

## Upgrade Information of MPE720 Version 7.50

### 1. Added and Improved Functions

#### 1.1 Version 7.50 Upgrade Information

Items added and features improved from MPE720 version 7.47 to version 7.50 are as follows.

No.	Feature	Classification
1	Addition of function to import cam tool data to table data.	Newly added
2	Addition of string operation instructions.	Functional Enhancement
3	Addition of storage operation instructions.	Functional Enhancement
4	Addition of instructions for indirectly specifying data in tables to table manipulation instructions.	Functional Enhancement
5	Improvement of EDS file reading function of the 263IF-01 Optional Module	Improvement
6	Improved the process of inserting set values in the Motion Command Assist function of the motion program.	Improvement
7	It is now possible to set the value of C register in hexadecimal format.	Improvement
8	Improvement of behavior of the self-configuration when a different manufacturer's I/O is used.	Improvement
9	Fixed the issue that the certain operation terminates MPE unexpectedly.	Improvement
10	Improved the behavior of CP ladder conversion.	Improvement
11	Solution to problem when SigmaWin+ could not be started under specific conditions.	Improvement
12	Improvement of behavior when the 17th tab page is displayed in the Main Pane.	Improvement
13	Solution to compiling error that occurred when "D" or "F" was used in labels for PFORK and SFORK instructions.	Improvement
14	Improvement of behavior of EXPRESSION instruction.	Improvement
15	Improvement of behavior when "C_C_□" is entered in the Variable Name of the Constant Definition Dialog Box.	Improvement
16	Improvement of behavior of constant variables that use " _".	Improvement
17	Improved the error code display in Axis Setup Wizard under certain conditions.	Improvement
18	Improvement of behavior when an axis is copied and pasted in the Module Configuration Tab Page.	Improvement
19	Improvement of behavior when allocation of SERVOPACK is deleted.	Improvement
20	Improvement of behavior of data acquisition by the Maintenance Monitor.	Improvement
21	Corrected the problem where MPE is forcibly terminated when 17 or more axes are allocated on maintenance monitor setting.	Improvement
22	A new message is added to the maintenance monitor setting to notify user user to delete device when the inapplicable device is selected.	Improvement
23	Improvement of behavior of Autocomplete function	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】

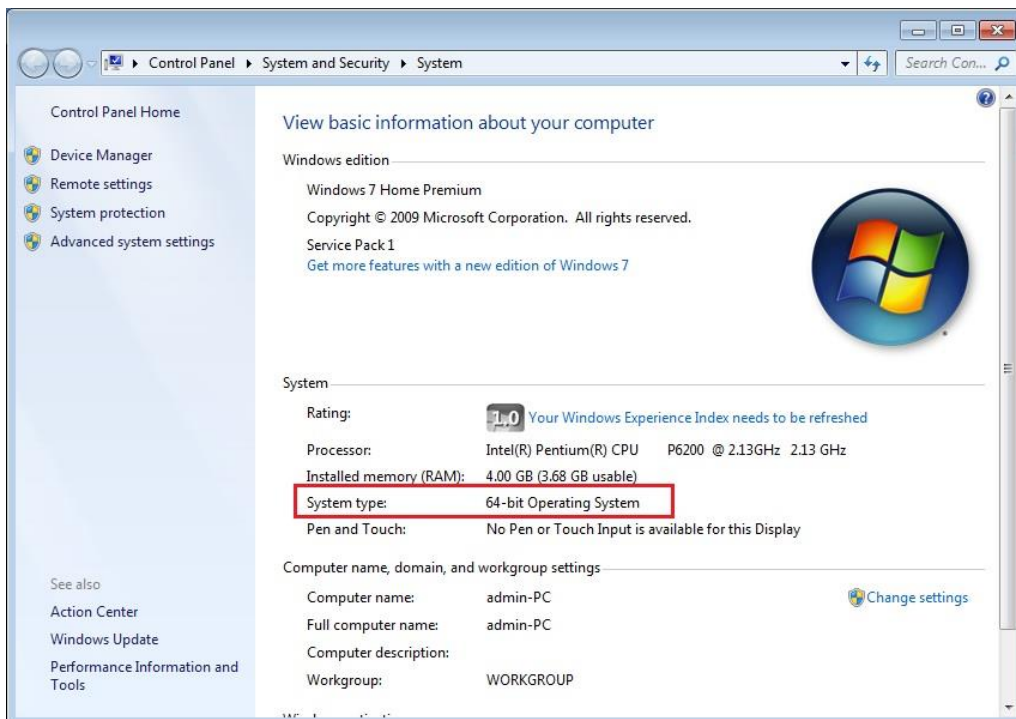
D(\*5):\Tools\CleanUp\MPE720Ver7\_x86.bat (32bitOS)

