

YASKAWA Electric Corporation  
Machine Controller MP3000 series  
Trouble Shooting  
Sample Project File Ver.3.01  
VGA, WVGA, WSVGA, WXGA  
Common Edition

## Revision History

Revision No.	Date	Descriptions
02	20/03/2013	New
03	28/07/2014	Modify cover page and restrictions
04	30/09/2014	Supports MP3000 extension, Support SP5000 series
05	01/07/2022	Supports ST6000 series Update 4-2. Target HMI Devices

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For the details of settings, refer to YASKAWA Electric Corporation *Machine Controller MP3000 Series Trouble Shooting Manual*.

\* The material above and other materials for MP series can be downloaded from YASKAWA Electric's technical information site.

\* The communication driver and the connected device data copy tool must be MP3000 compliant. Download and install them from our Web site before using this sample project file.

# 1. Overview

This sample project file is a sample program for connecting a MP3000 series of the Machine Controller, made by YASKAWA Electric Corporation, to a GP / SP / ST series unit.

This sample project file is specialized in a primary support on site. (e.g. cause analysis of alarms, presentation of the troubleshooting, and maintenance monitoring).

- Various registers required for troubleshooting can be monitored without using a dedicated tool.
- Details of the error generated in machine controller MP3000 series can be checked.
- Abnormality content is identified based on the LED and the alarm code displayed on the CPU, and troubleshooting and sections to be checked are displayed. Since the alarm code is converted into a message and the related items are displayed, the cause of the alarm can be quickly identified.
- Maintenance monitor settings of MPE720 is read, and power consumption and predicted life for each axis can be checked by using a bar graph. Power consumption can be displayed by means of a chart in any combination of axes.
- The Device Monitor (GP / SP / ST series standard function) and the Screen Capture function are prepared.

## 2. Restrictions and Notes

### 1) Restrictions

This screen data is taken from screenshots showing the representative features and functions of the GP / SP / ST series.

When using the sample project file, be sure to reference our product manual or the connection device manual, including the usage restrictions and safety precautions. In addition, please be aware that we are unable to accept responsibility for damage arising from reasons that cannot be attributable to us, loss of customer opportunity or profit arising from the malfunction of our product, damage arising from special circumstances regardless of whether or not we had foreknowledge of those circumstances, secondary damage, compensation for accidents, damage to our products, or other business-related guarantees.

### 2) Notes

1. The intellectual property rights for the files provided by Schneider Electric Japan Holdings Ltd. belong to us.
2. Downloaded files and the data extracted from those files are no guarantees of

our product specifications. Please be aware of this fact.

3. The liability for use of this service lies with the customer.
4. In any case, this is not intended as a warranty for any work for a system that makes use of the data on these screens.
5. Any modifications made to this service by a customer are entirely at the responsibility of the customer.
6. Please be aware that we cannot respond to any inquiries for the purpose of modifying these data.
7. The content and information in the data on these screens and documentation are subject to change without prior notification.

### 3. How to use this project file

When using this project file (henceforth known as "the file"), be sure to confirm the following details:

1) When using the file as-is

Confirm the communication settings.

When using this file as-is, transfer it in GP-Pro EX to a display console with a touch panel.

When connecting, refer to section "5. System configuration" of this Manual for Use.

For networking cables, refer to sections "Device Configuration" of this Manual for use.

2) How to combine with other files

In GP-Pro EX, select [Project] → [Utilities] → [Copy from Another Project].

For further details, refer to "Chapter 5 from Startup to Shutdown" in our reference manual.

However, there are issues to be aware of, such as overlapping screen numbers, so also refer to sections 3) and later.

3) Screen numbers when combining

There may be times when things get overwritten, such as when there are duplicate screen numbers.

When combining the file with a file currently being created, be aware of the screen numbers.

Refer to section "Screen transitions" for screen numbers that are being used by

the file.

When combining with 2), it is possible to designate a copy destination screen number before starting to copy. Before combining, be sure to either designate a screen number when copying, or change the screen number in advance.

When changing a screen number, be sure to also change the screen number for the screen replacement switch.

Be aware that if no changes are made to the screen replacement destination screen number, unexpected operations may occur.

#### 4) Changing addresses

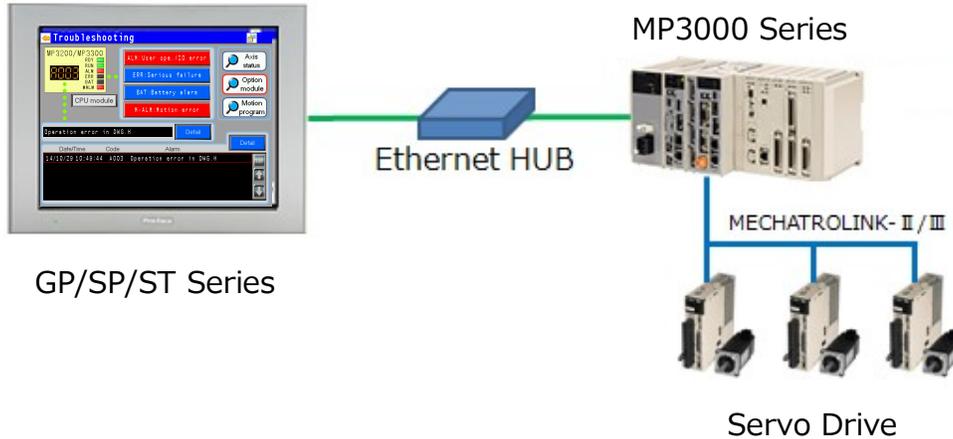
When changes are made to the address of a connection device that has been configured on the screen, it will not operate properly.

Do not make changes to these addresses.

# 4. Device Configuration

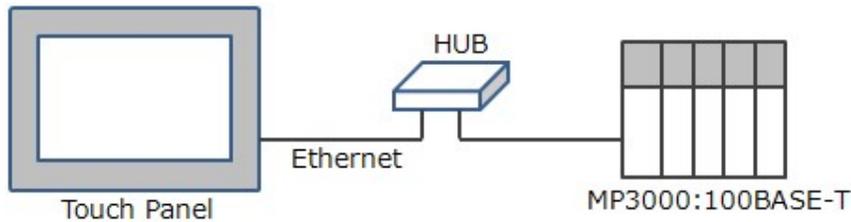
## 4-1. System Configuration

The MP3000 series controller is connected to the HMI device by Ethernet.

