

Programmable Controller

MELSECNET/H Transition Handbook  
(MELSEC-Q Series)

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# SAFETY PRECAUTIONS

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(Read these precautions before using this product.)

Before using MELSEC iQ-R series programmable controllers, please read the manuals for the product and the relevant manuals introduced in those manuals carefully, and pay full attention to safety to handle the product correctly. If products are used in a different way from that specified by manufacturers, the protection function of the products may not work properly. In this manual, the safety precautions are classified into two levels: "⚠️ WARNING" and "⚠️ CAUTION".

 <b>WARNING</b>	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
 <b>CAUTION</b>	Indicates that incorrect handling may cause hazardous conditions, resulting in minor or moderate injury or property damage.

Under some circumstances, failure to observe the precautions given under "⚠️ CAUTION" 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 manual and then keep the manual in a safe place for future reference.

## [Design Precautions]

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### **WARNING**

- Configure safety circuits external to the programmable controller to ensure that the entire system operates safely even when a fault occurs in the external power supply or the programmable controller. Failure to do so may result in an accident due to an incorrect output or malfunction.
    - (1) Emergency stop circuits, protection circuits, and protective interlock circuits for conflicting operations (such as forward/reverse rotations or upper/lower limit positioning) must be configured external to the programmable controller.
    - (2) When the programmable controller detects an abnormal condition, it stops the operation and all outputs are:
      - Turned off if the overcurrent or overvoltage protection of the power supply module is activated.
      - Held or turned off according to the parameter setting if the self-diagnostic function of the CPU module detects an error such as a watchdog timer error.
    - (3) All outputs may be turned on if an error occurs in a part, such as an I/O control part, where the CPU module cannot detect any error. To ensure safety operation in such a case, provide a safety mechanism or a fail-safe circuit external to the programmable controller. For a fail-safe circuit example, refer to "General Safety Requirements" in the MELSEC iQ-R Module Configuration Manual.
    - (4) Outputs may remain on or off due to a failure of a component such as a relay and transistor in an output circuit. Configure an external circuit for monitoring output signals that could cause a serious accident.
  - In an output circuit, when a load current exceeding the rated current or an overcurrent caused by a load short-circuit flows for a long time, it may cause smoke and fire. To prevent this, configure an external safety circuit, such as a fuse.
  - Configure a circuit so that the programmable controller is turned on first and then the external power supply. If the external power supply is turned on first, an accident may occur due to an incorrect output or malfunction.
  - Configure a circuit so that the external power supply is turned off first and then the programmable controller. If the programmable controller is turned off first, an accident may occur due to an incorrect output or malfunction.
  - For the operating status of each station after a communication failure, refer to manuals for the network used. For the manuals, please consult your local Mitsubishi representative. Incorrect output or malfunction due to a communication failure may result in an accident.
  - When connecting an external device with a CPU module or 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, parameter change, forced output, or operating status change) of a running programmable controller, read the relevant manuals carefully and ensure that the operation is safe before proceeding. Improper operation may damage machines or cause accidents. When a Safety CPU is used, data cannot be modified while the Safety CPU is in SAFETY MODE.
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## [Design Precautions]

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### **WARNING**

- 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" and "write-protect area" of the buffer memory in the module. Also, do not use any "use prohibited" signals as an output signal from the CPU module to each module. Doing so may cause malfunction of the programmable controller system. For the "system area", "write-protect area", and the "use prohibited" signals, refer to the user's manual for the module used. For areas used for safety communications, they are protected from being written by users, and thus safety communications failure caused by data writing does not occur.
- If a communication 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. Incorrect output or malfunction due to a communication failure may result in an accident. When safety communications are used, an interlock by the safety station interlock function protects the system from an incorrect output or malfunction.

#### [Precautions for using CC-Link IE Controller Network (when optical fiber cables are used)]

- The optical transmitter and receiver of the CC-Link IE Controller Network module use laser diodes (class 1 in accordance with IEC 60825-1). Do not look directly at a laser beam. Doing so may harm your eyes.

#### [Precautions for using MELSECWinCPU modules]

- Do not install the control lines or communication cables together with the main circuit lines or power cables. Doing so may result in malfunction due to electromagnetic interference. Keep a distance of 100mm or more between those cables.
  - During control of an inductive load such as a lamp, heater, or solenoid valve, a large current (approximately ten times greater than normal) may flow when the output is turned from off to on. Therefore, use a module that has a sufficient current rating.
  - After the CPU module is powered on or is reset, the time taken to enter the RUN status varies depending on the system configuration, parameter settings, and/or program size. Design circuits so that the entire system will always operate safely, regardless of the time.
  - Do not power off the programmable controller or reset the CPU module while the settings are being written. Doing so will make the data in the flash ROM and SD memory card undefined. The values need to be set in the buffer memory and written to the flash ROM and SD memory card again. Doing so also may cause malfunction or failure of the module.
  - When changing the operating status of the CPU module from external devices (such as the remote RUN/STOP functions), select "Do Not Open by Program" for "Opening Method" of "Module Parameter". If "Open by Program" is selected, an execution of the remote STOP function causes the communication line to close. Consequently, the CPU module cannot reopen the line, and external devices cannot execute the remote RUN function.
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## [Security Precautions]

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### **WARNING**

- To maintain the security (confidentiality, integrity, and availability) of the programmable controller and the system against unauthorized access, denial-of-service (DoS) attacks, computer viruses, and other cyberattacks from external devices via the network, take appropriate measures such as firewalls, virtual private networks (VPNs), and antivirus solutions.
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## [Installation Precautions]

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### **CAUTION**

- 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 electric shock or cause the module to fail or malfunction.
  - Use the programmable controller in an environment that meets the general specifications. Failure to do so may result in electric shock, fire, malfunction, or damage to or deterioration of the product.
  - To mount a module, place the concave part(s) located at the bottom onto the guide(s) of the base unit, and push in the module until the hook(s) located at the top snaps into place. Incorrect interconnection may cause malfunction, failure, or drop of the module.
  - To mount a module with no module fixing hook, place the concave part(s) located at the bottom onto the guide(s) of the base unit, push in the module, and fix it with screw(s). Incorrect interconnection 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 screws within the specified torque range. Undertightening can cause drop of the component or wire, short circuit, or malfunction. Overtightening can damage the screw and/or module, resulting in drop, short circuit, or malfunction.
  - When using an extension cable, connect it to the extension cable connector of the base unit securely. Check the connection for looseness. Poor contact may cause malfunction.
  - When using an SD memory card, fully insert it into the SD memory card slot. Check that it is inserted completely. Poor contact may cause malfunction.
  - Securely insert an extended SRAM cassette or a battery-less option cassette into the cassette connector of the CPU module. After insertion, close the cassette cover and check that the cassette is inserted completely. Poor contact may cause malfunction.
  - Beware that the module could be very hot while power is on and immediately after power-off.
  - Do not directly touch any conductive parts and electronic components of the module, SD memory card, extended SRAM cassette, battery-less option cassette, or connector. Doing so can cause malfunction or failure of the module.
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## [Wiring Precautions]

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### **WARNING**

- Shut off the external power supply (all phases) used in the system before installation and wiring. Failure to do so may result in electric shock or cause the module to fail or malfunction.
  - After installation and wiring, attach a blank cover module (RG60) to each empty slot before powering on the system for operation. Also, attach an extension connector protective cover\*1 to each unused extension cable connector as necessary. Directly touching any conductive parts of the connectors while power is on may result in electric shock.
  - Individually ground the FG and LG terminals of the programmable controller with a ground resistance of 100 ohms or less. Failure to do so may result in electric shock or malfunction.
  - 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.
  - Check the rated voltage and signal layout before wiring to the module, and connect the cables correctly. Connecting a power supply with a different voltage rating or incorrect wiring may cause fire or failure.
  - Connectors for external devices must be crimped or pressed with the tool specified by the manufacturer, or must be correctly soldered. Incomplete connections may cause short circuit, fire, or malfunction.
  - Securely connect the connector to the module. Poor contact may cause malfunction.
  - Do not install the control lines or communication cables together with the main circuit lines or power cables. Doing so may result in malfunction due to noise. Keep a distance of 100mm or more between those cables.
  - Place the cables in a duct or clamp them. If not, dangling cables may swing or inadvertently be pulled, resulting in malfunction or damage to modules or cables.  
In addition, the weight of the cables may put stress on modules in an environment of strong vibrations and shocks.  
Do not clamp the extension cables with the jacket stripped. Doing so may change the characteristics of the cables, resulting in malfunction.
  - Check the interface type and correctly connect the cable. Incorrect wiring (connecting the cable to an incorrect interface) may cause failure of the module and external device.
  - Tighten the terminal screws or connector screws within the specified torque range. Undertightening can cause drop of the screw, short circuit, fire, 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 screw. Pulling the cable connected to the module may result in malfunction or damage to the module or cable.
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## [Wiring Precautions]

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### **WARNING**

- Prevent foreign matter such as dust or wire chips from entering the module. Such foreign matter can cause a fire, failure, or malfunction.
- When a protective film is attached to the top of the module, remove it before system operation. If not, inadequate heat dissipation of the module may cause a fire, failure, or malfunction.
- 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 qualified maintenance personnel with knowledge of protection against electric shock.
- For Ethernet cables to be used in the system, select the ones that meet the specifications in the user's manual for the module used. If not, normal data transmission is not guaranteed.

#### [Precautions for using CC-Link IE Controller Network (when optical fiber cables are used)]

- For optical fiber cables to be used in the system, select the ones that meet the specifications in the MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup). If not, normal data transmission is not guaranteed.

#### [Precautions for using MELSECNET/H network modules]

- For optical fiber cables to be used in the system, select the ones that meet the specifications in the MELSEC iQ-R MELSECNET/H Network Module User's Manual (Startup). If not, normal data transmission is not guaranteed.
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## [Startup and Maintenance Precautions]

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### **WARNING**

- Do not touch any terminal while power is on. Doing so will cause electric shock or malfunction.
  - Correctly connect the battery connector. Do not charge, disassemble, heat, short-circuit, solder, or throw the battery into the fire. Also, do not expose it to liquid or strong shock. Doing so will cause the battery to produce heat, explode, ignite, or leak, resulting in injury and fire.
  - Shut off the external power supply (all phases) used in the system before cleaning the module or retightening the terminal screws, connector screws, or module fixing screws. Failure to do so may result in electric shock.
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## [Startup and Maintenance Precautions]

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### CAUTION

- When connecting an external device with a CPU module or 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, parameter change, forced output, or operating status change) of a running programmable controller, read the relevant manuals carefully and ensure that the operation is safe before proceeding. Improper operation may damage machines or cause accidents.
  - 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 disassemble or modify the modules. Doing so may cause failure, malfunction, injury, or a fire.
  - Use any radio communication device such as a cellular phone or PHS (Personal Handy-phone System) more than 25cm away in all directions from the programmable controller. Failure to do so may cause malfunction.
  - Shut off the external power supply (all phases) used in the system before mounting or removing the module. Failure to do so may cause the module to fail or malfunction.
  - Tighten the screws within the specified torque range. Undertightening can cause drop of the component or wire, short circuit, or malfunction. Overtightening can damage the screw and/or module, resulting in drop, short circuit, or malfunction.
  - After the first use of the product, do not perform each of the following operations more than 50 times (IEC 61131-2/JIS B 3502 compliant). Exceeding the limit may cause malfunction.
    - Mounting/removing the module to/from the base unit
    - Inserting/removing the extended SRAM cassette or battery-less option cassette to/from the CPU module
    - Mounting/removing the terminal block to/from the module
    - Connecting/disconnecting the extension cable to/from the base unit
  - After the first use of the product, do not insert/remove the SD memory card to/from the CPU module more than 500 times. Exceeding the limit may cause malfunction.
  - Do not touch the metal terminals on the back side of the SD memory card. Doing so may cause malfunction or failure of the module.
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## [Startup and Maintenance Precautions]

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### CAUTION

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- Do not touch the integrated circuits on the circuit board of an extended SRAM cassette or a battery-less option cassette. Doing so may cause malfunction or failure of the module.
  - Do not drop or apply shock to the battery to be installed in the module. Doing so may damage the battery, causing the battery fluid to leak inside the battery. If the battery is dropped or any shock is applied to it, dispose of it without using.
  - Startup and maintenance of a control panel must be performed by qualified maintenance personnel with knowledge of protection against electric shock. Lock the control panel so that only qualified maintenance personnel can operate it.
  - Before handling the module, touch a conducting object such as a grounded metal to discharge the static electricity from the human body. Wearing a grounded antistatic wrist strap is recommended. Failure to discharge the static electricity may cause the module to fail or malfunction.
  - After unpacking, eliminate static electricity from the module to prevent electrostatic discharge from affecting the module. If an electrostatically charged module comes in contact with a grounded metal object, a sudden electrostatic discharge of the module may cause failure.  
For details on how to eliminate static electricity from the module, refer to the following.  
Antistatic Precautions Before Using MELSEC iQ-R Series Products (FA-A-0368)
  - Use a clean and dry cloth to wipe off dirt on the module.
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## [Operating Precautions]

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### CAUTION

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- When changing data and operating status, and modifying program of the running programmable controller from an external device such as a personal computer connected to an intelligent function module, read relevant manuals carefully and ensure the safety before operation. Incorrect change or modification may cause system malfunction, damage to the machines, or accidents.
  - Do not power off the programmable controller or reset the CPU module while the setting values in the buffer memory are being written to the flash ROM in the module. Doing so will make the data in the flash ROM and SD memory card undefined. The values need to be set in the buffer memory and written to the flash ROM and SD memory card again. Doing so can cause malfunction or failure of the module.
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## [Computer Connection Precautions]

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### CAUTION

- When connecting a personal computer to a module having a USB interface, observe the following precautions as well as the instructions described in the manual for the personal computer used. Failure to do so may cause the module to fail.
  - (1) When the personal computer is AC-powered
    - When the personal computer has a 3-pin AC plug or an AC plug with a grounding wire, connect the plug to a grounding receptacle or ground the grounding wire. Ground the personal computer and the module with a ground resistance of 100 ohms or less.
    - When the personal computer has a 2-pin AC plug without a grounding wire, connect the computer to the module by following the procedure below. For power supplied to the personal computer and the module, using the same power source is recommended.
      1. Unplug the personal computer from the AC receptacle.
      2. Check that the personal computer is unplugged. Then, connect the personal computer to the module with a USB cable.
      3. Plug the personal computer into the AC receptacle.
  - (2) When the personal computer is battery-powered
    - The personal computer can be connected to the module without taking specific measures. For details, refer to the following.

Cautions When Using Mitsubishi Programmable Controllers or GOTs Connected to a Personal Computer With the RS-232/USB Interface (FA-A-0298)

When the USB cable used is the GT09-C30USB-5P manufactured by Mitsubishi Electric, specific measures are not required to connect the AC-powered personal computer to the module. However, note that the signal ground (SG) is common for the module and its USB interface. Therefore, if an SG potential difference occurs between the module and the connected devices, it causes failures of the module and the connected devices.

## [Disposal Precautions]

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### CAUTION

- When disposing of this product, treat it as industrial waste.
- When disposing of batteries, separate them from other wastes according to the local regulations. For details on battery regulations in EU member states, refer to the MELSEC iQ-R Module Configuration Manual.

## [Transportation Precautions]

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### CAUTION

- When transporting lithium batteries, follow the transportation regulations. For details on the regulated models, refer to the MELSEC iQ-R Module Configuration Manual.
- The halogens (such as fluorine, chlorine, bromine, and iodine), which are contained in a fumigant used for disinfection and pest control of wood packaging materials, may cause failure of the product. Prevent the entry of fumigant residues into the product or consider other methods (such as heat treatment) instead of fumigation. The disinfection and pest control measures must be applied to unprocessed raw wood.

# CONDITIONS OF USE FOR THE PRODUCT

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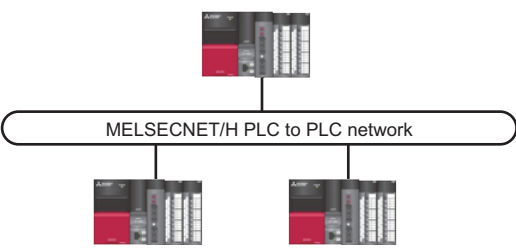
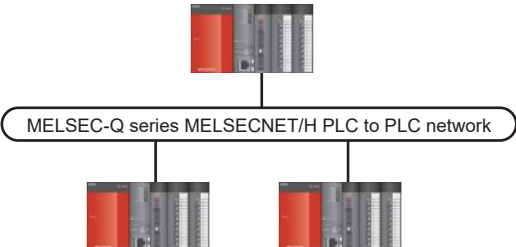

- (1) MELSEC programmable controller ("the PRODUCT") shall be used in conditions;
- i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and
  - ii) where the backup and fail-safe function are systematically or automatically provided 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 ELECTRIC 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 ELECTRIC USER'S, 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 Electric 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 Electric 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 Electric representative in your region.
- (3) Mitsubishi Electric shall have no responsibility or liability for any problems involving programmable controller trouble and system trouble caused by DoS attacks, unauthorized access, computer viruses, and other cyberattacks.

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# 1 INTRODUCTION

## 1.1 PLC to PLC Network Replacement

Before replacement	After replacement	System configuration consideration
<p>MELSEC-Q series MELSECNET/H optical loop (SI)</p> <p>QJ71LP21-25 QJ71LP21S-25</p> 	<p>MELSEC iQ-R series MELSECNET/H optical loop (SI)</p> <p>RJ71LP21-25</p> 	<ul style="list-style-type: none"> <li>For replacement of a network module with external power supply function (QJ71LP21S-25), the MELSEC iQ-R series MELSECNET/H has no plans to support products equivalent to the network module with external power supply function (QJ71LP21S-25).</li> </ul>
<p>MELSEC-Q series MELSECNET/H optical loop (SI)</p> <p>QJ71LP21-25 QJ71LP21S-25</p> 	<p>MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller</p> <p>QJ71GP21-SX/QJ71GP21S-SX RJ71GP21-SX/RJ71GP21S-SX</p> 	<ul style="list-style-type: none"> <li>The communication cables need to be rewired.</li> <li>When the distance between stations is longer than 550m, consider using a media converter.</li> <li>Use a media converter recommended by the CC-Link Partner Association.</li> <li>If the external power supply function is required, consider the replacement to the CC-Link IE Controller Network (RJ71GP21S-SX or QJ71GP21S-SX).</li> </ul>

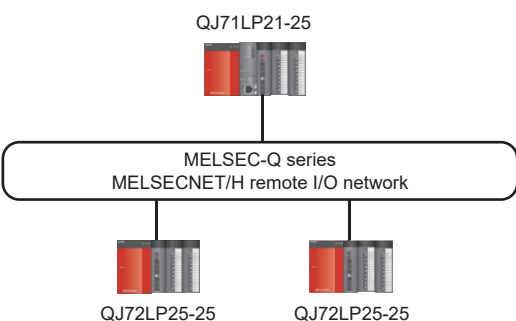
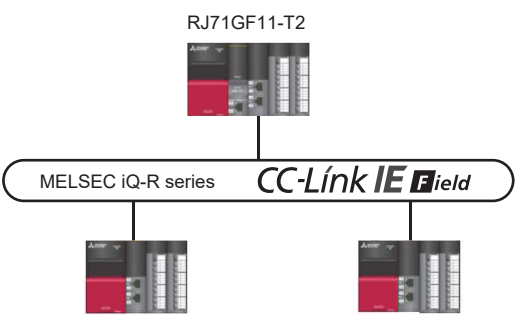
## 1.2 Remote I/O Network Replacement

The following two ways are available as the remote I/O network replacement methods.

In general, select the method of the replacement to the MELSEC iQ-R series CC-Link IE Field. Note that the communication cables need to be rewired.

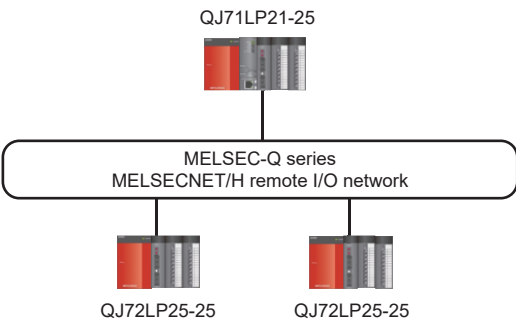
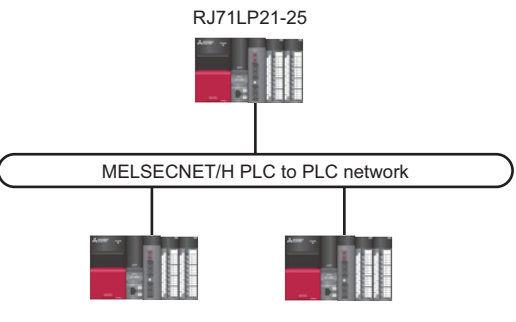
If the communication cables cannot be rewired, select the method of the replacement to the MELSEC iQ-R series MELSECNET/H (PLC to PLC network). However, since the network is replaced from the remote IO network to the PLC to PLC network, the replacement work will be harder than replacement to the MELSEC iQ-R series CC-Link IE Field.

### Replacement to the MELSEC iQ-R series CC-Link IE Field

Before replacement	After replacement	System configuration consideration
MELSEC-Q series MELSECNET/H remote I/O network	MELSEC iQ-R series CC-Link IE Field	
 <p>QJ71LP21-25</p> <p>MELSEC-Q series MELSECNET/H remote I/O network</p> <p>QJ72LP25-25 QJ72LP25-25</p>	 <p>RJ71GF11-T2</p> <p>MELSEC iQ-R series <b>CC-Link IE Field</b></p> <p>RJ72GF15-T2 RJ72GF15-T2</p>	<ul style="list-style-type: none"> <li>The communication cables need to be rewired.</li> <li>When the distance between stations is longer than 100m, consider using a switching hub*1 or media converter.</li> <li>Use a switching hub and media converter recommended by the CC-Link Partner Association.</li> <li>☞ Page 58 Replacement to the MELSEC iQ-R Series CC-Link IE Field</li> </ul>

\*1 The distance between stations can be extended by cascade connection of switching hubs.

### Replacement to the MELSEC iQ-R series MELSECNET/H (PLC to PLC network)

Before replacement	After replacement	System configuration consideration
MELSEC-Q series MELSECNET/H remote I/O network	MELSEC iQ-R series MELSECNET/H PLC to PLC network	
 <p>QJ71LP21-25</p> <p>MELSEC-Q series MELSECNET/H remote I/O network</p> <p>QJ72LP25-25 QJ72LP25-25</p>	 <p>RJ71LP21-25</p> <p>MELSECNET/H PLC to PLC network</p> <p>RJ71LP21-25 RJ71LP21-25</p>	<ul style="list-style-type: none"> <li>The RJ71LP21-25 cannot be operated as a remote master station. Consider the change to the PLC to PLC network. Also, the RJ71LP21-25 cannot be operated as a remote master station.</li> <li>☞ Page 88 Replacement to the MELSEC iQ-R Series MELSECNET/H (PLC to PLC Network)</li> </ul>

# 2 PLC TO PLC NETWORK REPLACEMENT

## 2.1 Replacement to the MELSEC iQ-R Series MELSECNET/H (PLC to PLC Network)

### Alternative model list

No.	Network type	Station type	MELSEC-Q series model	MELSEC iQ-R series alternative model
1	Optical loop	Control station/Normal station	QJ71LP21-25	RJ71LP21-25

### Comparison of specifications

#### Comparison of module specifications

○: Compatible, △: Partly changed, ×: Incompatible

No.	Item		Specifications		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
			QJ71LP21-25	RJ71LP21-25		
1	Maximum number of link points per network	X/Y	8192 points		○	-
2		B	16384 points (8192 points in the MELSECNET/10 mode)		○	-
3		W	16384 points (8192 points in the MELSECNET/10 mode)		○	-
4	Maximum number of link points per station		<ul style="list-style-type: none"> <li>MELSECNET/H mode, MELSECNET/10 mode  <math>\{(LY + LB) \div 8 + (2 \times LW)\} \leq 2000</math> bytes</li> <li>MELSECNET/H Extended mode  <math>\{(LY + LB) \div 8 + (2 \times LW)\} \leq 35840</math> bytes</li> </ul>		○	-
5	Communication speed		25Mbps/10Mbps (10Mbps in the MELSECNET/10 mode)		○	-
6	Number of stations per network		Up to 64 stations (1 control station, 63 normal stations)		○	-
7	Connection cable		Optical fiber cable		○	-
8	Overall distance		30km		○	-
9	Distance between stations	During 25Mbps	SI optical cables: 200m H-PCF optical cables: 400m Broad-band H-PCF optical cables: 1km QSI optical cables: 1km		○	-
10		During 10Mbps	SI optical cables: 500m H-PCF optical cables: 1km Broad-band H-PCF optical cables: 1km QSI optical cables: 1km		○	-
11	Maximum number of networks		239		○	-
12	Maximum number of groups		32 (9 in the MELSECNET/10 mode)		○	-
13	Transmission path format		Duplex loop		○	-
14	Communication method		Token ring		○	-
15	Number of occupied I/O points		32 points		○	-
16	Engineering tool		GX Works2	GX Works3	△	-



## Comparison of cable specifications

The overall distance and distance between stations do not differ according to the optical fiber cable.