D(\*5):\Tools\CleanUp\MPE720Ver7\_x64.bat (64bitOS)

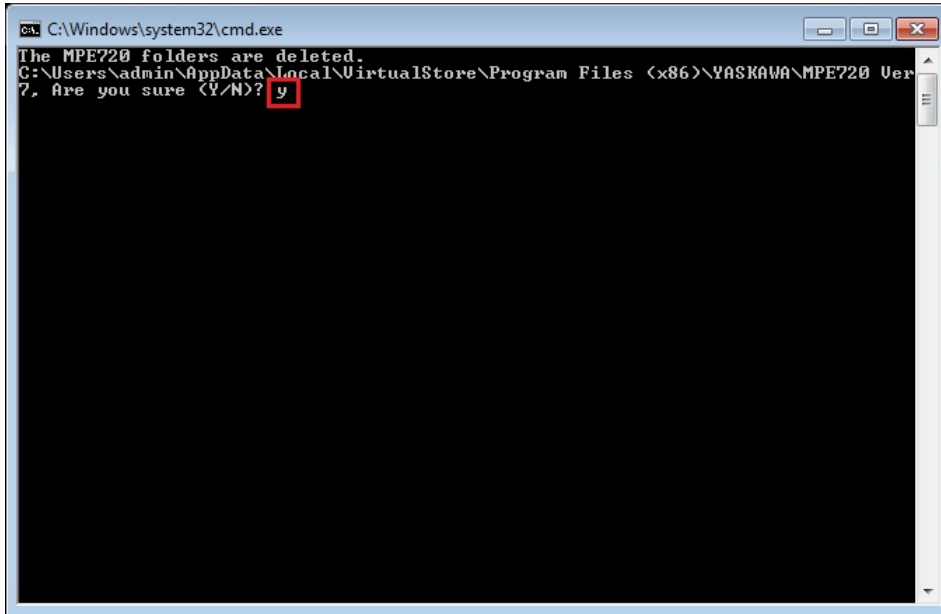
2. The copied batch file is performed.

MPE720Ver7\_x86.bat (32bitOS)

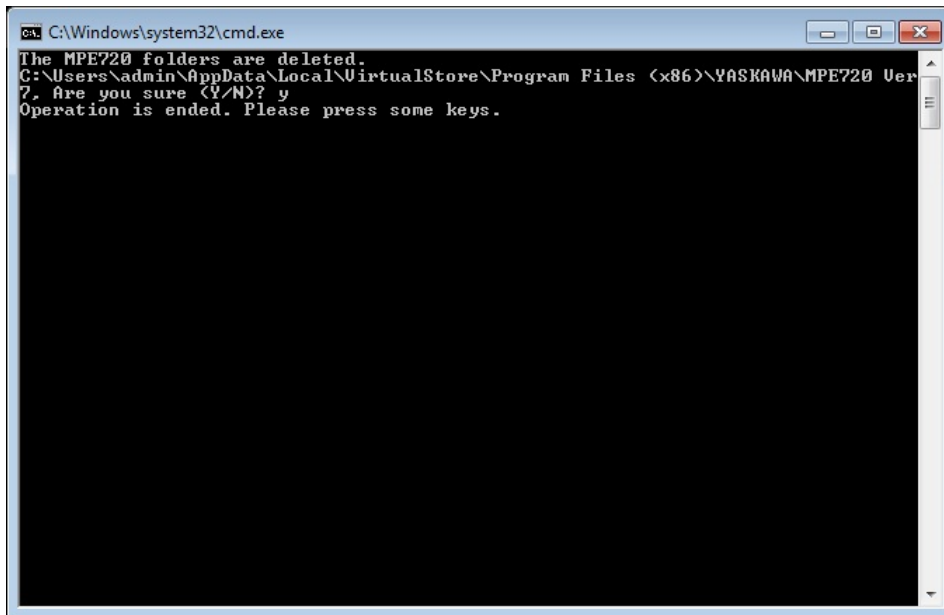
MPE720Ver7\_x64.bat (64bitOS)