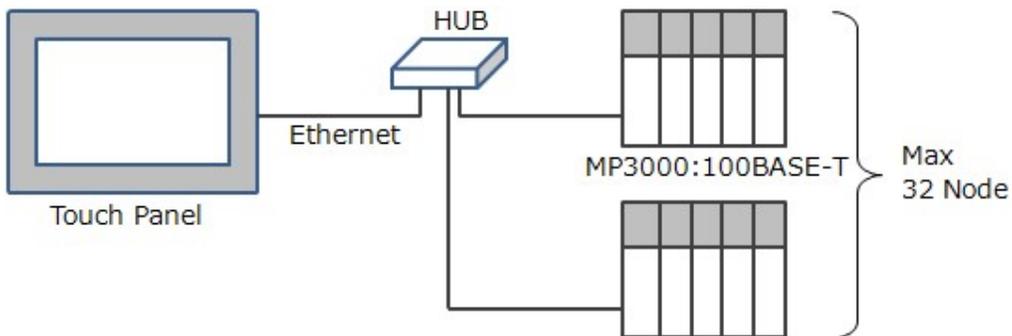


\*The connection above is an example.

### 4-1-1. 1:1 connection configuration



### 4-1-2. 1:n connection configuration



This sample project file is created for a 1:1 connection system. To use it in a 1:n connection system, you will need to modify the project.

Refer to *GP-Pro EX Device/PLC Connection Manual* for the details of connection.

## 4-2. Target HMI Devices

The following shows the display device types for use with this sample project file.

The module name below is the module selecting on GP-Pro-EX

The notation in table point the below project file.

VGA : connection\_gp4501\_v\_YAS-MP3000\_ml\_Ver301.prx  
 WVGA : connection\_sp5400\_wv\_YAS-MP3000\_ml\_Ver301.prx  
 WSVGA : connection\_st6500\_wsv\_YAS-MP3000\_ml\_Ver301.prx  
 WXGA : connection\_st6600\_wx\_YAS-MP3000\_ml\_Ver301.prx

Table 4-1 Target HMI Devices

Series	Unit / Display Module	Target project module				Remark
		VGA	WVGA	WSVGA	WXGA	
GP4000 Series	GP-4104					
	GP-4105					
	GP-4106					
	GP-4107					
	GP-4114T					
	GP-4115T					
	GP-4116T					
	GP-4115T3					GP-Pro EX Over Ver.4.07.300
	GP-4201T					
	GP-4201TM (Modular Type)					
	GP-4201TW					
	GP-4203T					
	GP-4301T					
	GP-4301TM (Modular Type)					
	GP-4301TW					
	GP-4303T					
	GP-4311HT	OK*1				GP-Pro EX Over Ver.4.06.000
	GP-4401T	OK*1				
	GP-4401WW					

	GP-4501T (Analog Touch Panel)	OK				
	GP-4501T (Matrix Touch Panel)	OK*1				
	GP-4501TW					
	GP-4503T	OK*1				
	GP-4521T	OK *1				GP-Pro EX Over Ver.4.07.300
	GP-4601T (Analog Touch Panel)	OK *2				
	GP-4601T (Matrix Touch Panel)	OK *2				
	GP-4603T	OK *2				
	GP-4621T	OK *2				GP-Pro EX Over Ver.4.07.300
	GP-4G01 VGA (640*480)	OK *1				GP-Pro EX Over Ver.4.07.000
	GP-4G01 SVGA (800*600)	OK *2				GP-Pro EX Over Ver.4.07.000
	GP-4G01 WVGA (800*480)		OK *2			GP-Pro EX Over Ver.4.07.000
	GP-4000M (Rear Modular Type)					
LT4000 Series	LT-4201TM (Modular Type DIO)					
	LT-4201TM (Modular Type Analog)					
	LT-4301TM (Modular Type DIO)					
	LT-4301TM (Modular Type Analog)					
	LT-4000M (Rear Module DIO)					
	LT-4000M (Rear Module Analog)					
SP5000 Power Box (SP-5B10)	SP-5500TP VGA (640*480)	OK *1				

SP-5500TP SVGA (800*600)	OK *2				
SP-5600TP VGA (640*480)	OK *1				
SP-5600TP SVGA (800*600)	OK *2				
SP-5600TP XGA (1024*768)					
SP-5600TA XGA (1024*768)					GP-Pro EX Over Ver.4.08.200
SP-5660TP VGA (640*480)	OK *1				
SP-5660TP SVGA (800*600)	OK *2				
SP-5660TP XGA (1024*768)					
SP-5700TP VGA (640*480)	OK *1				
SP-5700TP SVGA (800*600)	OK *2				
SP-5700TP XGA (1024*768)					
SP-5700WC FWXGA (1366*768)			OK *2	OK *2	GP-Pro EX Over Ver.4.07.300
SP-5800WC FWXGA (1366*768)			OK *2	OK *2	GP-Pro EX Over Ver.4.07.300
SP-5400WA WVGA (800*480)		OK			
SP-5500WA WXGA (1280*800)		OK *2	OK *2	OK *1	
SP-5600WA WXGA (1280*800)		OK *2	OK *2	OK *1	
DC Power Supply Adapter SVGA (800*600)	OK *2				GP-Pro EX Over Ver.4.08.000
DC Power Supply Adapter XGA (1024*768)					GP-Pro EX Over Ver.4.08.000

SP5000 Open Box (SP-5B40, SP-5B41, SP-5B41*)	SP-5500TP SVGA (800*600)	OK *2				
	SP-5600TP SVGA (800*600)	OK *2				GP-Pro EX Over Ver.4.06.100
	SP-5600TP XGA (1024*768)					
	SP-5600TA XGA (1024*768)					GP-Pro EX Over Ver.4.08.200
	SP-5660TP SVGA (800*600)	OK *2				GP-Pro EX Over Ver.4.06.100
	SP-5660TP XGA (1024*768)					
	SP-5700TP SVGA (800*600)	OK *2				GP-Pro EX Over Ver.4.06.100
	SP-5700TP XGA (1024*768)					
	SP-5700WC FWXGA (1366*768)			OK *2	OK *2	GP-Pro EX Over Ver.4.07.300
	SP-5800WC FWXGA (1366*768)			OK *2	OK *2	GP-Pro EX Over Ver.4.07.300
	SP-5400WA WVGA (800*480)		OK *1			
	SP-5500WA WXGA (1280*800)		OK *2	OK *2	OK *1	
	SP-5600WA WXGA (1280*800)		OK *2	OK *2	OK *1	
	DC Power Supply Adapter SVGA (800*600)	OK *2				GP-Pro EX Over Ver.4.06.300
	DC Power Supply Adapter Other Resolution					GP-Pro EX Over Ver.4.06.300
	SP5000 Standard Box (SP-5B00)	SP-5500TP VGA (640*480)	OK *1			
SP-5500TP SVGA (800*600)		OK *2				
SP-5600TP VGA (640*480)		OK *1				