The following table lists the specifications of optical fiber cables.

Type	Model name (Manufacturer: Mitsubishi Electric System & Service Co., Ltd.)	Distance between stations		Applicable connector
		During 25Mbps	During 10Mbps	
H-PCF optical fiber cable	AS series	400m	1000m	F06/F08 or equivalent (OITDA*1CN 03/04 compliant)
Broad-band H-PCF optical fiber cable	QH series	1000m	1000m	
Broad-band quartz glass optical fiber cable	QL series	1000m	1000m	

\*1 OITDA: Optoelectronics Industry and Technology Development Association

Optical fiber cables with connectors (optical fiber cables for MELSEC) are available from Mitsubishi Electric System & Service Co., Ltd. (Catalogs of the optical fiber cables are also available.)

For cabling, consult your local Mitsubishi Electric System & Service representative.

## Comparison of functions

○: Compatible, △: Partly changed, ×: Incompatible

No.	Item	Function	Description		Compatibility	Precaution on replacement		
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module				
			QJ71LP21-25	RJ71LP21-25				
1	Cyclic transmission function	Cyclic transmission	Periodically allows data communication between stations on the same network using the link devices (LB/LW/LX/LY).		○	-		
2		Low-speed cyclic transmission	Periodically allows data communication to an extent that does not require high-speed transmission between stations on the same network using the link devices (LB/LW).		○	-		
3		Refresh	Link refresh	Automatically transfers data between a link device in the network module and a device in the CPU module.	Automatically transfers data between a link device in the network module and a device in the CPU module. Refresh can be performed on labels as well.	○	-	
4				Direct access to link devices	Directly reads from or writes to link devices (LB/LW/LX/LY/SB/SW) of the network module from sequence programs.		○	-
5				Constant link scan	Keeps the link scan time at the level of the setting time.		○	-
6			Data assurance	Assures the cyclic data integrity in units of 32 bits or station-based units.		○	-	
7			Interlink transmission	Transfers data in the link devices of the network module to another network module on a relay station.	Transfers data in the link devices of the network module to another network module on a relay station. Between MELSEC iQ-R series modules, high-speed interlink transmission can be performed without going through the CPU module.	○	-	
8			Station inherent parameters	Parameters used for rearranging each station's transmission ranges (LB, LW)	No station inherent parameter settings are available.	△	Replace assignments of station inherent parameters with refresh parameters.	

No.	Item	Function	Description		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
			QJ71LP21-25	RJ71LP21-25		
9	Transient transmission function	Link dedicated instruction communication	Performs communications with other stations using the link dedicated instructions.		○	-
10		Access to other stations with an engineering tool	With an engineering tool, allows seamless access to a system in a different network.		○	-
11		Routing function	Allows transient transmissions to stations of other network in a multi-network system.		○	-
12		Maximum no. of transients in 1 scan	Set the number of transients (total for one entire network) that one network can execute in one link scan.	Set the number of transients (total for one entire network) that one network can execute in one link scan.	○	-
13		Maximum no. of transients in one station	Set the number of transients that one station can execute in one link scan.	Set the number of transients that one station can execute in one link scan.	○	-
14	RAS function	Automatic return	Automatically reconnects a station, which was disconnected from a network due to a data link error and has recovered from the error, to the network and restarts data link.		○	-
15		Control station switch	Continues the data link by operating another normal station as a sub-control station even if the control station goes down.		○	-
16		Control station return control	Corrects the errors that caused the control station to go down and make it return to the network as a normal station so that the network stop time is shortened.		○	-
17		Loopback function	Isolates a disconnected cable or faulty station from the network, so that data link can be continued among normally operating stations.		○	-
18	Application functions	Starting interrupt sequence program	Checks interrupt conditions at every link scan, sends an interrupt request to the CPU module to start the interrupt program if the interrupt conditions are met.		○	-
19	Application functions	Multiplex transmission function	Performs high speed communication using duplex transmission path (forward loop and reverse loop).	Performs high speed communication using duplex transmission path (forward loop and reverse loop). In the environment where the QJ71LP21-25 with multiplex transmission operates as a control station, the RJ71LP21-25 is allowed to participate in the network as a sub-control station or normal station.	○	-
20		Send points increase	Increases the number of send points (a maximum of 2000 bytes per station) to a maximum of 8000 bytes (when four modules are mounted) by mounting multiple modules with the same network number to one CPU module.		○	-

## Comparison of switch settings

○: Compatible, △: Partly changed, ×: Incompatible

No.	Switch name	Description		Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
		QJ71LP21-25	RJ71LP21-25		
1	Station number setting switch	Used to set the station number.	-	△	Set the station number using the GX Works3 module parameter.
2	Mode setting switch	Used to set the operation mode or self-diagnostics test mode.	-	△	Set the operation mode using the GX Works3 module parameter.

# Comparison of parameters

○: Compatible, △: Partly changed, ×: Incompatible

No.	Item	Function	Description		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
			QJ71LP21-25	RJ71LP21-25		
1	Required Settings	Station Type	Set the network type and station type.		○	-
2		Network No.	Set the network number.		○	-
3		Station No.	For the setting, use the station number setting switch.	Set the station number.	△	Set the station number using the GX Works3 module parameter.
4		Network Range Assignment	Set parameters of each station (the number of points and assignment of link devices) in the control station.		○	-
5		Operation after Reconnection	Set the station type of when the control station returns.		○	-
6		Transmission Speed	For the setting, use the mode setting switch.	Set the transmission speed.	△	Set the station number using the GX Works3 module parameter.
7	Basic Settings	Link Refresh Settings	Set the link refresh ranges between the link devices (LB, LW, LX, LY, SB, SW) in the network module and the CPU module devices.	Set the link refresh ranges between the link devices (LB, LW, LX, LY, SB, SW) in the network module and the CPU module devices. The ranges can be set between module labels.	○	-
8	Application Settings	Supplementary Cyclic Settings	Set the data link monitoring time and system switching monitoring time.		○	-
9		Interrupt Settings	Set conditions for sending an interrupt request to the CPU module.		○	-
10		Transient Transmission Group No.	Set a group number for transient transmission with group specification.		○	-
11		Routing function	For the setting, use the routing parameters.	For the setting, use the routing parameters. ((Dynamic Routing) is also available.)	○	-
12		Parameter Name	Set a name for the module parameter arbitrarily.		○	-
13	Module Operation Mode	Set the operation mode. However, set the following modes with the mode setting switch. <ul style="list-style-type: none"> <li>• Self-loopback Test</li> <li>• Internal Self-loopback Test</li> <li>• Hardware test</li> </ul>	Set the operation mode.	○	-	
14	Interlink Transmission Settings	Set link device ranges when cyclic data are transferred from a station in the own network to a station in another network.		○	-	
15	Redundant System Settings	Set the operation mode for the network module mounted on system B in a redundant system.	Set the operation mode for the network module mounted on system B in a redundant system. This item can be set only when "RJ71LP21-25(R)" is selected for the module model name.	○	-	

# Comparison of programs

## Comparison of special relay and special register

### ■Link special relay

○: Compatible, △: Partly changed, ×: Incompatible

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
1	SB0000	Link startup (host)	Restarts the host's cyclic transmission.	SB0000	Link startup of own station	Restarts the own station's cyclic transmission.	○	-
2	SB0001	Link stop (host)	Stops the host's cyclic transmission.	SB0001	Link stop of own station	Stops the own station's cyclic transmission.	○	-
3	SB0002	System link startup	Restarts the cyclic transmission according to the contents of SW0000 to SW0004.	SB0002	System link start	Restarts the cyclic transmission according to the contents of SW0000 to SW0004.	○	-
4	SB0003	System link stop	Stops the cyclic transmission according to the contents of SW0000 to SW0004.	SB0003	System link stop	Stops the cyclic transmission according to the contents of SW0000 to SW0004.	○	-
5	SB0005	Clear retry count	Clears the retry count (SW00C8 to SW00C9) to 0.	SB0005	Clear retry count	Clears the retry count (SW00C8 to SW00C9) to 0.	○	-
6	SB0006	Clear communication error count	Clears the communication error (SW00B8 to SW00C7) to 0.	SB0006	Clear communication error count	Clears the communication error (SW00B8 to SW00C7) to 0.	○	-
7	SB0007	Clear forward loop transmission errors	Clears the line abnormal detection (SW00CC) of the forward loop side to 0.	SB0007	Clear forward loop transmission error count	Clears the line abnormal detection (SW00CC) of the forward loop side to 0.	○	-
8	SB0008	Clear reverse loop transmission errors	Clears the line abnormal detection (SW00CD) of the reverse loop side to 0.	SB0008	Clear reverse loop transmission error count	Clears the line abnormal detection (SW00CD) of the reverse loop side to 0.	○	-
9	SB0009	Clear loop switch count	Clears the loop switch count (SW00CE to SW00E7) to 0.	SB0009	Clear loop switching count	Clears the loop switch count (SW00CE to SW00E7) to 0.	○	-
10	SB000A	Clear transient transmission errors	Clears the transient transmission errors (SW00EE, SW00EF) to 0.	SB000A	Clear transient transmission error count	Clears the transient transmission errors (SW00EE, SW00EF) to 0.	○	-
11	SB000B	Transient transmission error area setting	Designates whether to overwrite or retain the transient transmission errors (SW00F0 to SW00FF).	SB000B	Transient transmission error area setting	Designates whether to overwrite or retain the transient transmission errors (SW00F0 to SW00FF).	○	-
12	SB0011	Data link operation designation	Designates the data link operation.	SB0011	Data link operation designation	Designates the data link operation.	○	-
13	SB0018	System switching monitoring time setting valid flag	Indicates whether the system switching monitoring time setting (SW0018) is valid or invalid in case of a data link error.	SB0018	System switching monitoring time setting valid flag	Indicates whether the system switching monitoring time setting (SW0018) is valid or invalid in case of a data link error.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
14	SB0020	Module status	Indicates the communication status between the network module and CPU module.	SB0020	Communication status with CPU module	Indicates the communication status between the network module and CPU module.	○	-
15	SB0040	Network type (host)	Indicates the network type set with the parameters of the host's network module.	SB0040	Network type of own station	Indicates the network type set with the parameters of the own station's network module.	○	-
16	SB0041	Host station's redundant function support information	Indicates whether the station supports the redundant function or not.	SB0041	Redundant function information of own station	Indicates whether the station supports the redundant function or not.	○	-
17	SB0043	Online switch (host)	Indicates the mode set by the switch of the host's network module.	SB0043	Mode of own station	Indicates the mode set by the switch of the own station's network module.	○	-
18	SB0044	Station setting (host)	Indicates the station type set with the parameter of the host's network module.	SB0044	Station setting of own station	Indicates the station type set with the parameter of the own station's network module.	○	-
19	SB0045	Setting information (host)	Indicates the switch setting information (including parameter settings) of the host's network module.	-	-	-	×	-
20	SB0046	Data link operation designation result (host)	Indicates the switch setting information (including parameter settings) of the host's network module.	SB0046	Data link operation designation result of own station	Indicates the switch setting information (including parameter settings) of the own station's network module.	○	-
21	SB0047	Baton pass status (host)	Indicates the host's baton pass status (transient transmission enabled).	SB0047	Baton pass error status of own station	Indicates the own station's baton pass status (transient transmission enabled).	○	-
22	SB0048	Control station status (host)	Indicates the host's status.	SB0048	Station status of own station	Indicates the own station's status.	○	-
23	SB0049	Host data link status	Indicates the host's data link operation status.	SB0049	Data link error status of own station	Indicates the own station's data link operation status.	○	-
24	SB004A	Host CPU status (1)	Indicates the host's CPU status.	SB004A	CPU minor error status of own station	Indicates the own station's CPU status.	○	-
25	SB004B	Host CPU status (2)	Indicates the host's CPU status.	SB004B	CPU moderate to major error status of own station	Indicates the own station's CPU status.	○	-
26	SB004C	Cyclic transmission start acknowledgment status (host)	Indicates the startup acknowledgment status of the cyclic transmission.	SB004C	Link start request accept status of own station	Indicates the start request accept status of the cyclic transmission.	○	-
27	SB004D	Cyclic transmission start completion status (host)	Indicates the completion status of the cyclic transmission.	SB004D	Link start completion status of own station	Indicates the completion status of the cyclic transmission.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC IQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
28	SB004E	Cyclic transmission stop acknowledgment status (host)	Indicates the stop acknowledgment status of the cyclic transmission.	SB004E	Link stop request accept status of own station	Indicates the stop request accept status of the cyclic transmission.	○	-
29	SB004F	Cyclic transmission stop completion status (host)	Indicates the stop completion status of the cyclic transmission.	SB004F	Link stop completion status of own station	Indicates the stop completion status of the cyclic transmission.	○	-
30	SB0050	Cyclic transmission start acknowledgment status (system)	Indicates the startup acknowledgment status of the cyclic transmission.	SB0050	System link start request accept status	Indicates the start request accept status of the cyclic transmission.	○	-
31	SB0051	Cyclic transmission start completion status (system)	Indicates the completion status of the cyclic transmission.	SB0051	System link start completion status	Indicates the completion status of the cyclic transmission.	○	-
32	SB0052	Cyclic transmission stop acknowledgment status (system)	Indicates the stop acknowledgment status of the cyclic transmission.	SB0052	System link stop request accept status	Indicates the stop request accept status of the cyclic transmission.	○	-
33	SB0053	Cyclic transmission stop completion status (system)	Indicates the stop completion status of the cyclic transmission.	SB0053	System link stop completion status	Indicates the stop completion status of the cyclic transmission.	○	-
34	SB0054	Parameter receive status	Indicates the parameter receive status.	SB0054	Parameter reception incomplete status	Indicates the parameter receive status.	○	-
35	SB0055	Received parameter error	Indicates the status of the received parameters.	SB0055	Receive parameter error	Indicates the status of the received parameters.	○	-
36	SB0056	Communication status	Indicates the status of the transient transmission.	SB0056	Communication status	Indicates the status of the transient transmission.	○	-
37	SB0057	Parameter type	Indicates the parameter type.	SB0057	Parameter type	Indicates the parameter type.	○	-
38	SB0058	Operation designation at sub-fault of control station	Indicates the setting of "With data link by sub-control station when control station is down".	SB0058	Operation designation at sub-fault of control or remote master station	Indicates the setting of "With data link by sub-control station when control station is down".	○	-
39	SB0059	Low-speed cyclic designation	Indicates whether or not there are any parameter settings for the low-speed cyclic transmission.	SB0059	Low-speed cyclic designation	Indicates whether or not there are any parameter settings for the low-speed cyclic transmission.	○	-
40	SB005A	Parameter type 2	Indicates the parameter type of the control station.	SB005A	Control station type	Indicates the parameter type of the control station.	○	-
41	SB005C	I/O master station (Block 1)	Indicates the I/O master station setting (Common parameter setting) of block 1.	SB005C	Block 1 I/O master station	Indicates the I/O master station setting (Common parameter setting) of block 1.	○	-
42	SB005D	I/O master station (Block 2)	Indicates the I/O master station setting (Common parameter setting) of block 2.	SB005D	Block 2 I/O master station	Indicates the I/O master station setting (Common parameter setting) of block 2.	○	-
43	SB0064	Reserved station designation	Indicates whether or not the station is reserved.	SB0064	Reserved station setting status	Indicates whether or not the station is reserved.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
44	SB0068	Communication mode	Indicates the link scan mode (status of supplementary settings of the common parameters).	SB0068	Constant link scan status	Indicates the link scan mode (status of supplementary settings of the common parameters).	○	-
45	SB0069	Multiplex transmission designation	Indicates the transmission designation status (status of supplementary settings of the common parameters).	SB0069	Multiplex transmission designation	Indicates the transmission designation status (status of supplementary settings of the common parameters).	○	-
46	SB006A	Multiplex transmission status	Indicates the transmission status.	SB006A	Multiplex transmission status	Indicates the transmission status.	○	-
47	SB0070	Baton pass status of each station	Indicates the baton pass status of each station.	SB0070	Baton pass status of each station	Indicates the baton pass status of each station.	○	-
48	SB0074	Cyclic transmission status of each station	Indicates the cyclic transmission status of each station.	SB0074	Data link error status of each station	Indicates the cyclic transmission status of each station.	○	-
49	SB0078	Parameter communication status of each station	Indicates the parameter transmission status of each station.	SB0078	Parameter communication status of each station	Indicates the parameter transmission status of each station.	○	-
50	SB007A to SB007B	Low-speed cyclic communication status	Indicates the low-speed cycle communication status.	SB007A to SB007B	Low-speed cyclic communication status	Indicates the low-speed cycle communication status.	○	-
51	SB007C	Parameter status of each station	Indicates the parameter status of each station.	SB007C	Parameter status of each station	Indicates the parameter status of each station.	○	-
52	SB0080	CPU operation status of each station (1)	Indicates the CPU operating status of each station. Off: All stations normal On: A moderate or serious error identified	SB0080	CPU operation status of each station (1)	Indicates the CPU operating status of each station. Off: All stations normal On: A moderate or serious error identified	○	-
53	SB0084	CPU RUN status of each station	Indicates the CPU RUN status of each station.	SB0084	CPU operating status of each station	Indicates the CPU operating status of each station.	○	-
54	SB0088	CPU operation status of each station (2)	Indicates the CPU operating status of each station. Off: All stations normal On: Stations with minor errors exist	SB0088	CPU operating status of each station (2)	Indicates the CPU operating status of each station. Off: All stations normal On: Stations with minor errors exist	○	-
55	SB008C	External power supply information	Indicates the information of the external power supply.	SB008C	External power supply information of each station	Indicates the information of the external power supply.	○	-
56	SB008D	Module type of each station	Indicates the module type of each station.	SB008D	Module type of each station	Indicates the module type of each station.	○	-
57	SB0090	Host loop status	Indicates the host's loop status.	SB0090	Loop status of own station	Indicates the own station's loop status.	○	-
58	SB0091	Forward loop status	Indicates the status of stations connected to the forward loop.	SB0091	Forward loop (IN-side) status	Indicates the status of stations connected to the forward loop.	○	-
59	SB0095	Reverse loop status	Indicates the status of stations connected to the reverse loop.	SB0095	Reverse loop (OUT-side) status	Indicates the status of stations connected to the reverse loop.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
60	SB0099	Forward loop loopback	Indicates the loopback status of the forward loop while the system is operating.	SB0099	Forward (IN-side) loopback status	Indicates the loopback status of the forward loop while the system is operating.	○	-
61	SB009A	Reverse loop loopback	Indicates the loopback status of the reverse loop while the system is operating.	SB009A	Reverse (OUT-side) loopback status	Indicates the loopback status of the reverse loop while the system is operating.	○	-
62	SB009C	Send transmission path mismatch status	Indicates the status of the transmission path used for sending by other stations.	SB009C	Send transmission path mismatch status	Indicates the status of the transmission path used for sending by other stations.	○	-
63	SB00A0	RECV instruction execution request flag (1)	Stores the data reception status of channel 1 of the host station.	SB00A0	RECV execution request flag CH1	Stores the data reception status of own station channel 1.	○	-
64	SB00A1	RECV instruction execution request flag (2)	Stores the data reception status of channel 2 of the host station.	SB00A1	RECV execution request flag CH2	Stores the data reception status of own station channel 2.	○	-
65	SB00A2	RECV instruction execution request flag (3)	Stores the data reception status of channel 3 of the host station.	SB00A2	RECV execution request flag CH3	Stores the data reception status of own station channel 3.	○	-
66	SB00A3	RECV instruction execution request flag (4)	Stores the data reception status of channel 4 of the host station.	SB00A3	RECV execution request flag CH4	Stores the data reception status of own station channel 4.	○	-
67	SB00A4	RECV instruction execution request flag (5)	Stores the data reception status of channel 5 of the host station.	SB00A4	RECV execution request flag CH5	Stores the data reception status of own station channel 5.	○	-
68	SB00A5	RECV instruction execution request flag (6)	Stores the data reception status of channel 6 of the host station.	SB00A5	RECV execution request flag CH6	Stores the data reception status of own station channel 6.	○	-
69	SB00A6	RECV instruction execution request flag (7)	Stores the data reception status of channel 7 of the host station.	SB00A6	RECV execution request flag CH7	Stores the data reception status of own station channel 7.	○	-
70	SB00A7	RECV instruction execution request flag (8)	Stores the data reception status of channel 8 of the host station.	SB00A7	RECV execution request flag CH8	Stores the data reception status of own station channel 8.	○	-
71	SB00A8	Online test instruction	Indicates the online test instruction status.	SB00A8	Online test instruction (acceptance at the own station)	Indicates the online test instruction status.	○	-
72	SB00A9	Online test completion	Indicates the online test completion status.	SB00A9	Online test completion (issuance at the own station)	Indicates the online test completion status.	○	-
73	SB00AA	Online test response instruction	Indicates the online test response status.	SB00AA	Online test response instruction (acceptance at another station)	Indicates the online test response status.	○	-
74	SB00AB	Online test response completion	Indicates the online test response completion status.	SB00AB	Online test response completion (issuance at another station)	Indicates the online test response completion status.	○	-



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	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
75	SB00AC	Offline test instruction	Indicates the offline test instruction status.	SB00AC	Offline test instruction (acceptance at the own station)	Indicates the offline test instruction status.	○	-
76	SB00AD	Offline test completion	Indicates the offline test completion status.	SB00AD	Offline test completion (issuance at the own station)	Indicates the offline test completion status.	○	-
77	SB00AE	Offline test response	Indicates the response status for offline test.	SB00AE	Offline test response instruction (acceptance at another station)	Indicates the response status for offline test.	○	-
78	SB00AF	Offline test response completion	Indicates the response status for offline test end.	SB00AF	Offline test response completion (issuance at another station)	Indicates the response status for offline test end.	○	-
79	SB00EE	Transient error	Indicates the transient transmission error status.	SB00EE	Same as on the left	Indicates the transient transmission error status.	○	-
80	SB01E0	Network type consistency check	Indicates whether there is a mismatch between the network types of the control station and normal stations on the network.	SB01E0	Network type consistency check	Indicates the status of the occurrence of inconsistency between the network type of the control station and the network type of the normal station on the network.	○	-
81	SB01F4	Redundant system status (1)	Indicates the operation mode of each station's CPU.	SB01F4	Separate mode status in redundant system	Indicates the operation mode of each station's CPU.	○	-
82	SB01F8	Redundant system status (2)	Indicates the pairing setting status of each station.	SB01F8	Pairing setting status in redundant system	Indicates the pairing setting status of each station.	○	-
83	SB01FC	Redundant system status (3)	Indicates the operation status of each station's CPU (control system/standby system).	SB01FC	Standby system CPU status in redundant system	Indicates the operation status of each station's CPU (control system/standby system).	○	-