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】

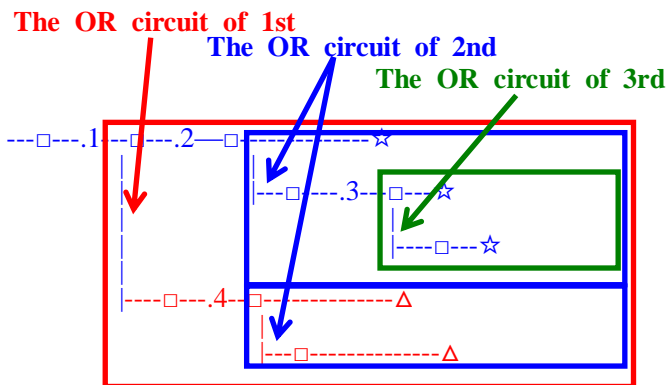
In the Ladder program of MPE720 Ver7 before MPE720 Ver7.23, when the parallel circuit is used, the following phenomena may occur.

<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 1<sup>st</sup> class must operate essentially in response to the conditional instruction before the OR circuit of 1<sup>st</sup> 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.

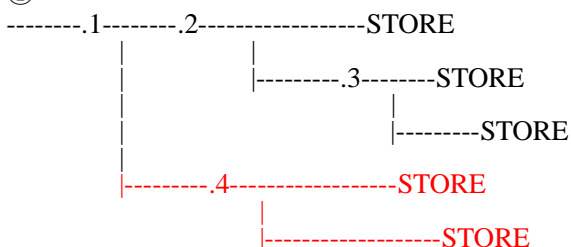
△(Output instruction): Coil, Block instruction(Expression, STORE, COPYW)etc

<Pattern>

Symbol	Instruction
[	NO Contact
STORE	STORE instruction
()	Coil

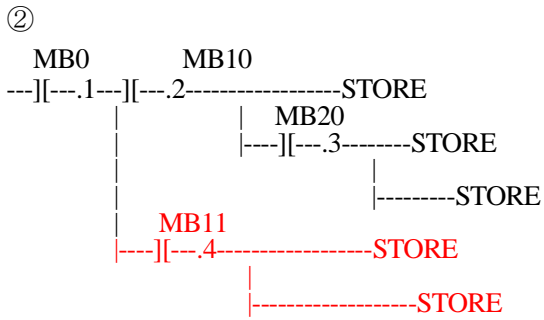
<NG Pattern>

①



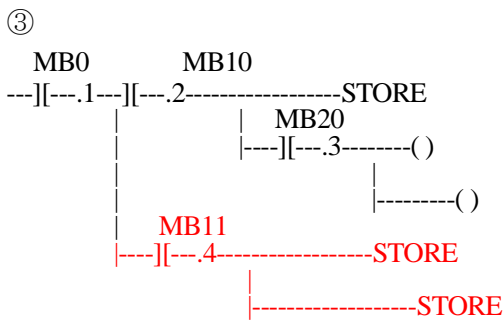
This pattern is minimum circuit pattern.

This is NG.



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

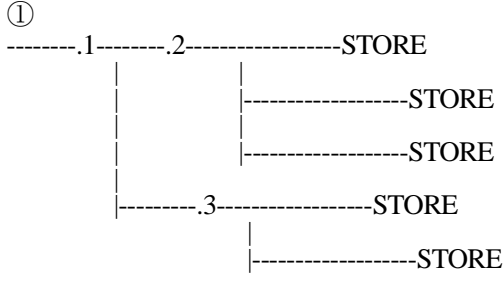
This is NG



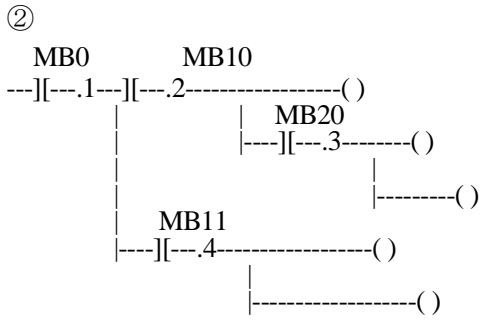
It is NG when there are at least one block commands (STORE command etc.) here.

