

Upgrade Information of MPE720 Version 7.39

1. Added and Improved Functions

1.1 Version 7.39 Upgrade Information

Items added and features improved from MPE720 version 7.38 to version 7.39 are as follows.

No.	Feature	Classification
1	Added an Auto Complete function.	New Function
2	Added the robotics solutions function.	New Function
3	Improved the function of SigmaWin+ function cooperation.	Functional Enhancement
4	Added the function that output the communication log to the communication platform.	Functional Enhancement
5	Added the "MP2000 Compatible" Mode to Real-Time Trace.	Functional Enhancement
6	Added the "Reset Absolute Encoder" to motion command of the SVC.	Functional Enhancement
7	Added the "Multiturn Limit Setting" to motion command of the SVC.	Functional Enhancement
8	Added the "Internal Axis-External Axis Timing Adjustment" function to the Sigma-7C.	Functional Enhancement
9	Added the parameter to Fixed Parameter of the Sigma-7C.	Functional Enhancement
10	Added the IMPORTLE instruction to the ladder instruction of the MP3000 series controller.	Functional Enhancement
11	Added the EXPORTLE instruction to the ladder instruction of the MP3000 series controller.	Functional Enhancement
12	Improved the motion editor display.	Improvement
13	Improved the display processing of Expression instruction.	Improvement
14	Improved the alarm detection function in the system monitor.	Improvement
15	Improved the start-up process of the MC-Configurator.	Improvement
16	Improved the transfer process of the CF card transfer.	Improvement
17	Improved the current value monitor of the AutoWatch function.	Improvement
18	Improved the version display of Sigma-7C.	Improvement

(*): When MPE720 Ver.7 before MPE720 Ver.7.11 is already installed in Windows Vista and Windows 7, it may not operate for the newest information of the servo model addition by the axial setup wizard function (the newest information added into the database) updated by after MPE720 Ver.7.13.

Please refer to the following page for operating procedures.

【About the restriction matter when using MPE720 Ver.7 in Windows Vista and Windows 7】

When MPE720 Ver.7 is used in Windows Vista and Windows 7, the following phenomena might be generated.

<Phenomena>

When MPE720 Ver.7 before MPE720 Ver.7.11 is already installed in Windows Vista and Windows 7, it may not operate for the newest information of the servo model addition by the axial setup wizard function (the newest information added into the database) updated by after MPE720 Ver.7.13.

<Measures>

Using a batch file, the following folder is deleted. (*1)

C:\Users\UserName(*2)\AppData\Local\VirtualStore\Program Files(*3)\YASKAWA\MPE720 Ver7

Procedure

1. The batch file enclosed by MPE720 Ver.7 installer is copied to a desktop.

【Download Version】

MPE720Ver7_xxx(*4)\Tools\CleanUp\MPE720Ver7_x86.bat (32bitOS)

MPE720Ver7_xxx(*4)\Tools\CleanUp\MPE720Ver7_x64.bat (64bitOS)

【DVD Media Version】

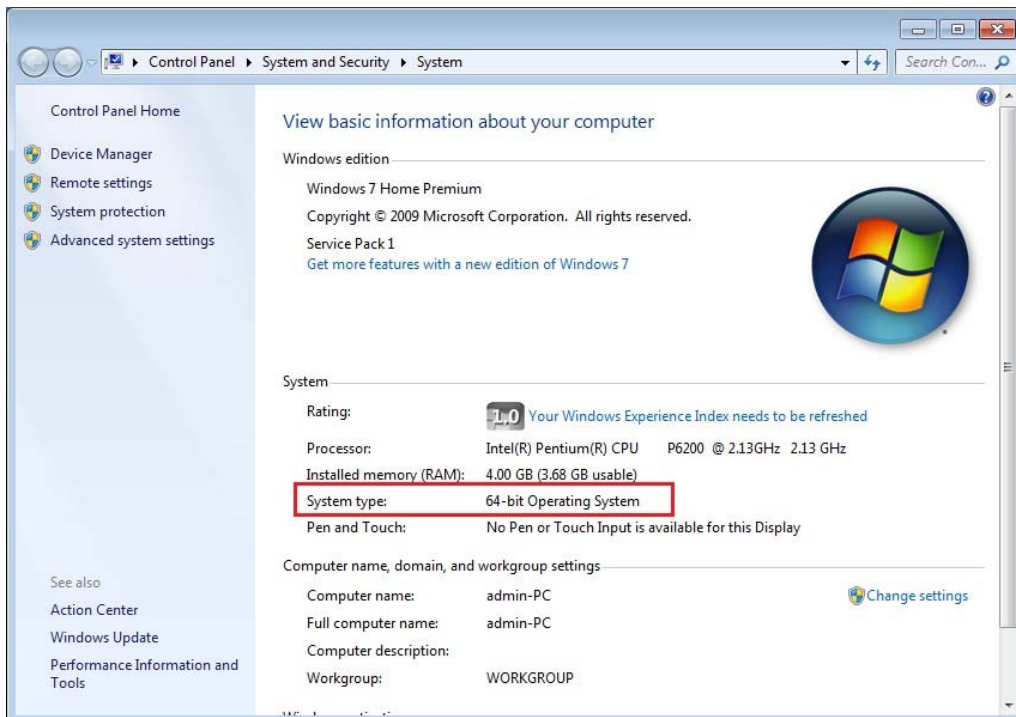
D(*5):\Tools\CleanUp\MPE720Ver7_x86.bat (32bitOS)

D(*5):\Tools\CleanUp\MPE720Ver7_x64.bat (64bitOS)

