



Method of replacing High Performance model QCPU with Universal model QCPU (Introduction)

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■Relevant Models

Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU, Q25HCPU, Q03UDCPU, Q03UDVCPU, Q03UDECPU, Q04UDHCPU, Q04UDVCPU, Q04UDEHCPU, Q06UDHCPU, Q06UDVCPU, Q06UDEHCPU, Q10UDHCPU, Q10UDEHCPU, Q13UDHCPU, Q13UDVCPU, Q13UDEHCPU, Q20UDHCPU, Q20UDEHCPU, Q26UDHCPU, Q26UDVCPU, Q26UDEHCPU, Q50UDEHCPU, Q100UDEHCPU

Thank you for your continued support of Mitsubishi Electric programmable controllers, MELSEC-Q series.

This bulletin provides information on replacing the High Performance model QCPU with the Universal model QCPU in terms of the recommended models after replacement, products required to be replaced at the time of the replacement, and an outline of functions to be restricted.

For details on conditions for products required to be replaced and restrictions at a replacement, refer to the latest version of the "Method of replacing High Performance model QCPU with Universal model QCPU (FA-A-0001)".

When replacing the High Performance model QCPU with the Universal model QCPU, products and functions not described in this technical bulletin are not especially restricted.

Note that the reference manuals or the references described in this bulletin are information as of March 2019.

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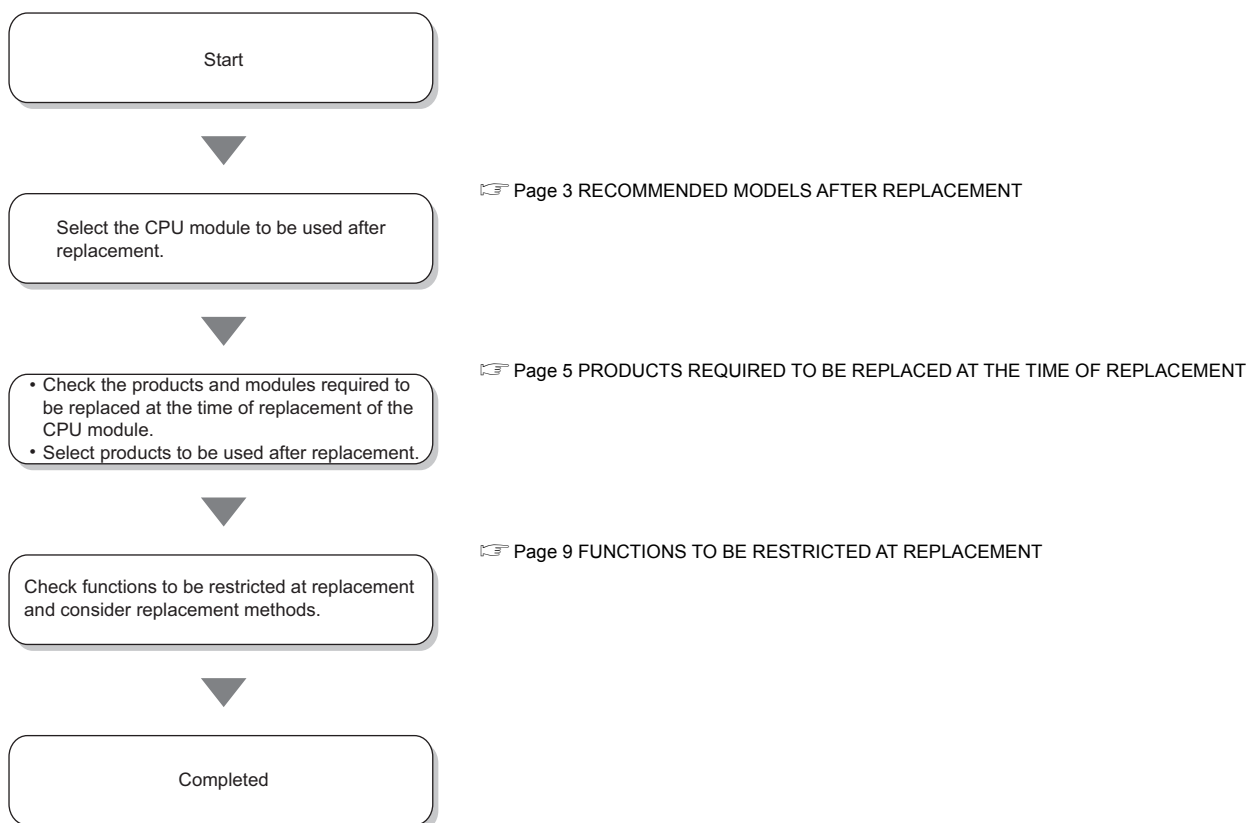
1 GENERIC TERMS