This is NG

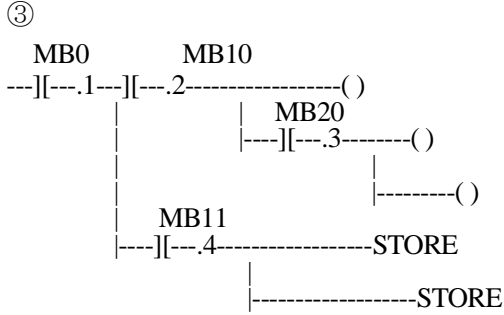
<OK Pattern>



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

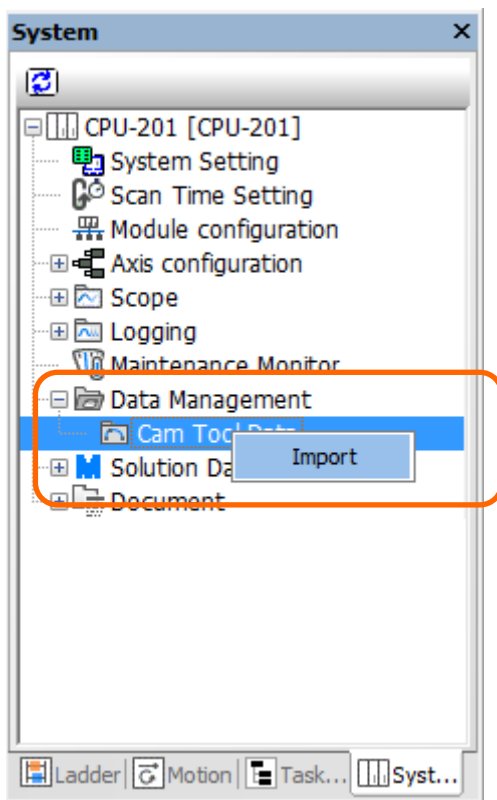
No.	Upgrade Information	Remarks
1	<a href="#">MPE720 version 7.11 upgrade information</a>	version 7.10→version 7.11
2	<a href="#">MPE720 version 7.13 upgrade information</a>	version 7.11→version 7.13
3	<a href="#">MPE720 version 7.14 upgrade information</a>	version 7.13→version 7.14
4	<a href="#">MPE720 version 7.20 upgrade information</a>	version 7.14→version 7.20
5	<a href="#">MPE720 version 7.21 upgrade information</a>	version 7.20→version 7.21
6	<a href="#">MPE720 version 7.23 upgrade information</a>	version 7.21→version 7.23
7	<a href="#">MPE720 version 7.24 upgrade information</a>	version 7.23→version 7.24
8	<a href="#">MPE720 version 7.26 upgrade information</a>	version 7.24→version 7.26
9	<a href="#">MPE720 version 7.27 upgrade information</a>	version 7.26→version 7.27
10	<a href="#">MPE720 version 7.28 upgrade information</a>	version 7.27→version 7.28
11	<a href="#">MPE720 version 7.29 upgrade information</a>	version 7.28→version 7.29
12	<a href="#">MPE720 version 7.30 upgrade information</a>	version 7.29→version 7.30
13	<a href="#">MPE720 version 7.31 upgrade information</a>	version 7.30→version 7.31
14	<a href="#">MPE720 version 7.33 upgrade information</a>	version 7.31→version 7.33
15	<a href="#">MPE720 version 7.34 upgrade information</a>	version 7.33→version 7.34
16	<a href="#">MPE720 version 7.35 upgrade information</a>	version 7.34→version 7.35
17	<a href="#">MPE720 version 7.36 upgrade information</a>	version 7.35→version 7.36
18	<a href="#">MPE720 version 7.37 upgrade information</a>	version 7.36→version 7.37
19	<a href="#">MPE720 version 7.38 upgrade information</a>	version 7.37→version 7.38
20	<a href="#">MPE720 version 7.39 upgrade information</a>	version 7.38→version 7.39
21	<a href="#">MPE720 version 7.40 upgrade information</a>	version 7.39→version 7.40
22	<a href="#">MPE720 version 7.41 upgrade information</a>	version 7.40→version 7.41
23	<a href="#">MPE720 version 7.42 upgrade information</a>	version 7.41→version 7.42
24	<a href="#">MPE720 version 7.43 upgrade information</a>	version 7.42→version 7.43
25	<a href="#">MPE720 version 7.44 upgrade information</a>	version 7.43→version 7.44
26	<a href="#">MPE720 version 7.45 upgrade information</a>	version 7.44→version 7.45
27	<a href="#">MPE720 version 7.46 upgrade information</a>	version 7.45→version 7.46
28	<a href="#">MPE720 version 7.47 upgrade information</a>	version 7.46→version 7.47

## 2. Description

### No. 1 Addition of function to import cam tool data to table data.

**Data Management - Cam Tool Data** has been added to the System Pane.

With this function, cam tool data in cdt format can be converted to table data and imported. The imported data can also be displayed in a list.



