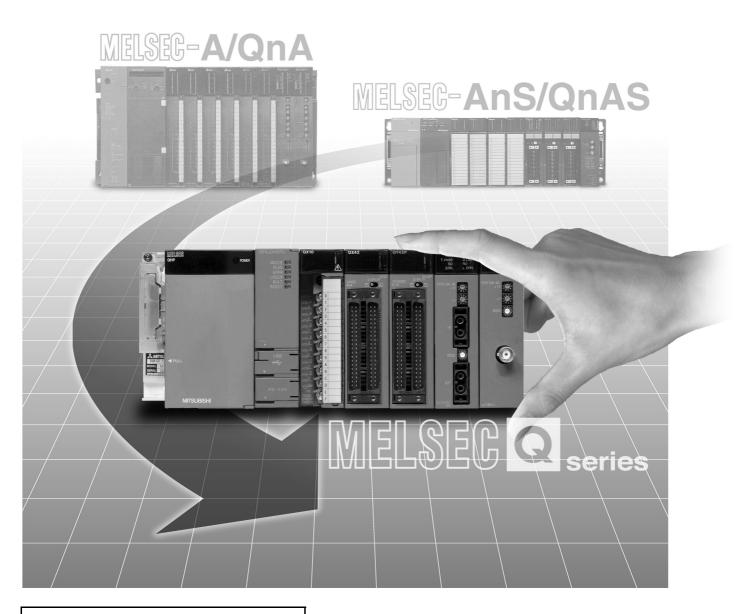


Programmable Controller

Transition from MELSEC-A/QnA (Large Type), AnS/QnAS (Small Type) Series to Q Series Handbook

(Network Modules)



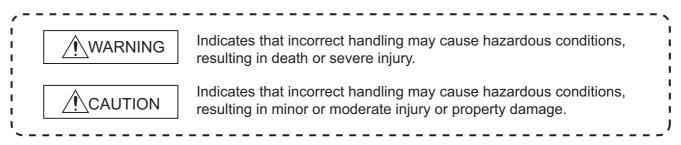
Apr. 2018 Edition

SAFETY PRECAUTIONS

(Read these precautions before using this product.)

Before using this product, please read this handbook and the relevant manuals introduced in this handbook carefully and pay full attention to safety to handle the product correctly.

In this handbook, the safety precautions are classified into two levels: " / WARNING" and " CAUTION".



Under some circumstances, failure to observe the precautions given under "ACAUTION" may lead to serious consequences.

Observe the precautions of both levels because they are important for personal and system safety.

Make sure that the end users read this handbook and then keep the handbook in a safe place for future reference.

[Design Precautions]

WARNING

• For the operating status of each station after a communication failure in the data link or the network, refer to the following manuals.

Failure to do so may result in an accident due to an incorrect output or malfunction.

- Q Corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)
- Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/O network)
- Q Corresponding MELSECNET/H Remote I/O Module Reference Manual (MELSECNET/10 Mode)
- CC-Link System Master/Local Module User's Manual
- If a coaxial cable is disconnected, the network may be unstable, resulting in a communication failure of multiple stations. Configure an interlock circuit in the program to ensure that the entire system will always operate safely even if communications fail. Failure to do so may result in an accident due to an incorrect output or malfunction.
- When connecting a peripheral with the CPU module or connecting a personal computer with an intelligent function module to modify data of a running programmable controller, configure an interlock circuit in the program to ensure that the entire system will always operate safely. For other forms of control (such as program modification or operating status change) of a running programmable controller, read the relevant manuals carefully and ensure that the operation is safe before proceeding. Especially, when a remote programmable controller is controlled by an external device, immediate action cannot be taken if a problem occurs in the programmable controller due to a communication failure. To prevent this, configure an interlock circuit in the program, and determine corrective actions to be taken between the external device and CPU module in case of a communication failure.
- Do not write any data to the "system area" of the buffer memory in each intelligent function module. Do not write any data to the "system area" of the buffer memory in the intelligent function module. Also, do not use any "use prohibited" signals as an output signal from the CPU module to the intelligent function module. Doing so may cause malfunction of the programmable controller system.
- To set the auto refresh parameter, select the device Y for the remote output (RY) refresh device.
 If a device other than Y is selected, the CPU module holds the device status even after its status is changed to STOP. For how to stop data link, refer to the following manual.
 - CC-Link System Master/Local Module User's Manual
- If a CC-Link dedicated cable is disconnected, the network may be unstable, resulting in a communication failure of multiple stations. Configure an interlock circuit in the program to ensure that the entire system will always operate safely even if communications fail.
 Failure to do so may result in an accident due to an incorrect output or malfunction.

- After changing the parameter of the CPU module or the remote I/O module, reset the CPU module. Failure to do so may cause malfunction, since the previous parameter setting remains in the module.
- Do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 100mm or more between them. Failure to do so may result in malfunction due to noise.

[Installation Precautions]

• Shut off the external power supply (all phases) used in the system before mounting or removing a module.

Failure to do so may result in electric shock or cause the module to fail or malfunction.

• Use the programmable controller in an environment that meets the general specifications in the user's manual for the CPU module used.

Failure to do so may result in electric shock, fire, malfunction, or damage to or deterioration of the product.

• To mount a Q series module, while pressing the module mounting lever located in the lower part of the module, fully insert the module fixing projection(s) into the hole(s) in the base unit and press the module until it snaps into place.

Incorrect mounting may cause malfunction, failure or drop of the module.

When using the programmable controller in an environment of frequent vibrations, fix the module with a screw.

Tighten the screw within the specified torque range.

Undertightening can cause drop of the screw, short circuit or malfunction.

Overtightening can damage the screw and/or module, resulting in drop, short circuit, or malfunction.

• To mount an A/AnS/QnA/QnAS module, fully insert the module fixing projection(s) located in the lower part of the module into the hole(s) in the base unit and press the module until it snaps into place (To fix an AnS series module to the base unit, tighten the screws within the specified torque range).

Incorrect mounting may cause malfunction, failure or drop of the module.

- Shut off the external power supply (all phases) used in the system before mounting or removing the module. Failure to do so may result in damage to the product.
- A MELSECNET/H module with function version D or later can be replaced online (while power is on) on any remote I/O station. Note that there are restrictions on the modules that can be replaced online, and each module has its predetermined replacement procedure.
 For details, refer to the relevant section in the following.

• Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/O network)

• Do not directly touch any conductive parts and electronic components of the module.

Doing so can cause malfunction or failure of the module.

[Wiring Precautions]

failure.

- Shut off the external power supply (all phases) used in the system before wiring.
 Failure to do so may result in electric shock or cause the module to fail or malfunction.
- After installation and wiring, attach the included terminal cover to the module before turning it on for operation.

Failure to do so may result in electric shock.

- Ground the FG terminal to the protective ground conductor dedicated to the programmable controller. Failure to do so may result in malfunction.
- Check the rated voltage and terminal layout before wiring the external power supply terminal block, and connect the cables correctly.
 Connecting a power supply with a different voltage rating or incorrect wiring may cause a fire or
- Use applicable solderless terminals and tighten them within the specified torque range. If any spade solderless terminal is used, it may be disconnected when the terminal screw comes loose, resulting in failure.
- Correctly solder coaxial cable connectors. Incomplete soldering may result in malfunction.
- Do not install the control lines or communication cables together with the main circuit lines or power cables.

Failure to do so may result in malfunction due to noise.

- Place the cables in a duct or clamp them.
 If not, dangling cable may swing or inadvertently be pulled, resulting in damage to the module or cables or malfunction due to poor contact.
- Tighten the terminal screw within the specified torque range. Undertightening can cause short circuit or malfunction.
 Overtightening can damage the screw and/or module, resulting in drop, short circuit, fire, or malfunction.
- When disconnecting the cable from the module, do not pull the cable by the cable part. For the cable with connector, hold the connector part of the cable. For the cable connected to the terminal block, loosen the terminal block screws. Pulling the cable connected to the module may result in malfunction and damage to the module or cable.

[Wiring Precautions]

• Mitsubishi Electric programmable controllers must be installed in control panels. Connect the main power supply to the power supply module in the control panel through a relay terminal block. Wiring and replacement of a power supply module must be performed by gualified maintenance personnel with knowledge of protection against electric shock. For wiring methods, refer to the QCPU User's Manual (Hardware Design, Maintenance and Inspection). • Prevent foreign matter such as dust or wire chips from entering the module. Such foreign matter can cause a fire, failure, or malfunction. • A protective film is attached to the top of the module to prevent foreign matter, such as wire chips, from entering the module during wiring. Do not remove the film during wiring. Remove it for heat dissipation before system operation. Use CC-Link dedicated cables for the CC-Link system. If not, the performance of the CC-Link system is not guaranteed. For the maximum station-to-station distance and the overall cable distance, follow the specifications in the following. If not, normal data transmission will not be guaranteed. CC-Link System Master/Local Module User's Manual

[Startup and Maintenance Precautions]

- Do not touch any terminal while power is on.
 Doing so will cause electric shock or malfunction.
- Shut off the external power supply (all phases) used in the system before cleaning the module or retightening the terminal screws or module fixing screws. Failure to do so may result in electric shock.

[Startup and Maintenance Precautions]

[Disposal Precautions]

• When disposing of this product, treat it as industrial waste.

CONDITIONS OF USE FOR THE PRODUCT

(1) Mitsubishi programmable controller ("the PRODUCT") shall be used in conditions;

i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and

ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

(2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.

MITSUBISHI SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY) FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY the PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI'S USER, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR the PRODUCT. ("Prohibited Application")

Prohibited Applications include, but not limited to, the use of the PRODUCT in;

- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.
- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.
- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

Notwithstanding the above, restrictions Mitsubishi may in its sole discretion, authorize use of the PRODUCT in one or more of the Prohibited Applications, provided that the usage of the PRODUCT is limited only for the specific applications agreed to by Mitsubishi and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the general specifications of the PRODUCTs are required. For details, please contact the Mitsubishi representative in your region.

* The handbook number is given on the bottom left of the back cover.

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• For the products shown in handbooks for transition, catalogues, and transition examples, refer to the manuals for the relevant products and check the detailed specifications, precautions for use, and restrictions before replacement.

For the products manufactured by Mitsubishi Electric Engineering Co., Ltd., Mitsubishi Electric System & Service Co., Ltd., and other companies, refer to the catalogue for each product and check the detailed specifications, precautions for use, and restrictions before use.

The manuals and catalogues for our products, products manufactured by Mitsubishi Electric Engineering Co., Ltd., and Mitsubishi Electric System & Service Co., Ltd. are shown in Appendix of each handbook for transition.

• Products shown in this handbook are subject to change without notice.

GENERIC TERMS AND ABBREVIATIONS

Unless otherwise specified, this handbook uses the following generic terms and abbreviations.

Generic term/abbreviatio	n Description	
■Series		
A series	Abbreviation for large types of Mitsubishi Electric MELSEC-A series programmable controllers	
AnS series	Abbreviation for compact types of Mitsubishi Electric MELSEC-A series programmable	
	controllers	
A/AnS series	Generic term for A series and AnS series	
QnA series	Abbreviation for large types of Mitsubishi Electric MELSEC-QnA series programmable	
	controllers	
QnAS series	Abbreviation for compact types of Mitsubishi Electric MELSEC-QnA series programmable	
QIIAO SEIIES	controllers	
QnA/QnAS series	Generic term for QnA series and QnAS series	
A/AnS/QnA/QnAS series	Generic term for A series, AnS series, QnA series, and QnAS series	
Q series	Abbreviation for Mitsubishi Electric MELSEC-Q series programmable controllers	
■CPU module type		
CPU module	Generic term for A series, AnS series, QnA series, QnAS series, and Q series CPU modules	
Process CPU	Generic term for the Q02PHCPU, Q06PHCPU, Q12PHCPU, and Q25PHCPU	
Redundant CPU	Generic term for the Q12PRHCPU and Q25PRHCPU	
	Generic term for the Q00UJCPU, Q00UCPU, Q01UCPU, Q02UCPU, Q03UDCPU,	
	Q03UDVCPU, Q03UDECPU, Q04UDHCPU, Q04UDVCPU, Q04UDEHCPU, Q06UDHCPU,	
Universal model QCPU	Q06UDVCPU, Q06UDEHCPU, Q10UDHCPU, Q10UDEHCPU, Q13UDHCPU, Q13UDVCPU,	
	Q13UDEHCPU, Q20UDHCPU, Q20UDEHCPU, Q26UDHCPU, Q26UDVCPU, and	
	Q26UDEHCPU	
■CPU module model		
ACPU	Generic term for MELSEC-A series programmable controller CPUs	
AnSCPU	Generic term for MELSEC-AnS series programmable controller CPUs	
A/AnSCPU	Generic term for MELSEC-A series and MELSEC-AnS series programmable controller CPUs	
	Generic term for the A1NCPU, A1NCPUP21/R21, A1NCPUP21-S3, A2NCPU, A2NCPU-S1,	
AnNCPU	A2NCPUP21/R21, A2NCPUP21/R21-S1, A2NCPUP21-S3(S4), A3NCPU, A3NCPUP21/R21,	
	and A3NCPUP21-S3	
	Generic term for the A2ACPU, A2ACPU-S1, A3ACPU, A2ACPUP21/R21, A2ACPUP21/R21-	
AnACPU		
	S1, and A3ACPUP21/R21 Generic term for the A2UCPU, A2UCPU-S1, A3UCPU, A4UCPU, A2USCPU, A2USCPU-S1,	
AnUCPU		
	and A2USHCPU-S1	
	Generic term for the AnNCPU and AnACPU	
AnN/AnA/AnSCPU	Generic term for the AnNCPU, AnACPU, and AnSCPU	
QnACPU	Generic term for MELSEC-QnA series programmable controller CPUs	
QnASCPU	Generic term for MELSEC-QnAS series programmable controller CPUs	
QnA/QnASCPU	Generic term for MELSEC-QnA series and MELSEC-QnAS series programmable controller	
	CPUs	
A/AnS/QnA/QnASCPU	Generic term for A series, AnS series, QnA series, and QnAS series programmable controller	
	CPUs	
QCPU	Generic term for MELSEC-Q series programmable controller CPUs	

[About symbols used in figures]

MELSECNET/H
Image: Control station Image: Normal station Image: MR Remote master station
■ stands for the network No., and □ stands for the station No.

INTRODUCTION

1.1 Transition from MELSECNET (II) and /B to MELSECNET/H

1.1.1 Transition to the Q series

To replace the MELSECNET (II) and /B system with the Q series system, replace it with the MELSECNET/H system.

For a replacement method, refer to Section 1.1.2.

The following shows the configuration of the Q series MELSECNET/H system after the transition and the system configuration precautions at transition for each of the MELSECNET (II) and /B system configurations.

For details, refer to CHAPTER 2 and CHAPTER 3.

Network type	2-tier/3-tier	Component stations	Refer to
		Local station only	Section 1.1.1 (1) (a)
	2-tier system	Remote I/O station only	Section 1.1.1 (1) (b)
Optical loop		Mixture of local station and remote I/O station	Section 1.1.1 (1) (c)
Optical loop		Local station only	Section 1.1.1 (1) (d)
	3-tier system	2-tier local station, 3-tier remote I/O station	Section 1.1.1 (1) (e)
		Mixture of local station and remote I/O station	Section 1.1.1 (1) (f)
		Local station only	Section 1.1.1 (2) (a)
	2-tier system	Remote I/O station only	Section 1.1.1 (2) (b)
Coovial loop		Mixture of local station and remote I/O station	Section 1.1.1 (2) (c)
Coaxial loop	3-tier system	Local station only	Section 1.1.1 (2) (d)
		2-tier local station, 3-tier remote I/O station	Section 1.1.1 (2) (e)
		Mixture of local station and remote I/O station	Section 1.1.1 (2) (f)
		Local station only	Section 1.1.1 (3) (a)
	2-tier system	Remote I/O station only	Section 1.1.1 (3) (b)
Twistod pair		Mixture of local station and remote I/O station	Section 1.1.1 (3) (c)
Twisted pair		Local station only	Section 1.1.1 (3) (d)
	3-tier system	2-tier local station, 3-tier remote I/O station	Section 1.1.1 (3) (e)
		Mixture of local station and remote I/O station	Section 1.1.1 (3) (f)

(1) Optical cable system

(a) 2-tier system 1: System configuration example using local stations only

MELSECNET(II)	MELSECNET/H	System configuration precautions
Optical loop	Optical loop 1MP4 1Ns1 Network 1 1Ns3 1Ns2	 Distance between stations: If this value exceed the Q series specification values when re-using the MELSECNET(II) system cables, optical cables, etc. has to be changed.*1 CPU: When replacing from an integrated type CPU, one new slot (32 points) is required. Number of stations: When 65 modules are connected, measures (e.g. dividing into two networks of 64 modules or less having a different network No.) are required.

*1 As the transmission speed of MELSECNET/H is faster than that of MELSECNET(II), the distance between stations may become shorter.

(b) 2-tier system 2: System configuration example using remote I/O stations only

MELSECNET(II)	MELSECNET/H		System configuration precautions
Optical loop	Optical loop	1)	Distance between stations: If this value
\bigcirc	\frown		exceed the Q series specification values
(M)			when re-using the MELSECNET(II)
			system cables, optical cables, etc. has to
$\left(R1 \right) \left(R3 \right)$	(1R1)Network 1 $(1R3)$		be changed. ^{*1}
$\langle \rangle$	$\langle \langle \rangle \rangle$	2)	CPU: When replacing from an integrated
(R2)	(1R2)		type CPU, one new slot (32 points) is
\smile			required.

*1 As the transmission speed of MELSECNET/H is faster than that of MELSECNET(II), the distance between stations may become shorter.

(c) 2-tier system 3: System configuration example using local stations/remote I/O stations

MELSECNET(II)	MELSECNET/H		System configuration precautions
		1)	Distance between stations: If this value
			exceed the Q series specification values
			when re-using the MELSECNET(II)
			system cables, optical cables, etc. has to
			be changed. ^{*1}
Optical loop	Ontiant loop	2)	CPU: When replacing from an integrated
\bigcirc	Optical loop		type CPU, one new slot (32 points) is
M			required.
$\langle \rangle$	(1Ns1) Network 1Mp4/2MR Network (2R3)	3)	Composite system: As a mixture of a PLC
(L1) (R3)			to PLC network and a remote I/O network
$\langle \rangle$			is not allowed on the Q series, the
(L2)			network has to be divided into two
\smile			networks having different network Nos.
			For this reason, a separate network
			module for the remote master station is
			required.
		4)	New installation: A separate optical cable
			is required for the remote I/O stations.

*1 As the transmission speed of MELSECNET/H is faster than that of MELSECNET(II), the distance between stations may become shorter.

(d) 3-tier system 1: System configuration example using local stations only

MELSECNET(II)	MELSECNET/H		System configuration precautions
Optical loop	Optical loop	1)	Distance between stations: If this value
\frown	\frown		exceed the Q series specification values
(M)	(1Mp4)		when re-using the MELSECNET(II)
			system cables, optical cables, etc. has to
$\begin{pmatrix} L1 \end{pmatrix}$ $\begin{pmatrix} L3 \end{pmatrix}$	(1Ns1)Network 1(1Ns3)		be changed. ^{*1}
$\langle \rangle$		2)	CPU: When replacing from an integrated
L2/m	1Ns2/2Mp4		type CPU, one new slot (32 points) is
			required.
		3)	Number of stations: When 65 modules
	(2Ns1) Network 2 (2Ns3)		are connected, measures (e.g. dividing
			into two networks of 64 modules or less
(12)	(2Ns2)		having a different network No.) are
			required.

*1 As the transmission speed of MELSECNET/H is faster than that of MELSECNET(II), the distance between stations may become shorter.

(e) 3-tier system 2: System configuration example using 2-tier local stations and 3-tier remote I/O stations

MELSECNET(II)	MELSECNET/H	System configuration precautions
Optical loop	Optical loop	1) Distance between stations: If this value
		exceed the Q series specification values
(м)	(1Mp4)	when re-using the MELSECNET(II)
		system cables, optical cables, etc. has to
$\begin{pmatrix} L1 \end{pmatrix}$ $\begin{pmatrix} L3 \end{pmatrix}$	(1Ns1)Network 1(1Ns3)	be changed. ^{*1}
$\langle \rangle$		2) CPU: When replacing from an integrated
L2/m	1Ns2/2MR	type CPU, one new slot (32 points) is
		required.
		3) Number of stations: When 65 modules
(r1) $(r3)$	(2R1) Network 2 (2R3)	are connected, measures (e.g. dividing
		into two networks of 64 modules or less
(r2)	(2R2)	having a different network No.) are
)		required.

*1 As the transmission speed of MELSECNET/H is faster than that of MELSECNET(II), the distance between stations may become shorter.

(f) 3-tier system 3: System configuration example using local stations/remote I/O stations

MELSECNET(II)	MELSECNET/H		System configuration precautions
Optical loop	Optical loop 1MP4 1Ns1 Network 1 (1Ns3) 1Ns2/2MP4/3MR Network 2 Network 3 2Ns1 2Ns2 3R3	1) 2) 3) 4)	exceed the Q series specification values when re-using the MELSECNET(II) system cables, optical cables, etc. has to be changed. ^{*1} CPU: When replacing from an integrated type CPU, one new slot (32 points) is required. Composite system: As a mixture of a PLC to PLC network and a remote I/O network is not allowed on the Q series, the network has to be divided into two networks having different network Nos. For this reason, a separate network module for the remote master station is required.

*1 As the transmission speed of MELSECNET/H is faster than that of MELSECNET(II), the distance between stations may become shorter.

(2) Coaxial cable system

(a) 2-tier system 1: System configuration example using local stations only

MELSECNET(II)	MELSECNET/H	System configuration precautions
Coaxial loop	Coaxial bus	 Distance between stations: If this value exceed the Q series specification values when re-using the MELSECNET(II) system cables, 3C-2V has to be changed to 5C-2V.*1 Overall distance: If this value exceeds the Q series specification value when MELSECNET(II) system cables are re- used, measures (e.g. adding a repeater unit) are required.*1 CPU: When replacing an integrated type CPU, one new slot (32 points) is required. Number of stations: When 65 modules are connected, measures (e.g. dividing into two or three networks of 32 modules or less having a different network No.) are required. Duplex loop: When the transmission path has to be duplexed, changes to an optical loop system, etc. are required.

*1 As the transmission speed of MELSECNET/H is faster than MELSECNET(II), and as the transmission method is different, the distance between stations and overall distance become shorter.

(b) 2-tier system 2: System configuration example using local stations only

MELSECNET(II)	MELSECNET/H	System configuration precautions
Coaxial loop	Coaxial bus	 Distance between stations: If this value exceed the Q series specification values when re-using the MELSECNET(II) system cables, 3C-2V has to be changed to 5C-2V.*1 Overall distance: If this value exceeds the Q series specification value when MELSECNET(II) system cables are re- used, measures (e.g. adding a repeater unit) are required.*1 CPU: When replacing an integrated type CPU, one new slot (32 points) is required. Number of stations: When 65 modules are connected, measures (e.g. dividing into two or three networks of 32 modules or less having a different network No.) are required. Duplex loop: When the transmission path has to be duplexed, changes to an optical loop system, etc. are required.

1

MELSECNET(II)	MELSECNET/H		System configuration precautions
		1)	Distance between stations: If this value
			exceed the Q series specification values
			when re-using the MELSECNET(II)
			system cables, 3C-2V has to be changed
			to 5C-2V. ^{*1}
		2)	Overall distance: If this value exceeds the
			Q series specification value when
			MELSECNET(II) system cables are re-
Coaxial loop			used, measures (e.g. adding a repeater
	Coaxial bus		unit) are required.*1
(M)		3)	CPU: When replacing an integrated type
	1MP4/2MR		CPU, one new slot (32 points) is required.
$\begin{pmatrix} L1 \end{pmatrix}$ $\begin{pmatrix} R3 \end{pmatrix}$	Network 1 Network 2	4)	Duplex loop: When the transmission path
$\langle \rangle$			has to be duplexed, changes to an optical
L2	(1Ns1) (1Ns2) (2R3)		loop system, etc. are required.
		5)	Composite system: As a mixture of a PLC
			to PLC network and a remote I/O network
			is not allowed on the Q series, the
			network has to be divided into two
			networks having different network Nos.
			For this reason, a separate network
			module for the remote master station is
			required.
		6)	
			is required for the remote I/O stations.

(c) 2-tier system 3: System configuration example using local stations/remote I/O stations

(d) 3-tier system 1: System configuration example using local stations only

MELSECNET(II)	MELSECNET/H	1	System configuration precautions
Coaxial loop	Coaxial bus 1MP4 Network 1 1Ns1 1Ns2/2MP4 (1Ns3) Network 2 2Ns1 (2Ns2) (2Ns3)	 1) 2) 3) 4) 5) 	Distance between stations: If this value exceed the Q series specification values when re-using the MELSECNET(II) system cables, 3C-2V has to be changed to 5C-2V. ^{*1} Overall distance: If this value exceeds the Q series specification value when MELSECNET(II) system cables are re- used, measures (e.g. adding a repeater unit) are required. ^{*1} CPU: When replacing an integrated type CPU, one new slot (32 points) is required. Number of stations: When 65 modules are connected, measures (e.g. dividing into two or three networks of 32 modules or less having a different network No.) are required.

*1 As the transmission speed of MELSECNET/H is faster than MELSECNET(II), and as the transmission method is different, the distance between stations and overall distance become shorter.

(e) 3-tier system 2: System configuration example using 2-tier local stations and 3-tier remote I/O stations

MELSECNET(II)	MELSECNET/H		System configuration precautions
Coaxial loop	MELSECNET/H Coaxial bus 1MP4 Network 1 1Ns1 1Ns2/2MR (1Ns3) Network 2	1) 2) 3)	Distance between stations: If this value exceed the Q series specification values when re-using the MELSECNET(II) system cables, 3C-2V has to be changed to 5C-2V. ^{*1} Overall distance: If this value exceeds the Q series specification value when MELSECNET(II) system cables are re- used, measures (e.g. adding a repeater unit) are required. ^{*1}
(r1) (r3) (r2)	2R1 2R2 2R3	4) 5)	are connected, measures (e.g. dividing into two or three networks of 32 modules or less having a different network No.) are required.

MELSECNET(II)	MELSECNET/H		System configuration precautions
		1)	Distance between stations: If this value
			exceed the Q series specification values
			when re-using the MELSECNET(II)
			system cables, 3C-2V has to be changed
			to 5C-2V. ^{*1}
		2)	Overall distance: If this value exceeds the
Coaxial loop			Q series specification value when
	Coaxial bus		MELSECNET(II) system cables are re-
(M)			used, measures (e.g. adding a repeater
	(1MP4)		unit) are required. ^{*1}
(L1) $(L3)$	Network 1	3)	CPU: When replacing an integrated type
$\langle \rangle$			CPU, one new slot (32 points) is required.
L2/m	(1Ns1)1Ns2/2Mp4/3Mr(1Ns3)	4)	Duplex loop: When the transmission path
			has to be duplexed, changes to an optical
	Network 2 Network 3		loop system, etc. are required.
	(2Ns1) (2Ns2) (3R3)	5)	Composite system: As a mixture of a PLC
			to PLC network and a remote I/O network
			is not allowed on the Q series, the
			network has to be divided into two
			networks having different network Nos.
			For this reason, a separate network
			module for the remote master station is
			required.
		6)	New installation: A separate coaxial cable
			is required for the remote I/O stations.

(f) 3-tier system 3: System configuration example using local stations/remote I/O stations

(3) Twisted cable system

(a) 2-tier system 1: System configuration example using local stations only

MELSECNET/B	MELSECNET/H	System configuration precautions
	Optical loop	
	1Mp4 1Ns1 Network 1 (1Ns3) 1Ns2	New installation: The installation has to be changed for an optical loop system or a coaxial bus system.
	Coaxial bus	
	(1MP4)	
Twisted	Network 1 (1Ns1) (1Ns2) (1Ns3)	
	Twisted cables (using existing	
	cables)	Existing cables: Process the terminals for MELSECNET/H connection.
	Twisted cables (using CC-Link	
	dedicated cables)	New installation: Change the cables to CC- Link dedicated cables.

(b) 2-tier system 2: System configuration example using remote I/O stations only

MELSECNET/B	MELSECNET/H	System configuration precautions
Twisted M R1 R2 R3	Optical loop 1MR 1R1 Network 1 1R3 1R2 Coaxial bus 1MR Network 1 1R1 1R2 1R3	 New installation: The installation has to be changed for an optical loop system or a coaxial bus system. Wire-saving: Changing to a wire-saving network by using CC-Link or CC-Link/LT is also recommended.

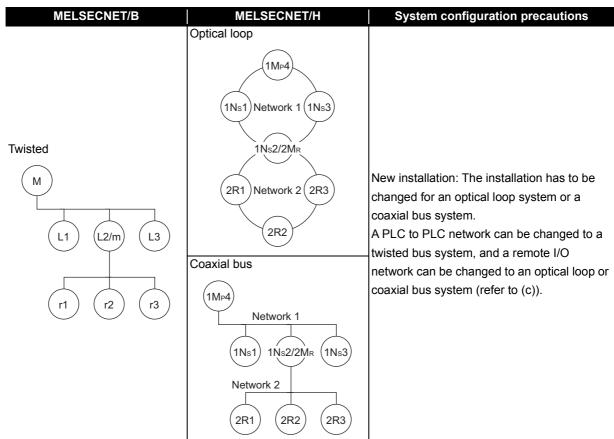
1

MELSECNET/B	MELSECNET/H		System configuration precautions
	Optical loop		
	INs1 Network 1 Network 2 2 INs2 INs2 INs2 INs2 INs2 Coaxial bus IMp4/2MR Network 2	1) 2)	New installation: The installation has to be changed for an optical loop system or a coaxial bus system. Composite system: As a mixture of a
Twisted			PLC to PLC network and a remote I/O
M	(1Ns1) $(1Ns2)$ $(2R3)$		network is not allowed on the Q series, the network has to be divided into two
	Twisted/Optical loop		networks having different network Nos.
L1 L2 R3	1MP4/2MR Network 2 Network 1 (Twisted)	3)	For this reason, a separate network module for the remote master station is required. Wire-saving: Changing to a wire-
			saving network by using CC-Link or CC-Link/LT is also recommended for
	Twisted/Coaxial bus		remote I/O stations.
	Network 1 (Twisted) (Network 2 (Coaxial bus) (Ns1) (Ns2) (2R3)		

(c) 2-tier system 3: System configuration example using local stations/remote I/O stations

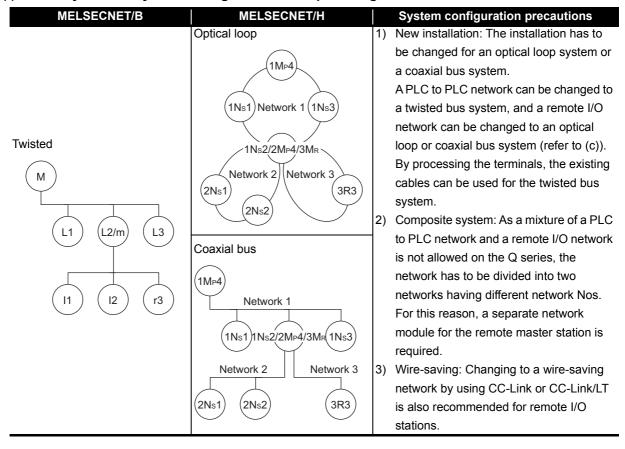
(d) 3-tier system 1: System configuration example using local stations only

MELSECNET/B	MELSECNET/H	System configuration precautions
Twisted	Optical loop 1MP4 1Ns1 Network 1 1Ns3 1Ns2/2MP4 2Ns1 Network 2 2Ns3 2Ns2 Coaxial bus 1MP4 Network 1 1Ns1 1Ns2/2MP4 (1Ns3) Network 2 2Ns1 (2Ns2) (2Ns3)	New installation: The installation has to be changed for an optical loop system or a coaxial bus system.
	Twisted (using existing cables)	Existing cables: Process the terminals for MELSECNET/H connection.
	Twisted (using CC-Link dedicated cables) 1MP4 Network 1 1Ns1) 1Ns2/2MP4 (1Ns3) Network 2 2Ns1 (2Ns2) (2Ns3)	New installation: Change the cables to CC- Link dedicated cables.



(e) 3-tier system 2: System configuration example using 2-tier local stations and 3-tier remote I/O stations

(f) 3-tier system 3: System configuration example using local stations/remote I/O stations



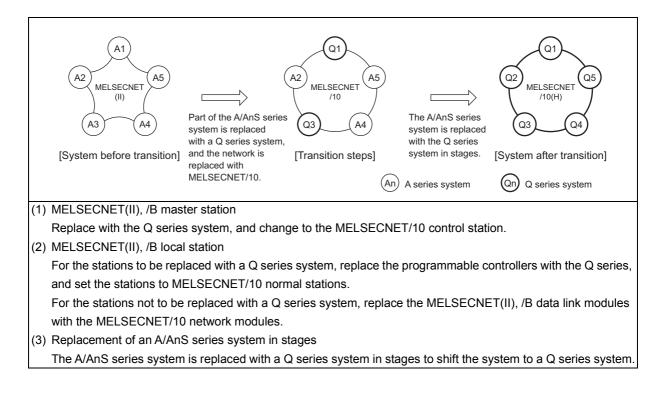
1.1.2 Transition procedure to a Q series MELSECNET/H system

	The A/QnA series MELSECNET/10 network modules were discontinued. The AnS/QnAS series
Nation	MELSECNET/10 network modules and the A-A1S module conversion adapter are produced continuously. The
Notice	MELSECNET(II) system of the A/QnA series can be replaced with the MELSECNET/10 system
	simultaneously by using those products.

The following shows the transition procedure to a Q series system.

Simultaneous replacement with MELSECNET/10

The entire MELSECNET(II) system is replaced with a MELSECNET/10 system with the wiring left as it is, and then the A/AnS/QnA/QnAS series system is replaced with the Q series system in stages. Note, however, that the gradual transition cannot be made in a network where both of the A/AnS/QnA/QnAS series system exist. This is because the MELSECNET/H twisted bus system supports only the Q series system.



1.1.3 Replacement selection points

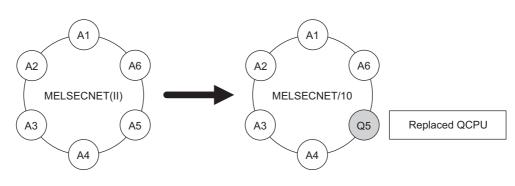
To replace any one stations in the existing MELSECNET(II) with the QCPU or to add the QCPU in the system, replace the network used with the MELSECNET/10 simultaneously.

(1) Replacing the existing A/AnS/QnA/QnASCPU with the QCPU

This section describes the methods for replacing the network used with the MELSECNET/10 simultaneously and replacing any one stations in the existing MELSECNET(II) with the QCPU.

Existing network configuration

Replaced network configuration



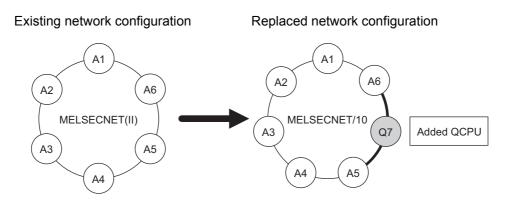
O : No restrictions, \bigcirc : Some restrictions, \bigtriangleup : Many restrictions

	ltem		Advantage	Outline	Reference
		Optical cable	Ø	 Laying change is not required since the existing network cable can be used without change. Due to restrictions on station-to-station distance in some cable types, check the cable type if the distance is long. 	Section 2.2.1 (1)
	Cable	Coaxial loop	0	 Change from coaxial loop to coaxial bus is required. One side of the existing coaxial cable can be utilized. Due to restrictions on overall cable distance, if the distance is long, repeater module is required. 	Section 2.2.1 (2)
Cost	laying	Twisted pair	Δ	 Since the twisted pair cables can be used for the MELSECNET/H only, all stations must be replaced with QCPU. When replacing the stations with QCPU step-by-step or replacing with the remote I/O network, change the twisted pair cables to coaxial bus cables. (The twisted pair cables cannot be used for the remote I/O network.)^{*1} 	Section 2.2.1 (3)
	Network module		Δ	 All the existing stations are required to be replaced with the MELSECNET/10 modules. 	-
	Only first in second system		Ø	 Setting made to the existing network parameter can be utilized without change. 	Section 2.5.1 (1)
Modification on software	Latter ha second ti	lf set in er system	0	 Station-specific parameter setting is required. If the AnN, AnA, or AnSCPU (excluding AnUS(H)CPU) exists, newly set network parameters and modify the program. 	Section 2.5.1 (1)
	Three-tie	Three-tier system		 Since the second tier and the third tier is separate network, reviewing the network parameter and program is required 	Section 2.5.3, Section 2.5.4
Extensibility			Ø	 By simultaneous replacement to the MELSECNET/10, replacing arbitrary station with the QCPU is possible. If modification on software is required, modifying it at replacement of the first module allows omitting modification to the second module or later. 	-

*1 Twisted pair cables can be used by replacing the remote I/O station with a normal station and configuring a PLC to PLC network.

(2) Adding the QCPU to the existing network system

This section describes the methods for replacing the existing MELSECNET(II) network with the MELSECNET/10 simultaneously and adding the QCPU in the system.



	ltem		Advantage	Outline	Reference
		Optical cable	0	 The existing cable can be utilized, however; since one station has been added, laying change of before and after the added station is required. Due to restrictions on station-to-station distance in some cable types, check the cable type if the distance is long. 	Section 2.2.1 (1)
Qual	Cable laying	Coaxial loop	0	 Change from coaxial loop to coaxial bus is required. One side of the existing coaxial cable can be utilized. Due to restrictions on overall cable distance, if the distance is long, repeater module is required. 	Section 2.2.1 (2)
Cost		Twisted pair	Δ	 Since the twisted pair cables can be used for the MELSECNET/H only, all stations must be replaced with QCPU. When replacing the stations with QCPU step-by-step or replacing with the remote I/O network, change the twisted pair cables to coaxial bus cables. (The twisted pair cables cannot be used for the remote I/O network.)^{*1} 	Section 2.2.1 (3)
Network module		Δ	 All the existing stations are required to be replaced with the MELSECNET/10 modules. 	-	
	Only first in second system		Ø	 Data link is possible by only changing the existing network parameter according to the added station(s). 	Section 2.5.1 (1)
Modification on software	Latter ha second ti	lf set in er system	0	 Station-specific parameter setting is required. If the AnN, AnA, or AnSCPU (excluding AnUS(H)CPU) exists, newly set network parameters and modify the program. 	Section 2.5.1 (1)
	Three-tie	r system	Δ	• Since the second tier and the third tier is separate network, reviewing the network parameter and program is required.	Section 2.5.3, Section 2.5.4
Extensibility			Ø	 By simultaneous replacement to the MELSECNET/10, an arbitrary station can be replaced with the QCPU. If modification on software is required, modifying parameters and a program at addition of the first module allows data link. At addition of the second module or later, data link is possible by only changing the existing network parameter according to the added station. 	-

*1 Twisted pair cables can be used by replacing the remote I/O station with a normal station and configuring a PLC to PLC network.

1.2 Replacement of the MELSECNET/10 for A/AnS/QnA/QnAS Series with the MELSECNET/H for Q Series

The following shows the configuration of a MELSECNET/H network system for Q after transition and the system configuration precautions for transition for each of the system configurations for MELSECNET/ 10 network systems for A/AnS/QnA/QnAS series.

For details, refer to CHAPTER 4 REPLACEMENT OF THE MELSECNET/10 (PLC TO PLC NETWORK) and CHAPTER 5 REPLACEMENT OF THE MELSECNET/10(REMOTE I/O NETWORK).

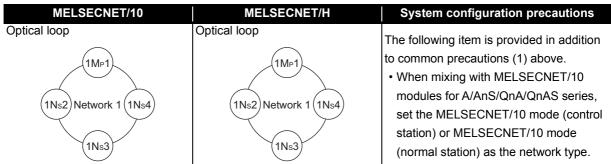
(1) PLC to PLC network

Pay attention to the following common precautions when replacing PLC to PLC networks.

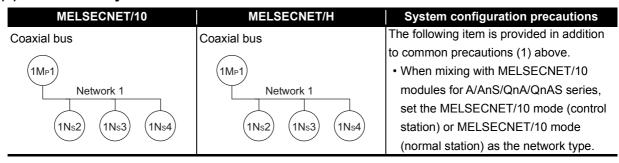
Common precautions

 Network parameters must be set for MELSECNET/H module of normal stations. When replacing MELSECNET/10 module mounted on the CPU module of the AnN/AnA/AnSCPU (excluding AnUS(H)CPU), newly set network parameters.

(a) Optical loop system



(b) Coaxial bus system



(c) Coaxial loop system

MELSECNET/10	MELSECNET/H	System configuration precautions
Coaxial loop	Coaxial bus	 The following item is provided in addition to common precautions (1) described on the previous page. Overall distance: If this value exceeds the Q series specification value when the MELSECNET/10 system cables are re-used, measures (e.g. adding a repeater unit) are required. Number of stations: When 64 modules are connected, measures (e.g. dividing into two or three networks of 32 modules or less having a different network No.) are required. Duplex loop: When the transmission path has to be duplexed, changes to an optical loop system, etc. are required.

(2) Remote I/O network

Pay attention to the following common precautions when replacing remote I/O networks.

Common precautions

- 1) Modules for remote I/O of the CPU module on each master station
 - (a) When the Q series CPU module on the master station is used On the remote I/O network, the MELSECNET/H module and MELSECNET/10 module for A/ AnS/QnA/QnAS series cannot be used in combination. When the master station is replaced with the Q series modules, replace all remote I/O station with the MELSECNET/H module for the Q series.
 - (b) When the AnU(S)/QnA(S) series CPU module on the master station is used On the remote I/O network, the MELSECNET/H module for the Q series and MELSECNET/10 module for the A/AnS/QnA/QnAS series can be used in combination using MELSECNET/10 mode.

O: Connection allowed, ×: Connection not allowed

Remote I/O station Remote master station	MELSECNET/10 module for A/AnS/QnA/QnAS series	MELSECNET/H module for Q series
AnU(S)/QnA(S)CPU + MELSECNET/10 module for A/AnS/QnA/QnAS series	0	O ^{*1} (MELSECNET/10 mode)
Q series CPU module + MELSECNET/H module for Q series	×	O (MELSECNET/H mode)

*1 Modules with a serial number (first five digits) of "15012" or later

- 1) When replacing a multiplex master system, select Q12PHCPU, Q25PHCPU, Q12PRHCPU, or Q25PRHCPU as the CPU module.
- 2) When replacing a parallel master system, build a separate network having a different network No.

(a) Optical loop system

• When the master station is replaced

MELSECNET/10	MELSECNET/H	System configuration precautions
Optical loop	Optical loop	
1MR 1R1 Network 1 (1R3) (1R2)	1MR 1R1 Network 1 1R3 1R2	The module configuration example when the master station is replaced 1M _R : QCPU + QJ71LP21-25 1R1 to 1R3: QJ72LP25-25 (MELSECNET/H mode)

• When the module is replaced gradually

MELSECNET/10	MELSECNET/10	System configuration precautions
Optical loop	Optical loop	
(An) (An) (An) (An) (An) (An) (An)	(An) (An) (An) (An) (An) (An) (An)	The example when the module is replaced gradually (1R3 is replaced with the Q series module) 1R3: A(1S)J72(Q)LP25 → QJ72LP25-25 (MELSECNET/10 mode)

(b) Coaxial bus system

• When the master station is replaced

MELSECNET/10	MELSECNET/H	System configuration precautions
Coaxial bus	Coaxial bus	The module configuration example when the master station is replaced 1M _R : QCPU + QJ71BR11 1R1 to 1R3: QJ72BR15 (MELSECNET/H mode)

• When the module is replaced gradually

MELSECNET/10	MELSECNET/10	System configuration precautions
Coaxial bus	Coaxial bus	The example when the module is replaced gradually (1R3 is replaced with the Q series module) 1R3: A(1S)J72(Q)BR15 \rightarrow QJ72BR15 (MELSECNET/10 mode)

(c) Coaxial loop system

MELSECNET/10	MELSECNET/H	System configuration precautions
Coaxial loop	Coaxial bus	 The Q series modules do not support the coaxial loop system. When the existing system is replaced with the coaxial loop system, replace all remote I/O stations. Overall distance: If this value exceeds the Q series specification value when the MELSECNET/10 system cables are re-used, measures (e.g. adding a repeater unit) are required. Number of stations: When 64 modules are connected, measures (e.g. dividing into two or three networks of 32 modules or less having a different network No.) are required. Duplex loop: When the transmission path has to be duplexed, changes to an optical loop system, etc. are required.

1.3 Replacing the CC-Link for A/AnS/QnA/QnAS Series with the CC-Link for Q Series

When using the A/AnS/QnA/QnAS series CC-Link system master/local module, replace it with the QJ61BT11N CC-Link system master/local module.

Currently used CC-Link dedicated cables, remote I/O stations, remote device stations, and intelligent device stations can be used excluding some models.

For details on models that cannot be used, check Section 6.7 Other Precautions.

MELSEC

2 REPLACEMENT OF MELSECNET (II) AND /B (PLC TO PLC NETWORK)

2.1 List of MELSECNET (II) and /B Alternative Models

(1) Replacement of MELSECNET (II) modules with MELSECNET/H modules

Network type	A/AnS/A0J2(H) series	Alternative models for Q series
	A1NCPUP21	
	A2NCPUP21	
	A2NCPUP21-S1	
Optical loop	A3NCPUP21	CPU module + QJ71LP21-25 (Optical loop: SI cable
(CPU integrated type)	A2ACPUP21	
(CPO integrated type)	A2ACPUP21-S1	-supported)
	A3ACPUP21	
	A2CCPUP21	
	A0J2HCPUP21	
	A1NCPUP21-S3	
	A2NCPUP21-S3	
Optical loop	A2NCPUP21-S4	CPU module + QJ71LP21G (Optical loop: GI cable
	A3NCPUP21-S3	
(CPU integrated type)	A2ACPUP21-S3	-supported)
	A2ACPUP21-S4	
	A3ACPUP21-S3	
	A1NCPUR21	
	A2NCPUR21	
	A2NCPUR21-S1	
Coaxial loop	A3NCPUR21	
	A2ACPUR21	CPU module + QJ71BR11 (Coaxial bus)
(CPU integrated type)	A2ACPUR21-S1	
	A3ACPUR21	
	A2CCPUR21	
	A0J2HCPUR21	
Optical loop	AJ71AP21	QJ71LP21-25 (Optical loop: SI cable supported)
(Standalone)	A1SJ71AP21	
	AJ71AP21-S3	
Optical loop	AJ71P22-S3 ^{*1}	QJ71LP21G (Optical loop: GI cable supported)
(Standalone)	AJ71AP22-S3 ^{*1}	
	A1SJ71AP21-S3	1
Coaxial loop	AJ71AR21	O 171PP11 (Capyiel hue)
(Standalone)	A1SJ71AR21	QJ71BR11 (Coaxial bus)

*1 These modules can be used as the master station only.

2

(2) Replacement of MELSECNET/B modules with MELSECNET/H modules

2

Network type	A/AnS series	Alternative models for Q series
	AJ71AT21B	QJ71NT11B (Twisted bus) ^{*1}
Twisted pair	A1SJ71AT21B	QJ71LP21-25 (Optical loop: SI cable supported)
		QJ71BR11 (Coaxial bus)

*1 Supported by the QCPU only. A system including an A/AnS/QnA/QnAS series module cannot be configured. The twisted bus system can be employed for a PLC to PLC network, but not for a remote I/O network.

2.2 Performance Specifications Comparisons

2.2.1 Module performance comparisons

2

(1) Comparison between MELSECNET (II) module (optical loop) and MELSECNET/H module (optical loop)

(a) SI optical fiber cable, H-PCF optical fiber cable

O: Compatible, $\bigtriangleup:$ Partial change required, ${\sf \times}:$ Incompatible

		Specifications			
Item		MELSECNET (II) module MELSECNET/H module			Precautions for replacement
		Optical loop Optical loop (QJ71LP21-25)		ibility	
	X/Y	Max. 2048 points and max. number of I/ O points of CPU module on master station	(MELSECNET/10 mode), (MELSECNET/H mode), (MELSECNET/H extended mode) 8192 points	0	
Maximum number of link points per network	в	(MELSECNET mode) 1024 points (MELSECNET II mode), (MELSECNET II composite mode) 4096 points	(MELSECNET/10 mode) 8192 points (MELSECNET/H mode), (MELSECNET/H extended mode) 16384 points	0	
	w	(MELSECNET mode) 1024 points (MELSECNET II mode), (MELSECNET II composite mode) 4096 points	(MELSECNET/10 mode) 8192 points (MELSECNET/H mode), (MELSECNET/H extended mode) 16384 points	0	
Maximum number of link points per station		(MELSECNET mode) 1024 bytes (MELSECNET II mode), (MELSECNET II composite mode) First half: 1024 bytes Second half: 1024 bytes	(MELSECNET/10 mode), (MELSECNET/H mode) {(LY+LB) ÷ 8+(2 × LW)} ≤ 2000 bytes (MELSECNET/H extended mode) {(LY + LB) ÷ 8 + (2 × LW)} ≤ 35840 bytes	Δ	When the number of bytes exceeds 2000, mount two modules having the same network No., or set all modules on the network in the MELSECNET/H extended mode.
Communicati speed	on	1.25Mbps	25Mbps/10Mbps	0	
Number of sta connected in network		65 stations (master station: 1, local station + remote I/O station: 64)	64 stations (control station: 1 normal station: 63)	Δ	 Set the remote I/O network to a separate network. For the 65th station, configure a separate network.
Applicable cable		SI optical cable H-PCF optical cable	SI optical cable H-PCF optical cable Broad-band H-PCF optical cable QSI optical cable	Δ	When using existing SI cables, the distance between stations may be shortened. (Refer to Section 2.2.2.)
Overall distar	nce	10km	30km	0	
Distance betw stations	ween	Refer to Section 2.2.2.	Refer to Section 2.2.2.	Δ	To ensure the same distance as before replacement, either change the optical cable, or install a gateway station midway along existing cables.
Maximum number of networks		-	239	Δ	New MELSECNET/H parameter (mandatory)
Communicati method	on	Half duplex bit serial method	Token ring method	Δ	Nothing to be noted though the communication method differs.
Transmission method Modulation method (Encoding method) Transmission format		Duple	x loop	0	
		(Modulation method) CMI method	(Encoding method) NRZI coding	Δ	Nothing to be noted though the modulation method differs.
		HDLC standard	s (frame format)	0	
Error control system		CRC(X ¹⁶ +X ¹² +X ⁵ +1) a	$CRC(X^{16}+X^{12}+X^5+1)$ and retry by a time over		
RAS function		 Loop-back function due to error detecti Diagnostic function for checking local li 		0	
Number of occupied I/O	points	Diagnostic function for checking local link lines CPU integrated type: 0 point, standalone:32 points per slot (I/O assignment: special 32 points) 32 points per slot (I/O assignment: intelli. 32 points)			When replacing from a CPU integrated type, an additional slot (32 points) is required.

(b) Modules for GI optical cable

O: Compatible, $\bigtriangleup:$ Partial change required, $\times:$ Incompatible

		Specifi	Compat-	Proceutions for	
Item		MELSECNET (II) module MELSECNET/H module			Precautions for replacement
		Optical loop	Optical loop (QJ71LP21-25)	ibility	ropidoomont
	X/Y	Max. 2048 points and max. number of I/O points of CPU module on master station	(MELSECNET/10 mode), (MELSECNET/H mode), (MELSECNET/H extended mode) 8192 points	0	
Maximum number of link points per network	в	(MELSECNET mode) 1024 points (MELSECNET II mode), (MELSECNET II composite mode) 4096 points	(MELSECNET/10 mode) 8192 points (MELSECNET/H mode), (MELSECNET/H extended mode) 16384 points	0	
	w	(MELSECNET mode) 1024 points (MELSECNET II mode), (MELSECNET II composite mode) 4096 points	(MELSECNET/10 mode) 8192 points (MELSECNET/H mode), (MELSECNET/H extended mode) 16384 points	0	
Maximum nu of link points station		(MELSECNET mode) 1024 bytes (MELSECNET II mode), (MELSECNET II composite mode) First half: 1024 bytes Second half: 1024 bytes	 (MELSECNET/10 mode), (MELSECNET/H mode) {(LY + LB) ÷ 8 + (2 × LW)} ≤ 2000 bytes (MELSECNET/H extended mode) {(LY + LB) ÷ 8 + (2 × LW)} ≤ 35840 bytes 	Δ	When the number of bytes exceeds 2000, mount two modules having the same network No., or set all modules on the network in the MELSECNET/H extended mode.
Communicat speed	ion	1.25Mbps	10Mbps	0	
Number of st connected in network		65 stations (master station: 1, local station + remote I/O station: 64)	64 stations (control station: 1 normal station: 63)	Δ	 Set the remote I/O network to a separate network. For the 65th station, configure a separate network.
Applicable ca	able	GI optical cable			
Overall dista	nce	10km 30km			
Distance bet stations	ween	GI optical cable: 2km			
Maximum nu of networks	Imber	-	239	Δ	New MELSECNET/H parameter (mandatory)
Communicat method	ion	Half duplex bit serial method	Token ring method	Δ	Nothing to be noted though the communication method differs.
Transmissior method	l	Duplex loop			
Modulation method (Enc method)	oding	(Modulation method) CMI method	(Encoding method) NRZI coding	Δ	Nothing to be noted though the modulation method differs.
Transmissior format	٦	HDLC standard	s (frame format)	0	
Error control system			and retry by a time over	0	
RAS functior	ı	 Loop-back function due to error detection Diagnostic function for checking local line 		0	
occupied I/O		CPU integrated type: 0 point, Standalone:32 points per slot (I/O assignment: special 32 points)	32 points per slot (I/O assignment: intelli. 32 points)	Δ	When replacing from a CPU integrated type, an additional slot (32 points) is required.