## ■Link special register

○: Compatible, △: Partly changed, ×: Incompatible

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
1	SW0000	Link stop/startup direction content	Sets the station that stops/restarts data linking.	SW0000	Link start/stop instruction details	Sets the station that stops/restarts data linking.	○	-
2	SW0001 to SW0004	Link stop/startup direction content	Sets whether the designated station executes data linking.	SW0001 to SW0004	Link stop/startup direction content	Sets whether the designated station executes data linking.	○	-
3	SW0008	Logical channel setting (channel 1)	Sets the logical channel number for physical channel number 1.	SW0008	Logical channel setting (Channel 1)	Set the channel number for Physical Channel 1.	○	-
4	SW0009	Logical channel setting (channel 2)	Sets the logical channel number for physical channel number 2.	SW0009	Logical channel setting (Channel 2)	Set the channel number for Physical Channel 2.	○	-
5	SW000A	Logical channel setting (channel 3)	Sets the logical channel number for physical channel number 3.	SW000A	Logical channel setting (Channel 3)	Set the channel number for Physical Channel 3.	○	-
6	SW000B	Logical channel setting (channel 4)	Sets the logical channel number for physical channel number 4.	SW000B	Logical channel setting (Channel 4)	Set the channel number for Physical Channel 4.	○	-
7	SW000C	Logical channel setting (channel 5)	Sets the logical channel number for physical channel number 5.	SW000C	Logical channel setting (Channel 5)	Set the channel number for Physical Channel 5.	○	-
8	SW000D	Logical channel setting (channel 6)	Sets the logical channel number for physical channel number 6.	SW000D	Logical channel setting (Channel 6)	Set the channel number for Physical Channel 6.	○	-
9	SW000E	Logical channel setting (channel 7)	Sets the logical channel number for physical channel number 7.	SW000E	Logical channel setting (Channel 7)	Set the channel number for Physical Channel 7.	○	-
10	SW000F	Logical channel setting (channel 8)	Sets the logical channel number for physical channel number 8.	SW000F	Logical channel setting (Channel 8)	Set the channel number for Physical Channel 8.	○	-
11	SW0018	System switching monitoring time setting	Set the time from the occurrence of a data link error to the recognition of data link stop in the redundant system.	SW0018	System switching monitoring time setting	Sets the time from when a data link error occurs to when the data link stop is recognized in a redundant system.	○	-
12	SW001C	Number of retries	Indicates the change of the number of retries for the time of the issue of a request in send and receive instructions.	-	-	-	×	-
13	SW001D	Retry interval	Indicates the change of the retry interval for the time of the issue of a request in send and receive instructions.	-	-	-	×	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
14	SW001E	Number of gates	Indicates the change of the number of gates for the time of the issue of a request in send and receive instructions.	-	-	-	×	-
15	SW0020	Module status	Stores the communication status between the network module and CPU module.	SW0020	Communication status with CPU module	Stores the communication status between the network module and CPU module.	○	-
16	SW0031	ZNRD instruction processing result	Indicates the processing result of the ZNRD instruction.	SW0031	Link dedicated instructions processing result CH1	Stores the processing results of the link dedicated instruction that used channel 1 of the own station.	○	-
		Send/receive instruction (1) processing result	Indicates the processing results of the case when physical channel 1 is used.					
17	SW0033	ZNWR instruction processing result	Indicates the processing result of the ZNWR instruction.	SW0033	Link dedicated instructions processing result CH2	Stores the processing results of the link dedicated instruction that used channel 2 of the own station.	○	-
		Send/receive instruction (2) processing result	Indicates the processing results of the case when physical channel 2 is used.					
18	SW0035	Send/receive instruction (3) processing result	Indicates the processing results of the case when physical channel 3 is used.	SW0035	Link dedicated instructions processing result CH3	Stores the processing results of the link dedicated instruction that used channel 3 of the own station.	○	-
19	SW0037	Send/receive instruction (4) processing result	Indicates the processing results of the case when physical channel 4 is used.	SW0037	Link dedicated instructions processing result CH4	Stores the processing results of the link dedicated instruction that used channel 4 of the own station.	○	-
20	SW0039	Send/receive instruction (5) processing result	Indicates the processing results of the case when physical channel 5 is used.	SW0039	Link dedicated instructions processing result CH5	Stores the processing results of the link dedicated instruction that used channel 5 of the own station.	○	-
21	SW003B	Send/receive instruction (6) processing result	Indicates the processing results of the case when physical channel 6 is used.	SW003B	Link dedicated instructions processing result CH6	Stores the processing results of the link dedicated instruction that used channel 6 of the own station.	○	-
22	SW003D	Send/receive instruction (7) processing result	Indicates the processing results of the case when physical channel 7 is used.	SW003D	Link dedicated instructions processing result CH7	Stores the processing results of the link dedicated instruction that used channel 7 of the own station.	○	-
23	SW003F	Send/receive instruction (8) processing result	Indicates the processing results of the case when physical channel 8 is used.	SW003F	Link dedicated instructions processing result CH8	Stores the processing results of the link dedicated instruction that used channel 8 of the own station.	○	-
24	SW0040	Network No.	Stores the network number of the host.	SW0040	Network No.	Stores the network number of the own station.	○	-
25	SW0041	Group No.	Stores the group number of the host.	SW0041	Transient transmission group No.	Stores the group number of the own station.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
26	SW0042	Station No.	Stores the station No. of host station.	SW0042	Station No.	Stores the station number of the own station.	○	-
27	SW0043	Mode status	Stores the mode status of the host. 0: Online 2: Offline 3 or more: Applicable test	SW0043	Mode status of own station	Stores the mode status of the own station. 0: Online 2: Offline 3 or more: Applicable test	○	-
28	SW0044	Station setting	Stores the condition setting switch status of the host.	SW0044	Station setting	Stores the condition setting switch status of the own station.	○	-
29	SW0046	Module type	Stores the network module type of the host.	SW0046	Module type	Stores the network module type of the own station.	○	-
30	SW0047	Baton pass status (host)	Stores the baton pass status of the host.	SW0047	Baton pass status of own station	Stores the baton pass status of the own station.	○	-
31	SW0048	Cause of baton pass interruption	Stores the cause of baton pass interruption of the host.	SW0048	Cause of baton pass interruption	Stores the cause of baton pass interruption of the own station.	○	-
32	SW0049	Cause of data link stop	Stores the cause of data linking stop of the host.	SW0049	Cause of data link stop	Stores the cause of data linking stop of the own station.	○	-
33	SW004A	Data linking stop request station	Stores the station that stopped the host data linking.	SW004A	Data link stop request station	Stores the station that stopped the data linking of the own station.	○	-
34	SW004B	Host CPU status	Indicates the CPU status of the host.	SW004B	CPU status of own station	Indicates the CPU status of the own station.	○	-
35	SW004D	Data linking start status (host)	Stores the result of starting cyclic transmission with Link startup (host) (SB0000).	SW004D	Link start result of own station	Stores the results when cyclic transmission is started by Link startup of own station (SB0000).	○	-
36	SW004F	Data linking stop status (host)	Stores the result of stopping cyclic transmission with Link stop (host) (SB0001).	SW004F	Link stop result of own station	Stores the results when cyclic transmission is stopped by Link stop of own station (SB0001).	○	-
37	SW0051	Data linking start status (entire system)	Stores the result of starting cyclic transmission with System link startup (SB0002).	SW0051	System link start results	Stores the results when cyclic transmission is started by System link start (SB0002).	○	-
38	SW0053	Data linking stop status (entire system)	Stores the result of stopping cyclic transmission with System link stop (SB0003).	SW0053	System link stop results	Stores the results when cyclic transmission is stopped by System link stop (SB0003).	○	-
39	SW0054	Parameter information	Stores the parameter information.	SW0054	Parameter information	Stores parameter information.	○	-
40	SW0055	Parameter setting status	Stores the parameter status.	SW0055	Parameter setting status	Stores the parameter status.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
41	SW0056	Current control station	Stores the number of the station that actually operates as the control station.	SW0056	Current control station	Stores the station number of the station which is actually operating as a control station.	○	-
42	SW0057	Designated control station	Stores the number of the station that is set as the control station.	SW0057	Designated control station	Stores the control station number that has been set as the control station.	○	-
43	SW0059	Total number of link stations	Stores the total number of link stations that is set with the parameters.	SW0059	Total number of link stations	Stores the total number of stations which is set by a parameter.	○	-
44	SW005A	Maximum baton pass station	Stores the maximum station number among the stations executing the baton pass.	SW005A	Maximum baton pass station	Stores the maximum station number among the stations executing the baton pass.	○	-
45	SW005B	Maximum cyclic transmission station	Stores the maximum station number among the stations executing the cyclic transmission.	SW005B	Maximum data link station	Stores the maximum station number among the stations executing the cyclic transmission.	○	-
46	SW005C	I/O master station (block 1)	Stores the station number of the I/O master station of block 1 with PLC to PLC network.	SW005C	I/O master station of block 1	Stores the station number of the I/O master station of block 1 with PLC to PLC network.	○	-
47	SW005D	I/O master station (block 2)	Stores the station number of the I/O master station of block 2 with PLC to PLC network.	SW005D	I/O master station of block 2	Stores the station number of the I/O master station of block 2 with PLC to PLC network.	○	-
48	SW0064 to SW0067	Reserved station designation	Stores the stations that are set as reserved stations.	SW0064 to SW0067	Reserved station setting status	Stores a station that is set as a reserved station.	○	-
49	SW0068	Communication mode	Stores the status of the constant link scan settings.	SW0068	Constant link scan set value	Stores the status of the constant link scan settings.	○	-
50	SW0069	Communication speed setting value	Stores the value set in the communication speed parameter.	-	-	-	×	-
51	SW006A	Current communication speed value	Stores the current communication speed.	-	-	-	×	-
52	SW006B	Maximum link scan time	Stores the maximum value of the link scan time.	SW006B	Maximum link scan time	Stores the maximum value of the link scan time.	○	-
53	SW006C	Minimum link scan time	Stores the minimum value of the link scan time.	SW006C	Minimum link scan time	Stores the minimum value of the link scan time.	○	-
54	SW006D	Current link scan time	Stores the current value of the link scan time.	SW006D	Current link scan time	Stores the current value of the link scan time.	○	-
55	SW006E	Low-speed cyclic scan time	Stores the number of link scans in the send interval of the low-speed cyclic transmission.	SW006E	Low-speed cyclic scan time	Stores the number of link scans in the send interval of the low-speed cyclic transmission.	○	-
56	SW0070 to SW0073	Baton pass status of each station	Stores the baton pass status of each station (including the host).	SW0070 to SW0073	Baton pass status	Stores the baton pass status of each station (including the own station).	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
57	SW0074 to SW0077	Cyclic transmission status of each station	Stores the cyclic transmission status of each station.	SW0074 to SW0077	Data link status	Stores the cyclic transmission status of each station.	○	-
58	SW0078 to SW007B	Parameter communication status of each station	Stores the parameter communication status of each station.	SW0078 to SW007B	Parameter communication status	Stores the parameter communication status of each station.	○	-
59	SW007C to SW007F	Parameter error status of each station	Stores the parameter status of each station.	SW007C to SW007F	Parameter error status	Stores the parameter status of each station.	○	-
60	SW0080 to SW0083	CPU operation status of each station (1)	Stores each station's CPU status.	SW0080 to SW0083	CPU moderate to major error occurrence status	Stores each station's CPU status.	○	-
61	SW0084 to SW0087	CPU RUN status of each station	Stores the CPU RUN status of each station.	SW0084 to SW0087	CPU operating status	Stores the CPU RUN state of each station.	○	-
62	SW0088 to SW008B	CPU operation status of each station (2)	Stores each station's CPU status.	SW0088 to SW008B	CPU minor error occurrence status	Stores each station's CPU status.	○	-
63	SW008C to SW008F	Power supply status of each station	Indicates whether external power supply is available to each station.	SW008C to SW008F	External power supply status	Indicates whether external power supply is available to each station.	○	-
64	SW0090	Loopback information	Stores the loop status of the host.	SW0090	Loopback information	Stores the loop status of the own station.	○	-
65	SW0091 to SW0094	Forward loop status of each station	Stores the forward loop status of each station.	SW0091 to SW0094	Forward loop (IN- side) status of each station	Stores the forward loop status of each station.	○	-
66	SW0095 to SW0098	Reverse loop status of each station	Stores the reverse loop status of each station.	SW0095 to SW0098	Reverse loop (OUT-side) status of each station	Stores the reverse loop status of each station.	○	-
67	SW0099	Loopback station (forward loop side)	Stores the station number of which station is performing the loopback in the forward loop.	SW0099	Loopback station of forward loop side	Stores the station number of which station is performing the loopback in the forward loop.	○	-
68	SW009A	Loopback station (reverse loop side)	Stores the station number of which station is performing the loopback in the reverse loop.	SW009A	Loopback station of reverse loop side	Stores the number of the station where loopback is being performed on the reverse loop (OUT- side).	○	-
69	SW009C to SW009F	Loop usage status of each station	Stores the optical fiber cable reverse insertion (IN-IN, OUT-OUT) status.	SW009C to SW009F	Loop usage status of each station	Stores the status of reverse insertion (IN- IN, OUT-OUT) of the optical fiber cable.	○	-
70	SW00A8	Online test execution item/ faulty station (requesting side)	Stores both the online test item requested by the requesting station and the faulty station.	SW00A8	Online test execution item/ faulty station of requesting side	Stores the items/faulty stations of the online test at the request side.	○	-
71	SW00A9	Online test result (requesting side)	Stores the online result on the requesting side.	SW00A9	Online test result of requesting side	Stores the results of the online test at the request side.	○	-
72	SW00AA	Online test execution item (responding side)	Stores the online test items on the responding side.	SW00AA	Online test execution item of responding side	Shows the items of the online test at the response side.	○	-
73	SW00AB	Online test result (responding side)	Stores the online test result of the responding side.	SW00AB	Online test result of responding side	Stores the online test result at the response side.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
74	SW00AC	Offline test execution item/faulty station (requesting side)	Stores the offline test items and faulty station on the requesting side.	SW00AC	Offline test execution item/faulty station of requesting side	Stores the items/faulty stations of the offline test at the request side.	○	-
75	SW00AD	Offline test result (requesting side)	Stores the offline result of the requesting side.	SW00AD	Offline test result of requesting side	Stores the results of the offline test at the request side.	○	-
76	SW00AE	Offline test execution item (responding side)	Stores the response side offline test items and error stations.	SW00AE	Offline test execution item of responding side	Shows the items of the offline test at the response side.	○	-
77	SW00AF	Offline test result (responding side)	Stores results of response side offline test.	SW00AF	Offline test result of responding side	Stores the results of the offline test at the response side.	○	-
78	SW00B0 to SW00B3	Multiplex transmission status (1)	Stores each station's forward loop usage status during multiplex transmission.	SW00B0 to SW00B3	Multiplex transmission status of forward loop side	Stores each station's forward loop usage status during multiplex transmission.	○	-
79	SW00B4 to SW00B7	Multiplex transmission status (2)	Stores each station's reverse loop usage status during multiplex transmission.	SW00B4 to SW00B7	Multiplex transmission status of reverse loop side	Stores the reverse loop (OUT-side) use status of each station during multiplex transmission.	○	-
80	SW00B8	UNDER on the forward loop side	Stores the number of "UNDER" errors on the forward loop side.	SW00B8	UNDER on the forward loop side	Stores the number of "UNDER" errors on the forward loop side.	○	-
81	SW00B9	CRC on the forward loop side	Stores the number of "CRC" errors on the forward loop side.	SW00B9	CRC on the forward loop side	Stores the number of "CRC" errors on the forward loop side.	○	-
82	SW00BA	OVER on the forward loop side	Stores the number of "OVER" errors on the forward loop side.	SW00BA	OVER on the forward loop side	Stores the number of "OVER" errors on the forward loop side.	○	-
83	SW00BB	Short frame on the forward loop side	Stores the number of "short frame" errors on the forward loop side.	SW00BB	Short frame on the forward loop side	Stores the number of "short frame" errors on the forward loop side.	○	-
84	SW00BC	Abort on the forward loop side (AB, IF)	Stores the number of "AB,IF" errors on the forward loop side.	SW00BC	Abort on the forward loop side (AB, IF)	Stores the number of "AB,IF" errors on the forward loop side.	○	-
85	SW00BD	Timeout on the forward loop side (TIME)	Stores the number of "TIME" errors on the forward loop side.	SW00BD	Timeout on the forward loop side (TIME)	Stores the number of "TIME" errors on the forward loop side.	○	-
86	SW00BE	Receiving 2k bytes or more on forward loop side (DATA)	Stores the number of "DATA" errors on the forward loop side.	SW00BE	Receiving 2k bytes or more on forward loop side (DATA)	Stores the number of "DATA" errors on the forward loop side.	○	-
87	SW00BF	DPLL error on the forward loop side	Stores the number of "DPLL" errors on the forward loop side.	SW00BF	DPLL error on the forward loop side	Stores the number of "DPLL" errors on the forward loop side.	○	-
88	SW00C0	UNDER on the reverse loop side	Accumulates and stores the number of "UNDER" errors on the reverse loop side.	SW00C0	UNDER on the reverse loop side	Accumulates and stores the number of "UNDER" errors on the reverse loop side.	○	-
89	SW00C1	CRC on the reverse loop side	Accumulates and stores the number of "CRC" errors on the reverse loop side.	SW00C1	CRC on the reverse loop side	Accumulates and stores the number of "CRC" errors on the reverse loop side.	○	-
90	SW00C2	OVER on the reverse loop side	Accumulates and stores the number of "OVER" errors on the reverse loop side.	SW00C2	OVER on the reverse loop side	Accumulates and stores the number of "OVER" errors on the reverse loop side.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
91	SW00C3	Short frame on the reverse loop side	Accumulates and stores the number of "Short frame" errors on the reverse loop side.	SW00C3	Short frame on the reverse loop side	Accumulates and stores the number of "Short frame" errors on the reverse loop side.	○	-
92	SW00C4	Abort on the reverse loop side (AB, IF)	Accumulates and stores the number of "AB.IF" errors on the reverse loop side.	SW00C4	Abort on the reverse loop side (AB, IF)	Accumulates and stores the number of "AB.IF" errors on the reverse loop side.	○	-
93	SW00C5	Timeout on the reverse loop side (TIME)	Accumulates and stores the number of "TIME" errors on the reverse loop side.	SW00C5	Timeout on the reverse loop side (TIME)	Accumulates and stores the number of "TIME" errors on the reverse loop side.	○	-
94	SW00C6	Receiving 2k bytes or more on reverse loop side (DATA)	Accumulates and stores the number of "DATA" errors on the reverse loop side.	SW00C6	Receiving 2k bytes or more on reverse loop side (DATA)	Accumulates and stores the number of "DATA" errors on the reverse loop side.	○	-
95	SW00C7	DPLL error on reverse loop side	Accumulates and stores the number of "DPLL" errors on the reverse loop side.	SW00C7	DPLL error on the reverse loop side	Accumulates and stores the number of "DPLL" errors on the reverse loop side.	○	-
96	SW00C8	Number of retries on the forward loop side	Stores the number of retries on the forward loop side.	SW00C8	Number of retries on the forward loop side	Stores the number of retries on the forward loop side.	○	-
97	SW00C9	Number of retries on the reverse loop side	Accumulates and stores the number of retries on the reverse loop side.	SW00C9	Number of retries on the reverse loop side	Accumulates and stores the number of retries on the reverse loop side.	○	-
98	SW00CC	Line error on the forward loop side	Accumulates and stores the number of detected line errors on the forward loop side.	SW00CC	Line error on the forward loop side	Accumulates and stores the number of detected line errors on the forward loop side.	○	-
99	SW00CD	Line error on the reverse loop side	Accumulates and stores the number of detected line errors on the reverse loop side.	SW00CD	Line error on the reverse loop side	Accumulates and stores the number of detected line errors on the reverse loop side.	○	-
100	SW00CE	Number of loop switches	Accumulates and stores the number of loop checks conducted.	SW00CE	Number of loop switches	Accumulates and stores the number of loop checks conducted.	○	-
101	SW00CF	Loop switch data pointer	Stores the pointer that indicates the loop switch data.	SW00CF	Loop switch data pointer	Stores the pointer that indicates the loop switch data.	○	-
102	SW00D0 to SW00DF	Loop switch data	Stores the cause and status of the loop switch.	SW00D0 to SW00DF	Loop switch data (1)	Stores the cause and status of the loop switch.	○	-
103	SW00E0 to SW00E7	Switch request station	Stores the number of the stations that requested the loop switch.	SW00E0 to SW00E7	Switch request station (2)	Stores the station number of the station that requested the loop switch.	○	-
104	SW00E8 to SW00EB	Module type of each station	Stores each station's module type.	SW00E8 to SW00EB	Module type of each station	Stores the module type of each station.	○	-
105	SW00EC	Low-speed cyclic transmission start execution results	Stores execution results for low-speed cyclic transmission start execution results.	SW00EC	Low-speed cyclic transmission start execution results	Stores execution results for low-speed cyclic transmission start execution results.	○	-
106	SW00EE	Transient transmission error	Accumulates and stores the number of transient transmission errors.	SW00EE	Transient transmission error	Accumulates and stores the number of transient transmission errors.	○	-



No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
107	SW00EF	Transient transmission error pointer	Stores the pointer that sets the data for the transient transmission error.	SW00EF	Transient transmission error pointer	Stores the pointer that sets the data for the transient transmission error.	○	-
108	SW00F0 to SW00FF	Transient transmission error history	Stores the error codes of the transient transmission errors.	SW00F0 to SW00FF	Transient transmission error history	Stores the error codes of the transient transmission errors.	○	-
109	SW01E0 to SW01E3	Network type consistency check	Indicates whether there is a mismatch between the network types of the control station and normal stations on the network.	SW01E0 to SW01E3	Network type consistency check	Indicates the status of the occurrence of inconsistency between the network type of the control station and the network type of the normal station on the network.	○	-
110	SW01F4 to SW01F7	Redundant system status (1)	Indicates the operation mode of each station's CPU.	SW01F4 to SW01F7	Separate mode status in redundant system	Indicates the operation mode of each station's CPU.	○	-
111	SW01F8 to SW01FB	Redundant system status (2)	Indicates the pairing setting status of each station.	SW01F8 to SW01FB	Pairing setting status in redundant system	Indicates the pairing setting status of each station.	○	-
112	SW01FC to SW01FF	Redundant system status (3)	Indicates the operation status of each station's CPU (control system/standby system).	SW01FC to SW01FF	Standby system CPU status in redundant system	Indicates the operation status of each station's CPU (control system/standby system).	○	-

## Transient instruction

○: Compatible, △: Partly changed, ×: Incompatible

No.	Instruction	Name	Description		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
			QJ71LP21-25	RJ71LP21-25		
1	SEND	Send data	Writes data to the target station having the target network number.		○	-
2	RECV	Receive data	Reads data sent with SEND to the CPU device.		○	-
3	READ SREAD	Read word device from other station	Reads the CPU device data from the target station having the target network number.		○	-
4	WRITE SWRITE	Write word device to other station	Writes data to the CPU device of the target station having the target network number.		○	-
5	REQ	Transient request to other station	Issues remote RUN/STOP and clock data read/write requests to other stations.		○	-
6	RECVS	Receive message (completed in 1 scan)	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.		○	-
7	ZNRD	Read word device from other station	Reads the CPU device data from the target station having the target network number.	Reads data from the word device of another station (for the MELSEC-A series).	○	-
8	ZNWR	Write word device to other station	Writes data to the CPU device of the target station having the target network number.	Writes data in the word device of another station (for the MELSEC-A series).	○	-
9	RRUN	Remote RUN	"Remote RUN" performed for other stations' CPU modules		○	-
10	RSTOP	Remote STOP	"Remote STOP" performed for other stations' CPU modules		○	-
11	RTMRD	Other station clock data read	"Read Clock Data" performed for other stations' CPU modules		○	-
12	RTMWR	Other station clock data written	"Write Clock Data" performed for other stations' CPU modules		○	-

## Precautions on replacement

The MELSEC iQ-R series MELSECNET/H network has no plans to support products equivalent to the network module with external power supply function (QJ71LP21S-25).

Therefore, if the external power supply function is required, consider the replacement to the CC-Link IE Controller Network (RJ71GP21S-SX or QJ71GP21S-SX).

## 2.2 Replacement to the MELSEC-Q Series/MELSEC iQ-R Series CC-Link IE Controller

### Alternative model list

No.	Network type	Station type	MELSEC-Q series model	Alternative model	
				MELSEC-Q series	MELSEC iQ-R series
1	Optical loop	Control station/Normal station	QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX

### Comparison of specifications

#### Comparison of module specifications

○: Compatible, △: Partly changed, ×: Incompatible

No.	Item		Specifications			Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module			
			QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX		
1	Maximum number of link points per network	X/Y	8K points (8192 points)			○	-
2		B	16K points (16384 points) (8192 points in the MELSECNET/10 mode)	32K points (32768 points)	<ul style="list-style-type: none"> <li>• 32K points (32768 points): When "Link points extended setting" is set to "Not to Extend"</li> <li>• 64K points (65536 points): When "Link points extended setting" is set to "Extend"</li> </ul>	○	-
3		W	16K points (16384 points) (8192 points in the MELSECNET/10 mode)	32K points (32768 points)	<ul style="list-style-type: none"> <li>• 128K points (131072 points): When "Link points extended setting" is set to "Not to Extend"</li> <li>• 256K points (262144 points): When "Link points extended setting" is set to "Extend"</li> </ul>	○	-

No.	Item		Specifications			Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module			
			QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX		
4	Maximum number of link points per station	X/Y	<ul style="list-style-type: none"> <li>MELSECNET/H mode, MELSECNET/10 mode  <math>\{(LY + LB) \div 8 + (2 \times LW)\} \leq 2000</math> bytes</li> <li>MELSECNET/H extension mode  <math>\{(LY + LB) \div 8 + (2 \times LW)\} \leq 35840</math> bytes</li> </ul>	8K points (8192 points)	8K points (8192 points)	○	-
5		B		<ul style="list-style-type: none"> <li>16K points (16384 points) Extended Mode: 32K points</li> </ul>	<ul style="list-style-type: none"> <li>16K points (16384 points)</li> <li>32K points (32768 points): When extended mode is set and "Link points extended setting" is set to "Not to Extend"</li> <li>64K points (65536 points): When extended mode is set and "Link points extended setting" is set to "Extend"</li> </ul>		
6		W		<ul style="list-style-type: none"> <li>16K points (16384 points) Extended Mode: 128K points</li> </ul>	<ul style="list-style-type: none"> <li>16K points (16384 points)</li> <li>128K points (131072 points): When extended mode is set and "Link points extended setting" is set to "Not to Extend"</li> <li>256K points (262144 points): When extended mode is set and "Link points extended setting" is set to "Extend"</li> </ul>		
7	Communication speed		25Mbps/10Mbps (10Mbps in the MELSECNET/10 mode)	1Gbps	1Gbps	○	-
8	Number of stations per network		Up to 64 stations (1 control station, 63 normal stations)	<ul style="list-style-type: none"> <li>When Universal model QCPU is used for control station: 120 (Control station: 1, Normal station: 119)</li> <li>When other than Universal model QCPUs is used for control station: 64 (Control station: 1, Normal station: 63)</li> </ul>	120 stations (control station: 1, normal station: 119) When using a CC-Link IE Controller Network-equipped module in a normal station, maximum number of connectable stations differs depending on the CPU module used in a control station. For details, refer to the user's manual for the control station used.	○	-
9	Connection cable		Optical fiber cable	Optical fiber cable (Multimode fiber)	Optical fiber cable (Multimode fiber)	×	The MELSECNET/H optical fiber cables cannot be used.
10	Overall distance		30km	66km (When 120 stations are connected)	66km (When 120 stations are connected)	○	-

No.	Item	Specifications			Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module			
		QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX		
11	Distance between stations	During 25Mbps SI optical cables: 200m H-PCF optical cables: 400m Broad-band H-PCF optical cables: 1km QSI optical cables: 1km	550m	550m	△	-
12		During 10Mbps SI optical cables: 500m H-PCF optical cables: 1km Broad-band H-PCF optical cables: 1km QSI optical cables: 1km				
13	Maximum number of networks	239			○	-
14	Maximum number of groups	32 (9 in the MELSECNET/10 mode)			○	-
15	Transmission path format	Duplex loop			○	-
16	Number of occupied I/O points	32 points			○	-
17	Engineering tool	GX Works2		GX Works3	△	-

## Comparison of cable specifications

The optical fiber cables used with the QJ71LP21-25 and QJ71LP21S-25 cannot be used with the RJ71GP21-SX and QJ71GP21-SX. When replacing to the RJ71GP21-SX or QJ71GP21-SX, use the following optical fiber cable.