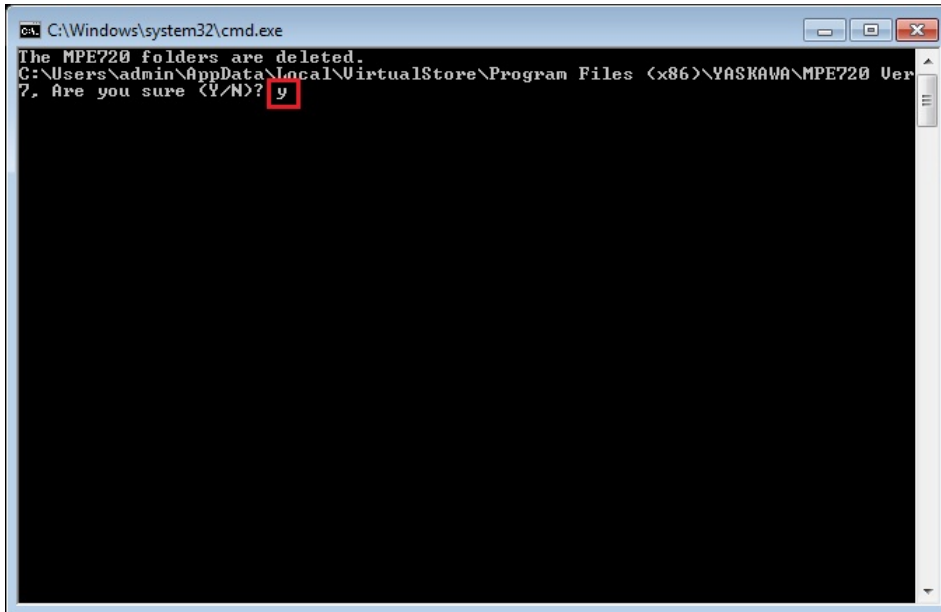
2. The copied batch file is performed.

MPE720Ver7_x86.bat (32bitOS)

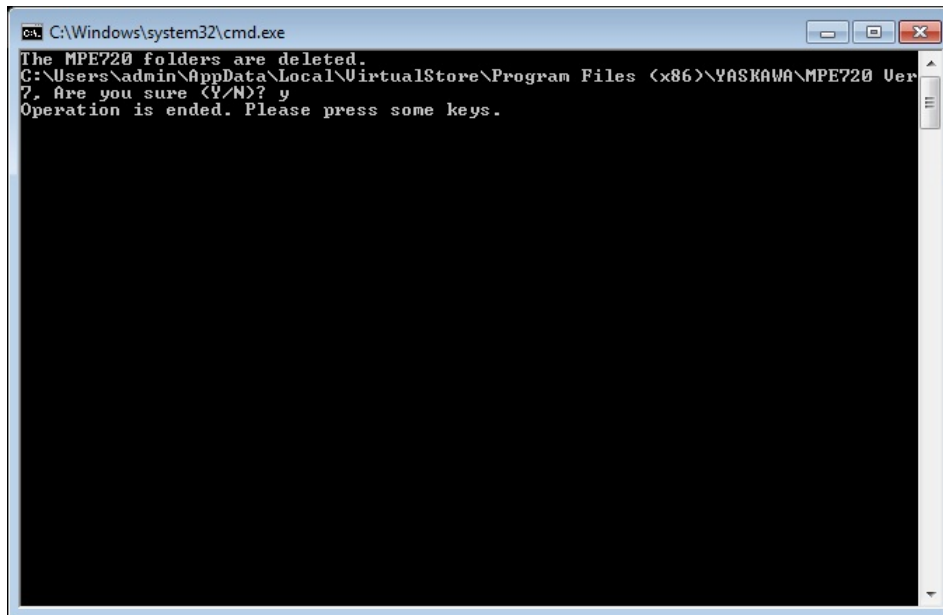
MPE720Ver7_x64.bat (64bitOS)



3. “y” is inputted on a command prompt and the Enter button is pushed.



4. The Enter button is pushed on a command prompt after deletion.



- (*1): When multi-user is using one set of PC, please operate it by each user.
- (*2): The user account name that logs in enters.
- (*3): The path changes by OS.
 - 32bitOS: Program Files
 - 64bitOS: Program Files (x86)
- (*4): The path changes by version.
- (*5): The path changes by DVD drive.
- (*6): When an installation path is changed at the time of MPE720 Ver.7 installation, please delete the “MPE720 Ver7” folder which a folder subordinate has below manually according to the installed path.
 - C:\Users¥UserName(*2)\AppData¥Local¥VirtualStore

【About compile of the parallel circuit】

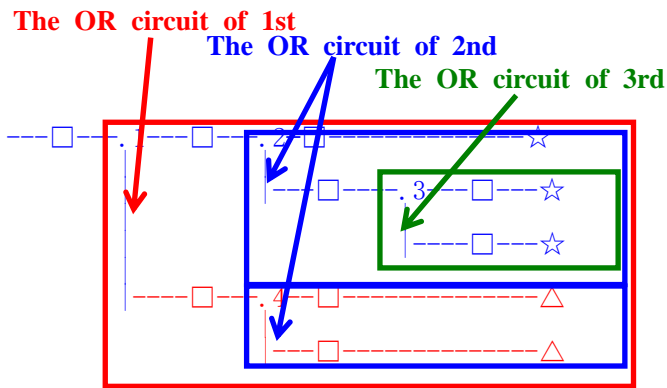
In the Ladder program of MPE720 Ver7 before MPE720 Ver7.23, when the parallel circuit is used, the following phenomena may occur.

<Phenomena>

When the circuit containing the following pattern was created, there was a phenomenon of operating without receiving the condition that the circuit below the OR circuit of 1st class must operate essentially in response to the conditional instruction before the OR circuit of 1st class.

<Measures>

When a phenomenon occurs, please carry out re-compile about the Ladder program in MPE720 Ver7 after MPE720 Ver7.24. Or please carry out again “Compile All Programs” of “Compile” menu.



The OR circuit of 1st class: The OR circuit branched from the bus-bar of language.

The OR circuit of 2nd class: The OR circuit branched out of the OR circuit of 1st class.

The OR circuit of 3rd class: The OR circuit branched out of the OR circuit of 2nd class.

□(Conditional instruction): NO Contact, NC Contact, Coil, instruction(==, !=, >, <), power line (-----) etc.