(2) Comparison between MELSECNET (II) module (coaxial loop) and MELSECNET/H module (coaxial bus)

		Specifications			Precautions for	
ltem		MELSECNET (II) module	MELSECNET/H module	Compat- ibility	replacement	
		Coaxial loop	Coaxial bus (QJ71BR11)	ionity	replacement	
	X/Y	Max. 2048 points and max. number of I/O points of CPU module on master station	(MELSECNET/10 mode), (MELSECNET/H mode), (MELSECNET/H extended mode) 8192 points	0		
Maximum number of link points per network	в	(MELSECNET mode) 1024 points (MELSECNET II mode), (MELSECNET II composite mode) 4096 points	(MELSECNET/10 mode) 8192 points (MELSECNET/H mode), (MELSECNET/H extended mode) 16384 points	0		
	w	(MELSECNET mode) 1024 points (MELSECNET II mode), (MELSECNET II composite mode) 4096 points	(MELSECNET/10 mode) 8192 points (MELSECNET/H mode), (MELSECNET/H extended mode) 16384 points	0		
Maximum nu of link points station		 (MELSECNET mode) 1024 bytes (MELSECNET II mode), (MELSECNET II composite mode) First half: 1024 bytes Second half: 1024 bytes 	 (MELSECNET/10 mode), (MELSECNET/H mode) {(LY + LB) ÷ 8 + (2 × LW)} ≤ 2000 bytes (MELSECNET/H extended mode) {(LY + LB) ÷ 8 + (2 × LW)} ≤ 35840 bytes 	Δ	When the number of bytes exceeds 2000, mount two modules having the same network No., or set all modules on the network in the MELSECNET/H extended mode.	
Communicat speed	ion	1.25Mbps	10Mbps	0		
Number of sta connected in network		65 stations (master station: 1, local station + remote I/O station: 64)	32 stations (control station: 1, normal station: 31)	Δ	 Set the remote I/O network to a separate network. For the 33th station, configure a separate network. 	
Applicable cable		3C-2V 5C-2V			When using existing cables, the overall distance and distance between stations becomes shorter.	
Overall distance		3C-2V: 10km 5C-2V: 10km	3C-2V: 300m 5C-2V: 500m	Δ	Either use an A6BR10/ A6BR10-DC type repeater unit, or configure a separate network.	
Distance bet stations	ween	3C-2V: 500m 5C-2V: 500m	3C-2V: 300m 5C-2V: 500m	Δ	When using the 3C-2V, use the A6BR10/A6BR10-DC type repeater unit.	
Maximum nu of networks	mber	-	239	Δ	New MELSECNET/H parameter (mandatory)	
Communicat method	ion	Half duplex bit serial method	Token ring method	Δ	Nothing to be noted though the communication method differs.	
Transmissior method	ı	Duplex loop	Single bus	Δ	Nothing to be noted though the transmission method differs.	
Modulation method (Enc method)	oding	(Modulation method) CMI method	(Encoding method) Manchester code	Δ	Nothing to be noted though the modulation method differs.	
Transmission format		HDLC standards (frame format)				
Error control system		CRC(X ¹⁶ +X ¹² +X ⁵ +1) a	and retry by a time over	0		
RAS function		 Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines 	Diagnostic function for checking local link lines	Δ	The loopback function cannot be used on a coaxial bus system. To use the loopback function, using an optical loop system is recommended.	
Number of occupied I/O points		CPU integrated type: 0 point, Standalone:32 points per slot (I/O assignment: special 32 points)	32 points per slot (I/O assignment: intelli. 32 points)	Δ	When replacing from a CPU integrated type, an additional slot (32 points) is required.	

2

2

(3) Comparison between MELSECNET/B module (twisted pair) and MELSECNET/H module (optical loop/coaxial bus)

O: Compatible, △: Partial change required, × : Incompa	atible
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		Specifications MELSECNET/B module MELSECNET/H module				
ltem		MELSECNET/B module		T/H module Coaxial bus	Compat- ibility	Precautions for replacement
		Twisted pair	Optical loop (QJ71LP21-25)	(QJ71BR11)	ioiiity	
	X/Y	Max. 2048 points and max. number of I/O points of CPU module on master station	(MELSECNET/10 mc (MELSECNET/H mod (MELSECNET/H exter points	de),	0	
Maximum number of link points per network	в	(MELSECNET mode) 1024 points (MELSECNET II mode), (MELSECNET II composite mode) 4096 points	(MELSECNET/10 r (MELSECNET/H rr (MELSECNET/H e 16384 points	node),	0	
	w	(MELSECNET mode) 1024 points (MELSECNET II mode), (MELSECNET II composite mode) 4096 points	(MELSECNET/10 r (MELSECNET/H m (MELSECNET/H e 16384 points	node),	0	
Maximum number of link points per station		(MELSECNET mode) 1024 bytes (MELSECNET II mode), (MELSECNET II composite mode) Link parameter first half: 1024 bytes Link parameter second half: 1024 bytes	 (MELSECNET/10 i (MELSECNET/H m {(LY + LB) ÷ 8 + (2 (MELSECNET/H e {(LY + LB) ÷ 8 + (2 bytes 	node) × LW)} ≦ 2000 bytes xtended mode)	Δ	When the number of bytes exceeds 2000, mount two modules having the same network No., or set all modules on the network ir the MELSECNET/H extended mode.
Communicat	ion	125kbps/250kbps/500kbps/1Mbps	25Mbps/10Mbps	-	0	
speed			-	10Mbps	0	
Number of sta		32 stations (master station: 1,	64 stations (control station: 1 normal station: 63)	-	Δ	Set the remote I/O networ to a separate network.
network		local station + remote I/O station: 31)	-	32 stations (control station: 1 normal station: 31)	Δ	Set the remote I/O networ to a separate network.
Applicable cable		Shielded twisted pair cable	SI optical cable H-PCF optical cable Broad-band H-PCF optical cable QSI optical cable	-	Δ	A new optical cable has to be installed.
			-	3C-2V 5C-2V	Δ	A new coaxial cable has to be installed.
		125kbps: 1200m	30km	-	0	
Overall dista	nce	250kbps: 600m 500kbps: 400m 1Mbps: 200m	-	3C-2V: 300m 5C-2V: 500m	Δ	Either use an A6BR10/ A6BR10-DC type repeate unit, or configure a separate network.
Distance between stations		125kbps: 1200m 250kbps: 600m	Refer to Section 2.2.2.	-	Δ	When 1200 m is required use GI optical cables for a optical cables, and use QJ71LP21G as the module.
		500kbps: 400m 1Mbps: 200m	-	3C-2V: 300m 5C-2V: 500m	Δ	Either use an A6BR10/ A6BR10-DC type repeate unit, or configure a separate network.
Maximum number of networks		-	2:	39	Δ	New MELSECNET/H parameter (mandatory)
Communication method		Half duplex bit serial method	Token bu	s method	Δ	Nothing to be noted thoug the communication metho differs.
Transmissior method	1	Single bus	Duplex loop	-	Δ	Nothing to be noted thoug the transmission method differs.
			-	Single bus	0	

	Specifi	cations			
Item	MELSECNET/B module MELSECNET/H module		Compat-	Precautions for	
nom	Twisted pair	Optical loop	Coaxial bus	ibility	replacement
		(QJ71LP21-25)	(QJ71BR11)		
		(Encoding method)	_	0	
Modulation		NRZI coding		0	
method (Encoding	(Modulation method) NRZI method		(Encoding method)		Nothing to be noted though
method)		-	Manchester code	Δ	the modulation method
					differs.
Transmission	HDLC standard	s (frame format)		0	
format		s (name format)		Ŭ	
Error control	CRC(X ¹⁶ +X ¹² +X ⁵ +1) a	and rates by a time ave	-	0	
system		and retry by a time over		U	
RAS function	Diagnostic function for checking local link lines		0		
Occupied I/O	Standalone:32 points per slot (I/O	32 points per slot (I/	O assignment: intelli.	0	
points	assignment: special 32 points)	32 pc	pints)	0	

2.2.2 Cable performance comparisons

(1) Optical fiber cable

(a) Overall distance

The overall distance (30km) does not differ according to the optical fiber cable.

(b) Distance between stations

1) SI optical fiber cable

O: Compatible, $\bigtriangleup:$ Partial change required, $\times:$ Incompatible

Туре		MELSECNET(II) module		MELSECNET/H module (optical loop)		Precautions for replacement
		(optical loop)	10Mbps	25Mbps	ibility	replacement
SI optical fiber cable	L type	1km	500m	200m	Δ	
(Type: A-2P-□)	H type	500m	300m	100m	Δ	Refer to ^{*1} below.
SI optical fiber cable (Type: AN-2P-□)		1km	500m	200m	Δ	
H-PCF optical fiber cable		1km	1km	400m	Δ	Refer to ^{*2} below.
Broad-band H-PCF optical fiber cable		-	1km	1km	0	
QSI optical fiber cable		-	1km	1km	0	

*1 When the distance between stations does not satisfy the MELSECNET/H specifications, either change the type of optical fiber cable, or install a gateway station midway along existing cables.

*2 When the distance between stations does not satisfy the MELSECNET/H specifications, use at a communication speed of 10 Mbps, change the type of optical fiber cable, or install a gateway station midway along existing cables.

2) GI optical fiber cable

O: Compatible, \triangle : Partial change required, × : Incompatible

Туре	MELSECNET (II) module (optical loop)	MELSECNET/H module (optical loop)	Compat- ibility	Precautions for replacement	
GI optical fiber cable	2km	2km	0		

(2) Coaxial cable

(a) Overall distance

		0.0011	аного, д	andai enange requirea, i meempaasie
Туре	MELSECNET(II)module (coaxial loop)	MELSECNET/H module (coaxial bus)	Compat- ibility	Precautions for replacement
3C-2V	10km	300m	Δ	Refer to ^{*3} below.
5C-2V	10km	500m	Δ	Refer to ° below.

O: Compatible, A: Partial change required, × : Incompatible

 \bigcirc Compatible \land Partial change required \times Incompatible

*3 When the overall distance does not satisfy the MELSECNET/H specifications, either use an A6BR10/A6BR10-DC type repeater unit in the network, or configure a separate network.

(b) Distance between stations

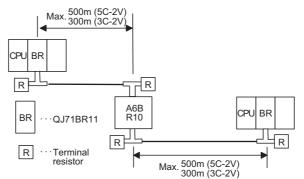
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Туре	MELSECNET (II) module (coaxial loop)	MELSECNET/H module (coaxial bus)	Compat- ibility	Precautions for replacement
3C-2V	500m	300m	Δ	
5C-2V	500m	500m	0	Refer to ^{*4} below.

*4 When the distance between stations does not satisfy the MELSECNET/H specifications, either use an A6BR10/A6BR10-DC type repeater unit in the network.

The following shows the extension method when a repeater unit for the A6BR10/A6BR10-DC type MELSECNET/10 coaxial bus system is used.

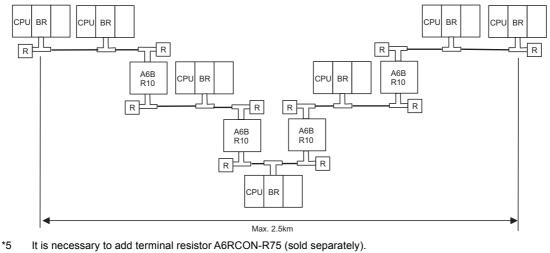
For details, refer to the Repeater Unit for the MELSECNET/10 Coaxial Bus System type A6BR10/ A6BR10-DC User's Manual (IB-66499).

(1) The distance between stations of 500m (5C-2V) and 300m (3C-2V) can be extended.



(2) Up to four repeater units can be used in a single network.^{*5}

The overall distance can be extended to a maximum distance of 2.5 km.



2 - 8

(3) Twisted pair cable

2

(a) Overall distance, Distance between stations

O: Compatible, △: Partial change required, × : Incompatible								
	Speci	fications						
Communication	MELSECNET/B module	(QJ/1NI11B)		Compat-	Precautions for replacement			
speed —	Twisted pair cable	Twisted pair cable	CC-Link dedicated cable	ibility				
125kbps	1200m	1200m	1200m	0				
250kbps	600m	-	-	0	Change the communication speed from 250Kbps to			
312kbps	-	600m	900m	0	312Kbps.			
500kbps	400m	-	-	0	Change the communication speed from 500Kbps to			
625kbps	-	400m	600m	0	625Kbps.			
1Mbps	200m	-	-	0	Change the communication speed from 1Mbps to			
1.25Mbps	-	200m	400m	0	1.25Mbps.			
2.5Mbps	-		200m	-				
5Mbps	-	(Not available)	150m	-	New function of MELSECNET/H			
10Mbps	-		100m	-				

(b) Cable performance

1) Twisted pair cable

Item	Specifications (KNPEV-SB 0.5SQ × 1P ^{*1})
Cable type	Shielded twisted pair cable
Number of cores	2
Conductive resistance (20°C)	39.4 Ω /km or lower
Insulation resistance (20°C)	10 MΩ/km or higher
Dielectric withstand voltage (V-min)	1000 V AC for one minute
Electrostatic capacity (1kHz)	70 nF/km or less (on average)
Characteristic impedance (100kHz)	110 ± 10Ω
Cross section	Blue White

*1 The same specifications as the MELSECNET/B twisted pair cable.

To use the existing MELSECNET/B twisted pair cables, process the terminals.

For details, refer to the Q Corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network) (SH-080049).

2) CC-Link dedicated cable

Product name	Mdele name	Remark
Ver.1.10-compatible CC-Link dedicated cable	FANC-110SBH	
	FA-CBL200PSBH	

2.3 Functional Comparisons

	Desci		change required, × : incompatible	
Item	MELSECNET (II) module MELSECNET/B module	MELSECNET/H module	Compat- ibility	Precautions for replacement
Cyclic transmission	 X/Y are used to perform 1:1 communications between the master station and local stations, and the master station and remote I/O stations. B/W are used to perform communications between the master station and all local stations. 	 LX/LY are used to perform 1:1 communications between the control station and normal stations. LB/LW are used to perform communications between the control station and all normal stations. 	0	
Transient transmission	 The LRDP/LWTP instructions issued from the master station are used to read/write devices on the programmable controller CPU of local stations. Other stations are accessed from GX Developer connected to the master station. The master station is accessed from GX Developer connected to local stations. 	 The READ/WRITE/ZNRD/ ZNWR instructions issued from the control station are used to read/write devices on the programmable controller CPU of normal stations. Other stations are accessed from GX Works2 or GX Developer connected to the control station. The control station and other normal stations are accessed from GX Works2 or GX Developer connected to a normal station. 	Δ	Correct the LRDP/LWTP instructions for reading/ writing devices on the programmable controller CPU of other stations to the READ/WRITE or ZNRD/ ZNWR instructions. (Refer to Section 2.6.2.)
Automatic return function	When a disconnected local station returns to normal status, it is automatically restored and the data link is resumed.	When a disconnected normal station returns to normal status, it is automatically restored and the data link is resumed.	0	
Loopback function	In the case of an optical loop system and coaxial loop system, faulty parts are disconnected when a fault (e.g. cable disconnection) occurs, and normal operation is continued on operable stations as a result of the loopback.	In the case of an optical loop system, faulty parts are disconnected when a fault (e.g. cable disconnection) occurs, and normal operation is continued on operable stations as a result of the loopback.	0	
Error detection	Faulty parts are detected by the data of special relays (M9200 to 9255) and special registers (D9200 to 9255).	Faulty parts are detected by the data of link special relays (SB0 to 1FF) and link special registers (SW0 to 1FF).	Δ	Change the devices in the sequence program. (Refer to Section 2.6.2.)
Self-diagnosis test function	Set the following test items by the mode setting switch: • Self-loopback test • Station-to-station test • Forward loop/reverse loop test	Set the following test items by the mode setting switch: • Self-loopback test • Internal self-loopback test • Hardware test Set the following test items in the network parameters: • Station-to-station test • Forward loop/reverse loop test	Δ	Set the station-to-station test and forward loop/ reverse loop test in the network parameter settings.

O: Compatible, $\bigtriangleup:$ Partial change required, $\times:$ Incompatible

2.4 Switch Settings Comparisons

(1) Comparison between MELSECNET (II) modules and MELSECNET/H (optical loop and coaxial bus) modules

	\bigcirc C: Compatible, \triangle : Partial change required, \times : incompatible							
Switch name	Description			Precautions for				
Switch name	MELSECNET (II) module MELSECNET/H module		ibility	replacement				
Station number setting switch	Sets the station number.	Sets the station number.	0					
Mode select switch	Sets the mode for operation or self-diagnostics test.	Sets the mode for operation or self-diagnostics test.	Δ	Set the station-to-station test and forward loop/ reverse loop test in the GX Works2 or GX Developer network parameters.				

(2) Comparison between MELSECNET/B modules and MELSECNET/H (optical loop and coaxial bus) modules

O: Compatible, $\triangle:$ Partial change required, $\times:$ Incompatible

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Switch name	Desc	Compat-	Precautions for		
Switch name	MELSECNET/B module MELSECNET/H module		ibility	replacement	
Station number setting switch	Sets the station number.	nber. Sets the station number.			
Mode select switch	Sets the mode for operation or self-diagnostics test.	Sets the mode for operation or self-diagnostics test.	Δ	Set the station-to-station test and forward loop/ reverse loop test in the GX Works2 or GX Developer network parameters	
Communication speed setting switch	Sets the communication speed.	-	Δ	The setting is not required.	

(3) Comparison between MELSECNET/B modules and MELSECNET/H (twisted bus) modules

O: Compatible, △: Partial change required, × : Incompatible

Switch name	Desc	Compat-	Precautions for	
Switch hame	MELSECNET/B module	MELSECNET/H module	ibility	replacement
Station number setting switch	Sets the station number.	A station number is set using the station number/mode setting switch.	0	
Mode select switch	Sets the mode for operation or self-diagnostics test.	A self-diagnostic test is set using the station number/mode setting switch.	0	
Communication speed setting switch	Sets the communication speed.	Sets the communication speed.	Δ	Set a communication speed in the GX Works2 or GX Developer network parameters.

2.5 Parameter Comparisons

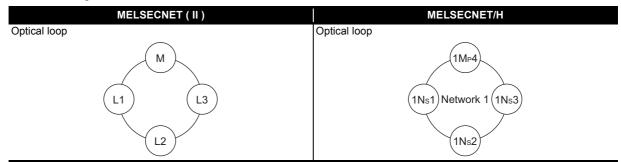
2.5.1 Parameter comparisons

The network parameters of MELSECNET (II) are deleted when the programmable controller type is changed with the GX Developer. After changing the programmable controller type, set the MELSECNET/H network parameters again.

(1) Replacing MELSECNET (II) with MELSECNET/H

The following shows a comparison between MELSECNET (II) network parameter settings and MELSECNET/H network parameter settings.

The MELSECNET (II) master station settings are compared with the MELSECNET/H control station settings, and the MELSECNET (II) local station setting are compared with the MELSECNET/H normal station settings.



	MELSECNET (II)			MELSECNET/H	Compat- ibility	Precautions for replacement
Ne	etwork type		Ne	twork type	0	
St	Starting I/O No.*1		Sta	arting I/O No.	0	
- (No setting)		Ne	twork No.	Δ	Mandatory for the MELSECNET/H.
Тс	Total number of (slave) stations		Tot	al number of (slave) stations	Δ	The total number of stations is 64 at maximum.
- (No setting)		Gr	oup No.	Δ	Mandatory for the MELSECNET/H.
Master station	2	station	nts	LX/LY assignments on the control station and normal stations	0	
ter s	LB/LW assignments (first half, second half) on the master station and local stations	Control s	Network range assignments	Station inherent parameter	Δ	*2
- 8				Supplemental settings-Secured data send Supplemental settings-Secured data receive	Δ	*3
Vetwort	LX/LY assignments on the master			LX/LY assignments on the control station and normal stations	0	
	station and local stations			I/O master station specification	\triangle	Mandatory on communications of LX/LY
Re	efresh parameters ^{*1}		Re	fresh parameters	0	
Ne	etwork type ^{*1}		Ne	twork type	0	
E St	arting I/O No.*1	station	Sta	arting I/O No.	0	
station			Network No.		Δ	Mandatory for the MELSECNET/H.
	No setting)	Normal (Group No.		\triangle	Mandatory for the MELSECNET/H.
Lo			Sta	ation inherent parameter	Δ	*2
Re	Refresh parameters ^{*1}		Re	fresh parameters	0	

O: Compatible, $\triangle:$ Partial change required, $\times:$ Incompatible

*1 This is set when the AnU/AnUS(H)/QnA/QnASCPU is mounted.

*2 Applied when LB/LW are set for both the first half/second half on MELSECNET (II). (For details, refer to Section 2.5.2 Example of changing parameters on 2-tier system.)

^{*3} This is the data separation prevention function for reading/writing cyclic data of two words or more in a single operation. (For details, refer to Section 2.7 Replacement Precautions.)

2.5.2 Example of changing parameters on 2-tier system

The following shows examples of how to change the LB/LW network parameters when replacing the MELSECNET (II) with MELSECNET/H.

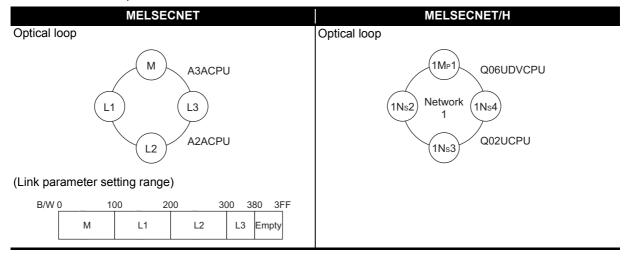
As MELSECNET (II) has three operation modes, the examples are shown for each operation mode.

- MELSECNET mode
- MELSECNET II mode
- MELSECNET II composite mode

(1) MELSECNET mode

The following shows the procedure for changing the parameters in the case of a MELSECNET mode 2tier system configuration.

The MELSECNET master station is replaced with the MELSECNET/H control station, and MELSECNET local stations are replaced with MELSECNET/H normal stations.



A MELSECNET/H module set as normal station requires network parameter setting. For replacement of MELSECNET (II) module mounted on the CPU module of the AnN/AnA/AnSCPU (excluding AnUS(H)CPU), newly set network parameters.

The following shows parameters required on each station of MELSECNET/H.

	Common parameter (Network range assignment)	Refresh parameter
1Mp1	O (Refer to example in (c) 2))	\triangle (Refer to example in (c) 3))
1Ns2		△ (Refer to example in (d) 2))
1Ns3		\triangle (Refer to example in (d) 2))
1Ns4		\triangle (Refer to example in (d) 2))

O: Setting required/ △: Setting required (Default setting is also acceptable)

(a) MELSECNET master station

2

The following shows the network parameter settings of the MELSECNET master station (A3ACPU).

1)	Network parameter setting (A3ACPU: MELSECNET master station)

	Module No.1	Module No.2	Module No.3	Module No.4			
Network type	MNET(Master station)	None 👻	None 🗸	None 👻			
Start I/O No.							
Network No.							
Total stations	3						
Group No.							
Station No.							
	Network range assignment						
							
•							
Necessary setting(Nosetting / Alreadyset) Set if it is ne	eded(Nosetting / Alreadyset)					
	Start I/O No.:	Valid module					
Interlink transmission paramet	terlink transmission parameters Input the start I/D No. installed in the module in 16-point unit.						
Acknowledge XY assignme	nt Routing parameters Ch	eck End	Cancel				

Setup comm	on paramet	ers											
Assignment me O Points/St O Start/Enc	art	Tot	nitoring time al slave ions	e 200 3	× 10ms	Switc	h screens	LB/LW	/ settings		•		
	Sendira	ange for ea	ach station	Send ra	ange for ea	ach station	M stati	on -> R sta	ation	M stati	on <- Rista	ation	ľ
L/R		LB			LW			LW			LW		
station No.	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End	
MO	256	0000	00FF	256	0000	00FF							
L 1	256	0100	01FF	256	0100	01FF							
L 2	256	0200	02FF	256	0200	02FF							
	128	0300	037F	128	0300	037F							

(b) MELSECNET local station

As all stations perform cyclic communication according to the network range assignments of the master station (A3ACPU), there are no parameter settings for network range assignment on local stations.

(c) MELSECNET/H control station

2

The following shows the network parameter settings after replacing with the MELSECNET/H control station (Q06UDVCPU).

	Module 1	Module 2	Module 3	Module 4	4
Network Type	MNET/H Mode(Control Station)	None	✓ None	✓ None	
Start I/O No.	000	0			
Network No.		1			
Total Stations		4			
Group No.		0			
Station No.					
Mode	Online	·	•	•	
	Network Range Assignment				
	Refresh Parameters				
	Interrupt Settings				
	Return as Control Station	•			
	Optical/Coaxial	-			

2) Network range assignment (Q06UDVCPU: MELSECNET/H control station) Set up common and station inherent parameters. Assignment Method Monitoring Time 200 X 10ms C Points/Start Parameter Name Start/End Total Slave Stations 4 Switch Screens LB/LW Setting 💌 Send Range for each Station Low Speed LW Station No. Pairing LE LW Low Speed LB Points Points Start End Points Start End Start End Points Start End 256 0000 00FF 256 0100 01FF 256 0000 00FF 256 0100 01FF 256 0200 02FF Disable 👻 Disable Ŧ 256 0200 02FF Disable -128 0300 037F 128 0300 037F Disable 🔻 🔻

Assignment Method O Points/Start ⓒ Start/End					Transient Tra	ansmissic rwrite			Status			
	_											
			Link Si	de					PLC Si	de		
	Dev. N	Name	Points	Start	End		Dev. I	Name	Points	Start	End	
Transfer SB	SB		512	0000	01FF	+	SB		512	0000	01FF	_
Transfer SW	SW		512	0000	01FF	÷	SW		512	0000	01FF	
Random Cyclic	LB					- () -		•				
Random Cyclic	LW					i ↔		•				
Transfer 1	LB	Ŧ	896	0000	037F	↔	В	-	896	0000	037F	
Transfer 2	LW	4	896	0000	037F	\rightarrow	w	-	896	000000	00037F	
Transfer 3		-				+		-				
Transfer 4		4				+		-				
Transfer 5		-				++		-				
Transfer 6		+				↔		-				-

(d) MELSECNET/H normal station

2

The following shows the network parameter settings after replacing with a MELSECNET/H normal station (Q02UCPU).

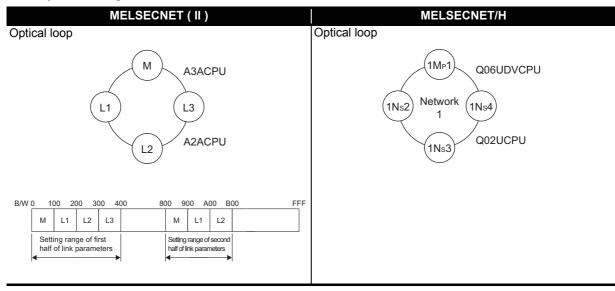
The same parameter settings are required on all normal stations.

	Module 1		Module 2	Module 3		Module 4	
Network Type	MNET/H Mode(Normal Station)	 None 	•	None	-	None	
Start I/O No.		0000					
Network No.		1					
Total Stations							
Group No.		0					
Station No.							
Mode	Online	•	•	•	-		
	Station Inherent Parameters						
	Refresh Parameters						
	Interrupt Settings						

Assignment Method O Points/Start O Start/End					Fransient Transient T		On Error H		Status -				
		_	Link Si	de				_	PLC Si	de		•	
	Dev. N	lame	Points	Start	End		Dev. 1	Name	Points	Start	End		
Transfer SB	SB		512	0000	01FF	+	SB		512	0000	01FF	-	
Transfer SW	SW		512	0000	01FF	- () -	SW		512	0000	01FF		
Random Cyclic	LB					- () -		-					
Random Cyclic	LW					- () -		-					
Transfer 1	LB	-	896	0000	037F	- 🕂 -	В	Ŧ	896	0000	037F		
Transfer 2	LW	-	896	0000	037F	- 🕂 -	W	-	896	000000	00037F		
Transfer 3		-				- 🕂 -		Ŧ					
Transfer 4		-				+		-					
Transfer 5		-				+		-					
Transfer 6		-				↔		-				-	

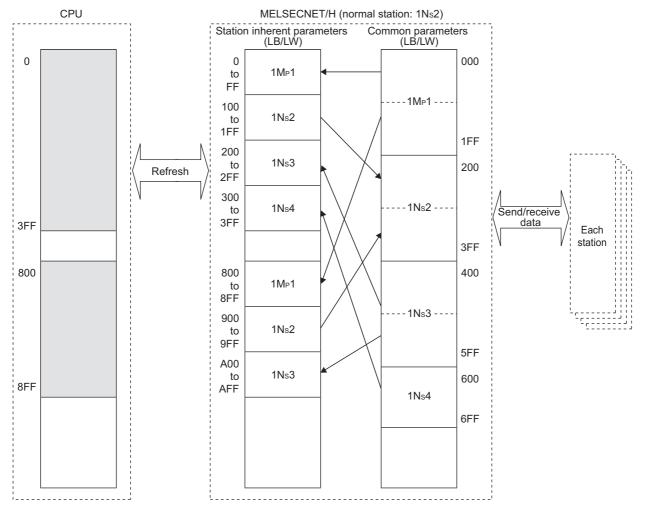
(2) MELSECNET II mode

The following shows the procedure for changing the parameters in the case of a MELSECNET II mode 2-tier system configuration.



Each of the MELSECNET II first and second half settings correspond to [Setting1] and [Setting2] set to all stations according to the "Station inherent parameters" on MELSECNET/H.

(Example) Station inherent parameters of a normal station (1Ns2)



A MELSECNET/H module set as normal station requires network parameter setting. For replacement of MELSECNET (II) module mounted on the CPU module of the AnN/AnA/AnSCPU (excluding AnUS(H)CPU), newly set network parameters.

The following shows parameters required on each station of MELSECNET	7H.
--	-----

	Common parameter (Network range assignment)	Station inherent parameter	Refresh parameter
1Mp1	0	0	\bigtriangleup
IMPT	(Refer to example in (b) 2))	(Refer to example in (b) 3))	(Refer to example in (b) 4))
1Ns2		0	Δ
11152		(Refer to example in (c) 2))	(Refer to example in (c) 3))
1Ns3		0	Δ
11155		(Refer to example in (c) 2))	(Refer to example in (c) 3))
1Ns4		0	Δ
11134		(Refer to example in (c) 2))	(Refer to example in (c) 3))

O: Setting required/ △: Setting required (Default setting is also acceptable)

(a) MELSECNET II master station

2

The following shows the network parameter settings of the MELSECNET II master station (A3ACPU).

	Module No.1	Module No.2	Module No.3	Module No.4
Network type	MNET II (Master station)	None 🚽	None	✓ None
Start I/O No.				
Network No.				
Total stations	3			
Group No.				
Station No.				
	Network range assignment			
		İ.		
Necessarv setting	Nosetting / Alreadyset] Set if it is no	eded(Nosetting / Alreadyset)		
erlink transmission param	Start I/O No.: eters Input the start I/O No. installed in th	Valid module during other sta	tion access	
	otors			

2) Network ra	nge assi	gnment	(A3ACI	PU: ME	LSECN	ET II ma	ster sta	tion)				
Setup commo	n paramete	ers										
Assignment mel O Points/Sta O Start/End	art	Tot	nitoring time al slave ions	e 200 3	× 10ms	Swite	h screens	LB/LW	/ settings		•	
	Send ra	ange for ea	ach station	Sendira	ange for ea	ach station	Sendira	ange for ea	ich station	Send r	ange for ea	ach station 🔺
L/R		First half L	.B		First half l	W		Second h	alf LB		Second h	ialf LW
station No.	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
M 0	256	0000	00FF	256	0000	00FF	256	0800	08FF	256	0800	08FF
IIL 1	256	0100	01FF	256	0100	01FF	256	0900	09FF	256	0900	09FF
IIL 2	256	0200	02FF	256	0200	02FF	256	0A00	0AFF	256	0A00	QAFF
IIL 3	256	0300	03FF	256	0300	03FF						-
•												•

(b) MELSECNET/H control station

Each of the MELSECNET II first and second half settings correspond to [Setting1] and [Setting2] set according to the "Station inherent parameters" on MELSECNET/H.

Points when replacing the first and second half of MELSECNET II

MELSECNET sequence programs can be re-used more efficiently by using the station inherent parameters of MELSECNET/H. The followings describe the points when setting station inherent parameters.

Set station inherent parameters to all stations.

1) Network parameter

The network parameter settings of the MELSECNET/H control station (Q06UDVCPU) are the same as the parameters when replaced with the MELSECNET mode.

Network parameter setting (Q06UDVCPU: MELSECNET/H control station)

	Module 1		Module 2		Module 3		Module 4
Network Type	MNET/H Mode(Control Station)	-	None	-	None	٠	None
Start I/O No.		0000					
Network No.		1					
Total Stations		4					
Group No.		0					
Station No.							
Mode	Online	-	_	•		•	
	Network Range Assignment						
	Refresh Parameters						
	Interrupt Settings						
	Return as Control Station	-					
	Optical/Coaxial	-					

2) Network range assignment parameter

Set the total number of points in the first half and second half for the common parameters.

Network range assignment (Q06UDVCPU: MELSECNET/H control station)

	ommon and	station in	herent par	ameters.											
Assignment		Monito	oring Time	20	10 X 10r	ns P	arameter I	Name							
 Start/E 	ind	Total : Statio		4		S	witch Scre	ens LB	/LW Settir	ng 🔻					
	Send Ran	ge for ead	h Station	Send Ran	ge for eac	h Station	Send Ran	ge for ead	h Station	Send Ran	ge for eac	h Station			
Station No.		LB			LW			Low Spee	d LB		Low Spee	d LW	Pairing		
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End	1		
1	512	0000	01FF	512	0000	01FF							Disable	-	
2	512	0200	03FF	512	0200	03FF							Disable	-	
3	512	0400	05FF	512	0400	05FF							Disable	-	
4	256	0600	06FF	256	0600	06FF							Disable	-	-

3) Station inherent parameter

2

Set the first half in [Setting1] and the second half in [Setting2] as the inherent parameters.

Station inherent parameter (Q06UDVCPU: MELSECNET/H control station) Reference Network Range Assignment Assignment Method Parameter Workspace Location C Points/Start Name Start/End Switch Screens Workspace Name LB Setting • Board No. 📃 💌 Read Cancel Network Range Assignment Setting 1 Setting 2 Pairing Station No LB LB LE End Points Start End Points Start Points Start End 256 0000 00FF 256 0800 08FF -Disable 09FF 256 0100 01FF 256 0900 • 0200 02FF 256 0A00 0AFF -0300 03FF **+ +**

4) Refresh parameters

Refresh parameters (Q06UDVCPU: MELSECNET/H control station) Assignment Method Transient Transmission Error History Status C Points/Start Overwrite O Hold Start/End PLC Side Link Side . Dev. Name Points Start End Dev. Name Points Start End Transfer SB 512 0000 01FF ***** 512 0000 01FF Transfer SW SW 512 0000 01FF 512 0000 01FF Random Cyclic Random Cyclic W -8192 8192 1FFF Transfer 1 LB -0000 1FFF -0000 0AFF 0800 0AFF Transfer 2 0800 LB Ŧ 768 Ŧ 768 Transfer 3 1024 0000 03FF 1024 000000 0003FF W -Transfer 4 W -768 0800 0AFF 768 00080 000AFF -Transfer 5 --Transfer 6 -÷ \mathbf{T} * #MELSECNET diagnostics may not be displayed correctly although END processing time of CPU is shortened when the points of SB transfer/SW transfer are reduced.

(c) MELSECNET/H normal station

2

1) Network parameter setting

The network parameter settings of MELSECNET/H normal stations (Q02UCPU) are the same as those of MELSECNET/H normal stations when replaced with the MELSECNET mode. (Refer to the Section 2.5.2 (1) MELSECNET mode.)

2) Station inherent parameter

For the station inherent parameter settings, settings of the same content as that for the control stations has to be set to all normal stations.

Station inherent parameter (Q02UCPU: MELSECNET/H normal station)

Reference Ne	twork Rang	je Assignm	ient —			Assignmer	nt Method	Denes			
Workspace Lo	cation	C: MELS	EC\Gppw	1		C Point	ts/Start	Paran Name			
Workspace Na	me					Start	t/End	Switch Scree		8 Setting	
Project Name		Q06UDV	CPU_i Bo	oard No.	1 💌						
	e l	Read		Cancel							
Referenc		Read		Cancel	Setting 2		Network	Rance Ass	sianment		_
Station No.		Read Setting 1 LB			Setting 2	_	Network	Range Ass	signment	4	
		Setting 1	End			End	Network Points		signment End	 Pairing	I
		Setting 1 LB	End 00FF		LB		Points	LB Start	End	4	•
	Points	Setting 1 LB Start		Points 256	LB Start 0800	08FF	Points 512	LB Start 0000	End 01FF	Pairing	
Station No.	Points 256	Setting 1 LB Start 0000	00FF	Points 256 256	LB Start 0800 0900	08FF 09FF	Points 512 512	LB Start 0000 0200	End 01FF 03FF	Pairing Disable	•

3) Refresh parameters

The same parameter settings are required on all normal stations.

efresh param	eters (Q02UCF	PU: ME	ELSECN	ET/H no	ormal s	tatior	ו)						
	Assignment Method				Fransient Tra		n Error His C Hold	tory	Status				
			Link S	ide					PLC S	ide			
		Dev. Nan	ne Points	Start	End		Dev. Na	me	Points	Start	End		
	Transfer SB	SB	512	0000	01FF	+	SB		512	0000	01FF		
	Transfer SW	SW	512	0000	01FF	+	SW		512	0000	01FF		
	Random Cyclic	LB				- () -		-					
	Random Cyclic	LW				- () -		-					
	Transfer 1	LB		0000	03FF	- 🖶 -	В	-	1024	0000	03FF		
	Transfer 2	LB	▼ 768	0800	0AFF	- ₩-	В	-	768	0800	0AFF		
	Transfer 3	LW		0000	03FF	- 🖶 -	W	-	1024	000000	0003FF		
	Transfer 4	LW	▼ 768	0800	0AFF	- () -	W	-	768	000800	000AFF		
	Transfer 5		•			- () -		-					
	Transfer 6		+			- () -		-				-	
	* MELSECNET diagnostic transfer are reduced.	s may not l	oe displayed co	rrectly altho	ugh END pro	ocessing	time of CPU	J is s	hortened w	hen the poin	ts of SB tra	insfer/SW	

(3) MELSECNET II composite mode

2

The following shows the procedures for changing the parameters in the case of a MELSECNET II composite mode 2-tier system configuration on an A3ACPU.

MELSECNET (II)	MELSECNET/H
Optical loop	Optical loop
A3ACPU MELSECNET II mode compatible link modules are used for the M and L2 stations, and a MELSECNET mode compatible link module is used for the L1 station.	Network 1Ns2 Q06UDVCPU Network 1 Ns3 Q02UCPU
B/W 0 100 200 300 400 500 FFF	
M L1 L2 M L2	
Setting range of first half of link parameters	

A MELSECNET/H module set as normal station requires network parameter setting. For replacement of MELSECNET (II) module mounted on the CPU module of the AnN/AnA/AnSCPU (excluding AnUS(H)CPU), newly set network parameters.

The following shows parameters required on each station of MELSECNET/H.

	Common parameter (Network range assignment)	Station inherent parameter	Refresh parameter
1Mp1	0	0	Δ
IMPT	(Refer to example in (b) 2))	(Refer to example in (b) 3))	(Refer to example in (b) 4))
1Ns2		0	Δ
11152		(Refer to example in (c) 2))	(Refer to example in (c) 3))
1Ns3		0	Δ
11155		(Refer to example in (c) 2))	(Refer to example in (c) 3))

O: Setting required/ △: Setting required (Default setting is also acceptable)

(a) MELSECNET II composite mode master station

The following shows the network parameter settings of the MELSECNET II composite mode master station (A3ACPU).

	Module No.1	Module No.2	Module No.3	Module No.4
Network type	MNET II comp. (Master station)	None	✓ None	✓ None
Start I/O No.				
Network No.				
Total stations		2		
Group No.				
Station No.				
	Network range assignment			
	_			
Necessary setting(Start I/O No.:	eeded(Nosetting / Alreadyset) Valid modu during othe during othe	le r station access	

2) Network range assignment (A3ACPU: MELSECNET II composite mode master station) : First half Setup common parameters Assignment method-Monitoring time 200 ×10ms O Points/Start Total slave _ 2 Switch screens First half LB/LW setting Start/End stations Send range for each station Send range for each station M station -> R station M station <- R station * First half LW L/R First half LB LW LW Points Points End Points Start Points Start station No. Start End Start End End М О 256 0000 00FF 256 0000 00FF 256 256 01FF L 1 0100 01FF 0100 ∥L 2 256 0200 02FF 256 0200 02FF .

) Network ra	•	•	. (•••••								
Setup comm	on paramet	ers										
Assignment me		Mor	nitoring time	200	×10ms							
Start/End	1		al slave ions	2		Swite	ch screens	Secon	id half LB/	'LW settin	•	
	Send ra	ange for ea	ach station	Sendir	ange for ea	ach station						-
L/R		Second h	ialf LB		Second h	ialf LW						
station No.	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
MO	256	0300	03FF	256	0300	03FF						
L 1												
IIL 2	256	0400	04FF	256	0400	04FF						•
4												

(b) Q06UDVCPU (control station)

Each of the MELSECNET II first and second half settings correspond to [Setting1] and [Setting2] set according to the "Station inherent parameters" on MELSECNET/H.

Points when replacing the first and second half of MELSECNET II

MELSECNET sequence programs can be re-used more efficiently by using the station inherent parameters of MELSECNET/H. The followings describe the points when setting station inherent parameters.

Set station inherent parameters to all stations.

1) Network parameter

The network parameter settings of the MELSECNET/H control station (Q06UDVCPU) are the same as the parameters when replaced with the MELSECNET mode.

Network parameter setting (Q06UDVCPU: MELSECNET/H control station)

	Module 1		Module 2	Module 3		Module 4
Network Type	MNET/H Mode(Control Station)	- N	None 👻	None	•	None
Start I/O No.	C	0000				
Network No.		1				
Total Stations		3				
Group No.		0				
Station No.						
Mode	Online	-	•	· · · · · · · · · · · · · · · · · · ·	-	
	Network Range Assignment					
	Refresh Parameters					
	Interrupt Settings					
	Return as Control Station	-				
	Optical/Coaxial	-				
					-	

2) Network range assignment parameter

Set the total number of points in the first half and second half for the common parameters.

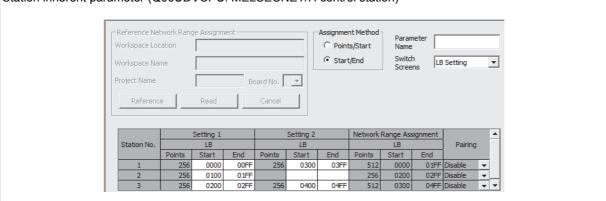
Network range assignment (Q06UDVCPU: MELSECNET/H control station)

Set up co	ommon and	station in	herent pa	ameters.											
Assignment		Monite	oring Time	20	10 X 10n	ns F	arameter I	Name							
Start/E	ind	Total Statio		3		5	witch Scre	ens LB	/LW Settir	ng 💌					
	Send Ran	ge for ead	h Station	Send Ran	ge for ead	h Station	Send Range for each Station Send Range for each Stat					h Station			٠
Station No.		LB			LW		Low Speed LB			Low Speed LW			Pairing		
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End			
1	512	0000	01FF	512	0000	01FF							Disable	-	
2	256	0200	02FF	256	0200	02FF							Disable	-	
3	512	0300	04FF	256	0400	04FF							Disable	-	-

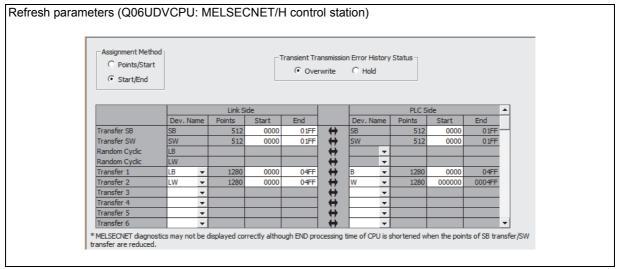
3) Station inherent parameter

Set the first half in [Setting1] and the second half in [Setting2] as the inherent parameters.

Station inherent parameter (Q06UDVCPU: MELSECNET/H control station)



4) Refresh parameters



(c) MELSECNET/H normal station

2

1) network parameter setting

The network parameter settings of MELSECNET/H normal stations (Q02UCPU) are the same as those of MELSECNET/H normal stations when replaced with the MELSECNET mode. (Refer to the MELSECNET mode.)

2) Station inherent parameter

For the station inherent parameter settings, settings of the same content as that for the control stations has to be set to all normal stations. (Refer to the station inherent parameters of the MELSECNET/H control station.)

Station inherent parameter (Q02UCPU: MELSECNET/H normal station)

Reference Ne Norkspace Lo			ent EC\Gppw\	\		Assignmer	nt Method · ts/Start	Param Name			
Norkspace Na	me					 Start 	t/End	Switch Scree		3 Setting	
Project Name		Q06UDV	CPU_ł Bo	oard No.	1 💌						
Reference	e	Read	1	Cancel							
		Setting 1			Setting 2		Network	Range Ass	signment		
Station No.					Setting 2 LB		Network	Range Ass LB	signment	Pairing	
Station No.	Points	Setting 1	End			End	Network Points		signment End		
Station No.		Setting 1 LB	End	Points	LB Start	End 03FF	Points	LB Start	End		T
Station No.	Points	Setting 1 LB Start		Points 256	LB Start		Points	LB Start	End 01FF	Pairing	

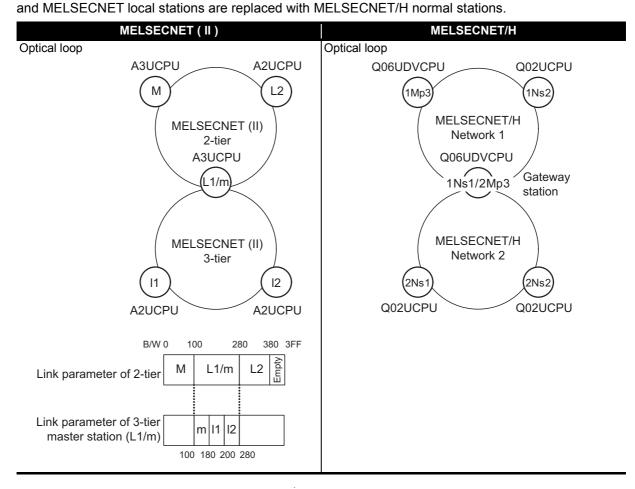
3) Refresh parameters

The same parameter settings are required on all normal stations.

Assignment Method Points/Start Start/End	d .			Г	ransient Tra Over		n Error H		Status			
			Link Si	de					PLC Si	de		-
	Dev. N	Name	Points	Start	End		Dev. N	lame	Points	Start	End	7
Transfer SB	SB		512	0000	01FF	+	SB		512	0000	01FF	-
Transfer SW	SW		512	0000	01FF	- () -	SW		512	0000	01FF	
Random Cyclic	LB					+		-				
Random Cyclic	LW					- () -		-				
Transfer 1	LB	-	1280	0000	04FF	- 🖶 -	В	-	1280	0000	04FF	
Transfer 2	LW	Ŧ	1280	0000	04FF	- () -	W	-	1280	000000	0004FF	
Transfer 3		•				+		-				
Transfer 4		-				- () -		-				
Transfer 5		4				+		-				
Transfer 6		-				↔					•	-

2.5.3 Example of changing parameters on 3-tier system (When only the first half of link parameter is set)

The following shows how to change a system on which first half of LB/LW link parameters is set, when replacing the MELSECNET (II) 3-tier system with MELSECNET/H. Network range assignment of the present MELSECNET (II) 3-tier system can be used in replacement with MELSECNET/H. The MELSECNET (II) 2-tier is replaced with the network 1 of MELSECNET/H, and 3-tier is replaced with the network 2. The MELSECNET (II) master station is replaced with the MELSECNET/H control station,



Concept of MELSECNET (II) 3-tier system replacement

Step 1: Control station (1Mp3) setting

Replace the link parameter setting of MELSECNET (II) 2-tier master station directly with "Network range assignment (Common parameters)" of MELSECNET/H network 1 control station 1Mp3.

Step 2: Gateway station (1Ns1/2Mp3) setting

Data transfer between 2 and 3-tier, performed automatically on MELSECNET (II), should be set with parameter setting on MELSECNET/H. Perform the following settings.

• Replace the link parameter setting of MELSECNET (II) 3-tier master station directly with "Network range assignment (Common parameters)" of MELSECNET/H network 2 control station 2Mp3.

The range assignment should be performed including the same LB/LW size as that of 1Mp3 to relay the network 1 control station 1Mp3.

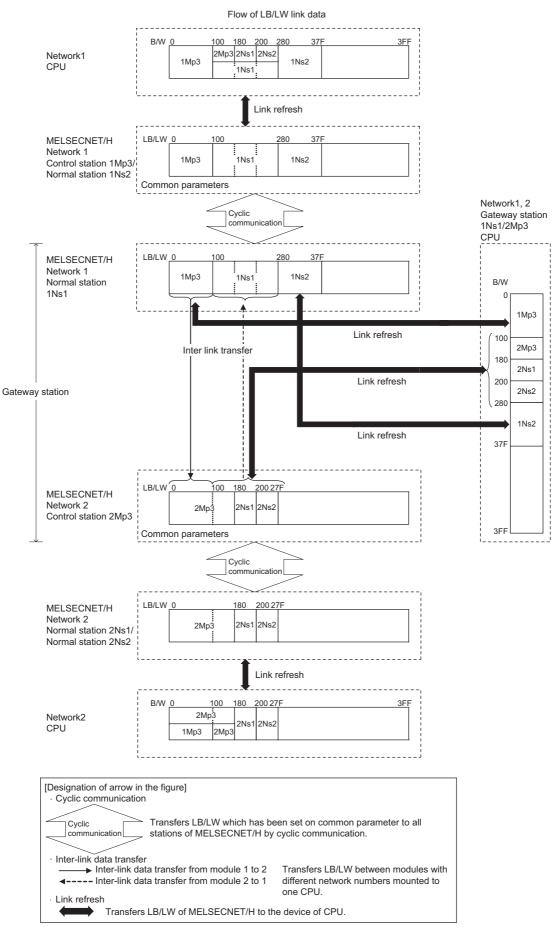
• Set "Refresh parameters" not to duplicate B/W of networks 1 and 2 on the CPU.

• Set data transfer between 2 and 3-tier of MELSECNET (II) in "Interlink transmission parameters" between gateway stations 1Ns1 and 2Mp3.

Step 3: Normal station (1Ns2, 2Ns1, 2Ns2) setting

Set "Refresh parameters" of each normal station (1Ns2, 2Ns1, 2Ns2) on MELSECNET/H networks 1 and 2.

The following shows the flow of MELSECNET/H link data after being replaced from MELSECNET (II).



Network parameter setting is required for control and normal stations on MELSECNET/H.