Type	Station-to-station distance	Applicable connector	Standard
Optical fiber cable (multimode optical fiber (GI))	550m	Duplex LC connector	The following conditioning cables: <ul style="list-style-type: none"> <li>• IEEE 802.3 (1000BASE-SX)</li> <li>• IEC 60793-2-10 Types A1a.1</li> </ul>

Optical fiber cables with connectors (CC-Link IE Controller Network-compatible optical fiber cables) are available from Mitsubishi Electric System & Service Co., Ltd. (Catalogs of the optical fiber cables are also available.)

In addition, on-site connector polishing, terminal assembly, and fusion splicing are available. Please consult your local Mitsubishi representative.

Type	Model name (Manufacturer: Mitsubishi Electric System & Service Co., Ltd.)
Optical fiber cable (multimode optical fiber (GI))	The following conditioning cables: <ul style="list-style-type: none"> <li>• IEEE 802.3 (1000BASE-SX)</li> <li>• IEC 60793-2-10 Types A1a.1</li> </ul>

# Comparison of functions

○: Compatible, △: Partly changed, ×: Incompatible

No.	Item	Function	Description			Compatibility	Precaution on replacement	
			MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				
			QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX			
1	Cyclic transmission function	Cyclic transmission	Periodically allows data communication between stations on the same network using the link devices (LB/LW/LX/LY).			○	-	
2		Low-speed cyclic transmission	Periodically allows data communication to an extent that does not require high-speed transmission between stations on the same network using the link devices (LB/LW).	The low-speed cyclic transmission function is not available for the CC-Link IE Controller Network module.		△	Assign the low-speed cyclic transmission range to the LB/LW setting (2).	
3		Refresh	Link refresh	Allows automatic data transfer between the link devices of the network module and CPU module devices.			○	-
4			Direct access to link devices	Directly reads from or writes to link devices (LB/LW/LX/LY/SB/SW) of the network module from sequence programs.			○	-
5			Constant link scan	Keeps the link scan time to a preset time period.			○	-
6		Data assurance	Assures cyclic data integrity in units of 32 bits or stations.			○	The send data and the receive data are set as one setting in the CC-Link IE Controller Network module. When marking a check at "Block data assurance per station is available" in the supplementary setting, station-based block data assurance can be made to both send and receive data.	
7		Inter-link data transfer	Transfers the link device data of a network module to another network module through a relay station.			○	-	
8	Cyclic transmission function	Station inherent parameters	Parameters used for rearranging each station's transmission ranges (LB, LW)	The CC-Link IE Controller Network module does not have station-specific parameters.		△	Replace the station-specific parameter data of a MELSECNET/H module with the refresh parameter data of a CC-Link IE Controller Network module.	

No.	Item	Function		Description			Compatibility	Precaution on replacement
				MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module			
				QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX		
9	Transient transmission function	Transient transmission	Link dedicated instruction communication	Performs communications with other stations with the link dedicated instructions.			○	-
10			Access to other stations with an engineering tool	With an engineering tool, allows seamless access to a system in a different network.			○	-
11		Routing function	Allows transient transmissions to stations of other network in a multi-network system.			○	-	
12	Transient transmission function	Maximum no. of transients in 1 scan	Set the number of transients (total for one entire network) that a single network can execute in one link scan.	The CC-Link IE Controller Network module does not have setting items.	The CC-Link IE Controller Network module does not have setting items.	○	The link scan time can be kept constant with Cyclic transmission punctuality assurance in the CC-Link IE Controller Network.	
13		Maximum no. of transients in one station	Set the number of transients that a single station can execute in one link scan.			○	The same as the MELSECNET/H module when removing a check from "Punctuality is guaranteed" in the supplementary setting.	



No.	Item	Function	Description			Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module			
			QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX		
14	RAS function	Automatic return	Automatically reconnects a station, which was disconnected from a network due to a data link error and has recovered from the error, to the network and restarts data link.			○	The CC-Link IE Controller Network module does not have setting items for the maximum number of returned stations at one 1 scan. The CC-Link IE Controller Network does not have restriction on the maximum number of returned stations.
15		Control station switch	Continues data link by operating another normal station as a sub-control station even if the control station goes down.			○	The CC-Link IE Controller Network module does not have setting items for when the sub-control station performs data link when control station went down. The sub-control station always continues data link when the control station goes down in the CC-Link IE Controller Network.
16		Control station return control	Corrects the errors that caused the control station to go down and make it return to the network as a normal station so that the network stop time is shortened.	The CC-Link IE Controller Network module does not have setting items.		○	The data link will be continued even when a station returns as a control station in the CC-Link IE Controller Network.
17		Loopback function	Isolates a disconnected cable or faulty station from the network, so that data link can be continued among normally operating stations.			○	-

No.	Item	Function	Description			Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module			
			QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX		
18	Application functions	Starting interrupt sequence program	Checks interrupt conditions at every link scan, sends an interrupt request to the CPU module to start the interrupt program if the interrupt conditions are met.	The CC-Link IE Controller Network module does not have an interrupt of scan completion.		△	Replace the setting with other interrupt condition.
19		Multiplex transmission function	Allows high-speed communications using duplex transmission paths (both the forward and reverse loops).	The CC-Link IE Controller Network module does not have this function.		○	The high-speed communication can be realized without multiplex transmission function in the CC-Link IE Controller Network module since link scan time of the CC-Link IE Controller Network is shorter than that of the MELSECNET/H module.
20		Increasing the number of send points	Increases the number of send points by installing multiple module with the same network number to one CPU module.			○	-

## Comparison of switch settings

○: Compatible, △: Partly changed, ×: Incompatible

No.	Switch name	Description			Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module			
		QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX		
1	Station number setting switch	Used to set the station number.	-	-	△	Setting should be made at network parameters in the CC-Link IE Controller Network module.
2	Mode setting switch	Used to set the operation mode or self-diagnostics test mode.	-	-	△	

# Comparison of parameters

○: Compatible, △: Partly changed, ×: Incompatible

No.	Item	Function	Description			Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module			
			QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX		
1	Required Settings	Station Type	Set the network type and station type.			○	-
2		Network No.	Set the network number.			○	-
3		Station No.	For the setting, use the station number setting switch.	Set the station number.		△	Setting should be made at network parameters in the CC-Link IE Controller Network module.
4		Network Range Assignment	Set parameters of each station (the number of points and assignment of link devices) in the control station.			○	-
5		Operation after Reconnection	Set the station type of when the control station returns.			○	-
6		Transmission Speed	For the setting, use the mode setting switch.	Set the transmission speed.		△	Setting should be made at network parameters in the CC-Link IE Controller Network module.
7	Basic Settings	Link Refresh Settings	Set the link refresh ranges between the link devices (LB, LW, LX, LY, SB, SW) of the network module and the CPU module devices.	Set the link refresh ranges between the link devices (LB, LW, LX, LY, SB, SW) of the network module and the CPU module devices. The ranges can be set between module labels.	○	-	

No.	Item	Function	Description			Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module			
			QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX		
8	Application Settings	Supplementary Cyclic Settings	Set the data link monitoring time and system switching monitoring time.			○	-
9		Interrupt Settings	Set conditions for sending an interrupt request to the CPU module.			○	-
10		Transient Transmission Group No.	Set a group number for transient transmission with group specification.			○	-
11		Routing	For the setting, use the routing parameters.	For the setting, use the routing parameters. ([Dynamic Routing] is also available.)		○	-
12		Parameter Name	Set a name for the module parameter arbitrarily.			○	-
13		Module Operation Mode	Set the operation mode. However, set the following modes with the mode setting switch. • Self-loopback Test • Internal Self-loopback Test • Hardware test	Set the operation mode.		○	-
14		Interlink Transmission Settings	Set link device ranges when cyclic data are transferred from a station in the own network to a station in another network.			○	-
15	Redundant System Settings	Set the operation mode for the network module mounted on system B in a redundant system.			○	-	

# Comparison of programs

## Comparison of special relay and special register

### ■Link special relay

○: Compatible, △: Partly changed, ×: Incompatible

No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
1	SB0000	Link startup (host)	SB0000	Link startup (own station)	SB0000	Link startup of own station	○	-
2	SB0001	Link stop (host)	SB0001	Link stop (own station)	SB0001	Link stop of own station	○	-
3	SB0002	System link startup	SB0002	System link startup	SB0002	System link startup	○	-
4	SB0003	System link stop	SB0003	System link stop	SB0003	System link stop	○	-
5	SB0005	Clear retry count	-	-	-	-	×	Delete the sequence program for the corresponding part.
6	SB0006	Clear communication error count	SB0006	Same as on the left	-	-	△	The area for clear target is different in the CC-Link IE Controller Network module.
7	SB0007	Clear forward loop transmission errors	SB0007	Clear IN-side transmission error counter	SB0007	Clear IN-side transmission error count	△	
8	SB0008	Clear reverse loop transmission errors	SB0008	Clear OUT-side transmission error counter	SB0008	Clear OUT-side transmission error count	△	
9	SB0009	Clear loop switching counter	SB0009	Clear loop switching counter	SB0009	Clear loop switching count	△	
10	SB000A	Clear transient transmission error counter	SB000A	Clear transient transmission error counter	SB000A	Clear transient transmission error count	△	
11	SB000B	Transient transmission error area setting	-	-	-	-	×	Delete the sequence program for the corresponding part.
12	SB0011	Data link operation designation	-	-	-	-	×	
13	SB0018	System switching monitoring time setting valid flag	-	-	-	-	×	
14	SB0020	Module status	SB0020	Module status	SB0020	Communication status with the CPU module	○	-
15	SB0040	Network type (host)	SB0040	Network type (own station)	SB0040	Network type of own station	○	-
16	SB0041	Host station's redundant function support information	SB0041	Host station's redundant function support information	SB0041	Redundant function information of own station	○	-
17	SB0043	Online switch (host)	SB0043	Online switch (own station)	SB0043	Module operation mode of own station	○	-
18	SB0044	Station setting (host)	SB0044	Station setting (own station)	SB0044	Station setting of own station	○	-
19	SB0045	Setting information (host)	-	-	-	-	×	Delete the sequence program for the corresponding part.
20	SB0046	Data link operation designation result (host)	-	-	-	-	×	
21	SB0047	Baton pass status (host)	SB0047	Baton pass status (own station)	SB0047	Baton pass error status of own station	○	-

No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
22	SB0048	Control station status (host)	SB0048	Control station status (own station)	SB0048	Station status of own station	○	-
23	SB0049	Host data link status	SB0049	Data link status of own station	SB0049	Data link error status of own station	○	-
24	SB004A	Host CPU status (1)	SB004A	Own station's CPU status (1)	SB004A	CPU minor error status of own station	○	-
25	SB004B	Host CPU status (2)	SB004B	Own station's CPU status (2)	SB004B	CPU moderate/major error status of own station	○	-
26	SB004C	Cyclic transmission start acknowledgment status	SB004C	Cyclic transmission start accept status (own station)	SB004C	Link startup request accept status of own station	○	-
27	SB004D	Cyclic transmission start completion status	SB004D	Cyclic transmission start completion status (own station)	SB004D	Link startup completion status of own station	○	-
28	SB004E	Cyclic transmission stop acknowledgment status	SB004E	Cyclic transmission stop accept status (own station)	SB004E	Link stop request accept status of own station	○	-
29	SB004F	Cyclic transmission stop completion status	SB004F	Cyclic transmission stop completion status (own station)	SB004F	Link stop completion status of own station	○	-
30	SB0050	Cyclic transmission start acknowledgment status	SB0050	Cyclic transmission start accept status (system)	SB0050	System link start request accept status	○	-
31	SB0051	Cyclic transmission start completion status	SB0051	Cyclic transmission start completion status (system)	SB0051	System link startup completion status	○	-
32	SB0052	Cyclic transmission stop acknowledgment status	SB0052	Cyclic transmission stop accept status (system)	SB0052	System link stop request accept status	○	-
33	SB0053	Cyclic transmission stop completion status	SB0053	Cyclic transmission stop completion status (system)	SB0053	System link stop completion status	○	-
34	SB0054	Parameter receive status	SB0054	Parameter receive status	SB0054	Parameter reception status	○	-
35	SB0055	Received parameter error	SB0055	Received parameter error	SB0055	Received parameter error	○	-
36	SB0056	Communication status	SB0056	Communication status	SB0056	Communication status	○	-
37	SB0057	Parameter type	-	-	-	-	×	Delete the sequence program for the corresponding part.
38	SB0058	Operation designation at fault of control station	-	-	-	-	×	
39	SB0059	Low-speed cyclic designation	-	-	-	-	×	
40	SB005A	Parameter type 2	SB005A	Parameter type	SB005A	Parameter type of control station	×	
41	SB005C	I/O master station (Block 1)	SB005C	I/O master station (Block 1)	SB005C	Block 1 I/O master station	○	-
42	SB005D	I/O master station (Block 2)	SB005D	I/O master station (Block 2)	SB005D	Block 2 I/O master station	○	-

No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
43	SB0064	Reserved station designation	SB00C0	Reserved station specification	SB00C0	Reserved station setting status	△	No. changed
44	SB0068	Communication mode	SB0060	Communication mode	SB0060	Constant link scan status	△	
45	SB0069	Multiplex transmission designation	-	-	-	-	×	Delete the sequence program for the corresponding part.
46	SB006A	Multiplex transmission status	-	-	-	-	×	
47	SB0070	Baton pass status of each station	SB00A0	Baton pass status of each station	SB00A0	Baton pass error status of each station	△	No. changed
48	SB0074	Cyclic transmission status of each station	SB00B0	Cyclic transmission status of each station	SB00B0	Data link error status of each station	△	
49	SB0078	Parameter communication status of each station	SB00D0	Parameter communication status of each station	SB00D0	Parameter communication status of each station	△	
50	SB007A to SB007B	Low-speed cyclic communication status	-	-	-	-	×	
51	SB007C	Parameter status of each station	SB00E0	Parameter status of each station	SB00E0	Parameter error status of each station	△	No. changed
52	SB0080	CPU operation status of each station (1)	SB0100	CPU operation status of each station (1)	SB0100	CPU moderate/major error status of each station	△	
53	SB0084	CPU RUN status of each station	SB00F0	CPU RUN status of each station	SB00F0	CPU operating status of each station	△	No. changed
54	SB0088	CPU operation status of each station (2)	SB0110	CPU operation status of each station (2)	SB0110	CPU minor error status of each station	△	
55	SB008C	External power supply information	SB0180	External power supply information	SB0180	External power supply information of each station	△	
56	SB008D	Module type of each station	-	-	-	-	×	Delete the sequence program for the corresponding part.
57	SB0090	Host loop status	SB0064	Own station's loop status	SB0064	Loop status of own station	△	No. changed
58	SB0091	Forward loop status	SB0065	Loopback status	SB0065	Loopback status	△	
59	SB0095	Reverse loop status	SB0065	Loopback status	SB0065	Loopback status	△	

- No. changed
- Although the CC-Link IE Controller Network uses two-core cables, loopback is performed even if a disconnection or error is detected on one side.
- The cause of loopback can be checked by Own station's loop status (SW0064).

No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
60	SB0099	Forward loop loopback	SB0065	Loopback status	SB0065	Loopback status	△	<ul style="list-style-type: none"> <li>No. changed</li> <li>Although the CC-Link IE Controller Network uses two-core cables, loopback is performed even if a disconnection or error is detected on one side.</li> <li>The station No. for the station where a loopback is executed can be checked by IN-side loopback station No. (SW0070).</li> </ul>
61	SB009A	Reverse loop loopback	SB0065	Loopback status	SB0065	Loopback status	△	<ul style="list-style-type: none"> <li>No. changed</li> <li>Although the CC-Link IE Controller Network uses two-core cables, loopback is performed even if a disconnection or error is detected on one side.</li> <li>The station No. for the station where a loopback is executed can be checked by OUT-side loopback station No. (SW0080).</li> </ul>
62	SB009C	Send transmission path mismatch status	SB0065	Loopback status	SB0065	Loopback status	△	<ul style="list-style-type: none"> <li>No. changed</li> <li>The loopback is performed when the send transmission path is inconsistent in the CC-Link IE Controller Network.</li> <li>The cause of loopback can be checked by Own station's loop status (SW0064).</li> </ul>
63	SB00A0	RECV instruction execution request flag (1)	SB0030	RECV instruction execution request flag (1)	SB0030	RECV execution request flag CH1	△	No. changed
64	SB00A1	RECV instruction execution request flag (2)	SB0031	RECV execution request flag (2)	SB0031	RECV execution request flag CH2	△	
65	SB00A2	RECV instruction execution request flag (3)	SB0032	RECV execution request flag (3)	SB0032	RECV execution request flag CH3	△	
66	SB00A3	RECV instruction execution request flag (4)	SB0033	RECV execution request flag (4)	SB0033	RECV execution request flag CH4	△	
67	SB00A4	RECV instruction execution request flag (5)	SB0034	RECV execution request flag (5)	SB0034	RECV execution request flag CH5	△	
68	SB00A5	RECV instruction execution request flag (6)	SB0035	RECV execution request flag (6)	SB0035	RECV execution request flag CH6	△	
69	SB00A6	RECV instruction execution request flag (7)	SB0036	RECV execution request flag (7)	SB0036	RECV execution request flag CH7	△	
70	SB00A7	RECV instruction execution request flag (8)	SB0037	RECV execution request flag (8)	SB0037	RECV execution request flag CH8	△	



No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
71	SB00A8	Online test instruction	-	-	-	-	×	<ul style="list-style-type: none"> <li>Delete the sequence program for the corresponding part.</li> <li>The result of a test can be checked by CC IE Control diagnostics in the CC-Link IE Controller Network module.</li> </ul>
72	SB00A9	Online test completion	-	-	-	-	×	
73	SB00AA	Online test response instruction	-	-	-	-	×	
74	SB00AB	Online test response completion	-	-	-	-	×	
75	SB00AC	Offline test instruction	SB0090 to SB0099	Refer to Link special relay (SB) added in the MELSEC-Q series CC-Link IE Controller Network module.	-	-	△	-
76	SB00AD	Offline test completion			-	-	△	
77	SB00AE	Offline test response instruction			-	-	△	
78	SB00AF	Offline test response completion			-	-	△	
79	SB00EE	Transient error	SB008F	Transient error	SB008F	Transient error	△	No. changed
80	SB01E0	Network type consistency check	-	-	-	-	×	Delete the sequence program for the corresponding part.
81	SB01F4	Redundant system status (1)	SB01D0	Redundant system status (1)	SB01D0	Separate-mode station exists information	△	No. changed
82	SB01F8	Redundant system status (2)	SB01E0	Redundant system status (2)	SB01E0	Pairing-set station exists information	△	
83	SB01FC	Redundant system status (3)	SB01F0	Redundant system status (3)	SB01F0	Station of standby system exists information	△	

Link special relay (SB) added in the MELSEC-Q series CC-Link IE Controller Network module

No.	Name
SB0017	Data-link-error-induced system switching disable flag
SB005B	Own station's CPU RUN status
SB005E	Own station's CPU type
SB0061	Cyclic transmission punctuality assurance
SB0066	Own station's IN-side link-up status
SB0067	Own station's OUT-side link-up status
SB0068	Own station's IN-side link establishing status
SB0069	Own station's OUT-side link establishing status
SB006A	Own station's IN-side cabling status
SB006B	Own station's OUT-side cabling status
SB006C	Own station's IN-side error frame reception status
SB006D	Own station's OUT-side error frame reception status
SB006E	Own station's IN-side error frame detection
SB006F	Own station's OUT-side error frame detection
SB0070	Station No. setting status (own station)
SB007F	IP address setting status
SB008E	Path switching detection flag
SB0090	Hardware test completion status
SB0091	Hardware test normal/error completion status
SB0092	Self-loopback test completion status
SB0093	Self-loopback test normal/error completion status
SB0094	Circuit test completion status
SB0095	Circuit test normal/error completion status
SB0097	Station-to-station test normal/error completion status
SB0098	Circuit test request from other station
SB0099	Station-to-station test request from other station
SB0120	Current IN-side error frame reception status
SB0130	Current OUT-side error frame reception status
SB0140	IN-side error frame reception detection status
SB0150	OUT-side error frame reception detection status
SB0160	Path switching detection flag for each station
SB0170	Transient error of each station
SB0190	Power status consistency check of each station
SB01A0	Group cyclic transmission station information
SB01B0	Each station's CPU type information
SB01C0	Redundant system information

## ■Link special register

○: Compatible, △: Partly changed, ×: Incompatible

No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
1	SW0000	Link stop/startup direction content	SW0000	Link stop/startup direction	SW0000	Link stop/startup direction	○	-
2	SW0001 to SW0004	Link stop/startup direction content	SW0001 to SW0008	Link stop/startup direction	SW0001 to SW0008	Link startup/stop station specification	○	-
3	SW0008	Logical channel setting (channel 1)	-	-	-	-	×	Delete the sequence program for the corresponding part.
4	SW0009	Logical channel setting (channel 2)	-	-	-	-	×	
5	SW000A	Logical channel setting (channel 3)	-	-	-	-	×	
6	SW000B	Logical channel setting (channel 4)	-	-	-	-	×	
7	SW000C	Logical channel setting (channel 5)	-	-	-	-	×	
8	SW000D	Logical channel setting (channel 6)	-	-	-	-	×	
9	SW000E	Logical channel setting (channel 7)	-	-	-	-	×	
10	SW000F	Logical channel setting (channel 8)	-	-	-	-	×	
11	SW0018	System switching monitoring time setting	-	-	-	-	×	
12	SW001C	Number of retries	-	-	-	-	×	
13	SW001D	Retry interval	-	-	-	-	×	
14	SW001E	Number of gates	-	-	-	-	×	
15	SW0020	Module status	SW0020	Module status	SW0020	Communication status with the CPU module	○	-

No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
16	SW0031	ZNRD instruction processing result	SW0030	ZNRD processing result	SW0030	Link dedicated instructions processing result CH1	△	No. changed
		Send/receive instruction (1) processing result		Send/receive instruction (1) processing result				
17	SW0033	ZNWR instruction processing result	SW0031	ZNWR processing result	SW0031	Link dedicated instructions processing result CH2	△	
		Send/receive instruction (2) processing result		Send/receive instruction (2) processing result				
18	SW0035	Send/receive instruction (3) processing result	SW0032	Send/receive instruction (3) processing result	SW0032	Link dedicated instructions processing result CH3	△	
19	SW0037	Send/receive instruction (4) processing result	SW0033	Send/receive instruction (4) processing result	SW0033	Link dedicated instructions processing result CH4	△	
20	SW0039	Send/receive instruction (5) processing result	SW0034	Send/receive instruction (5) processing result	SW0034	Link dedicated instructions processing result CH5	△	
21	SW003B	Send/receive instruction (6) processing result	SW0035	Send/receive instruction (6) processing result	SW0035	Link dedicated instructions processing result CH6	△	
22	SW003D	Send/receive instruction (7) processing result	SW0036	Send/receive instruction (7) processing result	SW0036	Link dedicated instructions processing result CH7	△	
23	SW003F	Send/receive instruction (8) processing result	SW0037	Send/receive instruction (8) processing result	SW0037	Link dedicated instructions processing result CH8	△	
24	SW0040	Network No.	SW0040	Network No.	SW0040	Network number	○	-
25	SW0041	Group No.	SW0041	Group No.	SW0041	Transient transmission group number	○	-
26	SW0042	Station No.	SW0042	Station No.	SW0042	Station number	○	-
27	SW0043	Mode status	SW0043	Mode status	SW0043	Mode status of own station	△	The content to be stored is changed from the MELSECNET/H module.
28	SW0044	Station setting	SW0044	Station setting	SW0044	Station setting	△	
29	SW0046	Module type	SW0046	Module type	SW0046	Module type	△	
30	SW0047	Baton pass status (host)	SW0047	Baton pass status (own station)	SW0047	Baton pass status of own station	△	
31	SW0048	Cause of baton pass interruption	SW0048	Cause of baton pass interruption	SW0048	Cause of baton pass interruption	△	
32	SW0049	Cause of data link stop	SW0049	Cause of data link stop	SW0049	Cause of data link stop	△	
33	SW004A	Data linking stop request station	SW004A	Data linking stop request station	SW004A	Data link stop request station	△	
34	SW004B	Host CPU status	SW004B	Own station's CPU status	SW004B	CPU status of own station	△	
35	SW004D	Data linking start status (host)	SW004D	Data linking start status (own station)	SW004D	Link start result of own station	○	-
36	SW004F	Data linking stop status (host)	SW004F	Data linking stop status (own station)	SW004F	Link stop result of own station	○	-

No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
37	SW0051	Data linking start status (entire system)	SW0051	Data linking start status (entire system)	SW0051	System link startup result	○	-
38	SW0053	Data linking stop status (entire system)	SW0053	Data linking stop status (entire system)	SW0053	System link stop result	○	-
39	SW0054	Parameter information	SW0054	Parameter information	SW0054	Parameter information	△	The content to be stored is changed from the MELSECNET/H module.
40	SW0055	Parameter setting status	SW0055	Parameter setting status	SW0055	Parameter setting status	○	-
41	SW0056	Current control station	SW0056	Current control station	SW0056	Current control station number	○	-
42	SW0057	Designated control station	SW0057	Designated control station	SW0057	Specified control station number	○	-
43	SW0059	Total number of link stations	SW0059	Total number of link stations	SW0059	Total number of link stations	○	-
44	SW005A	Maximum baton pass station	SW005A	Maximum baton pass station	SW005A	Maximum baton pass station number	○	-
45	SW005B	Maximum cyclic transmission station	SW005B	Maximum cyclic transmission station	SW005B	Maximum data link station number	○	-
46	SW005C	I/O master station (Block 1)	SW005C	I/O master station (Block 1)	SW005C	Block 1 I/O master station	○	-
47	SW005D	I/O master station (Block 2)	SW005D	I/O master station (Block 2)	SW005D	Block 2 I/O master station	○	-
48	SW0064 to SW0067	Reserved station designation	SW00C0 to SW00C7	Reserved station specification	SW00C0 to SW00C7	Reserved station setting status	△	No. changed
49	SW0068	Communication mode	SW0063	Communication mode	SW0063	Constant link scan time setting value	△	
50	SW0069	Communication speed setting value	-	-	-	-	×	
51	SW006A	Current communication speed value	-	-	-	-	×	-
52	SW006B	Maximum link scan time	SW0060	Maximum link scan time	SW0060	Maximum link scan time	△	<ul style="list-style-type: none"> <li>No. changed</li> <li>The same value is stored in the control station and the normal station in the CC-Link IE Controller Network module.</li> <li>The value to be stored is an actual measurement value of the link scan time.</li> <li>When setting a constant link scan, the setting value of the constant link scan is stored.</li> <li>When an actual measurement value of the link scan time is larger than a setting value of the constant link scan, the actual measurement value of the link scan time is stored.</li> </ul>
53	SW006C	Minimum link scan time	SW0061	Minimum link scan time	SW0061	Minimum link scan time	△	
54	SW006D	Current link scan time	SW0062	Current link scan time	SW0062	Current link scan time	△	
55	SW006E	Low-speed cyclic scan time	-	-	-	-	×	Delete the sequence program for the corresponding part.