☆(Output instruction): Coil, Block instruction(Expression, STORE, COPYW) etc

※However, when all ☆ is coil commands, a phenomenon does not occur.

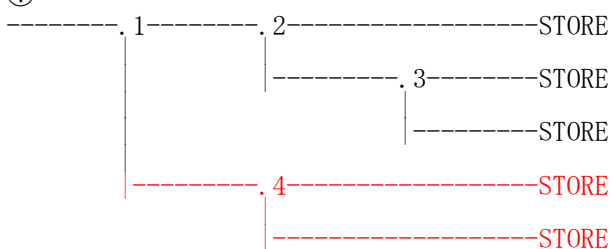
△(Output instruction): Coil, Block instruction(Expression, STORE, COPYW)etc

<Pattern>

Symbol	Instruction
	NO Contact
STORE	STORE instruction
()	Coil

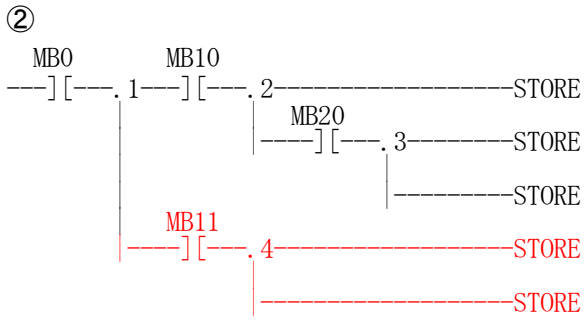
<NG Pattern>

①



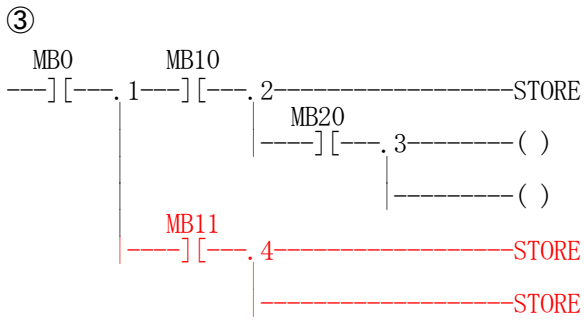
This pattern is minimum circuit pattern.

This is NG.



It is NG even if the minimum circuit pattern has conditional instructions (NO Contact etc.).

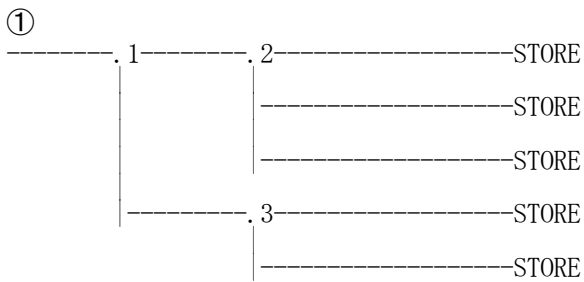
This is NG



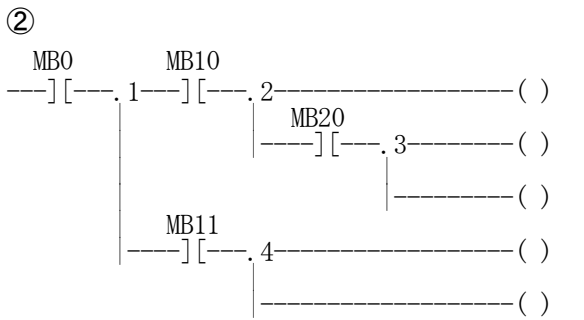
It is NG when there are at least one block commands (STORE command etc.) here.

This is NG

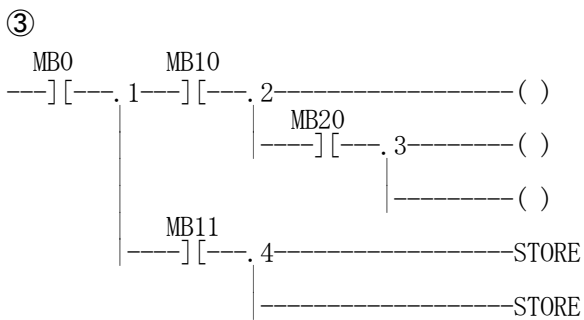
<OK Pattern>



Since it is the OR circuit of 2nd, it is OK.



Since it is the coil altogether, it is OK.



Since it is the coil altogether, it is OK.

1.2 Past Upgrade Information

No.	Upgrade Information	Remarks
1	MPE720 version 7.11 upgrade information	version 7.10→version 7.11
2	MPE720 version 7.13 upgrade information	version 7.11→version 7.13
3	MPE720 version 7.14 upgrade information	version 7.13→version 7.14
4	MPE720 version 7.20 upgrade information	version 7.14→version 7.20
5	MPE720 version 7.21 upgrade information	version 7.20→version 7.21
6	MPE720 version 7.23 upgrade information	version 7.21→version 7.23
7	MPE720 version 7.24 upgrade information	version 7.23→version 7.24
8	MPE720 version 7.26 upgrade information	version 7.24→version 7.26
9	MPE720 version 7.27 upgrade information	version 7.26→version 7.27
10	MPE720 version 7.28 upgrade information	version 7.27→version 7.28
11	MPE720 version 7.29 upgrade information	version 7.28→version 7.29
12	MPE720 version 7.30 upgrade information	version 7.29→version 7.30
13	MPE720 version 7.31 upgrade information	version 7.30→version 7.31
14	MPE720 version 7.33 upgrade information	version 7.31→version 7.33
15	MPE720 version 7.34 upgrade information	version 7.33→version 7.34
16	MPE720 version 7.35 upgrade information	version 7.34→version 7.35
17	MPE720 version 7.36 upgrade information	version 7.35→version 7.36
18	MPE720 version 7.37 upgrade information	version 7.36→version 7.37
19	MPE720 version 7.38 upgrade information	version 7.37→version 7.38

2. Description

No. 1 Added an Auto Complete function.