	Common parameter (Network range assignment)	Station inherent parameter	Refresh parameter	Inter-link data transfer
1Mp3	O (Refer to example in (e) 2))	-	\triangle (Refer to example in (e) 3))	
1Ns2		-	\triangle (Refer to example in (f) 2))	
1Ns1		-	O (Refer to example in (g) 2))	O (Refer to example in (h) 1))
2Mp3	O (Refer to example in (g) 3))	-	O (Refer to example in (g) 4))	
2Ns1		-	\triangle (Refer to example in (i) 2))	
2Ns2		-	\triangle (Refer to example in (i) 2))	

The following shows parameters required on each station of MELSECNET/H.

 $O: Setting \ required \ (Default \ setting \ is \ also \ acceptable)/ -: \ Setting \ not \ required$

2

(a) MELSECNET (II) 2-tier master station M

2

The following describes the network parameter setting of MELSECNET (II) 2-tier master station M (A3UCPU).

	Module No.1	Module No.2	Module No.3	Module No.4
Network type	MNET II (Master station) 🗸	None 🗸	None	▼ None
Start I/O No.	0000			
Network No.				
Total stations	2			
Group No.				
Station No.				
	Network range assignment			
	Refresh parameters			
Necessary setting(Start I/O No.:	eded(Nosetting / Alreadyset) Valid module during other sta e module in 16-point unit.	ion access	

Setup comm	on parameti	ers										
Assignment m O Points/S O Start/End	tart	Tot	nitoring time al slave ions	200	×10ms	Switc	h screens	LB/LV	/ settings		-	
	Send ra	ange for ea	ach station	Send r	ange for ea	ach station	Send ra	ange for ea	ach station	Send ra	ange for ea	ich statio
L/R		First half L	.B		First half L	.w		Second h	alf LB		Second h	alf LW
station No.	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
М О	256	0000	00FF	256	0000	00FF						
∥L 1	384	0100	027F	384	0100	027F						
IL 2	256	0280	037F	256	0280	037F						

Assignment method Points/Start Start/End					nsmission error te © Holo]	
		Link side				PLC side	9	
	Points	Start	End		BlockNo.	Points	Start	End
LB<->B transmission(1)	896	0000	037F	+		896	0000	037F
LB<->B transmission(1) LW<->W transmission(1)		0000	037F 037F	‡‡		896 896	0000	037F 037F

(b) MELSECNET (II) 2-tier local station L2

As the cyclic communication is performed according to the network range assignments of the 2-tier master station (A3UCPU), there is no parameter setting for network range assignment on 2-tier local stations.

(c) MELSECNET (II) 2-tier local station L1/3-tier master station m

The following describes the network parameter setting of MELSECNET (II) 2-tier local station L1/3-tier master station m (A3UCPU).

	Module No.1	Module No.2	Module No.3	Module No.4
Network type	MNET II (Local station) 🗸	MNET II (Master station) 🛛 🗸 🗸	None 👻	None 👻
Start I/O No.	0000	0020		
Network No.				
Total stations		2		
Group No.				
Station No.				
		Network range assignment		
		Refresh parameters		
Necessary setting(erlink transmission parame	Start I/O No.:	eded(Nosetting / Alreadyset) Valid module during other stati e module in 16-point unit.	ion access	

Network rar	nge assi	gnment	(A3UCF	PU: MEI	SECNE	ET (II) 3-	tier mas	ster stati	ion m)			
Setup commo	in paramete	ers										
-Assignment mel O Points/Sta		Mor	nitoring time	e 200	×10ms							
Start/End			al slave ions	2		Swito	h screens	LB/LV	/ settings	ľ	•	
	Send ra	ange for ea	ach station	Send r	ange for ea	ach station	Send ra	ange for ea	ach station	Send ra	ange for ea	ach station 🛃
L/R		First half L	.B		First half L	W		Second h	ialf LB		Second h	alf LW 📃
station No.	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
М О	128	0100	017F	128	0100	017F						
IIL 1	128	0180	01FF	128	0180	01FF						
IIL 2	128	0200	027F	128	0200	027F						
•					-							•

Assignment method Points/Start Start/End					nsmission error te © Hold			
		Link side				PLC side	;	
	Points	Start	End		BlockNo.	Points	Start	End
LB<->B transmission(1)	Points 640		End 027F	+	BlockNo.	Points 640	Start 0000	End 027F
LB<->B transmission(1) LW<->W transmission(1)		Start		+	BlockNo.			

(d) MELSECNET (II) 3-tier local station I1, I2

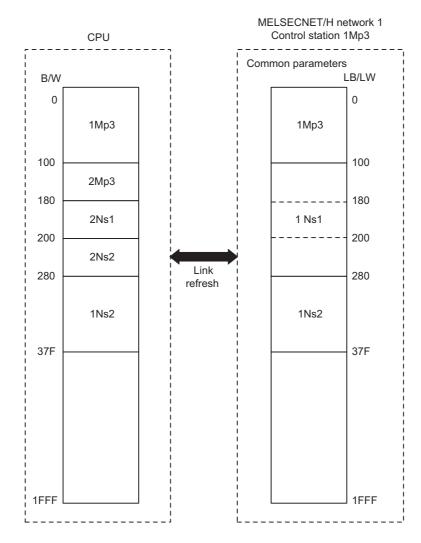
As the cyclic communication is performed according to the network range assignments of the 3-tier master station (A3UCPU), there is no parameter setting for network range assignment on 3-tier local stations.

(e) MELSECNET/H network 1 control station 1Mp3

2

For MELSECNET/H network 1 control station 1Mp3, change the settings of MELSECNET (II) 2-tier master station by:

- Assigning LB/LW to each station by the setting of "Network range assignment (Common parameters)"
- Performing B/W refreshment by the setting of "Refresh parameters"



The following describes the network parameter setting of MELSECNET/H network 1 control station 1Mp3 (Q06UDVCPU).

Network Type			Module 3		Module 4
Network Type	MNET/H Mode(Control Station)	 None 	✓ None	 None 	
Start I/O No.	000	0			
Network No.		1			
Total Stations		3			
Group No.		0			
Station No.					
Mode	Online	-	-	•	
	Network Range Assignment				
	Refresh Parameters				
	Interrupt Settings				
	Return as Control Station	•			
	Optical/Coaxial	▼			

Γ	letwork	k range as	ssignm	nent (C	2060[DVCP	J: ME	LSEC	NET/H	l netw	ork 1	contro	l statio	on 1M	p3)		
		Set up co	mmon and	station in	herent par	ameters.											
		Assignment	Method		·	_											
		C Points/	Start	Monit	oring Time	20	0 X 10r	ns P	arameter	Name							
		 Start/E 	nd	Total Statio		3		5	witch Scre	ens LB,	/LW Settin	g 💌					
			Send Ran	ge for eac	h Station	Send Ran	ge for eac	h Station	Send Ran	ge for ead	h Station	Send Ran	ge for ead	n Station			
		Station No.		LB			LW			Low Spee	d LB		Low Spee	dlw	Pairing	9	
			Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End			
		1	384	0100	027F	384	0100	027F							Disable	Ŧ	
		2	256	0280	037F	256	0280	037F							Disable	-	
		3	256	0000	00FF	256	0000	00FF							Disable	-	Ŧ

Assignment Method C Points/Start G Start/End					Fransient Tr		O Ho		Status -			
		_	Link Si	de			_	_	PLC Si	de		•
	Dev. N	lame	Points	Start	End		Dev.	Name	Points	Start	End	-
Transfer SB	SB		512	0000	01FF	+	SB		512	0000	01FF -	_
Transfer SW	SW		512	0000	01FF	₩.	SW		512	0000	01FF	
Random Cyclic	LB					₩.		•				
Random Cyclic	LW					₩.		-				
Transfer 1	LB	-	896	0000	037F	÷₩.	в	-	896	0000	037F	
Transfer 2	LW	-	896	0000	037F	÷₩.	W	-	896	000000	00037F	
Transfer 3		-				÷₩.		-				
Transfer 4		-				-₩		-				
Transfer 5		-				⊢₩.		-				
Transfer 6		-				. ₩		-				-

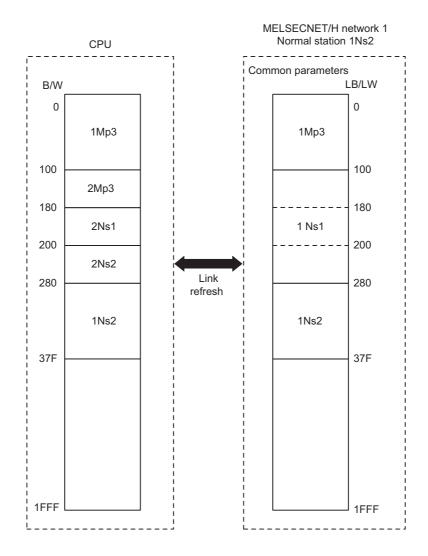
2

(f) MELSECNET/H network 1 normal station 1Ns2

2

For MELSECNET/H network 1 normal station 1Ns2 that is not gateway station, change the settings by:

• Performing B/W refreshment by the setting of "Refresh parameters"



The following describes the network parameter setting of MELSECNET/H network 1 normal station 1Ns2 (Q02UCPU).

	Module 1		Module 2		Module 3	Mode	ule 4
Network Type	MNET/H Mode(Normal Station)	 None 		 None 	•	None	
Start I/O No.		0000					
Network No.		1					
Total Stations							
Group No.		0					
Station No.							
Mode	Online	•		-		-	
	Station Inherent Parameters						
	Refresh Parameters						
	Interrupt Settings						

Assignment Method C Points/Start Start/End					Fransient Transient T		n Error H O Hol		Status			
	_	_	Link Si	ide				_	PLC Si	de	4	-
	Dev. N	lame	Points	Start	End		Dev. N	Vame	Points	Start	End	1
 Transfer SB	SB		512	0000	01FF	+	SB		512	0000	01FF	-
 Transfer SW	SW		512	0000	01FF	÷	SW		512	0000	01FF	
 Random Cyclic	LB					÷		-				
 Random Cyclic	LW					÷		-				
 Transfer 1	LB	-	896	0000	037F	÷	в	-	896	0000	037F	
 Transfer 2	LW	-	896	0000	037F	÷	W	-	896	000000	00037F	
 Transfer 3		-						-				
 Transfer 4		-				- () -		-				
 Transfer 5		+				+		-				
 Transfer 6		-				↔		-				-

2

(g) MELSECNET/H network 1 normal station 1Ns1/Network 2 control station 2Mp3 (Network range assignment of gateway stations, refresh parameters)

For MELSECNET/H network 1 normal station 1Ns1 that is gateway station, change the settings by: • Performing B/W refreshment by the setting of "Refresh parameters"^{*1}

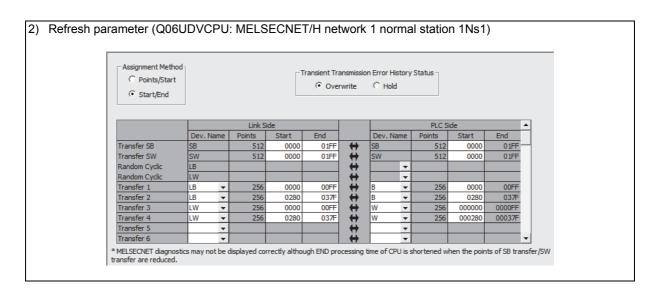
For MELSECNET/H network 2 control station 2Mp3 that is gateway station, change the settings of MELSECNET (II) 3-tier master station by:

- Assigning LB/LW to each station by the setting of "Network range assignment (Common parameters)"^{*2}
- **MELSECNET/H network 1** MELSECNET/H network 2 CPU Normal station 1Ns1 Control station 2Mp3 Common parameters LB/LW B/W LB/LW 0 0 0 1Mp3 1Mp3 1Mp3 2Mp3 100 100 100 2Mp3 2Mp3 180 180 180 1Ns1 2Ns1 2Ns1 200 200 200 2Ns2 2Ns2 280 280 27F 1Ns2 1Ns2 37F 37F 1FFF 1FFF 1FFF Link refresh
- Assigning B/W refreshment by the setting of "Refresh parameters"^{*1}

- *1 Set not to duplicate B/W on the CPU.
- *2 Perform the LB/LW assignment for network 2 control station 2Mp3 including the same LB/LW area as that of 1Mp3 to relay network 1 control station 1Mp3.

The following describes the network parameter setting of MELSECNET/H network 1 normal station 1Ns1/network 2 control station 2Mp3 (Q06UDVCPU).

station 2Mp3)				
			_	
	Module 1	Module 2	Module 3	Module 4
Network Type			✓ None	✓ None
Start I/O No.	0000	00	20	
Network No.	1		2	
Total Stations			3	
Group No.	0		0	
Station No.				
Mode	Online 👻	Online	*	*
		Network Range Assignment		
	Station Inherent Parameters			
	Refresh Parameters	Refresh Parameters		
	Interrupt Settings	Interrupt Settings		
			~	
		Optical/Coaxial	*	



3)	Networ	k range as	ssignr	nent ((206UI	DVCP	U: ME	LSEC	NET/ł	l netw	vork 2	contro	ol stati	on 2N	lp3)		
		Set up co	mmon and	l station in	nerent par	ameters.											
		C Points/	Assignment Method C Points/Start C Start/End Start/End Startions						Parameter I Switch Scre		/LW Settin	g 💌					
			Send Ran	ge for ead	h Station	Send Ran	ge for eac	h Station	Send Range for each Station Send Range for each St			h Station			•		
		Station No.		LB			LW			Low Spee	d LB		Low Spee	d LW	Pairing	1	
			Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End			
		1	128	0180	01FF	128	0180	01FF							Disable	-	
		2	128	0200	027F	128	0200	027F							Disable	-	
		3	384	0000	017F	384	0000	017F							Disable	-	-

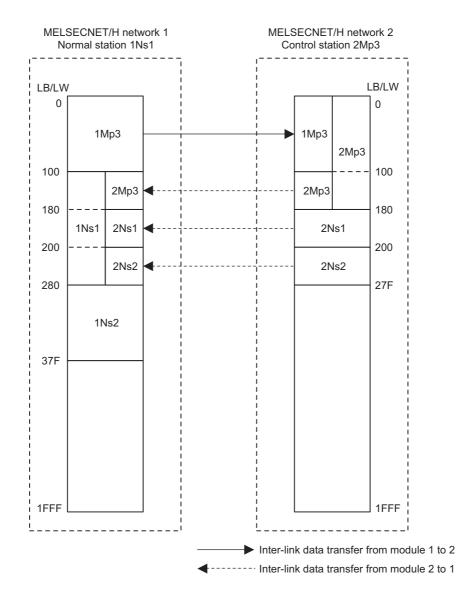
4) Refresh parameter (Q06UDVCPU: MELSECNET/H network 2 control station 2Mp3)

Assignment Method					Transient Tra		C Hold		Status			
			Link Si	de					PLC S	de		*
	Dev. N	Name	Points	Start	End		Dev. Na	ame	Points	Start	End	
Transfer SB	SB		512	0000	01FF	+	SB		512	0200	03FF	-
Transfer SW	SW		512	0000	01FF		SW		512	0200	03FF	
Random Cyclic	LB					. ₩		-				
Random Cyclic	LW							-				
Transfer 1	LB	-	384	0100	027F	i ↔	В	-	384	0100	027F	
Transfer 2	LW	-	384	0100	027F	÷	W	-	384	000100	00027F	
Transfer 3		-				. ₩		-				
Transfer 4		-				₩.		-				
Transfer 5		-				i ↔		-				
Transfer 6		-				₩.		-				-

(h) MELSECNET/H network 1 normal station 1Ns1/network 2 control station 2Mp3 (Inter-link data transfer of gateway station)

For data transfer between MELSECNET/H networks 1 and 2, change the setting of MELSECNET (II) 2 and 3-tier by:

• Transferring the data between networks 1 and 2 by the setting of "Interlink transmission parameters" between gateway stations 1Ns1 and 2Mp3

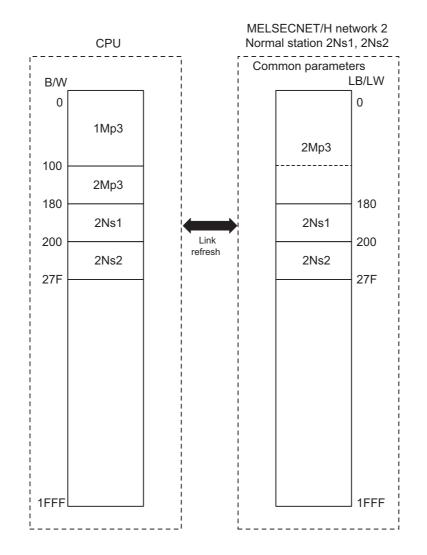


The following describes the inter-link data transfer setting of MELSECNET/H network 1 normal station 1Ns1/network 2 control station 2Mp3 (Q06UDVCPU).

					Ira	nsfer from	Module	1:MNET/H	H Mode(No	rindi Stal			
	Points/S	Start (Start/E	ind	T	ransfer to	Module	2:MNET/	H Mode(Co	ntrol Sta	tion)		
			L	В					U	N			•
No.	Т	ransfer fro	om		Transfer t	0	Т	ransfer fro			Transfer to	1	
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End	
1	256	0000	00FF	256	0000	00FF	256	0000	00FF	256	0000	00FF	
2													
3													
4	+												
6													
7													
8													
9													
10													
11													
Trans The r	ifer to link ange of T	device mu iransfer to	ist be set link device	within the	e host stat be set in t	ion send r ne link refr	ange of i resh rang	the target e.	network n	nodule.			•
The r	ignment M Points/S	ransfer to Nethod —	Ist be set link device Start/E	e cannot l	be set in t	ne link refr	esh rang	e. 2:MNET/r	network n H Mode(Co H Mode(No	ntrol Sta	tion)		•
The r	ange of Ti ignment №	ransfer to Nethod —	link device	e cannot l	be set in t	ne link refr	esh rang	e. 2:MNET/r	H Mode(Co	ntrol Sta rmal Stat	tion)		•
The r	ignment M Points/S	ransfer to 4ethod	 Start/E Umm 	e cannot l ind B	Trai Transfer t	nsfer from iransfer to	esh rang Module Module	2:MNET/H 1:MNET/H	H Mode(Co H Mode(No L) pm	ntrol Sta rmal Stat	ion) Transfer to)	
Ass No.	ignment M Points/S	ransfer to Nethod	Start/E	ind B Points	Transfer t	nsfer from ransfer to D End	Module Module	e. 2:MNET/H 1:MNET/H ransfer fro Start	H Mode(Co H Mode(No L) Dom End	ntrol Sta rmal Stat N Points	ion) Transfer to Start	End	
Ass C No.	ignment M Points/S	ransfer to 4ethod	 Start/E Umm 	e cannot l ind B	Trai Transfer t	nsfer from iransfer to	esh rang Module Module	2:MNET/H 1:MNET/H	H Mode(Co H Mode(No L) pm	ntrol Sta rmal Stat	ion) Transfer to)	
Ass No.	ignment M Points/S	ransfer to Nethod	Start/E	ind B Points	Transfer t	nsfer from ransfer to D End	Module Module	e. 2:MNET/H 1:MNET/H ransfer fro Start	H Mode(Co H Mode(No L) Dom End	ntrol Sta rmal Stat N Points	ion) Transfer to Start	End	
Ass No.	ignment M Points/S	ransfer to Nethod	Start/E	ind B Points	Transfer t	nsfer from ransfer to D End	Module Module	e. 2:MNET/H 1:MNET/H ransfer fro Start	H Mode(Co H Mode(No L) Dom End	ntrol Sta rmal Stat N Points	ion) Transfer to Start	End	
Ass C No. 1 2 3 4	ignment M Points/S	ransfer to Nethod	Start/E	ind B Points	Transfer t	nsfer from ransfer to D End	Module Module	e. 2:MNET/H 1:MNET/H ransfer fro Start	H Mode(Co H Mode(No L) Dom End	ntrol Sta rmal Stat N Points	ion) Transfer to Start	End	
Ass C No. 1 2 3 4 5	ignment M Points/S	ransfer to Nethod	Start/E	ind B Points	Transfer t	nsfer from ransfer to D End	Module Module	e. 2:MNET/H 1:MNET/H ransfer fro Start	H Mode(Co H Mode(No L) Dom End	ntrol Sta rmal Stat N Points	ion) Transfer to Start	End	
Ass No.	ignment M Points/S	ransfer to Nethod	Start/E	ind B Points	Transfer t	nsfer from ransfer to D End	Module Module	e. 2:MNET/H 1:MNET/H ransfer fro Start	H Mode(Co H Mode(No L) Dom End	ntrol Sta rmal Stat N Points	ion) Transfer to Start	End	
Ass C No. 1 2 3 4 5 6	ignment M Points/S	ransfer to Nethod	Start/E	ind B Points	Transfer t	nsfer from ransfer to D End	Module Module	e. 2:MNET/H 1:MNET/H ransfer fro Start	H Mode(Co H Mode(No L) Dom End	ntrol Sta rmal Stat N Points	ion) Transfer to Start	End	
Ass No. 1 2 3 4 5 6 7	ignment M Points/S	ransfer to Nethod	Start/E	ind B Points	Transfer t	nsfer from ransfer to D End	Module Module	e. 2:MNET/H 1:MNET/H ransfer fro Start	H Mode(Co H Mode(No L) Dom End	ntrol Sta rmal Stat N Points	ion) Transfer to Start	End	
Ass C No. 1 2 3 4 5 6 6 7 8	ignment M Points/S	ransfer to Nethod	Start/E	ind B Points	Transfer t	nsfer from ransfer to D End	Module Module	e. 2:MNET/H 1:MNET/H ransfer fro Start	H Mode(Co H Mode(No L) Dom End	ntrol Sta rmal Stat N Points	ion) Transfer to Start	End	

(i) MELSECNET/H network 2 normal station 2Ns1, 2Ns2

For MELSECNET/H network 2 normal stations 2Ns1 and 2Ns2, change the settings by: • Performing B/W refreshment by the setting of "Refresh parameters"



2

The following describes the network parameter setting of MELSECNET/H network 2 normal stations 2Ns1, 2Ns2 (Q02UCPU).

1) Network parameter setting (Q02UCPU: MELSECNET/H network 2 normal stations 2Ns1, 2Ns2)

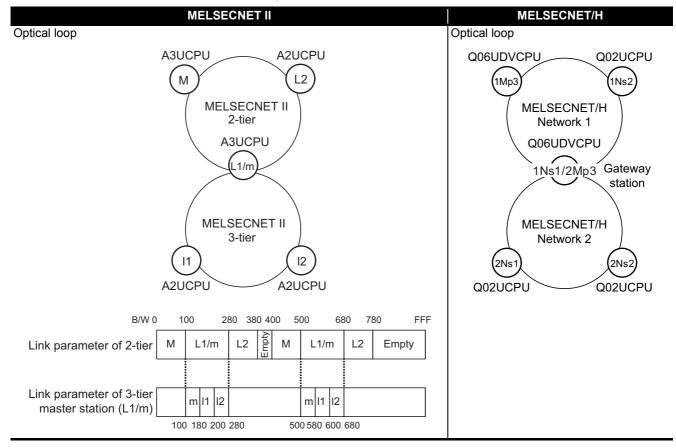
	Module 1	Module 2	Module 3	Module 4
Network Type	MNET/H Mode(Normal Station)	• None •	None 🗸	None
Start I/O No.	000	D		
Network No.		2		
Total Stations				
Group No.		D		
Station No.				
Mode	Online -	· _		
	Station Inherent Parameters			
	Refresh Parameters			
	Interrupt Settings			

Assignment Method O Points/Start O Start/End					ransient Tra		n Error H		Status -			
			Link Si	da					PLC S	de		A
	Dev. N	lame	Points	Start	End		Dev. N	Vame	Points	Start	End	-
Transfer SB	SB		512	0000	01FF	+	SB		512	0000	01FF -	_
Transfer SW	SW		512	0000	01FF	÷₩	SW		512	0000	01FF	
Random Cyclic	LB					- \.		•				
Random Cyclic	LW					- \.		+				
Transfer 1	LB	-	640	0000	027F	↔	В	-	640	0000	027F	
Transfer 2	LW	4	640	0000	027F	+	W	4	640	000000	00027F	
Transfer 3		-				+		-				
Transfer 4		-				+	<u> </u>	-				
Transfer 5		-				+	<u> </u>	+				
Transfer 6		-				↔		-				+

2.5.4 Example of changing parameters on 3-tier system (When the first half/second half of link parameter is set)

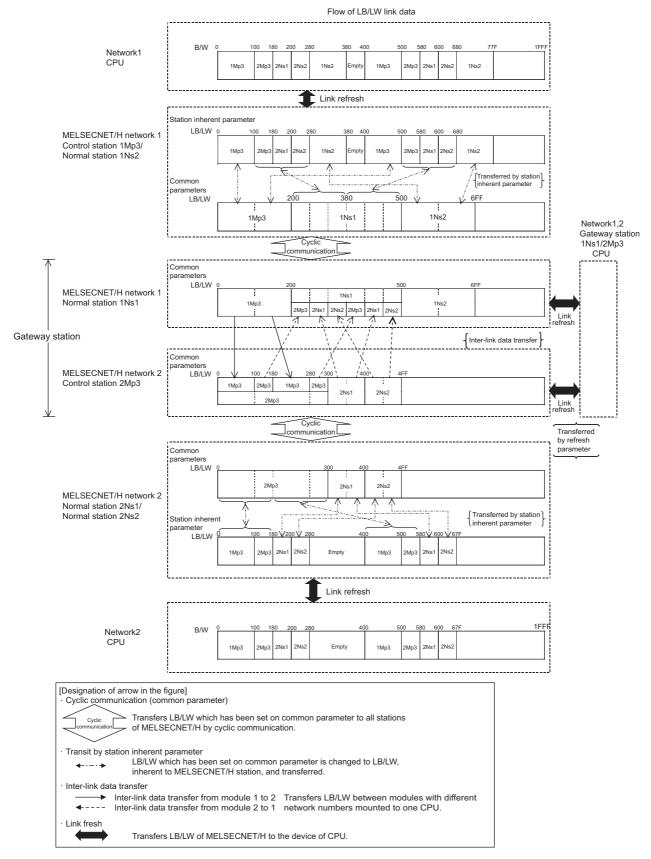
The following shows how to change network parameter on LB/LW, when replacing the MELSECNET II 3-tier system with MELSECNET/H. Network range assignment of the present MELSECNET II 3-tier system is used as it is for replacement with MELSECNET/H.

MELSECNET II 2-tier is replaced with the network 1 of MELSECNET/H, and 3-tier is replaced with the network 2. The MELSECNET II master station is replaced with the MELSECNET/H control station, and MELSECNET II local stations are replaced with MELSECNET/H normal stations.



Concept of MELSECNET II 3-tier system replacement Step 1: Control station (1Mp3) setting Set the link parameter setting on MELSECNET II 2-tier master station as MELSECNET/H network 1 control station 1Mp3. • In "Network range assignment (Common parameters)" of control station 1Mp3, set the LB/LW (first half size + second half size) as a contiguous area on each station. • It is divided into the first half LB/LW and the second half LB/LW, and transferred depending on the settings 1 and 2 of "Station inherent parameter". Step 2: Common parameter and refresh parameter settings of gateway station (1Ns1/2Mp3) "Common parameter" setting and "Refresh parameter setting" of the MELSECNET II 3-tier master station are set as MELSECNET/H network 2 control station 2Mp3 and network 1 normal station 1Ns1. • In "Network range assignment (Common parameters)" of control station 2Mp3, set the LB/LW (first half size + second half size) as a contiguous area on each station. The range assignment should be performed including the same LB/LW size as that of 1Mp3 to relay 1Mp3. • Set "Refresh parameter" to transfer B/W by dividing it into the first half B/W and the second half B/W on each station of network 2 control station 2Mp3 and network 1 normal station 1Ns1. Make sure that B/W of networks 1 and 2 will not duplicate on the CPU. • As "Interlink transmission parameters" parameter the gateway station 1Ns1/2Mp3 is set for, do not set a station inherent parameter Step 3: Inter-link data transfer setting of gateway station (1Ns1/2Mp3) Data transfer between 2 and 3-tier, which is performed automatically on MELSECNET II, is performed by Inter-link data transfer on gateway station 1Ns1/2Mp3. • LB/LW area shared by networks 1 and 2 is set by "Interlink transmission parameters" parameter of gateway station between 1Ns1 and 2Mp3. Step 4: Station setting other than gateway stations (1Ns2, 2Ns1, 2Ns2) "Station inherent parameter" and "Refresh parameters" of stations excluding gateway stations (1Ns2, 2Ns1, 2Ns2) are set. • Set "Station inherent parameter" of network 1 normal station 1Ns2 as the same setting as that of network 1 control station 1Mp3 • Set "Station inherent parameter" of network 2 normal station 2Ns2 as the same setting as that of network 2 normal station 2Ns1. Set "Refresh parameter" to refresh all area of common parameters assigned on control stations.

Data flow between each station of MELSECNET/H is shown at next page.



Network parameter setting is required for control and normal stations on MELSECNET/H.

	Common parameter (Network range assignment)	Station inherent parameter	Refresh parameter	Inter-link data transfer
1Mp3	0	0	Δ	
Impo	(Refer to example in (e) 2))	(Refer to example in (e) 3))	(Refer to example in (e) 4))	
1Ns2		0	Δ	
11132		(Refer to example in (f) 2))	(Refer to example in (f) 3))	
1Ns1			0	
11131		-	(Refer to example in (g) 3))	0
2Mp3	0		0	(Refer to example in (g) 5))
210103	(Refer to example in (g) 2))	-	(Refer to example in (g) 4))	
2Ns1		0	Δ	
21151		(Refer to example in (h) 2))	(Refer to example in (h) 3))	
2Ns2		0	Δ	
21152		(Refer to example in (h) 2))	(Refer to example in (h) 3))	

The following shows parameters required on each station of MELSECNET/H.

 $O: Setting \ required \ (Default \ setting \ is \ also \ acceptable)/ \ - \ Setting \ not \ required$

(a) MELSECNET II 2-tier master station M

2

The following describes the network parameter setting of MELSECNET II 2-tier master station M (A3UCPU).

	Module No.1	Module No.2	Module No.3	Module N
Network type	MNET II (Master station) 🗸	None	None	▼ None
Start I/O No.	0000			
Network No.				
Total stations	2			
Group No.				
Station No.				
	Network range assignment			
	Refresh parameters			
Necessary setting(No setting / Already set) Set if it is ne	eded(Nosetting / Alreadyset)		
. transmission parame	Start I/O No.: Input the start I/O No. installed in th	Valid module during other sta e module in 16-point unit.	tion access 1	

Setup comm	ion paramet	ers											
Assignment m C Points/S C Start/En	tart	Tot	nitoring time al slave ions	200	× 10ms	Swite	h screens	LB/LW	/ settings		-		
	Sendira	ange for ea	ach station	Sendira	ange for ea	ach station	Send ra	ange for ea	ach station	Sendira	ange for ea	ach statio	n 🖌
L/R		First half L	.B		First half L	W		Second h	alf LB		Second h	ialf LW	
station No.	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End	
MO	256	0000	OOFF	256	0000	00FF	256	0400	04FF	256	0400	04FF	
IIL 1	384	0100	027F	384	0100	027F	384	0500	067F	384	0500	067F	
∥L 2	256	0280	037F	256	0280	037F	256	0680	077F	256	0680	077F	

-Assignment method © Points/Start © Start/End				nsient tra Overwrit	nsmission error te ⓒ Holi			
		Link side				PLC side	;	4
	Points	Start	End		BlockNo.	Points	Start	End
LB<->B transmission(1)	1920	0000	077F	+		1920	0000	077F
EDK-2D (Idristitission(T)	1000	0000	077F	- () -		1920	0000	077F
LDK->D transmission(1)	1920	00000						

(b) MELSECNET II 2-tier local station L2

As the cyclic communication is performed according to the network range assignments of the 2-tier master station (A3UCPU), there is no parameter setting for network range assignment on 2-tier local stations.

(c) MELSECNET II 2-tier local station L1/3-tier master station m (gateway station)

The following describes the network parameter settings of MELSECNET II 2-tier local station L1/3tier master station m (A3UCPU).

	Module No.1	Module No.2	Module No.3		Module No.4
Network type	MNET II (Local station)	MNET II (Master station)	None	▼ None	
Start I/O No.	0000	002)		
Network No.					
Total stations			2		
Group No.					
Station No.					
		Network range assignment			
		Refresh parameters			
Necessary setting(Start I/O No.:	eeded(Nosetting / Alreadyset) Valid module during other sta ne module in 16-point unit.	tion access		

Setup comn	non paramet	ers										
-Assignment m C Points/S O Start/En	tart	Tot	nitoring time al slave ions	e 200	×10ms	Swite	h screens	LB/LW	/ settings		-	
	Sendira	ange for ea	ach station	Send r	ange for ea	ach station	Send ra	ange for ea	ch station	Sendira	ange for ea	ach statio
L/R		First half L	.B		First half L	W		Second h	alf LB		Second h	alf LW
station No.	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
MO	128	0100	017F	128	0100	017F	128	0500	057F	128	0500	057F
11.1	128	0180	01FF	128	0180	01FF	128	0580	05FF	128	0580	05FF
IIL 1					0200	027F	128	0600	067F	128	0600	067F

Assignment method Points/Start Start/End				nsient tra Overwrit	nsmission error ie © Holo			
		Link side				PLC side	9	
	Points	Link side Start	End		BlockNo.	PLC side Points	e Start	End
LB<->B transmission(1)	Points 1920		End 077F	+	BlockNo.		-	End 077F
LB<->B transmission(1) LW<->W transmission(1)		Start		+	BlockNo.	Points	Start	

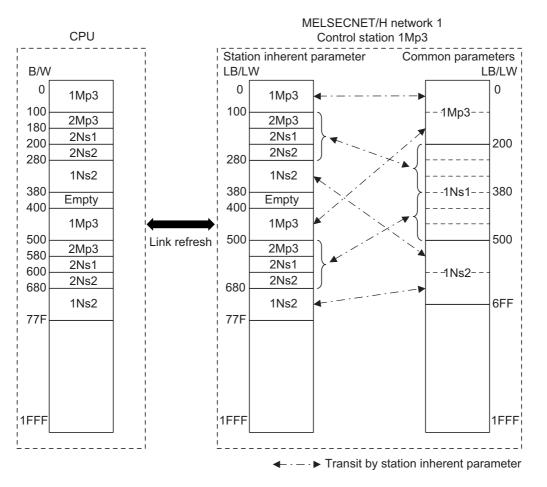
(d) MELSECNET II 3-tier local station I1, I2

As the cyclic communication is performed according to the network range assignments of the 3-tier master station (A3UCPU), there is no parameter setting for network range assignment on 3-tier local stations.

(e) MELSECNET/H network 1 control station 1Mp3

For MELSECNET/H network 1 control station 1Mp3, change the settings of MELSECNET II 2-tier first half/second half setting by:

- Assigning LB/LW (first half + second half size) to each station by the setting of "Network range assignment (Common parameters)"
- Dividing the data into the first half LB/LW and second half LB/LW and transferring them by the setting of "Setting1" and "Setting2" of "Station inherent parameter"



The following describes the network parameter setting of MELSECNET/H network 1 control station 1Mp3 (Q06UDVCPU).

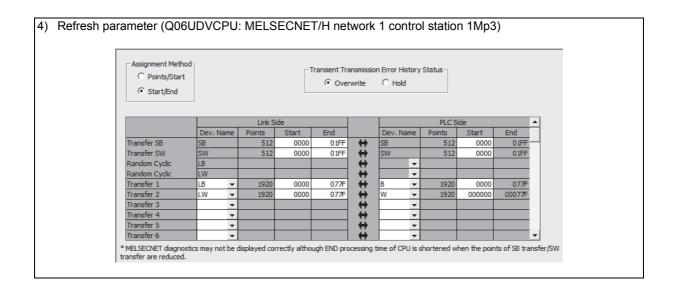
1) Network parameter setting (Q06UDVCPU: MELSECNET/H network 1 control station 1Mp3)

	Module 1	Module 2	Module 3	Module 4
Network Type	MNET/H Mode(Control Station)	None 🗸	None 🗸	None
Start I/O No.	0000			
Network No.	1	L		
Total Stations	3	3		
Group No.				
Station No.				
Mode	Online -	-		
	Network Range Assignment			
	Refresh Parameters			
	Interrupt Settings			
	Return as Control Station 👻			
	Optical/Coaxial 🗸			

2) Network range assignment (Q06UDVCPU: MELSECNET/H network 1 control station 1Mp3)

bet up et	mmon and	l station in	herent par	ameters.											
Assignment	Start	Monit	oring Time	20	¹⁰ X 10r	ns P	arameter I	Name							
Start/E	ind	Total Statio		3		S	witch Scre	ens LB	/LW Settir	ig 💌					
	Send Ran	ge for eac	h Station	Send Ran	ge for eac	h Station	Send Ran	ge for ead	h Station	Send Ran	ge for ead	h Station			
Station No.		LB			LW			Low Spee	d LB		Low Spee	d LW	Pairin	9	
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End			
1	768	0200	04FF	768	0200	04FF							Disable		
2	512	0500	06FF	512	0500	06FF							Disable	•	
3	512	0000	01FF	512	0000	01FF							Disable	-	-

Station inherent	paramete	r (Q06l	JDVC	PU: N	MELSE	ECNE	T/H ne	etwork	1 con	trol st	tation '	1Mp3)
	-Reference Ne Workspace Lo Workspace Na Project Name Reference	cation me	e Assignme Read		pard No. Cancel		Assignmer C Point © Start	· ·	Param Name Switch Scree		3 Setting	•	
	Station No.	Points 984 256 256	Eetting 1 LB Start 0100 0280 0000	End 027F 037F 00FF	Points 384 256 256	Setting 2 LB Start 0500 0680 0400	End 067F 077F 04FF	Network R Points 768 512 512	Range Ass LB Start 0200 0500 0000	End 04FF 06FF	Pairing Disable Disable Disable	× × × ×	
	Reference Ne Workspace Lo Workspace Na Project Name Reference	me	e Assignme		oard No, 🔽 Cancel		Assignmer C Point O Start	s/Start	Param Name Switch Screen		V Setting	¥	

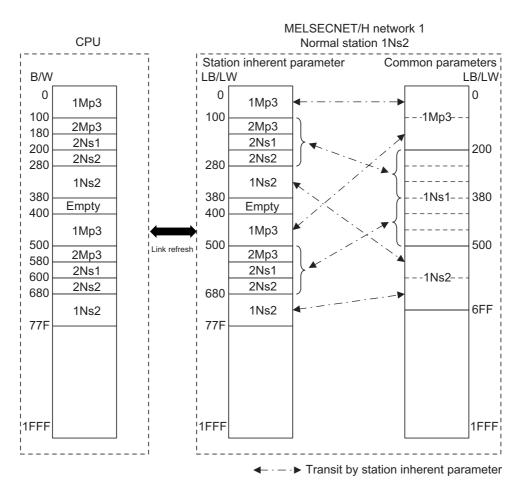


(f) MELSECNET/H network 1 normal station 1Ns2

2

For MELSECNET/H network 1 normal station 1Ns2 that is not gateway station, change the settings of MELSECNET II 2-tier first half/second half setting by:

• Dividing the data into the first half LB/LW and second half LB/LW and transferring them by setting of "Setting1" and "Setting2" of "Station inherent parameter"



The following describes the network parameter setting of MELSECNET/H network 1 normal station 1Ns2 (Q02UCPU).

	Module 1	Module 2	Module 3	Module 4
Network Type	MNET/H Mode(Normal Station)	None	Vone ·	✓ None
Start I/O No.	000	D		
Network No.		1		
Total Stations				
Group No.		D		
Station No.				
Mode	Online	•	•	•
	Station Inherent Parameters			
	Refresh Parameters			
	Interrupt Settings			

2) S ⁻	tation inherent	t paramete	er (Q02		U: ME	LSEC	NET/F	l netw	ork 1 i	norma	al statio	on 1Ns	s2)	
		-												
		-Reference Ne						-	nt Method	Parar	neter 🗌			
		Workspace Lo	cation	C: MELS	SEC\Gppw	۱		C Point	ts/Start	Name	e _			
		Workspace Na	me					Start	t/End	Swite		Setting	-	
										Scree	ens i			
		Project Name		Q06UD	VCPU_ B	oard No.	1 💌							
		Reference	~	Read		Cancel								
				Redu		Cancer								
				Setting 1			Setting 2		Network	Range As	signment			
		Station No.		LB			LB			LB		Pairing	,	
			Points	Start	End	Points	Start	End	Points	Start	End			
		1	384	0100		384	0500	067F	768	0200		Disable	-	
		2	256	0280			0680	077F 04FF	512 512	0500		Disable Disable	-	
		3	256	0000	UUFF	256	0400	UHFF	512	0000	UIFF	Disable	• •	
	[
		-Reference Ne					[_	nt Method -	Param	neter 🗌			
		Workspace Loo	ation	C: MELS	SEC \Gppw \			C Point	s/Start	Name				
		Workspace Na	ne					Start	/End	Switch		Setting	-	
										Scree	ns /	-	_	
		Project Name		Q06UDV	CPU_ Bo	oard No. 1								
		Reference	.	Read		Cancel								
		Kelerene		Redu		Cancer								
				Setting 1			Setting 2		Network F	Range Ass	ianment		•	
		Station No.		LW			LW			LW		Pairing		
			Points	Start	End	Points	Start	End	Points	Start	End			
		1	384	0100	027F	384	0500	067F	768	0200		Disable	•	
		2	256	0280	037F	256	0680	077F	512	0500		Disable	-	
		3	256	0000	00FF	256	0400	04FF	512	0000	01FF	Disable	• •	

2

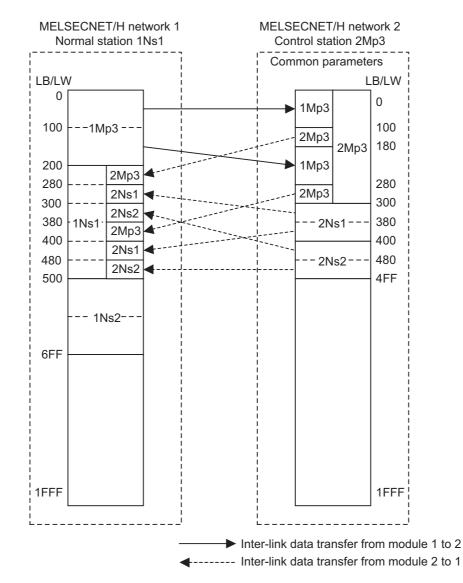
3) Refresh parameter (Q02UCPU: MELSECNET/H network 1 normal station 1Ns2)

Assignment Method					Transient Tra		C Hold	/ Status –			
			Link S	ide				PLC S	ide		•
	Dev. I	Name	Points	Start	End		Dev. Name	Points	Start	End	7
Transfer SB	SB		512	0000	01FF	+	SB	512	0000	01FF	-
Transfer SW	SW		512	0000	01FF	+	SW	512	0000	01FF	
Random Cyclic	LB					- () -					
Random Cyclic	LW					- () -	-				
Transfer 1	LB	-	1920	0000	077F	- \.	в 👻	1920	0000	077F	
Transfer 2	LW	-	1920	0000	077F	- () -	W 👻	1920	000000	00077F	
Transfer 3		-				- () -	-				
Transfer 4		-				÷	-				
Transfer 5		-				- \)	-				
Transfer 6		-				÷	-			•	-

(g) MELSECNET/H network 1 normal station 1Ns1/network 2 control station 2Mp3 (gateway station)

For data transfer between MELSECNET/H networks 1 and 2, change the setting of MELSECNET II 2 and 3-tier by:

- Assigning LB/LW of network 2 control station 2Mp3 including LB/LW size of network 1 control station 1Mp3 by the setting of "Network range assignment (Common parameters)" on network 2 control station 2Mp3
- Transferring the data between networks 1 and 2 by the setting of "Interlink transmission parameters" between gateway stations 1Ns1 and 2Mp3

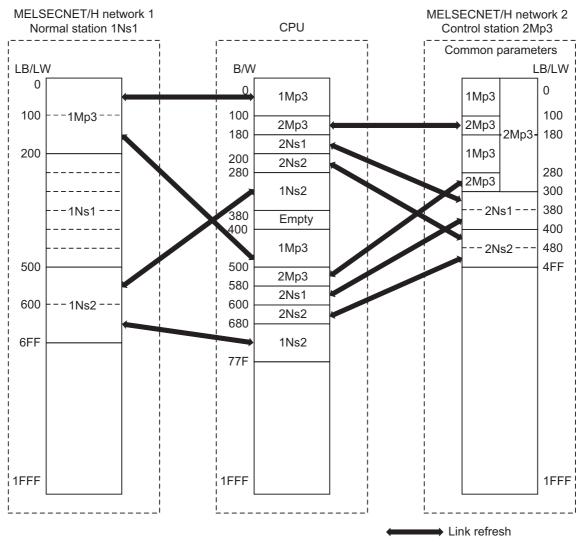


For MELSECNET/H normal station 1Ns1 that is gateway station, change the settings of MELSECNET II 2-tier first half/second half settings by:

 Dividing the data into the first half and second half and refreshing them by the setting of "Refresh parameters"^{*1}

Also, for MELSECNET/H control station 2Mp3 of gateway station, change the settings of MELSECNET II 3-tier first half/second half settings by:

- Assigning LB/LW (first + last size) to each station by the setting of "Network range assignment (Common parameters)"^{*2}
- Dividing the data into the first half and second half and refreshing them by the setting of "Refresh parameters"^{*1}



*1 Set not to duplicate B/W on the CPU.

*2 Perform the LB/LW assignment for network 2 control station 2Mp3 including the same LB/LW area as that of 1Mp3 to relay network 1 control station 1Mp3.

The following describes the network parameter setting of MELSECNET/H network 1 normal station 1Ns1/network 2 control station 2Mp3 (Q06UDVCPU).

-	ter setting (Q06UDVCPU:			
station 2Mp3)				
	Module 1	Module 2	Module 3	Module 4
Network Type				None
Start I/O No.	0000	0020	2	
Network No.	1		2	
Total Stations			3	
Group No.	0		0	
Station No.				
Mode	Online 👻	Online -	· ·	•
		Network Range Assignment		
	Station Inherent Parameters	4		
	Refresh Parameters	Refresh Parameters		
	Interrupt Settings	Interrupt Settings		
		Return as Control Station 👻		
		Optical/Coaxial 🗸	•	
		1		

	k range as	ssigini		20001			LOLO		THEE		contro	n stati		ip5)		
[Set up co	mmon and	l station in	nerent par	rameters.											
	Assignment O Points/ O Start/E	Start	Monite Total Statio		3)0 X 10r		Parameter I Switch Scre		/LW Settin	ig 🔻					
		Send Ran			Send Ran	ge for eac	h Station	Send Ran	, oe for ead	h Station	Send Ran	ge for eac	h Station			
	Station No.		LB			LW			Low Spee			Low Spee		Pairing		
		Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End			
	1	256	0300	03FF	256	0300	03FF							Disable	-	
	2	256	0400	04FF	256	0400	04FF							Disable	-	
I	3	768	0000	02FF	768	0000	02FF							Disable	-	

3) Refresh parameter (Q06UDVCPU: MELSECNET/H network 1 normal station 1Ns1)

2

Assignment Method				ransient Tra © Over		n Error H		Status -			
		Link S	ide					PLC Si	de		
	Dev. Name	Points	Start	End		Dev. N	lame	Points	Start	End	
Transfer SB	SB	512	0000	01FF	+	SB		512	0000	01FF	-
Transfer SW	SW	512	0000	01FF	- () -	SW		512	0000	01FF	
Random Cyclic	LB				+		-				
Random Cyclic	LW				- () -		-				
Transfer 1	LB 🔹	256	0000	00FF	+	В	-	256	0000	00FF	
Transfer 2	LB 🔹	256	0100	01FF	- () -	В	-	256	0400	04FF	
Transfer 3	LB 🔹	256	0500	05FF	+	В	-	256	0280	037F	
Transfer 4	LB 🗖	256	0600	06FF	- () -	В	-	256	0680	077F	
Transfer 5	LW 🗖	256	0000	00FF	- () -	W	-	256	000000	0000FF	
Transfer 6	LW 🗖	256	0100	01FF	÷	W	-	256	000400	0004FF	
Transfer 7	LW	256	0500	05FF	- () -	w	-	256	000280	00037F	
Transfer 8	LW -	256	0600	06FF	- () -	W	-	256	000680	00077F	
Transfer 9		r			÷		-				-

-	nt Method ts/Start t/End			T	ransient Tra ⓒ Over		On Error F		Status -			
			Link Si	ide			1		PLC Si	de		
	Dev	v. Name	Points	Start	End		Dev. 1	Name	Points	Start	End	
Transfer St	3 SB		512	0000	01FF	+	SB		512	0200	03FF	-
Transfer S	v sw		512	0000	01FF	- \.	SW		512	0200	03FF	
Random Cy	rdic LB					-₩-		-				
Random Cy	rdic LW					-₩-		-				
Transfer 1	LB	-	128	0100	017F	-₩-	в	-	128	0100	017F	
Transfer 2	LB	-	128	0280	02FF	÷₩.	в	-	128	0500	057F	
Transfer 3	LB	+	128	0300	037F	-₩-	в	-	128	0180	01FF	
Transfer 4	LB	-	128	0380	03FF	-₩-	в	-	128	0580	05FF	
Transfer 5	LB	+	128	0400	047F	- \.	в	-	128	0200	027F	
Transfer 6	LB	+	128	0480	04FF	-₩-	в	-	128	0600	067F	
Transfer 7	LW	-	128	0100	017F	- \.	W	-	128	000100	00017F	
Transfer 8	LW	+	128	0280	02FF	÷₩.	W	-	128	000500	00057F	
Transfer 9	LW	-	128	0300	037F	÷₩.	W	-	128	000180	0001FF	
Transfer 10) LW	+	128	0380	03FF	÷₩.	w	-	128	000580	0005FF	
Transfer 1	L LW	-	128	0400	047F	÷₩.	W	-	128	000200	00027F	
Transfer 12		-	128	0480	04FF	₩	W	-	128	000600	00067F	
Transfer 1		*				<u> </u>		-				

Inter-link data transfer parameter (Q06UDVCPU: MELSECNET/H network 1 normal station 1Ns1/network 2 control station 2Mp3)

	gnment N Points/S		Start/E	nd				1:MNET/h 2:MNET/h						
			L	В					L	W			-	
No.	Т	ransfer fro	m		Transfer t	0	Т	ransfer fro	om		Transfer t			
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End		
1	256	0000	00FF	256	0000	00FF	256	0000	00FF	256	0000	00FF		
2	256	0100	01FF	256	0180	027F	256	0100	01FF	256	0180	027F		
3														
4														
5														
6														
7														
8														
9														
10														
11													-	

0	Points/S	tart (Start/E	ind		nsfer from Transfer to		2:MNET/H			-	-	
			U	В					L	N			
No.	Ti	ransfer fro	m		Transfer t	0	Т	ransfer fro	om		Transfer to)	
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End	
1	128	0100	017F	128	0200	027F	128	0100	017F	128	0200	027F	
2	128	0280	02FF	128	0380	03FF	128	0280	02FF	128	0380	03FF	
3	128	0300	037F	128	0280	02FF	128	0300	037F	128	0280	02FF	
4	128	0380	03FF	128	0400	047F	128	0380	03FF	128	0400	047F	
5	128	0400	047F	128	0300	037F	128	0400	047F	128	0300	037F	
6	128	0480	04FF	128	0480	04FF	128	0480	04FF	128	0480	04FF	
7													
8													
9													
10													
11													-

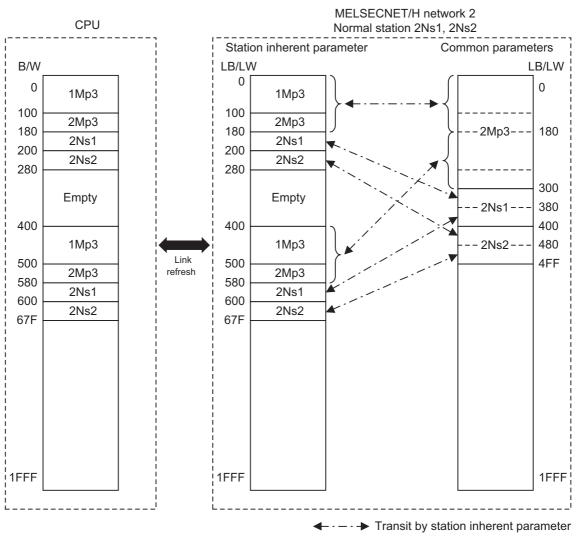
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(h) MELSECNET/H network 2 normal station 2Ns1, 2Ns2

2

For MELSECNET/H network 2 normal station 2Ns1, 2Ns2 that is not gateway station, change the settings of MELSECNET II 2-tier first half/second half setting by:

• Dividing the data into the first half LB/LW and second half LB/LW and transferring them by the setting of "Setting1" and "Setting2" of "Station inherent parameter"



The following describes the network parameter setting of MELSECNET/H network 1 normal stations 2Ns1, 2Ns2 (Q02UCPU).