	SP-5600TP SVGA (800*600)	OK *2				
	SP-5600TP XGA (1024*768)					
	SP-5600TA XGA (1024*768)					GP-Pro EX Over Ver.4.08.200
	SP-5660TP VGA (640*480)	OK *1				
	SP-5660TP SVGA (800*600)	OK *2				
	SP-5660TP XGA (1024*768)					
	SP-5700TP VGA (640*480)	OK *1				
	SP-5700TP SVGA (800*600)	OK *2				
	SP-5700TP XGA (1024*768)					
	SP-5700WC FWXGA (1366*768)			OK *2	OK *2	GP-Pro EX Over Ver.4.07.300
	SP-5800WC FWXGA (1366*768)			OK *2	OK *2	GP-Pro EX Over Ver.4.07.300
	SP-5400WA WVGA (800*480)		OK *1			
	SP-5500WA WXGA (1280*800)		OK *2	OK *2	OK *1	
	SP-5600WA WXGA (1280*800)		OK *2	OK *2	OK *1	
	DC Power Supply Adapter SVGA (800*600)	OK *2				GP-Pro EX Over Ver.4.08.000
	DC Power Supply Adapter XGA (1024*768)					GP-Pro EX Over Ver.4.08.000
SP5000X eXtreme Box (SP-5B90)	SP-5490WA WVGA (800*480)		OK *1			GP-Pro EX Over Ver.4.08.200
	SP-5690WA WXGA (1280*800)		OK *2	OK *2	OK *1	GP-Pro EX Over Ver.4.08.200

	SP-5790WA FWXGA (1366*768)			OK *2	OK *2	GP-Pro EX Over Ver.4.08.200
ST6000 Series	ST-6200 WA					GP-Pro EX Ver.4.09.250 以上
	ST-6400 WA		OK *1			GP-Pro EX Ver.4.09.250 以上
	ST-6500 WA			OK	OK *2	GP-Pro EX Ver.4.09.250 以上
	ST-6600 WA			OK *2	OK	GP-Pro EX Ver.4.09.250 以上
	ST-6700 WA			OK *2	OK *2	GP-Pro EX Ver.4.09.250 以上
STM6000 Series	STM-6200 WA					GP-Pro EX Ver.4.09.350 以上
	STM-6400 WA		OK *1			GP-Pro EX Ver.4.09.350 以上
	STM-6B00 WQVGA (480*272)					GP-Pro EX Ver.4.09.350 以上
	STM-6B00 (WVGA) WVGA (800*480)		OK *1			GP-Pro EX Ver.4.09.350 以上

\*1. Usable by making changes to the display type in the project file. But change layout or connection device settings if necessary.

\*2. Usable by making changes to the display model and convert resolution in the project file. But change layout or connection device settings if necessary.

\* A SD card or USB stick has be available to support all functions.

When using an Open Box (SP-5B40, SP-5B41, SP-5B41\*), SD card is required.

### 4-3. Software

No	Manufacturer	Product Name	Model	Comments
1	Schneider Electric Japan Holdings Ltd.	GP-Pro EX	PFXEXEDV40	MP Ethernet / MECHATROLINK Driver Ver.1.19.12 or later

These sample projects were created with the version of GP-Pro EX in the table below. Please update the version if it is less than the version created.

Please download the MP Ethernet/MECHATROLINK Driver (Ver.1.19.12) from our website.

#### HMI Software version

No	Notation	HMI software version	Comments
1	VGA	GP-PRO EX Ver.4.09.120	*1
2	WVGA	GP-PRO EX Ver.4.09.120	*1
3	WSVGA	GP-PRO EX Ver.4.09.300	*1
4	WXGA	GP-PRO EX Ver.4.09.300	*1

\*1: You can use the Version Reverter to version down the created software version of the project file to Ver. 4.03.000.

### 4-4. Connection Devices

The target devices to be connected with this sample project file are YASKAWA Electric Machine Controller MP3000 series. For the details of the target types, refer to *GP-Pro EX Device/PLC Connection Manual*, as well as YASKAWA Electric's catalogs and manuals.

No	Manufacturer	Product Name	Series	Model	Comments
1	YASKAWA Electric	Machine controller	MP3000 series		Ethernet is required for the host I/F.

## 4-5. Communication Settings

### 4-5-1. Pro-EX communication settings

Configure the settings as necessary according to the devices and facilities.

Refer to *GP-Pro EX Device/PLC Connection Manual* for the details of communication settings.

GP-ProEX communication settings

Key parameter settings

Parameter	Range	Initial value
Port No.	1024 - 65535	1024
Automatic	OFF - ON	ON
Timeout	1 - 127	3
Retry	0 - 255	2
Wait to	0 - 255	0

### 4-5-2. MP series settings

Use YASKAWA Electric support tool for the communication settings.

Refer to YASKAWA Electric's manual for the details.

## 4-6. Notes for using the Open Box (SP-5B40 / SP-5B41 / SP-5B41\*)

·An appropriate performance may not be attained due to loads of the program executed at the same time.

Customers are requested to perform sufficient operation check in the usage environments in customer's responsibility.

