



YASKAWA

MANUAL NO. SIEP C880752 05A

Notes regarding this product and its package

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2. Yaskawa is not responsible for any consequences resulting from the use of this software and the manual.
3. The specifications of this software and the topics described in this manual are subject to change without notice.

Related Manuals

Refer to the following related manuals as required.

Related Manuals	Manual Number
Drawing Tools for Machine Controller MP2500 MotionScreen Install Guide	SIEPC88075201
Drawing Tools for Machine Controller MP2500 MotionScreen Tutorial Manual	SIEPC88075202
Drawing Tools for Machine Controller MP2500 MotionScreen User's Manual MotionScreen Builder	SIEPC88075203
Drawing Tools for Machine Controller MP2500 MotionScreen User's Manual Macro Functions	SIEPC88075204
Drawing Tools for Machine Controller MP2500 MotionScreen Reference Manual	SIEPC88075206
Drawing Tools for Machine Controller MP2500 MotionScreen User's Manual Shared Memory Server	SIEPC88075207

● Safety Precautions ●

(Read before using)

When using MotionScreen, read the manual included with each product as well as any related manuals described therein. Observe all safety precautions when using MotionScreen.
The safety precautions described herein are ranked as "Cautions".

⚠Caution	The term "Caution" is applied in situations when improper handling of a product could result in injuries of medium severity, light wounds, and/or property damage.

Topics described under the ⚠ "Caution" heading may, depending on the situation, have severe consequences.
All of the safety precautions contain very important information. Make sure to follow those directions carefully.
Keep the manuals of this product readily available for referencing as required, and make sure that they are provided to the end-user of this product.

[Caution for System Design]

⚠ Caution

- Configure an interlock circuit on the program by using communication status information, so that the system will function safely in the event of an MotionScreen communication fault.
  Illegal output or malfunction may lead to accidents.

Notation

The following topics, which are necessary when using this product, are described below.

MEMO

Additional information regarding operation, descriptions, and settings is provided.

MEMO

♦

IMPORTANT

This gives the user important information regarding handling, that is required for ensuring safety.

Important information regarding operation, descriptions, and settings is provided.

IMPORTANT

♦

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Chapter 1 Overview and Basic Operations of Run

This chapter describes an overview and basic operation procedures of Run, a program that executes the screen data created in Builder.

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1-1 MP2500 Copy of Project Data and Start-up

Explains how to copy data, which is made in the Builder program, to the MP2500 register and how to start the MotionScreen Run.

Copying Project Data

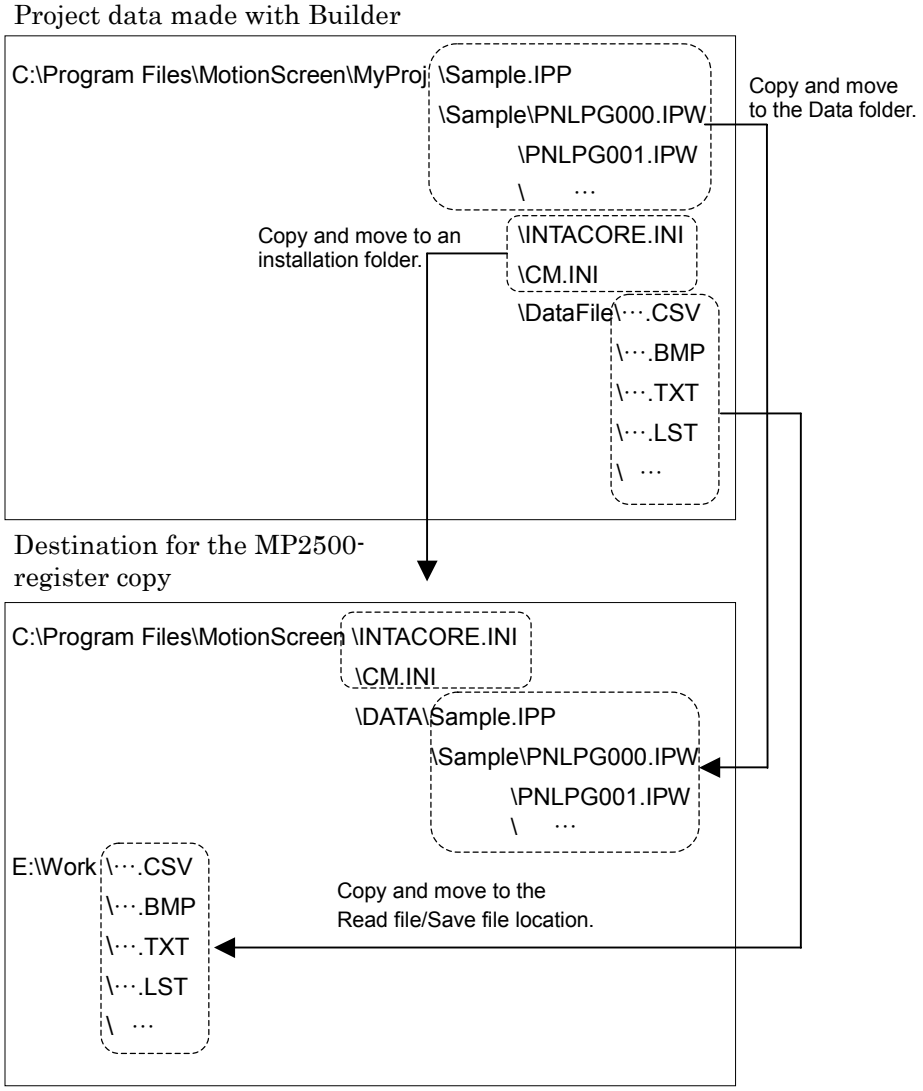
1. Copy the .ini files, INTACORE.INI and CM.INI, in the project folder and move them to the folder in which MotionScreen is installed.
2. Copy the project file and project folder and move them to the Data folder under the folder in which MotionScreen is installed.
3. Copy the file in the "DataFile" folder and move it to the folder which was set in the New Project wizard for Builder or set as the "Read file/Save file location" in the project properties.