	Module 1		Module 2	Module 3		Module 4
Network Type	MNET/H Mode(Normal Station)	✓ None	•	None	-	None
Start I/O No.	() () () () () () () () () ()	0000				
Network No.		2				
Total Stations						
Group No.		0				
Station No.						
Mode	Online	•		•	-	
	Station Inherent Parameters					
	Refresh Parameters					
	Interrupt Settings					

Defenses						A	A Mada A					
Reference Ne	-						it Method	Param				
Workspace Loo	ation	C: MELSE	EC\Gppw\	1		O Point	s/Start	Name				
Workspace Na	ne					Start	/End	Switch Scree		Setting		•
Project Name			CPU_i Bo	oard No. 🛛	2 -			50.00	13			
Referenc	e	Read Cancel										
_		Setting 1	_		Setting 2		Network F	Range Ass	ianment			•
Station No.		LB			LB			LB		Pairing		
	Points	Start	End	Points	Start	End	Points	Start	End			
1	128	0180	01FF	128	0580	05FF	256	0300		Disable	-	
2	128	0200	027F	128	0600	067F	256	0400		Disable	-	_
3	384	0000	017F	384	0400	057F	768	0000	02FF	Disable	•	-
Reference Ne Workspace No Workspace Na	twork Rang	ge Assignm	nent EC\Gppw	\			nt Method		neter	Disable W Setting		• •
Reference Ne Workspace Lo	twork Rang	ge Assignm	nent EC\Gppw			Assignme O Poin	nt Method	Parar Name Switc	neter			
Reference Ne Workspace No Workspace Na	twork Ran <u>c</u> cation me	ge Assignm	nent EC\Gppw	\		Assignme O Poin	nt Method	Parar Name Switc	neter			
Reference Ne Workspace Lo Workspace Na Project Name	twork Ran <u>c</u> cation me	ge Assignm C: \MELS Q06UDV	nent EC\Gppw	No. [Assignme O Poin	nt Method ts/Start t/End	Parar Name Switc Scree	neter h ins			
Reference Ne Workspace Lo Workspace Na Project Name Referen	twork Rang cation me	Pe Assignm	nent EC\Gppw	No. [2 V Setting 2	Assignme O Poin	nt Method ts/Start t/End	Parar Name Switc Scree Range As	neter h ins	W Setting		
Reference Ne Workspace Lo Workspace Na Project Name	twork Rang cation me	Pe Assignm C:\MELS Q06UDV Read Setting 1 LW	ient EC\Gppw 'CPU_i B	ioard No. [Cancel	2 V Setting 2 LW	Assignme C Poin © Star	nt Method ts/Start t/End Network	Parar Name Switc Scree Range As LW	neter h h L ns L signment			•
Reference Ne Workspace Lo Workspace Na Project Name Referen Station No.	twork Rang cation me	Pe Assignm C: WELS Q06UDV Read Setting 1 LW Start	EC\Gppw CPU_i B	loard No. [Cancel Points	2 Setting 2 LW Start	Assignme O Poin O Star	nt Method ts/Start t/End Network	Parar Name Switc Scree Range As LW Start	neter h h L signment	W Setting	9	•
Reference Ne Workspace Lo Workspace Na Project Name Referen	twork Rang cation me	Pe Assignm C:\MELS Q06UDV Read Setting 1 LW	ient EC\Gppw 'CPU_i B	loard No. Cancel Points 128	2 V Setting 2 LW Start 0580	Assignme C Poin © Star	nt Method ts/Start t/End Network	Parar Name Switc Scree Range As LW	neter Lins Lins signment	W Setting		•

2

3) Refresh parameter (Q02UCPU: MELSECNET/H network 2 normal stations 2Ns1, 2Ns2)

Assignment Method					ransient Tra Over		C Hold	/ Status -			
			Link Si	de				PLC S	ide]
	Dev. I	Vame	Points	Start	End		Dev. Name	Points	Start	End	1
Transfer SB	SB		512	0000	01FF	+	SB	512	0000	01FF	-
Transfer SW	SW		512	0000	01FF	- () -	SW	512	0000	01FF	
Random Cyclic	LB					+	-				
Random Cyclic	LW					- () -					
Transfer 1	LB	4	1664	0000	067F	+	В 🔻	1664	0000	067F	
Transfer 2	LW	•	1664	0000	067F	- () -	W 👻	1664	000000	00067F	
Transfer 3		4				+					
Transfer 4						- () -	-				
Transfer 5		4				+					
Transfer 6		-				- () -	-				1

2.6 Program Comparisons

2

2.6.1 Comparison of special relays M (SB) and special registers D (SW)

(1) Master station special relays

Special relays enabled when host station is the master station.

 \bigcirc : Compatible, $\ {\bigtriangleup}$: Partial change required, × : Incompatible

Spec	ial relay in the case master sta			Correspon	ding MELSECNET/H	special re	lay
Number	Name	Description	Number	Name	Description	Compat- ibility	Precautions for replacement
M9200	LRDP instruction received	OFF : Not accepted ON : Accepted	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
M9201	LRDP instruction complete	OFF : Not completed ON : Completed	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
M9202	LWTP instruction received	OFF : Not accepted ON : Accepted	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
M9203	LWTP instruction complete	OFF : Not completed ON : Completed	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
M9206	Link parameter error in the host	OFF : Normal ON : Abnormal	SB0055	Receive parameter error	OFF : Parameter normal ON : Parameter abnormal	0	
M9207	Link parameter check results	OFF : Match ON : Mismatch	None	-	-	Δ	Delete when used in a sequence program as a 3-tier system cannot be configured.
M9208	Master station B,W transmission range setting (only master station of lower link)	OFF : Transmits to tier2 and tier3 ON : Transmits to tier2 only	None	-	-	Δ	Delete when used in a sequence program as a 3-tier system cannot be configured.
M9209	Check instructions of link parameters (only master station of lower link)	OFF : Executing the check function ON : Check non- execution	None	-	-	Δ	Delete when used in a sequence program as a 3-tier system cannot be configured.
M9210	Link card error (for master station)	OFF : Normal ON : Abnormal	SB0020	Module status	OFF : Normal ON : Abnormal	0	
M9224	Link status	OFF : Online ON : Offline, station- to-station test, or self-loopback test	SB0043	Online switch	OFF : Online ON : Other than online	0	
M9225	Forward loop error	OFF : Normal	SB0090	Host loop status	OFF : Normal ON : Abnormal	0	When ON, confirm the loop status by SW0090. The loop status can also be judged by the host station bits of SW0091 to SW0094.
WIJZZU		ON : Abnormal	SB0092 (when host station is remote master station)	Forward loop status of the remote master station	OFF : Normal ON : Abnormal	0	

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Spe <u>c</u>	ial relay in the c <u>ase</u>	of MELSECNET (II)		○ : Compatible, △ : Partial change required, × : Incompatible Corresponding MELSECNET/H special relay						
	master sta			Correspo	nding MELSECNET/H					
Number	Name	Description	Number	Name	Description	Compat- ibility	replacement			
M9226	Reverse loop error	OFF : Normal	SB0090	Host loop status	OFF : Normal ON : Abnormal	0	When ON, confirm the loop status by SW0090. The loop status can also be judged by the host station bits of SW0095 to SW0098.			
	ON : Abnormal	SB0096 (when host station is remote master station)	Reverse loop status of the remote master station	OFF : Normal ON : Abnormal	0					
M9227	Loop test status	OFF : Not being executed ON : Forward loop test/reverse loop test execution underway	SB00AC	Offline test instruction status	OFF : Not instructed ON : Instructed	0				
M9232	Local station operation status	OFF : RUN or STEP RUN status ON : STOP or PAUSE status	SB0084	Each station CPU RUN status	OFF : All stations RUN or STEP RUN status ON : Stations in the STOP or PAUSE status exist	0				
M9233	Local station error detection status	OFF : No error ON : Error detection	None	-	-	Δ	Can be substituted by SB0074.			
M9235	Local station, remote I/O station parameter error detection status	OFF : No error ON : Error detection	SB007C	Parameter status of each station	OFF : No station detected parameter errors ON : A station detected parameter errors	0				
M9236	Local station, remote I/O station initial communications status	OFF : No communication ON : Communication in progress	SB0078	Parameter status of each station	OFF : Parameter communication not in progress ON : Parameter communication in progress	0				
M9237	Local station, remote I/O station error	OFF : Normal ON : Abnormal	SB0074	Cyclic transmission status of each station	OFF : All stations normal ON : Station where cyclic transmission is not executing exist	0				
M9238	Local station, remote I/O station	OFF : Normal	SB0091	Forward loop status	OFF : All stations normal ON : Faulty station present	0				
1110200	forward/reverse loop error	ON : Abnormal	SB0095	Reverse loop status	OFF : All stations normal ON : Faulty station present	0				

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

(2) Local station special relay

2

Special relays enabled when host station is the local station.

Special	relay in the case of statior	MELSECNET (II) local			ELSECNET/H special	-	
Number	Name	Description	Number	Name	Description	Compat- ibility	Precautions for replacement
M9204	LRDP instruction complete	OFF : Not completed ON : Completed	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
M9205	LWTP instruction complete	OFF : Not completed ON : Completed	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
M9211	Link card error (for local station)	OFF : Normal ON : Abnormal	SB0020	Module status	OFF : Normal ON : Abnormal	0	
M9240	Link status	OFF : Online ON : Offline, station- to-station test, or self-loopback test	SB0043	Online switch	OFF : Online ON : Other than online	0	
M9241	Forward loop error	OFF : Normal ON : Abnormal	SB0090	Host loop status	OFF : Normal ON : Abnormal	0	When ON, confirm the loop status by SW0090. The loop status can also be judged by the host station bits of SW0091 to SW0094.
M9242	Reverse loop error	OFF : Normal ON : Abnormal	SB0090	Host loop status	OFF : Normal ON : Abnormal	0	When ON, confirm the loop status by SW0090. The loop status can also be judged by the host station bits of SW0095 to SW0098.
M9243	Loopback execution	OFF : Loopback not executed ON : Loopback execution	SB0090	Host loop status	OFF : Normal ON : Abnormal	0	When ON, confirm the loop status by SW0090. The loop status can also be judged by whether SW0099 and SW009A are the host station No.
M9246	Data not received from master station	OFF : Received ON : Not received	None	-	-	Δ	Delete when used in a sequence program as a 3-tier system cannot be configured.
M9247	Data not received from the upper loop in 3-tier system	OFF : Received ON : Not received	None	-	-	Δ	Delete when used in a sequence program as a 3-tier system cannot be configured.
M9250	Parameter unreceived	OFF : Received ON : Not received	SB0054	Parameter receive status	OFF : Receive completed ON : Not received	0	
M9251	Link break	OFF : Normal ON : Cancel	SB0049	Host station data link status	OFF : Normal ON : Abnormal	0	
M9252	Loop test status	OFF : Not being executed ON : Forward loop test/reverse loop test execution underway	SB00AE	Offline testing response designation	OFF : No response ON : Response	0	

 \bigcirc : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

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O: Compatible,	△ : Partial change	required, >	Incompatible
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Special	relay in the case of statior	MELSECNET (II) local		ME	ELSECNET/H special	relay	
Number	Name	Description	Number	Name	Description	Compat- ibility	Precautions for replacement
M9253	Master station operation status	OFF : RUN or STEP RUN status ON : STOP or PAUSE status	SW0084 to SW0087	Each station CPU RUN status	Stores the CPU RUN status of each station.	0	When the MELSECNET II master station is the MELSECNET/H specified control station, the operation status is distinguished by the corresponding bit of the control station specified on SW0084 to SW0087.
M9254	Operating status of other local stations	OFF : RUN or STEP RUN status ON : STOP or PAUSE status	SB0084	Each station CPU RUN status	OFF : All stations RUN or STEP RUN status ON : Stations in the STOP or PAUSE status exist	0	
M9255	Local station error on stations other than host station	OFF : Normal ON : Abnormal	SB0074	Cyclic transmission status of each station	OFF : All stations normal ON : Station where cyclic transmission is not executing exist	0	

(3) Master station special register

2

Special register enabled when host station is the master station.

Specia	ll register in the cas master st	e of MELSECNET (II) ation			SECNET/H special re	-	required, × : Incompatible
Number	Name	Description	Number	Name	Description	Compat- ibility	Precautions for replacement
D9200	LRDP processing results	 Normal completion LRDP instruction setting fault Error at relevant station Relevant station LRDP execution disabled 	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
D9201	LWTP processing results	 Normal completion LWTP instruction setting fault Error at relevant station Relevant station LRDP execution disabled 	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
D9202 D9203 D9241 D9242	Local station link type	Stores whether or not the slave station is a MELSECNET compatible station or a MELSECNET II compatible station.	None	-	-	Δ	Delete when used in a sequence program due to MELSECNET/H system.
D9204	Link status	 Forward loop, during data link Reverse loop, during data link Loopback Loopback implemented in forward/reverse directions Loopback implemented in only forward direction Loopback implemented only in reverse direction 5: Data link disabled 	SW0049 (SW0090 to SW009A)	Cause of data link transmission stop	 0: Normal 1: Stop instruction issued 2: No common parameters 3: Common parameter error 4: Host station CPU error 6: Communication canceled 	Δ	Check whether or not the data link is normally SW0049. (Loop status is judged comprehensively by SW0090 to SW009A.)
D9205	Station implementing loopback	Station that implemented forward loopback	SW0099	Loopback station (forward loop side)	Stores the number of stations executing the loopback on the forward loop side.	0	
D9206	Station implementing loopback	Station that implemented reverse loopback	SW009A	Loopback station (reverse loop side)	Stores the number of stations executing the loopback on the reverse loop side.	0	
D9207		Max. value	SW006B		Max. value	0	
D9208	Link scan time	Min. value	SW006C	Link scan time	Min. value	0	
D9209		Current value	SW006D		Current value	0	
D9210	Retry	Stored as cumulative	SW00C8	Number of retries on the forward loop side	Accumulates and stores the number of retries on the forward loop side.	Δ	The retries on the forward loop side are stored as a cumulative value.
20210		value	SW00C9	Number of retries on the reverse loop side	Accumulates and stores the number of retries on the reverse loop side.	Δ	The retries on the reverse loop side are stored as a cumulative value.

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

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 \bigcirc : Compatible, $\ \bigtriangleup$: Partial change required, × : Incompatible

Specia	al register in the cas master sta	e of MELSECNET (II) ation		MEL	SECNET/H special r	egister											
Number	Name	Description	Number	Name	Description	Compat- ibility	Precautions for replacement										
D9211	Loop switching count	Stored as cumulative value	SW00CE	Loop switching count	Accumulates and stores the number of loop checks conducted.	0											
D9212			SW0084														
D9213	Local station	Stores local stations in a STOP or PAUSE	SW0085	Each station CPU	Stores the CPU RUN status of each	0											
D9214	operation status	status.	SW0086	RUN status	station.	0											
D9215			SW0087		Station.												
D9216		Stores whether each															
D9217	Local station error	local station has	None	_	_		Can be substituted by										
D9218	detection status	detected any error in	None	_	-	Δ	SW0074 to SW0077.										
D9219		other station.															
D9220	Local station	station or a remote I/O station has detected an error on the link		SW007C													
D9221	parameter		SW007D	Parameter error	Stores the												
D9222	mismatch		SW007E	status of each	parameter status of	0											
D9223	Remote I/O station I/O assignment error		SW007F	station	each station.	_											
D9224	Local station,		SW0078	Parameter	Stores the												
D9225	remote I/O station		SW0079	Parameter communication	communication												
D9226	initial	performing communication of link	communication of link										SW007A	status of each	status of each	0	
D9227	communication underway	parameters.	SW007B	station	station parameters.												
D9228	Local station		SW0074	Cuelie transmission	Stores the sublis												
D9229	Local station, remote I/O station	Stores data link error	SW0075	Cyclic transmission status of each	Stores the cyclic transmission status	~											
D9230	error	stations.	SW0076	station	of each station.	0											
D9231	0.101		SW0077														
D9232	-		SW0091		Stores the forward		The error on the loop										
D9233	-		SW0092	Forward loop status	loop status of each		line of the forward loop										
D9234	Local station and	Stores the station that	SW0093	of each station	station.		is stored.										
D9235	remote I/O station	detected the error on	SW0094														
D9236	loop error	the forward loop line	SW0095	Reverse loop	Stores the reverse		The error on the loop										
D9237		and reverse loop line.	SW0096	status of each	loop status of each		line of the reverse loop										
D9238	-		SW0097	station	station.		is stored.										
D9239			SW0098														
D9240	Number of receive error detection times	Stores cumulative total of receive errors	SW00B8 to SW00C7	Various error counters	Various error counters	Δ	The error count for each error cause is stored.										

(4) Local station special register

2

Special registers enabled when host station is a local station

Specia	I register in the case master sta	e of MELSECNET (II) ation	MELSECNET/H special register					
Number	Name	Description	Number	Name	Description	Compat- ibility	Precautions for replacement	
D9243	Station number information for host station	Stores the station number. (0 to 64)	SW0042	Station No.	Stores the station number of the host.	0		
D9244	Number of link device stations	Stores number of slave stations.	SW0056	Total number of link stations	Stores the total number of link stations that is set with the parameters.	0		
D9245	Number of receive error detection times	Stores cumulative total of receive errors.	SW00B8 to SW00C7	Various error counters	Various error counters	Δ	The error count for each error cause is stored.	
D9248			SW0084		RUN status of each			
D9249	Local station	Stores local stations in a STOP or PAUSE	SW0085	Each station CPU				
D9250	operation status	status.	SW0086	RUN status		0		
D9251			SW0087					
D9252			SW0074					
D9253	Local station error	Stores the local station	SW0075	Cyclic transmission	Stores the cyclic			
D9254	status	number other than the host, which is in error.	SW0076	status of each station	transmission status of each station.	0		
D9255			SW0077					

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

2.6.2 Transient instructions

(1) MELSECNET II dedicated instruction

Dedicated instructions that were used on MELSECNET II need to be replaced with the following dedicated instructions on MELSECNET/H.

The table below shows a comparison between dedicated instructions on MELSECNET II and dedicated instructions on MELSECNET/H. The table also shows reference items in the Q Corresponding MELSECNET/H Network System Reference Manual (PLC to PLC Network). Check these reference items before changing the sequence program.

	MELSECNE	ET II	MELSECNET/H			Reference	
Instruction name	Category	Description	Instruction name	Category	Description	item in the manual	
LRDP	Reading from local station	The master station reads the word devices (T, C, D, W) on local stations.	READ SREAD	Other station word device read	Reads device data on other stations of target network No.	Section 7.4.5	
			ZNRD	Other station word device read	Reads device data on other stations of target network No. by A-compatible instructions.	Section 7.4.5	
LWTP	5	The master station writes to the word devices (T, C, D, W) on local stations.	WRITE SWRITE	Other station word device write	Writes data to devices on other stations of target network No.	Section 7.4.5	
			ZNWR	Other station word device write	Writes data to devices on other stations of target network No. by A-compatible instructions.	Section 7.4.5	

The following describes operation by the instructions.

O : Can be used, ×: Cannot be used											
	Name	Execution	Description		Target station						
		station									
Instruction					QnA/	AnU/					
		QCPU		QCPU		AnUS(H)					
READ SREAD	Other station word device read	0	Reads CPU device data on target stations of target network No. (in 16-bit units)	0	SCPU O	×					
WRITE SWRITE	Other station word device write	0	Writes data to CPU device on target station of target network No. (in 16-bit units) (Devices on the target station can be turned ON by SWRITE.)	0	0	×					

○ : Can be used, ×: Cannot be used

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Execution Target station station Instruction Name Description QnA/ AnU/ QCPU QCPU QnA-AnUS(H) SCPU CPU [A-compatible instruction] Reads CPU device data on target stations of target network No. Network module Network module CPU CPU Channel 1 Other Word device O*1 HH[ZNRD] Fixed ZNRD station word 0 Ο Ο AnACPU 2594 device read AnNCPU Word device 2594 41-[A-compatible instruction] Writes data to CPU device on target station of target network No. CPU Network module Network module CPU Other O*1 Word device ZNWR station word Ο Ο Ο AnACPU Channel 2 * Fixed device write AnNCPU H-[ZNWR] 361

O : Can be used, × : Cannot be used

*1 CPU modules of the following version or later when the target station is the A2UCPU(S1), A3UCPU, A4UCPU, or A2USCPU(S1)

• A2UCPU(S1), A3UCPU, A4UCPU: Version AY (manufactured in July 1995) or later

• A2USCPU(S1): Version CP (manufactured in July 1995) or later

2.7 Replacement Precautions

The following shows the replacement precautions when replacing MELSECNET (II) with MELSECNET/ H.

(1) Cables

For details on precautions for optical cables and coaxial cables, refer to Section 2.2.2 Cable performance comparisons.

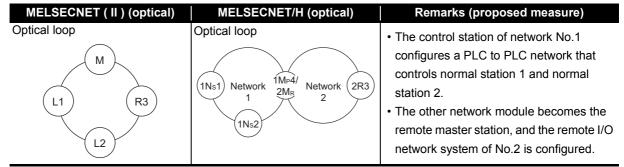
(2) System configuration

(a) System configuration using local stations and remote I/O stations in MELSECNET mode and MELSECNET II mode

MELSECNET/H system, which is a composite system comprising local stations and remote stations, provides high-performance functions by making a separation between local stations and remote stations. It therefore cannot be configured by a mixture of local stations and remote stations. For this reason, in a MELSECNET (II) system, when replacing a system, which comprises a mixture of local stations and remote I/O stations connected to a single master station, with a MELSEC/H system, the following system configuration is necessary. Normal stations are connected to a single control station, and remote I/O stations are controlled by an additional remote master station (the control station in a remote I/O system is defined as the "remote master station"). The following shows a system configuration example.

For a parameter change example, refer to Section 3.5.2.

System configuration using local and remote stations (optical)



(b) MELSECNET (II) system comprising 65 connected modules

The maximum number of stations on the MELSECNET/H system is 64 (one control station, 63 normal stations).

The maximum number of stations on the MELSECNET (II) system is 65 (one master station, 64 local stations + remote I/O stations). For this reason, when the maximum number of 65 MELSECNET/H modules are connected, measures (e.g. division into two networks of 64 modules or less having a different network No.) are required.

(3) Sequence program

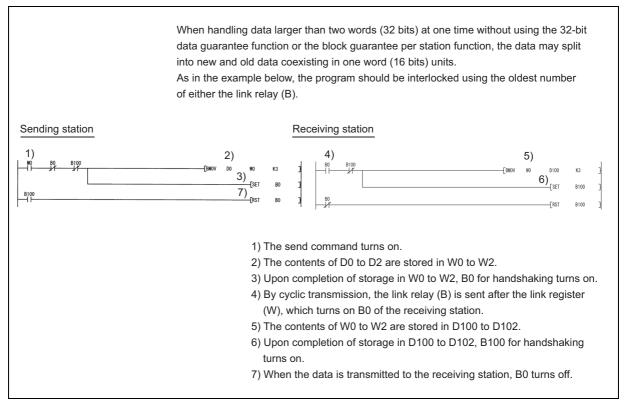
(a) Data separation prevention

When two words (32 bits) or more of cyclic data are handled, the old data sometimes is mixed with the new data. To read/write cyclic data of two words or more in a single operation, set data separation prevention by the following method.

1) Interlock program using BW

Data separation can be prevented by performing handshaking using BW between the cyclic data sending station and cyclic data receiving station.

The following shows an example of an interlock program for handshaking.



2) Per-station block guarantee function

When the "interlock program using BW" in 1) cannot be made, use the per-station block guarantee function for MELSECNET/H cyclic data. By enabling the per-station block guarantee function, handshaking is performed between CPU modules and network modules to refresh the network, and enables data separation prevention of cyclic data per station. The per-station block guarantee function is enabled when "Secured data send" and "Secured data receive" in the following parameters are set.

MELSECNET/10H Supplementary Setting							
Constant Scan ms Specification of Low Speed Cyclic Transmission Maximum No. of Returns to System Stations in 1 Scan 2 Station C Fixed Interval Cycle Setting Second							
With multiplex transmission							
There is a data link through the sub-controlling station when the controlling station is down.	Year Month Day Hour Minute Second						
Block send data assurance per station							
Block receive data assurance per station	3						
Transient Setting Maximum No. of Transients in 1 2 Times Scan	4						
Maximum No. of Transients in 2 Times							
	End Cancel						

(b) BW first half/second half assignments in the MELSECNET II mode and composite mode Set the station inherent parameters of the MELSECNET/H to all stations to re-use MELSECNET II sequence programs more efficiently.

(c) Processing time

The link scan time and link refresh time differ between the A/AnS/QnA/QnAS series and the Q series. For details on processing times, refer to the manual for the respective module.

(4) Precautions for system where AnN/AnS/AnACPU are mixed.

Pay attention to the following when replacing the MELSECNET II system where AnN/AnA/AnSCPU (excluding AnUS(H)CPU) are mixed, with the MELSECNET/10 system. Refer to "Chapter 11 COMPOSITE SYSTEMS" in "Type MELSECNET/10 Network system (PLC to PLC network) Reference Manual", for details.

(a) Control station of the MELSECNET/10 system

MELSECNET/10 system after transition requires one AnU/AnUS(H)/QnA/QnAS/QCPU as a control station.

In addition, because AnN/AnA/AnSCPU (excluding AnUS(H)CPU) cannot be a sub-control station in the transition to MELSECNET/10, the MELSECNET/10 system after transition requires two or more AnU/AnUS(H)/QnA/QnAS/QCPU to use the control station shift function of MELSECNET/10.

(b) Device range where data link can be executed on the MELSECNET/10 system

Device range where data link can be executed on the MELSECNET/10 system is the device range of AnN/AnS/AnACPU to be connected.

	X/Y	B/Y
AnN/AnSCPU (excluding AnUS(H)CPU)	Maximum 0000 to 07FF ^{*1}	0000 to 03FF
AnACPU	Maximum 0000 to 07FF ^{*2}	0000 to 0FFF

*1 For A3NCPU. Depends on the number of I/O points that can be controlled by AnN/AnSCPU (excluding AnUS(H)CPU).

*2 For A3ACPU. Depends on the number of I/O points that can be controlled by AnACPU.

(c) When AnN/AnA/AnSCPU (excluding AnUS(H)CPU) are mixed in transition from MELSECNET II composite mode to MELSECNET/10

Communicable B/W range is 0 to 3FF when AnN/AnSCPU (excluding AnUS(H)CPU) are mixed on MELSECNET/10.

When the second half is set on the MELSECNET II composite mode, it is necessary to divide with station inherent parameter for transferring data, but the station inherent parameter cannot be set on AnN/AnSCPU (excluding AnUS(H)CPU).

AnACPU can communicate at the range of B/W0 to FFF, but station inherent parameter cannot be set.

From here onwards, it may cause a communication error of the area divided by station inherent parameter at the other station where transmission of B/W 400 or later cannot be made.

When replacing MELSECNET II composite mode with MELSECNET/10 where AnN/AnA/AnSCPU (excluding AnUS(H)CPU) are mixed, replace AnN/AnA/AnSCPU (excluding AnUS(H)CPU) with a CPU that is applicable to MELSECNET/10, such as QCPU.

3 REPLACEMENT OF MELSECNET (II) AND /B (REMOTE I/O NETWORK)

3.1 List of MELSECNET (II) and /B Alternative Models

3

(1) Replacement of MELSECNET (II) modules with MELSECNET/H modules

Network type	A/AnS/A0J2(H) series	Alternative models for Q series				
	A1NCPUP21					
	A2NCPUP21					
	A2NCPUP21-S1					
o //	A3NCPUP21					
Optical loop	A2ACPUP21	CPU module + QJ71LP21-25 (Optical loop: SI cable				
(CPU integrated type)	A2ACPUP21-S1	supported)				
	A3ACPUP21					
	A2CCPUP21					
	A0J2HCPUP21					
	A1NCPUP21-S3					
	A2NCPUP21-S3					
0 / H	A2NCPUP21-S4					
Optical loop	A3NCPUP21-S3	CPU module + QJ71LP21G (Optical loop: GI cable				
(CPU integrated type)	A2ACPUP21-S3	supported)				
	A2ACPUP21-S4					
	A3ACPUP21-S3					
	A1NCPUR21					
	A2NCPUR21					
	A2NCPUR21-S1					
	A3NCPUR21					
Coaxial loop	A2ACPUR21	CPU module + QJ71BR11 (Coaxial bus)				
(CPU integrated type)	A2ACPUR21-S1					
	A3ACPUR21					
	A2CCPUR21					
	A0J2HCPUR21					
On the all leave (Other states as)	AJ71AP21					
Optical loop (Standalone)	A1SJ71AP21	QJ71LP21-25 (Optical loop: SI cable supported)				
	AJ71P21-S3					
	AJ71AP21-S3					
Optical loop (Standalone)	AJ71P22-S3	QJ71LP21G (Optical loop: GI cable supported)				
	AJ71AP22-S3					
	A1SJ71AP21-S3					
Conviol Joon (Standalana)	AJ71AR21	Q 171PP11 (Capying hum)				
Coaxial loop (Standalone)	A1SJ71AR21	QJ71BR11 (Coaxial bus)				
Optical loop (Standalone)	AJ72P25	Q 1721 D25 25 (Ontige) leans Cleanla supported)				
(Remote I/O station)	AJ72P25-S1	QJ72LP25-25 (Optical loop: SI cable supported)				
Optical loop (Standalone)	AJ72P25-S3	0 1721 P2EC (Ontion loop: Clashia supported)				
(Remote I/O station)	A0J2P25	QJ72LP25G (Optical loop: GI cable supported)				
Coavial loop (Standalona)	AJ72R25					
Coaxial loop (Standalone) (Remote I/O station)	AJ72R25-S1	QJ72BR15 (Coaxial bus)				
	A0J2R25					

Replacement of MELSECNET/B modules with MELSECNET/H modules

Network type	A/AnS series	Alternative models for Q series
Twistod pair	AJ71AT21B	QJ71LP21-25 (Optical loop)
Twisted pair	A1SJ71AT21B	QJ71BR11 (Coaxial bus)
Twisted pair	AJ72T25B	QJ72LP25-25 (Optical loop)
	A1SJ72T25B	QJ72BR15 (Coaxial bus)

3

3.2 Performance Specifications Comparisons

3.2.1 Module performance Compatibility comparisons

- (1) Comparison between MELSECNET (II) module (optical loop) and MELSECNET/H module (optical loop)
 - (a) SI optical cable, H-PCF optical cable

3

 \bigcirc : Compatible, $\ {\bigtriangleup}$: Partial change required, ×: Incompatible

		Specifications				
lte	m	MELSECNET (II) module	MELSECNET/H module	Compat-	Precautions for replacement	
no		Optical loop (QJ71LP21-25, QJ72LP25-25)		ibility		
X/Y		Max. 2048 points and max. number of I/O points of CPU module on master station	8192 points	0		
Maximum number of link points per	В	-	16384 points (Remote master station \rightarrow remote I/O station: 8192 points, remote I/O station \rightarrow remote master station: 8192 points)	0		
network	w	(MELSECNET mode) 1024 points (MELSECNET II composite mode) 4096 points	16384 points (Remote master station \rightarrow remote I/O station: 8192 points, remote I/O station \rightarrow remote master station: 8192 points)	0		
Maximum number of link points per	Master station Remote	(MELSECNET mode) 1024 bytes (MELSECNET II composite mode) First half: 1024 bytes	Remote master station \rightarrow remote I/O station {(LY + LB) \div 8 + (2 × LW)} \leq 1600 bytes Remote I/O station \rightarrow remote master	0		
station	I/O station	512 bytes	station $\{(LX + LB) \div 8 + (2 \times LW)\} \leq 1600 \text{ bytes}$			
Maximum I/O points		512 points	4096 points	0		
Communic speed	ation	1.25 Mbps	25Mbps/10Mbps	0		
Number of connected network		65 stations (Master station: 1, local station + remote I/O station: 64)	65 stations (Remote master station: 1, remote I/O station: 64)	Δ	Set the PLC to PLC network to a separate network.	
Applicable	cable	SI optical cable H-PCF optical cable	SI optical cable H-PCF optical cable Broad-band H-PCF optical cable QSI optical cable	Δ	When using existing SI cables, the distance between stations may be shortened. (Refer to Section 3.2.2.)	
Overall dis	tance	10km	30km	0	i i	
Distance between stations		Refer to Section 3.2.2.	Refer to Section 3.2.2.	Δ	To ensure the same distance as before replacement, either change the optical cable, or install a gateway station midway along existing cables.	
Maximum I networks	number of	-	239	Δ	New MELSECNET/H parameter (mandatory)	
Communic method	ation	Half duplex bit serial method	Token ring method	Δ	Nothing to be noted though the communication method differs.	
Transmissi method	ion	Duplex loop		0		
Modulation method (Encoding method)		(Modulation method) CMI method	(Encoding method) NRZI coding		Nothing to be noted though the modulation method differs.	
Transmissi	,	HDLC standards (frame format)		0		
Error contr	ol system	CRC (X ¹⁶ +X ¹² +X ⁶ +1) and retry by a tim	ne over	0		
RAS functi	on	 Loop-back function due to error dete Diagnostic function for checking local 	ction or broken cable	0		
Number of I/O points	occupied	(Master station) CPU integrated type: 0 point Standalone:32 points per slot (I/O assignment: special 32 points)	(Master station) 32 points per slot (I/O assignment: intelli. 32 points)	Δ	When the master station is replaced from a CPU integrated type, one new slot (32 points) is required.	

(b) Modules for GI optical cable

3

		Specifications				
lte	em	MELSECNET (II) module MELSECNET/H module		Compat-	Precautions for replacement	
		Optical loop	Optical loop(QJ71LP21G, QJ72LP25G)	ibility	·	
	X/Y	Max. 2048 points and max. number of I/O points of CPU module on master station	8192 points	0		
Maximum number of link points per	в	- 16384 points (Remote master station → remote I/O station: 8192 points, remote I/O station → remote master station: 8192 points)		0		
network	w	(MELSECNET mode) 1024 points (MELSECNET II composite mode) 4096 points	16384 points (Remote master station \rightarrow remote I/O station: 8192 points, remote I/O station \rightarrow remote master station: 8192 points)	0		
Maximum number of link points		(MELSECNET mode) 1024 bytes (MELSECNET II composite mode) link parameter First half: 1024 bytes link parameter Second half: 1024 bytes	Remote master station \rightarrow remote I/O station {(LY + LB) \div 8 + (2 × LW)} \leq 1600 bytes	0		
per station	Remote I/O station	512 bytes	Remote I/O station \rightarrow remote master station {(LX + LB) \div 8 + (2 × LW)} \leq 1600 bytes			
Maximum I/O points	number of per station	512 points	4096 points	0		
Communio speed	cation	1.25 Mbps	10 Mbps	0		
Number of connected network		65 stations (Master station: 1, local station + remote I/O station: 64)	65 stations (Remote master station: 1, remote I/O station: 64)	Δ	Set the PLC to PLC network to a separate network.	
Applicable	cable	GI optical cable	GI optical cable	0		
Overall dis	stance	10 km	30 km	0		
Distance b stations	petween	GI optical cable: 2km	GI optical cable: 2km	0		
Maximum networks	number of	-	239	Δ	New MELSECNET/H parameter (mandatory)	
Communio method	cation	Half duplex bit serial method	Token ring method	Δ	Nothing to be noted though the communication method differs.	
Transmiss method	ion	Duplex loop		0		
Modulation method (Encoding method)		(Modulation method) CMI method	(Encoding method) NRZI coding	Δ	Nothing to be noted though the modulation method differs.	
Transmiss	ion format	HDLC standards (frame format)		0		
Error cont	rol system	CRC (X ¹⁶ +X ¹² +X ⁵ +1) and retry by a tim	ie over	0		
RAS funct	ion	 Loop-back function due to error detect Diagnostic function for checking local 		0		
Number of I/O points	foccupied	(Master station) CPU integrated type: 0 point Standalone:32 points per slot (I/O assignment: special 32 points)	(Master station) 32 points per slot (I/O assignment: intelli. 32 points)	Δ	When the master station is replaced from a CPU integrated type, one new slot (32 points) is required.	

O : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

3

(2) Comparison between MELSECNET (II) module (coaxial loop) and MELSECNET/H module (coaxial bus)

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

		Specifications			
Ite	m	MELSECNET (II) module	MELSECNET/H module	Compat- ibility	Precautions for replacement
		Coaxial loop	Coaxial bus (QJ71BR11, QJ72BR15)	ibility	
	Х/Ү	Max. 2048 points and max. number of I/O points of CPU module on master station	8192 points	0	
Maximum number of link points per	В	-	16384 points (Remote master station \rightarrow remote I/O station: 8192 points, remote I/O station \rightarrow remote master station: 8192 points)	0	
network	w	(MELSECNET mode) 1024 points (MELSECNET II composite mode) 4096 points	16384 points (Remote master station \rightarrow remote I/O station: 8192 points, remote I/O station \rightarrow remote master station: 8192 points)	0	
Maximum number of link points	Master station	(MELSECNET mode) 1024 bytes (MELSECNET II composite mode) link parameter first half: 1024 bytes	Remote master station \rightarrow remote I/O station {(LY + LB) \div 8 + (2 × LW)} \leq 1600 bytes	0	
per station	Remote I/O station	512 bytes	Remote I/O station \rightarrow remote master station {(LX + LB) \div 8 + (2 × LW)} \leq 1600 bytes		
Maximum I/O points		512 points	4096 points	0	
Communic speed	cation	1.25 Mbps	10 Mbps	0	
Number of stations connected network		65 stations (Master station: 1, local station + remote I/O station: 64)	33 stations (Remote master station: 1, remote I/O station: 32)	Δ	 Set the PLC to PLC network to a separate network. For stations over 33, build a separate network.
Applicable	cable	3C-2V 5C-2V		Δ	When using existing cables, the overall distance and distance between stations becomes shorter.
Overall dis	stance	3C-2V: 10km 5C-2V: 10km	3C-2V: 300m 5C-2V: 500m	Δ	Either use an A6BR10/ A6BR10-DC type repeater unit, or configure a separate network.
Distance b stations	etween	3C-2V: 500m 5C-2V: 500m	3C-2V: 300m 5C-2V: 500m	Δ	When using the 3C-2V, use the A6BR10/A6BR10-DC type repeater unit.
Maximum networks	number of	-	239	Δ	New MELSECNET/H parameter (mandatory)
Communic method	cation	Half duplex bit serial method	Token ring method	Δ	Nothing to be noted though the communication method differs.
Transmiss method	ion	Duplex loop	Single bus	Δ	Nothing to be noted though the transmission method differs.
Modulation (Encoding		(Modulation method) CMI method	(Encoding method) Manchester code	Δ	Nothing to be noted though the modulation method differs.
Transmiss format		HDLC standards (frame format)		0	
Error control system		CRC ($X^{16}+X^{12}+X^{5}+1$) and retry by a time	e over	0	
RAS function		 Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines 	Diagnostic function for checking local link lines	Δ	The loopback function cannot be used on a coaxial bus system. To use the loopback function, using an optical loop system is recommended.
Number of I/O points	occupied	(Master station) CPU integrated type: 0 point Standalone:32 points per slot (I/O assignment: special 32 points)	(Master station) 32 points per slot (I/O assignment: intelli. 32 points)	Δ	When the master station is replaced from a CPU integrated type, one new slot (32 points) is required.

(3) Comparison between MELSECNET/B module (twisted pair) and MELSECNET/H module (optical loop/coaxial bus)

○ · Compatible	\wedge : Partial change	required x	· Incompatible
\bigcirc . \bigcirc		required, ~	

		Speci	fications			
lte	em				Compat-	Precautions for replacement
		Twisted pair	Optical loop (QJ71LP21-25)	Coaxial bus (QJ71BR11)	ibility	
	X/Y	Max. 2048 points and max. number of I/O points of CPU module on master station	8192 points	()	0	
Maximum number of link points per network	в	-	16384 points (Remote master station → remote I/O station: 8192 points, remote I/O station → remote master station: 8192 points)		0	
	w	(MELSECNET mode) 1024 points (MELSECNET II composite mode) 4096 points	16384 points (Remote master sta station: 8192 points, remote I/O station – station: 8192 points)	, → remote master	0	
Maximum number of link points per	Master station Remote I/O	• (MELSECNET mode) 1024 bytes • (MELSECNET II composite mode) Link parameter first half: 1024 bytes 512 bytes	Remote master stati station {(LY + LB) ÷ 8 + (2 > Remote I/O station - station	$(LW) \leq 1600 \text{ bytes}$	0	
station	station		{(LX + LB) ÷ 8 + (2 >	× LW)} \leq 1600 bytes		
Maximum I/O points		512 points	4096 points		0	
Communic	cation	125kbps/250kbps/500kbps/1Mbps	25Mbps/10Mbps	-	0	
speed			-	10Mbps	0	
Number of connected		32 stations (Master station: 1, local station + remote I/O station: 31)	65 stations (Remote master station: 1, remote I/ O station: 64)	-	Δ	Set the PLC to PLC network to a separate network.
network	in one		-	33 stations (Remote master station: 1, remote I/ O station: 32)	Δ	Set the PLC to PLC network to a separate network.
Applicable cable		Shielded twisted pair cable	SI optical cable H-PCF optical cable Broad-band H-PCF optical cable QSI optical cable	-	Δ	A new optical cable has to be installed.
			-	3C-2V 5C-2V	Δ	A new coaxial cable has to be installed.
		125kbps: 1200m	30km	-	0	
Overall distance		250kbps: 600m 500kbps: 400m 1Mbps: 200m	-	3C-2V: 300m 5C-2V: 500m	Δ	Either use an A6BR10/ A6BR10-DC type repeater unit, or configure a separate network.
Distance between stations		125kbps: 1200m 250kbps: 600m	Refer to Section 3.2.2.	-	0	When 1200m is required, use GI optical cables for all optical cables, and use QJ71LP21G as the module.
		500kbps: 400m 1Mbps: 200m	-	3C-2V: 300m 5C-2V: 500m	Δ	Either use an A6BR10/ A6BR10-DC type repeater unit, or configure a separate network.
Maximum networks	number of	-	239	·	Δ	New MELSECNET/H parameter (mandatory)

(to next page)

3

 ${\sf O}$: Compatible, $\, {\boldsymbol{\bigtriangleup}}$: Partial change required, ${\sf \times}$: Incompatible

	Specifications				ľ
ltem	MELSECNET/B module	MELSECNE	T/H module	Compat-	Precautions for replacement
nem	Twisted pair	Optical loop (QJ71LP21-25)	Coaxial bus (QJ71BR11)	ibility	
Communication method	Half duplex bit serial method	Token ring method		Δ	Nothing to be noted though the communication method differs.
Transmission	Cingle hue	Duplex loop	-	0	
method	Single bus	-	Single bus	0	
Modulation method	(Modulation method) NRZI method	(Encoding method) NRZI coding	-	0	
(Encoding method)		-	(Encoding method) Manchester code	Δ	Nothing to be noted though the modulation method differs.
Transmission format	HDLC standards (frame format)			0	
Error control system	CRC (X ¹⁶ +X ¹² +X ⁵ +1) and retry by a time over			0	
RAS function	Diagnostic function for checking local lin	ostic function for checking local link lines		0	
Number of occupied I/O points	(Master station) Standalone: 32 points per slot (I/O assignment: special 32 points)	(Master station) 32 points per slot (I/O assignment: intelli. 32 points)		0	

3.2.2 Cable performance comparisons

(1) Optical fiber cable

(a) Overall distance

The overall distance (30km) does not differ according to the optical fiber cable.

(b) Distance between stations

1) SI optical fiber cable

 ${\sf O}$: Compatible, $\, \bigtriangleup$: Partial change required, × : Incompatible

Туре		MELSECNET (II) module	MELSECNET/H module (Optical loop) 10Mbps 25Mbps		Compat- ibility	Precautions for replacement
SI optical fiber cable	L type	(Optical loop) 1km	500m	25Mbps 200m		
(type: A-2P-□)	H type	500m	300m	100m		Refer to ^{*1} below.
SI optical fiber cable (type: AN-2P-□)		1km	500m	200m	Δ	
H-PCF optical fiber cable		1km	1km	400m	Δ	Refer to ^{*2} below.
Broad-band H-PCF optical fiber cable		-	1km	1km	0	
QSI optical fiber cable		-	1km	1km	0	

*1 When the distance between stations does not satisfy the MELSECNET/H specifications, either change the type of optical fiber cable, or install a gateway station midway along existing cables.

*2 When the distance between stations does not satisfy the MELSECNET/H specifications, use at a communication speed of 10 Mbps, change the type of optical fiber cable, or install a gateway station midway along existing cables.

2) GI optical fiber cable

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

Туре	MELSECNET (II) module (Optical loop)	MELSECNET/H module (Optical loop)	Compat- ibility	Precautions for replacement
GI optical fiber cable	2km	2km	0	

(2) Coaxial cable

(a) Overall distance

		O : Compa	atible, 🛆 : Pa	artial change required, × : Incompatible
Туре	MELSECNET (II) module (Coaxial loop)	MELSECNET/H module (Coaxial bus)	Compat- ibility	Precautions for replacement
3C-2V	10km	300m	Δ	Refer to ^{*3} below.
5C-2V	10km	500m	Δ	Refer to ² below.

*3 When the overall distance does not satisfy the MELSECNET/H specifications, either use an A6BR10/A6BR10-DC type repeater unit in the network, or configure a separate network.

(b) Distance between stations

 \bigcirc : Compatible, $\ \bigtriangleup$: Partial change required, \times : Incompatible

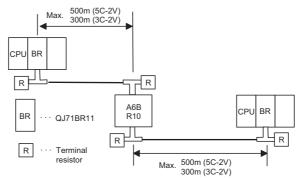
Туре	MELSECNET (II) module (Coaxial loop)	MELSECNET/H module (Coaxial bus)	Compat- ibility	Precautions for replacement
3C-2V	500m	300m	Δ	Refer to ^{*4} below.
5C-2V	500m	500m	0	Refer to ⁴ below.

*4 When the distance between stations does not satisfy the MELSECNET/H specifications, either use an A6BR10/A6BR10-DC type repeater unit in the network.



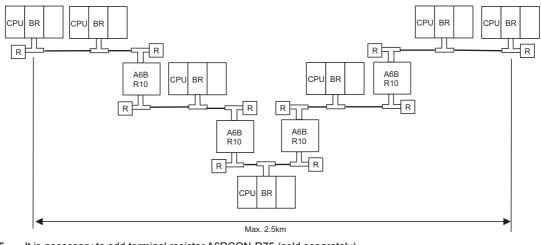
The following shows the extension method when a repeater unit for the A6BR10/A6BR10-DC type MELSECNET/10 coaxial bus system is used. For details, refer to the Repeater Unit for the MELSECNET/10 Coaxial Bus System type A6BR10/A6BR10-DC User's Manual (IB-66499).

(1) The distance between stations of 500m (5C-2V) and 300m (3C-2V) can be extended.



(2) Up to four repeater units can be used in a single network.^{*5}

The overall distance can be extended to a maximum distance of 2.5 km.



*5 It is necessary to add terminal resistor A6RCON-R75 (sold separately).

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3.3 Functional Comparisons

3

				change required, * : incompatible
ltem	Descr MELSECNET (II) module	iption	Compat-	Precautions for
nem	MELSECNET/B module	MELSECNET/H module	ibility	replacement
Cyclic transmission	X/Y are used to perform 1:1 communications between the master station and local stations, and the master station and remote I/O stations.	X/Y are used to perform 1:1 communications between the remote master station and remote I/O stations.	0	
Transient transmission	 The RFRP/RTOP instructions issued from the master station are used to read/write the buffer memory of special function modules at remote I/ O stations. Other stations are accessed from GX Developer connected to the master station. The master station is accessed from GX Developer connected to remote I/O stations. 	 The REMFR/REMTO instructions issued from the remote master station are used to read/write the buffer memory of intelligent function modules at remote I/O stations. Other stations are accessed from GX Works2 or GX Developer connected to the remote master station. The remote master station is accessed from GX Works2 or GX Developer connected to remote I/O stations. 	Δ	Correct the RFRP/RTOP instructions for reading/ writing buffer memory on intelligent function modules at remote I/O stations to the REMFR/REMTO instructions. (Refer to Section 3.6.2.)
Automatic return	When a disconnected remote I/C			
function	status, it is automatically restore	d and the data link is resumed.	0	
Loopback function	In the case of an optical loop system and coaxial loop system, faulty parts are disconnected when a fault (e.g. cable disconnection) occurs, and normal operation is continued on operable stations as a result of the loopback.	In the case of an optical loop system, faulty parts are disconnected when a fault (e.g. cable disconnection) occurs, and normal operation is continued on operable stations as a result of the loopback.	0	
Error detection	Faulty parts are detected by the data of special relays (M9200 to 9255) and special registers (D9200 to 9255).	Faulty parts are detected by the data of link special relays (SB0 to 1FF) and link special registers (SW0 to 1FF).	Δ	Change the devices in the sequence program. (Refer to Section 3.6.1.)
Self-diagnosis test function	Set the following test items by the mode setting switch: • Self-loopback test • Station-to-station test • Forward loop/reverse loop test	Set the following test items by the mode setting switch: • Self-loopback test • Internal self-loopback test • Hardware test Set the following test items in the network parameters: • Forward loop/reverse loop test	Δ	 Set the forward loop/ reverse loop test in the network parameter settings. Substitute the station-to- station test with the forward loop/reverse loop test.

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

MELSEC

3.4 Switch Settings Comparisons

(1) Comparison between MELSECNET (II) modules and MELSECNET/H modules

		⊖ : Compatible,	\triangle : Partial of	change required, × : Incompatible
Switch name	Desc	ription	Compat-	Precautions for
Switch hame	MELSECNET (II) module	MELSECNET/H module	ibility	replacement
Station number setting switch	Sets the station number.	Sets the station number.	0	
Mode select switch	Sets the mode for operation self-diagnostics test.	Sets the mode for operation self-diagnostics test.	Δ	The forward loop/reverse loop test is set in GX Works2 or GX Developer network parameter settings.

(2) Comparison between MELSECNET/B modules and MELSECNET/H modules

 \bigcirc : Compatible, $\ {\bigtriangleup}$: Partial change required, × : Incompatible

Quitab name	Descr	ription	Compat-	Precautions for
Switch name	MELSECNET (II) module	MELSECNET/H module	ibility	replacement
Station number setting switch	Sets the station number.	Sets the station number.	0	
Mode select switch	Sets the mode for operation self-diagnostics test.	Sets the mode for operation self-diagnostics test.	Δ	The forward loop/reverse loop test is set in GX Works2 or GX Developer network parameter settings.
Communication speed setting switch	Sets the communication speed.	-	Δ	The setting is not required.

3.5 Parameter Comparisons

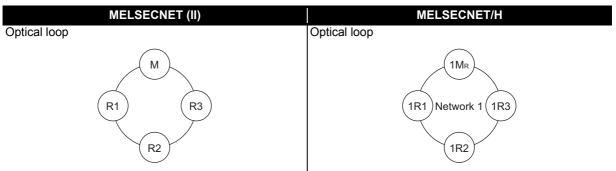
3.5.1 Parameter comparisons

The network parameters of MELSECNET (II) are deleted when the programmable controller type is changed with the GX Developer. After changing the programmable controller type, set the MELSECNET/H network parameters again.

(1) MELSECNET (II) \rightarrow MELSECNET/H

The following shows a comparison between MELSECNET (II) network parameter settings and MELSECNET/H network parameter settings.

The MELSECNET (II) master station is compared with the MELSECNET/H master station.



	ME	ELSECNET (II)		М	ELSECNET/H	Compat- ibility	Precautions for replacement
	Net	work type		Net	work type	0	
	Starting I/O No.*1			Star	rting I/O No.	0	
	- (No setting)			Net	work No.	Δ	Mandatory for the MELSECNET/H.
	Tota	I number of (slave) stations		Tota	al number of (slave) stations	0	MELSECNET/H.
Master	signments		Master	ents	LB, LW assignments on the master station and remote I/O stations	0	
station	Master E LB, LW assignments on the station master station and remote	station	assignments	Station inherent parameter	Δ	*2	
	range as	I/O stations	station	Vetwork range assi	Supplemental settings- Secured data send Supplemental settings- Secured data receive	Δ	*3
	Network	LX/LY assignments on the master station and remote I/O stations		Netv	LX/LY assignments on the master station and remote I/O stations	0	
	Ref	resh parameters ^{*1}]	Ref	resh parameters	0	
Remote I/O station	- (N	o setting)	Remote I/O station	- (N	o setting)		

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

*1 This is set when the AnU/AnUS(H)/QnA/QnASCPU is mounted.