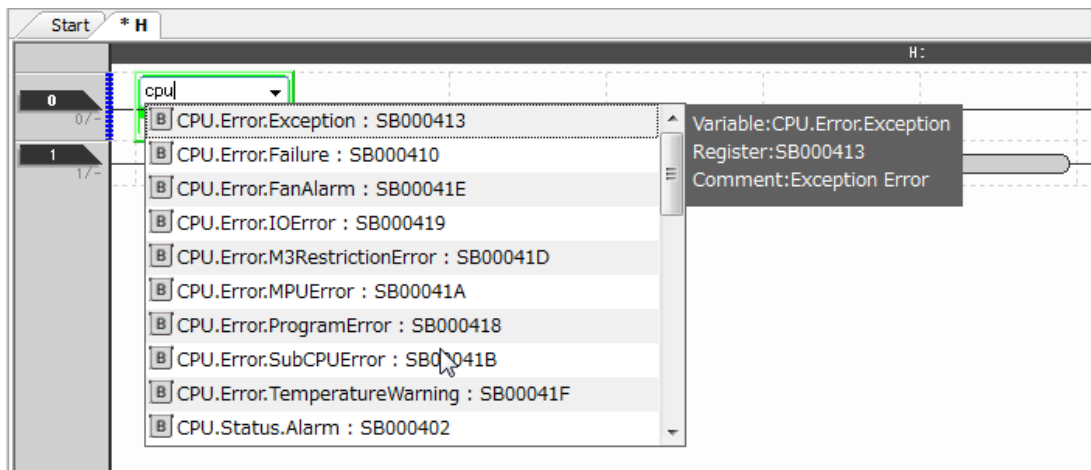
Added an Auto Complete function that displays the candidates of the registered variable when it entered the variable/register in the ladder editor.

In the register list and the Motion Editor, added the function to display the candidates of the already created program.

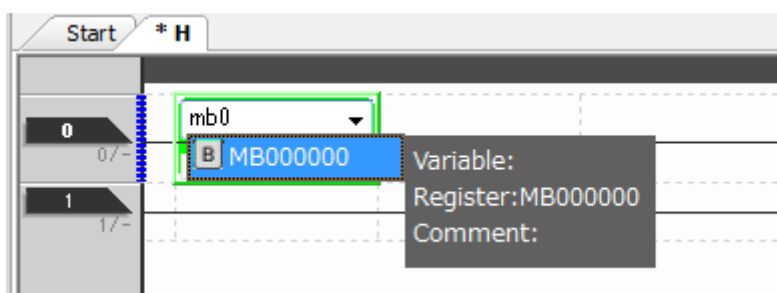
○Operand input of the ladder instructions

1. When it enters the operand of the ladder instruction, the list of Auto Complete displays the following variables that are able to enter.

- System Variable
- Axis Variable
- IO Variable
- Global Variable
- Constant Variable
- Local Variable



2. When it enters a register, a list of Auto Complete displays the register number that corresponds to the beginning.

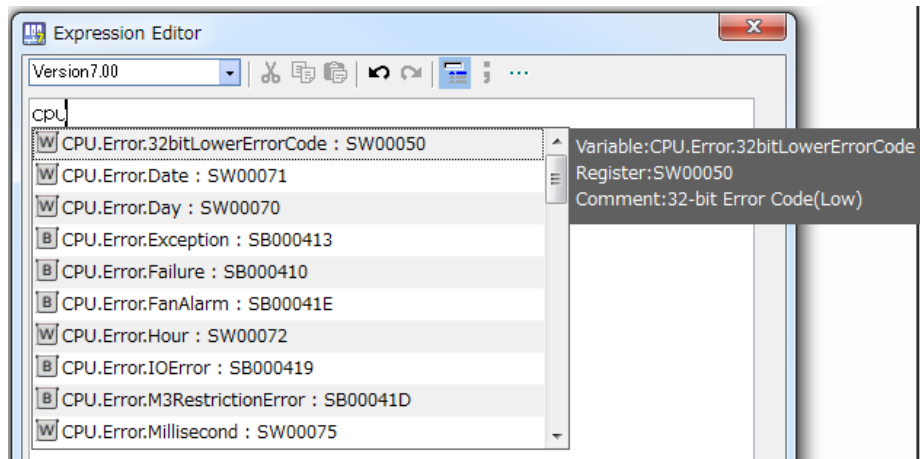


3. List of Auto Complete does not display other than the available register type and data type in the instruction.

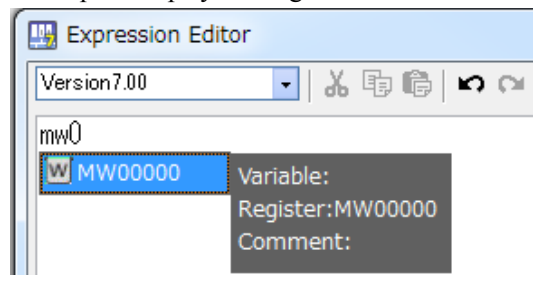
○Input of the Expression editor

1. When it enters the operand of the ladder instruction, the list of Auto Complete displays the following variables that are able to enter.