No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement	
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX				
	No.	Name	No.	Name	No.	Name			
56	SW0070 to SW0073	Baton pass status of each station	SW00A0 to SW00A7	Baton pass status of each station	SW00A0 to SW00A7	Baton pass status of each station	△	<ul style="list-style-type: none"> <li>• No. changed</li> <li>• Since the line control is executed in all stations when stations are disconnected or reconnected in the CC-Link IE Controller Network module, the baton pass status and the cyclic transmission status are turned on for up to 100ms.</li> <li>• (Normal: 50ms or less)</li> </ul>	
57	SW0074 to SW0077	Cyclic transmission status of each station	SW00B0 to SW00B7	Cyclic transmission status of each station	SW00B0 to SW00B7	Data link status of each station	△		
58	SW0078 to SW007B	Parameter communication status of each station	SW00D0 to SW00D7	Parameter communication status of each station	SW00D0 to SW00D7	Parameter communication status of each station	△		No. changed
59	SW007C to SW007F	Parameter error status of each station	SW00E0 to SW00E7	Parameter error status of each station	SW00E0 to SW00E7	Parameter error status of each station	△		
60	SW0080 to SW0083	CPU operation status of each station (1)	SW0100 to SW0107	CPU operation status of each station (1)	SW0100 to SW0107	CPU moderate/ major error status of each station	△		
61	SW0084 to SW0087	CPU RUN status of each station	SW00F0 to SW00F7	CPU RUN status of each station	SW00F0 to SW00F7	CPU operating status of each station	△		
62	SW0088 to SW008B	CPU operation status of each station (2)	SW0110 to SW0117	CPU operation status of each station (2)	SW0110 to SW0117	CPU minor error status of each station	△		
63	SW008C to SW008F	Power supply status of each station	SW0180 to SW0187	Power supply status of each station	SW0180 to SW0187	External power supply status of each station	△		
64	SW0090	Loopback information	SW0065	Loopback information	SW0065	Loopback information	△	<ul style="list-style-type: none"> <li>• The CC-Link IE Controller Network module does not store the forward or reverse loop error.</li> <li>• Although the CC-Link IE Controller Network uses two-core cables, loopback is performed even if a disconnection or error is detected on one side.</li> </ul>	
65	SW0091 to SW0094	Forward loop status of each station	SW0070	IN-side loopback station No.	SW0070	IN-side loopback station number	△	Although the CC-Link IE Controller Network uses two-core cables, loopback is performed even if a disconnection or error is detected on one side.	
66	SW0095 to SW0098	Reverse loop status of each station	SW0080	OUT-side loopback station No.	SW0080	OUT-side loopback station number	△		
67	SW0099	Loopback station (forward loop side)	SW0070	IN-side loopback station No.	SW0070	IN-side loopback station number	△		
68	SW009A	Loopback station (reverse loop side)	SW0080	OUT-side loopback station No.	SW0080	OUT-side loopback station number	△		

No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
69	SW009C to SW009F	Loop usage status of each station	SW0070	IN-side loopback station No.	SW0070	IN-side loopback station number	△	Although the CC-Link IE Controller Network uses two-core cables, loopback is performed even if a disconnection or error is detected on one side.
			SW0071	IN-side loopback factor	SW0071	IN-side loopback factor		
			SW0080	OUT-side loopback station No.	SW0080	OUT-side loopback station number		
			SW0081	OUT-side loopback factor	SW0081	OUT-side loopback factor		
70	SW00A8	Online test execution item/ faulty station (requesting side)	-	-	-	-	△	<ul style="list-style-type: none"> <li>Delete the sequence program for the corresponding part.</li> <li>The result of a test can be checked by CC IE Control diagnostics in the CC-Link IE Controller Network module.</li> </ul>
71	SW00A9	Online test result (requesting side)	-	-	-	-	△	
72	SW00AA	Online test execution item (responding side)	-	-	-	-	△	
73	SW00AB	Online test result (responding side)	-	-	-	-	△	
74	SW00AC	Offline test execution item/ faulty station (requesting side)	-	-	-	-	×	
75	SW00AD	Offline test result (requesting side)	-	-	-	-	×	Delete the sequence program for the corresponding part.
76	SW00AE	Offline test execution item (responding side)	-	-	-	-	×	
77	SW00AF	Offline test result (responding side)	-	-	-	-	×	
78	SW00B0 to SW00B3	Multiplex transmission status (1)	-	-	-	-	×	
79	SW00B4 to SW00B7	Multiplex transmission status (2)	-	-	-	-	×	
80	SW00B8	UNDER on the forward loop side	SW0068 SW0069	IN-side line error occurrence rate (Max.) IN-side line error occurrence rate (present)	SW0068 SW0069	IN-side line error occurrence rate (Max.) IN-side line error occurrence rate (present)	△	<ul style="list-style-type: none"> <li>These operations in the MELSECNET/H can be substituted by IN-side line error occurrence rate in the CC-Link IE Controller Network module.</li> <li>The station No. for the station that receives an error frame at IN-side can be checked by SW0120 to SW0127 and SW0140 to SW0147.</li> </ul>
81	SW00B9	CRC on the forward loop side					△	
82	SW00BA	OVER on the forward loop side					△	
83	SW00BB	Short frame on the forward loop side					△	
84	SW00BC	Abort on the forward loop side (AB, IF)					△	
85	SW00BD	Timeout on the forward loop side (TIME)					△	
86	SW00BE	Receiving 2k bytes or more on forward loop side (DATA)					△	
87	SW00BF	DPLL error on the forward loop side					△	

No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
88	SW00C0	UNDER on the reverse loop side	SW006A SW006B	OUT-side line error occurrence rate (Max.) OUT-side line error occurrence rate (present)	SW006A SW006B	OUT-side line error occurrence rate (Max.) OUT-side line error occurrence rate (present)	△	<ul style="list-style-type: none"> <li>• These operations in the MELSECNET/H can be substituted by OUT-side line error occurrence rate in the CC-Link IE Controller Network module.</li> <li>• The station No. for the station that receives an error frame at OUT-side can be checked by SW0130 to SW0137 and SW0150 to SW0157.</li> </ul>
89	SW00C1	CRC on the reverse loop side					△	
90	SW00C2	OVER on the reverse loop side					△	
91	SW00C3	Short frame on the reverse loop side					△	
92	SW00C4	Abort on the reverse loop side (AB, IF)					△	
93	SW00C5	Timeout on the reverse loop side (TIME)					△	
94	SW00C6	Receiving 2k bytes or more on reverse loop side (DATA)					△	
95	SW00C7	DPLL error on reverse loop side	△					
96	SW00C8	Number of retries on the forward loop side	SW0068 SW0069	IN-side line error occurrence rate (Max.) IN-side line error occurrence rate (present)	SW0068 SW0069	IN-side line error occurrence rate (Max.) IN-side line error occurrence rate (present)	△	<ul style="list-style-type: none"> <li>• These operations in the MELSECNET/H can be substituted by IN-side line error occurrence rate in the CC-Link IE Controller Network module.</li> <li>• The station No. for the station that receives an error frame at IN-side can be checked by SW0120 to SW0127 and SW0140 to SW0147.</li> </ul>
97	SW00C9	Number of retries on the reverse loop side	SW006A SW006B	OUT-side line error occurrence rate (Max.) OUT-side line error occurrence rate (present)	SW006A SW006B	OUT-side line error occurrence rate (Max.) OUT-side line error occurrence rate (present)	△	<ul style="list-style-type: none"> <li>• These operations in the MELSECNET/H can be substituted by OUT-side line error occurrence rate in the CC-Link IE Controller Network module.</li> <li>• The station No. for the station that receives an error frame at OUT-side can be checked by SW0130 to SW0137 and SW0150 to SW0157.</li> </ul>
98	SW00CC	Line error on the forward loop side	SW0068 SW0069	IN-side line error occurrence rate (Max.) IN-side line error occurrence rate (present)	SW0068 SW0069	IN-side line error occurrence rate (Max.) IN-side line error occurrence rate (present)	△	<ul style="list-style-type: none"> <li>• These operations in the MELSECNET/H can be substituted by IN-side line error occurrence rate in the CC-Link IE Controller Network module.</li> <li>• The station No. for the station that receives an error frame at IN-side can be checked by SW0120 to SW0127 and SW0140 to SW0147.</li> </ul>



No.	MELSEC-Q series MELSECNET/H module		MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module				Compatibility	Precaution on replacement
	QJ71LP21-25		QJ71GP21-SX		RJ71GP21-SX			
	No.	Name	No.	Name	No.	Name		
99	SW00CD	Line error on the reverse loop side	SW006A SW006B	OUT-side line error occurrence rate (Max.) OUT-side line error occurrence rate (present)	SW006A SW006B	OUT-side line error occurrence rate (Max.) OUT-side line error occurrence rate (present)	△	<ul style="list-style-type: none"> <li>The station No. for the station that receives an error frame at OUT-side can be checked by SW0130 to SW0137 and SW0150 to SW0157.</li> <li>These operations in the MELSECNET/H can be substituted by OUT-side line error occurrence rate in the CC-Link IE Controller Network module.</li> </ul>
100	SW00CE	Number of loop switches	SW006E	Number of loop switches	SW006E	Number of loop switches	△	No. changed
101	SW00CF	Loop switch data pointer	-	-	-	-	×	Delete the sequence program for the corresponding part.
102	SW00D0 to SW00DF	Loop switch data	SW0064 SW0065	Loop status of own station Loopback information	SW0064 SW0065	Loop status of own station Loopback information	△	<ul style="list-style-type: none"> <li>The cause of loopback can be checked by Own station's loop status (SW0064).</li> <li>The loop status of a network can be checked by Loopback information (SW0065).</li> </ul>
103	SW00E0 to SW00E7	Switch request station	-	-	-	-	×	Delete the sequence program for the corresponding part.
104	SW00E8 to SW00EB	Module type of each station	-	-	-	-	×	
105	SW00EC	Low-speed cyclic transmission start execution results	-	-	-	-	×	
106	SW00EE	Transient transmission error	SW006F	Transient transmission error	SW006F	Transient transmission error count	△	No. changed
107	SW00EF	Transient transmission error pointer	-	-	-	-	△	The error history can be checked by CC IE Control diagnostics.
108	SW00F0 to SW00FF	Transient transmission error history	-	-	-	-	△	
109	SW01E0 to SW01E3	Network type consistency check	-	-	-	-	×	Delete the sequence program for the corresponding part.
110	SW01F4 to SW01F7	Redundant system status (1)	SW01D0 to SW01D7	Redundant system status (1)	SW01D0 to SW01D7	Separate mode status of each station	△	No. changed
111	SW01F8 to SW01FB	Redundant system status (2)	SW01E0 to SW01E7	Redundant system status (2)	SW01E0 to SW01E7	Pairing setting status of each station	△	
112	SW01FC to SW01FF	Redundant system status (3)	SW01F0 to SW01F7	Redundant system status (3)	SW01F0 to SW01F7	Redundant CPU system status of each station	△	

Link special register (SW) added in the MELSEC-Q series CC-Link IE Controller Network module

No.	Name
SW0009	Arrival monitoring time (RIRD/RIWT instruction)
SW000B	Number of resends (RIRD/RIWT instruction)
SW0012 to SW0013	Group specification for link stop/startup
SW0038	Send/receive instruction (9) processing result
SW0039	Send/receive instruction (10) processing result
SW004C	Shared group No.
SW0068	IN-side line error occurrence rate (Max.)
SW0069	IN-side line error occurrence rate (present)
SW006A	OUT-side line error occurrence rate (Max.)
SW006B	OUT-side line error occurrence rate (present)
SW0071	IN-side loopback factor
SW0072	OUT-side mis-cabling station No.
SW0074	IN-side cable disconnection detection count
SW0081	OUT-side loopback factor
SW0082	IN-side mis-cabling station No.
SW0084	OUT-side cable disconnection detection count
SW0096	Station-to-station test station
SW0120 to SW0127	Current IN-side error frame reception status
SW0130 to SW0137	Current OUT-side error frame reception status
SW0140 to SW0147	IN-side error frame reception detection status
SW0150 to SW0157	OUT-side error frame reception detection status
SW0160 to SW0167	Path switching detection status of each station
SW0170 to SW0177	Transient error detection status of each station
SW0190 to SW0197	Power status consistency check of each station
SW01A0 to SW01A7	Group cyclic transmission station information
SW01B0 to SW01B7	Each station's CPU type information
SW01C0 to SW01C7	Redundant function information

## Transient instruction

○: Compatible, △: Partly changed, ×: Incompatible

No.	Instruction	Name	Description			Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller module			
			QJ71LP21-25	QJ71GP21-SX	RJ71GP21-SX		
1	SEND	Send data	Writes data to the target station having the target network number.			△	Logical channel setting is not available for the CC-Link IE Controller Network module. Change the logical channel setting to channel 1 to 8.
2	RECV	Receive data	Reads data sent with SEND to the CPU device.			△	
3	READ SREAD	Read word device from other station	Reads the CPU device data from the target station having the target network number.			○	-
4	WRITE SWRITE	Write word device to other station	Writes data to the CPU device of the target station having the target network number.			○	-
5	REQ	Transient request to other station	Issues remote RUN/STOP and clock data read/write requests to other stations.			○	-
6	RECVS	Receive message (completed in 1 scan)	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.			○	-
7	ZNRD	Read word device from other station	Reads the CPU device data from the target station having the target network number.			○	-
8	ZNWR	Write word device to other station	Writes data to the CPU device of the target station having the target network number.			○	-
9	RRUN	Remote RUN	"Remote RUN" performed for other stations' CPU modules			○	-
10	RSTOP	Remote STOP	"Remote STOP" performed for other stations' CPU modules			○	-
11	RTMRD	Other station clock data read	"Read Clock Data" performed for other stations' CPU modules			○	-
12	RTMWR	Other station clock data written	"Write Clock Data" performed for other stations' CPU modules			○	-

## Precautions on replacement

For replacement to the MELSEC-Q series/MELSEC iQ-R series CC-Link IE Controller, the communication cables need to be rewired.

When the distance between stations is longer than 550m, consider using a media converter as well. Use a media converter recommended by the CC-Link Partner Association.

# 3 REMOTE I/O NETWORK REPLACEMENT

## 3.1 Replacement to the MELSEC iQ-R Series CC-Link IE Field

This section describes the replacement method to the MELSEC iQ-R series CC-Link IE Field.

### Alternative model list

All the existing MELSEC-Q series stations will be simultaneously replaced with the MELSEC iQ-R series.

No.	Network type	Station type	MELSEC-Q series model	MELSEC iQ-R series alternative model
1	Optical loop	Remote master station	QJ71LP21-25	RJ71GF11-T2
2		Remote I/O station	QJ72LP25-25	RJ72GF15-T2

### Comparison of specifications

#### Comparison of module specifications

○: Compatible, △: Partly changed, ×: Incompatible

No.	Item		Specifications		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series CC-Link IE Field module		
			QJ71LP21-25 QJ72LP25-25	RJ71GF11-T2 RJ72GF15-T2		
1	Maximum number of links per network	X/Y	8192 points	16384 points	△	Replace the devices with RX and RY.
2		B	16384 points (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)	-	△	Replace the devices with RWw and RWr.
3		W	16384 points (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)	16384 points (RWw + RWr)	△	Replace the devices with RWw and RWr.

No.	Item	Specifications		Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series CC-Link IE Field module		
		QJ71LP21-25 QJ72LP25-25	RJ71GF11-T2 RJ72GF15-T2		
4	Maximum number of links per station	<ul style="list-style-type: none"> <li>Remote master station → Remote I/O station  <math>((LY + LB) \div 8 + (2 \times LW)) \leq 1600</math> bytes</li> <li>Remote I/O station → Remote master station  <math>((LX + LB) \div 8 + (2 \times LW)) \leq 1600</math> bytes</li> <li>Multiplexed remote master station ↔ Multiplexed remote sub-master station  <math>((LY + LB) \div 8 + (2 \times LW)) \leq 2000</math> bytes</li> </ul>	<ul style="list-style-type: none"> <li>■ Master station <ul style="list-style-type: none"> <li>• RX 16K points (16384 points, 2048 bytes)</li> <li>• RY 16K points (16384 points, 2048 bytes)</li> <li>• RWw 8K points (8192 points, 16384 bytes)</li> <li>• RWr 8K points (8192 points, 16384 bytes)</li> </ul> </li> <li>■ Remote head module <ul style="list-style-type: none"> <li>• RX 2K points (2048 points, 256 bytes)</li> <li>• RY 2K points (2048 points, 256 bytes)</li> <li>• RWw 1K points (1024 points, 2048 bytes)</li> <li>• RWr 1K points (1024 points, 2048 bytes)</li> </ul> </li> </ul>	○	-
5	Communication speed	25Mbps/10Mbps	1Gbps	○	-
6	Number of stations per network	65 stations (Remote master stations: 1, Remote I/O stations: 64)	121 stations (master stations: 1, slave stations: 120)	○	-
7	Cable to be used	SI optical cable H-PCF optical cable Broad-band H-PCF optical cable QSI optical cable	Ethernet cable which satisfies 1000BASE-T standard: Category 5e or higher, straight cable (double shielded, STP)	△	The communication cables need to be rewired.
8	Overall distance	30km	Line topology: 12km Star topology: Depends on the system configuration. Ring topology: 12.1km (when 121 stations are connected)	△	When the overall distance does not meet the specifications, consider using a media converter or cascade connections of switching hubs. Use a switching hub and media converter recommended by the CC-Link Partner Association.
9	Distance between stations	<ul style="list-style-type: none"> <li>■ At a communication speed of 25Mbps SI optical cable: 200m H-PCF optical cable: 400m Broad-band H-PCF optical cable: 1km QSI optical cable: 1km</li> <li>■ At a communication speed of 10Mbps SI optical cable: 500m H-PCF optical cable: 1km Broad-band H-PCF optical cable: 1km QSI optical cable: 1km</li> </ul>	100m (conforms to ANSI/TIA/EIA-568-B (Category 5e))	△	When the distance between stations is longer than 100m, consider using a media converter. Use a switching hub and media converter recommended by the CC-Link Partner Association.
10	Maximum number of networks	239	239	○	-

No.	Item	Specifications		Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series CC-Link IE Field module		
		QJ71LP21-25 QJ72LP25-25	RJ71GF11-T2 RJ72GF15-T2		
11	Communication method	Token ring	Token passing	-	Although the communication method is different, there are no precautions.
12	Transmission path format	Duplex loop	<ul style="list-style-type: none"> <li>• Line topology</li> <li>• Star topology (coexistence of line topology and star topology is also possible)</li> <li>• Ring topology</li> </ul>	○	To secure the reliability of the transmission path, select the ring topology.
13	Engineering tool	GX Works2	GX Works3	△	-

## Comparison of cable specifications


For "Overall distance" and "Distance between stations", refer to the following.

☞ Page 58 Comparison of module specifications

## Comparison of functions

○: Compatible, △: Partly changed, ×: Incompatible

No.	Item		Description		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series CC-Link IE Field module		
			QJ71LP21-25 QJ72LP25-25	RJ71GF11-T2 RJ72GF15-T2		
1	Cyclic transmission function	Communicating with I/O modules	Uses X/Y (LX/LY) for communications with the I/O module on the remote I/O station.	Uses X/Y (RX/Ry) for communications with the I/O modules on the remote I/O station.	○	Replace the setting with the refresh settings for the CC-Link IE Field. ☞ Page 64 Comparison of parameters
2		Communicating with intelligent function modules	Uses X/Y (LX/LY) and B/W (LB/LW) for communications with the intelligent function modules on the remote I/O station.	Uses X/Y (RX/Ry) and W (RWw/RWr) for communications with the intelligent function modules on the remote I/O station.	○	Replace the setting with the refresh settings for the CC-Link IE Field. ☞ Page 64 Comparison of parameters
3	Transient transmission function	Transient transmission function	Performs data communication only when it is requested between stations.	Transient transmission function	○	☞ Page 87 Transient instruction
4		Routing function	Executes transient transmissions to stations having other network numbers.	Routing function	○	Dynamic routing is automatically enabled in the MELSEC iQ-R series. No manual setting is required.
5		Link dedicated instruction	Uses link dedicated instructions to communicate with other station at a desired timing.	Link dedicated instruction	○	☞ Page 87 Transient instruction

No.	Item		Description		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series CC-Link IE Field module		
			QJ71LP21-25 QJ72LP25-25	RJ71GF11-T2 RJ72GF15-T2		
6	RAS function	Clear I/O maintenance	Sets whether to hold or clear output from the sending side or input to the receiving side during data link and CPU error.	Clear I/O maintenance	○	For the setting, use the system parameters of the CC-Link IE Field remote I/O station.
7		Automatic return function	Automatically reconnects a station, which was disconnected from a network due to a data link error and has recovered from the error, to the network and restarts data link.	Automatic return function	○	-
8		Loopback function	In the optical loop system, the transmission path is dual-structured. When an error occurs in a transmission path, the faulty area is disconnected by switching the transmission path from the forward loop to the reverse loop or from the reverse loop to the forward loop, or performing a loopback. The transmission is continued normally between the stations that are still able to perform data communication.	The loopback function can be used only in ring topology. Continues data link with normally operating stations even if a cable disconnection or faulty station occurs. All stations after the cable disconnection point or faulty station are disconnected in a line topology. By using this function with ring topology, data link continues with normally operating stations.	○	-
9		Online module change on a remote I/O station	Online module change is the function for replacing a module mounted on the main base unit or extension base unit of a remote I/O station while the station is operating.		△	For details on the modules in online module change and the replacement procedure, refer to the following.  MELSEC iQ-R Online Module Change Manual



No.	Item		Description		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series CC-Link IE Field module		
			QJ71LP21-25 QJ72LP25-25	RJ71GF11-T2 RJ72GF15-T2		
10	Application functions	Multiplex transmission function	Allows high-speed communications using duplex transmission paths (both the forward and reverse loops).	-	×	The multiplex transmission function cannot be used with the CC-Link IE Field. Since the communication speed is higher than MELSECNET/H without the multiplex transmission function, use of the multiplex transmission function is unnecessary.
11		Reserved station function	Specifies any station to be connected in the future as a reserved station. Specifying a station not actually connected as a reserved station prevents a communication error.		○	For the setting, use the application settings of the CC-Link IE Field master station.
12		Interrupt Settings	The remote master station uses the host interrupt setting parameters to check interrupt conditions at the time data is being received from the remote I/O station. When the interrupt conditions are matched, it issues an interrupt request to CPU module from the master module and starts the interrupt sequence program of the CPU module.		○	For the setting, use the basic settings of the CC-Link IE Field master station.
13		I/O assignment function	Sets the remote I/O station module configuration.		○	For the setting, use the system parameters of the CC-Link IE Field remote head module.
14		Multiplex remote master function	Allows the multiplexed remote sub-master station to automatically control the remote I/O stations if the multiplexed remote master station fails.	-	△	For replacement, use the standby master function for the CC-Link IE Field.