*2 Applied when LB/LW are set for both the first half/second half on MELSECNET (II). (For details, refer to Section 3.5.2 Parameter change example.)

*3 This is the data separation prevention function for reading/writing cyclic data of two words or more in a single operation. (For details, refer to Section 3.7 Replacement Precautions.)

3.5.2 Parameter change example

The following shows an example of how to change the LB/LW, LX/LY network parameters when replacing the MELSECNET remote system with MELSECNET/H.

The MELSECNET remote system can be used in the following operation modes.

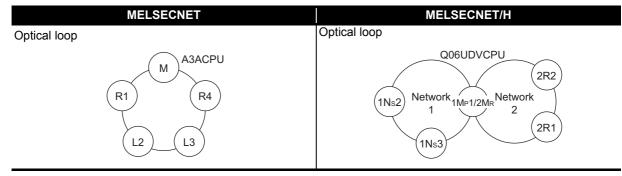
MELSECNET mode

MELSECNET II composite mode

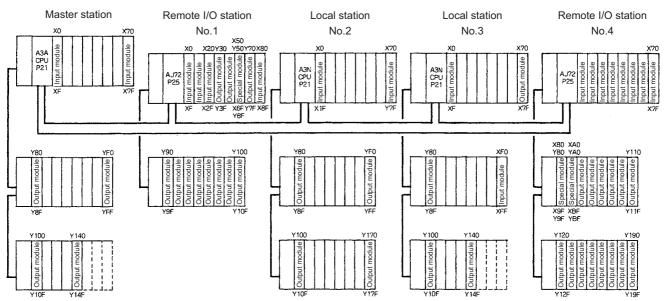
(1) MELSECNET mode

The following shows the procedure for changing the parameters in the case of a MELSECNET mode 2tier system configuration.

A MELSECNET composite system comprising local stations and remote I/O stations is divided into a PLC to PLC network and a remote I/O network in the MELSECNET/H.

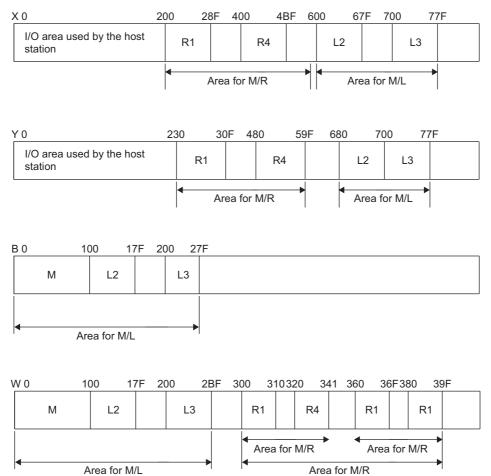


MELSECNET mode 2-tier system configuration example



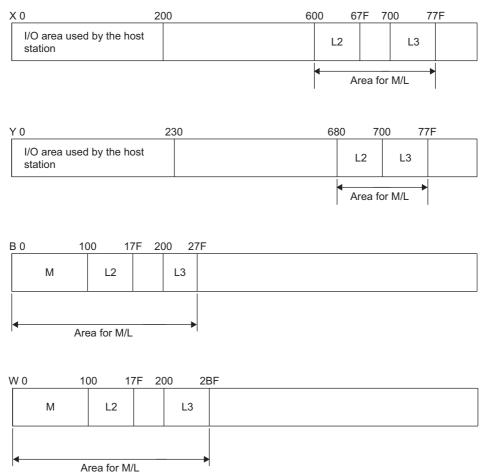
MELS

(a) Setting ranges of MELSECNET link parameters



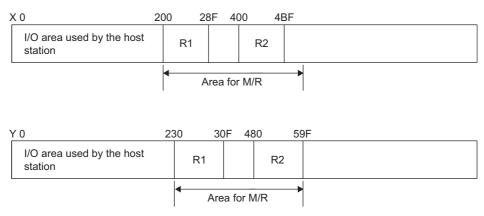
(b) Setting ranges of MELSECNET/H link parameters

1) Setting ranges of network 1 link parameters



2) Setting ranges of network 2 link parameters

The REMFR, REMTO instructions do not use B, W, and the setting of B, W is not required. Only X,Y are set.



A MELSECNET/H module set as normal station requires network parameter setting. For replacement of MELSECNET (II) module mounted on the CPU module of the AnN/AnA/AnSCPU (excluding AnUS(H)CPU), newly set network parameters.

	Common parameter (Network range assignment)	Refresh parameter
1Mp1	0	0
	(Refer to example in (e) 2) and 3))	(Refer to example in (e) 4))
2MR	0	0
	(Refer to example in (f) 1) and 2))	(Refer to example in (f) 3))
1Ns2		0
11132		(Refer to example in (g) 2))
1Ns3		0
11155		(Refer to example in (g) 2))
2R2		
2R3		

The following shows parameters required on each station of MELSECNET/H.

O : Setting required/ \bigtriangleup : Setting required (Default setting is also acceptable)

(c) MELSECNET master station

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The following shows the network parameter settings of the MELSECNET master station (A3ACPU).

1) Network parameter setting (A3ACPU: MELSECNET master station)

	Module No.1		Module No.2	N	fodule No.3	Module No.4
Network type	MNET (Master station)	-	None	 None 	-	None
Start I/O No.						
Network No.						
Total stations		4				
Group No.						
Station No.						
	Network range assignme	ent				
Necessary setting(Start I/O No.:		eded(Nosetting / Alreadyset) Valid module during other s during other s	tation access	Y	

Setup com	non paramet	ers										
Assignment m		Mor	nitoring tim	e 200	×10ms							
Start/En	d		al slave ions	4		Swite	ch screens	LX/LY	settings	1	•	
			M station	-> L/R sta	tion				M station	k-L/R stal	tion	
L/R		LY			LX/LY			LX			LY/LX	
station No.	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
М 0												
R 1	224	0230	030F	224	0030	010F	144	0200	028F	144	0000	008F
L 2	128	0680	06FF	128	0200	027F	128	0600	067F	128	0280	02FF
	128	0700	077F	128	0200	027F	128	0700	077F	128	0200	027F
L 3		0480	059F	288	0080	019F	192	0400	04BF	192	0000	OOBF

) Network ran	ge assig	nment (AJACPI	J: WELS	SECINE	master	station						
Setup commo	on paramete	ers											
Assignment me C Points/St C Start/End	art	Tot	nitoring time al slave ions	e 200	×10ms	Swite	h screens	LB/LV	/ settings		•		
	Send ra		ach station	Send ra	-	ach station	M stati	on -> R sta	ation	M stati	on <- R sta	ation	•
L/R station No.	Points	LB Start	End	Points	LW Start	End	Points	LW Start	End	Points	LW Start	End	
M 0	256	0000	00FF	256	0000	00FF	FUIRIUS	Statt	Enu	FUIRIS	Stalt		-
R 1	230	0000	0011	200	0000	0011	17	0300	0310	16	0360	036F	
L 2	128	0100	017F	128	0100	017F							
L 3	128	0200	027F	192	0200	02BF							
R 4							34	0320	0341	32	0380	039F	-
•													·

(d) MELSECNET local station, remote I/O station

As all stations perform cyclic communication according to the network range assignments of the master station (A3ACPU), the network range assignment parameters of local stations and remote I/O stations need not be set.

(e) MELSECNET/H control station (network 1)

The following shows the network parameter settings for when a station is replaced with a MELSECNET/H control station (network 1).

	Module 1	Module 2	Module 3	Module 4
Network Type	MNET/H Mode(Control Station)	MNET/H(Remote Master)	None	✓ None
Start I/O No.	0000	0020		
Network No.		1 2	2	
Total Stations		3 2	2	
Group No.				
Station No.				
Mode	Online 👻	Online 🗸		▼
	Network Range Assignment	Network Range Assignment		
	Refresh Parameters	Refresh Parameters		
	Interrupt Settings	1		
	Return as Control Station	Interrupt Settings		
	Optical/Coaxial			

Network ran	range assignment (Q06UDVCPU: MELSECNET/H control station)													
:	Set up con	nmon and	station in	nerent par	ameters.									
C	Assignment Method Monitoring Time 200 X 10ms Parameter Name Image: C Start/End Total Slave 3 Switch Screens LX/LY Setting(1)													
				M St>	L St.					M St. <-	L St.			
Stat	tion No.		LY			LX			LX			LY		
		Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End	
Mast	ter 1 1													
	2	128	0680	06FF	128	0200	027F	128	0600	067F	128	0280	02FF	
	3	128	0700	077F	128	0200	027F	128	0700	077F	128	0200	027F	-

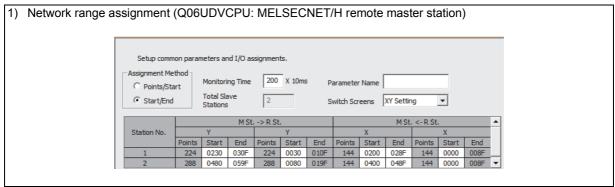
	assigni				••••-										
Set up	Set up common and station inherent parameters.														
Assignme	Assignment Method														
C Poin	s/Start	Art Monitoring Time 200 X 10ms Parameter Name													
Star	/End	Total	Slave												
		Statio		3		5	Switch Scre	ens LB	/LW Settin	g 💌					
	Send Rar	ige for eac	h Station	Send Ran	ge for eac	h Station	Send Ran	ge for eac	h Station	Send Ran	ge for ead	h Station			•
Station No		LB		LW				Low Spee	d LB	Low Spee		Low Speed LW			
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End			
Master 1	1 256	0000	00FF	256	0000	00FF							Disable	-	
2	128	0100	017F	128	0100	017F							Disable	-	
3	128	0200	027F	144	0200	028F							Disable	-	•

4) Refresh parameters (Q06UDVCPU: MELSECNET/H control station)

C Points/Start C Start/End		Crransmission Error History Status										
			Link S	ide				_	PLC S	ide		•
	Dev.	Name	Points	Start	End		Dev. N	lame	Points	Start	End	7
Transfer SB	SB		512	0000	01FF	+	SB		512	0000	01FF	-
Transfer SW	SW		512	0000	01FF	+	SW		512	0000	01FF	
Random Cyclic	LB					+		-				
Random Cyclic	LW					++		-				
Transfer 1	LB	-	768	0000	02FF	+	В	-	768	0000	02FF	
Transfer 2	LW	-	768	0000	02FF	- () -	W	-	768	000000	0002FF	
Transfer 3	LX	-	128	0600	067F	+	х	-	128	0600	067F	
Transfer 4	LX	-	128	0700	077F	- () -	х	-	128	0700	077F	
Transfer 5	LY	•	128	0680	06FF	+	Y	-	128	0680	06FF	
Transfer 6	LY	-	128	0700	077F		Y	-	128	0700	077F	-

(f) MELSECNET/H remote master station (network 2)

The following shows the network parameter settings for when a station is replaced with a MELSECNET/H remote master station (network 2).



2) Network range assignment (Q06UDVCPU: MELSECNET/H remote master station) Setup common parameters and I/O assignments. Assignment Method Monitoring Time 200 X 10ms Parameter Name C Points/Start Total Slave Stations Start/End 2 Switch Screens -M St. -> R St. M St. <- R St. M St. -> R St M St. <- R St . Station No. Start End Points Start End Points Start End Points Start End Points

Assignment Method					ransient Tra		n Error I C Ho		Status			
		_	Link Si	de				_	PLC Si	de		1
	Dev. Na	ame	Points	Start	End		Dev. I	Name	Points	Start	End	1
Transfer SB	SB		512	0000	01FF	+	SB		512	0200	03FF	4
Transfer SW	SW		512	0000	01FF	- \.	SW		512	0200	03FF	
Random Cyclic	LB					- \.		•				
Random Cyclic	LW					- \.		-				
Transfer 1	LX	-	144	0200	028F	- 	X	-	144	0220	02AF	
Transfer 2	LX	-	144	0400	048F	- () -	х	-	144	0400	048F	
Transfer 3	LY	-	224	0230	030F	- \.	Y	-	224	0230	030F	
Transfer 4	LY	-	288	0480	059F	- \.	Y	-	288	0480	059F	
Transfer 5		-				÷		-				
Transfer 6		-				- 44 -		-			-	

3

An overall picture of CPU-side device assignments on the Q06UDVCPU to which the PLC to PLC network (control station) and remote I/O network (remote master station) is mounted can be checked at [Assignment image diagram] in the GX Works2 or GX Developer network parameters. After setting the parameters, make sure that assignments are correctly set.



Device(PLC Side) Y 🔻	Device(Link Side) LY Display Display 1/1 Close
Duplication of Device	:Refresh Device	:Dev(Source) of Transfer between Links :Dev(Target) of Transfer between Links
	Module 1 MNET/10H	Module 2 MINET/10H 0000
0800-		

(g) MELSECNET/H normal station (network 1)

3

The following shows the network parameter settings for when a station is replaced with a MELSECNET/H control station (network 1).

The same parameter settings are required on all normal stations.

	Module 1	Module 2	Module 3	Module 4
Network Type	MNET/H Mode(Normal Station)	 None 	▼ None ▼	None
Start I/O No.	000	00		
Network No.		1		
Total Stations				
Group No.		0		
Station No.				
Mode	Online	•	• ·	
	Station Inherent Parameters			
	Refresh Parameters			
	Interrupt Settings			

Assignment Method O Points/Start O Start/End	i l				ransient Tra Over		On Error H		Status			
		_	Link Si		_		_	PLC Si	de		7	
	Dev. N	Vame	Points	Start	End		Dev. I	Name	Points	Start	End	1
Transfer SB	SB		512	0000	01FF	+	SB		512	0000	01FF -	-
Transfer SW	SW		512	0000	01FF	- \.	SW		512	0000	01FF	
Random Cyclic	LB					÷₩.		-				
Random Cyclic	LW					-₩-		-				
Transfer 1	LB	-	768	0000	02FF	- ដ	В	-	768	0000	02FF	
Transfer 2	LW	-	768	0000	02FF	++	W	-	768	000000	0002FF	
Transfer 3	LX	-	128	0200	027F	- \.	X	-	128	0200	027F	
Transfer 4	LY	-	128	0280	02FF	- \.	Y	-	128	0280	02FF	
Transfer 5		-				- () -		-				
Transfer 6		-				- #		-				-

3.6 Program Comparisons

3

3.6.1 Comparison of special relays M (SB) and special registers D (SW)

(1) Master station special relays

Special relays enabled when host station is the master station

Spec	ial relay in the case	of MELSECNET (II)	1	0	: Compatible, \triangle : Part	ial change	required, × : Incompatible
Spec	master sta			Correspon	ding MELSECNET/H	special re	lay
Number		Description	Number	Name	Description	Compat- ibility	Precautions for replacement
M9200	LRDP instruction received	OFF : Not accepted ON : Accepted	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
M9201	LRDP instruction complete	OFF : Not completed ON : Completed	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
M9202	LWTP instruction received	OFF : Not accepted ON : Accepted	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
M9203	LWTP instruction complete	OFF : Not completed ON : Completed	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
M9206	Link parameter error in the host	OFF : Normal ON : Abnormal	SB0055	Receive parameter error	OFF: Parameter normal ON: Parameter abnormal	0	
M9207	Link parameter check results	OFF : Match ON : Mismatch	None	-	-	Δ	Delete when used in a sequence program as a 3-tier system cannot be configured.
M9208	Master station B,W transmission range setting (only master station of lower link)	OFF : Transmits to tier2 and tier3 ON : Transmits to tier2 only	None	-	-	Δ	Delete when used in a sequence program as a 3-tier system cannot be configured.
M9209	Check instructions of link parameters (only master station of lower link)	OFF : Executing the check function ON : Check non- execution	None	-	-	Δ	Delete when used in a sequence program as a 3-tier system cannot be configured.
M9210	Link card error (for master station)	OFF : Normal ON : Abnormal	SB0020	Module status	OFF : Normal ON : Abnormal	0	
M9224	Link status	OFF : Online ON : Offline, station- to-station test, or self-loopback test	SB0043	Online switch	OFF : Online ON : Other than online	0	
M9225	Forward loop error	OFF : Normal	SB0090	Host loop status	OFF : Normal ON : Abnormal	0	When ON, confirm the loop status by SW0090. The loop status can also be judged by the host station bits of SW0091 to SW0094.
19220		ON : Abnormal	SB0092 (when host station is remote master station)	Forward loop status of the remote master station	OFF : Normal ON : Abnormal	0	

(to next page)

 \bigcirc : Compatible, $\ {\bigtriangleup}$: Partial change required, × : Incompatible

Spec	ial relay in the case master sta	of MELSECNET (II) ation			nding MELSECNET/H	T/H special relay					
Number		Description	Number	Name	Description	Compat- ibility	Precautions for replacement				
M9226	Reverse loop error	OFF : Normal	SB0090	Host loop status	OFF : Normal ON : Abnormal	0	When ON, confirm the loop status by SW0090. The loop status can also be judged by the host station bits of SW0095 to SW0098.				
1019220		ON : Abnormal		Reverse loop status of the remote master station	OFF : Normal ON : Abnormal	0					
M9227	Loop test status	OFF : Not being executed ON : Forward loop test/reverse loop test execution underway	SB00AC	Offline test instruction status	OFF : Not instructed ON : Instructed	0					
M9232	Local station operation status	OFF : RUN or STEP RUN status ON : STOP or PAUSE status	SB0084	Each station CPU RUN status	OFF : All stations RUN or STEP RUN status ON : Stations in the STOP or PAUSE status exist	0					
M9233	Local station error detection status	OFF : No error ON : Error detection	None	-	-	Δ	Can be substituted by SB0074.				
M9235	Local station, remote I/O station parameter error detection status	OFF : No error ON : Error detection	SB007C	Parameter status of each station	OFF : No station detected parameter errors ON : A station detected parameter errors	0					
M9236	Local station, remote I/O station initial communications status	OFF : No communication ON : Communication in progress	SB0078	Parameter status of each station	OFF : Parameter communication not in progress ON : Parameter communication in progress	0					
M9237	Local station, remote I/O station error	OFF : Normal ON : Abnormal	SB0074	Cyclic transmission status of each station	OFF : All stations normal ON : Station where cyclic transmission is not executing exist	0					
M9238	Local station, remote I/O station	OFF : Normal	SB0091	Forward loop status	OFF : All stations normal ON : Faulty station present	0					
	forward/reverse loop error	ON : Abnormal	SB0095	Reverse loop status	OFF : All stations normal ON : Faulty station present	0					

3

(2) Master station special register

3

Special register enabled when host station is the master station

Specia	I register in the cas master st	e of MELSECNET (II) ation		MEL	SECNET/H special re	egister	
Number	Name	Description	Number	Name	Description	Compat- ibility	Precautions for replacement
D9200	LRDP processing results	 Normal completion LRDP instruction setting fault Error at relevant station Relevant station LRDP execution disabled 	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
D9201	LWTP processing results	 Normal completion LWTP instruction setting fault Error at relevant station Relevant station LRDP execution disabled 	None	-	-	Δ	Delete when used in a sequence program. (Refer to Section 2.6.2 Transient instructions.)
D9202 D9203 D9241 D9242	Local station link type	Stores whether or not the slave station is a MELSECNET compatible station or a MELSECNET II compatible station.	None	-	-	Δ	Delete when used in a sequence program due to MELSECNET/H system.
D9204	Link status	 Forward loop, during data link Reverse loop, during data link Loopback implemented in forward/reverse directions Loopback implemented in only forward direction Loopback implemented only in reverse direction Data link disabled 	SW0049 (SW0090 to SW009A)	Cause of data link transmission stop	 Normal Stop instruction issued No common parameters Common parameter error Host station CPU error Communication canceled 	Δ	Check whether or not the data link is normally SW0049. (Loop status is judged comprehensively by SW0090 to SW009A.)
D9205	Station implementing loopback	Station that implemented forward loopback	SW0099	Loopback station (forward loop side)	Stores the number of stations executing the loopback on the forward loop side.	0	
D9206	Station implementing loopback	Station that implemented reverse loopback	SW009A	Loopback station (reverse loop side)	Stores the number of stations executing the loopback on the reverse loop side.	0	
D9207		Max. value	SW006B		Max. value	0	
D9208	Link scan time	Min. value	SW006C	Link scan time	Min. value	0	
D9209		Current value	SW006D		Current value	0	
D9210	Retry	Stored as cumulative	SW00C8	Number of retries on the forward loop side	Accumulates and stores the number of retries on the forward loop side.	Δ	The retries on the forward loop side are stored as a cumulative value.
		value	SW00C9	Number of retries on the reverse loop side	Accumulates and stores the number of retries on the reverse loop side.	Δ	The retries on the reverse loop side are stored as a cumulative value.

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

(to next page)

O: Compatible	. △ : Partial chang	e required, ×	: Incompatible
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Specia	I register in the cas master sta	e of MELSECNET (II) ation		MEL	SECNET/H special r	egister																				
Number	Name	Description	Number	Name	Description	Compat- ibility	Precautions for replacement																			
D9211	Loop switching count	Stored as cumulative value	SW00CE	Loop switching count	Accumulates and stores the number of loop checks conducted.	0																				
D9212			SW0084																							
D9213	Local station	Stores local stations in a STOP or PAUSE	SW0085	Each station CPU	Stores the CPU RUN status of each	0																				
D9214	operation status	status.	SW0086	RUN status	station.	0																				
D9215		Status.	SW0087		Station.																					
D9216		Stores whether each																								
D9217	Local station error	local station has	None				Can be substituted by																			
D9218	detection status	detected any error in	NULLE	-	-	Δ	SW0074 to SW0077.																			
D9219		other station.																								
D9220	Local station	Turns ON when a local	SW007C																							
D9221	parameter	station or a remote I/O	SW007D	Parameter error	Stores the																					
D9222	mismatch	station has detected	SW007E	status of each	parameter status of	0																				
D9223	Remote I/O station I/O assignment error	master station.	SW007F	station	each station.	0																				
D9224	Local station,	S	SW0078	Parameter	Stores the																					
D9225	remote I/O station	Stores stations that are					performing															SW0079	communication	communication		
D9226	initial	communication of link	SW007A	status of each	status of each	0																				
D9227	communication underway	parameters.	SW007B	station	station parameters.																					
D9228	Local station,		SW0074	Cyclic transmission	Stores the cyclic																					
D9229	remote I/O station	Stores data link error	SW0075	status of each	transmission status	0																				
D9230	error	stations.	SW0076	station	of each station.	0																				
D9231			SW0077																							
D9232			SW0091		Stores the forward		The error on the loop																			
D9233			SW0092	Forward loop status	loop status of each	Δ	line of the forward loop																			
D9234	Local station and	Stores the station that	SW0093	of each station	station.		is stored.																			
D9235	remote I/O station	detected the error on	SW0094																							
D9236	loop error	the forward loop line	SW0095	Reverse loop	Stores the reverse		The error on the loop																			
D9237		and reverse loop line.	SW0096	status of each	loop status of each	Δ	line of the reverse loop																			
D9238	4		SW0097	station	station.		is stored.																			
D9239			SW0098				The second of the																			
D9240	Number of receive error detection times	Stores cumulative total of receive errors	SW00B8 to SW00C7	Various error counters	Various error counters	Δ	The error count for each error cause is stored.																			

IELSEC

3.6.2 Transient instructions

(1) MELSECNET dedicated instruction

Dedicated instructions that were used on MELSECNET must be replaced with the following dedicated instructions on MELSECNET/H.

The following table shows a comparison between dedicated instructions on MELSECNET and dedicated instructions on MELSECNET/H. The table also shows reference items in the Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/O Network). Check these reference items before changing the sequence program.

MELSECNET (II)				NET/H		
Instruction name	Category	Description	Instruction name	Category	Description of change	Reference item in the manual
RFRP	Reading data from remote I/O station	The master station reads the data of special modules mounted on remote I/O stations.	REMFR	Reading data from buffer memory on remote I/O station intelligent function modules	Reads data from buffer memory on a target remote I/O station intelligent function module.	Section 7.1.1
RTOP	Writing data to remote I/O station	The master station writes data to special modules mounted on remote I/O stations.	REMTO	5	Writes data to buffer memory on a target remote I/O station intelligent function module.	Section 7.1.1

The following describes operation by the instructions.

O : Can be used, × : Cannot be used

Instruction	Name	Execution station QCPU	Description	Targetstation Remote I/O module
REMFR	Reading from buffer memory on remote I/O station intelligent function module	0	Reads data from buffer memory on a target remote I/O station intelligent function module.	0
REMTO	Writing to buffer memory on remote I/O station intelligent function module	0	Writes data to buffer memory on a target remote I/O station intelligent function module.	0

3.7 Replacement Precautions

The following shows the replacement precautions when replacing MELSECNET (II) with MELSECNET/H.

(1) Cables

For details on precautions for optical cables and coaxial cables, refer to Section 2.2.2 Cable performance comparisons.

(2) System configuration

(a) System configuration using local stations and remote I/O stations in MELSECNET mode and MELSECNET II mode

MELSECNET/H system, which is a composite system comprising local stations and remote stations, provides high-performance functions by making a separation between local stations and remote stations. It therefore cannot be configured by a mixture of local stations and remote stations. For this reason, in a MELSECNET (II) system, when replacing a system, which comprises a mixture of local stations and remote I/O stations connected to a single master station, with a MELSEC/H system, the following system configuration is necessary. Normal stations are connected to a single control station, and remote I/O stations are controlled by an additional remote master station (the control station in a remote I/O system is defined as the "remote master station"). The following shows a system configuration example.

MELSECNET (II) (optical)	MELSECNET/H (optical)	Remarks (proposed measure)
Optical loop M L1 R3 L2	Optical loop	 The control station of network No.1 configures a PLC to PLC network that controls normal station 1 and normal station 2. The other network module becomes the remote master station, and the remote I/O network system of No.2 is configured.

System configuration using local and remote stations (optical)

(3) Sequence program

(a) Data separation prevention

When two words (32 bits) or more of cyclic data (e.g. current value of the positioning module) are handled, the old data sometimes is mixed with the new data. To read/write cyclic data of two words or more in a single operation, set data separation prevention by the per-station block guarantee function.

By enabling the per-station block guarantee function, handshaking is performed between CPU modules and network modules to refresh the network and to enable data separation to be prevented in station units. The per-station block guarantee function is enabled when "Secured data send" and "Secured data receive" in the following parameters are set. Enabling the per-station block guarantee function is recommended.

MNET/10(H) Common Parameters Supplemental								
Constant Scan ms								
Maximum No. of Returns to System Stations in 1 Scan 2 Station								
☐ With multiplex transmission								
□ There is a data link through the sub-controlling station when the controlling station is down								
Block send data assurance per station								
Block receive data assurance per station								
END asynchronous setting								
(Link scanning asynchronous from sequence scanning)								
Transient Setting								
Maximum No. of Transients in 1 Scan 2 Times								
Maximum No. of Transients in One Station 2 Times								
Link Start Instruction								
\square Links automatically when the power is turned ON.								
$\hfill \hfill $								
Links automatically when the parallel sub-master station's power is turned on.								
End Cancel								

(b) I/O assignments

The I/O assignment function is used to reserve and set module information to prevent I/O numbers from deviating even if a module is mounted later on in an empty slot, and to conserve the number of I/O points.

With MELSECNET/H, each of the I/O assignments are set on each remote I/O station. With MELSECNET (II), however, as the I/O assignments of all remote I/O stations were set on the master station CPU. Set the I/O assignments of each remote I/O station again at transition to MELSECNET/H.

Also, as the I/O assignment settings of PLC parameters are not cleared when the programmable controller type is changed (e.g. when A3ACPU is changed to Q06UDVCPU), manually clear the I/O assignment settings for the remote I/O stations.

(c) Processing time

The link scan time and link refresh time differ between the A/AnS/QnA/QnAS series and the Q series. For details on processing times, refer to the manual for the respective module.

REPLACEMENT OF THE MELSECNET/10 (PLC TO PLC NETWORK)

The Q series network modules support the MELSECNET/10 mode (functional and performance compatibility mode) and MELSECNET/H extended mode (high functionality and high-speed mode). This chapter describes the replacement using MELSECNET/10 mode that has the compatibility to the existing network and is used the A, AnS, QnA, and QnAS series CPU modules in combination. For details on the MELSECNET/H mode and MELSECNET/H extended mode, refer to the Q Corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network). the MELSECNET/H mode and MELSECNET/H extended mode can be used when all stations are replaced with the Q series modules.

4.1 List of MELSECNET/10 Alternative Models

(1) Replacement of the A/AnS series

Network type	A/AnS series	Q series
	AJ71LP21	QJ71LP21-25
Optical loop	A1SJ71LP21	QJ7 1LF2 1-25
	AJ71LP21G	QJ71LP21G
Cooviel leen	AJ71LR21	
Coaxial loop	A1SJ71LR21	QJ71BR11
Coaxial bus	AJ71BR11	
	A1SJ71BR11	

(2) Replacement of the QnA/QnAS series

Network type	QnA series	Q series	
	AJ71QLP21	QJ71LP21-25	
	A1SJ71QLP21	QJ/1LF21-23	
Optical loop	AJ71QLP21S	0 1741 024 0 25	
	A1SJ71QLP21S	QJ71LP21S-25	
	AJ71QLP21G	QJ71LP21G	
Copying	AJ71QLR21		
Coaxial loop	A1SJ71QLR21	QJ71BR11	
Cooviel hue	AJ71QBR11	QJ/ IBK II	
Coaxial bus	A1SJ71QBR11		

4.2 Performance Specifications Comparisons

4

4.2.1 Module performance comparisons incompatible

(1) Performance comparison of AJ71LP21/A1SJ71LP21/AJ71QLP21/A1SJ71QLP21 and QJ71LP21-25 (MELSECNET/10 mode)

\bigcirc . Compatible, \triangle . La tial change required, \sim incompatible	O: Compatible,	∆ : Partial change required	, ×: Incompatible
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Item						
		AJ71LP21 A1SJ71LP21	AJ71QLP21 A1SJ71QLP21	QJ71LP21-25 MELSECNET/10 mode)	Compatibility	Precautions for replacement
Maximum	LX/LY	8192 points			0	
number of link	LB	8192 points			0	
points per network	LW	8192 points			0	
Maximum numb points per statio		{(LY + LB) ÷ 8 + (2 >	$(LW) \leq 2000 \text{ bytes}$		0	
Communication	speed	10Mbps			0	
Communication	method	Token ring method			0	
Synchronous typ	ре	Frame synchronizat	ion method		0	
Encoding metho	d		Return to Zero Inverte	ed)	0	
Transmission m		Duplex loop		·	0	
Transmission fo	rmat	HDLC standards (fra	ame format)		0	
Maximum numb networks	er of	255 (Total number of PLC to PLC networks and remote I/O networks)	239 (Total number of PLC to PLC networks and remote I/O networks)		Δ	Network No.240 to No.255 cannot be set. Alternate them with unused network No.
Maximum numb groups	er of	9	1		0	
Number of static		64 stations (Control	station: 1, normal st	ation: 63)	0	
Applicable cable		SI optical cable, H-F		oad-band H-PCF optical	0	
Overall distance		30km			0	
Distance between stations		SI optical cable: 500m, H-PCF optical cable: 1km, Broad-band H- PCF optical cable: 1km, and QSI optical cable: 1km			0	
Error control system		$CRC(X^{16} + X^{12} + X^5 + 1)$ and retry by a time over			0	
RAS function		 Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines Prevention of system down by switching the control station Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 			0	
Transient transmission		 N:N communication (e.g. monitor, program up/download) Dedicated link instruction 			Δ	For comparison of dedicated link instruction, refer to Section 4.6.2.
Number of occu points	pied I/O	32 points per slot (I/ special 32 points)	O assignment:	32 points per slot (I/O assignment: intelli. 32 points)	0	

(2) Performance comparison of AJ71QLP21S/A1SJ71QLP21S and QJ71LP21S-25 (MELSECNET/10 mode)

				batible, \triangle : Parti	al change required, ×: Incompatible
ltem		Specifi	ications		
		AJ71LP21/A1SJ71LP21	QJ71LP21-25 (MELSECNET/10 mode)	Compatibility	Precautions for replacement
Maximum number X/Y		8192 points	(MEESEONEI/TO Mode)	0	
of link points per	В	8192 points		0	
network	W	8192 points		0	
Maximum number of per station	of link points	$\{(Y + B) \div 8 + (2 \times W)\} \le 2000$	0 bytes	0	
Communication spe	ed	10Mbps		0	
Communication me		Token ring method		0	
Synchronous type		Frame synchronization metho	d	0	
Encoding method		NRZI coding (Non Return to Z		0	
Transmission metho	bd	Duplex loop	,	0	
Transmission forma	it	HDLC standards (frame forma	at)	0	
Maximum number o		239 (Total number of PLC to F networks)		0	
Maximum number o	of arouns	9		0	
Number of stations	•	5		0	
one network		64 stations (Control station: 1,	, normal station: 63)	0	
Applicable cable		SI optical cable, H-PCF optical		0	
Overall distance		optical cable, and QSI optical 30km	cable		
		SI optical cable: 500m, H-PCF	- ontion only: 1km Broad	0	
Distance between stations		· ·	m, and QSI optical cable: 1km	0	
Error control system	า	CRC(X ¹⁶ + X ¹² + X ⁵ + 1) and	retry by a time over	0	
		Loop-back function due to e	error detection or broken cable		
		Diagnostic function for check	king local link lines		
DAC function		Prevention of system down	by switching the control station	0	
RAS function		Abnormal detection using lin	nk special relays and link	0	
		special registers			
		Network monitoring and various diagnostic functions			
		N:N communication (e.g.	N:N communication (e.g.		For comparison of dedicated
Terresient terresien		monitor, program up/	monitor, program up/		For comparison of dedicated
Transient transmiss	ion	download)	download)	Δ	link instruction, refer to Section 4.6.2.
		Dedicated link instruction	 Dedicated link instruction 		Section 4.0.2.
External power supply	Voltage	20.4VDC to 31.2VDC	20.4VDC to 31.2VDC	0	
	Current	0.2A	0.20A	0	
	Applicable cable size	0.75 to 2mm ²	0.3 to 1.25mm ²	Δ	Cables of 1.25mm ² or more should be replaced with cables of 0.3 to 1.25mm.
Number of occupied I/O points		AJ71QLP21S: 32 points per slot (I/O assignment: special 32 points) A1SJ71QLP21S: 48 points 2 slots (I/O assignment: [first half] empty 16 points, [second half] special 32 points)	48 points 2 slots (I/O assignment: <u>first half</u> empty 16 points, <u>second half</u> intelli. 32 points)	Δ	When the AJ71QLP21S is replaced, set the [Empty 16 points] of first half to the [Empty 0 point] with I/O assignment.

 \bigcirc : Compatible, \bigtriangleup : Partial change required, ×: Incompatible

4

4

(3) Performance comparison of AJ71LP21G/AJ71QLP21G and QJ71LP21G (MELSECNET/10 mode)

			Sposifications	U . Com	patible, ∆. Pan	ial change required, ×: Incompatibl
ltem			Specifications	QJ71LP21G	Compatibility	Precautions for replacement
		AJ71LP21G AJ71QLP21G (MELSECNET/10 mode)			,	
Maximum	LX/LY	8192 points			0	
number of link	LB	8192 points			0	
points per network	LW	8192 points			0	
Maximum numb points per statio		{(LY + LB) ÷ 8 + (2 ×	$(LW) \leq 2000 \text{ bytes}$		0	
Communication	speed	10Mbps			0	
Communication	method	Token ring method			0	
Synchronous typ	be	Frame synchronizat	ion method		0	
Encoding metho	d	NRZI coding (Non R	Return to Zero Inverte	d)	0	
Transmission m	ethod	Duplex loop			0	
Transmission for	rmat	HDLC standards (fra	ame format)		0	
Maximum numb networks	1aximum number of etworks 255 (Total number of PLC to PLC of PLC to PLC networks and remote I/O networks) 239 (Total number of PLC to PLC networks)		Δ	Network No.240 to No.250 cannot be set. Alternate them with unused network No.		
Maximum numb groups	er of	9			0	
Number of static		64 stations (Control	station: 1, normal sta	ation: 63)	0	
connected in on		, ,		•	_	
Applicable cable		GI optical cable			0	
Overall distance		30km			0	
Distance betwee stations	n	GI optical cable: 2kr	n		0	
Error control sys	tem	CRC(X ¹⁶ + X ¹² + X ⁵	⁵ + 1) and retry by a t	ime over	0	
Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions		0				
• N:N communication (e.g. monitor, program up/download) • Dedicated link instruction		Δ	For comparison of dedicated link instruction, refer to Section 4.6.2.			
Number of occu points	pied I/O	32 points per slot (I/ special 32 points)	O assignment:	32 points per slot (I/O assignment: intelli. 32 points)	0	

(4) Performance comparison of AJ71LR21/A1SJ71LR21/AJ71QLR21/A1SJ71QLR21 and QJ71BR11 (MELSECNET/10 mode)

				-	patible, <u>∧</u> : Part	tial change required, ×: Incompatible
Item		AJ71LR21 A1SJ71LR21	Specifications AJ71QLR21 A1SJ71QLR21	QJ71BR11 (MELSECNET/10 mode)	Compatibility	Precautions for replacement
Maximum	LX/LY	8192 points			0	
number of link	LB	8192 points			0	
points per network	LW	8192 points			0	
Maximum number points per station		{(LY + LB) ÷ 8 + (2 >	$(LW) \leq 2000 \text{ bytes}$	5	0	
Communication s	peed	10Mbps			0	
Communication m	nethod	Token ring method		Token bus method	Δ	Nothing to be noted though the communication method differs.
Synchronous type	Э	Frame synchronizat	ion method		0	
Encoding method		Manchester code			0	
Transmission method Duplex loop			Single bus	Δ	The loopback function and multiplex transmission function cannot be used on a coaxial bus system. To use the functions, using an optical loop system is recommended.	
Transmission form	nat	HDLC standards (fra	ame format)		0	
Maximum numbe networks	r of	255 (Total number of PLC to PLC networks and remote I/O networks)	239 (Total number and remote I/O net	of PLC to PLC networks works)	Δ	Network No.240 to No.250 cannot be set. Alternate them with unused network No.
Maximum numbe groups	r of	9			0	
Number of station connected in one		64 stations (Control station: 1, normal ork station: 63)		32 stations (Control station: 1, normal station: 31)	Δ	Normal stations up to 31 stations can be used on a coaxial bus system. To use 32 normal stations or more, using an optical loop system is recommended.
Applicable cable		3C-2V, 5C-2V, 5C-FB		0		
Overall distance 3C-2V: 19.2km 5C-2V, 5C-FB: 30km		n	3C-2V: 300m 5C-2V, 5C-FB: 500m		Either use an A6BR10/ A6BR10-DC type repeater unit, or use an optical loop system.	
Distance betweer stations	1	3C-2V: 300m 5C-2V, 5C-FB: 500n	n	1	0	
Error control syste	em	CRC(X ¹⁶ + X ¹² + X ⁵	⁵ + 1) and retry by a	time over	0	

 \bigcirc : Compatible, \triangle : Partial change required, ×: Incompatible

REPLACEMENT OF THE MELSECNET/10 (PLC TO PLC NETWORK)

		Specifications			
ltem	AJ71LR21 AJ71QLR21 A1SJ71LR21 A1SJ71QLR21		QJ71BR11 (MELSECNET/10 mode)	Compatibility	Precautions for replacement
RAS function	 Loop-back functio detection or broke Diagnostic functio link lines Prevention of syst switching the cont Abnormal detectio relays and link spe Network monitorin diagnostic function 	n cable n for checking local em down by rol station n using link special ecial registers ig and various	 Diagnostic function for checking local link lines Prevention of system down by switching the control station Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 	Δ	The loopback function cannot be used on a coaxial bus system. To use the loopback function, using an optical loop system is recommended.
Transient transmission	N:N communication Dedicated link inst	hication (e.g. monitor, program up/download) lk instruction		Δ	For comparison of dedicated link instruction, refer to Section 4.6.2.
Number of occupied I/O points	32 points per slot (1/ special 32 points)	O assignment:	32 points per slot (I/O assignment: intelli. 32 points)	0	

MELSEC

(5) Performance comparison of AJ71BR11/A1SJ71BR11/ AJ71QBR11/A1SJ71QBR11 and QJ71BR11 (MELSECNET/10 mode)

		1		0.000	patible, Δ . Part	ial change required, ×: Incompatible
ltem		AJ71BR11 A1SJ71BR11	Specifications AJ71QBR11 A1SJ71QBR11	QJ72LP21G (MELSECNET/10 mode)	Compatibility	Precautions for replacement
Maximum	LX/LY	8192 points			0	
number of link	LB	8192 points		0		
points per network	LW	8192 points			0	
Maximum numb points per statio		{(LY + LB) ÷ 8 + (2 >	$(LW) \leq 2000 \text{ bytes}$		0	
Communication	speed	10Mbps			0	
Communication	method	Token bus method			0	
Synchronous ty	be	Frame synchronizat	ion method		0	
Encoding metho	d	Manchester code			0	
Transmission m	ethod	Single bus			Δ	
Transmission fo	rmat	HDLC standards (fra	ame format)		0	
Maximum number of networks		255 (Total number of PLC to PLC networks and remote I/O networks)	239 (Total number of PLC to PLC networks and remote I/O networks)		Δ	Network No.240 to No.250 cannot be set. Alternate them with unused network No.
Maximum number of		9			0	
groups		5			0	
Number of statio		32 stations (Control station: 1, normal station: 31)			0	
connected in on						
Applicable cable	9	3C-2V, 5C-2V, 5C-F	В		0	
Overall distance		3C-2V: 300m 5C-2V, 5C-FB: 500n	n		0	
Distance betwee	en	3C-2V: 300m			0	
stations		5C-2V, 5C-FB: 500n			Ŭ	
Error control sys	stem		5 + 1) and retry by a f		0	
RAS function	Diagnostic function for checking local link lines Prevention of system down by switching the control station Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions		0			
Transient transmission • N:N communication (e.g. monitor, program up/download) • Dedicated link instruction		Δ	For comparison of dedicated link instruction, refer to Section 4.6.2.			
Number of occu points	pied I/O	32 points per slot (I/ special 32 points)	32 points per slot (I/O assignment: special 32 points) 32 points per slot (I/O assignment: intelli. 32 points)			

 \bigcirc : Compatible, \triangle : Partial change required, ×: Incompatible

4.2.2 Cable performance comparisons

(1) Optical fiber cable

Overall distance and distance between stations do not differ depending on the optical fiber cable. For overall distance and distance between stations, refer to Section 4.2.1.

(2) Coaxial cable

(a) Overall distance

O : Compatible, \triangle : Partial change required, ×: Incompatible Specifications A/AnS/QnA/QnAS series Q series Compat-**Precautions for** Туре **MELSECNET/10** module **MELSECNET/H module** ibility replacement Coaxial bus Coaxial loop (Coaxial bus) 3C-2V 300m 300m 19.2km Δ Refer to^{*1} below 5C-2V 500m 500m 30km Refer to^{*1} below Δ

*1 When the overall distance does not satisfy the MELSECNET/H specifications, either use an A6BR10/A6BR10-DC type repeater unit in the network, or configure a separate network.

(b) Distance between stations

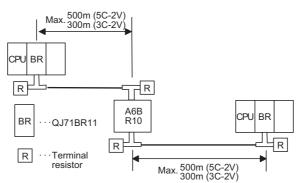
 \bigcirc : Compatible, \bigtriangleup : Partial change required, ×: Incompatible

			Specific			
Turne		A/AnS/QnA/QnAS series		Q series	Compat-	Precautions for
	Туре		T/10 module	MELSECNET/H module	ibility	replacement
		Coaxial bus	Coaxial loop	(Coaxial bus)		
3C-2V		300m	300m	300m	0	
5C-2V		500m	500m	500m	0	

The following shows the extension method when a repeater unit for the A6BR10/A6BR10-DC type MELSECNET/10 coaxial bus system is used.

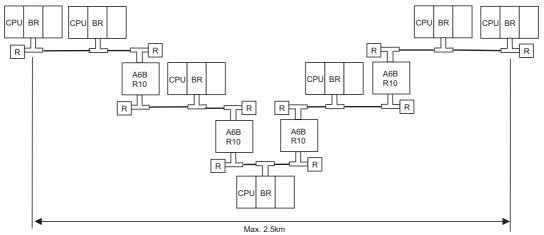
For details, refer to the Repeater Unit for the MELSECNET/10 Coaxial Bus System type A6BR10/ A6BR10-DC User's Manual (IB-66499).

(1) The distance between stations of 500m (5C-2V) and 300m (3C-2V) can be extended.



(2) Up to four repeater units can be used in a single network.^{*2}

The overall distance can be extended to a maximum distance of 2.5 km.



*2 It is necessary to add terminal resistor A6RCON-R75 (sold separately).

4.3 Functional Comparisons

(1) A/AnS series

4

		Descr			Partial change required, ×: Incompatible
	14 0 000	A/AnS series	Q series	Compat-	Droosutions for variansment
	Item	MELSECNET/10 module ^{*1}		ibility	Precautions for replacement
	Communication using B/W (1:N communication)	Performs communications wirelay and link register. (Com	ith all stations using link	0	
Cyclic transfer function	Communication using X/Y (1:1 communication)	Performs communications be and the other station in pairs.		0	
clic tran	Constant link scan function	Keeps link scan time constar	nt.	0	
Cyc	Data link stop/ restart function	Stops cyclic transmission ten GX Developer.	nporarily with GX Works2 or	0	
	Inter-link data transfer function	Transfers link data to multiple all at once, when multiple net programmable controller.		0	
Transient transmission function	Transient transmission function	Communicates only when co issued between each station dedicated link instruction and Developer.)	s. (Communication using	Δ	 LRDP instruction and LWTP instruction cannot be used. Change them to ZNRD instruction, ZNWR instruction, READ instruction and WRITE instruction. For comparison of dedicated link instruction, refer to Section 4.6.2.
Transie	Routing function	Performs transient transmiss network No. are different. Performs transient transmiss		0	
	Group function	group with an instruction.		0	
Con func	trol station shift tion	Enables to continue data link to sub-control station, even if		0	
Mult func	iplex transmission tion	Performs high-speed commutation transmission channel (forwar	• .	0	
	Automatic return function	Returns the station disconne system when it goes to norm link.		0	
c	Loopback function	Keeps normal operation betw disconnecting faulty area at e cable break.		0	
nctio	Station detach	Keeps normal operation betv		0	
RAS function	function Diagnostic function	except faulty stations and sta Checks line conditions of the conditions of the module.		Δ	Set diagnostic items for station- to-station test and forward loop/ reverse loop test in GX Works2 or GX Developer network parameters.
	Data link status detect function	Detects faulty area with data special register.	of link special relay and link	0	

 \bigcirc : Compatible, \bigtriangleup : Partial change required, ×: Incompatible

	Descr		Ocurrent	
Item	A/AnS series	Q series	Compat- ibility	Precautions for replacement
	MELSECNET/10 module ^{*1}	MELSECNET/H module ^{*2}	ionity	
	Treats the stations, which are	e to be connected in the		
Reserved station	future, as reserved stations.		~	
function	By specifying the stations, wl	hich are not connected, as	0	
	reserved stations, communic	ation error does not occur.		

*1 Use GX Developer.

*2 Use GX Works2 or GX Developer.

(2) QnA/QnAS series

4

		Descr	iption		
	Item	QnA/QnAS series	Q series	Compat-	Precautions for replacement
		MELSECNET/10 module ^{*1}	MELSECNET/H module ^{*2}	ibility	
	Communication	Performs communications wi			
	using B/W	relay and link register. (Comr	•	0	
	Communication	Performs communications be		-	
	using X/Y	and the other station in pairs.	. (Communication using X/Y)	0	
	Cyclic transmission	Stops cyclic transmission ten	nporarily with GX Works2 or	0	
_	stop/restart	GX Developer.		0	
ctio	Inter-link data	Transfers link data to multiple	e networks using parameters		
fun	transfer function	all at once, when multiple net	works are connected to one	0	
sfer		programmable controller.			
้ลทร	Direct access to the	Reads/writes directly from/to	link device of the network	0	
ic tr	link devices	module on the sequence pro	gram.	0	
Cyclic transfer function	Increase of sending	Allows multiple modules, of v	which the network No are		
0	points by mounting	the same, to be mounted to o			
	multiple modules of	and increases sending points		0	
	the same network	bytes.	- p		
	No.	-			
	Default of network	Eliminates the refresh param		0	
	refresh parameter	default values of refresh para		-	
	Transford	Communicates only when co			
	Transient	issued between each station		0	
	transmission function	dedicated link instruction and	I GX WORKS2/GX		
tion		Developer.) Performs transient transmiss	ion to other stations of which		
Transient transmission function	Routing function	network No. are different.		0	
on f		Performs transient transmiss	ion to all stations in the		
issi	Group function	group with an instruction.		0	
msr	Dedicated link	Performs communications wi	ith other station at desired		
trar	instruction	timing using dedicated link in		0	
ent	Specification of	Processes the requests that		_	
ansi	default network	of access path.		0	
Tra	Clock setup for				
	stations on network	Performs clock setup to CPU	I modules connected to the	0	
	with peripheral	network with GX Works2 or 0	GX Developer.	0	
	device				
Con	trol station shift	Enables to continue data link	by switching normal station	0	
func	tion	to sub-control station, even if	f control station is in failure.	0	
	tiplex transmission	Performs high-speed commu		0	
func	tion	transmission channel (forwar		0	
		Treats the stations, which are	e to be connected in the		
Res	erved station function	future, as reserved stations.		0	
		By specifying the stations, where the stations is the station of t			
		reserved stations, communic	ation error does not occur.		

 \bigcirc : Compatible, $\ {}_{\bigtriangleup}$: Partial change required, ×: Incompatible

(To next page)

	Item	Description QnA/QnAS series Q series MELSECNET/10 module ^{*1} MELSECNET/H module ^{*2}	Compat- ibility	Precautions for replacement			
	ple dual-structured vork	Switches link data refresh target to the standby network to continue data link when break causes error in regular network.	×	For Universal model QCPU, the simple dual-structured system cannot be configured. Configure a single network system.			
Usir	ng SB/SW as user flag	Sends desired control data to all stations using user-flag status (SW01F0 to SW01F3) without using link device.		Change UFSET, UFRST and UFOUT instructions to a sequence program that uses the link relay and link register.			
	Automatic return function	Returns the station disconnected from data link to the system when it goes to normal status and restarts data link.	0				
	Loopback function	Keeps normal operation between operable stations by disconnecting faulty area at error occurrence such as cable break.	0				
	Prevention of station failure by using external power supply	Prevents loopback due to shutdown of programmable controller.	0				
	Station detach function	Keeps normal operation between operable stations except faulty stations and stations switched off.	0				
RAS function	Transient transmission available even if programmable controller CPU is in error	Checks the errors for CPU modules of which a stop error occurs, via network from GX Works2 or GX Developer.	0				
	Checking the transient transmission abnormal detection time	Checks error completion time, abnormal detection network number and abnormal detection station number of transient transmission.	0				
	Diagnostic function	Checks line conditions of the network and setting conditions of the module.	Δ	Set diagnostic items for station- to-station test and forward loop/ reverse loop test in GX Works2 or GX Developer network parameters.			

 ${\sf O}$: Compatible, $\ {\vartriangle}$: Partial change required, ×: Incompatible

*1 Use GX Developer.

*2 Use GX Works2 or GX Developer.

4.4 Switch Settings Comparisons

	Description				
Switch name	A/AnS/QnA/QnAS series MELSECNET/10 module	Q series MELSECNET/H module (MELSECNET/10 mode)	Compat- ibility	Precautions for replacement	
Network No. setting switch	Sets the network No.	-	Δ	 Set in GX Works2 or GX Developer network parameters. Network No.240 to No.255 cannot be set. Alternate them with unused network Nos. 	
Group No. setting switch	Sets the group No.	-	Δ	Set in GX Works2 or GX Developer network parameters.	
Mode setting switch	Sets the mode. <setting range=""> 0: Online 2: Offline 3: Loop test (forward loop)^{*1} 4: Loop test (reverse loop)^{*1} 5: Station-to-station test (master station) 6: Station-to-station test (slave station) 7: Self-loopback test 8: Internal self-loopback test 9: H/W test D: Network No. check E: Group No. check F: Station No. check</setting>	Sets the mode. <setting range=""> 0: Online 1: Self-loopback test 2: Internal self-loopback test 3: hardware test</setting>		 Set offline, loop test and station-to-station test in GX Works2 or GX Developer network parameters. Check network No., group No. and station No. in GX Works2 or GX Developer network diagnostics (host information). 	
Condition setting switch	Sets the operation conditions.	-	Δ	This switch cannot make parameter setting. Set in GX Works2 or GX Developer network parameters.	