- System Variable
- Axis Variable
- IO Variable
- Global Variable
- Constant Variable
- Local Variable

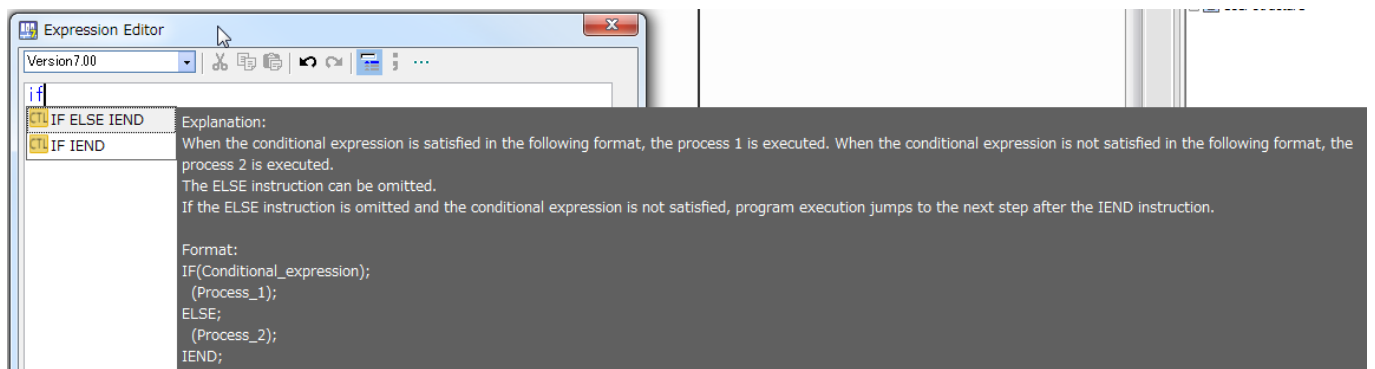


2. When it enters a register, a list of Auto Complete displays the register number that corresponds to the beginning.



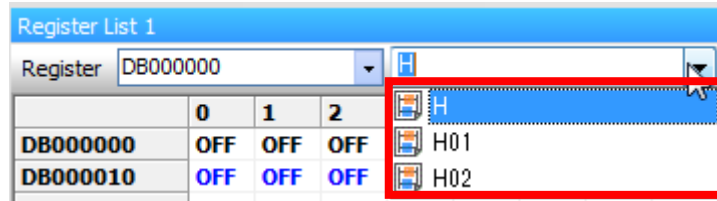
3. List of Auto Complete does not display other than the available register type and data type in the instruction.

4. Added the function to display an explanation and format of the instruction about program control instruction that can be used to the Expression instruction (IF IEND, IF ELSE END, WHILE WEND, FOR FEND).



○Program input of the register list

1. Added the function that displayed the list of selectable programs in the input point of the program number.



○User function input of the Motion Editor

1. Added the function that displayed the list of selectable user functions in the input point of the UFC/FUNC instruction.



【Support Version】

○Controller

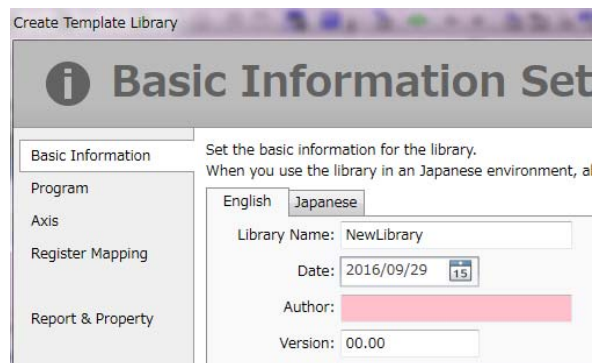
Controller	Support Version
MP3000 Series	It is not dependent on the version.
Sigma-7C	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

No. 2 Added the robotics solutions function.

Added the function that can be reuse as a library which modularized any application.

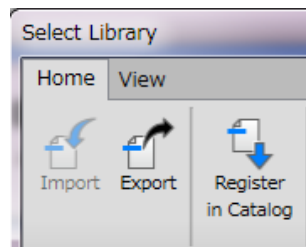
○Create Template Library function

Added the function that analyze a project file and modularize the chosen application as a library.



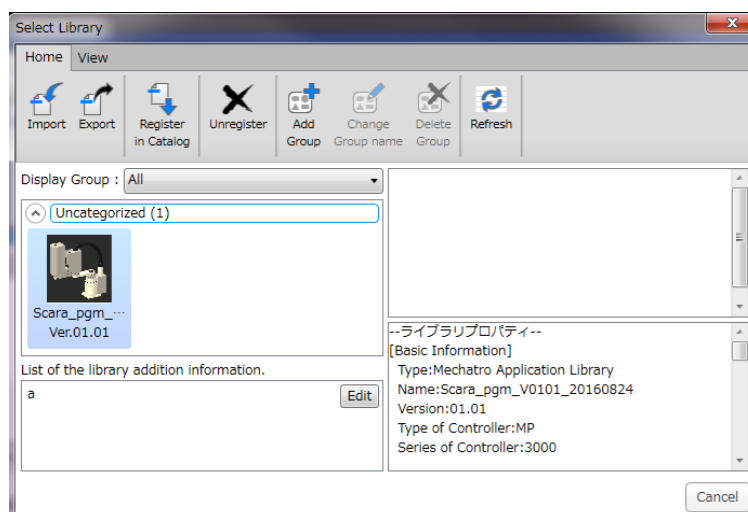
○Template Library Resister in Catalog function

Added the function that register the development information of a library and a library file to Library Catalog.



○Template Catalog function

Added the function that can be manage the imported library and refer the library as a catalog.



○Template Library development function

Added the function that imports a library in a project file.

○Document management function

Added the function to manage various document file that the library that is imported to the project file had.



【Support Version】

○Controller

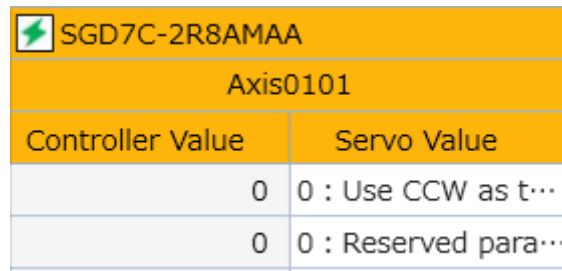
Controller	Support Version
MP3000 Series	It is not dependent on the version.
Sigma-7C	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

No. 3 Improved the function of SigmaWin+ function cooperation.

Improved the servo parameter screen of SigmaWin+Ver.7 that called from MPE720Ver.7.