Unless otherwise specified, this technical bulletin uses the following terms.

Generic term	Description
High Performance model QCPU	A generic term for the Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU, and Q25HCPU
Universal model QCPU	A generic term for the Q03UDCPU, Q03UDVCPU, Q03UDECPU, Q04UDHCPU, Q04UDVCPU, Q04UDEHCPU, Q06UDHCPU, Q06UDVCPU, Q06UDEHCPU, Q10UDHCPU, Q10UDEHCPU, Q13UDHCPU, Q13UDVCPU, Q13UDEHCPU, Q20UDHCPU, Q20UDEHCPU, Q26UDHCPU, Q26UDVCPU, Q26UDEHCPU, Q50UDEHCPU, and Q100UDEHCPU
QnUD(H)CPU	A generic term for the Q03UDCPU, Q04UDHCPU, Q06UDHCPU, Q10UDHCPU, Q13UDHCPU, Q20UDHCPU, and Q26UDHCPU
QnUDVCPU	A generic term for the Q03UDVCPU, Q04UDVCPU, Q06UDVCPU, Q13UDVCPU, and Q26UDVCPU

2 CONSIDERATIONS AT REPLACEMENT

The following figure shows the flow when replacement of the High Performance model QCPU with the Universal model QCPU is considered.



When considering the replacement, consider using the QnH→QnU conversion support tool. The QnH→QnU conversion support tool enables an efficient consideration for replacement with the Universal model QCPU by displaying the followings on the tool when the programmable controller type is changed.

- Replacement examples of instructions cannot be used in the Universal model QCPU after the programmable controller type change.
- Replacement examples of the instructions and parameters that differ in specifications between the High Performance model QCPU and the Universal model QCPU.
- Descriptions in "FA-A-0001" other than above, such as restrictions on the system configuration and applicable products.

3 RECOMMENDED MODELS AFTER REPLACEMENT

Consider using the QnUDVCPU when replacing the High Performance model QCPU. The QnUDVCPU is highly compatible with the High Performance model QCPU. Alternative models of each model are listed below.

☞ Page 3 List of Alternative models (QnUDVCPU)

If the RS-232 and a memory card are used, the QnUD(H)CPU which can be used with them is also available. Alternative models of each model are listed below.

☞ Page 4 List of alternative models (QnUD(H)CPU)

List of Alternative models (QnUDVCPU)

Model of the High Performance model QCPU	Alternative model	
	Model	Performance specifications
Q02CPU	Q03UDVCPU	<ul style="list-style-type: none"> • Program capacity: 28K steps → 30K steps • Standard RAM capacity: 64K bytes → 192K bytes • Standard ROM capacity: 112K bytes → 1025.5K bytes • Communication interface: RS-232 → USB (connector type: miniB)/Ethernet • Memory card: SRAM/Flash/ATA card → SD memory card (extended SRAM cassette^{*2})
Q02HCPU	Q03UDVCPU	<ul style="list-style-type: none"> • Program capacity: 28K steps → 30K steps • Standard RAM capacity: 128K bytes → 192K bytes • Standard ROM capacity: 112K bytes → 1025.5K bytes • Communication interface: USB (connector type: B)/RS-232 → USB (connector type: miniB)^{*1}/Ethernet • Memory card: SRAM/Flash/ATA card → SD memory card (extended SRAM cassette^{*2})
Q06HCPU	Q06UDVCPU	<ul style="list-style-type: none"> • Program capacity: 60K steps → 60K steps • Standard RAM capacity: 128K bytes → 768K bytes • Standard ROM capacity: 240K bytes → 1025.5K bytes • Communication interface: USB (connector type: B)/RS-232 → USB (connector type: miniB)^{*1}/Ethernet • Memory card: SRAM/Flash/ATA card → SD memory card (extended SRAM cassette^{*2})
Q12HCPU	Q13UDVCPU	<ul style="list-style-type: none"> • Program capacity: 124K steps → 130K steps • Standard RAM capacity: 256K bytes → 1024K bytes • Standard ROM capacity: 496K bytes → 2051K bytes • Communication interface: USB (connector type: B)/RS-232 → USB (connector type: miniB)^{*1}/Ethernet • Memory card: SRAM/Flash/ATA card → SD memory card (extended SRAM cassette^{*2})
Q25HCPU	Q26UDVCPU	<ul style="list-style-type: none"> • Program capacity: 252K steps → 260K steps • Standard RAM capacity: 256K bytes → 1280K bytes • Standard ROM capacity: 1008K bytes → 4102K bytes • Communication interface: USB (connector type: B)/RS-232 → USB (connector type: miniB)^{*1}/Ethernet • Memory card: SRAM/Flash/ATA card → SD memory card (extended SRAM cassette^{*2})