MEMO

- If a folder has not been set as the "Read file/Save file location," the file in the "DataFile" folder do not have to be copied.

  Refer to the MotionScreen Builder manual if making any settings with the New Project wizard or in the Project Properties box.

Example:
The following example shows how the Sample file of project data that was made with Builder is stored and how E:\Work is selected as the "Read file/Save file location."



Starting a Project

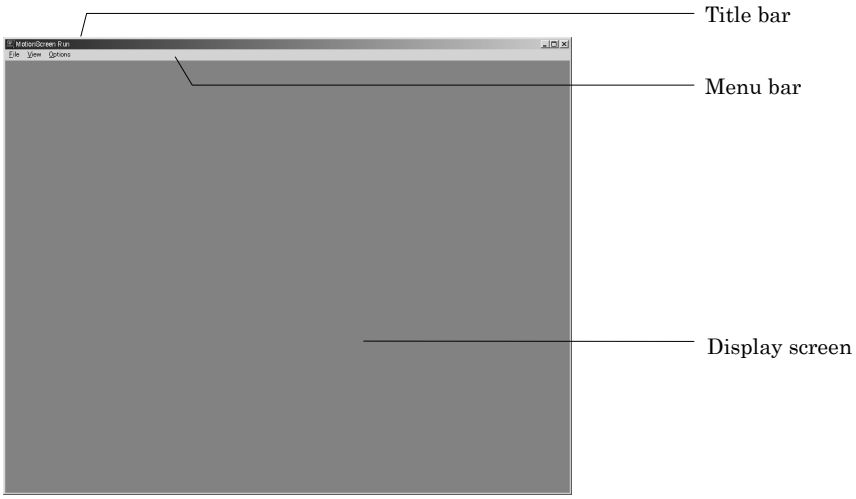
Run the program file, C: \Program Files\MotionScreen\INTACORE.EXE. MotionScreen Run starts, and the copied project opens.

MEMO

- Make sure to copy the .ini files, INTACORE.INI and CM.INI, otherwise another project may open and communications with the MP2500 will not be possible.

1-2 Main Screen

This section describes the configuration of the Run operation screen and the names and functions of each section.



Title bar

Displays the application name, project name, and the title of the displayed screen.

Menu bar

Groups each function with related functions.

The name of each group is displayed in the menu bar, and the functions within each group are displayed in the pull down menu.

Menus have the following configuration.

Run

File

Item	Function
Open project	Selects a project.
Select page	Selects the screens to display.
Quit	Exits the application.

Display

Item	Function
Title	Selects the show/hide settings of the title bar.
Menu	Selects the show/hide settings of the menu bar.
Full screen	Switches the display to full screen.

Option

Item	Function
Input mode	Selects the input mode (keypad/external device (keyboard, etc.)) of [Numeral Display&Input] and [String Display&Input].
Caption mode	Selects the label display/address display.
About product Information	Displays the product information.

1-3 Startup Setting

Before starting Run, you must first configure the start settings or the startup conditions in the preferences file.

By configuring the start settings, you can automatically start Run or other applications such as CM during the system startup.

Settings

The startup settings are configured in the INTACORE.INI file, which is located in the same folder as the INTACORE.EXE file.

The contents and setting procedure for INTACORE.INI are shown below.

```
# ------------------------------------------------------------------------
# Startup and Shutdown
# ------------------------------------------------------------------------
# 0or1
ACTMENU=1
SHUTDOWNDLG=2
# ------------------------------------------------------------------------
# Shared memory
# ------------------------------------------------------------------------
# 0 <= n <= 64 K bit
#CBNUM=4
# 0 <= n <= 8192 K word
#CWNUM=4
# 0 <= n <= 32
TASKNUM=32
# 0 <= n <= 999999
WAITTIME=0
# 0 or 1
#MEMHOLD
# file name
#HOLDFILE=
# ------------------------------------------------------------------------
# APP1
# ------------------------------------------------------------------------
# 0or1
APP01=1
# maxlen 128
APP01NAME=CM.exe
# maxlen 128
APP01CRNTDIR=.\
# maxlen 128
```

```
APP01COMMAND=
# maxlen 256
APP01TITLE=CM
# 0 <= n <= 999999
STARTAPP01WAIT=100
# ------------------------------------------------------------------------
# APP2
# ------------------------------------------------------------------------
# 0or1
APP02=1
# maxlen 128
APP02NAME=SetVer.exe
# maxlen 128
APP02CRNTDIR=.\
# maxlen 128
APP02COMMAND=.\Version.ini
# maxlen 256
APP02TITLE=
# 0 <= n <= 999999
STARTAPP02WAIT=
# ------------------------------------------------------------------------
# APP3
# ------------------------------------------------------------------------
# 0or1
APP03=1
# maxlen 128
APP03NAME=Pn.exe
# maxlen 128
APP03CRNTDIR=.\
# maxlen 128
APP03COMMAND=/p.\Data\Sample.IPP
# maxlen 256
APP03TITLE=
# 0 <= n <= 999999
STARTAPP03WAIT=
        :
        :

#
CBNUM=4
#
CWNUM=4
#
SBNUM=2
#
SWNUM=2
```

Run

Startup and Shutdown

Environment variables	Setting range	Contents	Target
ACTMENU	0: Disables all environment variables 1: Enables all environment variables	Enables/Disables the settings of the INTACORE.INI file.	MotionScreen
SHUTDOWNDLG	0: Displays the message "Shut down the system?" Exits MotionScreen and turns off the computer. 1: Exits MotionScreen and turns off the computer without displaying the message "Shut down the system?" 2: Displays the message "Shut down the system?" Exits MotionScreen, but does not turn off the computer. 3: Exits MotionScreen without displaying the message "Shut down the system?" but does not turn off the computer.	Selects the exit operation of MotionScreen and Windows. The operations of setting 0 and 1 are valid when the OS is set to turn off the power when exiting. If the power-off operation is not set, settings 0 and 1 are equivalent to settings 2 and 3 respectively. This setting will be effective when $SB255 is ON.	