 \bigcirc : Compatible, $\ {\bigtriangleup}$: Partial change required, ×: Incompatible

*1 The QnA/QnAS series support the loop test.

 \bigcirc : Compatible, $\ {\bigtriangleup}$: Partial change required, ×: Incompatible

4.5 Parameter Comparisons

4

(1) Parameter of control station

		Desci	ription			
Parameter name	A/AnS/QnA/QnAS series MELSECNET/10 module		MELSECNE	Q series MELSECNET/H module (MELSECNET/10 mode)		Precautions for replacement
	Network type		Network type		0	
	Starting I/O No.		Starting I/O No		0	
	Network No.		Network No.		Δ	Network No.240 to No.255 cannot be set. Alternate them with unused network Nos.
	Total number of stations	f (slave)	Total number or stations	f (slave)	0	
	-		Group No.		Δ	Set the group No. in GX Works2 or GX Developer network parameters.
	-		Mode			Set the mode in GX Works2 or GX Developer network parameters.
		Monitoring time		Monitoring time	0	
Network		LB/LW setting		LB/LW setting	0	
parameter		LX/LY setting	-	LX/LY setting	0	
	Network range assignment (common	I/O master station specification	Network range assignment (common	I/O master station specification	0	
	parameter)	Reserved station designation	parameter)	Reserved station designation	0	
		Supplemental settings		Supplemental settings	0	
	Station inheren	t parameter	Station inheren	t parameter	0	
	Refresh parame	eters	Refresh param	eters	0	
	Inter-link data t	ransfer	Inter-link data t	ransfer	0	
	Routing parame	eters	Routing param	eters	0	
	Valid module du station access	uring other	Valid module de station access	uring other	0	

(2) Parameter of normal station

	Desc	ription		
Parameter name	A/AnS/QnA/QnAS series MELSECNET/10 module	Q series MELSECNET/H module (MELSECNET/10 mode)	Compat- ibility	Precautions for replacement
	Network type	Network type	0	
	Starting I/O No.	Starting I/O No.	0	
	Network No.	Network No.	Δ	Network No.240 to No.255 cannot be set. Alternate them with unused network Nos.
Network	-	Group No.	Δ	Set the group No. in GX Works2 or GX Developer network parameters.
parameter	-	Mode	Δ	Set the mode in GX Works2 or GX Developer network parameters.
	Station inherent parameter	Station inherent parameter	0	
	Refresh parameters	Refresh parameters	0	
	Inter-link data transfer	Inter-link data transfer	0	
	Routing parameters	Routing parameters	0	
	Valid module during other station access	Valid module during other station access	0	

(3) Parameter of standby station^{*1}

Δ

		0:	Compatible,	\triangle : Partial change required, ×: Incompatible	
	Desc	ription			
Parameter name	QnA/QnAS series MELSECNET/10 module	Q series MELSECNET/H module (MELSECNET/10 mode)	Compat- ibility	Precautions for replacement	
	Network type	Network type	0		
	Starting I/O No.	Starting I/O No.	0		
	Network No.	Network No.	0		
	-	Group No.	Δ	Set the group No. in GX Works2 or GX Developer network parameters.	
Network parameter	-	Mode	Δ	Set the mode in GX Works2 or GX Developer network parameters.	
	Standby station compatible module	Standby station compatible module	0		
	Routing parameters	Routing parameters	0		
	Valid module during other station access	Valid module during other station access	0		

*1 Standby station is a station type of simple dual-structured system.

Only the following CPU modules support the simple dual-structured system.

Process CPU

 \bigcirc : Compatible, \triangle : Partial change required, ×: Incompatible

4.6 Program Comparisons

4.6.1 Comparison of link special relay (SB)/link special register (SW)

The table below shows only link special relay (SB) and link special register (SW) to be used in interlock program.

Device name and device No. of MELSECNET/H module are described in link device of internal MELSECNET/H module.

Changing sequence program should be performed after checking the refreshed device of link device in refresh parameters.

(1) AnN/AnA/AnSCPU (excluding AnUS(H)CPU)

When MELSECNET/10 module is mounted to the CPU module of the AnN/AnA/AnSCPU (excluding AnUS(H)CPU), link special relay (SB) and link special register (SW) are assigned to special relay and special register of CPU module.

For replacing with a MELSECNET/H module, change sequence program in reference to the following.

(a) Link special relay (SB)

	AnN/AnA/A MELSECNET/			QCPI MELSECNET/		Compat-	Precautions for replacement
Number	Name	Description	Number	Name	Description	ibility	
M9204	LRDP instruction complete	OFF : Not completed ON : Completed	-	-	-	Δ	LRDP instruction cannot be used. When using it in sequence program, delete corresponding part.
M9205	LWTP instruction complete	OFF : Not completed ON : Completed	-	-	-	Δ	LWTP instruction cannot be used. When using it in sequence program, delete corresponding part.
M9211	Module status	OFF : Normal ON : Abnormal	SB0020	Module status	OFF : Normal ON : Abnormal	0	
M9240	Online host status	OFF : Online ON : Offline, self- loopback test, station-to- station test	SB0043	Online switch (host station)	OFF : Online ON : Other than online	0	
M9241	Forward loop status	OFF : Normal ON : Abnormal	SB0090	Host loop status	OFF : Normal ON : Abnormal	Δ	When SB0090 turns on, check the loop condition with SW0090, or check by host bit of SW0091 to SW0094.
M9242	Reverse loop status	OFF : Normal ON : Abnormal	SB0090	Host loop status	OFF : Normal ON : Abnormal	Δ	When SB0090 turns on, check the loop condition with SW0090, or check by host bit of SW0095 to SW0098.
M9243	Loopback status	OFF : Loopback inexecution ON : Loopback execution	SB0090	Host loop status	OFF : Normal ON : Abnormal	Δ	When SB0090 turns on, check the loop condition with SW0090, or check by SW0099 or SW009A.
M9246	Data not received (Control station)	OFF : Received ON : Not received	-	-	-	Δ	When using it in sequence program, delete corresponding part.
M9250	Parameter unreceived	OFF : Received ON : Not received	SB0054	Parameter receive status	OFF : Receive completed ON : Unreceived	0	
M9251	Communication status	OFF : Normal ON : Abnormal	SB0049	Host data link status	OFF : Normal ON : Abnormal	0	

(To next page)

		0.000			- · ·		renange required, A. incompatible
	AnN/AnA/A MELSECNET/		QCPU MELSECNET/H module			Compat-	
	1		N			ibility	Precautions for replacement
Number	Name	Description	Number	Name	Description		
M9252	Loop test status	OFF : Not being executed ON : Forward loop test/reverse loop test execution underway	SB00AE	Offline testing response designation	OFF : No response ON : Response	0	
M9253	Control station operation status	OFF : RUN or STEP RUN ON : STOP or PAUSE	SW0084 to SW0087	Each station CPU RUN status	Stores the CPU RUN status of each station. (Including the host)	0	
M9254	Other station operation status	OFF : All stations are in the RUN or STEP RUN status ON : Any station in the STOP or PAUSE status exist	SB0084	Each station CPU RUN status	OFF : All stations are in the RUN or STEP RUN status ON : Station in the STOP or PAUSE status exist (including the host)	0	
M9255	Other station communication status	OFF : All stations normal ON : Any error station identified	SB0074	Cyclic transmission status of each station	OFF : All stations are executing data linking ON : Stations that are not executing data linking exist	0	

 ${\ensuremath{\bigcirc}}$: Compatible, ${\ensuremath{\bigtriangleup}}$: Partial change required, ×: Incompatible

(b) Link special register (SW)

 \bigcirc : Compatible, \bigtriangleup : Partial change required, ×: Incompatible

	AnN/AnA/AnSCPU MELSECNET/10 module			QCPU MELSECNET/H module			Precautions for replacement
Number	Name	Description	Number	Name	Description	ibility	
D9243	Host station number	Stores the station number of the host.	SW0042	Station No.	Stores the station number of the host.	0	
D9244	Maximum station No.	Stores the maximum station No. set in network parameters.	SW0059	Total number of link stations	Stores the total number of link stations set in network parameters.	0	
D9245	Communication error count	Accumulates and stores the communication error times.	SW00B8 to SW00C7	Error counters	Accumulates and stores the various error time.	Δ	The error count for each error cause is stored.
D9248 to D9251	Other station CPU RUN status	Stores the CPU RUN status of other station.	SW0084 to SW0087	Each station CPU RUN status	Stores the RUN status of each station. (Including the host)	0	
D9252 to D9255	Data link status of other station	Stores the data link status of other station.	SW0074 to SW0077	Cyclic transmission status of each station	Stores the cyclic transmission status of each station.	0	

(2) AnU/AnUS(H)/QnA/QnASCPU

The following device name and device No. are described in link device of internal MELSECNET/10 or MELSECNET/H module.

Changing sequence program should be performed after checking the refreshed device of link device in refresh parameters.

(a) Link special relay (SB)

		⊖: Compatible,	\triangle : Partial ch	ange required, ×: Incompatible
	Nun	nber		
Item	AnU/AnUS(H)/QnA/ QnASCPU MELSECNET/10 module	QCPU MELSECNET/H module	Compat- ibility	Precautions for replacement
Module status	SB0020	SB0020	0	
Baton pass status (host)	SB0047	SB0047	0	
Data link status of each station	SB0049	SB0049	0	
Baton pass status of each station	SB0070	SB0070	0	
Cyclic transmission status of each station	SB0074	SB0074	0	

(b) Link special register (SW)

 \bigcirc : Compatible, \bigtriangleup : Partial change required, ×: Incompatible

	Nun				
Item	AnU/AnUS(H)/QnA/ QnASCPU MELSECNET/10 module	QCPU MELSECNET/H module	Compat- ibility	Precautions for replacement	
Baton pass status of each station	SW0070 to SW0073	SW0070 to SW0073	0		
Cyclic transmission status of each station	SW0074 to SW0077	SW0074 to SW0077	0		

Remarks

For link special relay (SB) and link special register (SW) that are not described in this section, refer to each manual.

4.6.2 Comparison of dedicated instructions

(1) A/AnSCPU

Δ

\bigcirc : Compatible, \triangle : Partial change required, ×: Incompatible									
	Descr	iption							
Instruction name	A/AnSCPU QCPU MELSECNET/10 module (MELSECNET/10 mode)		Compat- ibility	Precautions for replacement					
ZNRD instruction	Reads the device data of othe	r station.	Δ	Instruction format differs. Change the sequence program.					
ZNWR instruction	Writes data to the device of ot	Writes data to the device of other station.							
LRDP instruction	Reads the device data of other station only by station number designation.	-	Δ	LRDP instruction cannot be used. Change them to ZNRD or READ instruction.					
LWTP instruction	Writes data to the device of other station only by station number designation.	-	Δ	LWTP instruction cannot be used. Change them to ZNWR or WRITE instruction.					

(2) QnA/QnASCPU

\bigcirc : Compatible, \triangle : Partial change required, ×: Incompa									
	Descr								
Instruction name	QnA/QnASCPU MELSECNET/10 module	QCPU MELSECNET/H module (MELSECNET/10 mode)	Compat- ibility	Precautions for replacement					
SEND instruction	Sends data to target station.		0						
RECV instruction	Reads data sent by SEND ins module.	truction to device of CPU	0						
READ instruction, SREAD instruction	Reads the device data of othe	r station.	0						
WRITE instruction, SWRITE instruction	Writes data to the device of ot	0							
REQ instruction	Issues "remote RUN" and "clo to other stations.	0							
ZNRD instruction	Reads the device data of othe	r station.	0						
ZNWR instruction	Writes data to the device of ot	her station.	0						
UFSET instruction	Turns user-flag which is corresponding to the host on.	-		Change to a sequence program that uses the link relay and link register.					
UFRST instruction	Turns user-flag which is corresponding to the host off.	-		Change to a sequence program that uses the link relay and link register.					
UFOUT instruction	Turns user-flag which is corresponding to the host on/ off.	-		Change to a sequence program that uses the link relay and link register.					

(3) Q series dedicated link instruction list

Δ

The table below shows the dedicated link instructions usable in Q series. For instruction format of dedicated link instruction and precautions, refer to the following manual.

Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

\ensuremath{O} : Can be used by both the control and normal stations, \times : Can	not be used
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		Execution station			arget sta	tion
Instruction	Name	QCPU	Description	QCPU	QnA/ QnAS CPU	AnU/ AnUS(H) CPU
SEND	Data sending	0	SEND:Writes data to the target station (network module) having the target network number. RECV:Reads data sent with SEND to the CPU device.	0	0	×
RECV	Data receiving	0	Channel 2 Logical channel 2 (channel 2) Logical channel 3 (channel 3) Logical channel 3 (channel 3) Channel 4 Channel 4 Channel 5 Logical channel 5 (channel 6) Channel 6 Channel 7 Channel 8 Logical channel 7 (channel 7) Logical channel 8 (channel 8)	0	0	×
READ SREAD	Other station word device read	0	Reads the CPU device data (in 16-bit units) from the target station having the target network number.	0	0	×
WRITE SWRITE	Other station word device write	0	Writes data (in 16-bit units) to the CPU device of the target station having the target network number. (SWRITE can turn on the device of the target station.) CPU Network module Network module CPU Channel 1 Channel 2 Channel 4 Channel 5 Channel 6 Channel 7 Channel 8	0	0	×
REQ	Requesting transient transmission to other stations	0	Issues "remote RUN" and "clock data read/write" requests to other stations.	0	0	x

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	-		O : Can be used by both the control and norr	nal station	is, × : Car	not be used
		Execution station		Та	irget sta	tion
Instruction	Name	QCPU	Description	QCPU	QnA/ QnAS CPU	AnU/ AnUS(H) CPU
RECVS	Receive message (completed in 1 scan)	0	Receives the channel data sent with SEND by the interrupt program and immediately reads it to the CPU device. The processing is completed when the instruction is executed.	0	0	×
ZNRD	Other station word device read	0	[A-compatible instruction] Reads the CPU device data from the target station having the target network number.	0	0	O ^{*1} AnACPU AnNCPU
ZNWR	Other station word device write	0	[A-compatible instruction] Writes data to the CPU device of the target station having the target network number.	0	0	O ^{*1} AnACPU AnNCPU
RRUN	Remote RUN	0	"Remote RUN" performed for other stations' CPU modules CPU Network module Network module CPU Channel 1 Channel 2 Channel 3 Channel 4 Channel 5 Channel 6 Channel 7 Channel 8	0	×	×

O : Can be used by both the control and normal stations, × : Cannot be used

(To next page)

*1 CPU modules of the following version or later when the target station is the A2UCPU(S1), A3UCPU, A4UCPU, or A2USCPU(S1)

• A2UCPU(S1), A3UCPU, A4UCPU: Version AY (manufactured in July 1995) or later

A2USCPU(S1): Version CP (manufactured in July 1995) or later

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		Execution station		Та	irget sta	tion
Instruction	Name	QCPU	Description		QnA/ QnAS CPU	AnU/ AnUS(H) CPU
RSTOP	Remote STOP	0	"Remote STOP" performed for other stations' CPU modules CPU Network module CPU Channel 1 Channel 2 Channel 3 Channel 3 Channel 4 STOP Channel 5 Channel 6 Channel 7 Channel 8 Channel 8 Channel 8	0	×	×
RTMRD	Other station clock data read	0	"Read Clock Data" performed for other stations' CPU modules CPU Network module CPU Channel 1 Channel 2 Channel 3 Channel 3 Channel 4 Clock data Word device Channel 6 Channel 7 Clock data Channel 8 Channel 8	0	×	×
RTMWR	Other station clock data written	0	"Write Clock Data" performed for other stations' CPU modules CPU Network module Network module CPU Channel 1 Channel 3 Channel 4 Channel 5 Channel 6 Channel 7 Channel 8	0	x	×

 $\ensuremath{{\ensuremath{\mathsf{O}}}}$: Can be used by both the control and normal stations, $\ensuremath{{\ensuremath{\mathsf{x}}}}$: Cannot be used

4.7 Other Precautions

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(1) Processing time

The link scan time and link refresh time differ between the A/AnS/QnA/QnAS series and the Q series. For details on processing times, refer to the manual for the respective module.

(2) A/AnS series replacement precautions

Normal station of MELSECNET/H module requires network parameter setting. For replacement with the QCPU and the MELSECNET/H module, newly set network parameters.

5 REPLACEMENT OF THE MELSECNET/10 (REMOTE I/O NETWORK)

5.1 Replacing MELSECNET/10 with MELSECNET/H

All stations of the existing A series are replaced with those of the Q series by changing MELSECNET/10 into MELSECNET/H.

5.1.1 List of MELSECNET/10 alternative models

(1) Replacement of the A/AnS series

Network type	Station type	A/AnS series	Q series
Optical loop		AJ71LP21	QJ71LP21-25
	Remote master station	A1SJ71LP21	Q37 1EF 21-23
		AJ71LP21G	QJ71LP21G
		AJ72LP25	
	Remote I/O station	AJ72QLP25	QJ72LP25-25
		A1SJ72QLP25	
		AJ72LP25G	QJ72LP25G
	Remote master station	AJ71LR21	QJ71BR11
	Remote master station	A1SJ71LR21	
Coaxial loop		AJ72LR25	
	Remote I/O station	AJ72QLR25	QJ72BR15
		A1SJ72QLR25	
	Remote master station	AJ71BR11	QJ71BR11
	Remote master station	A1SJ71BR11	
Coaxial bus		AJ72BR15	
	Remote I/O station	AJ72QBR15	QJ72BR15
		A1SJ72QBR15	

Network type	Station type	QnA/QnAS series	Q series
		AJ71QLP21	QJ71LP21-25
		A1SJ71QLP21	QJ7 1LF21-25
	Remote master station	AJ71QLP21S	QJ71LP21S-25
Ontion loop		A1SJ71QLP21S	QJ71LF213-25
Optical loop		AJ71QLP21G	QJ71LP21G
		AJ72QLP25	QJ72LP25-25
	Remote I/O station	A1SJ72QLP25	QJ72LF25-25
		AJ72QLP25G	QJ72LP25G
	Remote master station	AJ71QLR21	QJ71BR11
Coaxial loop	Remote master station	A1SJ71QLR21	
	Remote I/O station	AJ72QLR25	QJ72BR15
	Remote master station	AJ71QBR11	0 1710011
Coaxial bus	Remote master station	A1SJ71QBR11	— QJ71BR11
Cuaxiai bus	Remote I/O station	AJ72QBR15	QJ72BR15
		A1SJ72QBR15	

Remarks • •

System configuration in MELSECNET/10 and MELSECNET/H (remote I/O network) The following table lists CPU modules that can be installed on MELSECNET/10 and MELSECNET/H (remote I/O network). (The table shows in the case using a module for optical loop. The same applies in the case using a module for a coaxial loop/coaxial bus.)

Master stati	on	Remote I/O station				
CPU module	Network module	QJ72LP25-25	A(1S)J72LP25	A(1S)J72QLP25		
QnUCPU	QJ71LP21-25	O (MELSECNET/H mode)	3	×		
QnA/QnASCPU	A(1S)J71QLP21	O ^{*1} (MELSECNET/10 mode)	()		
AnU/AnUS(H)CPU	A(1S)J71LP21	O ^{*1} (MELSECNET/10 mode)	C)		
AnN/AnA/AnSCPU (excluding AnUS(H)CPU)	Master station on the remote I/O network cannot be used.	-		-		

*1 The module with a serial number (first five digits) of "15012" or later can be used. For replacement using MELSECNET/10 mode, refer to Section 5.2.

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5.1.2 Performance specifications comparisons

(1) Module performance comparisons

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(a) Performance comparison of remote master station

1) Performance comparison of AJ71LP21/A1SJ71LP21/AJ71QLP21/A1SJ71QLP21 and QJ71LP21-25

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

			Specifications			
ltem		AJ71LP21 A1SJ71LP21	AJ71QLP21 A1SJ71QLP21	QJ71LP21-25	Compatibility	Precautions for replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points		16384 points ^{*1}	0	
network	LW	8192 points		16384 points ^{*1}	0	
		<remote master="" station="" →<br="">remote I/O station></remote>	<remote master="" station<br="">{(LY + LB) ÷ 8 + (2 × LW</remote>	→ remote I/O station> ^{*2} /)} \leq 1600 bytes		
Maximum number of link points per station			{(LY + LB) ÷ 8 + (2 × LW	ster station \rightarrow multiplexed on>	0	
Communication spe	eed	10Mbps		25Mbps/10Mbps	0	
Communication me	thod	Token ring method			0	
Synchronous type		Frame synchronization meth	od		0	
Encoding method		NRZI coding (Non Return to	Zero Inverted)		0	
Transmission metho	od	Duplex loop			0	
Transmission forma	at	HDLC standards (frame form	at)		0	
Maximum number on networks	ximum number of PLC to PLC to PLC networks and remote // 239 (Total number of PLC to PLC networks and		Δ	Network No.240 to No.250 cannot be set. Alternate them with unused network No.		
Number of stations in one network	connected	65 stations (Remote master station: 1, remote I/O station: 64)*3		0		
Applicable cable	ble cable SI optical cable, H-PCF optical cable, Broad-band H-PCF optical cable, and QS optical cable		PCF optical cable, and QSI	0		
Overall distance		30km			0	
Distance between s	stations	SI optical cable: 500m, H-PCF optical cable: 1km,		<10Mbps> SI optical cable: 500m, H-PCF optical cable: 1km, Broad-band H- PCF optical cable: 1km, and QSI optical cable: 1km	0	
		Broad-band H-PCF optical cable: 1km, and QSI optical cable: 1km		<25Mbps> SI optical cable: 200m, H-PCF optical cable: 400m, Broad-band H- PCF optical cable: 1km, and QSI optical cable: 1km		Use 10 Mbps when using SI optical cable and HPCF optical cable.
Error control system	n	CRC (X ¹⁶ +X ¹² +X ⁵ +1) and retry by a time over		0		
RAS function	on Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 		0			
Transient transmission		Monitor, program up/down device Dedicated link instruction Available for Intelligent fun AJ71QLP21/A1SJ71QLP2	ction module (only	 1:1 communication (Monitor, program up/ download) Dedicated link instruction 	Δ	For comparison of dedicated link instruction, refer to Section 5.1.7.

		Specifications			
ltem	AJ71LP21 A1SJ71LP21	AJ71QLP21 A1SJ71QLP21	QJ71LP21-25	Compatibility	Precautions for replacement
Number of occupied I/O points	32 points per slot (I/O assignment: special 32 points)		32 points per slot (I/O assignment: intelli. 32 points)	0	

*1 Remote master station \rightarrow remote sub-master station, remote I/O station: 8192 points

Remote sub-master station, remote I/O station \rightarrow remote master station: 8192 points

*2 The remote master station includes the multiplexed remote master station and multiplexed remote sub-master station.

*3 For the multiplexed remote I/O network, one station in 64 stations of the remote I/O station is used for the multiplexed remote sub-master station.

2) Performance comparison of AJ71QLP21S/A1SJ71QLP21S and QJ71LP21S-25

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

		Specifi	cations	Compati-	
Item		AJ71QLP21S A1SJ71QLP21S	QJ71LP21S-25	Compati- bility	Precautions for replacement
Maximum annshan af	LX/LY	8192 points		0	
Maximum number of link points per network	LB	8192 points	16384 points ^{*1}	0	
LW		8192 points	16384 points ^{*1}	0	
Maximum number of link points per station				0	
			{(LY + LB) ÷ 8 + (2 × LW)}≦ 2000 bytes		
Communication speed		10Mbps	25Mbps/10Mbps	0	
Communication metho	d	Token ring method		0	
Synchronous type		Frame synchronization method			
Encoding method		NRZI coding (Non Return to Zero Inverted)			
Transmission method		Duplex loop			
Transmission format		HDLC standards (frame format)			
Maximum number of ne	etworks	239 (Total number of PLC to PLC n	etworks and remote I/O networks)	0	
Number of stations con one network	inected in	65 stations (Remote master station: 1, remote I/O station: 64) ^{*3}			
Applicable cable		SI optical cable, H-PCF optical cable, Broad-band H-PCF optical cable, and QSI optical cable			
Overall distance		30km		0	
Distance between stati	ons	SI optical cable: 500m, H-PCF optical cable: 1km, Broad-band H-	<10Mbps> SI optical cable: 500m, H-PCF optical cable: 1km, Broad-band H- PCF optical cable: 1km, and QSI optical cable: 1km	0	
		PCF optical cable: 1km, and QSI optical cable: 1km	<25Mbps> SI optical cable: 200m, H-PCF optical cable: 400m, Broad-band H-PCF optical cable: 1km, and QSI optical cable: 1km	Δ	Use 10 Mbps when using SI optical cable and HPCF optical cable.
Error control system		CRC ($X^{16}+X^{12}+X^{5}+1$) and retry by		0	
RAS function		 Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers 		0	
Transient transmission		Network monitoring and various diagnostic functions Monitor, program up/download with peripheral device Available for Intelligent function module Dedicated link instruction		Δ	For comparison of dedicated link instruction, refer to Section 5.1.7.
	Voltage	20.4VDC to 31.2VDC		0	
External power supply	Current	0.2A		0	
	Applicable cable size	0.75 to 2mm ²	0.3 to 1.25mm ²	Δ	Cables of 1.25mm ² or more should be replaced with cables of 0.3 to 1.25mm.

REPLACEMENT OF THE MELSECNET/10 (REMOTE I/O NETWORK)

MELSEC

	Specifi	cations	Compati-	Precautions for replacement	
Item	AJ71QLP21S A1SJ71QLP21S	QJ71LP21S-25	bility		
Number of occupied I/O points	special 32 points) A1SJ71QLP21S: 48 points 2 slots (I/O assignment:	48 points 2 slots (I/O assignment: first half empty 16 points, second half intelli. 32 points)	Δ	When the AJ71QLP21S is replaced, set the [Empty 16 points] of first half to the [Empty 0 point] with I/O assignment.	

*1 Remote master station → remote sub-master station, remote I/O station: 8192 points Remote sub-master station, remote I/O station → remote master station: 8192 points

*2 The remote master station includes the multiplexed remote master station and multiplexed remote sub-master station.

*3 For the multiplexed remote I/O network, one station in 64 stations of the remote I/O station is used for the multiplexed remote sub-master station.

3) Performance comparison of AJ71LP21G/AJ71QLP21G and QJ71LP21G

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

14			Specifications		0 4 ¹ h 114	
Item		AJ71LP21G	AJ71QLP21G	QJ71LP21G	Compatibility	Precautions for replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points		16384 points ^{*1}	0	
network	LW	8192 points 16384 points ^{*1}			0	
Maximum number of link points per station		<remote master="" station="" →<br="">remote I/O station> $\{(LY + LB) \div 8 + (2 \times LW)\} \le$ 1600 bytes <remote i="" o="" station="" →<br="">remote master station> $\{(LY + LB) \div 8 + (2 \times LW)\} \le$ 1600 bytes</remote></remote>	$ \begin{array}{l} < & \text{Remote master station} \rightarrow \text{remote I/O station} > ^{*2} \\ & \{(LY + LB) \div 8 + (2 \times LW)\} \leqq 1600 \text{ bytes} \\ < & \text{Remote I/O station} \rightarrow \text{remote master station} > ^{*2} \\ & \{(LY + LB) \div 8 + (2 \times LW)\} \leqq 1600 \text{ bytes} \\ < & \text{Multiplexed remote master station} \rightarrow \text{multiplexed remote sub-master station} > \end{array} $		0	
Communication spe	ed	1000 bytes	{(LY + LB) ÷ 8 + (2 × LW)		0	
Communication me		Token ring method			0	
Synchronous type		Frame synchronization method			0	
Encoding method		NRZI coding (Non Return to			0	
		Duplex loop	,		0	
Transmission forma	at		DLC standards (frame format)			
Maximum number of networks		255 (Total number of PLC to PLC networks and remote I/ O networks)	PLC to 239 (Total number of PLC to PLC networks and		0 	Network No.240 to No.250 cannot be set. Alternate them with unused network No.
Number of stations in one network	connected	65 stations (Remote master station: 1, remote I/O station: 64)*3			0	
Applicable cable		GI optical cable			0	
Overall distance		30km			0	
Distance between s	stations	GI optical cable: 2km			0	
Error control syster	n	CRC (X ¹⁶ +X ¹² +X ⁵ +1) and re	try by a time over		0	
RAS function		 Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 		0		
Transient transmiss	device (Monitor, • Dedicated link instruction download • Available for Intelligent function module (only • Dedicated		 1:1 communication (Monitor, program up/ download) Dedicated link instruction 	Δ	For comparison of dedicated link instruction, refer to Section 5.1.7.	
Number of occupier points	d I/O	32 points per slot (I/O assign	ment: special 32 points)	32 points per slot (I/O assignment: intelli. 32 points)	0	

*1 Remote master station → remote sub-master station, remote I/O station: 8192 points Remote sub-master station, remote I/O station → remote master station: 8192 points

*2 The remote master station includes the multiplexed remote master station and multiplexed remote sub-master station.

*3 For the multiplexed remote I/O network, one station in 32 stations of the remote I/O station is used for the multiplexed remote sub-master station.

4) Performance comparison of AJ71LR21/A1SJ71LR21/AJ71QLR21/A1SJ71QLR21 and QJ71BR11

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

ltem		AJ71LR21 A1SJ71LR21	Specifications AJ71QLR21 A1SJ71QLR21	QJ71BR11	Compatibility	Precautions for replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points		16384 points ^{*1}	0	
network	LW	8192 points		16384 points ^{*1}	0	
Maximum number of link points per station			<remote i="" master="" o="" remote="" station="" →=""> × {(LY + LB) ÷ 8 + (2 × LW)}≦ 1600 bytes <remote i="" master="" o="" remote="" station="" →="">^{*2} {(LY + LB) ÷ 8 + (2 × LW)}≦ 1600 bytes <multiplexed master="" multiplexed<br="" remote="" station="" →="">remote sub-master station></multiplexed></remote></remote>		0	
Communication spe	ed	10Mbps			0	
Communication me	thod	Token ring method		Token bus method	Δ	Nothing to be noted though the communication method differs.
Synchronous type		Frame synchronization	method		0	
Encoding method		Manchester code			0	
Transmission method		Duplex loop		Single bus	Δ	The loopback function and multiplex transmission function cannot be used on a coaxial bus system. To use the functions, using an optical loop system is recommended.
Transmission forma	ıt	HDLC standards (frame	e format)		0	
Maximum number of networks		255 (Total number of PLC to PLC networks and remote I/O networks)	C to PLC networks 239 (Total number of PLC to remote I/O remote I/O networks)		Δ	Network No.240 to No.250 cannot be set. Alternate them with unused network No.
Number of stations connected in one network		65 stations (Remote master station: 1, remote I/O station: 64)		33 stations (Remote master station: 1, remote I/O station: 32) ^{*3}	Δ	Normal stations up to 32 stations can be used on a coaxial bus system. To use 33 normal stations or more, using an optical loop system is recommended.
Applicable cable		3C-2V, 5C-2V, 5C-FB			0	
Overall distance		3C-2V: 19.2km 5C-2V, 5C-FB: 30km		3C-2V: 300m 5C-2V, 5C-FB: 500m	Δ	Either use an A6BR10/A6BR10- DC type repeater unit, or use an optical loop system.
Distance between s	tations	3C-2V: 300m 5C-2V, 5C-FB: 500m			0	
Error control system $CRC(X^{16} + X^{12} + X^5 + 1)$ and retry by a			/er	0		
RAS function		 Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 		 Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 	Δ	The loopback function cannot be used on a coaxial bus system. To use the loopback function, using an optical loop system is recommended.
Transient transmission		 Monitor, program up, peripheral device Dedicated link instru Available for Intellige (only AJ71QLR21/A²) 	ction ent function module 1SJ71QLR21)	 1:1 communication (Monitor, program up/ download) Dedicated link instruction 	Δ	For comparison of dedicated link instruction, refer to Section 5.1.7.
Number of occupied I/O 32		32 points per slot (I/O a points)	assignment: special 32	32 points per slot (I/O assignment: intelli. 32 points)	0	

*1 Remote master station → remote sub-master station, remote I/O station: 8192 points Remote sub-master station, remote I/O station → remote master station: 8192 points

- *2 The remote master station includes the multiplexed remote master station and multiplexed remote sub-master station.
- *3 For the multiplexed remote I/O network, one station in 32 stations of the remote I/O station is used for the multiplexed remote sub-master station.

5) Performance comparison of AJ71BR11/A1SJ71BR11/AJ71QBR11/A1SJ71QBR11 and QJ71BR11

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

			Specifications			
ltem		AJ71BR11 AJ71QBR11 QJ71BR11 A1SJ71BR11 A1SJ71QBR11 QJ71BR11			Compatibility	Precautions for replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points		16384 points ^{*1}	0	
network	LW	8192 points		16384 points ^{*1}	0	
Maximum number of link points per station		<Remote master station → remote I/O station> $\{(LY + LB) \div 8 + (2 \times LW)\} \le 1600$ bytes <Remote I/O station → remote master station> $\{(LY + LB) \div 8 + (2 \times LW)\} \le 1600$ bytes	$ \begin{array}{l} < \text{Remote master station} \rightarrow \text{remote I/O station} > ^{*2} \\ \{(\text{LY} + \text{LB}) \div 8 + (2 \times \text{LW})\} &\leq 1600 \text{ bytes} \\ < \text{Remote I/O station} \rightarrow \text{remote master station} > ^{*2} \\ \{(\text{LY} + \text{LB}) \div 8 + (2 \times \text{LW})\} &\leq 1600 \text{ bytes} \\ < \text{Multiplexed remote master station} \rightarrow \text{multiplexed remote sub-master station} \\ \{(\text{LY} + \text{LB}) \div 8 + (2 \times \text{LW})\} &\leq 2000 \text{ bytes} \\ \end{array} $		0	
Communication spe	eed	10Mbps			0	
Communication me	ethod	Token bus method	od			
Synchronous type	ynchronous type Frame synchronization method			0		
Encoding method	ncoding method Manchester code			0		
Transmission meth	od	Single bus			0	
Transmission forma	at	HDLC standards (fram	e format)		0	
Maximum number on networks	Maximum number of 255 (Total number of PLC to PLC networks 239 (Total number of PLC to PLC networks and		LC to PLC networks and	Δ	Network No.240 to No.250 cannot be set. Alternate them with unused network No.	
Number of stations in one network	connected	33 stations (Remote m	aster station: 1, remote	I/O station: 32) ^{*3}	0	
Applicable cable		3C-2V, 5C-2V, 5C-FB			0	
Overall distance		3C-2V: 300m 5C-2V, 5C-FB: 500m			0	
Distance between s	stations	3C-2V: 300m 5C-2V, 5C-FB: 500m			0	
Error control system	n	CRC(X ¹⁶ + X ¹² + X ⁵ + 1) and retry by a time over			0	
RAS function		 Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 		0		
• Monitor, program up/download with peripheral device • 1:1 communication (Monitor, program up/ download) • Dedicated link instruction • Available for Intelligent function module (only AJ71QBR11/AISJ71QBR11) • 1:1 communication (Monitor, program up/ download)		(Monitor, program up/ download) • Dedicated link instruction	Δ	For comparison of dedicated link instruction, refer to Section 5.1.7.		
Number of occupie points	d I/O	32 points per slot (I/O a points)	assignment: special 32	32 points per slot (I/O assignment: intelli. 32 points)	0	

*1 Remote master station → remote sub-master station, remote I/O station: 8192 points Remote sub-master station, remote I/O station → remote master station: 8192 points

*2 The remote master station includes the multiplexed remote master station and multiplexed remote sub-master station.

*3 For the multiplexed remote I/O network, one station in 32 stations of the remote I/O station is used for the multiplexed remote sub-master station.

(b) Performance comparison of remote I/O stations

5

1) Comparison between AJ72LP25/AJ72QLP25/A1SJ72QLP25 and QJ72LP25-25

Item		Specifications				
		AJ72LP25	AJ72QLP25 A1SJ72QLP25	QJ72LP25-25	Compatibility	Precautions for replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points		16384 points ^{*1}	0	
network	LW	8192 points		16384 points ^{*1}	0	
Maximum number of link points per station		$ \begin{array}{l lllllllllllllllllllllllllllllllllll$)} \leq 1600 bytes emote master station> ^{*2}	0	
Maximum number of points per remote I/		1600 bytes X + Y \leq 2048 points	$X + Y \leq 2048 \text{ points}^{*4}$	$X + Y \leq 4096 \text{ points}^{*3}$	Δ	
Communication spe	ed	10Mbps		25Mbps/10Mbps	0	
Communication me	thod	Token ring method			0	
Synchronous type		Frame synchronization meth	od		0	
Encoding method		NRZI coding (Non Return to	Zero Inverted)		0	
Transmission metho	bc	Duplex loop			0	
Transmission forma	ıt	HDLC standards (frame format)			0	
Maximum number of networks		255 (Total number of PLC to PLC networks and remote I/ O networks) 239 (Total number of PLC remote I/O networks)		C to PLC networks and	Δ	Network No.240 to No.250 cannot be set. Alternate them with unused network No.
Number of stations connected in one network		65 stations (Remote master station: 1, remote I/O station: 64) ^{*5}			0	
Applicable cable		SI optical cable, H-PCF optical cable, Broad-band H-PCF optical cable, and QSI optical cable			0	
Overall distance		30km			0	
Distance between stations		SI optical cable: 500m, H-PCF optical cable: 1km, Broad-band H-PCF optical cable: 1km, and QSI optical cable: 1km		<10Mbps> SI optical cable: 500m, H-PCF optical cable: 1km, Broad-band H- PCF optical cable: 1km, and QSI optical cable: 1km	0	
				<25Mbps> SI optical cable: 200m, H-PCF optical cable: 400m, Broad-band H- PCF optical cable: 1km, and QSI optical cable: 1km	Δ	Use 10 Mbps when using SI optical cable and HPCF optical cable.
Error control system	n	CRC (X ¹⁶ +X ¹² +X ⁵ +1) and retry by a time over		0		
RAS function		 Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 			0	
Transient transmission		 Monitor, program up/download with peripheral device Dedicated link instruction Available for Intelligent function module (only AJ72QLP25/A1SJ72QLP25) 		 1:1 communication (Monitor, program up/ download) Dedicated link instruction 	Δ	For comparison of dedicated link instruction, refer to Section 5.1.7.

- *1 Remote master station \rightarrow remote sub-master station, remote I/O station: 8192 points Remote sub-master station, remote I/O station \rightarrow remote master station: 8192 points
- *2 The remote master station includes the multiplexed remote master station and multiplexed remote sub-master station.
- *3 When the X/Y numbers are duplicate, one side only is taken into consideration.
- *4 For the A1SJ72QLP25, the maximum number of I/O points per remote I/O station is "X + Y \leq 1024 points".
- *5 For the multiplexed remote I/O network, one station in 64 stations of the remote I/O station is used for the multiplexed remote sub-master station.

2) Performance comparison of AJ72LP25G/AJ72QLP25G and QJ72LP25G

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

ltem		Specifications			0	Descentions for multi-
		AJ72LP25	AJ72QLP25G	QJ72LP25G	Compatibility	Precautions for replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points		16384 points ^{*1}	0	
	LW	8192 points 16384 points ^{*1}		0		
Maximum number of link points per station		<remote <math="" master="" station="">\rightarrow remote I/O station>^{*2} {(LY + LB) \div 8 + (2 × LW)}\leq 1600 bytes <remote <math="" i="" o="" station="">\rightarrow remote master station>^{*2}</remote></remote>			0	
		{(LY + LB) ÷ 8 + (2 × LW)}≦ 1600 bytes				
Maximum number of I/O points per remote I/O station				$X + Y \leq 4096 \text{ points}^{*3}$	Δ	
Communication sp	eed	10Mbps			0	
Communication me	ethod	Token ring method			0	
Synchronous type		Frame synchronization method			0	
Encoding method		NRZI coding (Non Return to Zero Inverted)			0	
Transmission method		Duplex loop			0	
Transmission format		HDLC standards (frame format)			0	
Maximum number of networks		255 (Total number of PLC to PLC networks and remote I/ O networks) 239 (Total number of PLC to PLC networks and remote I/O networks)			Δ	Network No.240 to No.250 cannot be set. Alternate them with unused network No.
Number of stations connected in one network		65 stations (Remote master station: 1, remote I/O station: 64)*4			0	
Applicable cable		GI optical cable			0	
Overall distance		30km			0	
Distance between stations		GI optical cable: 2km			0	
Error control system		CRC (X ¹⁶ +X ¹² +X ⁵ +1) and retry by a time over			0	
RAS function		 Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 			0	
Transient transmission		 Monitor, program up/down device Dedicated link instruction Available for Intelligent fun AJ72QLP25G) 		 1:1 communication (Monitor, program up/ download) Dedicated link instruction 	Δ	For comparison of dedicated link instruction, refer to Section 5.1.7.

*1 Remote master station \rightarrow remote sub-master station, remote I/O station: 8192 points

Remote sub-master station, remote I/O station \rightarrow remote master station: 8192 points

*2 The remote master station includes the multiplexed remote master station and multiplexed remote sub-master station.

*3 When the X/Y numbers are duplicate, one side only is taken into consideration.

*4 For the multiplexed remote I/O network, one station in 64 stations of the remote I/O station is used for the multiplexed remote sub-master station.

3) Performance comparison of AJ72LR25/AJ72QLR25/A1SJ72QLR25 and QJ72BR15

O : Compatible, △: Partial change required, × : Incompatible

		Specifications				
ltem		AJ72LR25	AJ72QLR25 A1SJ72QLR25	QJ72BR15	Compatibility	Precautions for replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points		16384 points ^{*1}	0	
network	LW	8192 points		16384 points ^{*1}	0	
Maximum number of link points per station		<remote <math="" master="" station="">\rightarrow remote I/O station>*2 {(LY + LB) \div 8 + (2 × LW)}\leq 1600 bytes <remote <math="" i="" o="" station="">\rightarrow remote master station>*2 {(LY + LB) \div 8 + (2 × LW)}\leq 1600 bytes</remote></remote>			0	
Maximum number of points per remote la		$X + Y \leq 2048$ points $X + Y \leq 2048$ points $X + Y \leq 4096$ points		$X + Y \leq 4096 \text{ points}^{*3}$	Δ	
Communication spe	eed	10Mbps			0	
Communication method		Token ring method		Token bus method	Δ	Nothing to be noted though the communication method differs.
Synchronous type		Frame synchronization method			0	
Encoding method		Manchester code			0	
Transmission method		Duplex loop		Single bus	Δ	The loopback function and multiplex transmission function cannot be used on a coaxial bus system. To use the functions, using an optical loop system is recommended.
Transmission format		HDLC standards (frame format)			0	
Maximum number of networks		255 (Total number of PLC to PLC networks 239 (Total number of PL and remote I/O remote I/O networks) networks)		LC to PLC networks and	Δ	Network No.240 to No.250 cannot be set. Alternate them with unused network No.
Number of stations connected in one network		65 stations (Remote master station: 1, remote		33 stations (Remote master station: 1, remote I/O station: 32) ^{*6}	Δ	Remote I/O stations up to 32 stations can be used on a coaxial bus system. To use 33 remote I/O stations or more, using an optical loop system is recommended.
Applicable cable		3C-2V, 5C-2V, 5C-FB			0	
Overall distance				3C-2V: 300m 5C-2V, 5C-FB: 500m		Either use an A6BR10/A6BR10- DC type repeater unit, or use an optical loop system.
Distance between stations		3C-2V: 300m 5C-2V, 5C-FB: 500m			0	
Error control system		$CRC(X^{16} + X^{12} + X^5 + 1)$ and retry by a time over			0	
RAS function		 Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 		 Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 	Δ	The loopback function cannot be used on a coaxial bus system. To use the loopback function, using an optical loop system is recommended.
Transient transmission		 Monitor, program up/download with peripheral device Dedicated link instruction 		 1:1 communication (Monitor, program up/ download) Dedicated link instruction 	Δ	For comparison of dedicated link instruction, refer to Section 5.1.7.

*1 Remote master station → remote sub-master station, remote I/O station: 8192 points Remote sub-master station, remote I/O station → remote master station: 8192 points

*2 The remote master station includes the multiplexed remote master station and multiplexed remote sub-master station.

*3 When the X/Y numbers are duplicate, one side only is taken into consideration.

*4 For the A1SJ72QLP25, the maximum number of I/O points per remote I/O station is "X + Y \leq 1024 points".

*5 For the multiplexed remote I/O network, one station in 64 stations of the remote I/O station is used for the multiplexed remote sub-master station.

*6 For the multiplexed remote I/O network, one station in 32 stations of the remote I/O station is used for the multiplexed remote sub-master station.

4) Performance comparison of AJ72BR15/AJ72QBR15/A1SJ72QBR15 and QJ72BR15

○ · Compatible	△: Partial change	required x	· Incompatible
O . Compatible,		required, ~	. incompatible

			Specifications			
ltem		AJ72BR15	AJ72QBR15 A1SJ72QBR15	QJ72BR15	Compatibility	Precautions for replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points		16384 points ^{*1}	0	
network	LW	8192 points		16384 points ^{*1}	0	
Maximum number of points per station	of link	${(LY + LB) \div 8 + (2 \times LW)}$	remote master station>		0	
Maximum number of points per remote la		$X + Y \leq 2048 \text{ points}$		$X + Y \leq 4096 \text{ points}^{*3}$	Δ	
Communication spe	eed	10Mbps			0	
Communication me	ethod	Token bus method			0	
Synchronous type		Frame synchronization	method		0	
Encoding method		Manchester code			0	
Transmission meth	od	Single bus			0	
Transmission forma	at	HDLC standards (frame	e format)		0	
Maximum number on networks	of	255 (Total number of PLC to PLC networks and remote I/O networks)			Δ	Network No.240 to No.250 cannot be set. Alternate them with unused network No.
Number of stations in one network	connected	33 stations (Remote m	aster station: 1, remote	I/O station: 32) ^{*5}	0	
Applicable cable		3C-2V, 5C-2V, 5C-FB			0	
Overall distance		3C-2V: 300m 5C-2V, 5C-FB: 500m			0	
Distance between s	stations	3C-2V: 300m 5C-2V, 5C-FB: 500m		0		
Error control syster	n	CRC (X ¹⁶ +X ¹² +X ⁵ +1) a	and retry by a time over		0	
RAS function	 S function Loop-back function due to error detection or broken cable Diagnostic function for checking local link lines Abnormal detection using link special relays and link special registers Network monitoring and various diagnostic functions 		0			
Transient transmission		 Monitor, program up/ peripheral device Dedicated link instruct Available for Intellige (only AJ71QBR15/A) 	ction nt function module	 1:1 communication (Monitor, program up/ download) Dedicated link instruction 	Δ	For comparison of dedicated link instruction, refer to Section 5.1.7.

*1 Remote master station \rightarrow remote sub-master station, remote I/O station: 8192 points

Remote sub-master station, remote I/O station \rightarrow remote master station: 8192 points

*2 The remote master station includes the multiplexed remote master station and multiplexed remote sub-master station.

*3 When the X/Y numbers are duplicate, one side only is taken into consideration.

*4 For the A1SJ72QBR15, the maximum number of I/O points per remote I/O station is "X + Y \leq 1024 points".

*5 For the multiplexed remote I/O network, one station in 32 stations of the remote I/O station is used for the multiplexed remote sub-master station.

(2) Cable performance comparisons

(a) Optical fiber cable

1) Overall distance

The overall distance (30km) does not differ according to the optical fiber cable.

2) Distance between stations

• SI optical fiber cable

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

	Speci	fications				
	A/AnS/QnA/QnAS Q series		Compet	Precautions for		
Туре	series	MELSECNET/H module				
	MELSECNET/10 module	e (optical loop)		ibility	replacement	
	(optical loop)	10Mpbs	25Mbps			
SI optical fiber cable	500m	500m	200m	Δ	Refer to ^{*1} below.	
H-PCF optical fiber cable	1km	1km	400m	Δ	Refer to ^{*1} below.	
Broad-band H-PCF optical	1km	1km		0		
fiber cable		INII		0		

*1 When the distance between stations do not satisfy with specifications of MELSECNET/H, use at 10 Mbps of communication speed, change the type of optical fiber cable or set the gateway station on the existing cable.

GI optical fiber cable

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

	Specific			
Turne	A/AnS/QnA/QnAS series Q series		Compat-	Precautions for
Туре	MELSECNET/10 module MELSECNET/H m		ibility	replacement
	(optical loop)	(optical loop)		
GI optical fiber cable	2km	2km	0	

(3) Coaxial cable

(a) Overall distance

O : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

	Specifications				
Tuno	A/AnS/QnA/QnAS series		Q series	Compat-	Precautions for
Туре	MELSECNET/10 module		MELSECNET/H module	ibility	replacement
	Coaxial bus	Coaxial loop	(Coaxial bus)		
3C-2V	300m	19.2km	300m	Δ	Refer to ^{*1} below.
5C-2V	500m	30km	500m	Δ	Refer to ^{*1} below.
5C-FB	500m	30km	500m	Δ	Refer to ^{*1} below.

*1 When the overall distance does not satisfy the MELSECNET/H specifications, either use an A6BR10/A6BR10-DC type repeater unit in the network, or configure a separate network.

(b) Distance between stations

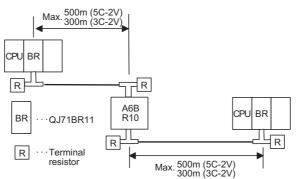
 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

	Specifications				
Turne	A/AnS/QnA/QnAS series		Q series	Compat-	Precautions for
Туре	MELSECNET/10 module		MELSECNET/H module	ibility	replacement
	Coaxial bus	Coaxial loop	(Coaxial bus)		
3C-2V	300m	300m	300m	0	
5C-2V	500m	500m	500m	0	
5C-FB	500m	500m	500m	0	

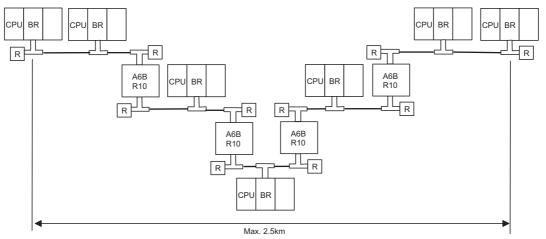
The following shows the extension method when a repeater unit for the A6BR10/A6BR10-DC type MELSECNET/10 coaxial bus system is used.

For details, refer to the Repeater Unit for the MELSECNET/10 Coaxial Bus System type A6BR10/ A6BR10-DC User's Manual (IB-66499).

(1) The distance between stations of 500m (5C-2V) and 300m (3C-2V) can be extended.



(2) Up to four repeater units can be used in a single network.^{*2} The overall distance can be extended to a maximum distance of 2.5 km.



*2 It is necessary to add terminal resistor A6RCON-R75 (sold separately).

5.1.3 Functional Comparisons

(1) A/AnS series

5

		Description		Tuai change required, * . Incompatible	
	ltem	A/AnS series Q series MELSECNET/10 module ^{*1} MELSECNET/H module ^{*2}	Compat- ibility	Precautions for replacement	
liction	Communicating with I/O module	Performs communications with the I/O module of the remote I/O station using X/Y (LX/LY).			
Cyclic transfer function	Communicating with special function module	Performs communications with the special function module of the remote I/O station using X/Y (LX/LY) and B/W (LB/LW).	0		
	Data link stop/restart function	Stops cyclic transmission temporarily with GX Works2 or GX Developer.	0		
Transient transmission function	N:N communication function	Communicates only when communication requests are issued between each stations. (Communication using dedicated link instruction and GX Works2/GX Developer.)	Δ	ZNFR instruction and ZNTO instruction cannot be used. Change them to REMFR instruction and REMTO instruction.	
	Routing function	Performs transient transmission to other stations of which network No. are different.	0		
Res	erved station function	Treats the stations, which are to be connected in the future, as reserved stations. By specifying the stations, which are not connected, as reserved stations, communication error does not occur.	0		
I/O	assignment function	Sets the module configuration of the remote I/O station.		Set the function with the PLC parameter of the remote I/O module.	
	Constant link scan function	Keeps link scan time constant.	0		
S	Multiplex transmission function	Performs high-speed communication using duplex transmission path (forward loop/reverse loop).	0		
Extension functions	Return sequence station number setting function	Sets the number of stations that can return to system during one link scan.	0		
	ZNFR/ZNTO instruction access number setting function	Sets the number of transient transmissions (a total of entire one network) that can be executed during one link scan.		The number of transient transmissions differs depending on the total number of slave stations. The number of transient transmissions per slave station is equal.	

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

*1 Use GX Developer.

*2 Use GX Works2 or GX Developer.