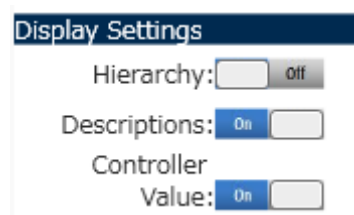
○Display of Edit Parameters screen

1. Added the function that is able to confirm the value of the servo and the value of the controller at the same time.

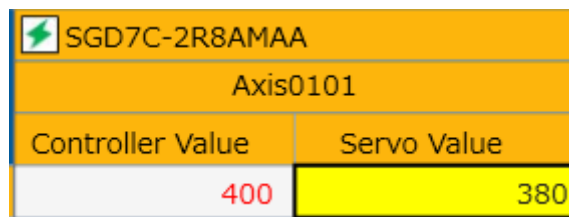


SGD7C-2R8AMAA	
Axis0101	
Controller Value	Servo Value
0	0 : Use CCW as t...
0	0 : Reserved para...

2. The indication/non-indication of the value of the controller can be changed by "Controller Value" of the Display Settings.



3. The parameter is displayed with red when there is the parameter with the difference with the value of the controller and the value of the servo.



SGD7C-2R8AMAA	
Axis0101	
Controller Value	Servo Value
400	380

○Menu of Edit Parameters

1. Added the "Controller" Tab.

2. Added the "Read Controller Values to Display" Button.

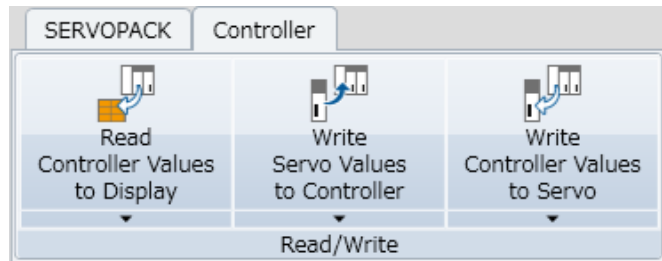
This function reloads the backup parameter of SERVOPACK stored in the controller.

3. Added the "Write Servo Values to Controller" Button.

This function writes in the value of a servo to a controller as a backup parameter.

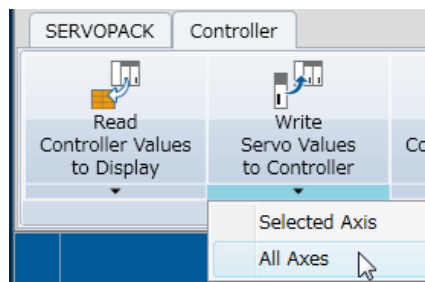
4. Added the "Write Controller Values to Servo" Button.

This function writes the backup parameter of a servo that is stored a controller to a servo.



5. Added the "All Axes" function that can be collective operation for all axes displayed by the Edit Parameters screen in the following functions.

- Read from Servo(All Parameters)
- Write to Servo(All Parameters)
- Read Controller Values to Display
- Write Servo Values to Controller
- Write Controller Values to Servo



【Support Version】

○Controller

Controller	Support Version
MP3000 Series	It is not dependent on the version.
Sigma-7C	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

○Servo Tool

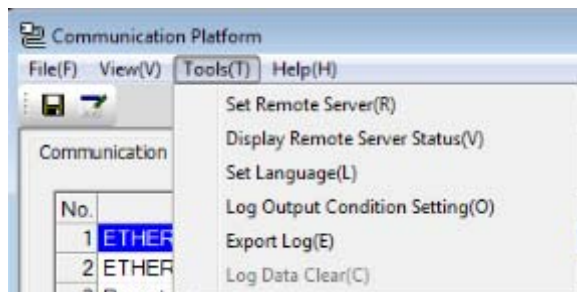
Servo Tool	Support Version
SigmaWin+Ver.7	Ver.7.16 or later

No. 4 Added the function that output the communication log to the communication platform.

Added the function to perform logging of communication data carried out through a communication platform for trouble shooting.

Added the following function to the tool menu of the communication platform.

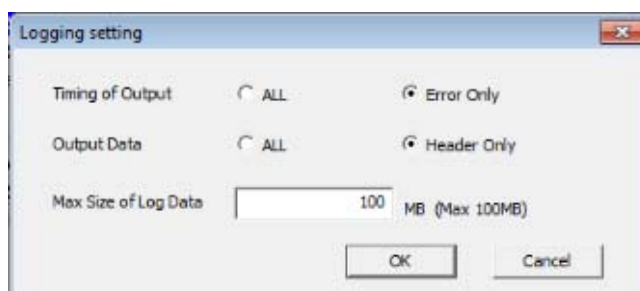
- Log Output Condition Setting
- Export Log
- Log Data Clear



○Log Output Condition Setting

This function can be set the Output Condition of communication log.

The communication platform performs logging of communication data according to an output condition.



○Export Log

Added the function that export the acquired communication log data.

○Log Data Clear

Added the function that initializes communication log data.

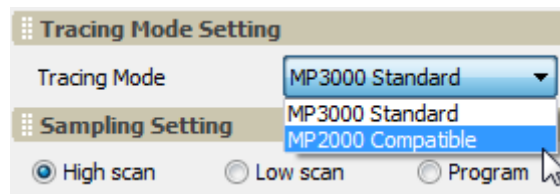
【Support Version】

○Controller

Controller	Support Version
MP3000 Series	It is not dependent on the version.
Sigma-7C	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

No. 5 Added the “MP2000 Compatible” Mode to Real-Time Trace.

Added the choice item of "Tracing Mode" (MP3000 Standard and MP2000 Compatible) to Sampling & Trigger Setting screen of the Real-Time Trace.



○MP3000 Standard Mode

1. If it writes trace definition to the controller, tracing is performed when you click the Start Trace Button.
2. If the trace start trigger turns ON after the trace stop trigger condition is established, tracing is not performed.
3. If the trace stop trigger and the trace start trigger turn ON at the same time, tracing is not performed.