Shared memory

Environment variables	Setting range	Contents	Target
CBNUM	1 to 64 (Default: 32, set to default when 0)	Sets the number of CB points to use (K=1024).	INTACORE.EXE
CWNUM	1 to 8192 (Default: 64, set to default when 0)	Sets the number of CW points to use (K=1024).	
SBNUB	2	These values are system reservations and should not be changed.	
SWNUB	2	These values are system reservations and should not be changed.	
TASKNUM	1 to 32 (Default: 16, set to default when 0)	Sets the maximum number of connect tasks.	
WAITTIME	0 to 999999	Sets the waiting time (ms) after the application startup.	
MEMHOLD	–	These values are system reservations and should not be changed.	
HOLDFILE	–	These values are system reservations and should not be changed.	

APP01 to APP08

Environment variables	Setting range	Contents	Target
APP01 to APP08	0: Does not start. 1: Starts.	Enables/Disables the startup settings of the applications for APP1 to APP8.	Application
APP01NAME to APP08NAME	Up to 128 characters of string.	Specifies the execution file name.	
APP01CRNTDIR to APP08CRNTDIR	Up to 128 characters of string.	Specifies the path of the execution file. If the path includes spaces, specify the entire path in double quotations.	
APP01COMMAND to APP08COMMAND	Up to 128 characters of string.	Specifies the startup argument (command). If the path includes spaces, specify the entire path in double quotations.	
APP01TITLE to APP08TITLE	Up to 128 characters of string.	Specifies the screen title. This is invalid if overwritten by the application.	
STARTAPP01WAIT to STARTAPP08WAIT	0 to 999999	Sets the wait time for the next application to execute after the application startup.	

MEMO

- Do not change the settings of APP01to APP03 because they are automatically set in accordance with information related to the project.
  Use APP04 to APP08 if adding an application which will start at the same time as the Run program.
- When Run is started, INTACORE.EXE is automatically started at the same time. If APPxx (xx = 01 to 08) is used to set the startup of Run (PN.EXE), two instances of Run will start up: Run started manually and Run started by INTACORE.INI. Because of this, if Run is started by INTACORE.INI, make sure to start INTACORE.EXE.
- Rows starting with "#" in INTACORE.INI are treated as comments.

1-4 Basic Operations

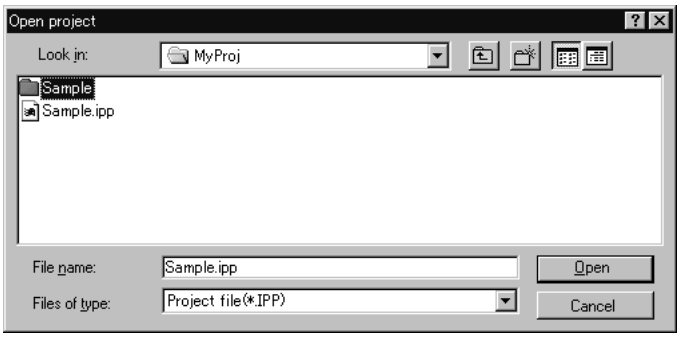
This section describes the basic operations of Run.

Opening a project

This section describes how to select a project to execute in Run.
You can also specify a project file to execute during startup in the INTACORE.INI file, which was described in the previous section.

1. Select [Open project] from the [File] menu.

2. A dialog box for opening a project is displayed.



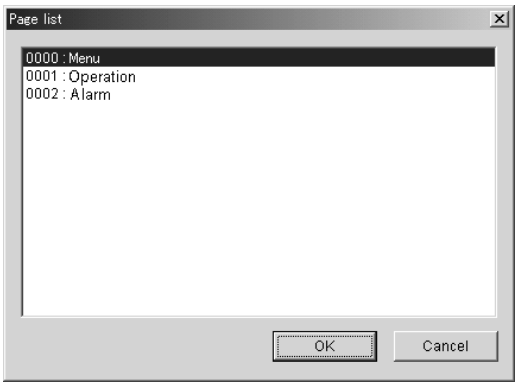
3. Select a project, then click the [Open] button.

Switch screen

This section describes how to jump to another screen in Run.