[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

## No. 2 Addition of string operation instructions.

String operation has been added to the Ladder Instruction Pane as a new category. String operation includes the following instructions.

- Convert Integer to String (INT2STR)
- Convert Real Number to String (REAL2ST)
- Convert String to Integer (STR2INT)
- Convert String to Real Number (STR2REAL)
- Store String (STRSET)
- Partially Delete String (STRDEL)
- Copy String (STRCPY)
- Get String Length (STRLEN)
- Concatenate Strings (STRCAT)
- Compare Strings (STRCMP)
- Insert String (STRINS)
- Find String (STRFIND)
- Extract String (STREXTR)
- Extract String from End (STREXTRE)
- Delete Spaces at String Ends (STRTRIM)

[Supported Versions]

○ Controller

Controller	Supported Firmware Versions
MP3000 Series	Ver.1.47 or later
Σ-7 Series	Ver.1.12 or later
MP2000 Series	Not supported by the MP2000 Series.



### No. 3 Addition of storage operation instructions.

Improvements have been made so that waveforms will be displayed in a graph in real time when an MP2000-series Machine Controller is used and the Real Time Display Check Box is selected for Real-Time Trace function.

Storage operation has been added to the Ladder Instruction Pane as a new category. Storage operation includes the following instructions.

- Open File (FOPEN)
- Close File (FCLOSE)
- Read Data from File (FREAD)
- Write Data to File (FWRITE)
- Set File Position Indicator (FSEEK)
- Read Line from File to String (FGETS)
- Write String to File (FPUTS)
- Copy File (FCOPY)
- Delete File (FREMOVE)
- Rename File (FRENAME)
- Create Directory (DCREATE)
- Delete Directory (DREMOVE)
- Send File to FTP Server (FTPPUT)

[Supported Versions]

○Controller

Controller	Supported Firmware Versions
MP3000 Series	Ver.1.47 or later
Σ-7 Series	Ver.1.12 or later
MP2000 Series	Not supported by the MP2000 Series.

#### No. 4 Addition of instructions for indirectly specifying data in tables to table manipulation instructions.

The following instructions have been added to the TABLE category of the Ladder Instruction Pane. These instructions are used to specify data in tables with a register (indirect designation), not with a text string.

- Read Table Block (TBLBRE)
- Write Table Block (TBLBWE)
- Search for Table Row (TBLSRLE)
- Search for Table Column (TBLSRCE)
- Clear Table Block (TBLCLE)
- Move Table Block (TBLMVE)
- Read Queue Table (QTBLRE)
- Read Queue Table (QTBLRIE)
- Write Queue Table (QTBLWE)
- Write Queue Table (QTBLWIE)
- Clear Queue Table Pointer (QTBLCLE)

[Supported Versions]

○ Controller

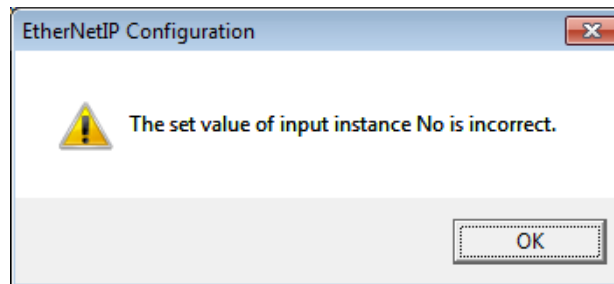
Controller	Supported Firmware Versions
MP3000 Series	Ver.1.47 or later
Σ-7 Series	Ver.1.12 or later
MP2000 Series	Not supported by the MP2000 Series.

## No. 5 Improvement of EDS file reading function of the 263IF-01 Optional Module.

Improved the reading behavior of instance No. and size described in EDS file.

