Upgrade Information of MPE720 Version 7.45 Lite

1. Added and Improved Functions

1.1 Version 7.45 Lite Upgrade Information

Items added and features improved from MPE720 version 7.44 Lite to version 7.45 Lite are as follows.

No.	Feature	Classification
1	The DI-01 Module is now supported as an I/O module.	Newly added
2	Robot control instructions are added.	Functional Enhancement
3	How the variable auto-complete feature displays the structure variables has been	Functional Enhancement
3	improved.	
4	The variable/register auto-complete feature is now available with each function.	Functional Enhancement
5	"7: Read Memory" and "8: Write Memory" are added as the motion subcommands	Functional Enhancement
5	for motion parameters (setting parameters).	
6	ISC (INTERPOLATION S-CURVE TIME CHANGE) instruction is added as the	Functional Enhancement
0	motion instruction.	
7	How the cross-reference target program is displayed has been improved.	Improvement
8	The processing when "Display Register Map" is selected has been improved.	Improvement
9	Real-time trace processing has been improved.	Improvement
10	The operation of an extended comment has been improved.	Improvement
11	The processing of displaying real-time trace waveform has been improved.	Improvement
12	How the program tree for motion programs is displayed has been improved.	Improvement

1.2 Past Upgrade Information

No.	Upgrade Information	Remarks
1	MPE720 version 7.42 Lite upgrade information	version 7.41 \rightarrow version 7.42
2	MPE720 version 7.43 Lite upgrade information	version 7.42 \rightarrow version 7.43
3	MPE720 version 7.44 Lite upgrade information	version 7.43→version 7.44

2. Description No. 1 The DI-01 Module is now supported as an I/O module.

The DI-01 Module (64-point digital input, 24 VDC) is additionally supported as a controller-assignable I/O module.

Module			×
Display in cat	egory	List	Icons
UNDEFIN			
E Commun	ication module		
Connection			
I Option CF			
Motion co	ontrol module		
AFMP-01	LIO-05		
AI-01	🚾 LIO-06		
CNTR-01			
01-01			
2 DO-01 LIO-01			
LIO-02			
🚾 LIO-04			
Input Module			
Digital Input:64po	oints,DC24V,Sin	k mode	
	ОК	Cano	el
	24	Gan	

[Support Version]

Controller	Support Firmware Version
Σ-7C	Ver.1.09 or later
MP2400	Not supported by the MP2000 Series.

No. 2 Robot control instructions are added.

The following robot control instructions (MLx functions) have been added to the ROBOT SYSTEM, ROBOT CONFIGURATION, and ROBOT MOTION categories on the ladder instructions pallet:

○ROBOT SYSTEM

MLxSetCalendar

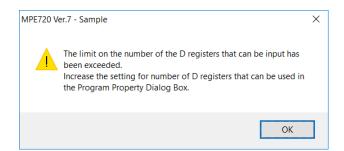
OROBOT CONFIGURATION

- MLxSetGlobalParameter
- MLxRobotCalib
- MLxRobotSetToolCalib
- MLxPendantDriver

OROBOT MOTION

- MLxRobotConvSyncStart
- MLxRobotConvSyncStop
- MLxRobotConvSyncStopWithAxisMot
- MLxRobotConvSyncStopWithLinMot
- MLxRobotCoordinatedMoveOn
- MLxRobotCoordinatedMoveOff
- •MLxRobotIndividualMoveOn
- MLxRobotIndividualMoveOff
- MLxRobotMoveCircular
- MLxRobotReleaseBrake

In addition, an improvement has been made so that a warning message appears if "Automatically assign D registers to Param operand" is set to "Enable" and the D registers assigned to the Param operand are outside the range of the number of registers that can be used.



[Support Version]

 Controller 	
Controller	Support Firmware Version
Σ-7C	Ver.1.08 or later
MP2400	Not supported by the MP2000 Series.

No. 3 How the variable auto-complete feature displays the structure variables has been improved.

Entire variables (even including member variables for structure variables) were enumerated in the auto-complete list and it was difficult to search for the desired variables.

Variables are now hierarchically displayed so that you can easily search for the desired variables.

[Usage Method]

(1) Select the structure variable for the variable you want to search for.

	MB00000			MB00001
0	0			0
0/0				Ĕ
	cp V			MB00001 1
1 2/2		/ariable:CPU		Ò
2		(END	D

(2) Enter a dot (.) to display the member variables for the selected structure variable.

	H:Main Program	
MB00000		MB00001
0		0
0/0		O
		MB00001
CPU.Error		1
2/2 CPU.Statu	s Comment:	
🗛 📑 🖾 CPU.Swite	thes END	

(3) Repeat steps (1) and (2) until you reach the desired variable's hierarchical level.