1. Select [Select page] from the [File] menu.

2. A dialog box for selecting a screen page is displayed.



3. Select a screen page, then click the [OK] button.

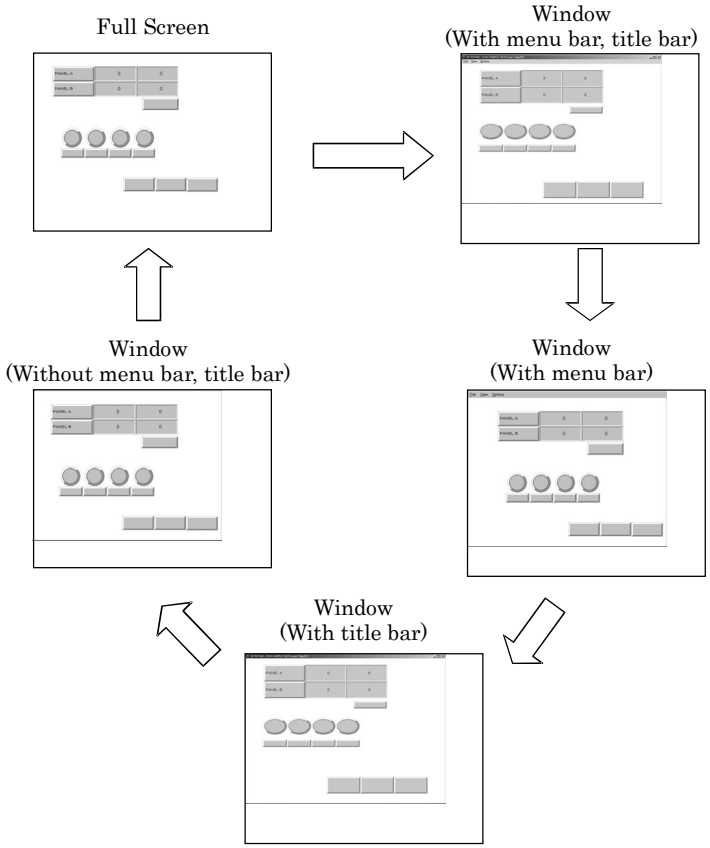
Screen display

When a project is executed, a screen is displayed according to the screen style specified in the [Run parameter setting] ([Settings] – [Run parameter setting] – [Initial Setting]) of Builder.

To change the screen style when running in Run, double click anywhere in the screen where there is no functional object.

The screen style changes in the following order.

Full Screen → Window (with menu bar, title bar) → Window (with menu bar) → Window (with title bar) → Window (without menu bar, title bar) → Full Screen (back to the beginning of the cycle)



MEMO

- If Change Window Style has not been selected in the Option settings of the Run parameter settings in Builder, the style of the windows cannot be changed while the Run program is being executed.

Option functions

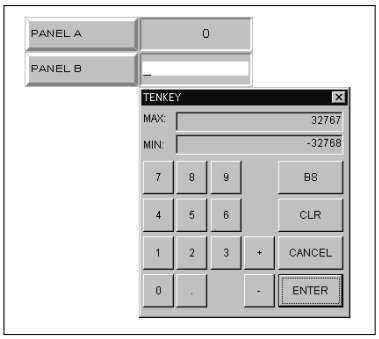
This section describes an overview of the option functions.

Input mode

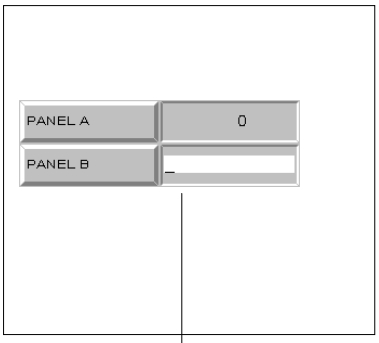
This switches the input mode of the Numeral Display&Input and String Display&Input functional objects from the input of the input pad, which is displayed when clicking the object, to the input mode of external devices such as the keyboard.

1. Select the [Input mode] from the [Options] menu.

Input Mode
– Input from the input pad



Input Mode
– Input from an external device



The input pad is not displayed.

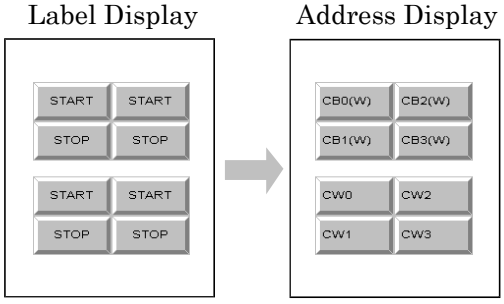
MEMO

- To switch the input mode, select [Input mode] from the [Options] menu again.
- The initial settings of the input mode are set in the [Options] of the [Run parameter setting].

Displaying label addresses

The display mode can be switched from the standard label display to the display of the address specified for each functional object.

The only address displayed with this function is the information set in the [General] tab of each functional object's property dialog box. For details on the address display, refer to "Displaying addresses" in "Changing object display items" in "4-1 Common Operations" of the Builder manual.



1. Select [Caption mode] from the [Options] menu.

MEMO

- The ✔ mark before the [Caption mode] menu indicates that the address is displayed in the current screen.
- To switch the label device display, select [Caption mode] from the [Options] menu again.

Product information

Displays the name, version, and copyright of the application.

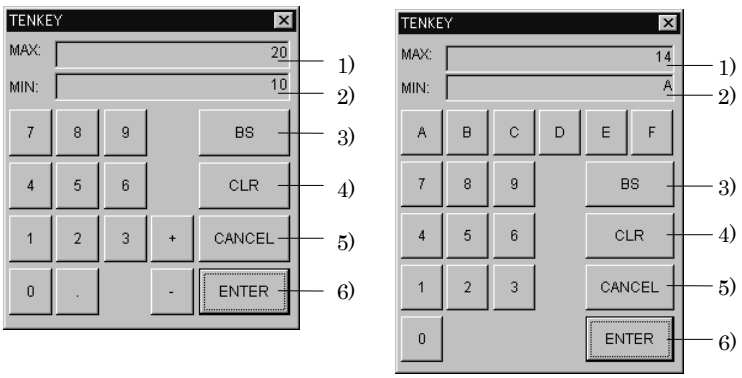
1. Select [About product Information] from the [Options] menu.
2. Click the [OK] button to close it.