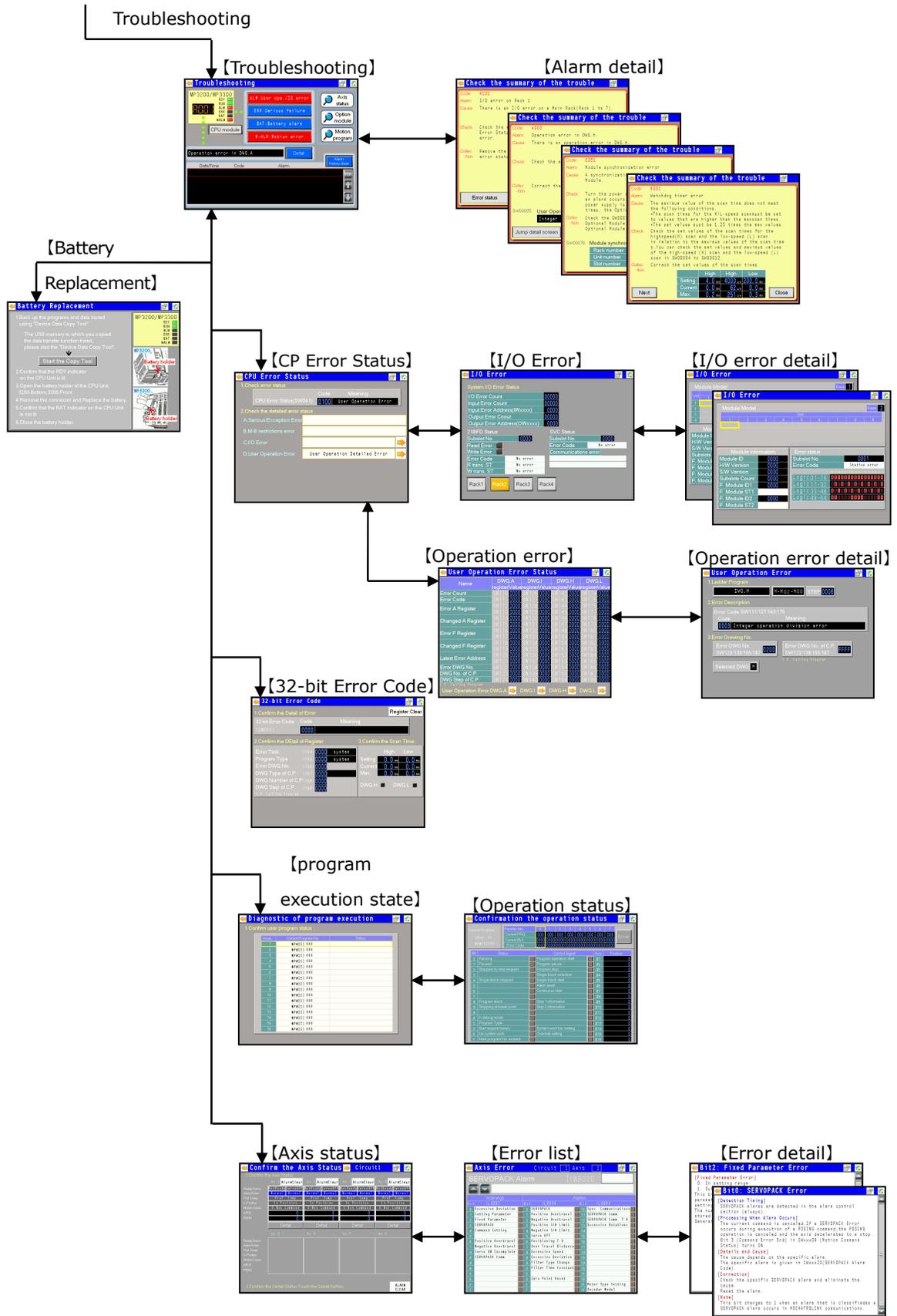
·In "Display Unit - WinGP Settings" in the GP-Pro EX, Please refer to the "Historical Data Retentive Settings-Save in" to "SRAM". "Display Settings" is set as required.

·"Storage" in the setting screen, Please set to "SD".

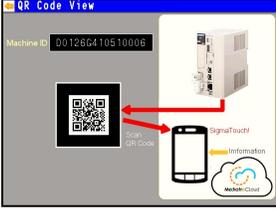
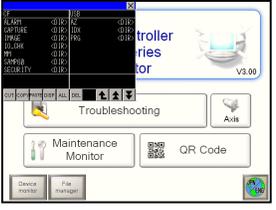
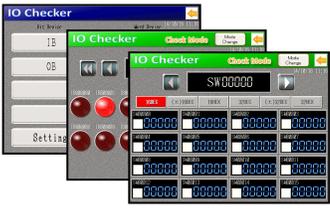
·If the write filter settings are enabled, disable them before transferring the project file. SP5000-specific functions such as "launcher" and "Write Filter", please refer to the "SP5000 series Open Box Reference Manual "

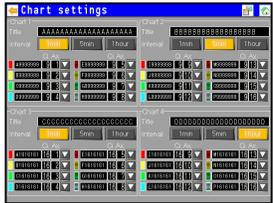
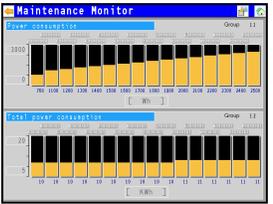
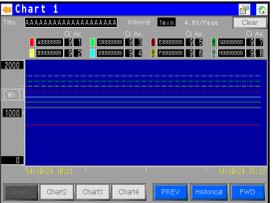


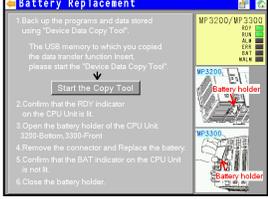
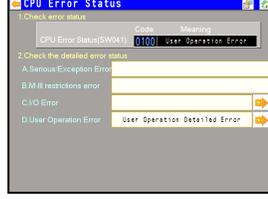
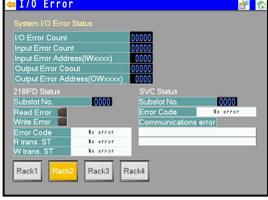
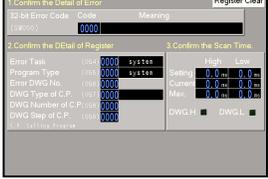


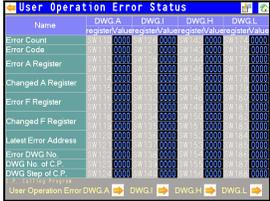
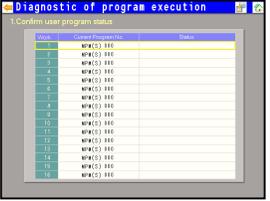
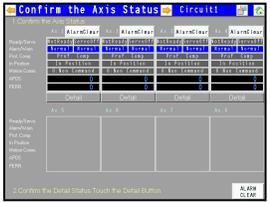