0/0	MB00000 0 	MB00001 0
	CPU.Error.	MB00001
1	CPU.Error.Exception : SB000413	Variable:CPU.Error.Exception
2/2	ECPU.Error.Failure : SB000410	Register:SB000413
2	B CPU.Error.FanAlarm : SB00041E	Comment:Exception Error
	CPU.Error.IOError : SB000419	· · · · · · · · · · · · · · · · · · ·
	CPU.Error.M3RestrictionError : SB00041D	
	CPU.Error.MPUError : SB00041A	
	CPU.Error.ProgramError : SB000418	
	CPU.Error.SubCPUError : SB00041B	
	B CPU.Error.TemperatureWarning : SB00041F	

[Support Version]

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Controller	Support Firmware Version
Σ-7C	Not dependent on the controller version
MP2400	Not dependent on the controller version

No. 4 The variable/register auto-complete feature is now available with each function.

The variable/register auto-complete feature is now available with the following functions:

[Functions with the Variable/Register Auto-Complete Feature]

- ·Ladder editor search
- ·Ladder editor replacement
- •Search in project
- Watch
- Tuning panel
- Cross-reference
- ·Ladder editor parameter setting

[Support Version]

Controller	Support Firmware Version
Σ-7C	Not dependent on the controller version.
MP2400	Not dependent on the controller version.

No. 5 "7: Read Memory" and "8: Write Memory" are added as the motion subcommands for motion parameters (setting parameters).

"7: Read Memory" and "8: Write Memory" have been added as the motion subcommands for SVC/SVD control axes.

Al	1 2 *	Address	Y Circuit#01 Axis#02 SGD75-****20*	
Al	- 0 : Run command setting	OWBDBD	0000(H)	
Position	1 Mode setting 1	CW8081	00000041	
External	4 2 Mode setting 2	OW8082	(H(0000)	
Zero	1 3 : Function setting 1	CN8083	001104	
Interpol	4 Function setting 2	OW8084	0033[H]	
1.1.7	5 : Function setting 3	OWBOBS	00000H1	
Interpol	a 6 : M-III Vendor Specific Servo Comm	OWEDEK	00000[H]	
JOG	8 : Motion command	OVIDE	0 : No Command	
Relative	= 9 : Motion command control flag	OWBOBS	(H)0000	
Speed	10 : Motion subcommand	OWSOEA	0 : No Command	
Torque/	12 Edit Y Circult#01 Axis#02 SGD75-*** 14	*20*	- 19 A.	
Phase	16 10 : Motion subcommand			
Jog	18			
Set	20 7: Read Memory		•	
Change	22 0: No Command 1: Read User Constant 24 2: Write User Constant			
Change	24 2 : Write User Constant 28 3 : Read device information			
Change	30 4 Status monitor			
Change	32 5 Read fixed parameter 32 6 Write fixed parameter			
Change	34 7 Read Memory			
	38 6 Write Memory			

[Applicable Motion Modules] Sigma-7C: SVC4/SVD built-in CPU

"106: Auxiliary Address Setting" has been added as the motion parameter for setting the memory address for which these commands are executed.

0000(H)	OWBOD4	84 : Servo driver for assistance user c	Set
1	OWBODS	85 : Servo driver for assistance user c	and the second second
0	OLBODE	86 : Servo driver for assistance user c	Change
0000 0000(H)	oLeope	88 : Address Setting	Change
0 : Invalid	OWBODB	91 : Device Information Select Code	Change
0	OWSODC	92 : Fixed Parameter Number	Change
0[pulse]	OLSODE	94 : Encoder position when power is of	Change
0[pulse]	OLSOED	96 : Encoder position when power is of.	Contraction of the local division of the loc
0[pulse]	OLSOE2	98 - Pulse position when power is off [Change
0[pulse]	OLEOE4	100 : Pulse position when power is off.	Change
0[pulse]	OLSOES	102 : Positive software limit value	Read
0[pulse]	OLEOES	104 : Negative software limit value	Write
0000 00FF(H)	OLBOEA	105 : Auxiliary Address Setting	Alarm
0(pulse)	OLCOEE	110 : System reservation (Stop distan.,	Prist III

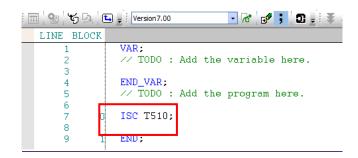
[Support Version]

Controller	Support Firmware Version
Σ-7C	Ver.1.07 or later
MP2400	Not supported by the MP2000 Series.

No. 6 ISC (INTERPOLATION S-CURVE TIME CHANGE) instruction is added as the motion instruction.

ISC (INTERPOLATION S-CURVE TIME CHANGE) instruction is added with compiler version 7.00 of the motion program.

[Instruction Format] ISC T Interpolation S-curve Time;



[Setting Range] Interpolation S-curve Time T: 0 ms to 510 ms

[Support Version]

 Controller 	
Controller	Support Firmware Version
Σ-7C	Ver.1.06 or later
MP2400	Not supported by the MP2000 Series.