*1 Since the connector type differs, replacement of the cable or a conversion adapter is required. For cables and conversion adapters, refer to the following.


☞ List of cables and converters for connection with peripheral devices (recommended product) (FA-A-0036)

*2 If the High Performance model QCPU is used and the file register file is stored in an SRAM/Flash card, an extended SRAM cassette is required when the CPU module is replaced with the QnUDVCPU. (It is not required if the standard RAM has enough capacity for the number of file register points.)

List of alternative models (QnUD(H)CPU)

Model of the High Performance model QCPU	Alternative model	
	Model	Performance specifications
Q02CPU	Q03UDCPU	<ul style="list-style-type: none"> • Program capacity: 28K steps → 30K steps • Standard RAM capacity: 64K bytes → 192K bytes • Standard ROM capacity: 112K bytes → 1024K bytes • Communication interface: RS-232 → USB (connector type: miniB)/RS-232 • Memory card: SRAM/Flash/ATA card → SRAM/Flash/ATA card
Q02HCPU	Q03UDCPU	<ul style="list-style-type: none"> • Program capacity: 28K steps → 30K steps • Standard RAM capacity: 128K bytes → 192K bytes • Standard ROM capacity: 112K bytes → 1024K bytes • Communication interface: USB (connector type: B)/RS-232 → USB (connector type: miniB)^{*1}/RS-232 • Memory card: SRAM/Flash/ATA card → SRAM/Flash/ATA card
Q06HCPU	Q06UDHCPU	<ul style="list-style-type: none"> • Program capacity: 60K steps → 60K steps • Standard RAM capacity: 128K bytes → 768K bytes • Standard ROM capacity: 240K bytes → 1024K bytes • Communication interface: USB (connector type: B)/RS-232 → USB (connector type: miniB)^{*1}/RS-232 • Memory card: SRAM/Flash/ATA card → SRAM/Flash/ATA card
Q12HCPU	Q13UDHCPU	<ul style="list-style-type: none"> • Program capacity: 124K steps → 130K steps • Standard RAM capacity: 256K bytes → 1024K bytes • Standard ROM capacity: 496K bytes → 2048K bytes • Communication interface: USB (connector type: B)/RS-232 → USB (connector type: miniB)^{*1}/RS-232 • Memory card: SRAM/Flash/ATA card → SRAM/Flash/ATA card
Q25HCPU	Q26UDHCPU	<ul style="list-style-type: none"> • Program capacity: 252K steps → 260K steps • Standard RAM capacity: 256K bytes → 1280K bytes • Standard ROM capacity: 1008K bytes → 4096K bytes • Communication interface: USB (connector type: B)/RS-232 → USB (connector type: miniB)^{*1}/RS-232 • Memory card: SRAM/Flash/ATA card → SRAM/Flash/ATA card

*1 Since the connector type differs, replacement of the cable or a conversion adapter is required. For cables and conversion adapters, refer to the following.