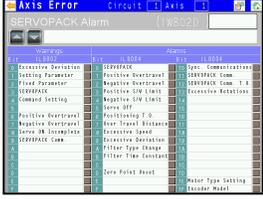
## 5-2. Processing of each screen

Screen title	Screen image	Function
Top		<p>Top screen.</p> <ul style="list-style-type: none"> <li>➤ Troubleshooting</li> <li>➤ Maintenance monitor</li> <li>➤ QR code view</li> <li>➤ The language can be switched.</li> <li>➤ Device monitor,File manager</li> </ul>
QR Code		<p>Display QR code based on the serial ID of the controller to which it is connected.</p> <ul style="list-style-type: none"> <li>➤ Read the QR code at "Sigma touch"</li> </ul>
Axis settings		<p>Sets the axis to use in advance.</p> <ul style="list-style-type: none"> <li>➤ 16circuits,16 axes max</li> </ul>
File manager		<p>Copies a file between the USB and the CF.</p>
Device monitor		<p>Displays any device of MP3000 series using a lamp and a numerical value.</p>
Maintenance Monitor		<p>Selects elements of the bar graph, makes the chart screen settings, and displays the settings.</p>

Screen title	Screen image	Function
Chart settings		<p>Selects chart display elements.</p> <ul style="list-style-type: none"> <li>➤ Displays up to 8 elements on 1 screen.</li> <li>➤ Prepares 4 chart screens.</li> <li>➤ Can select "Wh" or "Total Wh".</li> <li>➤ Data collection interval can be selected among "1 min.", "5 min.", and "1 hour".</li> </ul>
Chart axis settings		<p>Sets the axis number and the circuit number of the element to be displayed in the chart.</p> <p>Selects the one set with the maintenance monitor in MPE 720.</p>
Bar graph		<p>Displays the bar graph.</p> <ul style="list-style-type: none"> <li>➤ Selects the display of one screen/2 screens.</li> <li>➤ Switches the unit for the vertical axis.</li> <li>➤ Specifies any upper/lower limit values for the vertical axis.</li> </ul>
Chart		<p>Displays in chart.</p> <ul style="list-style-type: none"> <li>➤ Stores the data for 3 pages.</li> <li>➤ Switches the unit for the vertical axis.</li> <li>➤ Specifies any upper/lower limit values for the vertical axis.</li> <li>➤ Displays data for up to 8 axes in 1 screen.</li> </ul>
Troubleshooting		<p>Starts troubleshooting from the 7-Seg display and LDE on the CPU.</p>

Screen title	Screen image	Function
Alarm detail		<p>Displays the cause of the alarm and the action to solve the problem while an alarm is generated or based on the alarm code of the alarm history.</p> <p>When it is necessary to check the related parameters, a jump button used to display or check the information is prepared.</p>
Battery replacement		<p>Replace the battery following the replacement procedure on the screen.</p> <ul style="list-style-type: none"> <li>➤ Performs backup of programs and data with Copy tool.</li> <li>* A copy tool must be prepared in advance.</li> </ul>
CPU Error status		<p>Enables you to check the CPU error status.</p>
I/O error		<p>Enables you to check an input/output error.</p>
I/O error detail		<p>Check modules for each CPU.</p>
32-bit Error Code		<p>Enables you to check a 32-bit error code.</p>

Screen title	Screen image	Function
Operation error status		Enables you to check a user operation error status.
Operation error detail		Enables you to check details of a user operation error.
Diagnostic of program execution state		<p>Check the program.</p> <ul style="list-style-type: none"> <li>➤ Program operation status</li> <li>➤ Details of program operation status</li> <li>➤ Checking program errors</li> </ul>
Operation Status		<p>Enables you to check the execution status of the program.</p> <ul style="list-style-type: none"> <li>➤ Status</li> <li>➤ Control Signal</li> <li>➤ System Work 1-7 (Program No, Block No., and Error Code)</li> <li>➤ Current position</li> </ul>
Axis status		<p>Enables you to check the axis status.</p> <ul style="list-style-type: none"> <li>➤ Status display of Axis 1 to 16 of Circuit 1</li> <li>➤ Detailed display of alarms and warnings</li> <li>➤ Alarm clear</li> </ul>

Screen title	Screen image	Function
Axis error list		<p>Enables you to check an axis error.</p> <p>While alarms for two or more axes are generated, use the “▲” and “▼” buttons to switch the display of the servo alarm message.</p>
Alarm/Warning Detail		<p>Displays the details of an error.</p>

## 5-3. List of Screens

### 5-3-1. List of base screens

List of base screens

Screen number	Screen title	Function
B7900	World clock base screen	Wide screen
B7901	Function button base screen	Wide screen
B8199	Read initial data	Power on screen
B8200	Menu	Top screen
B8201	QR code	
B8202	System settings	
B8203	DipSW status	Not use
B8204	CPU performance	Not use
B8208	Troubleshooting(old)	Not use
B8210	Troubleshooting	
B8211	Screen change button	Image file
B8219	Axis settings	
B8220	Checking MP-CPU Module	Not use
B8230	Battery Replacement	
B8240	Confirm 32-bit Error Code	
B8250	Confirm CPU Error Status	
B8260	User Operation Error	
B8270	User Operation Error Status	
B8280	I/O Error	Call the B8330
B8281	I/O Error Rack2-4	Call the B8381
B8282	I/O Error Rack1,5-7	Call the B8382
B8283	I/O Error Rack2-4	Call the B8381
B8284	I/O Error Rack1,5-7	Call the B8382
B8285	Rack change for B8281,B8282	
B8286	Rack change for B8283,B8284	
B8290	Maintenance menu	Call the W1601
B8291	Bargraph base screen Single	
B8292	Bargraph base screen Multi	
B8293	Chart item settings	

Screen number	Screen title	Function
B8294	Chart1	
B8295	Chart2	
B8296	Chart3	
B8297	Chart4	
B8300	A101 Error status	
B8301	A101 Rack status 2-4	
B8302	A101 Rack status 1,5-7	
B8303	Rack change for B8301,B8302	
B8310	MP2200-Diatnostic Slotmodule	Not use
B8311	MP2300, MP2310-Diatnostic Slotmodule	Not use
B8312	MP2300S-Diatnostic Slotmodule	Not use
B8315	MP3200-Diatnostic Slotmodule	Not use
B8320	Diagnostic of program execution state	
B8321	Confirmation the operation status	
B8330	Confirm the Axis Status #01 to 09	
B8331	Confirm the Axis Status #09 to 16	
B8350	Axis error	
B8360	Alarm History: Servo Alarm	Alarm history Not use
B8361	Alarm History: SVB, SVC Alarm	
B8362	Alarm History: CPU Alarm	
B8363	Alarm History: Option Modules Alarm	
B8380	I/O error status	
B8381	Rack status 2-4	
B8382	Rack status 1,5-7	
B8385 -B8398	Rack status detail	
B8400 -B8418	ILxx04 (Alarm)	Motion alarm
B8450 -B8465	ILxx02 (Warning)	Motion warning
B8498	Alarm Window base screen	
B8499	Window parts foe wide screen	
B9000 -B9999	Device monitor(IO checker)	