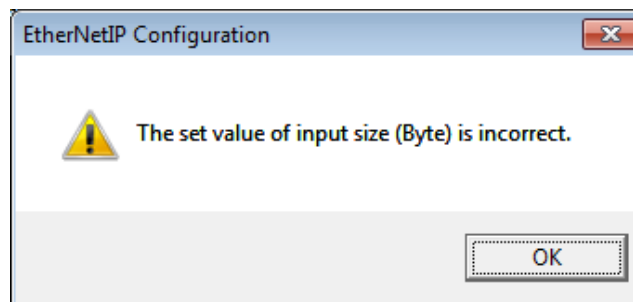
### 1) Instance No.

- In the earlier version, only “2C” was used to identify the instance number. In the upgraded version, “2D 00” is also used to identify the instance number.
- In the earlier version, only “[Param□]“ was identified as the parameter. In the upgraded version, “Param□” (without brackets) can also be identified as the parameter.
- EDS file reading was interrupted in the earlier version if no instance number was identified. In the upgraded version, the following message will be displayed and the cell for **Instance No.** will be blank if no instance number is identified.



### 2) Size

- EDS file reading was interrupted in the earlier version if no size was identified. In the upgraded version, the following message will be displayed and the cell for **Size** will be blank if no size is identified.



[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

**No. 6 Improved the process of inserting set values in the Motion Command Assist function of the motion program.**

- 1) Values with a decimal point set in cells accompanied by “mm”, “deg.”, “inch”, “μm”, and “s” will be inserted in the Motion Editor exactly as set.
- 2) When the letter “K” or “k” is entered in the cells, these letters will be inserted in the Motion Editor.

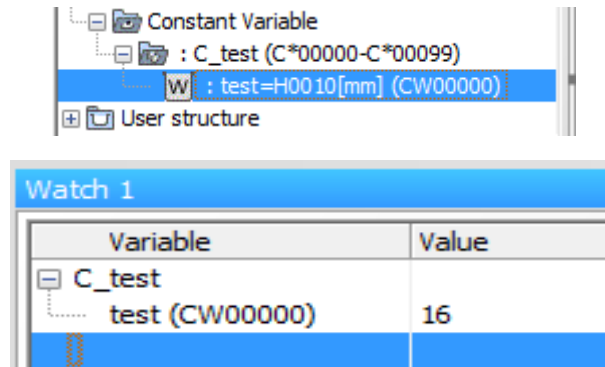
[Supported Versions]

○Controller

Controller	Supported Firmware Versions
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

**No. 7 It is now possible to set the value of C register in hexadecimal format..**

User can input hexadecimal number as the value of C register (Hxxxx).



[Supported Versions]

○Controller

Controller	Supported Firmware Versions
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### **No. 8 Improvement of behavior of the self-configuration when a different manufacturer's I/O is used.**

When a different manufacturer's I/O was used and the self-configuration was executed, motion registers were assigned to the I/O. In the upgraded version, improvements have been made to ensure that this problem does not occur.

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### **No. 9 Fixed the issue that the certain operation terminates MPE unexpectedly.**

The MPE could terminated unexpectedly when the following operations were performed. In the upgraded version, improvements have been made to ensure that this problem does not occur.

- Axis monitor, Alarm monitor → Error and warning display
- System monitor → Alarm information display
- System monitor → Alarm history display

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### **No. 10 Improved the behavior of CP ladder conversion.**

When using a STORE instruction in a CP ladder program, there was a phenomenon that a register different from the storage source register was allocated after CP ladder conversion. In the upgraded version, improvements have been made to ensure that this problem does not occur.

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### No. 11 Solution to problem when SigmaWin+ could not be started under specific conditions.

When a multi-axis SERVOPACK and UnSupportDevice were connected to the same motion module, SigmaWin+ could not be started from the MPE720 for the multi-axis SERVOPACK. In the upgraded version, improvements have been made to ensure that this problem does not occur.