Input pad

This section describes how to use the input pad used when inputting numbers or string.

Numeral keypad

This is used when inputting numeral data to the Numeral Display&Input object. The numeral keypad is displayed when pressing the Numeral Display&Input object.



Number	Item	Contents
1)	MAX	Displays the upper limit of the input.
2)	MIN	Displays the lower limit of the input.
3)	[BS] button	Erases the last character of the entered values.
4)	[CLR] button	Clears the current values.
5)	[CANCEL] button	Disregards the entered values and exits the keypad.
6)	[ENTER] button	Sets the entered values and exits the keypad.

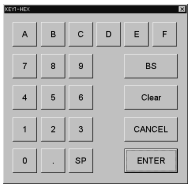
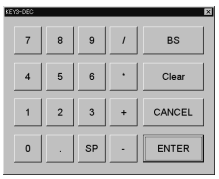
Virtual keyboard

This is used for inputting string data to the String Display and Input object or for entering passwords when inputting to functional objects.

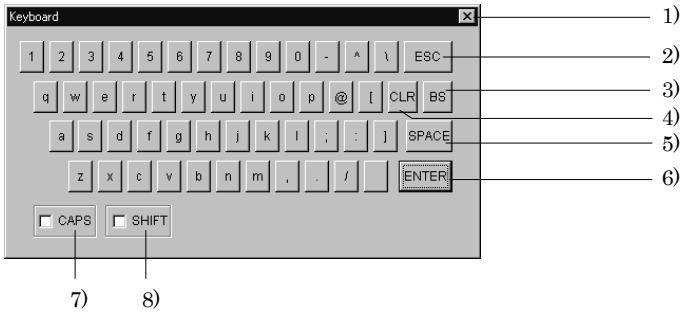
The virtual keyboard is displayed when the String Display and Input object is pressed. When entering passwords, this is displayed by pressing the [Keyboard] button in the [PASSWORD] dialog box.

Available keyboards vary according to the display format. A full-size keyboard is used for entering passwords.

[Keyboard Types]

Full keyboard	Decimal keys (unsigned)	Hexadecimal keys (unsigned)
		
Decimal keys (signed)	**Hexadecimal keys (signed)**	**Decimal keys (signed, ∗, and /)**
		
Hexadecimal keys (signed, ∗, and /)		
		

[Virtual Keyboard Operations]



The operations are basically the same as an ordinary keyboard. For operations on keyboards other than full-size keyboards, refer to the previous section, “Numeral keypad”.

1) Closes the virtual keyboard when this button is pushed.

2) Nullifies the entered string and exits the virtual keyboard.

3) Erases the last character of the string.

4) Clears all string.

5) Enters a space each time it is pressed.

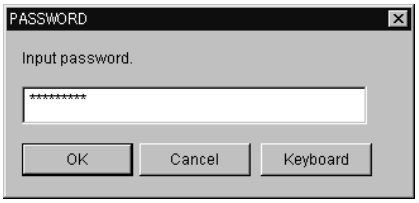
6) Sets the entered string and exits the virtual keyboard.

7) Turns on the [Caps Lock].

8) Changes the display of the selected characters to symbols such as !, $, #, or %. This does not effect the uppercase or lowercase letters of alphabets.

Entering passwords

Pressing a functional object with password settings displays a dialog box that requests the input of a password.



1. Enter the password. The entered password is displayed in asterisks ("*").

2. Click the [OK] button.

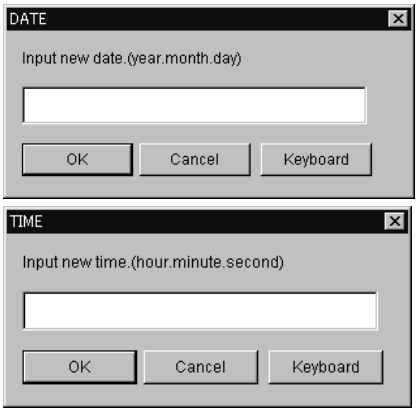
3. If the password is correct, the functional object is valid for input.

MEMO

- If an invalid password is entered three times, the [PASSWORD] dialog box closes. To enter the password again, press the functional object and display the [PASSWORD] dialog box.

Setting the date and time

This section describes how to set the date and time. Press the date or time functional object to display the settings dialog box.



The procedures for setting the date and time are as follows:

1. Enter the date and time according to the following format.
   Date: year (up to 4 digits), month (up to 2 digits), day (up to 2 digits)
   Time: hour (24-hour clock, up to 2 digits), minutes (up to 2 digits), seconds (up to 2 digits)
   Example: To set the date and time of 1/1/2000 1:01:01 PM
   Enter "2000.1.1" for the date, and "13.1.1" for the time.
   (Specify the hours using the 24-hour method even for the AM/PM display format.)
   Click the [Keyboard] button to use a virtual keyboard to enter this information. A virtual keyboard for entering decimal places is displayed.

2. Press the [OK] button after setting the necessary items.

MEMO

- When entering months, days, hours, minutes, or seconds that require only 1 digit, you may enter either 0 + the value or simply the single value by itself. Example: The “13.1.1” from above may also be entered as “13.01.01”.

1-5 Error Messages

This section describes the causes and solutions of each error message displayed in Run. Refer to this section for troubleshooting.

Error messages are displayed in a dialog log similar to the one below.