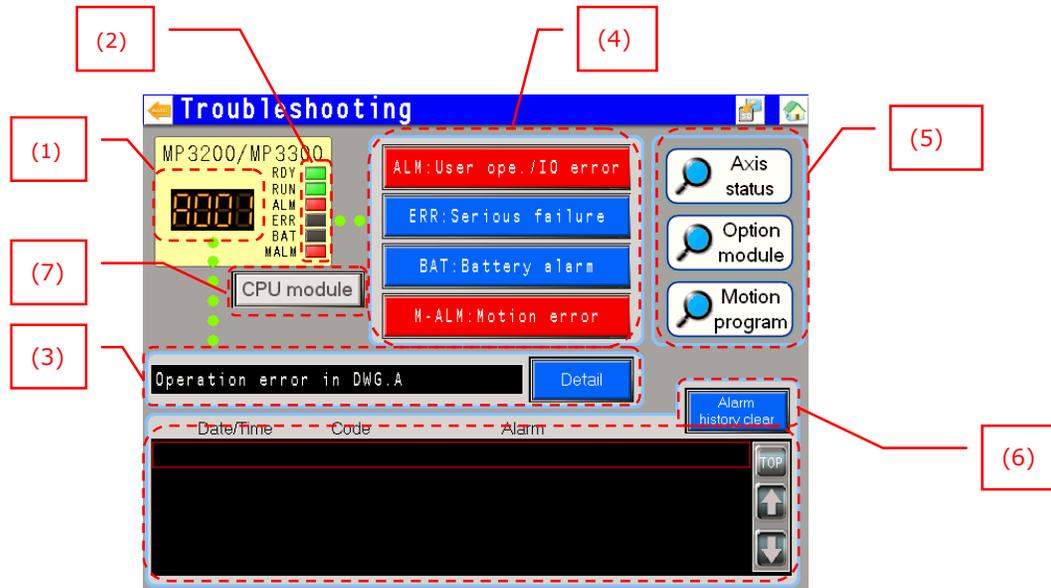
## 5-3-2. List of window screens

List of window screens

Screen number	Screen title
W1500-W1516	Alarm detail
W1517-W1518	Alarm detail not use
W1520-W1533	I/O status detail
W1540	Manual alarm
W1541	Select rack
W1600	QR code error
W1601	Bargraph lower
W1700-W1707	Bargraph Single
W1721-W1727	Bargraph upper
W1741-W1747	Bargraph lower
W1790	Select chart item
W1800-W1829	For wide screen
W1900-W1923	Device monitor(IO checker)
W1924	Restart Confirmation
W1925	Current Program No.
W1926	Motion Program Alarm
W1927	Change language

## 5-4. Troubleshooting

This screen displays the LED status of the CPU and the code of the alarm currently generated. Troubleshooting can be started with the screen as shown below.



Troubleshooting Screen

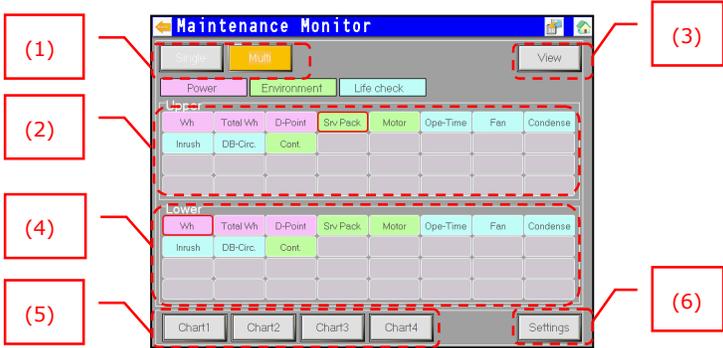
Nº	Item	Descriptions
(1)	Alarm code	Displays a code of the alarm being generated using a 4-digit numerical value. When touched, an alarm code can be input in the manual mode, and the alarm description can be checked.
(2)	Status LED	Displays the LED status of the CPU.
(3)	Alarm message	Converts the alarm code into the message for display. When the "Detail" button is pressed, the alarm details screen corresponding to the code is displayed.
(4)	Troubleshooting with LED display	Corresponds to the status LED. Press this area when a user starts the troubleshooting from the LED status.
(5)	Axis status/ Option module/ Motion program	Displays with a red frame if an alarm item is present(without axis status). Moves to the related screen when the inside of the frame is pressed.
(6)	Alarm history	Displays the alarm history of 100 alarms in the past. When the alarm is selected, the alarm details screen corresponding to the code is displayed. The "Alarm history clear" button is pressed and alarm history of MP3000 is cleared.
(7)	CPU Performance	Displays the CPU performance and DipSW settings for check.

	Display SW status	
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## 5-5. Maintenance Monitor

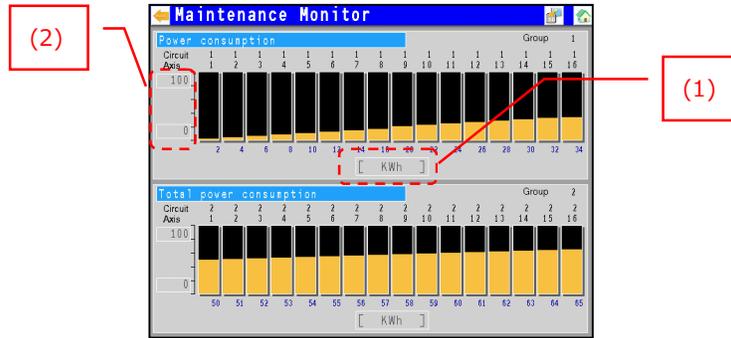
Data registered in the Maintenance Monitor settings in MPE720 is displayed in a graph.

Error settings are displayed in red characters and lines for a circuit number and an axis number in the monitor screen and the setting screen in Maintenance Monitor.



### Troubleshooting Operation

Nº	Item	Descriptions
(1)	Bar graph display selection	Selects screen display status between 1-screen display ("Single") and 2-screen display ("Multi").
(2)	Group selection	Switches the current screen to the Graph screen in the case of 1-screen display. In the case of 2-screen display, the "Upper" section is effective for group selection. "D-Point" is disabled.
(3)	2-screen display start	Enabled in the case of 2-screen display. Switches the current screen to the graph screen of the selected group.
(4)	Group selection	In the case of 2-screen display, the "Lower" section is effective for group selection. "D-Point" is disabled.
(5)	Chart screen	Switches the current screen to the chart screen.
(6)	Chart setting	Switches the current screen to the element settings for each chart screen.