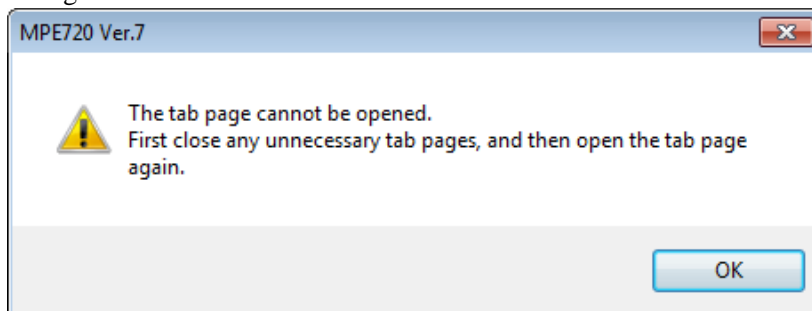
[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### No. 12 Improvement of behavior when the 17th tab page is displayed in the Main Pane.

A maximum of 16 tab pages can be displayed in the Main Pane. When the 17th tab page was displayed in the Main Pane, the MPE720 sometimes did not operate normally. In the upgraded version, improvements have been made to avoid this problem by displaying the following message.



[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### No. 13 Solution to compiling error that occurred when “D” or “F” was used in labels for PFORK and SFORK instructions.

A compiling error occurred when “D” or “F” was used in labels for PFORK and SFORK instructions. In the upgraded version, improvements have been made to ensure that the compiling error will not occur if “D” or “F” is used.

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### No. 14 Improvement of behavior of EXPRESSION instruction.

The following problem occurred when EXPRESSION instructions included multiple reserved words and were compiled. In the upgraded version, improvements have been made to ensure that this problem does not occur.

Example: When an EXPRESSION instruction that includes “DTYPE(SRQT(□))” was compiled, “DTYPE(SRQT(□))” was displayed as “SQRT(SQRT(□))”.

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### No. 15 Improvement of behavior when “C\_C\_□” is entered in the Variable Name of the Constant

#### Definition Dialog Box.

An error occurred when “C\_C\_□” was set for the **Variable Name** of the Constant Definition Dialog Box. In the upgraded version, improvements have been made to ensure that this problem does not occur.

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### No. 16 Improvement of behavior of constant variables that use “\_”.

The following problem occurred when “\_” was used for constant variables. In the upgraded version, improvements have been made to ensure that this problem does not occur.

Example: When “C\_1” and “C\_11” (constant variables) were used and other variables were added under “C\_11”, the same variables were also added to “C\_1”. When trying to open the variables erroneously added to “C\_1”, the variables did not open and an error message was displayed.

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### No. 17 Improved the error code display in Axis Setup Wizard under certain conditions.

In the combination of SVB module and  $\Sigma$ -V, an error code (0xA0A00C4D) is displayed when selecting an axis in the Axis Setup Wizard. In the upgraded version, improvements have been made to ensure that this problem does not occur.

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
$\Sigma$ -7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### No. 18 Improvement of behavior when an axis is copied and pasted in the Module Configuration Tab Page.

When additional information (“Axis unused”, “Linear”) was displayed for both the copy source and copy destination and the axis was copied and pasted in the Module Configuration Tab Page, two sets of additional information were displayed at the copy destination. In the upgraded version, improvements have been made to ensure that this problem does not occur.

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
$\Sigma$ -7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

### No. 19 Improvement of behavior when allocation of SERVOPACK is deleted.

The SERVOPACK parameter data was not deleted when a SERVOPACK allocation was deleted in the Detail Dialog Box opened from the Module Configuration Tab Page. In the upgraded version, improvements have been made to ensure that this problem does not occur.

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
$\Sigma$ -7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.

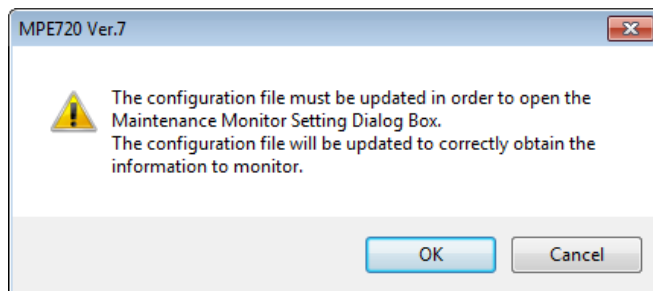


## No. 20 Improvement of behavior of data acquisition by the Maintenance Monitor.

The data for the following monitor functions could not be acquired. In the upgraded version, improvements have been made to ensure that this problem does not occur.

- Number of serial encoder communications errors
- Number of MECHATROLINK communications errors

If these monitor functions were originally set using the MPE720 Ver.7.46 or Ver.7.47, the following message would be displayed when trying to open the Maintenance Monitor Setting Dialog Box using the MPE720 Ver.7.50 or later versions. Data can be acquired after clicking the OK Button.