 List of cables and converters for connection with peripheral devices (recommended product) (FA-A-0036)

4 PRODUCTS REQUIRED TO BE REPLACED AT THE TIME OF REPLACEMENT

4.1 Replacement with the QnUDVCPU

At the time of replacement with the QnUDVCPU, the software and products listed below are also required to be replaced when;

- GX Developer (a programming tool) is used.
- GOT900 series is used as a communication destination.
- A multiple CPU system is configured using the models listed below.

☞ Page 5 List of models required to be replaced at the time of the replacement (multiple CPU system)

In addition, if the products listed below are used, those products are required to be replaced for the compatibility with the QnUDVCPU depending on the versions of the products.

☞ Page 6 List of products required to be checked for the serial number and version

For the serial number (first five digits) or version of the products compatible with the QnUDVCPU, refer to the following.

📖 Chapter 3 "APPLICABLE PRODUCTS AND SOFTWARE" in "FA-A-0001"

List of models required to be replaced at the time of the replacement (programming tool)

No.	Classification	Model		Reference in "FA-A-0001"
		Before replacement	After replacement	
1	Programming tool	GX Developer (SW□D5C-GPPW)	GX Works2 (SW1DNC-GXW2)*1	"System configuration" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"

*1 For the use of project data created with GX Developer, refer to the following.

📖 Section 4.7 in the GX Works2 Version 1 Operating Manual (Common)

List of models required to be replaced at the time of the replacement (GOT)

No.	Classification	Model		Reference in "FA-A-0001"
		Before replacement	After replacement	
1	GOT900 series	<ul style="list-style-type: none"> • A9□GOT□ • F9□GOT-□ 	GOT2□-□*1	"System configuration" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"

*1 When considering replacement, refer to the following.

Precautions when Replacing GOT-A900 Series with GOT2000 Series (GOT-A-0062-A)

List of models required to be replaced at the time of the replacement (multiple CPU system)

No.	Classification	Model		Reference in "FA-A-0001"
		Before replacement	After replacement	
1	C Controller module	<ul style="list-style-type: none"> • Q06CCPU-V • Q06CCPU-V-B 	Q12DCCPU-V	<ul style="list-style-type: none"> • "System configuration" No.5 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" • "CPU modules that can configure a multiple CPU system with the Universal model QCPU" in Chapter 3 "APPLICABLE PRODUCTS AND SOFTWARE"
2	PC CPU module	<ul style="list-style-type: none"> • PPC-CPU686(MS)-64 • PPC-CPU686(MS)-128 • PPC-CPU852(MS)-512 	Q10WCPU-W1(-CF)	
3	Motion CPU (SSCNET compatible)	<ul style="list-style-type: none"> • Q172CPUN • Q173CPUN 	<ul style="list-style-type: none"> • Q172DSCPU*1 • Q173DSCPU*1 	
4	Motion CPU (SSCNETⅢ compatible)	<ul style="list-style-type: none"> • Q172HCPU • Q173HCPU 		

*1 The main base unit is required to be replaced with the Q3□DB at the time of the replacement.

List of products required to be checked for the serial number and version

No.	Classification		Model	Reference in "FA-A-0001"
1	GOT	GOT1000 series	<ul style="list-style-type: none"> • GT16□-□ • GT15□-□ • GT14□-□ • GT12□-□ • GT11□-□ • GT10□-□ 	<ul style="list-style-type: none"> • "System configuration" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" • "Products needed to be replaced for the compatibility with the Universal model QCPU" in Chapter 3 "APPLICABLE PRODUCTS AND SOFTWARE"
2	Programming tool	GX Works2	<ul style="list-style-type: none"> • SW1DND-GXW2-E • SW1DNC-GXW2-E 	
3	Communication module	Web server module	QJ71WS96	
4		MES interface module	QJ71MES96	
5		High speed data logger module	QD81DL96	
6	Network module	MELSECNET/H module	<ul style="list-style-type: none"> • QJ71LP21-25 • QJ71LP21S-25 • QJ71LP21G • QJ71BR11 	
7	PC interface board	CC-Link IE Field Network interface board	• Q81BD-J71GF11-T2	
8		CC-Link IE Controller Network interface board	<ul style="list-style-type: none"> • Q81BD-J71GP21-SX • Q81BD-J71GP21S-SX • Q80BD-J71GP21-SX • Q80BD-J71GP21S-SX 	
9		MELSECNET/H interface board	<ul style="list-style-type: none"> • Q80BD-J71LP21-25 • Q80BD-J71LP21S-25 • Q81BD-J71LP21-25 • Q80BD-J71LP21G • Q80BD-J71BR11 	
10		CC-Link System master/local interface board	<ul style="list-style-type: none"> • Q80BD-J61BT11N • Q81BD-J61BT11 	