Monitor Screen Operation

Nº	Item	Descriptions
(1)	Unit	Switches the units whenever this button is pressed.
(2)	Upper/Lower limit values	Allows you to input a numerical value directly when this area is touched.

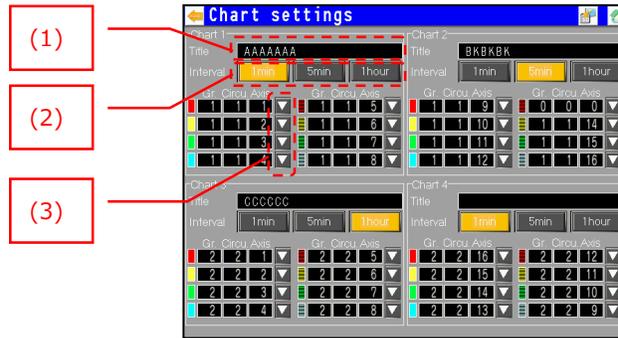
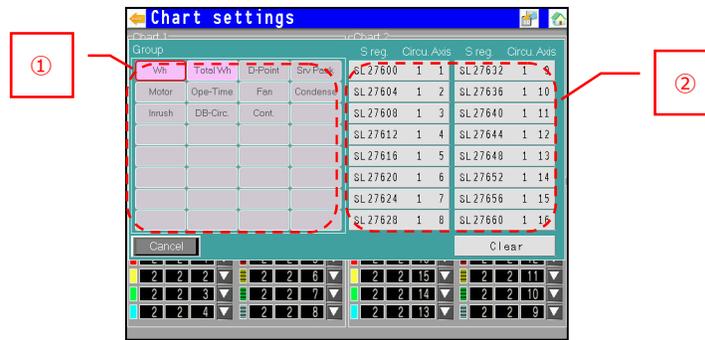


Chart Settings Screen Operation

Nº	Item	Descriptions
(1)	Title	Registers a title to be displayed in the upper section of the chart screen.
(2)	Interval	Selects the collecting interval of the chart data. 1 min: 288 min./page 5min: 24 hours/page 1 hour: 12 days/page
(3)	Axis selection	Displays the axis selection window.



Axis Selection Screen Operation in Chart Settings

Nº	Item	Descriptions
(1)	Group	Selects a group. "Total Wh" or "D-Point" can be selected.
(2)	Axis selection	Displays the axes registered in the selected group. Touch the target axis for selection.

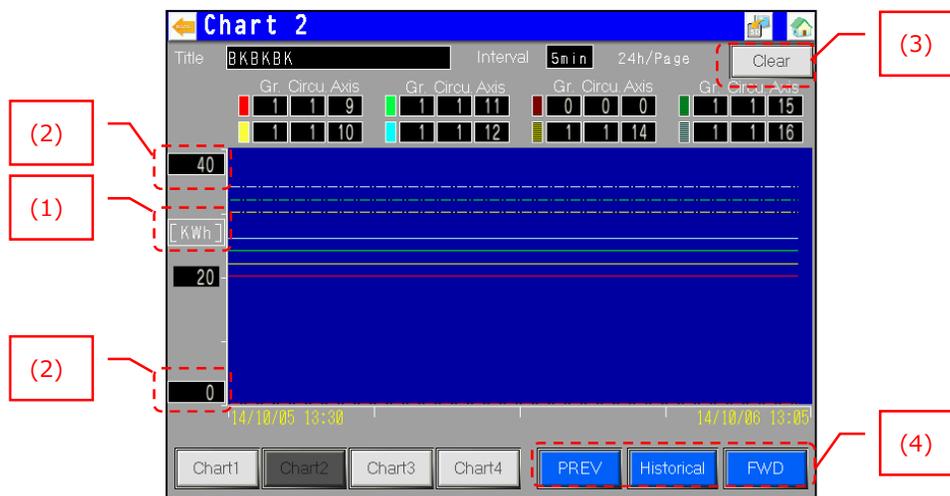


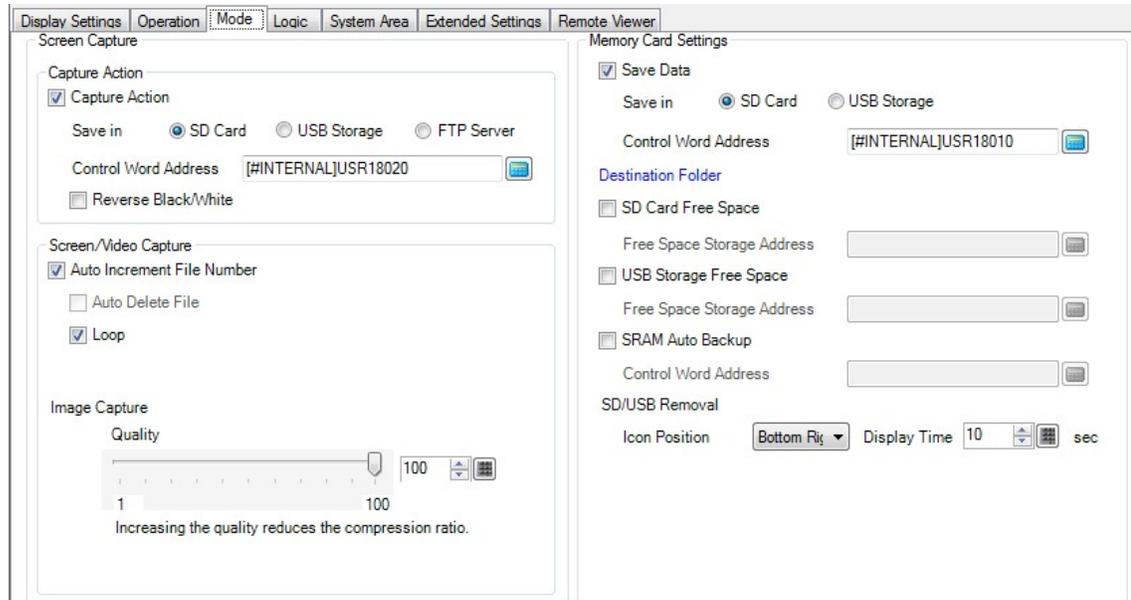
Chart Screen Operation

Nº	Item	Descriptions
(1)	Unit	Switches the units whenever this button is pressed.
(2)	Upper/Lower limit values	Allows you to input a numerical value directly when this area is touched.
(3)	Clear	Clears the graph. Use this button when the collection interval and element are changed.
(4)	Historical display	When the "Historical" button is turned in blue, press "PREV" or "FWD" button to move the time axis. There are data for 3 pages in maximum. The movement amount is a half (144 data) of 1 page.