[Supported Versions]

○Controller

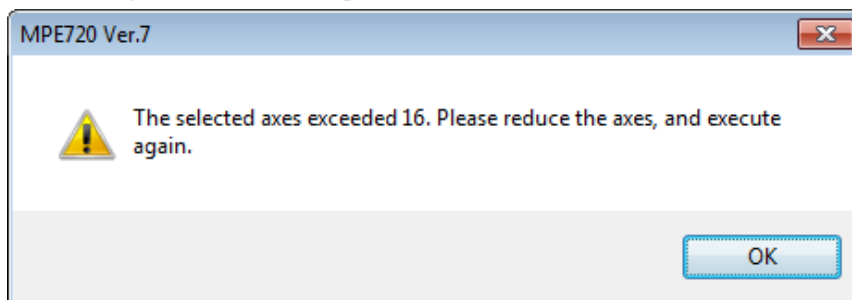
Controller	Supported Firmware Version
MP3000 Series	Ver.1.44 or later
Σ-7 Series	Ver.1.09 or later
MP2000 Series	Not supported by the MP2000 Series.

○SERVOPACK

SERVOPACK	Supported Firmware Version
Σ-7S	Ver. 002C or later
Σ-7W	Ver. 002C or later
Σ-7C	Ver. 002C or later

**No. 21 Corrected the problem where MPE is forcibly terminated when 17 or more axes are allocated on maintenance monitor setting.**

In the maintenance monitor settings, when the number of selected axes exceeds 16 axes, an error message is displayed when pressing the OK button. The message recommends re-operation of the axis selection.



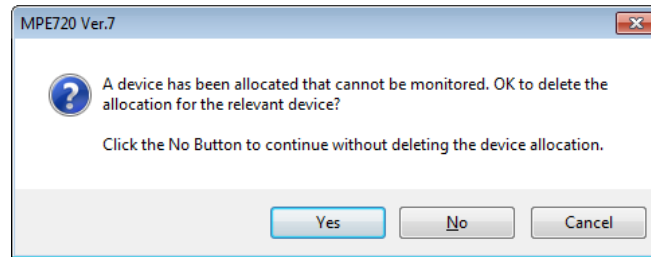
[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not supported by the MP2000 Series.

**No. 22 A new message is added to the maintenance monitor setting to notify user user to delete device when the inapplicable device is selected.**

The following message is displayed when the OK button or the Apply button on the maintenance monitor setting screen is pressed while a device not covered by the function is assigned to the maintenance monitor setting.



**Yes button:**

Delete devices not covered by the maintenance monitor setting function and register other devices

**No button:**

Register all devices without deleting devices that is not covered by the maintenance monitor setting function

**Cancel button:**

Return to maintenance monitor setting screen without registration.

[Supported Versions]

○Controller

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not supported by the MP2000 Series.

## No. 23 Improvement of behavior of Autocomplete function

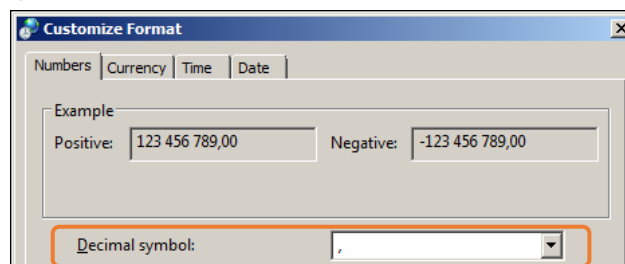
A list of entry candidates were not correctly displayed if “,” was specified as a decimal point in the PC settings. In the upgraded version, improvements have been made to ensure that this problem does not occur.

<Note>

Symbols used to indicate a decimal point (period, comma, etc.) can be set as follows:

Select **Start - Control Panel - Region and Language**. Click **Additional settings** Button on the Formats Tab Page to open the Customize Format Dialog Box. The way numbers are displayed can be changed in the Numbers Tab Page and Currency Tab Page. Depending on the language, “,” is set as default.

Example : Customize Format Dialog Box for French



[Supported Versions]

oController

Controller	Supported Firmware Version
MP3000 Series	Not dependent on the controller version.
Σ-7 Series	Not dependent on the controller version.
MP2000 Series	Not dependent on the controller version.