4.2 Replacement with the QnUD(H)CPU

At the time of replacement with the QnUD(H)CPU, the products listed below also required to be replaced when;

- GOT900 series is used as a communication destination.
- A multiple CPU system is configured using the models listed below.

☞ Page 7 List of models required to be replaced at the time of the replacement (multiple CPU system)

In addition, if the products listed below are used, those products are required to be replaced for the compatibility with the QnUD(H)CPU depending on the versions of the products.

☞ Page 8 List of products required to be checked for the serial number and version

For the serial number (first five digits) of the product compatible with the QnUD(H)CPU, refer to the following.

📖 Chapter 3 "APPLICABLE PRODUCTS AND SOFTWARE" in "FA-A-0001"

List of models required to be replaced at the time of the replacement (GOT)

No.	Classification	Model		Reference in "FA-A-0001"
		Before replacement	After replacement	
1	GOT900 series	<ul style="list-style-type: none"> • A9□GOT□ • F9□GOT-□ 	GOT2□-□ ^{*1}	"System configuration" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"

*1 When considering replacement, refer to the following.

Precautions when Replacing GOT-A900 Series with GOT2000 Series (GOT-A-0062-A)

List of models required to be replaced at the time of the replacement (multiple CPU system)

No.	Classification	Model		Reference in "FA-A-0001"
		Before replacement	After replacement	
1	PC CPU module	<ul style="list-style-type: none"> • PPC-CPU686(MS)-64 • PPC-CPU686(MS)-128 • PPC-CPU852(MS)-512 	Q10WCPU-W1(-CF)	<ul style="list-style-type: none"> • "System configuration" No.5 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" • "CPU modules that can configure a multiple CPU system with the Universal model QCPU" in Chapter 3 "APPLICABLE PRODUCTS AND SOFTWARE"
2	Motion CPU (SSCNET compatible)	<ul style="list-style-type: none"> • Q172CPUN • Q173CPUN 	<ul style="list-style-type: none"> • Q172DSCPU^{*1} • Q173DSCPU^{*1} 	
3	Motion CPU (SSCNETⅢ compatible)	<ul style="list-style-type: none"> • Q172HCPU • Q173HCPU 		

*1 The main base unit is required to be replaced with the Q3□DB at the time of the replacement.

List of products required to be checked for the serial number and version

No.	Classification		Model	Reference in "FA-A-0001"
1	AnS/A series module		—	"System configuration" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
2	GOT	GOT1000 series	<ul style="list-style-type: none"> • GT16□-□ • GT15□-□ • GT11□-□ • GT10□-□ 	<ul style="list-style-type: none"> • "System configuration" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
3	Communication module	Web server module	QJ71WS96	<ul style="list-style-type: none"> • "Products needed to be replaced for the compatibility with the Universal model QCPU" in Chapter 3 "APPLICABLE PRODUCTS AND SOFTWARE"
4		MES interface module	QJ71MES96	
5	PC interface board	CC-Link IE Controller Network interface board	<ul style="list-style-type: none"> • Q81BD-J71GP21-SX • Q81BD-J71GP21S-SX • Q80BD-J71GP21-SX • Q80BD-J71GP21S-SX 	
6		MELSECNET/H interface board	<ul style="list-style-type: none"> • Q80BD-J71LP21-25 • Q80BD-J71LP21S-25 • Q81BD-J71LP21-25 • Q80BD-J71LP21G • Q80BD-J71BR11 	
7		CC-Link System master/local interface board	<ul style="list-style-type: none"> • Q80BD-J61BT11N • Q81BD-J61BT11 	
8	Programming tool	GX Developer	SW8D5C-GPPW-E	<ul style="list-style-type: none"> • "System configuration" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" • "Software needed to be upgraded for the compatibility with the Universal model QCPU" in Chapter 3 "APPLICABLE PRODUCTS AND SOFTWARE"
9		GX Configurator-AD	SW2D5C-QADU-E	
10		GX Configurator-DA	SW2D5C-QDAU-E	
11		GX Configurator-SC	SW2D5C-QSCU-E	
12		GX Configurator-CT	SW0D5C-QCTU-E	
13		GX Configurator-TI	SW1D5C-QTIU-E	
14		GX Configurator-TC	SW0D5C-QTCU-E	
15		GX Configurator-FL	SW0D5C-QFLU-E	
16		GX Configurator-QP	SW2D5C-QD75P-E	
17		GX Configurator-PT	SW1D5C-QPTU-E	
18		GX Configurator-AS	SW1D5C-QASU-E	
19		GX Configurator-MB	SW1D5C-QMBU-E	
20		MX Component	SW3D5C-ACT-E	
21	GX Simulator	SW7D5C-LLT-J		