Error messages when Run is started

Message	Cause	Solution
CB size is out of range.	The number of points used for CB set in [Run parameter setting] is larger than the CB size of the shared memory server.	• Reduce the CB size under [Settings] – [Run parameter setting] in Builder. • Use the argument for either INTACORE.INI or INTACORE.EXE to increase the CB size in shared memory.
CW size is out of range.	The number of points used for CW set in [Run parameter setting] is larger than the CW size of the shared memory server.	• Reduce the CW size under [Settings] – [Run parameter setting] in Builder. • Use the argument for either INTACORE.INI or INTACORE.EXE to increase the CW size in shared memory.
Run already executing.	You have attempted to run 2 instances of Run.	Two or more instances of Run cannot be run simultaneously.
Window creation error.	A screen could not be created due to memory failure, etc.	Close all other applications currently running, and then restart the system.
Cannot create a mutex object.	A screen could not be created due to memory failure, etc.	Close all other applications currently running, and then restart the system.

Error messages when a screen is open

Message	Cause	Solution
Too many local device. The maximum size is 2000 points.	The number of addresses exceeds 2000.	Use Builder to modify the screen data and reduce the number of communication points to 2000 or less.
Too many popup windows	You have attempted to open 4 or more pop-up screens.	A maximum of 3 pop-up screens can be opened simultaneously.
Page file load error.	You have attempted to open a screen that does not exist.	Specify a screen that exists.
Cannot open a popup window without a base window.	You have attempted to open a pop-up screen without opening a base screen.	Open a pop-up screen after first opening a base screen.

Error messages when operating screens

Message	Cause	Solution
Cannot create the virtual keyboard dialog	The file required for displaying the virtual keyboard either does not exist or has been corrupted.	Reinstall MotionScreen.
This RK.DLL is not the virtual keyboard library.	The file required for displaying the virtual keyboard either does not exist or has been corrupted.	Reinstall MotionScreen.
Cannot load the virtual keyboard library RK.DLL.	The file required for displaying the virtual keyboard either does not exist or has been corrupted.	Reinstall MotionScreen.
This RTK.DLL is not the virtual keyboard library.	The file required for displaying the numeral keypad either does not exist or has been corrupted.	Reinstall MotionScreen.
Cannot load the virtual keyboard library RTK.DLL.	The file required for displaying the numeral keypad either does not exist or has been corrupted.	Reinstall MotionScreen.

Run

Message	Cause	Solution
Cannot add any more.	You have attempted to add records to the Data Block Table that exceed the maximum number of records.	Additions cannot be made in excess of the maximum number of records. If an addition is required, increase the maximum number of records in [Settings] – [Data Block] in Builder.
Incorrect time format.	An incorrect format was used when changing the time with a time object. Or, an impossible time was entered. (Example: 25 hours)	Enter the correct format and time.
Cannot create the virtual keyboard dialog.	The file required for displaying the numeral keypad either does not exist or has been corrupted.	Reinstall MotionScreen.
Out of lower range.	The value input for Numeral Display&Input exceeds the lower limit.	Enter a value that does not exceed the lower limit.
Out of upper range.	The value input for Numeral Display&Input exceeds the upper limit.	Enter a value that does not exceed the upper limit.
Password error.	An incorrect password has been entered.	Enter the correct password.
Password error more than 3 times. Password input canceled.	Incorrect passwords were entered 3 times in a row.	Open the PASSWORD dialog box again, and enter the correct password.
Incorrect date format.	An incorrect format was used when changing the date with a date object. Or, an impossible date was entered. (Example: 32 day)	Enter the correct format and date.

Message	Cause	Solution
Incorrect file.	The file structure of the alarm history file (alarm.log) or event history file (event.log) accessed from Alarm/Event Summary&History is not correct.	Delete the alarm history file and/or event history file.
Out of memory.	A screen could not be created due to memory failure, etc.	Close all other applications currently running, and then restart the system.

Error message when operating user objects

Message	Cause	Solution
Cannot use the user DLL.	The number of objects in the user DLL exceeds 100. An incorrect user DLL has been set.	Create a correct user DLL.
User DLL is not found.	The specified object does not exist in the user DLL.	Create a correct user DLL.
User object is not found.	The user DLL does not exist.	Create a correct user DLL.
Too many user DLLs exist. The maximum size is 10.	The number of user DLLs exceeds 10.	Set the number of user DLLs to within 10.
User DLL error.	The number of objects in the user DLL exceeds 100. An incorrect user DLL has been set.	Create a correct user DLL.

Error messages when running macro

The following message is displayed when a macro program error occurs.

[xxx] : Error details

Page(xxx) : Page number where error occurred (displayed as –1 for project macro)

ID(xxx) : ID number of functional object where error occurred (displayed as –1 for project macro, screen macro)

(xxx) : Macro program timing

The information, causes, and solutions displayed in the error details are shown below.

Error details	Cause	Solution
Divided by zero	Division by zero was attempted.	Set a value other than zero.
BCD code error	A value that cannot be converted has been set for the argument for BCD and BIN commands.	Check the value of the argument that was set, and set a correct value.
Incorrect argument value	An incorrect value has been set for the function argument.	Check the value of the argument that was set, and set a correct value.
Incorrect program	An incorrect program has been set.	• Check the contents of the macro again, and set a correct program. • Confirm that the selected register is installed in a slot and the same as the one used for the address.

Error messages when communicating

Message	Cause	Solution
Cannot load DLL.	The DLL for CM does not exist, or has been corrupted.	Reinstall MotionScreen. If the DLL was created by a user, reinstall the DLL required for communication.
Invalid DLL.	The DLL for CM does not exist, or has been corrupted.	Reinstall MotionScreen. If the DLL was created by a user, reinstall the DLL required for communication.
Communication error. Exit?	A communication error has occurred.	• Check if CM is running. • Make sure the screen parts are not using register address which is not available motion board.
Communication open error. Quit?	The file(s) required for communication does not exist, or has been corrupted.	Reinstall MotionScreen.