## 6. System settings and Global script

### 6-1. Screen Capture/Memory card settings

This sample project file has the following system settings for screen capture and data saving to SD card. When using an HMI that does not support SD cards, change the data storage destination to USB storage.



Main body settings/operation settings

Capture settings

Capture action	Save in	Control address	Reverse black/white
Yes	SD Card	[#INTERNAL] USR18020	---

Screen/video capture settings

Auto increment file number	Auto delete file	Loop	Image capture
Yes	---	Yes	100

Memory card settings

Save data	Save in	Control address
Yes	SD Card	[#INTERNAL]USR18010

## 6-2. Alarm settings

Alarm Block 1 is used in this sample project file.

Settings are made to other blocks, but not used. (Old version specifications in which an alarm is recognized in a GP unit.)

Delete other blocks, if unnecessary.

Alarm  Enable Text Table [Language Change](#) 1:Table 1 Japanese

Alarm Type  Basic  Extended

Common blocks1 blocks2 blocks3 blocks4 blocks5 blocks6 blocks7 blocks8

Block Settings

Data Size	History		Log		Active	
	Use	Records	Use	Records	Use	Records
Number 1	<input type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>	76
Number 2	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Number 3	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Number 4	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Number 5	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Number 6	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Number 7	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	
Number 8	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	

Print Settings

CSV Settings

Multiple Line Message Output (Save Alarm to CSV)

Date Format yy/mm/dd

Backup History

Continue Alarm Operations at Power Up

Display as New Alarms  Hide Continuing Alarms

Alarm settings

## 6-3. Sampling settings

Sampling groups are registered in the sample project for chart display.

Sampling Group List

Display/Save As CSV, Printing Language

Language  Font Type  [Alarm Analysis Settings](#)

[New](#) [Change Attributes](#)

Group	Comment	Words	Execution Conc	Occurrences	Number of Bloc	Backup	Alarm Analysis Screen
1	Chart1	8	Bit ON	864	1	Enable	
2	Chart2	8	Bit ON	864	1	Enable	
3	Chart3	8	Bit ON	864	1	Enable	
4	Chart4	8	Bit ON	864	1	Enable	

Sampling settings

Group	Comment	Occurrences	Words	Bit	Sampling Address
1	Chart1	864	8	32	USR29500-USR29515
2	Chart2	864	8	32	USR29516-USR29531
3	Chart3	864	8	32	USR29532-USR29547
4	Chart4	864	8	32	USR29548-USR29563

Group	Trigger Bit	Data clear Bit	ACK Bit
1	_Sampling_Trigger[0].X[0]	_Sampling_Clear[0].X[0]	_Sampling_Ack[0].X[0]
2	_Sampling_Trigger[1].X[0]	_Sampling_Clear[1].X[0]	_Sampling_Ack[1].X[0]
3	_Sampling_Trigger[2].X[0]	_Sampling_Clear[2].X[0]	_Sampling_Ack[2].X[0]
4	_Sampling_Trigger[3].X[0]	_Sampling_Clear[3].X[0]	_Sampling_Ack[3].X[0]

## 6-4. Global script

Data for charts is collected with Global Script in this sample project.

ID	Comment	Trigger	Description
1	Sampling start	1 sec. each	Operated only at the time of "00" sec., and turned ON the Sampling trigger bit according to the collection cycle for each chart group.  1 min: Turned ON the trigger every minute. 5 min: Turned ON the trigger when 0, 5, 15... 55 minutes have passed. 1 hour: Turned ON the trigger at every "00" minute.
2	Sampling Ack	Always In operation	Turns OFF the trigger bit when "Sampling Ack Bit" is turned ON.

# Address Map

## USR Devices

Address	Description
USR16000	CPU type
USR16003~USR16006	Window control address
USR16007	DWG type
USR16008	Operation error counter
USR16009	Operation error code
USR16010	Operation error message text number
USR16011	Operation error DWG number
USR16012	Operation error not use
USR16013	Operation error not use
USR16014	Operation error DWG step number
USR16015	Operation error DWG number of calling program
USR16016	Operation error not use
USR16017	Operation error not use
USR16018	Operation error DWG step number of calling program
USR16019	32bit error
USR16020~USR16023	Window control address
USR16025~USR16028	Window control address
USR16029	Error code
USR16030	IFA/IFC sub slot number
USR16031	IFA/IFC error code
USR16032	IFA/IFC read/write bit
USR16033	IFA/IFC Read transmission status
USR16034	IFA/IFC Write transmission status
USR16035	SVB/SVC sub slot number
USR16036	SVB/SVC error code
USR16037	SVB/SVC ST#1-ST#15 error status
USR16038	SVB/SVC ST#16-ST#30 error status
USR16039	IO/MPUIF sub slot number
USR16052~USR16086	rack1-4 · slot1-9 module information
USR16090	top address of selected module error status
USR16091	Top address of selected module information
USR16092	Cursor slot number

Address	Description
USR16093	Cursor Rack number
USR16094	Cursor offset X
USR16095	Cursor offset Y
USR16096	Offset Address
USR16097	Module ST1 information
USR16098	Module ST2 information
USR16110	Circuit No.
USR16111	Axis No.
USR16112	Parts offset address
USR16115	ILxx02 information
USR16117	ILxx04 information
USR16119	IWxx2D information
USR16200~USR16779	Option module information
USR16810~USR16814	Option module alarm information
USR17000	Axis alarm
USR17010	Module alarm
USR17020	Program alarm
USR18010~USR18011	Memory device control address
USR18020~USR18022	Screen capture control address
USR27000~USR28079	Alarm history buffer
USR28000~USR28255	Rack1,5-7 Alarm buffer
USR29000~USR29099	QR making memory
USR29100~USR29299	Maintenance setting buffer
USR29300~USR29399	Group information buffer
USR29480~USR29485	Time data (Global script)
USR29500~USR29563	Sampling data for Chart (Global script)
USR29610~USR29642	System status
USR29700~USR29732	Module information