5 FUNCTIONS TO BE RESTRICTED AT REPLACEMENT

5.1 Replacement with the QnUDVCPU

Programs and parameters of the High Performance model QCPU can be changed to ones for the QnUDVCPU by changing the programmable controller type with a programming tool (GX Works2). The functions listed below, however, cannot be used in the QnUDVCPU.

☞ Page 9 List of functions required to be replaced after changing programmable controller type to QnUDVCPU

In addition, the functions required to change programs or parameter settings although the function itself can be used after changing the programmable controller type to the QnUDVCPU are listed below.

☞ Page 11 List of functions required to be changed programs and parameter settings in the QnUDVCPU

For details on the replacement methods related to the functions, refer to "FA-A-0001" or the QnH→QnU conversion support tool.

The functions listed below can be used after a version upgrade of the QnUDVCPU.

☞ Page 12 List of functions that can be used after version upgrade of the QnUDVCPU

Check the serial number of the QnUDVCPU before using the functions.

List of functions required to be replaced after changing programmable controller type to QnUDVCPU

○: Replaceable, ×: Irreplaceable

No.	Item			Replaceability	Reference in "FA-A-0001"
1	System configuration	MELSECNET/H	Simple dual-structured network	○	"System configuration" No.7 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
2	Program	Instruction	IX, IXEND, IXDEV, IXSET, PR, PRC, CHKST, CHK, CHKCIR, CHKEND, PLOW, PCHK, KEY, PLOADP, PUNLOADP, PSWAPP	○	<ul style="list-style-type: none"> "Program" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" Section 4.1 "Instructions not Supported in the Universal Model QCPU and Replacing Methods"
3		Program execution type	Low-speed execution type program	○	"Program" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
4		Interrupt program	Interrupt counter	○	"Program" No.6 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
5			Interrupt pointer for an error (I32 to I40)	×	
6	File usability setting for each program	Setting of the file register, initial device value, comment	○	<ul style="list-style-type: none"> "Program" No.9 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" Section 5.5 "File Usability Setting" 	
7	I/O refresh setting for each program			○	"Program" No.10 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"

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No.	Item		Replaceability	Reference in "FA-A-0001"	
8	SFC	Step transition monitoring timer	○	"SFC" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"	
9		SFC operation mode setting	Periodic execution block setting	○	"SFC" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
10			Operation mode at transition to active step (double step START)	○	
11		SFC program for program execution management		○	"SFC" No.3 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
12		SFC control instruction	LD TRn, AND TRn, OR TRn, LDI TRn, ANDI TRn, ORI TRn, LD BLm\TRn, AND BLm\TRn, OR BLm\TRn, LDI BLm\TRn, ANDI BLm\TRn, ORI BLm\TRn, SCHG(D), SET TRn, SET BLm\TRn, RST TRn, RST BLm\TRn	○	<ul style="list-style-type: none"> • "SFC" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" • "SFC control instructions not supported in the Universal model QCPU and alternative methods" in Section 4.1 "Instructions not Supported in the Universal Model QCPU and Replacing Methods"
13	Online change of the SFC program files		○	"SFC" No.6 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"	