Appendix

Appendix-1 CM Specifications ····· Appendix – 1

Appendix-1 CM Specifications

For MotionScreen, CM is included as a standard feature for the MP2500. This section describes the specifications of the CM.

For more information on the CM, refer to the MotionScreen Installation Guide and the MotionScreen Shared Memory Server manual.

CM Settings

Contents and setting method for the setting. ini file, CM.INI, of the environmental variable for the CM.

Section name	Key name and form	Setting details
System	Cyclic Interval	Set the cyclic communication interval of 20 ms to 200 ms.
	CMID	Shared memory connection ID. 1fixed .
	Thread Priority	Select the task/thread priorities from the following four choices. HIGHEST: Assign a relative priority that is two points higher than the thread that serves as the standard. ABOVE_NORMAL: Assign a relative priority that is one point higher than the thread that serves as the standard. NORMAL: Assign a relative priority that is the same as the thread that serves as the standard. LOWEST: Assign a relative priority that is two points lower than the thread that serves as the standard.
Target	TargetCount	Set the number of MP2100 controllers to be used for communications to a value from 1 to 16.
	TargetName[n] (n: 1 to 16)	Set the number of slots to the same value as that used for TargetCount. Example: If the TargetCount equals two, set the number of slots to two as follows. TargetName1=MP2100/2500-1slot TargetName2=MP2100/2500-2slot

Run

Section name	Key name and form	Setting details
[TargetName]	Port	Select a port number 1to 16 from communication manager setting.
	Cpu	Select a CPU number 1to 4 from communication manager setting.
	NetWork	Select a network number 1to 254 from communication manager setting.
	Station	Select a station number 1to 64 from communication manager setting.
	Unit	Select a unit number 1to 63 from communication manager setting.
	IPAddress	Specify a character string less than 15 characters for the IP address character string from communication manager setting. For example: 192.168.1.1
[TargetName]	CimScopeInterval	After gaining access to the value stored as the ReadMethodCount, set the Sleep Time to a value between 0 ms to 100 ms.
	EnableRandam	Select whether or not to read from a random register for CimScope. 0: Do not use 1: Use
	ReadMethodCount	Select the number of times that a high-speed register can be accessed consecutively to a value from 1to 100.
	TimeOut	Set the time-out limit in milliseconds (ms).
Cyclic	Count	Set the ranges for cyclic communications.
CyclicBlock[n] ([n]: 1 to the value of the Count.)	HostDevice	Select the type of shared memory for cyclic communications: CB or CW.
	HostAddress	Select the leading address for the shared memory in HostDevice.
	TargetID	Select the target ID for the MP2500 register that is used for cyclic communications. The Target ID is the value of n which is set as TargetName[n] in the Target section.
	TargetDevice	Select the classification of the MP2500 register that is used for cyclic communications.
	TargetAddress	Select the leading address for the register set in TargetDevice.
	Count	Select the number of points for cyclic communications in units of words.

Run

MEMO

- The CM.INI file is automatically made if the project is made with Builder.
- Revision of the CM.INI is limited for the fine adjustment of the system. Use the CM.INI that was automatically made.
- Do not change any other environmental variables because they are reserved for use with the system.
- Please edit the CM.INI with a text editor such as WordPad or NotePad.

Run

An example of CM.INI is shown here.

```
[System]
Cycle Interval=200
CMID=1
Theread Priority=ABOVE_NOMAL
[Target]
TargetCount=2
TargetName1=MP2100/2500-1slot
TargetName2=MP2100/2500-2slot
[MP2100/2500-1slot]
Port=1
Cpu=1
NetWork=0
Station=0
Unit=1
IPAddress=192.168.1.1
TimeOut=10000
CimScopeInterval=10
EnableRandam=10
ReadMethodCouont=10
HolderName=MP2100
PluginName=Yaskawa.dll
[MP2100/2500-2slot]
Port=1
Cpu=2
NetWork=0
Station=0
Unit=1
IPAddress=192.168.1.1
TimeOut=10000
CimScopeInterval=10
EnableRandam=10
ReadMethodCouont=10
HolderName=MP2100
PluginName=Yaskawa.dll
[Cyclic]
Count=2
[CyclicBlock1]
HostDevice=CW
HostAddress=0
TargetID=1
TargetDevice=SW
TargetAddress=0
Count=10
[CyclicBlock2]
HostDevice=CW
HostAddress=10
TargetID=2
TargetDevice=SW
TargetAddress=0
Count=10
```

Precautions for the cyclic communication range

・The ranges for CB and CW can be set to a total of 100.

・Error occurs if the range of another device duplicates within that of CB or CW.

・The leading number of CB and of the communications device as well as the number of consecutive points must be in hexadecimal. If not in hexadecimal, an error will occur at startup.

・To link two of data and treat them as a single value, they must be set within the same range. Separate ranges will cause a shift in the writing time and may result in a loss of conformity.

Example:

Set CW10 and CW11 to the same setting range if CW10 and CW11 are used as 32-bit registers.

MEMO

◆ Set the range for cyclic communications in Device Layout on the Setting menu in Builder. For details, refer to "7-6 cyclic communications range setting" in Builder manual.

Message communications: Commands and Functions

Data can be directly exchanged between the application that was made with VLAPI and CM. This direct exchange of information is called message communications. The following services is available for CM.

Type	Cmmnd. No.	Func. No.	Request details
Registered Monitor	0x0100L	0x0000L	Clear all.
		0x0010L	Add registration 0
		0x0011L	Add registration 1
		0x0020L	Start monitor
		0x0030L	Monitor interruption
		0x0040L	Monitor request
Writing	0x0300L	0x0020L	Synchronous Random Write

For details, refer to the MotionScreen SDK manual.