## Comparison of switch settings

○: Compatible, △: Partly changed, ×: Incompatible

No.	Switch name	Description		Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series CC-Link IE Field module		
		QJ71LP21-25 QJ72LP25-25	RJ71GF11-T2 RJ72GF15-T2		
1	Station number setting switches	Used to set the station number.	-	△	Set the station number using the GX Works3 module parameter.
2	Mode setting switch	Used to set the operation mode or self-diagnostics test mode.	-	△	Set the operation mode using the GX Works3 module parameter.

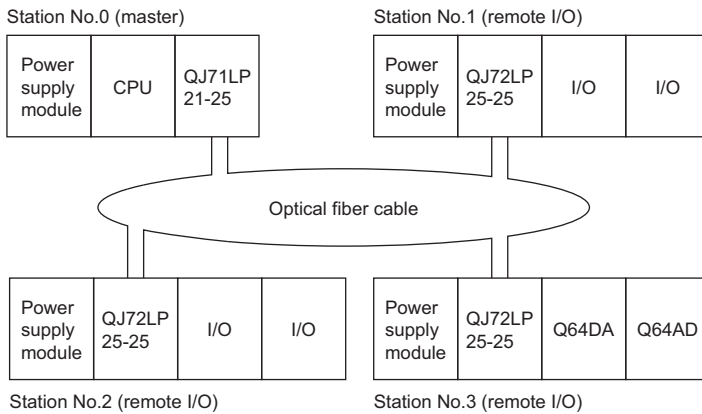
# Comparison of parameters

This section describes the system configuration example for replacing the MELSEC-Q series MELSECNET/H modules with the MELSEC iQ-R series CC-Link IE Field. Also, for parameters to be set for operating the cyclic transmission function, precautions on replacement of the master stations and remote I/O stations are described.

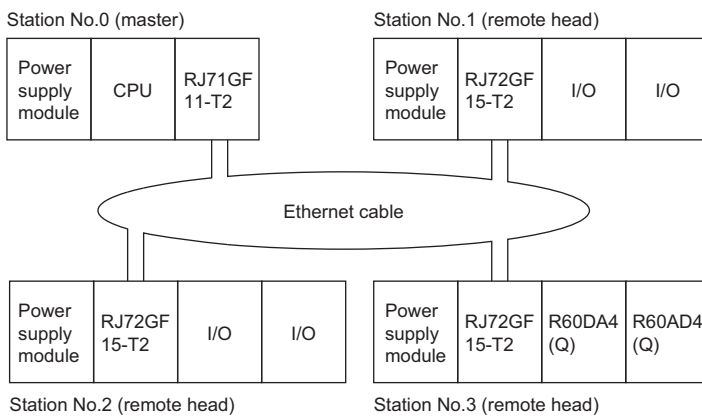
## System configuration example

The intelligent function modules can arrange the buffer memory addresses equivalent to ones of the MELSEC-Q series modules by using the Q compatible mode function (R60AD4(Q), R60DA4(Q)). This compatibility makes it possible to reuse sequence programs that have exhibited high performance.

- MELSEC-Q series MELSECNET/H module



- MELSEC iQ-R series CC-Link IE Field module

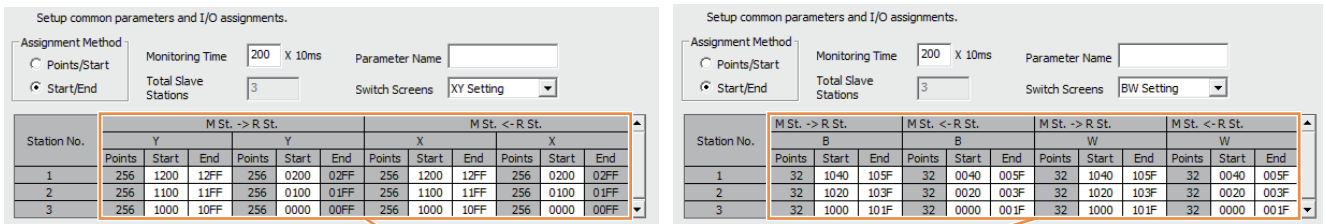
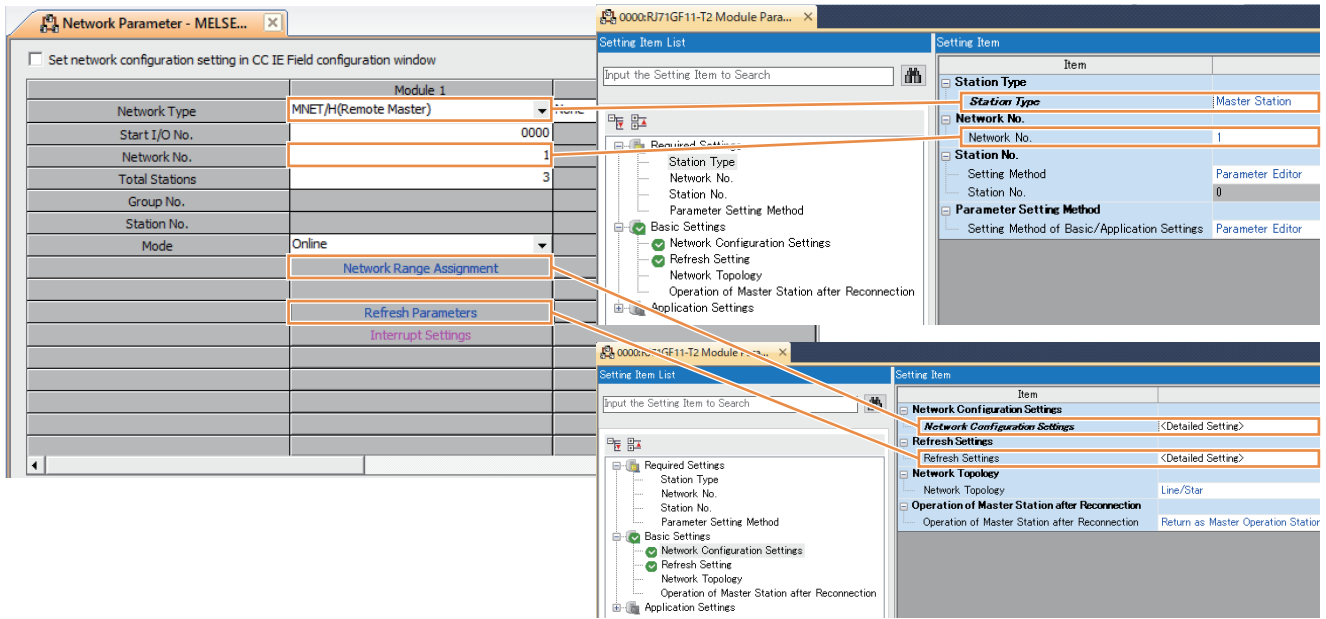


## Comparison of remote master station parameters

○: Compatible, △: Partly changed, ×: Incompatible

No.	Parameter name	Description		Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series CC-Link IE Field module		
1	Network Type	Set the network type.	-	△	Set the station type to the master station using the GX Works3 module parameter.
2	Starting I/O No.	Set the starting I/O number.	-	△	Set the starting I/O number using [Add New Module] of GX Works3.
3	Network No.	Set the network number.		○	Set the network number using the GX Works3 module parameter.
4	Total Stations	Set the total number of (slave) stations.	-	×	Use the GX Works3 module parameter and add an intelligent device station from the network configuration setting. The RJ72GF15-T2 on the module list can be added by drag and drop.
5	Mode	Set the operation mode of the network module.	-	△	Set the module operation mode using the GX Works3 module parameter.
6	Common parameter	Set the LB, LW, LX and LY cyclic transmission ranges that allow sending and receiving between a remote master station and remote I/O stations.	-	△	Set this item from the network configuration setting using the GX Works3 module parameter.
7	Refresh Parameters	Used to transfer the link device data (LB, LW, LX, LY) of the network module to the devices (X, Y, M, L, T, B, C, ST, D, W, R, ZR) of the CPU module for operation of the sequence programs.	-	△	Set this item from the refresh setting using the GX Works3 module parameter.

For the remote master station parameters, the following image shows the correspondence between the GX Works2 parameter setting window and the GX Works3 window. Also, the network assignment example of the cyclic transmission function is indicated.



No.	Model Name	STA#	Station Type	RX/RX Setting			RWw/RWr Setting			Refresh Device					
				Points	Start	End	Points	Start	End	RX	RY	RWw	RWr		
0	Host Station	0	Master Station												
1	RJ72GF15-T2	1	Intelligent Device Station	256	0200	02FF	32	0040	005F	X1200 (256 points)	Y1200 (256 points)	W1040 (32 points)	W40 (32 points)		
2	RJ72GF15-T2	2	Intelligent Device Station	256	0100	01FF	32	0020	003F	X1100 (256 points)	Y1100 (256 points)	W1020 (32 points)	W20 (32 points)		
3	RJ72GF15-T2	3	Intelligent Device Station	256	0000	00FF	32	0000	001F	X1000 (256 points)	Y1000 (256 points)	W1000 (32 points)	W0 (32 points)		



Assign B (bit device) to RWw/RWr (word device).

## Comparison of remote I/O station parameters

○: Compatible, △: Partly changed, ×: Incompatible

No.	Parameter name	Description		Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series CC-Link IE Field module		
1	I/O Assignment*1	Set the I/O number to the I/O module or special function module on a remote I/O station.	-	△	Set this item from the I/O assignment setting using the GX Works3 system parameter.

\*1 Even if the number of I/O points from/to the module is reduced, the I/O number misalignment can be prevented by using the I/O assignment.

For the remote I/O station parameters, the following image shows the correspondence between the GX Works2 parameter setting window and the GX Works3 window that will be used after replacement.

The image displays two software windows side-by-side. The left window is the 'I/O Assignment' window in GX Works2, showing a table with columns for No., Slot, Remote I/O Station, Type, Model Name, Points, and Start XY. Slots 1 and 2 are highlighted in orange, both set to 'Intelligent' type and 'Q64DA' model with '16Points'. The right window is the 'System Parameter' window in GX Works3, showing the 'I/O Assignment' tab. It features a table with columns for Slot, Module Name, Module Status Setting, Points, Start XY, and Control PLC Settings. Slots 1 and 2 are highlighted in orange. Slot 1 is 'CPU' with 'RJ72GSF15-T2(Host Station)' and '16 Points'. Slot 2 is 'RS6DA(Q)' with 'No Setting' and '16 Points'. Below the table is an 'Explanation' section with text about module naming and synchronization settings. Buttons for 'Check' and 'Restore the Default Settings' are visible at the bottom.

# Comparison of programs

This section shows examples of using the existing programs for interlock, cyclic, communications with intelligent function modules (auto refresh), and communications with intelligent function modules (dedicated instruction (REMFR/REMTO)) and program examples for replacement of each program.

## Application example of interlock use

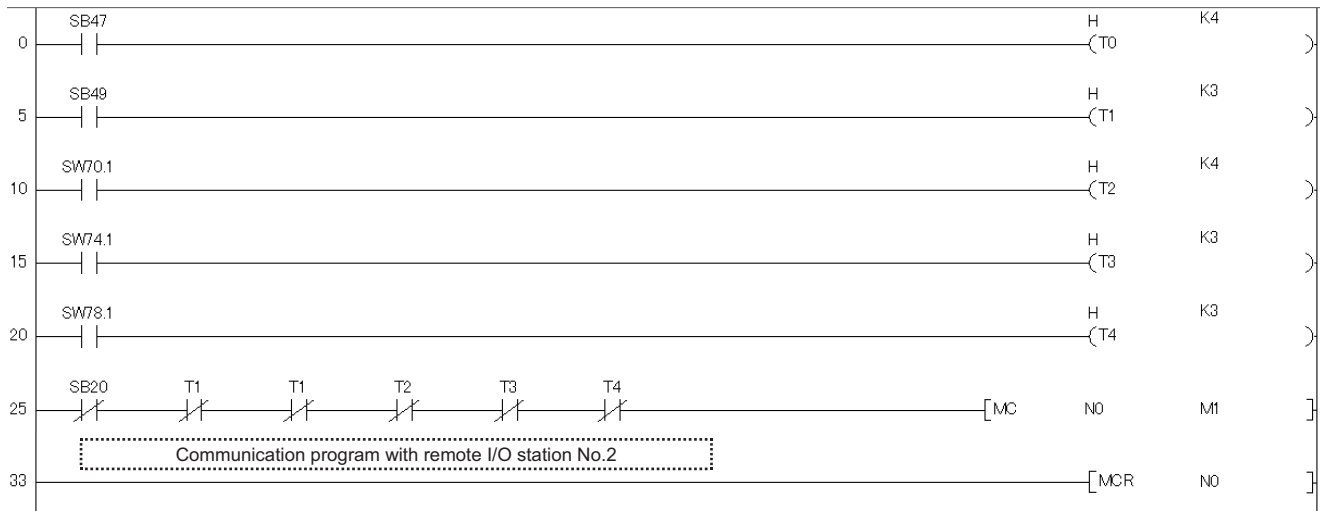
The following processing is performed in the program. The following table lists the correspondence of interlock replacement used in the program example.

- Program of communications with remote I/O station 2 in which the own station and station number 2 link statuses are used for interlock

No.	MELSEC-Q series MELSECNET/H module		MELSEC iQ-R series CC-Link IE Field module		
	No.	Name	Label name	Name	Device
1	SB0047	Baton pass status (host)	GF11_1.bSts_BatonPassError	Baton pass status of own station	SB0047
2	SB0049	Host data link status	GF11_1.bSts_DataLinkError	Data link error status of own station	SB0049
3	SW70.1	Baton pass status of each station (station No.2)	GF11_1.bnSts_BatonPassError_Station[2]	Baton pass status of each station (station No.2)	SW00A0.1
4	SW74.1	Cyclic transmission status of each station (station No.2)	GF11_1.bnSts_DataLinkError_Station[2]	Data link status of each station (station No.2)	SW00B0.1
5	SW78.1	Parameter communication status of each station (station No.2)	-	-	-
6	SB0020	Module status	-	-	-

### GX Works2

- Program example

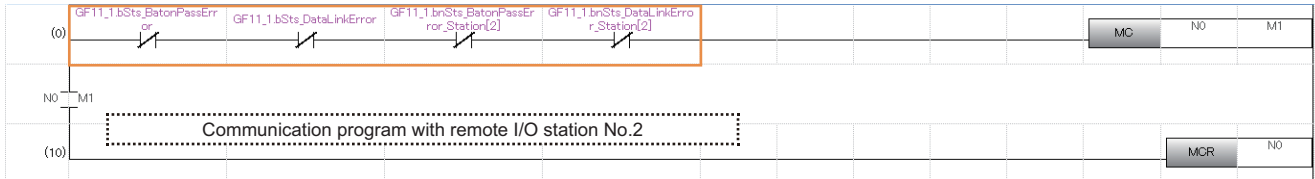


- (0) Use Baton pass status (host) for interlock.
- (5) Use Host data link status for interlock.
- (10) Use Baton pass status of each station for interlock.
- (15) Use Cyclic transmission status of each station for interlock.
- (20) Use Parameter communication status of each station for interlock.
- (25) Use Module status for interlock.

GX Works3

• Program example

In the MELSEC iQ-R series CC-Link IE Field, the link special relay areas (SB) and link special register areas (SW) to be used for interlock can be set by using module labels. Unlike a program for the MELSEC-Q series MELSECNET/H module, the MELSEC iQ-R series CC-Link IE Field does not require waiting for the baton pass status, cyclic transmission status, and parameter communication status with the timer.



(0) Use Baton pass status of own station, Data link error status of own station, Baton pass status of each station, and Data link status of each station for interlock.

## Application example of cyclic

The following shows a program that performs the following processing..

- An input from X0 of the remote I/O station (station number 2) turns on M1000.
- When M2000 is turned on, a signal is output to Y10 of the remote I/O station (station number 2).

GX Works2

- Parameter setting example

Setup common parameters and I/O assignments.

Assignment Method  
 Points/Start  
 Start/End

Monitoring Time: 200 X 10ms  
 Parameter Name:   
 Total Slave Stations: 3  
 Switch Screens: XY Setting

Station No.	M St. -> R. St.						M St. <- R. St.					
	Y			Y			X			X		
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
1	256	1200	12FF	256	0200	02FF	256	1200	12FF	256	0200	02FF
2	256	1100	11FF	256	0000	00FF	256	1100	11FF	256	0000	00FF
3	256	1000	10FF	256	0000	00FF	256	1000	10FF	256	0000	00FF

Assignment Method  
 Points/Start  
 Start/End

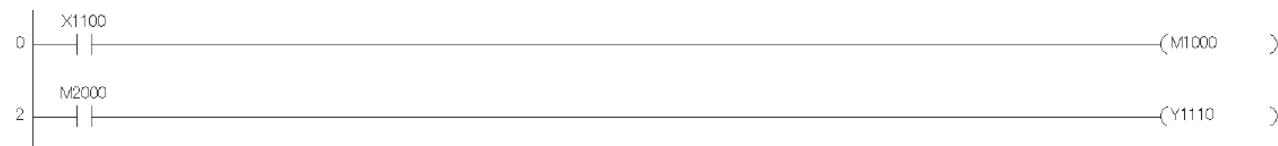
Transient Transmission Error History Status  
 Overwrite  
 Hold

	Link Side				PLC Side			
	Dev. Name	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	8192	0000	1FFF	B	8192	0000	1FFF
Transfer 2	LW	8192	0000	1FFF	W	8192	000000	001FFF
Transfer 3	LX	512	1000	11FF	X	512	1000	11FF
Transfer 4	LY	512	1000	11FF	Y	512	1000	11FF
Transfer 5								
Transfer 6								

\* 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.

Default Check End Cancel

- Program example



- (0) Input from X0 of remote I/O station
- (2) Output to Y10 of remote I/O station

GX Works3

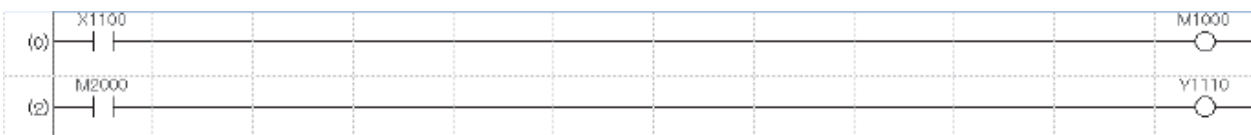
- Parameter setting example

256 points are assigned to each of link devices RX and RY of the remote head module (station number 2) and RX and RY are refreshed and set to specified devices X1000 and Y1000 on the CPU side.

No.	Model Name	STA#	Station Type	RX/RX Setting			RWw/RWr Setting			Refresh Device				
				Points	Start	End	Points	Start	End	RX	RY	RWw	RWr	
0	Host Station	0	Master Station											
1	RJ72GF15-T2	1	Intelligent Device Station	256	0200	02FF	32	0040	005F	X1200 (256 points)	Y1200 (256 points)	W1040 (32 points)	W40 (32 points)	
2	RJ72GF15-T2	2	Intelligent Device Station	256	0100	01FF	32	0020	003F	X1100 (256 points)	Y1100 (256 points)	W1020 (32 points)	W20 (32 points)	
3	RJ72GF15-T2	3	Intelligent Device Station	256	0000	00FF	32	0000	001F	X1000 (256 points)	Y1000 (256 points)	W1000 (32 points)	W0 (32 points)	

- Program example

The program does not require any modification.



- (0) Input from X0 of remote head module
- (2) Output to Y10 of remote head module



## Application example of communications (auto refresh)

The following shows a program that performs the following processing when communications with intelligent function modules (auto refresh) are performed.

- The digital output values of CH1 to CH3 are read and stored in D11 to D13.
- Error codes are displayed (BCD output) and reset.

GX Works2

- Parameter setting example

<Master>

Setup common parameters and I/O assignments.

Assignment Method:  Points/Start  Start/End

Monitoring Time: 200 X 10ms

Parameter Name:

Total Slave Stations: 3

Switch Screens: XY Setting

Station No.	M St. -> R St.						M St. <- R St.					
	Y			X			Y			X		
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
1	256	1200	12FF	256	0200	02FF	256	1200	12FF	256	0200	02FF
2	256	1100	11FF	256	0100	01FF	256	1100	11FF	256	0100	01FF
3	256	1000	10FF	256	0000	00FF	256	1000	10FF	256	0000	00FF

Setup common parameters and I/O assignments.

Assignment Method:  Points/Start  Start/End

Monitoring Time: 200 X 10ms

Parameter Name:

Total Slave Stations: 3

Switch Screens: BW Setting

Station No.	M St. -> R St.			M St. <- R St.			M St. -> R St.			M St. <- R St.		
	B			B			W			W		
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
1	32	1040	105F	32	0040	005F	32	1040	105F	32	0040	005F
2	32	1020	103F	32	0020	003F	32	1020	103F	32	0020	003F
3	32	1000	101F	32	0000	001F	32	1000	101F	32	0000	001F

Assignment Method:  Points/Start  Start/End

Transient Transmission Error History Status:  Overwrite  Hold

	Link Side					PLC Side			
	Dev. Name	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 Cycle	LB				↔				
Random Cycle	LW				↔				
Transfer 1	LB	8192	0000	1FFF	↔	B	8192	0000	1FFF
Transfer 2	LW	8192	0000	1FFF	↔	W	8192	000000	001FFF
Transfer 3	LX	512	1000	11FF	↔	X	512	1000	11FF
Transfer 4	LY	512	1000	11FF	↔	Y	512	1000	11FF
Transfer 5					↔				
Transfer 6					↔				

\* 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.

Default Check End Cancel

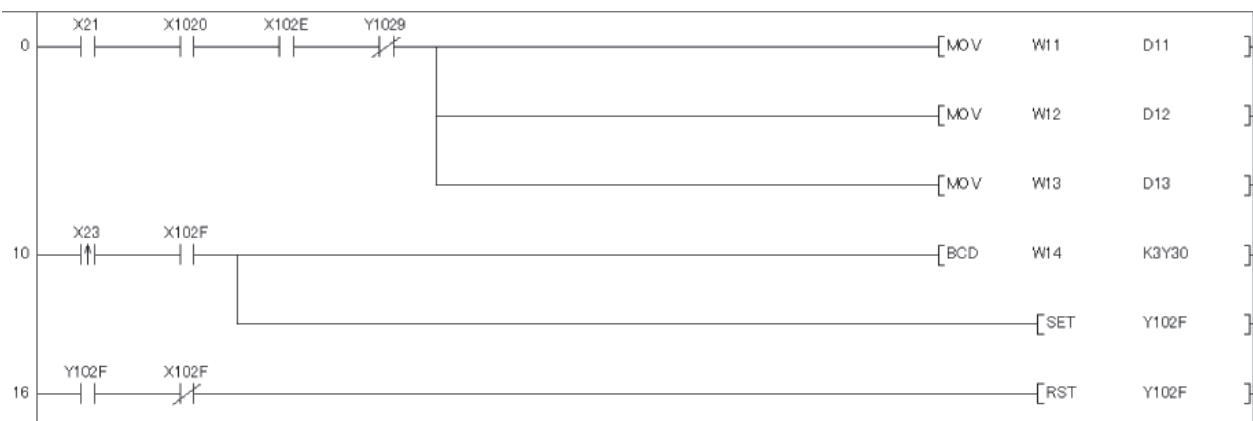
<Remote I/O>

0010:Q64AD[]-Auto\_Refresh

Display Filter: Display All

Item	CH1	CH2	CH3
<b>Transfer to CPU</b>	<b>The data of the buffer memory is transmitted to the specified device.</b>		
Digital output value	W11	W12	W13
Maximum value			
Minimum value			
Error code	W14		

- Program example



- (0) Read the CH1 to CH3 digital output values.
- (10) Output the error code in BCD, turn on the error clear request.
- (16) Turn off the error clear request.