List of functions required to be changed programs and parameter settings in the QnUDVCPU

No.	Item			Reference in "FA-A-0001"
1	System configuration	Multiple CPU system	Data communication with the Motion CPU	"System configuration" No.5 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
2		MELSECNET/H, CC-Link IE Controller Network	Timing of an interlink data transfer	"System configuration" No.8 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
3	Program	Floating-point operation	Specification of internal operation in double-precision	<ul style="list-style-type: none"> "Program" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" Section 5.1 "Floating-point Operation Instructions"
4			Range check of values for the floating-point data comparison instruction	"Program" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
5		Device range check at an index modification		"Program" No.3 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
6		Latch setting	Setting method, processing time, save timing	<ul style="list-style-type: none"> "Program" No.5 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" Section 5.4 "Device Latch Function"
7	ZPUSH instruction		"Program" No.8 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"	
8	Drives and files	Boot file setting		"Drives and files" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
9		Automatic all data write from memory card to standard ROM		"Drives and files" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
10		Device comment	File storage location ^{*1}	"Drives and files" No.3 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
11		Initial device value		"Drives and files" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
12		Local device		"Drives and files" No.5 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
13		File register		"Drives and files" No.6 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
14		Sampling trace		"Drives and files" No.7 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
15		CPU module change function with memory card	Backup destination, restoration source	"Drives and files" No.8 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
16	Diagnostic function	Error history	Storage location of history information	"Diagnostic function" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
17	Switch on the front of the CPU module	System protection		"Switch on the front of the CPU module" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
18		RESET/L.CLR switch		
19		Parameter-valid drive setting		

*1 For the QnUDVCPU, use an extended SRAM cassette instead of an SRAM card.

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List of functions that can be used after version upgrade of the QnUDVCPU

No.	Item			Reference in "FA-A-0001"
1	Program	Program execution type	Change by remote operation	"Program" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"

5.2 Replacement with the QnUD(H)CPU

Programs and parameters of the High Performance model QCPU can be changed ones for the QnUD(H)CPU by changing the programmable controller type with a programming tool (GX Works2). The functions listed below, however, cannot be used in the QnUD(H)CPU.

☞ Page 13 List of functions required to be replaced after changing programmable controller type to QnUD(H)CPU

In addition, the functions required to change programs or parameter settings although the function itself can be used after changing the programmable controller type to the QnUD(H)CPU are listed below.

☞ Page 15 List of functions required to be changed programs and parameter settings in the QnUD(H)CPU

For details on the replacement methods related to the functions, refer to "FA-A-0001" or the QnH→QnU conversion support tool.

The functions listed below can be used after a version upgrade of the QnUD(H)CPU.

☞ Page 16 List of functions that can be used after version upgrade of the QnUD(H)CPU

Check the serial number of the QnUD(H)CPU before using the functions.

List of functions required to be replaced after changing programmable controller type to QnUD(H)CPU

○: Replaceable, ×: Irreplaceable

No.	Item	Replaceability	Reference in "FA-A-0001"
1	System configuration MELSECNET/H Simple dual-structured network	○	"System configuration" No.7 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
2	Program Instruction IX, IXEND, IXDEV, IXSET, PR, PRC, CHKST, CHK, CHKCIR, CHKEND, PLOW, PCHK, KEY, PLOADP, PUNLOADP, PSWAPP	○	<ul style="list-style-type: none"> "Program" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" Section 4.1 "Instructions not Supported in the Universal Model QCPU and Replacing Methods"
3	Program execution type	Low-speed execution type program	"Program" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
4		Change by remote operation	
5	Interrupt program	The interrupt pointer (I49) for the high-speed interrupt function	"Program" No.6 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
6		Interrupt counter	
7		Interrupt pointer for an error (I32 to I40)	
8	File usability setting for each program Setting of the file register, initial device value, comment	○	<ul style="list-style-type: none"> "Program" No.9 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" Section 5.5 "File Usability Setting"
9	I/O refresh setting for each program	○	"Program" No.10 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"