Action when an error occurs

If a communications error occurs with CM, the error information is stored in the following shared memory.

Shared memory	Remarks
$SB64	CM execution status (0: Normal, 1: Abnormal)
$SW64	Communication error code

Communication error code

The following error codes are stored in $SW64.

Error code	Cause and remedy
2	Other task is using shared-memory server. Lower the access frequency for the shared memory of the task in the shared-memory server, or retry gaining access to the memory.
6	The selected range for access to the shared memory is out of the range for the shared memory. Select a value within the allowable range of the shared memory.
7	Exceeded the maximum number of connections for the shared-memory server. Increase the maximum number of connections for the shared-memory server or reduce the number of applications or CM being used.
8	Buffer size that was set when the shared-memory server was connected is too large. Make sure that the buffer size has been set correctly or reduce the buffer size.
9	Specified application not found. Change settings so shared memory can be accessed for selected application.
10	Address for the selected CM ID No. is not connected. Select the CM ID No. for a connected address.
11	Tried to open a task that is already open. That name is already in use. Select another name.
12	Did not receive data within the allowable time. A time-out error occurred. Increase the time-out period.
50	Without connecting to the shared-memory server, use an Open function, such as VLA_Open() or VLC_Open(), to call another function such as VLA_Read()/ or VLC_Comm(). Call VLA_Open() or VLC_Open() first.

Run

Error code	Cause and remedy
51	Shared-memory server does not start. Start shared-memory server.
100	Insufficient memory in program. Reduce program size or remove unnecessary drivers to increase the amount of available memory.
101	Cannot send Request to shared-memory server. Lower the access frequency for the shared memory or reduce the number of tasks that use the shared memory.
102	Cannot receive Request to the shared-memory server. Lower the access frequency for the shared memory or reduce the number of tasks that use the shared memory.
103	Cannot find connection handle to shared-memory server. Check connection handle.
300	Cannot find the comment file in the selected project. Make a new comment file or select another project.
301	Attempts to gain access to the comment file may fail. Check comment file.
302	Without the functions VLA_CreateCmnt() and VLA_OpenCmnt(), call these functions: VLA_GetCmnt() and VLA_PutCmnt. Call VLA_CreateCmnt() and VLA_OpenCmnt() first.
303	Capacity of the file is short or the writing is prohibited. Check the disk in which data is being written.
304	When making a comment file with the Create Comment function, VLA_CreateCmnt(), a comment file already exists for the selected project. Select a different project name or select CMNT_CREATE_IFEXIST in the ulFlags.
305	When making a comment file with the Create Comment function, VLA_CreateCmnt(), the points of CB and CW are out of the allowable range or the points are not written in hexadecimal. The number and range of CB, CW, $SB, and $SW that were selected with the Get Comment and Put Comment functions, VLA_GetCmnt() and VLA_PutCmnt()are out of the allowable range. Correct the range.
401	Event cue is incorrect. Check handle for the event cue.
450	Event not found in event cue. Check event cue.
451	EVQUEUE_PACK ulSize is too small. Data size of event being read is too small. Check event cue.

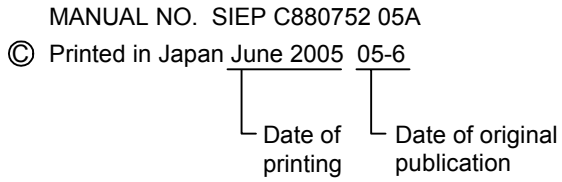
Error code	Cause and remedy
452	EVQUEUE_PACK pData is not selected. Data not found when reading the event. Check event cue.
453	Selected an event cue that has already opened. Check handle for the event cue.
1000	Selected CM ID No. has already used. Select another ID No.
1001	Selected CM ID No. is not within allowable range. Should be between 1 through 17. When the Open function, VLC_Open () was called, the leading number and the points of CB and CW were not correct. When the Open function, VLC_Open () was called, of the ranges of CB and CW overlap. Select a CM ID No within the allowable range. Set the leading number of CB to a multiple of 16. So that it is in hexadecimal. When starting the shared-memory server, set the selected points CB and CW to values within the allowable range. Correct the range of CB or CW so it does not overlap with that of other command modules.
25346	The port has not been opened. Open a port.
25347	Tried to open a port which is already opened.
25348	Failed to get the current value needed to make the setting for the device.
25354	Tried to set the device information to an incorrect value. Correct the setting.
25364	Transmitted model was not supported. Transmit a model that is supported.
25365	Error occurs when trying to write more than one register at the same time or the number of registers is set to a negative value although the buffer is not arranged. Correct the setting for the number of registers.
25374	Register name is incorrect. Correct name of register.
25444	Although opening has been completed, a handle is not set yet or another problem exists.
25454	Selected access mode is not supported.
25564	Error occurred during communications for system service.
25574	Error occurred during background service.

Product Application

- This product is neither designed nor manufactured for the purpose of being used in devices or systems in life-threatening situations.
- Ask our customer service any questions regarding special usage of this product in devices or systems, including but not limited to the following fields: vehicle, medical equipment, aerospace related, nuclear related, electric power generation and relays stations of a sub-marine cable.
- Although this product was manufactured under strict quality standards, safety devices must be installed when it is used in conjunction with other equipment and when a malfunction could lead to a severe accident and serious damage.

Revision History

The revision dates and numbers of the revised manuals are given on the bottom of the back cover.



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Machine Controller MP2500

Drawing Tools for MotionScreen USER'S MANUAL

Run

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