○MP2000 Compatible Mode

1. If it writes trace definition to the controller, tracing is performed automatically even if you do not click the Start Trace Button.
2. If the trace start trigger turns ON after the trace stop trigger condition is established, tracing is performed automatically.
3. If the trace stop trigger and the trace start trigger turn ON at the same time, Tracing is automatically performed for one scan.

○Display of the TraceModeHelp

Added the "?" Button beside "Trace Mode" that open a PDF file that explain the specification of Trace Mode.

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	Ver1.30 or later
Sigma-7C	Ver1.01 or later
MP2000 Series	MP2000 series is not applicable.

No. 6 Added the “Reset Absolute Encoder” to motion command of the SVC.

Added the “Reset Absolute Encoder” to motion command of the SVC.

○Setting Parameter of MC-Configurator

1. Added the “22: Reset Absolute Encoder” to “Motion command: OWxx08”.
2. Added the “Reset Absolute Encoder” to List of Motion commands.

○Monitor Parameter of MC-Configurator

1. Added the “22: Reset Absolute Encoder” to “Motion command response code: IWxx08”.
2. Added the “Bit7: Absolute Encoder Reset Completed” to “Motion command status: IWxx09”.

○Setting Parameter of Engineering builder

1. Added the “22: Reset Absolute Encoder” to “Motion command: OWxx08”.

○Monitor Parameter of Engineering builder

1. Added the “22: Reset Absolute Encoder” to “Motion command response code: IWxx08”.
2. Added the “Bit7: Absolute Encoder Reset Completed” to “Motion command status: IWxx09”.

○Print builder, Axis Setup Wizard and Axis Monitor

1. Added the “22: Reset Absolute Encoder” to “Motion command”.

【Support Version】

○Controller

Controller	Support Version
MP3000 Series Built-in SVC	Ver1.30 or later
Sigma-7C Built-in SVC	Ver1.01 or later
MP2000 Series Built-in SVC	It will be supported in a future version up.

○Option Module

Module	Support Version
SVC-01	It will be supported in a future version up.

No. 7 Added the “Multiturn Limit Setting” to motion command of the SVC.

Added the “Multiturn Limit Setting” to motion command of the SVC.

○Setting Parameter of MC-Configurator

1. Added the “39: Multiturn Limit Setting” to “Motion command: OWxx08”.
2. Added the “Multiturn Limit Setting” to List of Motion commands.

○Monitor Parameter of MC-Configurator

1. Added the “39: Multiturn Limit Setting” to “Motion command response code: IWxx08”.

○Setting Parameter of Engineering builder

1. Added the “39: Multiturn Limit Setting” to “Motion command: OWxx08”.

○Monitor Parameter of Engineering builder

1. Added the “39: Multiturn Limit Setting” to “Motion command response code: IWxx08”.

○Print builder, Axis Setup Wizard and Axis Monitor

1. Added the “39: Multiturn Limit Setting” to “Motion command”.

【Support Version】

○Controller

Controller	Support Version
MP3000 Series Built-in SVC	Ver1.30 or later
Sigma-7C Built-in SVC	Ver1.01 or later
MP2000 Series Built-in SVC	It will be supported in a future version up.

○Option Module

Module	Support Version
SVC-01	It will be supported in a future version up.

No. 8 Added the “Internal Axis-External Axis Timing Adjustment” function to the Sigma-7C.

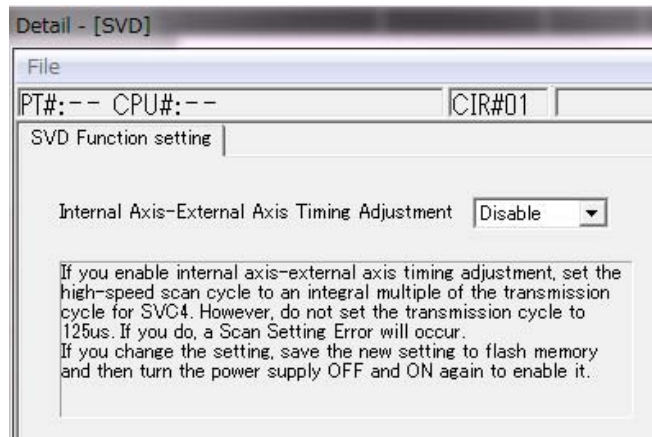
Added the “Internal Axis-External Axis Timing Adjustment” function to the Detail screen of the SVD.

• Internal Axis-External Axis Timing Adjustment

Internal Axis (SVD) and External Axis (SVC) synchronize by timing adjustment of internal axis in the SVD.

By synchronizing, the reference of the application program of Sigma-7C reaches an internal axis and the outside axis in the same timing.

By this function, up to six axes become able to synchronize in Sigma-7C.



• Added the “Bit16: Scan Setting Error” to “Alarm: ILxx04” of Monitor Parameter of the SVD

[Bit:12]Servo driver command timeout error	IB80052
[Bit:13]Excessive ABS encoder rotations	IB80053
[Bit:16]Scan Setting Error	IB80056

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	Only Sigma-7C applicable.
Sigma-7C	Ver1.01 or later
MP2000 Series	MP2000 series is not applicable.

No. 9 Added the parameter to Fixed Parameter of the Sigma-7C.

Added the “Function selection flag 1 Bit9: Simple ABS rotary Pos. mode” to Fixed Parameter of the SVD module of Sigma-7C.

1	2	*		A1 Circuit#01 Axis#01 SGD7C-*****
			0 : Selection of operation modes	0 : Normal operation mode
			1 : Function selection flag 1	0000[H]
			[Bit:0]Axis Selection	0 : Finite length axis
			[Bit:1]Soft limit (positive direction) en...	0 : Disabled
			[Bit:2]Soft limit (negative direction) e...	0 : Disabled
			[Bit:3]Overtravel (positive direction)...	0 : Disabled
			[Bit:4]Overtravel (negative direction)...	0 : Disabled
			[Bit:9]Simple ABS rotary Pos. mode	0 : Disabled

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	Only Sigma-7C applicable.
Sigma-7C	Ver1.01 or later
MP2000 Series	MP2000 series is not applicable.