GX Works3

- Parameter setting example

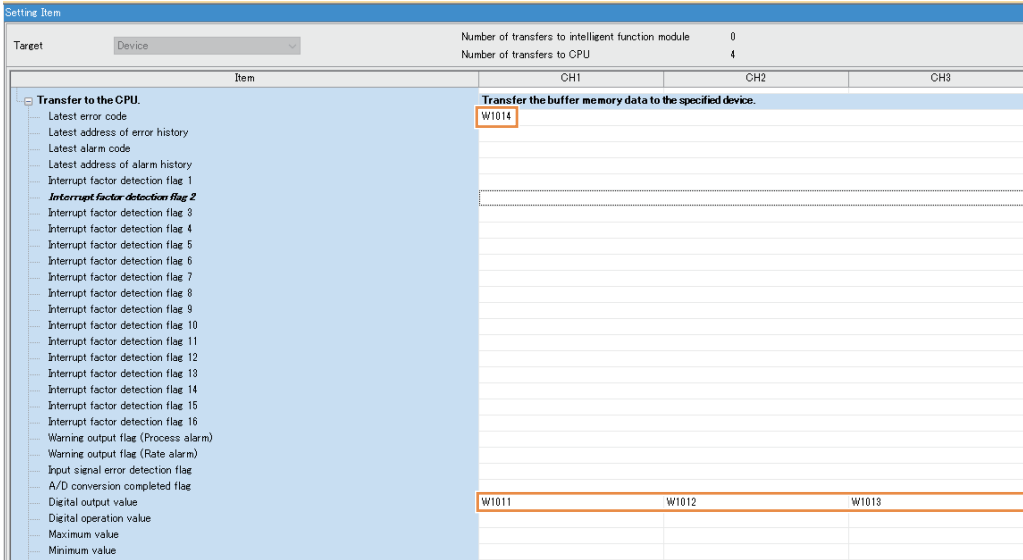
<Master>

64 points are assigned to each of link devices RWw and RWr of the remote head module (station number 3) and RWw and RWr are refreshed and set to specified devices W1000 and W0 on the CPU side.

No.	Model Name	STA#	Station Type	RX/RX Setting			RWw/RWw Setting			Refresh Device			
				Points	Start	End	Points	Start	End	RX	RY	RWw	RWw
0	Host Station	0	Master Station										
1	RJ72GF15-T2	1	Intelligent Device Station	256	0200	02FF	32	0040	00FF	X1200 (256 points)	Y1200 (256 points)	W1040 (32 points)	W40 (32 points)
2	RJ72GF15-T2	2	Intelligent Device Station	256	0100	01FF	32	0020	003F	X1100 (256 points)	Y1100 (256 points)	W1020 (32 points)	W20 (32 points)
3	RJ72GF15-T2	3	Intelligent Device Station	256	0000	00FF	32	0000	001F	X1000 (256 points)	Y1000 (256 points)	W1000 (32 points)	W0 (32 points)

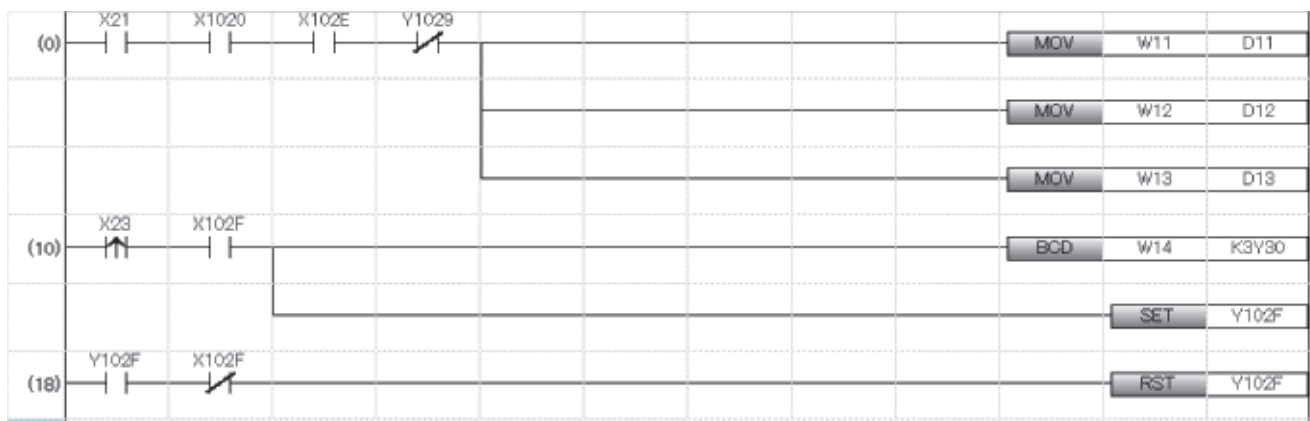
<Remote head>

RWw/RWw is assigned from W0/W1000 of the link register area (W). Therefore, when setting the transfer data to the CPU, apply the refresh setting from W1000.



- Program example

The program does not require any modification.



- (0) Read the CH1 to CH3 digital output values.
- (10) Output the error code in BCD, turn on the error clear request.
- (18) Turn off the error clear request.

## Application example of communications (dedicated instruction (REMFR/REMTO))

The following shows a program that performs the following processing when communications with intelligent function modules (dedicated instruction (REMFR/REMTO)) are performed. The following table lists the correspondence of interlock replacement used in the program example.

- The remote I/O station operating status is checked.
- The channel for which A/D conversion is permitted is set (initial settings).
- Digital output values are read.
- Error codes are displayed and reset.

No.	MELSEC-Q series MELSECNET/H module		MELSEC iQ-R series CC-Link IE Field module		
	No.	Name	Label name	Name	Device
1	SB0047	Baton pass status (host)	GF11_1.bSts_BatonPassError	Baton pass status (host)	SB0047
2	SB0049	Host data link status	GF11_1.bSts_DataLinkError	Data link error status of own station	SB0049
3	SW70.2	Baton pass status of each station (station No.3)	GF11_1.bnSts_BatonPassError_Station[3]	Baton pass status of each station (station No.3)	SW00A0.2
4	SW74.2	Cyclic transmission status of each station (station No.3)	GF11_1.bnSts_DataLinkError_Station[3]	Data link status of each station (station No.3)	SW00B0.2
5	SW78.2	Parameter communication status of each station (station No.3)	-	-	-
6	SB0020	Module status	-	-	-

### GX Works2

- Parameter setting example

Setup common parameters and I/O assignments.

Assignment Method:  
 Points/Start  
 Start/End

Monitoring Time: 200 X 10ms  
 Total Slave Stations: 3  
 Parameter Name:   
 Switch Screens: XY Setting

Station No.	M St. -> R St.						M St. <- R St.					
	Y		Y		X		X		Y		Y	
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
1	256	1200	12FF	256	0200	02FF	256	0100	01FF	256	0200	02FF
2	256	1100	11FF	256	0100	01FF	256	0300	03FF	256	0400	04FF
3	256	1000	10FF	256	0000	00FF	256	1000	10FF	256	0000	00FF

Assignment Method:  
 Points/Start  
 Start/End

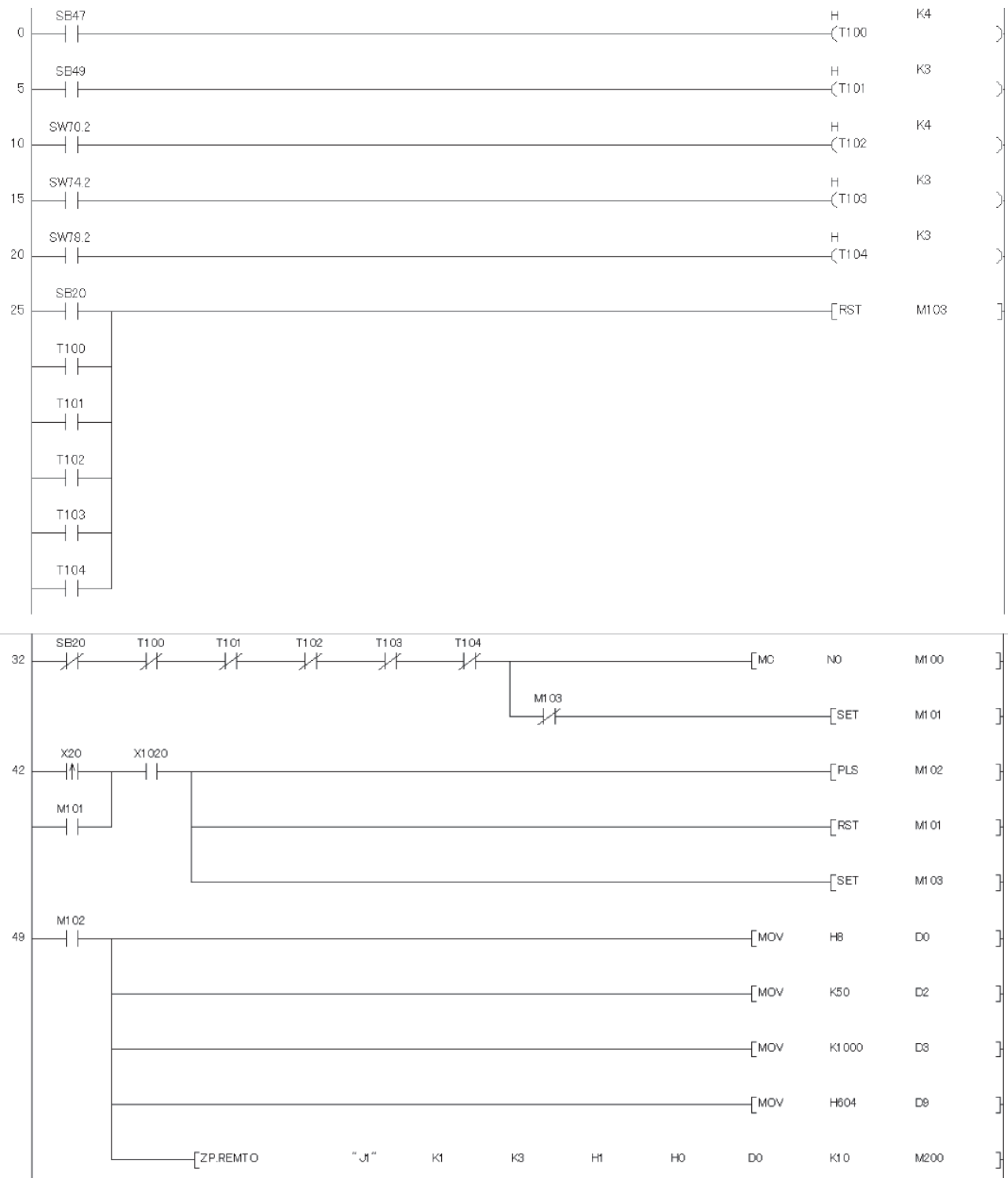
Transient Transmission Error History Status:  
 Overwrite  
 Hold

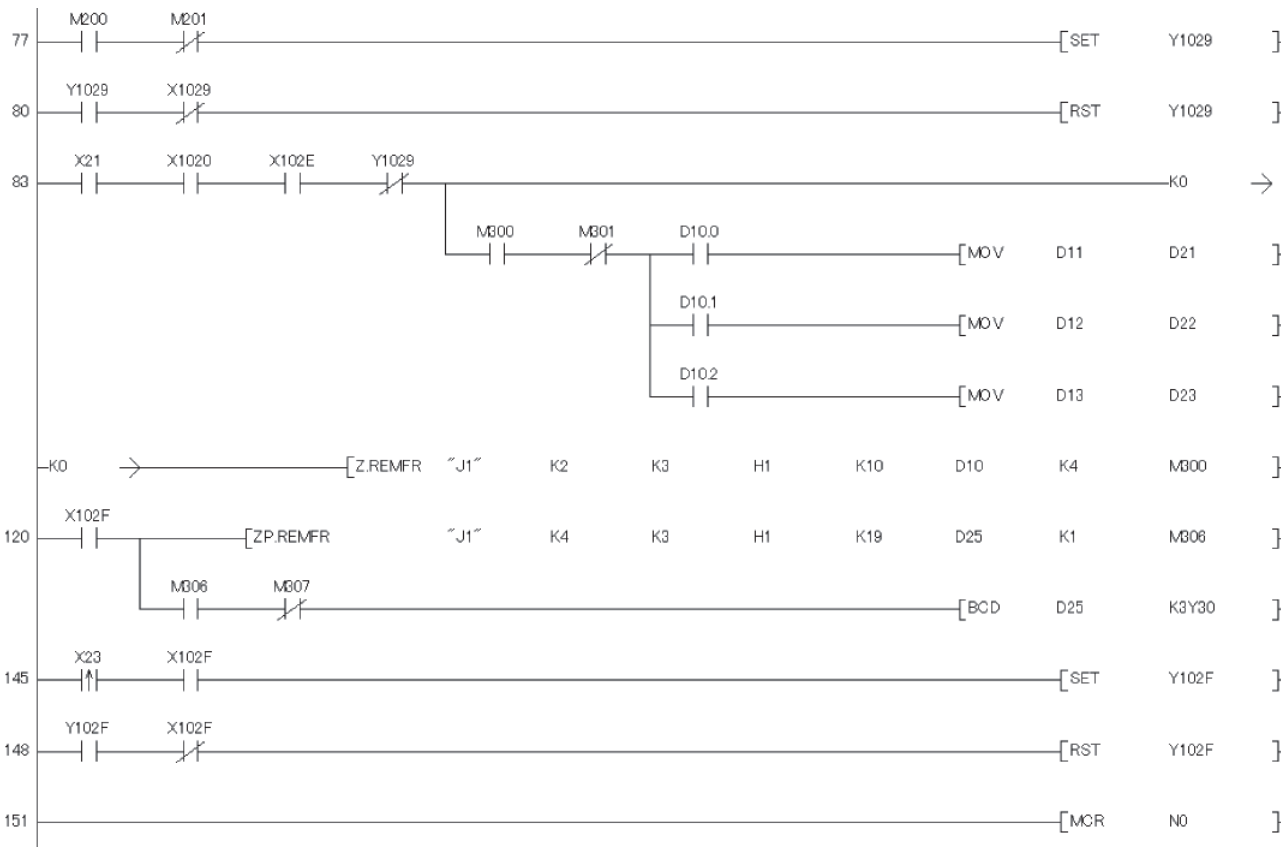
	Link Side						PLC Side				
	Dev. Name	Points	Start	End			Dev. Name	Points	Start	End	
Transfer SB	SB	512	0000	01FF	↔	SB	512	0000	01FF		
Transfer SW	SW	512	0000	01FF	↔	SW	512	0000	01FF		
Random Cyclic	LB				↔						
Random Cyclic	LW				↔						
Transfer 1	LB	8192	0000	1FFF	↔	B	8192	0000	1FFF		
Transfer 2	LW	8192	0000	1FFF	↔	W	8192	000000	001FFF		
Transfer 3	LX	2048	1000	17FF	↔	X	2048	1000	17FF		
Transfer 4	LY	2048	1000	17FF	↔	Y	2048	1000	17FF		
Transfer 5					↔						
Transfer 6					↔						

\*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.

Default Check End Cancel

• Program example





- (0) Check the master station baton pass status.  
 (5) Check the master station data link status.  
 (10) Check the remote I/O station baton pass status.  
 (15) Check the remote I/O station data link status.  
 (20) Check the remote I/O station parameter communication status.  
 (32) Check the master module status.  
 (49) Configure the A/D conversion enable/disable setting, CH2 average time/average number of times, CH3 average time/average number of times, and averaging processing setting, and write these settings to the buffer memory.  
 (77) Turn on the operating condition setting request.  
 (80) Turn off the operating condition setting request.  
 (83) Concurrently read the A/D conversion completed flag and CH1 to CH3 digital output values.  
 (120) Read the error code and output the error code in BCD.  
 (145) Turn on the error clear request.  
 (148) Turn off the error clear request.

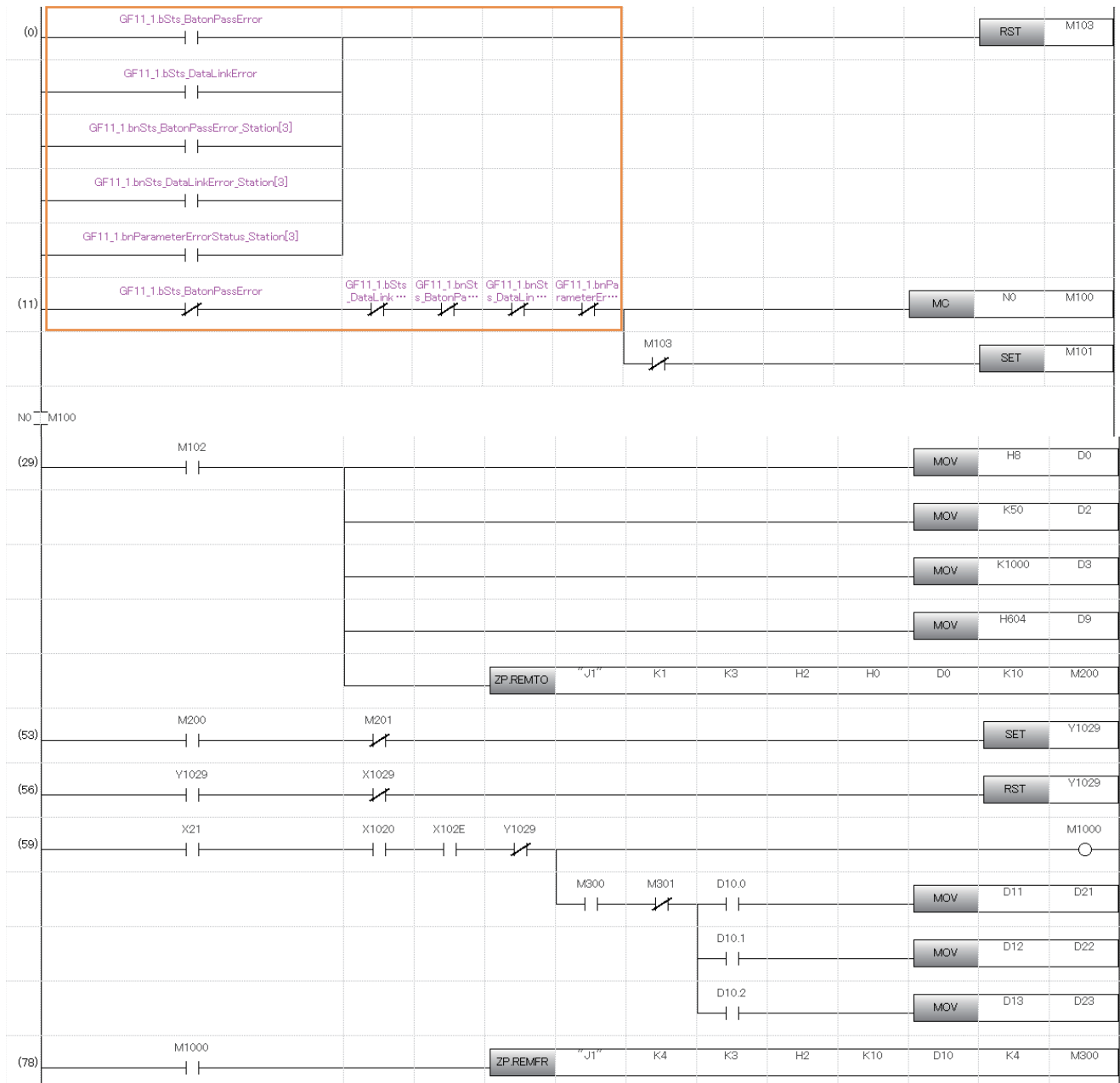
## GX Works3

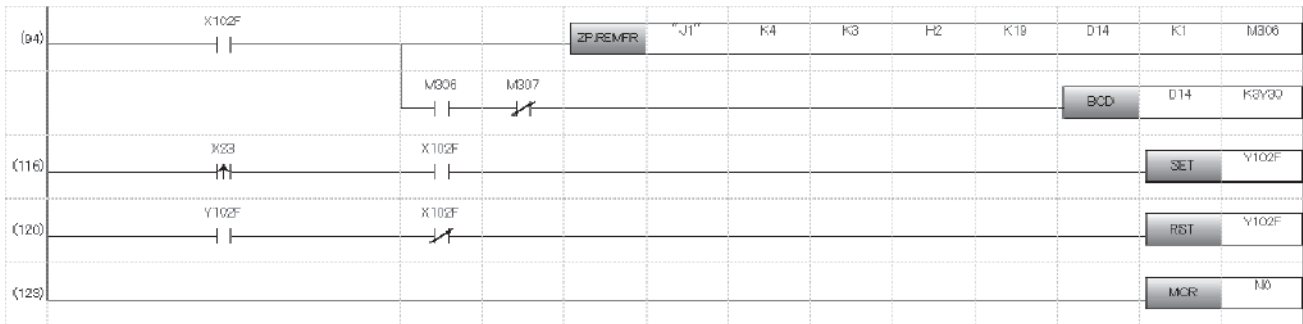
### • Parameter setting example

No.	Model Name	STA#	Station Type	RX/RV Setting			RWw/RWr Setting			Refresh Device			
				Points	Start	End	Points	Start	End	RX	RY	RWw	RWr
0	Host Station	0	Master Station										
1	RJ72GF15-T2	1	Intelligent Device Station	256	0200	02FF	32	0040	005F	X1200 (256 points)	Y1200 (256 points)	W1040 (32 points)	W40 (32 points)
2	RJ72GF15-T2	2	Intelligent Device Station	256	0100	01FF	32	0020	003F	X1100 (256 points)	Y1100 (256 points)	W1020 (32 points)	W20 (32 points)
3	RJ72GF15-T2	3	Intelligent Device Station	256	0000	00FF	32	0000	001F	X1000 (256 points)	Y1000 (256 points)	W1000 (32 points)	W0 (32 points)

### • Program example

In the MELSEC iQ-R series CC-Link IE Field, the link special relay areas (SB) and link special register areas (SW) to be used for interlock can be set by using module labels. The MELSEC iQ-R series CC-Link IE Field does not require waiting for the baton pass status, cyclic transmission status, and parameter communication status with the timer in contrast of a program for the MELSEC-Q series MELSECNET/H module. The intelligent function modules can arrange the buffer memory addresses equivalent to ones of the MELSEC-Q series modules by using the Q compatible mode function (R60AD4(Q), R60DA4(Q)). This compatibility makes it possible to reuse sequence programs that have exhibited high performance.





(94) Use Baton pass status of own station, Data link error status of own station, Baton pass status of each station, and Data link status of each station for interlock.

(21) Configure the A/D conversion enable/disable setting, CH2 average time/average number of times, CH3 average time/average number of times, and averaging processing setting, and write these settings to the buffer memory.

(53) Turn on the operating condition setting request.

(56) Turn off the operating condition setting request.

(59) Read CH1 to CH3 digital output values.

(94) Read the error code and output the error code in BCD.

(116) Turn on the error clear request.

(120) Turn off the error clear request.

## Comparison of special relay and special register

### ■Link special relay

Since replacement with another network is performed this time, SB/SW described in the manual covers those used for programming the MELSEC-Q series MELSECNET/H modules (such as interlock). For other contents, refer to SB/SW of the CC-Link IE Field module for programming.

○: Compatible, △: Partly changed, ×: Incompatible

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series CC-Link IE Field module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71GF11-T2 RJ72GF15-T2				
	No.	Name	Description	No.	Name	Description		
5	SB0005	Clear retry count	Clears the retry count (SW00C8 to SW00C9) to 0.	-	-	-	×	Delete the sequence program for the corresponding part.
6	SB0006	Clear communication error count	Clears the communication error (SW00B8 to SW00C7) to 0.	SB0006	Clear communication error count	Clears the link special register areas related to communication errors (SW0068 to SW006B, SW0074 to SW0077, SW007C to SW007F, SW0120 to SW015F) to 0.	○	-
7	SB0007	Clear forward loop transmission errors	Clears the line abnormal detection (SW00CC) of the forward loop side to 0.	-	-	-	×	Delete the sequence program for the corresponding part.
8	SB0008	Clear reverse loop transmission errors	Clears the line abnormal detection (SW00CD) of the reverse loop side to 0.	-	-	-	×	Delete the sequence program for the corresponding part.
9	SB0009	Clear loop switch count	Clears the loop switch count (SW00CE to SW00E7) to 0.	-	-	-	×	Delete the sequence program for the corresponding part.