(To next page)

			O : Compa	atible, \triangle : Pa	rtial change required, × : Incompatible
		Descr	iption	Compat	
	Item	A/AnS series	Q series	Compat- ibility	Precautions for replacement
		MELSECNET/10 module	MELSECNET/H module	ising	
	Automatic return	Returns the station disconne	cted from data link to the		
	function	system when it goes to norm	al status and restarts data	0	
		link.			
		Keeps normal operation betw	veen operable stations by		
	Loopback function	disconnecting faulty area at e	error occurrence such as	0	
		cable break.			
	Station detach	Keeps normal operation between operable stations			
	function	except faulty stations and sta	ations switched off.	0	
RAS function	Diagnostic function	Checks line conditions of the conditions of the	network and setting	Δ	 Substitute the forward loop/ reverse loop test for the station-to-station test. Set diagnostic items for station-to-station test and forward loop/reverse loop test in GX Works2 or GX Developer network parameters.
	Blown fuse error and input/output verification error check disabled function	Sets the error check of the blown fuse error and the input/ output verification error.		Δ	Set the function with the PLC parameter of the remote I/O module.

(2) Comparison with QnA/QnAS series

5

O : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

		Descr	iption	0		
	Item	QnA/QnAS series	Q series	Compat-	Precautions for replacement	
		MELSECNET/10 module ^{*1}	MELSECNET/H module ^{*2}	ibility		
	Communicating with	Performs communications w	ith the I/O module of the	0		
	I/O module	remote I/O station using X/Y	(LX/LY).	0		
on	Communicating with	Performs communications w	ith the special function			
function	special function	module of the remote I/O sta	tion using X/Y (LX/LY) and	0		
er fu	module	B/W (LB/LW).				
transfer	Cyclic transmission	Stops cyclic transmission ten	nporarily with GX Works2 or	0		
trar	stop/restart	GX Developer.		0		
Cyclic	Direct access to the	Reads/writes directly from/to	link device of the network	0		
Š	link devices	module on the sequence program.		0		
	Default of network	Eliminates the refresh parameters setting by using		0		
	refresh parameter	default values of refresh para	ameters.	0		

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\bigcirc : Compatible, \triangle : Partial change required, × : Incom				
	ltem	Description QnA/QnAS series Q series MELSECNET/10 module ^{*1} MELSECNET/H module ^{*2}	Compat- ibility	Precautions for replacement
_	Transient transmission function	Communicates only when communication requests are issued between each stations. (Communication using dedicated link instruction and GX Works2/GX Developer.)	0	
unctior	Routing function	Performs transient transmission to other stations of which network No. are different.	0	
Transient transmission function	Dedicated link instruction	Performs communications with other station at desired timing using dedicated link instruction.	Δ	ZNFR instruction and ZNTO instruction cannot be used. Change them to REMFR instruction and REMTO instruction.
ransie	Specification of default network	Processes the requests that cannot specify network No. of access path.	0	
F	Clock setup for stations on network with peripheral device	Performs clock setup to CPU modules connected to the network with GX Works2 or GX Developer.	0	
Mult	tiplex transmission	Performs high-speed communication using duplex transmission path (forward loop/reverse loop).	0	
	erved station function	Treats the stations, which are to be connected in the future, as reserved stations. By specifying the stations, which are not connected, as reserved stations, communication error does not occur.	0	
Multiplex master system		Allows the remote sub-master station to automatically control the remote I/O stations in the case of the multiplexed remote master station failure.	Δ	 The function is available only when mounted on Q12PH/ Q25PH/Q12PRH/Q25PRH CPU. The multiplexed remote master station and the multiplexed remote sub- master station cannot be mounted on the same programmable controller CPU. Mount on separate programmable controller CPU.
Para	allel master system	Sets two remote master stations in the same network.	Δ	Cannot be configured on the remote I/O network of MELSECNET/H. Configure two networks.
Settings of remote I/O station output status in the case of system failure with programmable controller CPU error		Retains the output status of the remote I/O station in the case of the remote master station error.	Δ	Set the function with the PLC parameter of the remote I/O module.

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

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MELSEC

Description			iption		
	Item	QnA/QnAS series	Q series	Compat-	Precautions for replacement
		MELSECNET/10 module ^{*1}	MELSECNET/H module ^{*2}	ibility	
	Automatic return function	Returns the station disconne system when it goes to norm link.		0	
	Loopback function	Keeps normal operation betw disconnecting faulty area at o cable break.		0	
	Station detach function	Keeps normal operation betw except faulty stations and sta		0	
	Transient transmission available even if programmable controller CPU is in error	Checks the errors for CPU m occurs, via network from GX		0	
RAS function	Checking the transient transmission abnormal detection time	Checks error completion time network number and abnorm of transient transmission.		0	
	Diagnostic function	Checks line conditions of the conditions of the conditions of the module.	e network and setting	Δ	 Substitute the forward loop/ reverse loop test for the station-to-station test. Set diagnostic items for station-to-station test and forward loop/reverse loop test in GX Works2 or GX Developer network parameters.
	Blown fuse error and input/output verification error check disabled function	Sets the error check of the bl output verification error.	own fuse error and the input/	Δ	Set the function with the PLC parameter of the remote I/O module.

*1 Use GX Developer.

*2 Use GX Works2 or GX Developer.

5.1.4 Switch setting comparisons

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(1) Switch settings comparisons of remote master station

○ : Compatible. △:	Partial change required	d. ×	< :	Incompatible
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	Description				
Switch name	A/AnS/QnA/QnAS series MELSECNET/10 module	Q series MELSECNET/H module	Compat- ibility	Precautions for replacement	
Network No. setting switch	Sets the network No.	-	Δ	 Set in GX Works2 or GX Developer network parameters. Network No.240 to No.255 cannot be set. Alternate them with unused network Nos. 	
Mode setting switch	Sets the mode. <setting range=""> 0: Online 2: Offline 3: Loop test (forward loop) 4: Loop test (reverse loop) 5: Station-to-station test (master station) 6: Station-to-station test (slave station) 7: Self-loopback test 8: Internal self-loopback test 9: H/W test D: Network No. check E: Group No. check^{*1} F: Station No. check</setting>	[Using QJ71LP21-25 and QJ71LP21S-25] Sets the mode. <setting range=""> 0: Online (10Mbps) 1: Self-loopback test (10Mbps) 2: Internal self-loopback test (10Mbps) 3: Hardware test (10Mbps) 4: Online (25Mbps) 5: Self-loopback test (25Mbps) 6: Internal self-loopback test (25Mbps) 7: Hardware test (25Mbps) [Using QJ71LP21G and QJ71BR11] Sets the mode. <setting range=""> 0: Online 1: Self-loopback test 2: Internal self-loopback test 3: Hardware test</setting></setting>	Δ	 Set offline and loop test in GX Works2 or GX Developer network parameters. Substitute the forward loop/ reverse loop test for the station- to-station test. Check network No., group No. and station No. in GX Works2 or GX Developer network diagnostics (host information). 	
Condition setting switch	Sets the operation conditions.	-	Δ	Set in GX Works2 or GX Developer network parameters.	

*1 Group No. check is not used on the remote I/O network.

(2) Remote I/O station switch settings comparisons

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

	Description			
Switch name	A/AnS/QnA/QnAS series	Q series	Compat-	Precautions for replacement
	MELSECNET/10 module Sets the mode.	MELSECNET/H module [Using QJ72LP25-25] Sets the mode. <setting range=""> 0: Online (10Mbps) 1: Self-loopback test (10Mbps) 2: Internal self-loopback test (10Mbps)</setting>	ibility	
Mode setting switch	<setting range=""> 0: Online 2: Offline 3: Loop test (forward loop) 4: Loop test (reverse loop) 5: Station-to-station test (master station) 6: Station-to-station test (slave station) 7: Self-loopback test 8: Internal self-loopback test 9: H/W test F: Station No. check</setting>	 3: Hardware test (10Mbps) 4: Online (25Mbps) 5: Self-loopback test (25Mbps) 6: Internal self-loopback test (25Mbps) 7: Hardware test (25Mbps) 8: Online (MELSECNET/10 mode)*1 [Using QJ72LP25G and QJ72BR15] Sets the mode. <setting range=""></setting> 0: Online 1: Self-loopback test 2: Internal self-loopback test 3: Hardware test 8: Online (MELSECNET/10 mode)*1 		 Set offline and loop test in GX Works2 or GX Developer network parameters. Substitute the forward loop/ reverse loop test for the station- to-station test. Check network No., group No. and station No. in GX Works2 o GX Developer network diagnostics (host information).
Condition setting switch	Sets the operation conditions.	-	Δ	Nothing to be noted for the MELSECNET/H.

*1 Modules with a serial number (first five digits) of "15012" or later supports Online (MELSECNET/10 mode).

5.1.5 Parameter comparisons

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(1) Parameter of remote master station

Parameter	Description			Compat-		
name	A/AnS/QnA/QnAS series		Q series		ibility	Precautions for replacement
name	MELSECNE	T/10 module	MELSECNET/H module		ionity	
	Network type		Network type		0	
	Starting I/O No.		Starting I/O No.		0	
	Network No.		Network No.		0	
	Total number of	(slave) stations	Total number of	(slave) stations	0	
		_	Mode			Set the mode in GX Works2 or GX
		-	Mode		Δ	Developer network parameters.
		Monitoring time		Monitoring time	0	
		BW setting		BW setting	0	
		XY setting		XY setting	0	
Network	Network range	Reserved	Network range	Reserved		
parameter	assignment	station	assignment	station	0	
	(common	designation	(common	designation		
	parameter)	parameter) I/O assignment pa	parameter)	_		Set with the PLC parameter of
		setting			Δ	each remote I/O station.
		Supplemental		Supplemental	0	
		settings		settings	0	
	Refresh parame	Refresh parameters		eters	0	
	Routing parame	ters	Routing parame	eters	0	
	Valid module du	iring other	Valid module du	iring other	0	
	station access		station access		0	

(2) Parameter of multiplexed remote master station^{*1}

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○ · Compatible	∧ · Partial	change required,	×·	Incompatible
O. Compatible,		change required,	~ .	incompatible

Parameter	Description			Compat-		
name	QnA/QnAS series MELSECNET/10 module			eries T/H module	ibility	Precautions for replacement
	Network type		Network type		0	
	Starting I/O No.		Starting I/O No.		0	
	Network No.		Network No.		0	
	Total number of	(slave) stations	Total number of	(slave) stations	0	
	-		Group No.		Δ	The group No. is not used in the remote I/O network. Set to [0].
	-		Mode		Δ	Set the mode in GX Works2 or GX Developer network parameters.
		Monitoring time		Monitoring time	0	
		BW setting		BW setting	0	
Network		XY setting		XY setting	0	
parameter	Network range assignment (common	Reserved station designation	Network range assignment (common	Reserved station designation	0	
		Remote sub- master station		Remote sub- master station	0	
	parameter)	specification	parameter)	specification	-	
		I/O assignment setting		-	Δ	Set with the PLC parameter of each remote I/O station.
		Supplemental settings		Supplemental settings	0	
	Refresh parame	eters	Refresh parame	eters	0	
	Routing parame	ters	Routing parame	ters	0	

*1 The multiplexed remote master station is the station type of the multiplex master system.

Only the following CPU modules support the multiplex master system.

Process CPU

Redundant CPU

(3) Parameter of multiplexed remote sub-master station^{*1}

			() : Co	mpatible, \triangle	Partial change required, × : Incompatible	
Parameter		Description				
name	QnA/QnAS series MELSECNET/10 module		eries ET/H module	Compat- ibility	Precautions for replacement	
	Network type	Network type		0		
	Starting I/O No.	Starting I/O No.		0		
	Network No.	Network No.		0		
	-	Total number of	Total number of (slave) stations		New parameter of MELSECNET/H (To enable the multiplexed remote sub-master station to control the remote I/O station, the setting is required.)	
	-	Group No. Mode		Δ	The group No. is not used in the remote I/O network. Set to [0].	
	-			Δ	Set the mode in GX Works2 or GX Developer network parameters.	
Network			Monitoring time	Δ		
parameter			BW setting	Δ		
			XY setting	\triangle		
		Network range	Reserved		New parameter of MELSECNET/H	
		assignment	station	\triangle	(To enable the multiplexed remote	
		(common	designation		sub-master station to control the	
		parameter)	Remote sub-		remote I/O station, the setting is	
			master station	Δ	required.)	
			specification			
			Supplemental settings	Δ		
	Refresh parameters	Refresh parame	eters	0		
	Routing parameters	Routing parame	eters	0		
	Valid module during other station access	Valid module du station access	Valid module during other			

*1 The multiplexed remote sub-master station is the station type of the multiplex master system. Only the following CPU modules support the multiplex master system.

Process CPU

Redundant CPU

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(4) Parameter of parallel remote master station

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		Descri			
Parameter name		AS series T/10 module	Q series MELSECNET/H module	Compat- ibility	Precautions for replacement
	Network type			Δ	
	Starting I/O No.			Δ	
	Network No.			Δ	
	Total number of	(slave) stations		Δ	
		Monitoring time		Δ	
		BW setting		Δ	
		XY setting		Δ	
	Network range assignment (common parameter)	Sub-BW setting		Δ	
		Sub-XY setting		Δ	
		Remote sub-			Cannot be configured on the
Network		master station		\triangle	remote I/O network of
parameter		specification	-		MELSECNET/H.
p		Reserved		Δ	Configure two networks.
		station			
		designation			
		I/O assignment			
		setting			
		Supplemental		\triangle	
		settings			
	Refresh parame			Δ	
	Routing parame			Δ	
	Valid module du	iring other		Δ	
	station access				

(5) Parameter of parallel remote sub-master station

O : Compatible, \triangle : Partial change required, × : Incompatible					
Parameter	Descr	iption	Compat-		
name	QnA/QnAS series	Q series	ibility	Precautions for replacement	
name	MELSECNET/10 module	MELSECNET/H module	ionity		
	Network type		Δ		
	Starting I/O No.		Δ	Cannot be configured on the	
Network	Network No.		Δ	remote I/O network of	
parameter	Refresh parameters	-	Δ	MELSECNET/H.	
parameter	Routing parameters		Δ	Configure two networks.	
	Valid module during other			Compute two networks.	
	station access		Δ		

(6) Parameter of remote I/O station

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When mounting the intelligent function module on the remote I/O station, set the parameter. When mounting only I/O modules, the operation is available even if the parameter is not set. (It is operated with default value.)

O: Compatible, ∆: Partial	change required,	× : Incompatible
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Parameter	Desci	ription	Compat-		
name	A/AnS/QnA/QnAS series	Q series	ibility	Precautions for replacement	
name	MELSECNET/10 module	MELSECNET/H module	lionity		
				New parameter of MELSECNET/H	
	-	PLC system setting	\bigtriangleup	(The number of empty slots, etc. is	
				set.)	
				New parameter of MELSECNET/H	
	-	PLC RAS setting	\triangle	(The operation mode and error	
PLC				check at an error are set.)	
parameters				New parameter of MELSECNET/H	
	-	Operation setting	\bigtriangleup	(The parameters for transmitting	
				between devices are set.)	
		I/O assignment setting	Δ	New parameter of MELSECNET/H	
	-			(The I/O assignment of remote I/O	
				station, etc. is set.)	
		Ethernet	Δ	New parameter of MELSECNET/H	
				(The network parameter of Ethernet module mounted on the	
Network					
parameter	-			remote I/O station is set.) New parameter of MELSECNET/H	
parameter				(The network parameter of CC-	
		CC-Link	\bigtriangleup	Link module mounted on the	
				remote I/O station is set.)	
				New parameter of MELSECNET/H	
				(The remote password of Ethernet	
Remote	_	Remote password setting		module and serial communication	
password		Temole password setting		module, etc. mounted on the	
				remote I/O station is set.)	
		1	1		

5.1.6 Program comparisons

(1) Comparison of link special relay (SB)/link special register (SW)

The table below shows only link special relay (SB) and link special register (SW) to be used in interlock program.

The following device name and device No. are described in link device of internal MELSECNET/10 or MELSECNET/H module.

Changing sequence program should be performed after checking the refreshed device of link device in refresh parameters.

(a) Link special relay (SB)

\bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

	Nun	Compat	Precautions for	
Item	A/AnS/QnA/QnAS series MELSECNET/10 module	Q series MELSECNET/H module	Compat- ibility	replacement
Module status	SB0020	SB0020	0	
Baton pass status (host)	SB0047	SB0047	0	
Data link status of each station	SB0049	SB0049	0	
Baton pass status of each station	SB0070	SB0070	0	
Cyclic transmission status of each station	SB0074	SB0074	0	

(b) Link special register (SW)

O : Compatible, △: Partial change required, × : Incompatible

	Nun	Compat-	Precautions for	
Item	A/AnS/QnA/QnAS series MELSECNET/10 module	Q series MELSECNET/H module	ibility	replacement
Baton pass status of each station	SW0070 to SW0073	SW0070 to SW0073	0	
Cyclic transmission status of each station	SW0074 to SW0077	SW0074 to SW0077	0	

Remarks

For link special relay (SB) and link special register (SW) that are not described in this section, refer to each manual.

5.1.7 Comparison of dedicated instruction

(1) A/AnS series

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O : Compatible, △: Partial change required, × : Incompatible						
	Desci	Description				
Instruction name	A/AnS series	Q series	Compat- ibility	Precautions for replacement		
	MELSECNET/10 module	MELSECNET/H module	ioiiity	replacement		
	Reads data from the buffer	Reads data from the buffer		ZNFR instruction cannot		
ZNFR instruction	memory of special function	memory of the intelligent		be used.		
	module in the target remote I/O	function module in the target	Δ	Change it to REMFR		
	station.	remote I/O station.		instruction.		
	Writes data to the buffer	Writes data to the buffer		ZNTO instruction cannot		
ZNTO instruction	memory of special function	memory of the intelligent		be used.		
	module in the target remote I/O	function module in the target	Δ	Change it to REMFR		
	station.	remote I/O station.		instruction.		

(2) QnA/QnAS series

 \bigcirc : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

	Descr	Compat-	Precautions for	
Instruction name	QnA/QnAS series Q series		ibility	replacement
	MELSECNET/10 module	MELSECNET/H module	ibility	replacement
	Reads data from the buffer	Reads data from the buffer		ZNFR instruction cannot
ZNER instruction	memory of special function	memory of the intelligent		be used.
	module in the target remote I/O	function module in the target	Δ	Change it to REMFR
	station.	remote I/O station.		instruction.
	Writes data to the buffer	Writes data to the buffer		ZNTO instruction cannot
ZNTO instruction	memory of special function	memory of the intelligent		be used.
	module in the target remote I/O	function module in the target	Δ	Change it to REMFR
	station.	remote I/O station.		instruction.
SEND instruction	Sends data to target station.		0	
RECV instruction	Reads data sent by SEND instru	uction to device of CPU module.	0	
READ instruction,	Reads the device data of other	station	0	
SREAD instruction			0	
WRITE instruction,	Writes data to the device of othe	ar station	0	
SWRITE instruction	Whites data to the device of othe		0	
REQ instruction	Issues "remote RUN/STOP" and	d "clock data read/write"	0	
requests to other stations.			0	
ZNRD instruction	Reads the device data of other station.			
ZNWR instruction	Writes data to the device of othe	er station.	0	

(3) Q series dedicated link instruction list

The table below shows the dedicated link instructions usable in Q series.

For instruction format of dedicated link instruction and precautions, refer to the following manual.

- Q corresponding MELSECNET/H Network System Reference Manual (Remote I/O network)
- Q corresponding MELSECNET/H Network System Reference Manual (PLC to PLC network)

(a) For remote I/O station

Execution Target station Instruction Name station Description QCPU Remote I/O module Reads data from the remote I/O station intelligent function module buffer memory. Intelligent function module Remote I/O Master module CPU module Read remote I/O Buffer memory Channel 1 station intelligent H-[REMFR] Channel 2 REMFR 0 0 function module Channel 3 Channel 4 221 buffer memory Word device Channel 5 221 Channel 6 Channel 7 Channel 8 Writes data to object remote I/O station intelligent function module buffer memory. (Not processed at the execution from multiplexed remote sub-master station.) Intelligent function module Remote I/O module Write remote I/O CPU Master module station intelligent Buffer memory Channel 1 REMTO 0 Ο function module Channel 2 Channel 3 buffer memory **⊢**[REMTO] Channel 4 754 Channel 5 Channel 6 Channel 7 Channel 8 Reads remote I/O station device data for object network number. (in 16-bit units) Remote I/O CPU Master module module Read other Word device Channel 1 READ station word 0 HE [READ] Channel 2 0 Channel 3 device 2594 Channel 4 Word device Channel 5 2594 Channel 6 Channel 7 Channel 8 Writes device to object network number remote I/O station. (in 16-bit units) Remote I/O Master module CPU module Write other Channel 1 Word device WRITE station word 0 Ο Channel 2 Channel 3 device Channel 4 361 Channel 5 Channel 6 Channel 7 Channel 8

O : Can be used. × : Cannot be used

(b) For multiplexed remote master station and multiplexed remote sub-master station

Execution Target station station Multiplexed Multiplexed Instruction Name Description QnPH QnPRH remote remote CPU CPU master sub-master station station SEND:Writes data to the target station (network module) of the target network No RECV:Reads the data sent by SEND to the CPU device. SEND Data sending 0 × CPU Network module Network module CPU Logical channel 1 (Channel 1) Channel 1 Logical channel 2 (Channel 2) Ο Ο Channel 2 HH-[SEND] HHE RECV] Channel 3 Logical channel 3 (Channel 3) ogical channel 4 (Channel 4) Channel 4 Channel 5 Logical channel 5 (Channel 5) Logical channel 6 (Channel Channel (RECV Data receiving 0 × Channel 7 Logical channel 7 (Channel 7) Logical channel 8 (Channel 8) Channel 8 Reads the CPU device data of the target station of the target network No. (in 16-bit units). CPU Network module Network module CPU Word device Channel 1 Other station READ HH [READ] Channel 2 word device 0 0 0 0 Channel 3 SREAD read 2594 Channel 4 Word device Channel 5 2594 Channel 6 Channel 7 Channel 8 Writes data to the CPU device of the target station of the target network No. (in 16-bit units) (SWRITE can turn ON the device of the target station.) CPU CPU Network module Network module Word device Other station Channel 1 WRITE Channel 2 word device Ο Ο Ο Ο SWRITE Channel 3 write H-[WRITE] Channel 4 361 Channel 5 Channel 6 Channel 7 Channel 8 Issues "remote RUN" and "clock data read/write" requests to other stations. CPU CPU Network module Network module Requesting Channel 1 Channel 2 transient REQ 0 Ο Ο Ο Channel 3 transmission to STOP H⊢ Channel 4 other stations Channel 5 Channel 6 Channel 7 Channel 8

O : Can be used, × : Cannot be used

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				() : Ca	in be used, × : (Cannot be used
			cution ation		Target	station
Instruction	Name	QnPH CPU	QnPRH CPU	Description	Multiplexed remote master station	Multiplexed remote sub-master station
RECVS	Receive message (completed in 1 scan)	0	x	Receives the channel data, which was sent by SEND, within an interrupt program and reads that data to the CPU device immediately. Processing is completed when the instruction is executed. CPU Network module Network module CPU Channel 1 Channel 1 Logical channel 1 Channel 3 Channel 5 Channel 4 Channel 4 Interrupt program Logical channel 4 Channel 5 Interrupt program Logical channel 6 Channel 7 Logical channel 7 Interrupt program Logical channel 6 Channel 7 Logical channel 7 Interrupt program	0	0
ZNRD	Other station word device read	0	0	[A-compatible instruction] Reads the CPU device data of the target station of the target network No. CPU Network module Network module CPU HH ZNRD H Fixed Word device 2594	0	0
ZNWR	Other station word device write	0	0	[A-compatible instruction] Writes data to the CPU device of the target station of the target network No. CPU Network module Network module CPU Word device * Fixed 361	0	0
RRUN	Remote RUN	0	0	Performs "remote RUN" to the CPU module of the other station. CPU Network module Network module CPU Channel 1 Channel 2 Channel 3 Channel 4 Channel 5 Channel 7 Channel 8	0	0

O : Can be used, × : Cannot be used

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			cution ation		Target	station
Instruction	Name	QnPH CPU	QnPRH CPU	Description	Multiplexed remote master station	Multiplexed remote sub-master station
RSTOP	Remote STOP	0	0	Performs "remote STOP" to the CPU module of the other station. CPU Network module Network module CPU Channel 1 Channel 2 Channel 3 Channel 4 Channel 5 Channel 6 Channel 7 Channel 8	0	0
RTMRD	Other station clock data read	0	0	Performs "clock data read" to the CPU module of the other station. CPU Network module Network module CPU Channel 1 Channel 2 Channel 3 Channel 4 Channel 3 Channel 4 Channel 6 Clock data Clock data Channel 7 Channel 8 Channel 8	0	0
RTMWR	Other station clock data written	0	0	"Write clock data" to the CPU module of other station. CPU Network module Network module CPU Channel 1 Channel 2 Channel 3 Channel 5 Channel 5 Channel 5 Channel 6 Channel 7 Channel 8	0	0

 \bigcirc : Can be used, \times : Cannot be used

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5.1.8 Other precautions

(1) Remote I/O network replacement precautions

Replace all remote I/O stations with Q series MELSECNET/H modules when the CPU module on the remote master station is replaced with a Q series CPU module

On the MELSECNET/H remote I/O network, the A/AnS/QnA/QnAS series MELSECNET/10 module and the Q series MELSECNET/H module cannot be used in combination.

For the method of replacing some remote I/O stations with a Q series module without changing the remote master station using the A/AnS/QnA/QnAS series, refer to Section 5.2.

(2) Processing time

The link scan time and link refresh time differ between the A/AnS/QnA/QnAS series and the Q series. For details on processing time, refer to the manual for the respective module.

(3) Interface of remote I/O station

The interface to connect programming tools such as GX Works2 or GX Developer differs between the A/ AnS/QnA/QnAS series and the Q series.

- A/AnS/QnA/QnAS series:RS-422 interface
- Q series:RS-232 interface

When connecting to the Q series, use the following RS-232 cable.

RS-232 cable: QC30R2

(4) Precautions for replacement of QnA/QnAS series

(a) Parallel master system

The parallel master system cannot be configured in the MELSECNET/H. Configure two networks.

MELSECNET/10	MELSECNET/H	System configuration precautions
 IR2 IR3 IR4 PArallel remote master station PSMRD Parallel remote sub-master station RD Remote I/O station Network No. Station No. 	1R2 2R4 Network No.1 1MR/2MR Network No.2 1R3 2R5 •MR Remote master station •RD Remote I/O station • Network No. Station No.	 Divide into two networks of which the network No. differs. Set the station that is not used after dividing the network as the reserved station. Use the inter-link data transfer function for data communication between the remote master stations.

(b) Multiplex master system

- 1) MELSECNET/H can establish the system only when mounting on the following CPU.
 - Process CPU (Q12PHCPU, Q25PHCPU)
 - Redundant CPU (Q12PRHCPU, Q25PRHCPU)
- For the MELSECNET/H, the multiplexed remote master station and the multiplexed remote submaster station cannot be mounted on the same CPU.

Mount the multiplexed remote master station and the multiplexed remote sub-master station on separate CPUs.

5.2 Gradually replacing A series remote I/O stations with Q series remote I/O stations

Use the existing A/AnS/QnA/QnAS series master stations without any change, and gradually replace the existing remote I/O stations with Q series stations by each station.

For network, MELSECNET/10 can be continuously used by utilizing Q series MELSECNET/H modules in MELSECNET/10 mode, and thus Q series remote I/O stations can be used together with remaining A/ AnS/QnA/QnAS remote I/O stations.

5.2.1 List of MELSECNET/10 modules and the alternative modules

Network type	Station type	A/AnS series	Q series (alternative module)
	Remote master	AJ71LP21	
	station	A1SJ71LP21	Replacement not required
	Station	AJ71LP21G	
Ontingland		AJ72LP25	QJ72LP25-25 (MELSECNET/10
Optical loop		AJ72QLP25	·
	Remote I/O station	A1SJ72QLP25	mode) ^{*1}
			QJ72LP25G (MELSECNET/10
		AJ72LP25G	mode) ^{*1}
	Remote master	AJ71LR21	The step-by-step replacement o
	station	A1SJ71LR21	the coaxial loop system is not
0		AJ72LR25	possible.
Coaxial loop	Demote I/O station	AJ72QLR25	Consider the replacement of the
	Remote I/O station	A1SJ72QLR25	coaxial loop system with the
		A 15J7ZQLRZD	coaxial bus system.
	Remote master	AJ71BR11	
	station	A1SJ71BR11	Replacement not required
Coaxial bus		AJ72BR15	QJ72BR15 (MELSECNET/10
	Remote I/O station	AJ72QBR15	
		A1SJ72QBR15	mode) ^{*1}

(1) Replacement of the A/AnS series

*1 Modules with a serial number (first five digits) of "15012" or later

(2) Replacement of the QnA/QnAS series

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Network type	Station type	QnA/QnAS series	Q series (alternative module)
		AJ71QLP21	
	Remote master	A1SJ71QLP21	
	station	AJ71QLP21S	Replacement not required
	Station	A1SJ71QLP21S	
Optical loop		AJ71QLP21G	
		AJ72QLP25	QJ72LP25-25 (MELSECNET/10
	Remote I/O station	A1SJ72QLP25	mode) ^{*1}
	Remote 1/O station		QJ72LP25G (MELSECNET/10
		AJ72LP25G	mode) ^{*1}
	Remote master	AJ71QLR21	The step-by-step replacement of
	station	A1SJ71QLR21	the coaxial loop system is not
Onevialle		AJ72QLR25	possible.
Coaxial loop	Demote I/O station		Consider the replacement of the
	Remote I/O station	A1SJ72QLR25	coaxial loop system with the
			coaxial bus system.
	Remote master	AJ71QBR11	Boplacement not required
	station	A1SJ71QBR11	— Replacement not required
Coaxial bus	Demete I/O statis	AJ72QBR15	QJ72BR15 (MELSECNET/10
	Remote I/O station	A1SJ72QBR15	mode) ^{*1}

*1 Modules with a serial number (first five digits) of "15012" or later

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5.2.2 Module performance specifications comparisons

(1) Comparison of AJ72LP25/AJ72QLP25/A1SJ72QLP25 and QJ72LP25-25 (MELSECNET/10 mode)

O: Compatible, Δ : Partial change required, \times : Incompatible

Item			Specifications			
		AJ72LP25	AJ72QLP25 A1SJ72QLP25	QJ72LP25-25 (MELSECNET/10 mode)	Compatibility	Precautions for replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points			0	
network	LW	8192 points			0	
		<remote master="" station<="" td=""><td>\rightarrow remote I/O station></td><td></td><td></td><td></td></remote>	\rightarrow remote I/O station>			
Maximum number points per station	of link	{(LY + LB) \div 8 + (2 × LW) <remote <math="" i="" o="" station="">\rightarrow r</remote>			0	
		(LY + LB) ÷ 8 + (2 × LW)]	\leq 1600 bytes			
Maximum number points per remote I		$X + Y \leq 2048$ points	$X + Y \leq 2048 \text{ points}^{*1}$	$X + Y \leq 2048$ points	0	
Communication sp	eed	10Mbps	•		0	
Communication me	ethod	Token ring method			0	
Synchronous type		Frame synchronization m	nethod		0	
Encoding method		NRZI coding (Non Return	n to Zero Inverted)		0	
Transmission meth	od	Duplex loop			0	
Transmission forma	at	HDLC standards (frame	format)		0	
Maximum number of networks 255 239 (Total number of PLC to PLC networks and remote I/O networks) (Total number of PLC to I/O networks) 200		PLC networks and remote	Δ	Network No.240 to No.250 cannot be set. Replace them with unused network No.		
Number of stations in one network	connected	65 stations (Remote mas	ster station: 1, remote I/O	station: 64)	0	
Applicable cable		SI optical cable, H-PCF of optical cable	optical cable, broad-band	H-PCF optical cable, QSI	0	
Overall distance		30km			0	
Distance between	istance between stations SI optical cable: 500m, H-PCF optical cable: 1km Broad-band H-PCF optical cable: 1km, QSI optical cable: 1km				0	
Error control syster	n	CRC $(X^{16} + X^{12} + X^5 + 1)$ and retry by a time over			0	
RAS function Loop-back function due to error detection or disconnection of a cable Diagnostic function for checking local link lines Abnormal detection using the link special relay and link special register Network monitoring and various diagnostic functions		0				
Transient transmiss	sion	Monitoring, program up/download with a peripheral device Dedicated link instruction			Δ	For comparison of dedicated link instructions, refer to Section 5.1.7

*1 For the A1SJ72QLP25, the maximum number of I/O points per remote I/O station is "X + Y \leq 1024 points".

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(2) Comparison of AJ72LP25G/AJ72QLP25G and QJ72LP25G (MELSECNET/10 mode)

			Specifications			al change required, * . Incompatible
ltem		AJ72LP25G	AJ72QLP25G	QJ72LP25G (MELSECNET/10 mode)	Compatibility	Precautions for replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points			0	
network	LW	8192 points			0	
		<remote master="" station<="" td=""><td>\rightarrow remote I/O station></td><td></td><td></td><td></td></remote>	\rightarrow remote I/O station>			
Maximum number points per station	of link	{(LY + LB) \div 8 + (2 × LW) <remote <math="" i="" o="" station="">\rightarrow re</remote>			0	
		${(LY + LB) \div 8 + (2 \times LW)}$	≥ 1600 bytes			
Maximum number points per remote I		$X + Y \leq 2048$ points		$X + Y \leq 2048$ points	0	
Communication sp	eed	10Mbps			0	
Communication me	ethod	Token ring method			0	
Synchronous type		Frame synchronization m	nethod		0	
Encoding method		NRZI coding (Non Return	n to Zero Inverted)		0	
Transmission meth	od	Duplex loop			0	
Transmission forma	at	HDLC standards (frame	format)		0	
Maximum number networks	of	255 (Total number of PLC to PLC networks and remote I/O networks)	239 (Total number of PLC to PLC networks and remote I/O networks)		Δ	Network No.240 to No.250 cannot be set. Replace them with unused network No.
Number of stations in one network	connected	65 stations (Master station: 1, remote I/O station: 64)			0	
Applicable cable		GI optical cable			0	
Overall distance		30km			0	
Distance between s	stations	GI optical cable: 2km			0	
Error control system	Error control system CRC ($X^{16} + X^{12} + X^5 + 1$) and retry by a time over			0		
RAS function		Loop-back function due to error detection or disconnection of a cable Diagnostic function for checking local link lines Abnormal detection using the link special relay and link special register Network monitoring and various diagnostic functions		0		
Transient transmiss	sion	Monitoring, program up/o Dedicated link instruction	oring, program up/download with a peripheral device ated link instruction		Δ	For comparison of dedicated link instructions, refer to Section 5.1.7.

 \bigcirc : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

(3) Comparison of AJ72BR15/AJ72QBR15/A1SJ72QBR15 and QJ72BR15 (MELSECNET/10 mode)

				O: Com	patible, ∆: Parti	al change required, × : Incompatibl
Item			Specifications AJ72QBR15	QJ72BR15	Compatibility	Precautions for replacement
nom		AJ72BR15	A1SJ72QBR15	(MELSECNET/10 mode)	Compationity	r replacement
Maximum number	LX/LY	8192 points			0	
of link points per	LB	8192 points			0	
network	LW	8192 points			0	
		<remote master="" station<="" td=""><td>\rightarrow remote I/O station></td><td></td><td></td><td></td></remote>	\rightarrow remote I/O station>			
Maximum number	of link	{(LY + LB) ÷ 8 + (2 × LW)	\geq 1600 bytes		0	
points per station		<remote <math="" i="" o="" station="">\rightarrow re</remote>			0	
		$\{(LY + LB) \div 8 + (2 \times LW)\}$	\geq 1600 bytes			
Maximum number points per remote I		$X + Y \leq 2048$ points	$X + Y \leq 2048 \text{ points}^{*1}$	$X + Y \leq 2048$ points	0	
Communication sp	eed	10Mbps		•	0	
Communication me	ethod	Token bus method			0	
Synchronous type		Frame synchronization m	nethod		0	
Encoding method		Manchester code			0	
Transmission meth	od	Single bus			0	
Transmission forma	at	HDLC standards (frame t	format)		0	
Maximum number of networks		255 (Total number of PLC to PLC networks and remote I/O networks)	0 (Total number of PLC to PLC networks and remote I/O networks)		Δ	Network No.240 to No.250 cannot be set. Replace them with unused network No.
Number of stations in one network	connected	33 stations (Master station: 1, remote I/O station: 32)			0	
Applicable cable		3C-2V, 5C-2V, 5C-FB			0	
Overall distance		30km			0	
Distance between stations 3C-2V: 300m 5C-2V, 5C-FB: 500m			0			
Error control syster	n	CRC (X ¹⁶ + X ¹² + X ⁵ + 1) and retry by a time over	0		
RAS function		Loop-back function due to error detection or disconnection of a cable Diagnostic function for checking local link lines Abnormal detection using the link special relay and link special register Network monitoring and various diagnostic functions			0	
Transient transmiss	sion	Monitoring, program up/o	lownload with a peripher	al device	~	For comparison of dedicated link

∧ · Partial ch . ~ tibl. uirod . .. atible

Δ

instructions, refer to Section 5.1.7

*1 For the A1SJ72QBR15, the maximum number of I/O points per remote I/O station is "X + Y \leq 1024 points".

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Transient transmission

Dedicated link instruction

5.2.3 Functional comparisons

To use a MELSECNET/H remote I/O module (MELSECNET/10 mode), the CPU module on the master station must be an AnU/AnUS/QnA/QnAS series module. For details on functions of a remote I/O module, refer to a manual for the CPU module used on the master station because the functions differ depending on which CPU module is used on the master station.

ltem	Des A/AnS/QnA/QnAS series MELSECNET/10 module	cription Q series MELSECNET/H module (MELSECNET/10 mode)	Compatibility	Precautions for replacement
Communicating with a special function module (Cyclic transfer function)		each module on the remote I/O	0	
Dedicated link instruction	Reads or writes data from/to th function module on the remote	· ·	Δ	Check and modify a program because buffer memory addresses of intelligent function modules differ between A/AnS/ QnA/QnAS series and Q series.
I/O assignment function	Sets the module configuration of	of the remote I/O station.	Δ	Set the configuration with the PLC parameter of the remote I/O module. ^{*1}
ZNFR/ZNTO instruction access number setting function	Sets the number of transient tra during one link scan (a total of	ansmissions that can be executed entire one network).	Δ	The number of transient transmissions executed during one link scan differs depending on the total number of slave stations. The number of transient transmissions executed for one station is the same, though.
Blown fuse error and input/output verification error check disabled function	Sets whether to enable or disable the error check of a blown fuse error and an input/output verification error.		Δ	Set whether to enable or disable the error check with the PLC parameter of the remote I/O module.
Operation mode at an error	Sets an operation mode to be u input/output verification error of	used when a blown fuse error or an ccurs.	Δ	Set an operation mode with the PLC parameter of the remote I/O module.

The following table lists function differences among module series.

*1 Change the network parameter of the master station as well. For details, refer to Section 5.2.6.

5.2.4 Switch setting comparisons

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(1) Switch setting comparisons of remote master stations

The switch setting change is not required because the remote master station is not replaced.

(2) Switch setting comparisons of remote I/O stations

	Des	cription		
Switch name	A/AnS/QnA/QnAS series MELSECNET/10 module	Q series MELSECNET/H module (MELSECNET/10 mode)	Compatibility	Precautions for replacement
Mode setting switch	Sets the mode. <setting range=""> 0: Online 2: Offline 3: Loop test (forward loop)*2 4: Loop test (reverse loop)*2 5: Station-to-station test (master station) 6: Station-to-station test (slave station) 7: Self-loopback test 8: Internal self-loopback test 9: H/W test F: Station No. check</setting>	[Using QJ72LP25-25] Sets the mode. <setting range=""> 0: Online (10Mbps) 1: Self-loopback test (10Mbps) 2: Internal self-loopback test (10Mbps) 3: Hardware test (10Mbps) 4: Online (25Mbps) 5: Self-loopback test (25Mbps) 6: Internal self-loopback test (25Mbps) 7: Hardware test (25Mbps) 8: Online (MELSECNET/10 mode)^{*1} [Using QJ72LP25G and QJ72BR15] Sets the mode. <setting range=""> 0: Online 1: Self-loopback test 2: Internal self-loopback test 3: Hardware test 8: Online (MELSECNET/10 mode)^{*1}</setting></setting>	Δ	 When using a MELSECNET/H module in MELSECNET/10 mode, set the mode to "8". Set offline and loop test in GX Works2 or GX Developer network parameters. Substitute the forward loop/reverse loop test for the station-to-station test. Check network No., group No. and station No. in GX Works2 or GX Developer network diagnostics (host information).

*1 This mode (8; Online (MELSECNET/10 mode)) is added to a module with a serial number (first five digits) of "15012" or later.

*2 This mode is not used for the coaxial bus system.

MELSEC

5.2.5 Parameter comparisons

(1) Parameters of remote master station

Basically, the parameter change is not required because A/AnS/QnA/QnAS series modules are continuously used for the remote master station.

However, for a Q series MELSECNET/H remote I/O module (MELSECNET/10 mode), some parameters must be set at the remote I/O station instead of at the master station, and therefore the setting change of an existing module at the master station is required. For details, refer to Section 5.2.6.

(2) Parameters of remote I/O station

When mounting an intelligent function module on a remote I/O station, set parameters. When the remote I/O station consists of only I/O modules, the modules operate without parameter settings. (In such a case, the modules operate with the default values.)

	Descr	ption		Precautions for replacement		
Parameter name	A/AnS/QnA/QnAS series MELSECNET/10 module	Q series MELSECNET/H module (MELSECNET/10 mode)	Compatibility			
	-	PLC system setting	Δ	 New parameter of MELSECNET/H (The number of empty slots is set.) For an A/AnS/QnA/QnAS series module, the number is set in I/O assignments of the network parameter at the master station. 		
	-	PLC RAS setting	Δ	 New parameter of MELSECNET/H (The operation mode to be used or whether to enable the error check at an error are set.) For an A/AnS/QnA/QnAS series module, the PLC RAS setting of PLC parameter at the master station is relected to the remote I/O network. 		
PLC parameter	-	Operation setting	-	New parameter of MELSECNET/H (The parameters for data transmission between devices are set.)		
	-	I/O assignment setting	Δ	 New parameter of MELSECNET/H (The I/O assignments of the remote I/O station are set.) For an A/AnS/QnA/QnAS series module, the I/O assignments are set in I/O assignments of the network parameter at the master station. Therefore, at the replacement, if the I/O assignments are already set at the A/AnS/QnA/QnAS series module on the master station, the setting change is required. To mount an intelligent function module on a remote I/O station, the switch setting is required for the I/O assignments. 		
Network		Ethernet	-	 New parameter of MELSECNET/H (The network parameter of an Ethernet module mounted on the remote I/O station is set.) 		
parameter		CC-Link	-	New parameter of MELSECNET/H (The network parameter of a CC-Link module mounted on the remote I/O station is set.)		
Remote password	-	Remote password setting	-	New parameter of MELSECNET/H (The remote password of a module (such as an Ethernet module or a serial communication module) mounted on the remote I/O station is set.)		

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

5.2.6 Program comparisons

This section describes how to modify the existing programs when replacing MELSECNET/10 remote I/O stations with MELSECNET/H (MELSECNET/10 mode) remote I/O stations.

(1) Link special relay (SB)/link special register

Program modifications related to link special relay (SB) and link special register (SW) are not required because the link special relay (SB) and link special register (SW) of the CPU module on the master station are used.

For details, refer to either of following manuals according to the CPU module used on the master station.

Type MELSECNET/10 Network System (Remote I/O network) Reference Manual For QnA/Q4AR MELSECNET/10 Network System Reference Manual

(2) Network parameters

(a) Master station

The items specific to remote I/O stations (such as I/O assignments of a remote I/O station) must be set at the remote I/O station. Therefore, delete these items from the network parameter of the master station. For details on the items set at the remote I/O station, refer to Section 5.2.5.

(b) Remote I/O station

Set the necessary parameters (refer to Section 5.2.5) at the remote I/O station. If the parameters are not set, modules operate with the default settings and these operations may differ from the desired ones.

When mounting an intelligent function module, configure the switch setting for I/O assignments.

The figures below show the setting example of I/O assignments on the following conditions; the system has one remote I/O station, the system configurations before and after the replacement are the same, and an intelligent function module is mounted on the remote I/O station.

I/O assignments of the remote I/O station (set in the network parameter at the existing master station)

	StationNo	Slot	Туре	Model name	Poinsts 🔺
0	1	0(0-0)	Special 💌		32points 🔪
1	1	1(0-1)	Input 🚽		32points 🚽
2	1	2(0-2)	Sutout 🗸		32pointe 🔻 🔻

Delete the parameters to set them on the remote I/O station side.

I/O assignments of the remote I/O station (set in the network parameter at the remote I/O station after the replacement)

The address change is not required when the number of occupied points and start XY address are set on the remote I/O station side. -1/0 46

No.	Slot	Туре		Model Name		Points		Start XY 🔺	Switch	Setting
0	Remote I/O Stat	Remote I/O Station		QJ72LP25-25			•			
1	0(*-0)	Intelligent	-	Q62DAN		32Points	-	0000	Detaile	Settin
2	1(*-1)	Input	+	QX41	(16Points	*	0020		
3	2(*-2)	Output	*	QY41P		16Points	-	0040	Select	.C typ
4	3(*-3)		-				-		New	lodule
5	4(*-4)		•				•		- INCAN	
6	5(*-5)		-				-			
7	6(*-6)		-				-	•		

Assigning the I/O address is not necessary as the CPU does it automatically. Leaving this setting blank will not cause an error to occur.

The switch setting is required when an intelligent function module is used.

Switch setting example

0 F

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╈ Switch2 Switch3 h4 Switch5 🔺 itch1 emote I/O Stat Remote I/O Station QJ72LP25-25 Q62DAN QX41 1 0(*-0) 2 1(*-1) 3 2(*-2) 0044 0000 0000 0000 ligent Input QY41P utpu

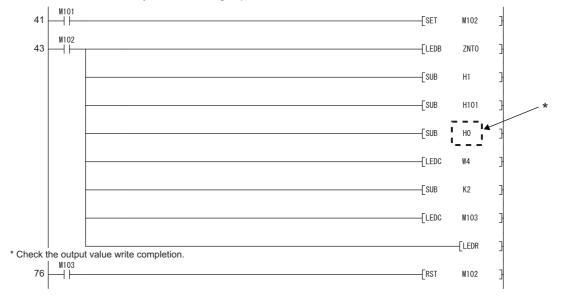
(3) Utilizing existing programs

If the system configurations before and after the replacement are the same, program modifications are not required.

When an intelligent function module is mounted on the remote I/O station, the buffer memory read or write functions using the dedicated link instruction of the CPU module on the master station. In such a case, if the specifications such as I/O signals or buffer memory addresses are different between the modules before and after the replacement, a program modification is required.

The figure below shows the example of modifying the program related to the dedicated link instruction when the CPU module on the master station is the AnUCPU and the A62DA (analog output module) is replaced with the Q62DAN.

Program related to the dedicated link instruction of the existing AnUCPU



* Write data to the buffer memory area in the analog output side.

* Change SUB H0 into SUB H1 because the buffer memory address for writing the analog output value of the Q62DAN changes H1.

For details on replacements of intelligent function modules, refer to the following.

Transition from MELSEC-A/QnA (Large Type) Series to Q Series Handbook (Intelligent Function Modules)

Transition from MELSEC-AnS/QnAS (Small Type) Series to Q Series Handbook (Intelligent Function Modules)

5.2.7 Last stage of the replacement

This section describes the last stage of the step-by-step replacement of the MELSECNET/10 remote I/O stations with the MELSECNET/H remote I/O stations. The replacement is conducted by using the MELSECNET/10 mode of MELSECNET/H remote I/O modules.

(1) Last stage of the replacement

A MELSECNET/H remote I/O module (MELSECNET/10 mode) can be used when the CPU module on the master station is A/AnS/QnA/QnAS series.

When replacing the CPU module on the master station with a Q series module, replace the network as well (from MELSECNET/10 remote I/O to MELSECNET/H remote I/O). In this case, Q series modules are used for all remote I/O stations.

The last stage of the step-by-step replacement of the MELSECNET/10 remote I/O network is when the CPU module on the master station is replaced with a Q series module.

(2) How to replace the master station

Replace the master station in the same way as the MELSECNET/10 remote I/O is collectively replaced. For details, refer to Section 5.1.

(3) How to replace remote I/O stations

For MELSECNET/H remote I/O modules at the step-by-step replacement, the mode setting switches are set to MELSECNET/10 mode "8".

At the last stage of the replacement where the network is replaced with the MELSECNET/H remote I/O, if the mode setting switches are changed to Online (MELSECNET/H mode) "0" or "4", all of the modules on the stations can be used as they are.

Note that to use the buffer memory read or write of an intelligent function module, program checks and modifications are required for the dedicated link instructions (from the A series instructions to the Q series instructions).

6 REPLACEMENT OF CC-LINK

6.1 List of CC-Link Alternative Models

(1) Replacement of the A/AnS series

A/AnS series	Alternative models
AJ61BT11	QJ61BT11N ^{*1}
A1SJ61BT11	

(2) Replacement of the QnA/QnAS series

QnA/QnAS series	Alternative models
AJ61QBT11	QJ61BT11N ^{*1}
A1SJ61QBT11	

*1 The number of mountable CC-Link modules depending on Q series CPU module type is as follows: Universal model QCPU: 64

Up to eight modules can be set using parameters of GX Works2 or GX Developer. To use more than eight modules, set the parameters using dedicated instructions.

For details, refer to the CC-Link System Master/Local Module User's Manual.