No. 7 How the cross-reference target program is displayed has been improved.

Once the target program was set with a local register when performing cross-reference search, the same setting was inherited even when searching for a global register. Therefore, when searching for local registers and then global registers, it was necessary to manually set "*: all program".

So, we improved as follows.

If a local register is entered and the entered register is changed to a global register, cross-reference search is now performed with "*: all program" set on the search target drawing.

When you search for two global registers in succession, the search conditions are inherited. (The setting is not reset to "*: all program".)

[Support Version]

Controller	Support Firmware Version
Σ-7C	Not dependent on the controller version.
MP2400	Not dependent on the controller version.

No. 8 The processing when "Display Register Map" is selected has been improved.

An improvement has been made so that MPE720 Ver.7 does not fail to operate under the following conditions:

[Conditions]

(1) Contacts with variables/registers configured are selected in the ladder editor.

(2) The register list is displayed by selecting **Debug - Display Register Map** from the menu bar.

(3) Repeat steps (1) and (2).

[Support Version]

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Controller	Support Firmware Version
Σ-7C	Not dependent on the controller version.
MP2400	Not dependent on the controller version.

No. 9 Real-time trace processing has been improved.

An improvement has been made so that MPE720 Ver.7 does not fail to operate under the following conditions:

[Conditions]

(1) Tracing is started by turning ON the real-time display.

(2) The trace screen is left displayed in the top window for several hours.

(3) MPE720 Ver.7 is operated..

[Support Version]

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Controller	Support Firmware Version
Σ-7C	Not dependent on the controller version.
MP2400	Not dependent on the controller version.

No. 10 The operation of an extended comment has been improved.

The following problems occurred with extended comments:

(1) When many extended comments were created to exceed the comment capacity upper limit, no error was displayed but saving them failed.

(2) When project conversion was performed, the extended comments for global registers sometimes failed to be transferred to the conversion destination.

(3) When an extended comment was set to a local register in the ladder program, the current comment was changed, and compilation was repeated, the extended comment sometimes disappeared.

(4) When an extended comment was added to a project file for the MP2000 Series and the project was converted to the MP2000 Series format, a conversion error (A0A05487) sometimes occurred, resulting in failure to convert the extended comment.

The problems shown have been improved as follows:

(1) An improvement has been made so that an error is displayed when the comment capacity upper limit is exceeded.

Error Generating Information	\times
Error code :0xA0A0240A No area is available in packet memory to manage files.	
[CAUSE] 1. The data size exceeds the area of the packet memory available. [SOLUTION] 1. Reduce the data and try again. If the error still occurs, report error and provide controller and PC information to Yaskawa	I.
Cle	se

(2) An improvement has been made to ensure that the extended comments for global registers are transferred to the conversion destination when project conversion is performed.

(3) An improvement has been made so that extended comments do not disappear when compilation is repeated while changing the current comment.

(4) An improvement has been made to ensure that no error occurs when a project file with an extended comment is converted to the MP2000 Series format.

[Support Version]

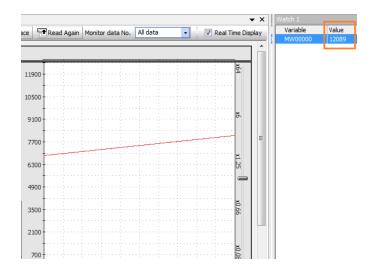
Controller	Support Firmware Version
Σ-7C	Not dependent on the controller version.
MP2400	Not dependent on the controller version.

No. 11 The processing of displaying real-time trace waveform has been improved.

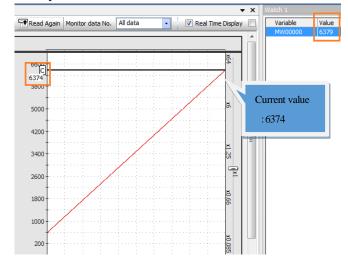
The real-time trace display sometimes displayed a value apart from the current value under the following conditions:

[Conditions]

- (1) Tracing is started by turning ON the real-time display.
- (2) The trace screen is closed and left as such for several hours.
- (3) When the trace screen is opened again, a value apart from the current value is displayed.



An improvement has been made to ensure that the real-time trace display displays the current value under the above conditions.



[Support Version]

Controller	Support Firmware Version
Σ-7C	Not dependent on the controller version.
MP2400	Not dependent on the controller version.

No. 12 How the program tree for motion programs is displayed has been improved.

When a nonexistent program was called via an MSEE instruction, empty registration information with the program number of that nonexistent program was generated inside the controller and the program was displayed in **UnknownGroup** when updated to latest information. So, an improvement has been made to ensure that programs with empty registration information are not displayed in the tree for motion programs.

[Support Version]

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Controller	Support Firmware Version
Σ-7C	Not dependent on the controller version.
MP2400	Not dependent on the controller version.