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No.	Item		Replaceability	Reference in "FA-A-0001"	
10	SFC	Step transition monitoring timer	○	"SFC" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"	
11		SFC operation mode setting	Periodic execution block setting	○	"SFC" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
12			Operation mode at transition to active step (double step START)	○	
13		SFC program for program execution management		○	"SFC" No.3 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
14		SFC control instruction	LD TRn, AND TRn, OR TRn, LDI TRn, ANDI TRn, ORI TRn, LD BLm\TRn, AND BLm\TRn, OR BLm\TRn, LDI BLm\TRn, ANDI BLm\TRn, ORI BLm\TRn, SCHG(D), SET TRn, SET BLm\TRn, RST TRn, RST BLm\TRn	○	<ul style="list-style-type: none"> • "SFC" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" • "SFC control instructions not supported in the Universal model QCPU and alternative methods" in Section 4.1 "Instructions not Supported in the Universal Model QCPU and Replacing Methods"
15	Online change of the SFC program files		○	"SFC" No.6 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"	

List of functions required to be changed programs and parameter settings in the QnUD(H)CPU

No.	Item			Reference in "FA-A-0001"
1	System configuration	Multiple CPU system	Data communication with the Motion CPU	"System configuration" No.5 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
2		MELSECNET/H, CC-Link IE Controller Network	Timing of an interlink data transfer	"System configuration" No.8 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
3	Program	Floating-point operation	Specification of internal operation in double-precision	<ul style="list-style-type: none"> "Program" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" Section 5.1 "Floating-point Operation Instructions"
4			Range check of values for the floating-point data comparison instruction	"Program" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
5		Device range check at an index modification	"Program" No.3 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"	
6	Latch setting	Setting method, processing time, save timing	<ul style="list-style-type: none"> "Program" No.5 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" Section 5.4 "Device Latch Function" 	
7	SCJ instruction		"Program" No.7 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"	
8	ZPUSH instruction		"Program" No.8 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"	
9	Drives and files	Boot file setting	"Drives and files" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"	
10		Automatic all data write from memory card to standard ROM	"Drives and files" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"	
11	Diagnostic function	Error history	Storage location of history information	"Diagnostic function" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
12	Switch on the front of the CPU module	System protection		"Switch on the front of the CPU module" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
13		RESET/L.CLR switch		
14		Parameter-valid drive setting		

List of functions that can be used after version upgrade of the QnUD(H)CPU

No.	Item			Reference in "FA-A-0001"
1	System configuration	Use of the AnS/A series module	Support for the QA extension base unit	"System configuration" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
2	Program	File usability setting for each program	Setting for the local device	<ul style="list-style-type: none"> "Program" No.9 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" Section 5.5 "File Usability Setting"
3		SM/SD	The status of the power supply module in the redundant power supply system (SM1780 to SM1783/SD1780 to SD1783), A series-compatible special relay/special register (SM1000 to SM1255/SD1000 to SD1255)	<ul style="list-style-type: none"> "System configuration" No.6 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" "Program" No.11 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" Chapter 6 "SPECIAL RELAY AND SPECIAL REGISTER"
4	External communication	MC protocol	A-compatible 1C frame/A-compatible 1E frame	"External communication" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
5	Debugging	Monitor condition setting		"Debugging" No.1 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
6		Scan time measurement		"Debugging" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
7		External input/output forced on/off		"Debugging" No.3 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
8	SFC	SFC operation mode setting	Selection of operation mode at double block START	"SFC" No.2 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"
9		SFC control instruction	BRSET(S)	<ul style="list-style-type: none"> "SFC" No.4 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT" "SFC control instructions not supported in the Universal model QCPU and alternative methods" in Section 4.1 "Instructions not Supported in the Universal Model QCPU and Replacing Methods"
10		SFC comment readout instruction	S(P).SFSCOMR (SFC step comment readout instruction), S(P).SFCTCOMR (SFC transition condition comment readout instruction)	"SFC" No.5 in Chapter 2 "PRECAUTIONS FOR REPLACEMENT"

REVISIONS

Version	Date of Issue	Revision
-	July 2016	First edition
A	February 2017	Descriptions have been reviewed and modified throughout the bulletin.
B	August 2017	Descriptions have been reviewed and modified in Section 5.1 and 5.2.
C	March 2019	Available for e-Manual Viewer