6.2 Performance Specifications Comparisons

6.2.1 Module performance comparisons

(1) A/AnS series

		⊖ : Compatible, /	∆: Partial ch	nange required, × : Incompatib
Item		cations	Compat-	
	AJ61BT11/A1SJ61BT11	QJ61BT11N	ibility	replacement
Transmission speed	Can be selected from 156kbps/6 10Mbps.	0		
Max. cable overall	Differs depending on t			
distance (Max.		ne manual.)	0	
transmission distance)				
	64 stations Note that it has to be satisfied w			
	$\{(1 \times a) + (2 \times b) + (3 \times c) + (4 \times c)\}$			
	a: Number of 1-station occupied	modules		
	b: Number of 2-station occupied	modules		
Max. number of stations	c: Number of 3-station occupied	modules		
(For master station)	d: Number of 4-station occupied	modules	0	
	{(16 × A) + (54 × B) + (88 × C)} ;			
	A: Number of remote I/O station			
	B: Number of remote device stat			
	C: Number of local stations, star			
	intelligent device stations ≤ 26 s			
Number of occupied		1 to 4 stations (Switched with		GX Works2 or GX
stations	1 to 4 stations (Switched with	GX Works2 or GX Developer	0	Developer parameter
(For local station)	DIP switch)	parameter settings)	Ũ	settings are required.
Massimum assach an af linds	Remote I/O (RX, RY) : 2048 points			
Maximum number of link	Remote register (RWw) : 256 points			
points per system	Remote register (RWr) : 256 points			
Remote station/local	Remote I/O (RX, RY) : 32 points	(Local station: 30 points)		
station	Remote register (RWw) : 4 point	ts	0	
Link points per station	Remote register (RWr) : 4 points	3		
Communication method	Broad cast p	olling method	0	
Synchronous type	Frame synchronization method	Flag synchronization method		Nothing to be noted though the methods are different.
Encoding method	NRZI r	method	0	
Transmission method		RS-485)	0	
Transmission format		tandards	0	
Error control system	CRC (X ¹⁶ +)	$X^{12} + X^5 + 1)$	0	
Connection cable	CC-Link dedicated cable/CC-Link dedicated high-performance cable/Ver.1.10 compatible CC-Link dedicated cable			Refer to Section 6.2.2.
	Automatic return function Slave station detach function			
RAS function				
	Error detection with link special relay/register			
				GX Works2 or GX
Number of parameter		-		Developer parameter
registrations to	10,000 times			settings are performed
E ² PROM				instead of the parameter
				registration to E ² PROM.
Number of occupied I/O	32 points (I/O assignment:	32 points (I/O assignment:	0	-
points	special 32 points (i/O assignment. joz points (i/O assignment. joz points (i/O assignment. joz points)			

(2) QnA/QnAS series

Item		cations	Compat-	Precautions for
Rom	AJ61QBT11/A1SJ61QBT11	QJ61BT11N	ibility	replacement
Transmission speed	Can be selected		0	
	from 156kbps/625kbps/2.5Mbps	Ŭ		
Max. cable overall	Differe denerding og H			
distance		ne transmission speed.	0	
(Max. transmission distance)	(Relef to tr	ne manual.)		
uistance)	64 stations			
	Note that it has to be satisfied w			
	{(1 × a) + (2 × b) + (3 × c) + (4 ×			
	a: Number of 1-station occupied			
	b: Number of 2-station occupied			
Max. number of stations	c: Number of 3-station occupied			
(For master station)	d: Number of 4-station occupied		0	
(
	{(16 × A) + (54 × B) + (88 × C)} :	≦ 2304		
	A: Number of remote I/O station	s \leq 64 stations		
	B: Number of remote device stat			
	C: Number of local stations, star			
	intelligent device stations ≤ 26 s			
Number of occupied	Ŭ,	1 to 4 stations (Switched with		GX Works2 or GX
stations	1 to 4 stations (Switched with	GX Works2 or GX Developer	Δ	Developer parameter
(For local station)	DIP switch)	parameter settings)		settings are required.
Maximum number of link	Remote I/O (RX, RY) : 2048 points			
points per system	Remote register (RWw) : 256 pc	0		
points per system	Remote register (RWr) : 256 poi			
Remote station/local	Remote I/O(RX, RY) : 32 points			
station	Remote register (RWw) : 4 point		0	
Link points per station	Remote register (RWr) : 4 points		_	
Communication method	Broad cast p	olling method	0	
Synchronous type	Frame synchronization method	Flag synchronization method	Δ	Nothing to be noted though the methods are
			different.	
Encoding method		nethod	0	
Transmission method		(S-485)	0	
Transmission format		tandards	0	
Error control system		$X^{12} + X^5 + 1)$	0	
Connection cable	CC-Link dedicated cable/CC-Link dedicated high-performance			Refer to Section 6.2.2.
	cable/Ver.1.10 compatible CC-Li	0		
DAC function	Automatic return function			
RAS function	 Slave station detach function Error detection with link special relay/register 			
	- Error detection with link specia	ai reiay/register		GX Works2 or GX
Number of parameter				Developer parameter
registrations to	10,000 times	_	Δ	settings are performed
E ² PROM	10,000 times	-		instead of the parameter
				registration to E^2 PROM.
Number of occupied I/O	32 points (I/O assignment:	32 points (I/O assignment:		
			0	1

 \bigcirc : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

6.2.2 Cable performance comparisons

CC-Link dedicated cable used on the A/AnS/QnA/QnAS series can be also used on the Q series. For specifications of CC-Link dedicated cable, refer to CC-Link Partner Association home page: www.cc-link.org

6.3 Functional Comparisons

(1) A/AnS series

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Item	Specifications		Compat-	
	AJ61BT11/A1SJ61BT11	QJ61BT11N	ibility	replacement
Communication between master station and remote I/O station	The communication of ON/OFF information station is performed.	with remote I/O	0	
Communication between master and remote device stations	The communication of ON/OFF information with remote device station is performed.	0		
Communication between master station and local station	The communication of ON/OFF information with local station is performed.	and numerical data	0	
Communication between master and intelligent device stations	The communication is performed with intelli using cyclic transmission and transient trans	smission.	0	
Reserved station function	By setting remote station and local station, connected in the future, as reserved station not treated as data link faulty stations. If a connected module is specified, no data	0		
Error invalid station function	Remote station and local station that canno due to the power supply off, etc. will not be faulty stations with this function.	0		
Data link status setting at master station programmable controller CPU error	The data link status when operation continu the master station programmable controller	0		
Parameter registration to E ² PROM	Parameter writing is not required at each startup of master module by registering parameters to E ² PROM of master module.	-	Δ	GX Works2 or GX Developer parameter settings are performed instead of the parameter registration to E ² PROM.
Data link faulty station input data status setting	The input (received) data status (cleared/ho that has data link error caused by the powe be set.		0	
Module reset function by sequence program	Resetting can be performed by the sequence program without resetting programmable controller CPU in the case the switch setting is changed or an error has occurred in a module.	-	×	When the switch setting is changed, turn the power supply of programmable controller system OFF \rightarrow ON or reset the programmable controller CPU.
Data link stop/restart	The stop and restart of data link is available execution.	-	0	
Automatic return function	The module disconnected from data link by the power supply off, etc. can automatically return to data link, when restored to the normal status.		0	
Slave station detach function	The module that cannot perform data link due to the power supply off, etc. is disconnected and data link is kept with normal modules only.			
Data link status check (SB/SW)	Data link status can be checked. This check can be used for the interlock etc program.	. of sequence	0	

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

6

Itom	Specifi	cations	Compat-	Precautions for
Item	AJ61BT11/A1SJ61BT11	QJ61BT11N	ibility	replacement
Offline test	 The following tests can be performed. Hardware test: Standalone module operation check Line test: Module connection status check Parameter check test: Parameter setting check 	 The following tests can be performed. Hardware test: Standalone module operation check Line test: Module connection status check 	Δ	The specification method of hardware test/line test differs. For details on the specification method, refer to the manual. Check the set parameter in GX Works2 or GX Developer network parameters.
Parameter registration function	The following two types of parameters are set using the sequence program (TO instruction) or dedicated instructions. • Network parameter • Automatic refresh parameter	arameters are set using the equence program (TOThe following two types of parameters are set using GXstruction) or dedicatedWorks2 or GX Developer.structions.• Network parameterNetwork parameter• Automatic refresh parameter		Change from the parameter settings in the sequence program (TO instruction) or with dedicated instructions to the parameter settings with GX Works2 or GX Developer.
Scan synchronous function	Synchronous mode: Data link wi sequence program is available. Asynchronous mode: Data link r program is available.	0		
Standby master function	Data link can be continuously pe standby master station at the ma		0	
Dedicated instruction (RIRD, RIWT, RIRCV, RISEND, RIFR, RITO)	Transient transmission to intellig station is available using dedicat	Δ	Change the sequence program as instruction formats differ.	
Remote I/O net mode	Communication is available for r station only.	Δ	Delete RRPA instruction and set parameters with GX Works2 or GX Developer.	
Temporary error invalid station specify function	Module replacement is available faulty remote station during onlir	-	0	

 \bigcirc : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

(2) QnA/QnAS series

program.

Itom	Specifications			Precautions for
ltem	AJ61QBT11/A1SJ61QBT11 QJ	61BT11N	ibility	replacement
Communication between master station and remote I/O station	The communication of ON/OFF information wi station is performed.	th remote I/O	0	
Communication between master and remote device stations	The communication of ON/OFF information and numerical data with remote device station is performed.			
Communication between master station and local station	The communication of ON/OFF information ar with local station is performed.	nd numerical data	0	
Communication between master and intelligent device stations	The communication is performed with intellige using cyclic transmission and transient transm	ission.	0	
Reserved station function	By setting remote station and local station, wh connected in the future, as reserved stations, not treated as data link faulty stations. If a connected module is specified, no data lin	0		
Error invalid station function	Remote station and local station that cannot p due to the power supply off, etc. will not be tre faulty stations with this function.	0		
Data link status setting at master station programmable controller CPU error	The data link status when operation continuation error occurs on the master station programmable controller CPU can be set.			
Parameter registration to E ² PROM	Parameter writing is not required at each startup of master module by registering parameters to E ² PROM of master module.	-	Δ	GX Works2 or GX Developer parameter settings are performed instead of the parameter registration to E ² PROM.
Data link faulty station input data status setting	The input (received) data status (cleared/held) that has data link error caused by the power s be set.		0	
Module reset function by sequence program	Resetting can be performed by the sequence program without resetting programmable controller CPU in the case the switch setting is changed or an error has occurred in a module.	-	×	When the switch setting is changed, turn the power supply of programmable controller system OFF \rightarrow ON or reset the programmable controller CPU.
Data link stop/restart	The stop and restart of data link is available de execution.	uring the data link	0	
Automatic return function	The module disconnected from data link by the power supply off, etc. can automatically return to data link, when restored to the normal status.		0	
Slave station detach function	The module that cannot perform data link due supply off, etc. is disconnected and data link is modules only.	•	0	
Data link status check (SB/SW)	Data link status can be checked. This check can be used for the interlock etc.of	sequence	0	

 \bigcirc : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

(To next page)

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 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

	Specifications			Precautions for
ltem	AJ61QBT11/A1SJ61QBT11 ^{*1}	QJ61BT11N ^{*2}	Compat- ibility	replacement
Offline test	 The following tests can be performed. Hardware test: Standalone module operation check Line test: Module connection status check Parameter check test: Parameter setting check 	 The following tests can be performed. Hardware test: Standalone module operation check Line test: Module connection status check 	Δ	The specification method of hardware test/line test differs. For details on the specification method, refer to the manual. Check the set parameter in GX Works2 or GX Developer network parameters.
Parameter registration function	The following two types of param or GX Developer. • Network parameter • Automatic refresh parameter	0		
Scan synchronous function	Synchronous mode: Data link with scan synchronized with sequence program is available. Asynchronous mode: Data link not synchronized with sequence program is available.			
Standby master function	Data link can be continuously pe standby master station at the ma		0	
Dedicated instruction (RIRD, RIWT, RIRCV, RISEND, RIFR, RITO)	Transient transmission to intellig station is available using dedication		Δ	Change the sequence program as instruction formats differ.
Send/receive instruction (SEND, RECV, READ, SREAD, WRITE, SWRITE, REQ)	Data sending/receiving to/from other station on CC-Link is available Data reading/writing from/to other station is also available.		Δ	Replace READ, WRITE instructions with dedicated instructions (RIRD, RIWT). Other instruction cannot be replaced.
Remote I/O net mode	Communication is available for master station and remote I/O station only.			Set parameters with GX Works2 or GX Developer.
Temporary error invalid	Module replacement is available without detecting error of the			
station specify function Online test function	faulty remote station during online. Line test and link start/stop, etc. can be performed with GX Works2 or GX Developer.			
Monitoring and diagnostics	Monitoring and diagnosing can b GX Developer.	e performed from GX Works2 or	0	

*1 Use GX Developer.

*2 Use GX Works2 or GX Developer.

6.4 Switch Settings Comparisons

(1) A/AnS series

Quuitab mama	Specifications			Precautions for
Switch name	AJ61BT11/A1SJ61BT11	QJ61BT11N	ibility	replacement
Station number setting switch	Sets the station No. of the module. <setting range=""> • For remote net mode Master station: 0 Local station: 1 to 64 Standby master station: 1 to 64 • For remote I/O net mode Master station: 1 to 64 (The last station No. of remote I/O station is set.)</setting>	Sets the station No. of the module. <setting range=""> Master station: 0 Local station: 1 to 64 Standby master station: 1 to 64</setting>	Δ	Sets the last station No. at remote I/O net mode with GX Works2 or GX Developer.
Mode setting switch Transmission speed setting switch	Sets the operation status of the module. Sets the transmission speed of the module.	Sets the transmission speed and operating status of the module.	Δ	The mode setting and the transmission rate setting are performed with one switch. The remote net mode and remote I/O net mode are specified in GX Works2 or GX Developer parameter settings.
Condition setting switch	Sets the operation conditions. <settings> • Station type • Input data status of data link faulty station • Number of occupied stations • Module mode</settings>	-	Δ	The operating conditions are set in the parameter settings of GX Works2 or GX Developer. Module mode setting is not required.

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

Switch nome	Specifications			Precautions for
Switch name	AJ61QBT11/A1SJ61QBT11	QJ61BT11N	ibility	replacement
Station number setting switch	Sets the station No. of the module. <setting range=""> • For remote net mode Master station: 0 Local station: 1 to 64 Standby master station: 1 to 64 • For remote I/O net mode Master station: 1 to 64 (The last station No. of remote I/O station is set.)</setting>	Sets the station No. of the module. <setting range=""> Master station: 0 Local station: 1 to 64 Standby master station: 1 to 64</setting>	Δ	Sets the last station No. at remote I/O net mode with GX Works2 or GX Developer.
Mode setting switch	Sets the operation status of the module.	_		The mode setting and the transmission rate setting are performed with one
Transmission speed setting switch	Sets the transmission speed of the module.	Sets the transmission speed and operating status of the module.	Δ	switch. The remote net mode and remote I/O net mode are specified in GX Works2 or GX Developer parameter settings.
Condition setting switch	Sets the operation conditions. <settings> • Station type • Input data status of data link faulty station • Number of occupied stations</settings>	-	Δ	The operating conditions are set in the parameter settings of GX Works2 or GX Developer.

6.5 Parameter Comparisons

(1) A/AnS series

	Specifications			Precautions for
Parameter name	AJ61BT11/A1SJ61BT11	QJ61BT11N	ibility	replacement
				Newly set the parameter with GX Works2/GX
Network parameter	Set this parameter with the sequence program (TO	Set this parameter with GX Works2/GX Developer or with		Developer or the dedicated instruction (RLPASET
	instruction) or with dedicated instruction (RLPA instruction).	dedicated instruction (RLPASET instruction).		instruction). ^{*1 *2} Specify [Remote net Ver.1 mode] or [Remote I/O net mode] for the mode.
Automatic refresh parameter	Read/write cyclic data with FROM/TO instruction or set this parameter with dedicated instruction (RRPA instruction).	Perform the automatic refresh setting with GX Works2/GX Developer or read/write cyclic data with FROM/TO instruction.	Δ	Perform the automatic refresh setting with GX Works2/GX Developer or read/write cyclic data with FROM/TO instruction. When setting the network parameter with dedicated instruction (RLPASET instruction), read/write cyclic data with FROM/TO instruction.

(2) QnA/QnAS series

 \bigcirc : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

Deveneter neme	Specifications			Precautions for
Parameter name	AJ61QBT11/A1SJ61QBT11	QJ61BT11N	ibility	replacement
Network parameter	Set this parameter with GX Developer or sequence program (TO instruction).	Set this parameter with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).	Δ	Newly set the parameter with GX Works2/GX Developer or the dedicated instruction (RLPASET instruction). ^{*1 *2} Specify [Remote net Ver.1 mode] or [Remote I/O net mode] for the mode.
Automatic refresh parameter	Perform the automatic refresh setting with GX Developer or read/write cyclic data with FROM/TO instruction.	Perform the automatic refresh setting with GX Works2/GX Developer or read/write cyclic data with FROM/TO instruction.	Δ	Set the automatic refresh with GX Works2/GX Developer or read/write cyclic data with FROM/TO instruction. When setting the network parameter with dedicated instruction (RLPASET instruction), read/write cyclic data with FROM/TO instruction.

*1 Parameter setting of Q series CC-Link modules Parameters can be set on up to eight modules using GX Works2 or GX Developer. For the settings of the 9th module or later, use the dedicated instruction.

For details, refer to the CC-Link System Master/Local Module User's Manual.

*2 Delete the program for the network parameter setting of the existing module.

6.6 Program Comparisons

6.6.1 Comparison of I/O signals

(1) A/AnS series

(a) Input signal

	Signa	Signal name Compat		
Input signal	AJ61BT11/A1SJ61BT11	QJ61BT11N	ibility	Precautions for replacement
Xn0	Module error	Module error	0	
Xn1	Data link status at host station	Data link status at host station	0	
Xn2	Parameter setting status	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and check with SB006D (Parameter setting status).
Xn3	Data link status of other station	Data link status of other station	0	
Xn4	Module reset acceptance complete	Prohibited to use	×	Delete the sequence program of the section corresponding to the function. When the switch setting is changed, turn the power supply of programmable controller system OFF \rightarrow ON or reset the programmable controller CPU.
Xn5	Prohibited to use	Prohibited to use	0	
Xn6 Xn7	Data link startup by buffer memory parameter normal completion Data link startup by buffer memory parameter error	_		
Xn8	completion Data link startup by E ² PROM parameter normal completion	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and set parameters with GX Works2/GX Developer or with dedicated
Xn9	Data link startup by E ² PROM parameter error completion			instruction (RLPASET instruction).
XnA	Parameter registration to E ² PROM normal completion			
XnB	Parameter registration to E ² PROM error completion			
XnC	Prohibited to use	Prohibited to use	0	
XnD	E ² PROM erasure normal completion	Prohibited to use	_	Delete the sequence program of the section corresponding to the function, and set parameters
XnE	E ² PROM erasure abnormal completion		Δ	with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).
XnF	Module ready	Module ready	0	
X(n+1)0	-			
X(n+1)1	-			
X(n+1)2	-			
X(n+1)3	-			
X(n+1)4				
X(n+1)5	-			
X(n+1)6	-			
X(n+1)7	Prohibited to use	Prohibited to use	0	
X(n+1)8	-1)8		Ŭ	
X(n+1)9				
X(n+1)A				
X(n+1)B				
X(n+1)C				
X(n+1)D				
X(n+1)E				
X(n+1)F				

O : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

(b) Output signal

	Signa	l name	Compat-	
Output signal	AJ61BT11/A1SJ61BT11	QJ61BT11N	ibility	Precautions for replacement
Yn0	Refresh specification	Prohibited to use		Refreshed automatically. Delete the sequence program of the section corresponding to the function.
Yn1				
Yn2	Prohibited to use	Prohibited to use	0	
Yn3			-	
Yn4	Module reset request	Prohibited to use	×	Delete the sequence program of the section corresponding to the function. When the switch setting is changed, turn the power supply of programmable controller system OFF \rightarrow ON or reset the programmable controller CPU.
Yn5	Prohibited to use	Prohibited to use	0	
Yn6	Data link startup request from buffer memory parameters	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and set parameters with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).
Yn7	Prohibited to use	Prohibited to use	0	
Yn8	Data link startup request from E ² PROM parameters	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and set parameters with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).
Yn9	Prohibited to use	Prohibited to use	0	
YnA	Parameter registration request to E ² PROM	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and set parameters with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).
YnB	Prohibited to use	Prohibited to use	0	
YnC			U	
YnD	E ² PROM erasure request	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and set parameters with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).
YnE				
YnF				
Y(n+1)0				
Y(n+1)1				
Y(n+1)2	-			
Y(n+1)3				
Y(n+1)4	Prohibited to use	Prohibited to use	0	
Y(n+1)5		-		
Y(n+1)6	-			
Y(n+1)7	-			
Y(n+1)8	-			
Y(n+1)9				
Y(n+1)A				
Y(n+1)B				
Y(n+1)C	Bank switch specification of	Prohibited to use	Δ	Bank switching is not required. (Refer to Section
Y(n+1)D	buffer memory			6.6.2.)
Y(n+1)E	Prohibited to use	Prohibited to use	0	
Y(n+1)F			-	

 \bigcirc : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

(2) QnA/QnAS series

(a) Input signal

	\bigcirc : Compatible, \triangle : Partial change required, \star : incompatible					
Input signal		l name	Compat-	Precautions for replacement		
pat e.g.u.	AJ61QBT11/A1SJ61QBT11	QJ61BT11N	ibility			
Xn0	Module error	Module error	0			
Xn1	Data link status at host station	Data link status at host station	0			
Xn2	Parameter setting status	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and check with SB006D (Parameter setting status).		
Xn3	Data link status of other station	Data link status of other station	0			
Xn4	Module reset acceptance complete	Prohibited to use	×	Delete the sequence program of the section corresponding to the function. When the switch setting is changed, turn the power supply of programmable controller system OFF \rightarrow ON or reset the programmable controller CPU.		
Xn5	Prohibited to use	Prohibited to use	0			
Xn6	Data link startup by buffer memory parameter normal completion					
Xn7	Data link startup by buffer memory parameter error completion					
Xn8	Data link startup by E ² PROM parameter normal completion	Prohibited to use		Delete the sequence program of the section corresponding to the function, and set parameters with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).		
Xn9	Data link startup by E ² PROM parameter error completion					
XnA	Parameter registration to E ² PROM normal completion					
XnB	Parameter registration to E ² PROM error completion					
XnC	Prohibited to use	Prohibited to use	0			
XnD	E ² PROM erasure normal completion	Prohibited to use		Delete the sequence program of the section corresponding to the function, and set parameters		
XnE	E ² PROM erasure abnormal completion	Frombled to use		with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).		
XnF	Module ready	Module ready	0			
X(n+1)0						
X(n+1)1						
X(n+1)2						
X(n+1)3						
X(n+1)4						
X(n+1)5	1					
X(n+1)6	1					
X(n+1)7	Prohibited to use	Brobibited to use				
X(n+1)8		Prohibited to use	0			
X(n+1)9						
X(n+1)A						
X(n+1)B						
X(n+1)C						
X(n+1)D						
X(n+1)E						
X(n+1)F						

(b) Output signal

	Signal	I name	Compat-	
Output signal	AJ61QBT11/A1SJ61QBT11	QJ61BT11N	ibility	Precautions for replacement
Yn0	Refresh specification	Prohibited to use	Δ	Refreshed automatically. Delete the sequence program of the section corresponding to the function.
Yn1				
Yn2	Prohibited to use	Prohibited to use	0	
Yn3				
Yn4	Module reset request	Prohibited to use	×	Delete the sequence program of the section corresponding to the function. When the switch setting is changed, turn the power supply of programmable controller system OFF \rightarrow ON or reset the programmable controller CPU.
Yn5	Prohibited to use	Prohibited to use	0	
Yn6	Data link startup request from buffer memory parameters	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and set parameters with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).
Yn7	Prohibited to use	Prohibited to use	0	
Yn8	Data link startup request from E ² PROM parameters	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and set parameters with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).
Yn9	Prohibited to use	Prohibited to use	0	
YnA	Parameter registration request to E ² PROM	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and set parameters with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).
YnB	Prohibited to use	Prohibited to use	0	
YnC			0	
YnD	E ² PROM erasure request	Prohibited to use	Δ	Delete the sequence program of the section corresponding to the function, and set parameters with GX Works2/GX Developer or with dedicated instruction (RLPASET instruction).
YnE				
YnF				
Y(n+1)0				
Y(n+1)1				
Y(n+1)2				
Y(n+1)3				
Y(n+1)4				
Y(n+1)5				
Y(n+1)6	Prohibited to use	Prohibited to use	0	
Y(n+1)7				
Y(n+1)8	-			
Y(n+1)9				
Y(n+1)A				
Y(n+1)B				
Y(n+1)C				
Y(n+1)D				
Y(n+1)E				
Y(n+1)F	l	l		

 \bigcirc : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

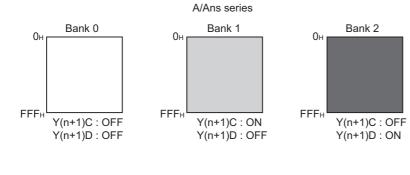
6.6.2 Buffer memory comparisons

(1) A/AnS series

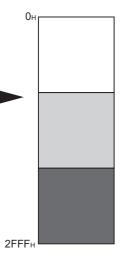
Buffer memory is divided into bank0 to bank2 on the A/AnS series, but it is one area on the Q series. Bank is switched with ON/OFF of Y (n+1)C, Y(n+1)D.

Buffer memory address of the Q series is shown in parenthesis, as buffer memory addresses of communication buffer and automatic updating buffer are different.

				O : Compatible, ∆	: Partial ch	ange required, × : Incompatible	
	Buffer memory	address	Buffer me	mory name	Compat-	Precautions for	
Bank	Hex.	Dec.	AJ61BT11/A1SJ61BT11	QJ61BT11N	ibility	replacement	
	0н to 5Fн	0 to 95	Parameter information area	Parameter information area	0		
	60н to 7Fн	96 to 127	Prohibited to use	Prohibited to use	0		
	80н to CDн	128 to 205	Parameter information area	Parameter information area	0		
	CEn to DFn	206 to 223	Prohibited to use	Prohibited to use Parameter information		Added with the remote net Ver.2 mode. Replacement is not applied.	
	E0H to 15FH	224 to 351	Remote input (RX)	Remote input (RX)	0		
0	160н to 1DFн	352 to 479	Remote output (RY) Remote output (RY)		0		
	1E0н to 2DFн	480 to 735	Remote register (RWw) Remote register (RWw)		0		
	2E0н to 3DFн	736 to 991	Remote register (RWr)	Remote register (RWr)	0		
	3E0н to 5DFн	Юн to 5DFн 992 to 1503 Prohibite		Slave station offset, size information	Δ	Added with the remote net Ver.2 mode. Replacement is not applied.	
	5E0н to 5FFн	1504 to 1535	Link special relay (SB)	Link special relay (SB)	0		
	600н to 7FFн	1536 to 2047	Link special register (SW)	Link special register (SW)	0		
	800н to 9FFн	2048 to 2559	Prohibited to use	Prohibited to use	0		
	A00н to FFFн	2560 to 4095	Random access buffer	Random access buffer	0		
1	0 to FFFн (1000н to 1FFFн)	0 to 4095 (4096 to 8191)	Communication buffer	Communication buffer	Δ	Delete the program for bank switching.	
2	0 to FFFн (2000н to 2FFFн)	0 to 4095 (8192 to 12287)	Automatic updating buffer	Automatic updating buffer	Δ	Delete the program for bank switching.	
-	- (3000н to 3FFFн)	- (12288 to 16383)		Prohibited to use	-		
-	- (4000н to 53FFн)	- (16384 to 21503)	-	Area for Ver.2	Δ	The function was added to Q series modules.	
-	- (5400н to 7FFFн)	- (21504 to 32767)		Prohibited to use	-		







(2) QnA/QnAS series

Buffer memo	ory address	Buffer me	mory name	0	
Hex.	Dec.	AJ61QBT11/ QJ61BT11N Dec. A1SJ61QBT11 QJ61BT11N		Compat- ibility	Precautions for replacement
0н to 5Fн	0 to 95	Parameter information area	Parameter information area	0	
60н to 7Fн	96 to 127	Prohibited to use	Prohibited to use	0	
80н to CDн	128 to 205	Parameter information area	Parameter information area	0	
CEH to DFH	206 to 223	Prohibited to use	Parameter information area	Δ	Added with the remote net Ver.2 mode. Replacement is not applied.
E0H to 15FH	224 to 351	Remote input (RX)	Remote input (RX)	0	
160н to 1DFн	352 to 479	Remote output (RY)	Remote output (RY)	0	
1E0н to 2DFн	480 to 735	Remote register (RWw)	Remote register (RWw)	0	
2E0н to 3DFн	736 to 991	Remote register (RWr)	Remote register (RWr)	0	
3E0н to 5DFн	992 to 1503	Prohibited to use	Slave station offset, size information	Δ	Added with the remote net Ver.2 mode. Replacement is not applied.
5E0н to 5FFн	1504 to 1535	Link special relay (SB)	Link special relay (SB)	0	
600н to 7FFн	1536 to 2047	Link special register (SW)	Link special register (SW)	0	
800н to 9FFн	2048 to 2559	Prohibited to use	Prohibited to use	0	
A00н to FFFн	2560 to 4095	Random access buffer	Random access buffer	0	
1000н to 1FFFн	4096 to 8191	Communication buffer	Communication buffer	0	
2000н to 2FFFн	8192 to 12287	Automatic updating buffer	Automatic updating buffer	0	
- (3000н to 3FFFн)	- (12288 to 16383)		Prohibited to use	-	
- (4000н to 53FFн)	- (16384 to 21503)	-	Area for Ver.2	Δ	The function was added to Q series modules.
- (5400н to 7FFFн)	- (21504 to 32767)		Prohibited to use	-	

 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

6.6.3 Comparison of link special relay (SB)/link special register (SW)

(1) A/AnS series

The following table shows SB/SW which have different application on the A series and the Q series.

(a) Link special relay (SB)

○ · Compatible	∧ · Dartial change	roquirod x	Incompatible
O. Compatible,	∆: Partial change	required, *	. incompatible

Number	Na AJ61BT11/A1SJ61BT11	me QJ61BT11N	Compat- ibility	Precautions for replacement		
SB0001	Master station switching data link start	Refresh instruction at standby master switching	0	The specifications of A/AnS series and Q series are the same.		
SB0003		Refresh instruction when changing parameters by the dedicated instruction	Δ	Use for setting network parameters with RLPASET instruction.		
SB0007		Master station duplication error canceling request				
SB000B	-	Transmission speed test request	Δ	Added on the Q series and		
SB000C	-	Forced master switching		replacement is not applied.		
SB000D		Remote device station initialization procedure registration instruction				
SB0042	Master station switch data link start acceptance	Refresh instruction acknowledgement status at standby master switching				
SB0043	Master station switch data link start complete	Refresh instruction complete status at standby master switching	Δ	Added on the Q series and replacement is not applied.		
SB0046	-	Forced master switching executable status				
SB004E	Parameter setting test acceptance status	Parameter information read acknowledgement status		The functions of A/AnS series are different from those of Q		
SB004F	Parameter setting test complete status	Parameter information read completion status	×	series. Since the parameter setting test function is not required for the Q series, delete the sequence program for the corresponding function.		
SB0057		Master station duplication error				
SB0058	-	canceling acknowledgement Master station duplication error canceling complete				
SB005A		Master switching request acknowledgement				
SB005B		Master switching request complete				
SB005C	-	Forced master switching request acknowledgement	Δ	Added on the Q series and replacement is not applied.		
SB005D		Forced master switching request complete				
SB005E		Execution status of remote device station initialization procedure				
SB005F		Completion status of remote device station initialization procedure				

		O : Compa	atible, \triangle : Pa	rtial change required, × : Incompatible
Number	Na	ime	Compat-	Precautions for replacement
Number	AJ61BT11/A1SJ61BT11	QJ61BT11N	ibility	Precautions for replacement
SB0069	Module mode	-	Δ	The mode is set on the Q series using the network parameters. (The setting can be checked in SW0060.)
SB006F	-	Setting status of block guarantee of cyclic data per station	Δ	Added on the Q series and replacement is not applied.
SB0079		Master station return specification information		
SB007B		Host master/standby master operation status		
SB007C		Slave station refresh/ compulsory clear setting status in case of programmable controller CPU STOP	Δ	Added on the Q series and
SB00B4		Standby master station test result		replacement is not applied.
SB0184		Transmission speed test result for standby master station		
SB0185		Transmission speed test accept status		
SB0186		Transmission speed test completion status		

(b) Link special register (SW)

Number	Na	Compat-	Precautions for replacement			
Number	AJ61BT11/A1SJ61BT11	QJ61BT11N	ibility	Precautions for replacement		
SW000B		Dedicated instruction retry				
300008		count setting		Added on the Q series and		
SW0014 to SW0017	_	Specification of remote device		replacement is not applied.		
		station to be initialized.				
	Master station switch data link	Refresh instruction at standby		The specifications of A/AnS		
SW0043	start result	master switching result	0	series and Q series are the		
				same.		
SW0052		Automatic CC-Link startup				
		execution result				
SW0058		Detailed LED display status				
SW0059		Transmission rate setting		Added on the Q series and		
SW005D	-	Forced master switching	Δ	replacement is not applied.		
		instruction result				
014/00.55		Remote device station				
SW005F		initialization procedure				
		registration instruction result				
SW0062	Condition setting switch status	Module operating status	Δ	On the Q series, parameter		
014/00/20				setting status is stored.		
SW00B9	E ² PROM registration status	-				
SW00BA	E ² PROM erasure result			No E ² PROM (Refer to Sectior		
	Number of times when	-	Δ	6.7.)		
SW00BB	parameters can be registered			- ,		
	to E ² PROM					
		Remote device station				
		initialization procedure				
SW0110 to SW011F		registration execution				
		individual information (target 1				
		to 16)				
SW0140 to SW0143		Compatible CC-Link Ver.				
		information		Added on the Q series and		
	-	CC-Link Ver.	Δ	replacement is not applied.		
SW0144 to SW0147		installation/parameter		,		
		matching status				
SW0148		Parameter mode				
SW0149		Host parameter mode				
SW0183		Transmission speed test result				
SW0184 to SW0187		Transmission speed test result				
		for each station				

(2) QnA/QnAS series

The following table shows SB/SW that have different applications on the QnA/QnAS series and the Q series.

(a) Link special relay (SB)

 \bigcirc : Compatible, \triangle : Partial change required, × : Incompatible

	Na	ime	Compat-	
Number	AJ61QBT11/A1SJ61QBT11	QJ61BT11N	ibility	Precautions for replacement
SB0001	Master station switching data link start	Refresh instruction at standby master switching	0	The specifications of A/AnS series and Q series are the same.
SB0003		Refresh instruction when changing parameters by the dedicated instruction		
SB0007		Master station duplication error canceling request		Added on the O series and
SB000B	-	Transmission speed test request		Added on the Q series and replacement is not applied.
SB000C	1	Forced master switching		
SB000D		Remote device station initialization procedure registration instruction		
SB0030	Communication command (1) acceptance			Not used on the Q series.
SB0031	Communication command (1) complete		<u>^</u>	Delete the sequence program of the section corresponding to
SB0032	Communication command (2) acceptance	-	Δ	the function, and replace READ, WRITE instructions with
SB0033	Communication command (2) complete			RIRD, RIWT instructions.
SB0046		Forced master switching executable status		
SB0057		Master station duplication error canceling acknowledgement		
SB0058		Master station duplication error canceling complete		
SB005A		Master switching request acknowledgement		
SB005B		Master switching request complete	Â	Added on the Q series and
SB005C	-	Forced master switching request acknowledgement		replacement is not applied.
SB005D		Forced master switching request complete		
SB005E		Execution status of remote device station initialization procedure		
SB005F		Completion status of remote device station initialization procedure		

(To next page)

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 \bigcirc : Compatible, \bigtriangleup : Partial change required, × : Incompatible

Number	Na	me	Compat-			
Number	AJ61QBT11/A1SJ61QBT11	QJ61BT11N	ibility	Precautions for replacement		
SB0069	Module mode	-	Δ	The mode is set on the Q series using the network parameters. (The setting can be checked in SW0060.)		
SB006F		Setting status of block guarantee of cyclic data per station				
SB0079		Master station return specification information		Added on the Q series and		
SB007B	-	Host master/standby master operation status	Δ	replacement is not applied.		
SB007C		Slave station refresh/ compulsory clear setting status in case of programmable controller CPU STOP				
SB00A0	RECV instruction (1) execution request flag			Not used on the Q series. Delete the sequence program		
SB00A1	RECV instruction (2) execution request flag	-	Δ	of the section corresponding to the function.		
SB00B4		Standby master station test result				
SB0184		Transmission speed test result for standby master station		Added on the Q series and		
SB0185		Transmission speed test accept status	Δ	replacement is not applied.		
SB0186		Transmission speed test completion status				

(b) Link special register (SW)

 \bigcirc : Compatible, \bigtriangleup : Partial change required, \times : Incompatible

Number		Name						
Number	AJ61QBT11/A1SJ61QBT11	QJ61BT11N	ibility	Precautions for replacement				
SW000B		Dedicated instruction retry						
300000		count setting						
SW0014 to SW0017		Specification of remote device						
300014 10 300017		station to be initialized.						
SW0052		Automatic CC-Link startup						
3000052		execution result		Added on the Q series and				
SW0058	-	Detailed LED display status	\bigtriangleup	replacement is not applied.				
SW0059		Transmission rate setting		replacement is not applied.				
SW005D		Forced master switching						
GW003D		instruction result						
		Remote device station						
SW005F		initialization procedure						
		registration instruction result						
SW0062	Condition setting switch status	Module operating status	Δ	On the Q series, parameter				
0110002	Condition Setting Switch Status			setting status is stored.				
SW00B9	E ² PROM registration status		Δ					
SW00BA	E ² PROM erasure result			No E ² PROM (Refer to Section				
	Number of times when			6.7.)				
SW00BB	parameters can be registered	imeters can be registered		0.7.)				
	to E ² PROM							
		Remote device station						
		initialization procedure						
SW0110 to SW011F		registration execution						
		individual information (target 1						
		to 16)						
SW0140 to SW0143		Compatible CC-Link Ver.						
50014010 500145		information		Added on the Q series and				
	-	CC-Link Ver.	Δ	replacement is not applied.				
SW0144 to SW0147		installation/parameter		replacement is not applied.				
		matching status						
SW0148		Parameter mode						
SW0149		Host parameter mode						
SW0183		Transmission speed test result						
SW0184 to SW0187		Transmission speed test result						
0.1010-10.000107		for each station						

6.7 Other Precautions

This section describes other precautions.

(1) Peripheral device connection module

When AJ65BT-G4 type peripheral connection module is used on the A/AnS/QnA/QnAS series, replace it with AJ65BT-G4-S3 type peripheral connection module. AJ65BT-G4 type peripheral connection module cannot be used on the Q series.

(2) Processing time

The link scan time and link refresh time differ between the A/AnS/QnA/QnAS series and the Q series. For details on processing times, refer to the manual for the respective module.

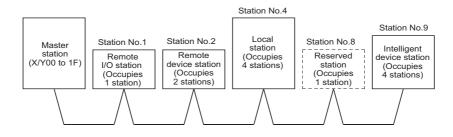
(3) Parameter registration to E²PROM

As the Q series CC-Link system master/local module does not have E^2PROM , delete the sequence program of the section corresponding to the parameter registration to E^2PROM . On the Q series CC-Link system master/local module, set the GX Works2 or GX Developer network parameters to register parameters to the programmable controller CPU.

6.8 Parameter Setting Example

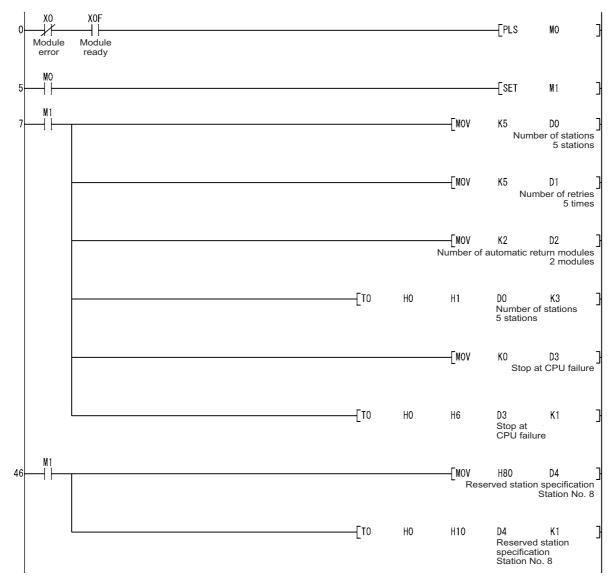
The following describes an example how to replace the system in which parameters were set using sequence program (TO instruction) on the A/AnS series with the system in which parameters are set using GX Works2 or GX Developer on the Q series.

This section explains the above using the following system configuration example.



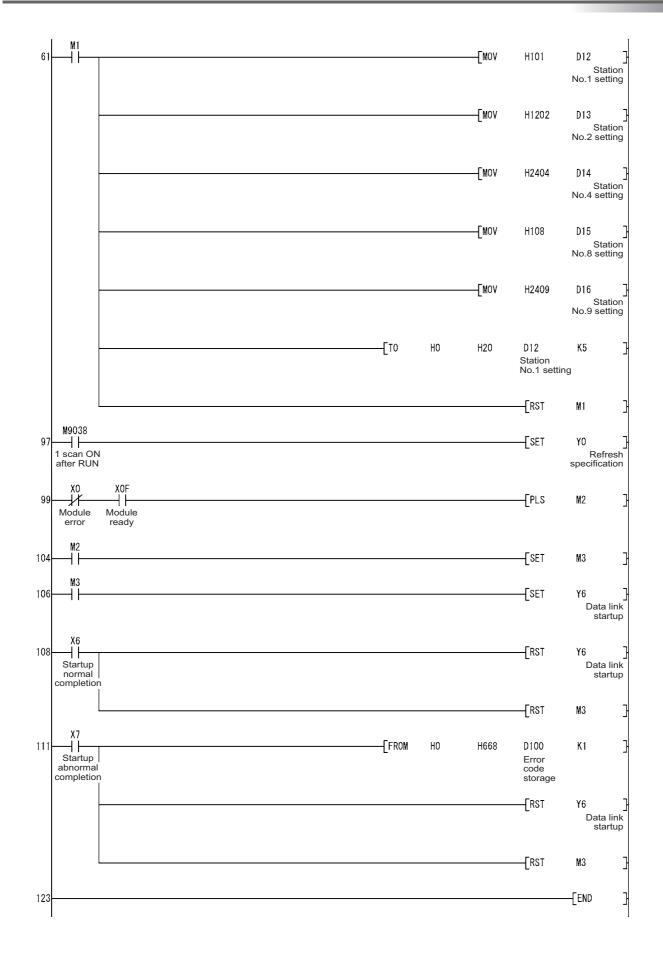
6.8.1 Parameter setting example on the A/AnS series

The following shows a program example of parameter setting using the sequence program (TO instruction).



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6.8.2 Parameter setting example on the Q series

The following shows an example of parameter setting using GX Works2.

	1		2	3	4
Start I/O No.		0000			
Operation Setting	Operation Setting				
Туре	Master Station	*	•	•	
Master Station Data Link Type	PLC Parameter Auto Start	-	•	•	
Mode	Remote Net(Ver. 1 Mode)	-	•	•	
Total Module Connected		5			
Remote input(RX)					
Remote output(RY)					
Remote register(RWr)					
Remote register(RWw)					
Ver.2 Remote input(RX)					
Ver.2 Remote output(RY)					
Ver.2 Remote register(RWr)					
Ver.2 Remote register(RWw)					
Special relay(SB)					
Special register(SW)					
Retry Count		5			
Automatic Reconnection Station Count		2			
Standby Master Station No.					
PLC Down Select	Stop	•	*	*	
Scan Mode Setting	Asynchronous	T	*	•	
Delay Time Setting		0			
Station Information Setting	Station Information				
Remote Device Station Initial Setting	Initial Setting				
Interrupt Settings	Interrupt Settings				

ion Information Module 1											(2
		Expanded Cycli	ic	Number of	Remote Station	_	Reserve/Invalid		Intellige	nt Buffer Seleci	t(Word)	
Station Type		Setting		Occupied Stations	Points		Station Select		Send	Receive	Automatic	Γ
Remote I/O Station	-	Single	•	Occupied Station 1 📼	32Points	-	No Setting	•				
Remote Device Station	-	Single	Ŧ	Occupied Stations 2 💌	64Points	-	No Setting	•				
Intelligent Device Station	-	Single	•	Occupied Stations 4 💌	128Points	-	No Setting	•	64	64	128	
Remote I/O Station	-	Single	•	Occupied Station 1 📼	32Points	-	Reserved Station	•				L
Intelligent Device Station	-	Single	-	Occupied Stations 4 🔻	128Points	-	No Setting	-	64	64	128	•
	Station Type Remote I/O Station Remote Device Station Intelligent Device Station Remote I/O Station	Station Type Remote I/O Station Remote Device Station Remote I/O Station Remote I/O Station	Station Type Expanded Cycl Remote I/O Station ¥ Single Remote Device Station ✓ Single Intelligent Device Station ✓ Single Remote I/O Station ✓ Single	Station Type Expanded Cyclic Setting Remote I/O Station V Single V Remote Device Station Single V Intelligent Device Station Single V Remote I/O Station V Single V Single V	Expanded Cyclic Number of Occupied Stations Remote I/O Station V Single Occupied Stations Remote Evolution Single Occupied Stations 2 Intelligent Device Station Intelligent Device Station Single Occupied Stations 1 Remote I/O Station	Expanded Cyclic Number of Occupied Stations Remote Station Remote I/O Station Single Occupied Stations Points Points Points Remote Station Single Occupied Stations Single Occupied Stations Single Accupied Stations Single I28Points I28Points I28Points Single Occupied Stations I28Points I28Points Single Occupied Stations I28Points	Expanded Cyclic Station Type Expanded Cyclic Setting Number of Occupied Stations Remote Station Points Remote I/O Station Single Occupied Station 1 32Points v 32Points Remote I/O Station Single Occupied Station 1 32Points v Intelligent Device Station Single Occupied Station 1 128Points v Remote I/O Station Single Occupied Station 1 32Points v	Expanded Cyclic Number of Occupied Stations Remote Station Reserve/Invalid Remote I/O Station Single Occupied Stations Points Station Select Remote I/O Station Single Occupied Stations 2Points No Setting Intelligent Device Station Single Occupied Stations 4 128Points No Setting Remote I/O Station Single Occupied Stations 4 128Points No Setting Remote I/O Station Single Occupied Stations 4 128Points No Setting	Expanded Cyclic Number of Occupied Stations Remote Station Points Reserve/Invalid Station Select Remote I/O Station Single Occupied Stations 2 32Points No Setting No Setting Remote I/O Station	Expanded Cyclic Number of Occupied Stations Remote Station Points Reserve/Invalid Intelliger Remote I/O Station Single Occupied Stations 22Points No Setting Setding Remote I/O Station Single Occupied Stations 2 32Points No Setting Intelliger Occupied Station 2 G4Points No Setting Coupied Stations 4 No Setting A Intelliger Occupied Stations 4 128Points No Setting A Intelliger Occupied Stations 4 128Points No Setting A Remote I/O Station Single Occupied Station 1 32Points Reserved Station	Expanded Cyclic Number of Occupied Stations Remote Station Points Reserve/Invalid Station Select Intelligent Buffer Select Remote I/O Station \$ Single Occupied Stations ¥ 32Points No Setting Receive Remote I/O Station \$ Single Occupied Stations 2 € 64Points No Setting Intelligent Device Station \$ Single Occupied Stations 2 € 64Points No Setting Remote I/O Station \$ Single Occupied Stations 1 \$ 32Points No Setting Remote I/O Station \$ Single Occupied Station 1 \$ 32Points No Setting	Expanded Cyclic Number of Setting Number of Occupied Stations Remote Station Points Reserve/Invalid Station Select Intelligent Buffer Select(Word) Remote I/O Station Single Occupied Stations × 32Points × No Setting × Automatic Remote I/O Station Single Occupied Stations × 64Points × No Setting × × Intelligent Device Station Single Occupied Stations × 64Points × No Setting × Remote I/O Station Single Occupied Station × 128Points × No Setting × 4

APPENDICES

Appendix 1 External Dimensions

For external dimensions of modules shown in this handbook, refer to the user's manual for each module.

Appendix 2 Spare parts storage

(1) The general specifications of programmable controllers are as follows. Please do not store spare parts under a high temperature or high humidity condition, even within the range guaranteed by the specifications.

Storage ambient temperature	-20 to 75°C
Storage ambient humidity	10 to 90%, no condensation

- (2) Store in a place avoiding direct sunlight.
- (3) Store under a condition with no dust or corrosive gas.
- (4) The capacity of the batteries (such as an A6BAT battery and an A8BAT battery) or a lithium-coin battery (commercially available) for memory card is decreased by its self-discharging even when it is not used. Replace it with new one in 5 years as a guideline.
- (5) For a power supply module, CPU module with built-in power supply, or analog module that uses any aluminum electrolytic capacitor, which is indicated in the table below, take the following measures since the characteristics will be deteriorated when the aluminum electrolytic capacitor is left un-energized for a long time.

Product	Model
	A1NCPU, A1NCPUP21, A1NCPUR21, A1NCPUP21-S3, A2CCPU
CPU module	A2CCPUP21, A2CCPUR21, A2CCPUC24, A2CCPUC24-PRF
(Power supply built-in type)	A2CJCPU-S3
	A1SJHCPU
	A61P, A61PEU, A61P-UL, A62P, A62PEU, A63P, A68P, A61RP, A67RP
Power supply module	A2CJ66P
	A1S61PN, A1S62PN, A1S63P
	A62DA, A62DA-S1
Analog module	A1S64AD, A1S68AD, A1S62DA, A1S68DAI, A1S68DAV,
	A1S63ADA, A1S66ADA

[Countermeasures for preventing aluminum electrolytic capacitor characteristics deterioration] Apply the rated voltage to the aluminum electrolytic capacitor for several hours to activate it. Or, rotate products at the periodic inspection (in every 1 to 2 years).

[Reference]

The life of an aluminum electrolytic capacitor, even if not used, under a normal temperature decreases approximately at 1/4 speed of the case when it is energized.

Appendix 3 Related Manuals

Appendix 3.1 Replacement handbooks

(1) Transition guide

No.	Manual name	Manual number	Model code
1	MELSEC-A/QnA Series Transition Guide	L08077E	-
2	MELSEC-AnS/QnAS Series Transition Guide	L08236E	-

(2) Transition from MELSEC-A/QnA (large type) to Q series handbook

No.	Manual name	Manual number	Model code
	Transition from MELSEC-A/QnA (Large Type) Series to Q	L08043ENG	
1	Series Handbook (Fundamentals)	2000432110	-
	Transition from MELSEC-AnS/QnAS (Small Type) Series to Q	L08219ENG	_
	Series Handbook (Fundamentals)	2002132100	_
	Transition from MELSEC-A/QnA (Large Type) Series to Q	L08046ENG	_
2	Series Handbook (Intelligent Function Modules)	2000402110	-
2	Transition from MELSEC-AnS/QnAS (Small Type) Series to Q	L08220ENG	_
	Series Handbook (Intelligent Function Modules)	LUUZZULING	-
3	Transition from MELSEC-A/QnA (Large Type), AnS/QnAS	L08048ENG	
5	(Small Type) Series to Q Series Handbook (Network Modules)		
4	Transition from MELSEC-A/QnA (Large Type), AnS/QnAS	L08050ENG	
-	(Small Type) Series to Q Series Handbook (Communications)	LUUUUULING	-
5	Transition from MELSEC-A0J2H Series to Q Series Handbook	L08060ENG	-
6	Transition from MELSECNET/MINI-S3, A2C (I/O) to CC-Link	L08061ENG	_
0	Handbook	E0000TEINO	
7	Transition from MELSEC-I/OLINK to CC-Link/LT Handbook	L08062ENG	-
8	Transition from MELSEC-I/OLINK to AnyWire DB A20	L08263ENG	_
0	Handbook	LUUZUULINU	_
9	Transition of CPUs in MELSEC Redundant System Handbook	L08117ENG	
	(Transition from Q4ARCPU to QnPRHCPU)		-

(3) Transition Examples

No.	Manual name	Manual number	Model code
1	MELSEC-A/QnA (Large), AnS/QnAS (Small) Transition Examples	L08121E	-

(4) Others

No.	Manual name	Manual number	Model code
1	Precautions for replacing A/QnA (large type) series CPU with	FA-A-0068	
I	Universal model QCPU	FA-A-0000	-

Appendix 3.2 A/AnS series

No.	Manual name	Manual number	Model code
1	Type MELSECNET, MELSECNET/B Data Link System	IB-66350	13JF70
2	Reference Manual Type MELSECNET/10 Network System Reference Manual		
	(PLC to PLC network)	IB-66440	1JE33
3	Type MELSECNET/10 Network System (Remote I/O network)	SH-3509	13JE72
	Reference Manual		
4	CC-Link System Master/Local Module Type AJ61BT11/	IB-66721	13J872
	A1SJ61BT11 User's Manual		

Appendix 3.3 QnA/QnAS series

No.	Manual name	Manual number	Model code
1	For QnA/Q4AR MELSECNET/10 Network System Reference Manual	IB-66690	13JF78
2	CC-Link System Master/Local Module Type AJ61QBT11/ A1SJ61QBT11 User's Manual	IB-66722	13J873

Appendix 3.4 Q series

No.	Manual name	Manual number	Model code
1	Q Corresponding MELSECNET/H Network System	SH-080049	13JF92
1	Reference Manual(PLC to PLC network)	50-000049	133692
2	Q Corresponding MELSECNET/H Network System	SH-080124 13JF96	12 1506
2	Reference Manual(Remote I/O network)		1991-90
3	Q Corresponding MELSECNET/H Remote I/O Module	SH-081164ENG 13J\	12 11/20
	Reference Manual (MELSECNET/10 Mode)		133730
4	CC-Link System Master/Local Module User's Manual	SH-080394E	13JR64
4	QJ61BT11N	3H-000394E	1551504
5	MELSEC-Q/L Programming Manual (Common Instruction)	SH-080809ENG	13JW10

WARRANTY

Please confirm the following product warranty details before using this product.

1. Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company.

However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

[Gratis Warranty Term]

The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place. Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

[Gratis Warranty Range]

- (1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.
- (2) Even within the gratis warranty term, repairs shall be charged for in the following cases.
 - 1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
 - 2. Failure caused by unapproved modifications, etc., to the product by the user.
 - 3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
 - 4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
 - 5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
 - 6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
 - 7. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

2. Onerous repair term after discontinuation of production

- (1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued. Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
- (2) Product supply (including repair parts) is not available after production is discontinued.

3. Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

4. Exclusion of loss in opportunity and secondary loss from warranty liability

- Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to:
- (1) Damages caused by any cause found not to be the responsibility of Mitsubishi.
- (2) Loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products.
- (3) Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.
- (4) Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

5. Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

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The company names, system names and product names mentioned in this manual are either registered trademarks or trademarks of their respective companies.

In some cases, trademark symbols such as ' TM ' or ' $^{®}$ ' are not specified in this manual.

Programmable Controller

Country/Region	Sales office	Tel/Fax
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Mitsubishi Electric Corporation Nagoya Works is a factory certified for ISO 14001 (standards for environmental management systems) and ISO 9001(standards for quality assurance management systems)

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