No. 10 Added the IMPORTLE instruction to the ladder instruction of the MP3000 series controller.

Added the following instruction to the MP3000 series controller.

•IMPORTLE instruction

This instruction can be output by any file name by appointing the register number that stored a file name (ASCII).

Other than it, it becomes the input and output item like the IMPORTL instruction.

In addition, it carried out the following items.

1. Added the IMPORTLE instruction to Ladder instruction tree.
2. Added the IMPORTLE instruction to the compile process of Ladder instruction.
3. Added the structure of IMPORTLE instruction to the System Structure.

IMPORTLE	
[B] Execute	[B] Busy
DB000000	MB000000
[B] Abort	[B] Complete
DB000001	MB000001
[W] Drv-No	[B] Error
MW00020	MB000002
[L] Size	
ML00100	
[W] Ch-No	
MW00020	
[A] Dest	
MA00010	
[A] Param	
MA00100	
[A] FILENAME	
MA00500	

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	Ver1.30 or later
Sigma-7C	Ver1.01 or later
MP2000 Series	MP2000 series is not applicable.

No. 11 Added the EXPORTLE instruction to the ladder instruction of the MP3000 series controller.

Added the following instruction to the MP3000 series controller.

•EXPORTLE instruction

This instruction can be output by any file name by appointing the register number that stored a file name (ASCII).

Other than it, it becomes the input and output item like the EXPORTL instruction.

In addition, it carried out the following items.

1. Added the EXPORTLE instruction to Ladder instruction tree.
2. Added the EXPORTLE instruction to the compile process of Ladder instruction.
3. Added the structure of EXPORTLE instruction to the System Structure.

EXPORTLE	
[B] Execute	[B] Busy
DB000000	MB000000
[B] Abort	[B] Complete
DB000001	MB000001
[W] Drv-No	[B] Error
MW00010	MB000002
[L] Size	
ML00100	
[W] Ch-No	
MW00020	
[A] Src	
MA00010	
[A] Str	
MA00100	
[A] Param	
MA01000	
[A] FILENAME	
MA00050	

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	Ver1.30 or later
Sigma-7C	Ver1.01 or later
MP2000 Series	MP2000 series is not applicable.

No. 12 Improved the motion editor display.

In the motion editor, if the last character of the line was a double-byte characters, there was a phenomenon in which the error message is displayed when it moved the line with the cursor key. So, improved so that the motion editor works correctly even if the last character of the line was a double-byte characters when it moved the line with the cursor key.

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	It is not dependent on the version.
Sigma-7C	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

No. 13 Improved the display processing of Expression instruction.

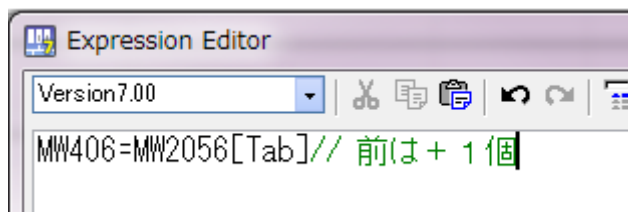
In the Expression instruction, there was a phenomenon that garbled when it wrote the following comment. So, improved the phenomenon that garbled in the Expression instruction.

Ex.) MW406=MW2056[Tab]// 前は+1個

<Before Modification>



<After Modification>



【Support Version】

○Controller

Controller	Support Version
MP3000 Series	It is not dependent on the version.
Sigma-7C	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

No. 14 Improved the alarm detection function in the system monitor.

1. When the alarm LED (SB000402) was ON and the 7SEG state (SW16200) was not equal 0, there was a phenomenon that can not be detected an alarm in the System Monitor. So, improved so that the system monitor can be detected the alarm.

2. If an alarm occurred in the 17 axes subsequent servo of the SVC32, there was a phenomenon that can not be detected alarm. So, improved so that it can be monitor the status of number of the axis with the motion register the size of the module configuration definition.

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	It is not dependent on the version.
Sigma-7C	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

No. 15 Improved the start-up process of the MC-Configurator.

In a project file that converted from MP920 to MP2200-04 by the application conversion function of MPE720 Ver.5, if it started the MC-Configurator, there was a phenomenon that can not be started due to an error message. So, improved so that the project file is started correctly if it started the MC-Configurator in a project file that converted from MP920 to MP2200-04 by the application conversion function of MPE720 Ver.5.

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	It is not dependent on the version.
Sigma-7C	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

No. 16 Improved the transfer process of the CF card transfer.

In the "Write to CF card (Media)", if it set the target to "MP controller's" and default folder (MP_BKUP¥BACKUP) was not existed, there was a phenomenon that can not be transferred due to an error message. So, improved so that transfer is executed to after that it created a folder if it set the target to "MP controllers" and default folder (MP_BKUP¥BACKUP) was not existed in the "Write to CF card (Media)".

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	It is not dependent on the version.
Sigma-7C	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

No. 17 Improved the current value monitor of the AutoWatch function.

Variables that declare a variable in the motion program were not able to monitor the current value in the AutoWatch function. So, improved so that variables that declare a variable in the motion program are able to monitor the current value in the AutoWatch function.

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	It is not dependent on the version.
Sigma-7C	It is not dependent on the version.
MP2000 Series	It is not dependent on the version.

No. 18 Improved the version display of Sigma-7C.

In the version display function of the module configuration definition screen of the MC-Configurator, there was a phenomenon in which the version of the Sigma-7C is displayed as 0000H. So, improved so that the version of the Sigma-7C is displayed correctly in the version display function of the module configuration definition screen of the MC-Configurator.

【Support Version】

○Controller

Controller	Support Version
MP3000 Series	Only Sigma-7C applicable.
Sigma-7C	It is not dependent on the version.
MP2000 Series	MP2000 series is not applicable.