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series CC-Link IE Field module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71GF11-T2 RJ72GF15-T2				
	No.	Name	Description	No.	Name	Description		
14	SB0014	Remote sub-master station switching command	Forcibly directs the remote sub-master station that is performing master operation to shift to sub-master operation. (It is invalid for the redundant system.)	SB0019	Forced master switching command	Switches the operation of the master station to master operation when submaster station is operating as a master.	○	• No. changed <sup>*1</sup>
15	SB0018	System switching monitoring time setting valid flag	Indicates whether the system switching monitoring time setting (SW0018) is valid or invalid in case of a data link error.	-	-	-	×	Delete the sequence program for the corresponding part.
16	SB0020	Module status	Indicates the communication status between the network module and CPU module.	-	-	-	×	Delete the sequence program for the corresponding part.
18	SB0041	Host station's redundant function support information	Indicates whether the station supports the redundant function or not.	-	-	-	×	Delete the sequence program for the corresponding part.
21	SB0044	Station setting (host)	Indicates the station type set with the parameter of the host's network module. Off: Remote I/O station or multiplexed remote sub-master station On: Remote master station or multiplexed remote master station	SB0044	Station setting 1 of own station	Stores the station type of the own station. Off: Slave station (other than the master station) On: Master station	△	The specifications are different between the MELSECNET/H modules and the CC-Link IE Field modules.
24	SB0047	Baton pass status (host)	Indicates the host's baton pass status (transient transmission enabled).	SB0047	Baton pass error status of own station	Indicates the baton pass status (transient transmission enabled) of the own station.	○	-
25	SB0048	Remote master station status (host)	Indicates the host's status. Off: Remote I/O station, On: SB0044 = On Remote master station or multiplexed remote master station SB0044 = Off Remote I/O station or multiplexed remote sub-master station	-	-	-	×	Delete the sequence program for the corresponding part.
26	SB0049	Host data link status	Indicates the host's data link operation status.	SB0049	Data link error status of own station	Indicates the data link operation status of the own station.	○	-
47	SB0070	Baton pass status of each station	Indicates the baton pass status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	SB00A0	Baton pass status of each station	Indicates the baton pass status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	△	No. changed



No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series CC-Link IE Field module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71GF11-T2 RJ72GF15-T2				
	No.	Name	Description	No.	Name	Description		
48	SB0071	Baton pass status of the remote master station	Indicates the baton pass status of the master station. (Including when there is an online loop test.)	SB00A1	Baton pass error status of master station	Indicates the baton pass status of the master station. (Including when there is an online loop test.)	△	No. changed
49	SB0072	Remote sub-master station transient transmission status	Indicates the transient transmission status of the remote sub-master station.	-	-	-	×	Delete the sequence program for the corresponding part.
50	SB0074	Cyclic transmission status of each station	Indicates the cyclic transmission status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	SB00B0	Data link error status of each station	Indicates the cyclic transmission status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	△	No. changed
51	SB0075	Cyclic transmission status of the remote master station	Indicates the remote master station cyclic transmission status. (Includes online loop test.)	SB00B1	Data link error status of master station	Indicates the master station cyclic transmission status. (Includes online loop test.)	△	No. changed
52	SB0076	Remote sub-master station cyclic transmission status	Indicates the cyclic transmission status of the remote sub-master station. (Including the status at an online loop test)	-	-	-	×	Delete the sequence program for the corresponding part.
53	SB0077	Remote master station cyclic transmission control status	Indicates the station type that is controlling cyclic transmission at the remote I/O stations.	SB0070	Master station information	Stores the data link status when the submaster function is being used. Off: Data link by the master station On: Data link by the submaster station	△	<ul style="list-style-type: none"> <li>No. changed</li> <li>The specifications are different between the MELSECNET /H modules and the CC-Link IE Field modules.</li> </ul>
62	SB0091	Forward loop status	Indicates the status of stations connected to the forward loop.	-	-	-	×	Delete the sequence program for the corresponding part.
63	SB0092	Forward loop status of remote master station	Indicates the forward loop status of the remote master station.	-	-	-	×	Delete the sequence program for the corresponding part.
64	SB0095	Reverse loop status	Indicates the status of stations connected to the reverse loop.	-	-	-	×	Delete the sequence program for the corresponding part.
65	SB0096	Reverse loop status of remote master station	Indicates the reverse loop status of the remote master station.	-	-	-	×	Delete the sequence program for the corresponding part.
66	SB0099	Forward loop loopback	Indicates the loopback status of the forward loop while the system is operating.	SB0065	Loopback status	Stores the loopback status for the loopback function.	△	<ul style="list-style-type: none"> <li>No. changed<sup>*3</sup></li> </ul>

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series CC-Link IE Field module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71GF11-T2 RJ72GF15-T2				
	No.	Name	Description	No.	Name	Description		
67	SB009A	Reverse loop loopback	Indicates the loopback status of the reverse loop while the system is operating.	SB0065	Loopback status	Stores the loopback status for the loopback function.	△	• No. changed <sup>*3</sup>
78	SB01C4	Remote sub- master station switching acceptance status	Indicates the status of accepting the directive to shift from master operation to sub-master operation.	SB0067	Forced master switching acceptance status	Stores the acceptance status of 'Forced master switching command' (SB0019).	△	• No. changed • The specifications are different between the MELSECNET /H modules and the CC- Link IE Field modules.
79	SB01C5	Remote sub- master station switching status	Indicates the operation status of a shift from master operation to sub- master operation.	SB0068	Forced master switching operation status	Stores the status of forced master switch processing requested with 'Forced master switching command' (SB0019).	△	• No. changed • The specifications are different between the MELSECNET /H modules and the CC- Link IE Field modules.
80	SB01C8	Send/receive device number valid/invalid status	Indicates whether the send/receive device numbers (SW01C8 to SW01CF) of the remote master station or remote sub-master station are valid or invalid.	-	-	-	×	Delete the sequence program for the corresponding part.

\*1 Master operation can be switched to sub-master operation for the sub-master station, and master operation can be switched to sub-master operation for the master station. Master operation cannot be switched to sub-master operation for the master station, and master operation cannot be switched to sub-master operation for the sub-master station.

\*2 The RJ71LP21-25 cannot operate as a control station with multiplex transmission. However, in the environment where the QJ71LP21-25 with multiplex transmission operates as a control station, the RJ71LP21-25 is allowed to participate in the network as a sub-control station or normal station.

\*3 There is no forward loop or reverse loop difference for the CC-Link IE Field. (Only whether or not the loopback is performed.)

## ■Link special register

Since replacement with another network is performed this time, SB/SW is described in the manual in the range of those used for programming the MELSEC-Q series MELSECNET/H modules (such as interlock). For other contents, refer to SB/SW of the CC-Link IE Field module for programming.

○: Compatible, △: Partly changed, ×: Incompatible

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series CC-Link IE Field module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71GF11-T2 RJ72GF15-T2				
	No.	Name	Description	No.	Name	Description		
3	SW0018	System switching monitoring time setting	Set the time from the occurrence of a data link error to the recognition of data link stop in the redundant system.	-	-	-	×	Delete the sequence program for the corresponding part.
4	SW001C	Number of retries	Indicates the change of the number of retries for the time of the issue of a request in send and receive instructions.	-	-	-	×	Delete the sequence program for the corresponding part.
5	SW001D	Retry interval	Indicates the change of the retry interval for the time of the issue of a request in send and receive instructions.	-	-	-	×	Delete the sequence program for the corresponding part.
6	SW001E	Number of gates	Indicates the change of the number of gates for the time of the issue of a request in send and receive instructions.	-	-	-	×	Delete the sequence program for the corresponding part.
8	SW0031	Send/receive instruction (1) processing result	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMTO instructions (when physical channel 1 is used).	SW0030	Link dedicated instructions processing result CH1	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMTO instructions (when physical channel 1 is used).	△	No. changed
9	SW0033	Send/receive instruction (2) processing result	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMTO instructions (when physical channel 2 is used).	SW0031	Link dedicated instructions processing result CH2	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMTO instructions (when physical channel 2 is used).	△	No. changed
10	SW0035	Send/receive instruction (3) processing result	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMTO instructions (when physical channel 3 is used).	SW0198	Link dedicated instructions processing result CH3	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMTO instructions (when physical channel 3 is used).	△	No. changed

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series CC-Link IE Field module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71GF11-T2 RJ72GF15-T2				
	No.	Name	Description	No.	Name	Description		
11	SW0037	Send/receive instruction (4) processing result	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMT0 instructions (when physical channel 4 is used).	SW0199	Link dedicated instructions processing result CH4	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMT0 instructions (when physical channel 4 is used).	△	No. changed
12	SW0039	Send/receive instruction (5) processing result	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMT0 instructions (when physical channel 5 is used).	SW019A	Link dedicated instructions processing result CH5	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMT0 instructions (when physical channel 5 is used).	△	No. changed
13	SW003B	Send/receive instruction (6) processing result	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMT0 instructions (when physical channel 6 is used).	SW019B	Link dedicated instructions processing result CH6	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMT0 instructions (when physical channel 6 is used).	△	No. changed
14	SW003D	Send/receive instruction (7) processing result	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMT0 instructions (when physical channel 7 is used).	SW019C	Link dedicated instructions processing result CH7	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMT0 instructions (when physical channel 7 is used).	△	No. changed
15	SW003F	Send/receive instruction (8) processing result	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMT0 instructions (when physical channel 8 is used).	SW019D	Link dedicated instructions processing result CH8	Indicates the processing results of the SEND/RECV/READ/WRITE/REQ/RECVS/RRUN/RSTOP/RTMRD/RTMWR/REMFR/REMT0 instructions (when physical channel 8 is used).	△	No. changed
42	SW0070 to SW0073	Baton pass status of each station	Stores the baton pass status of each station (including the host).	SW00A0 to SW0047	Baton pass status of each station	Stores the baton pass status of each station (including the own station).	△	No. changed
43	SW0074 to SW0077	Cyclic transmission status of each station	Stores the cyclic transmission status of each station (including the host).	SW00B0 to SW00B7	Data link status of each station	Stores the cyclic transmission status of each station (including the own station).	△	No. changed
50	SW0090	Loopback information	Stores the loop status of the host.	-	-	-	×	Delete the sequence program for the corresponding part.

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series CC-Link IE Field module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71GF11-T2 RJ72GF15-T2				
	No.	Name	Description	No.	Name	Description		
51	SW0091 to SW0094	Forward loop status of each station	Stores the forward loop status of each station (including the host).	-	-	-	×	Delete the sequence program for the corresponding part.
52	SW0095 to SW0098	Reverse loop status of each station	Stores the reverse loop status of each station (including the host).	-	-	-	×	Delete the sequence program for the corresponding part.
53	SW0099	Loopback station (forward loop side)	Stores the station number of which station is performing the loopback in the forward loop.	SW0070	Loopback station number 1	Stores the number of the station where loopback is being performed.	△	• No. changed <sup>2</sup>
54	SW009A	Loopback station (reverse loop side)	Stores the station number of which station is performing the loopback in the reverse loop.	SW0071	Loopback station number 2	Stores the number of the station where loopback is being performed.	△	• No. changed <sup>2</sup>
55	SW009C to SW009F	Loop usage status of each station	Stores the incorrect cable connection (IN-IN, OUT-OUT) status.	-	-	-	×	Delete the sequence program for the corresponding part.
66	SW00B8	UNDER on the forward loop side	Accumulates and stores the number of "UNDER" errors on the forward loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
67	SW00B9	CRC on the forward loop side	Accumulates and stores the number of "CRC" errors on the forward loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
68	SW00BA	OVER on the forward loop side	Accumulates and stores the number of "OVER" errors on the forward loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
69	SW00BB	Short frame on the forward loop side	Accumulates and stores the number of "short frame" errors on the forward loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
70	SW00BC	Abort on the forward loop side (AB, IF)	Accumulates and stores the number of "AB. IF" errors on the forward loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
71	SW00BD	Timeout on the forward loop side (TIME)	Accumulates and stores the number of "TIME" errors on the forward loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
72	SW00BE	Receiving 2k bytes or more on forward loop side (DATA)	Accumulates and stores the number of "DATA" errors on the forward loop side.	-	-	-	×	Delete the sequence program for the corresponding part.

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series CC-Link IE Field module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71GF11-T2 RJ72GF15-T2				
	No.	Name	Description	No.	Name	Description		
73	SW00BF	DPLL error on the forward loop side	Accumulates and stores the number of "DPLL" errors on the forward loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
74	SW00C0	UNDER on the reverse loop side	Accumulates and stores the number of "UNDER" errors on the reverse loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
75	SW00C1	CRC on the reverse loop side	Accumulates and stores the number of "CRC" errors on the reverse loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
76	SW00C2	OVER on the reverse loop side	Accumulates and stores the number of "OVER" errors on the reverse loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
77	SW00C3	Short frame on the reverse loop side	Accumulates and stores the number of "Short frame" errors on the reverse loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
78	SW00C4	Abort on the reverse loop side (AB, IF)	Accumulates and stores the number of "AB.IF" errors on the reverse loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
79	SW00C5	Timeout on the reverse loop side (TIME)	Accumulates and stores the number of "TIME" errors on the reverse loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
80	SW00C6	Receiving 2k bytes or more on reverse loop side (DATA)	Accumulates and stores the number of "DATA" errors on the reverse loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
81	SW00C7	DPLL error on reverse loop side	Accumulates and stores the number of "DPLL" errors on the reverse loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
82	SW00C8	Number of retries on the forward loop side	Accumulates and stores the number of retries on the forward loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
83	SW00C9	Number of retries on the reverse loop side	Accumulates and stores the number of retries on the reverse loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
84	SW00CC	Line error on the forward loop side	Accumulates and stores the number of detected line errors on the forward loop side.	-	-	-	×	Delete the sequence program for the corresponding part.

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series CC-Link IE Field module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71GF11-T2 RJ72GF15-T2				
	No.	Name	Description	No.	Name	Description		
85	SW00CD	Line error on the reverse loop side	Accumulates and stores the number of detected line errors on the reverse loop side.	-	-	-	×	Delete the sequence program for the corresponding part.
86	SW00CE	Number of loop switches	Accumulates and stores the number of loop checks conducted.	-	-	-	×	Delete the sequence program for the corresponding part.
87	SW00CF	Loop switch data pointer	Stores the pointer that indicates the next loop switch data.	-	-	-	×	Delete the sequence program for the corresponding part.
88	SW00D0 to SW00DF	Loop switch data	Stores the cause and status of the loop switch. Whether the data should be overwritten or retained is set in the common parameters.	-	-	-	×	Delete the sequence program for the corresponding part.
93	SW01C4	Remote sub-master station switching result	Stores the result of a shift from master operation to sub-master operation.	SW005C	Forced master switching command result	Stores the execution result of 'Forced master switching command' (SB0019).	△	• No. changed*4
94	SW01C8	Send LY device number	For remote master station: The send LY device number to the remote sub-master station is stored. In 1 point units. For remote sub-master station: The send LY device number to the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.
95	SW01C9	Receive LX device number	For remote master station: The receive LX device number from the remote sub-master station is stored. In 1 point units. For remote sub-master station: The receive LX device number from the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.
96	SW01CC	Send LB device number	For remote master station: The send LB device number to the remote sub-master station is stored. In 1 point units. For remote sub-master station: The send LB device number to the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series CC-Link IE Field module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71GF11-T2 RJ72GF15-T2				
	No.	Name	Description	No.	Name	Description		
97	SW01CD	Receive LB device number	For remote master station: The receive LB device number from the remote sub-master station is stored. In 1 point units. For remote sub-master station: The receive LB device number from the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.
98	SW01CE	Send LW device number	For remote master station: The send LW device number to the remote sub-master station is stored. In 1 point units. For remote sub-master station: The send LW device number to the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.
99	SW01CF	Receive LW device number	For remote master station: The receive LW device number from the remote sub-master station is stored. In 1 point units. For remote sub-master station: The receive LW device number from the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.

\*1 The RJ71LP21-25 cannot operate as a control station with multiplex transmission. However, in the environment where the QJ71LP21-25 with multiplex transmission operates as a control station, the RJ71LP21-25 is allowed to participate in the network as a sub-control station or normal station.

\*2 The RJ71LP21-25 cannot operate as a control station with multiplex transmission. However, in the environment where the QJ71LP21-25 with multiplex transmission operates as a control station, the RJ71LP21-25 is allowed to participate in the network as a sub-control station or normal station.

\*3 There is no forward loop or reverse loop difference for the CC-Link IE Field. (Only whether or not the loopback is performed.)

\*4 Master operation can be switched to sub-master operation for the sub-master station, and master operation can be switched to sub-master operation for the master station.  
Master operation cannot be switched to sub-master operation for the master station, and master operation cannot be switched to sub-master operation for the sub-master station.



## Transient instruction

For the instruction format, setting range, precautions, and other items for link dedicated instructions, refer to the following.

📖 MELSEC iQ-R Programming Manual (Module Dedicated Instructions)

### ■For remote I/O stations

○: Compatible, △: Partly changed, ×: Incompatible

No.	Instruction	Name	Description		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series CC-Link IE Field module		
			QJ71LP21-25 QJ72LP25-25	RJ71GF11-T2 RJ72GF15-T2		
1	REMFR	Read remote I/O station intelligent function module buffer memory	Reads data from the target remote I/O station intelligent function module buffer memory.		○	-
2	REMTO	Write remote I/O station intelligent function module buffer memory	Writes data to the target remote I/O station intelligent function module buffer memory.		○	-
3	READ	Read other station word device	Reads device data from a remote I/O station of the target network No.		○	-
4	WRITE	Write other station word device	Writes device data to a remote I/O station of the target network No.		○	-

## Precautions on replacement

### Processing time

Processing time such as link scan time and link refresh time is different between the MELSEC-Q series and the MELSEC iQ-R series. For details on the processing time, refer to the manual for each module.

For GOT connection, the CPU direct connection (serial) was possible with the RS-232 interface of the QJ72LP25-25.

However, since the CPU direct connection (serial) is not possible with the RJ72GF15-T2, connect the GOT via the RJ71C24/RJ71EN71.

## 3.2 Replacement to the MELSEC iQ-R Series MELSECNET/H (PLC to PLC Network)

This section describes the replacement method to the PLC to PLC network of the MELSEC iQ-R series MELSECNET/H network.

### Alternative model list

All the existing MELSEC-Q series stations will be simultaneously replaced with the MELSEC iQ-R series.

No.	Network type	Station type	MELSEC-Q series model	MELSEC iQ-R series alternative model
1	Optical loop	Remote master station	QJ71LP21-25	RJ71LP21-25
2		Remote I/O station	QJ72LP25-25	RJ71LP21-25

### Comparison of specifications

#### Comparison of module specifications

○: Compatible, △: Partly changed, ×: Incompatible

No.	Item		Specifications		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
			QJ71LP21-25 QJ72LP25-25	RJ71LP21-25		
1	Maximum number of links per network	X/Y	8192 points		○	-
2		B	16384 points (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)	16384 points (MELSECNET/10 mode: 8192 points)	○	-
3		W	16384 points (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)	16384 points (MELSECNET/10 mode: 8192 points)	○	-
4	Maximum number of links per station		<ul style="list-style-type: none"> <li>Remote master station → Remote I/O station <math>((LY + LB) \div 8 + (2 \times LW)) \leq 1600</math> bytes</li> <li>Remote I/O station → Remote master station <math>((LX + LB) \div 8 + (2 \times LW)) \leq 1600</math> bytes</li> <li>Multiplexed remote master station multiplexed remote sub-master station <math>((LY + LB) \div 8 + (2 \times LW)) \leq 2000</math> bytes</li> </ul>	<ul style="list-style-type: none"> <li>MELSECNET/H or MELSECNET/10 mode, <math>((LY + LB) \div 8 + (2 \times LW)) \leq 2000</math> bytes</li> <li>MELSECNET/H extended mode, <math>((LY + LB) \div 8 + (2 \times LW)) \leq 35840</math> bytes</li> </ul>	○	-
5	Communication speed	25Mbps/10Mbps		○	-	
6	Number of stations per network	65 stations (Remote master stations: 1 Remote I/O stations: 64)	64 stations (control station: 1, normal station: 63)	△	Change the number of stations per network so that it does not exceed 64.	
7	Cable to be used	SI optical cable H-PCF optical cable Broad-band H-PCF optical cable QSI optical cable		○	-	

No.	Item	Specifications		Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
		QJ71LP21-25 QJ72LP25-25	RJ71LP21-25		
8	Overall distance	30km		○	-
9	Distance between stations	■At a communication speed of 25Mbps SI optical cable: 200m H-PCF optical cable: 400m Broad-band H-PCF optical cable: 1km QSI optical cable: 1km ■At a communication speed of 10Mbps SI optical cable: 500m H-PCF optical cable: 1km Broad-band H-PCF optical cable: 1km QSI optical cable: 1km		○	-
10	Maximum number of networks	239		○	-
11	Communication method	Token ring		○	-
12	Transmission path format	Duplex loop		○	-

## Comparison of cable specifications

The overall distance and distance between stations will not be affected by the optical fiber cable.  
 For the overall distance and distance between stations, refer to the following.

☞ Page 88 Comparison of module specifications

## Comparison of functions

○: Compatible, △: Partly changed, ×: Incompatible

No.	Item		Description		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
			QJ71LP21-25 QJ72LP25-25	RJ71LP21-25		
1	Cyclic transmission function	Communicating with I/O modules	Uses X/Y (LX/LY) for communications with the I/O module on the remote I/O station.	Exchanges data between the I/O master station that controls LX and LY and another station on a one-to-one (1:1) basis.	○	Perform replacement with the refresh settings for the MELSEC iQ-R series MELSECNET/H modules. ☞ Page 64 Comparison of parameters
2		Communicating with intelligent function modules	Uses X/Y (LX/LY) and B/W (LB/LW) for communications with the intelligent function modules on the remote I/O station.	Writes data on the link device (LB, LW) and sends the data to all stations connected in the same network.	○	Perform replacement with the refresh settings for the MELSEC iQ-R series MELSECNET/H modules. ☞ Page 64 Comparison of parameters
3	Transient transmission function	Transient transmission function	Performs data communication only when it is requested between stations.		○	☞ Page 117 Transient instruction
4		Routing function	Executes transient transmissions to stations having other network numbers.		○	Dynamic routing is automatically enabled in the MELSEC iQ-R series. No manual setting is required.
5		Link dedicated instruction	Uses link dedicated instructions to communicate with other station at a desired timing.		○	☞ Page 117 Transient instruction

No.	Item		Description		Compatibility	Precaution on replacement	
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module			
			QJ71LP21-25 QJ72LP25-25	RJ71LP21-25			
6	RAS functions	Clear I/O maintenance	Sets whether to hold or clear output from the sending side or input to the receiving side during data link and CPU error.	-	△	The input and output will be held in the MELSEC iQ-R series MELSECNET/H modules. When the output needs to be cleared, clear it using the programmable controller ladder program on the normal station side.	
7		Automatic return function	Automatically reconnects a station, which was disconnected from a network due to a data link error and has recovered from the error, to the network and restarts data link.		○	-	
8		Loopback function	In the optical loop system, the transmission path is dual-structured. When an error occurs in a transmission path, the faulty area is disconnected by switching the transmission path from the forward loop to the reverse loop or from the reverse loop to the forward loop, or performing a loopback. The transmission is continued normally between the stations that are still able to perform data communication.			○	-
9		Online module change on a remote I/O station	Online module change is the function for replacing a module mounted on the main base unit or extension base unit of a remote I/O station while the station is operating.	Online module change on a CPU module		△	MELSEC iQ-R series CPU modules support the online module change function. □MELSEC iQ-R Online Module Change Manual
10	Application functions	Multiplex transmission function	Allows high-speed communications using duplex transmission paths (both the forward and reverse loops).	-	×	The RJ71LP21-25 cannot operate as a control station with multiplex transmission. However, in the environment where the QJ71LP21-25 with multiplex transmission operates as a control station, the RJ71LP21-25 is allowed to participate in the network as a sub-control station or normal station.	
11		Reserved station function	Specifies any station to be connected in the future as a reserved station. Specifying a station not actually connected as a reserved station prevents a communication error.			○	For the setting, use [Required Settings] of the MELSEC iQ-R series MELSECNET/H modules.
12		Interrupt Settings	The remote master station uses the host interrupt setting parameters to check interrupt conditions at the time data is being received from the remote I/O station. When the interrupt conditions are matched, it issues an interrupt request to CPU module from the master module and starts the interrupt sequence program of the CPU module.			○	For the setting, use [Application Settings] of the control station of the MELSEC iQ-R series MELSECNET/H modules.
13		I/O assignment function	Sets the remote I/O station module configuration.			○	For the setting, use the system parameter.
14		Multiplex remote master function	Allows the multiplexed remote sub-master station to automatically control the remote I/O stations if the multiplexed remote master station fails.	-		×	The multiplex remote master function is not available for the RJ71LP21-25.

# Comparison of switch settings

○: Compatible, △: Partly changed, ×: Incompatible

No.	Switch name	Description		Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
		QJ71LP21-25 QJ72LP25-25	RJ71LP21-25		
1	Station number setting switches	Used to set the station number.	-	△	Set the station number using the GX Works3 module parameter.
2	Mode setting switch	Used to set the operation mode or self-diagnostics test mode.	-	△	Set the operation mode using the GX Works3 module parameter.

# Comparison of parameters

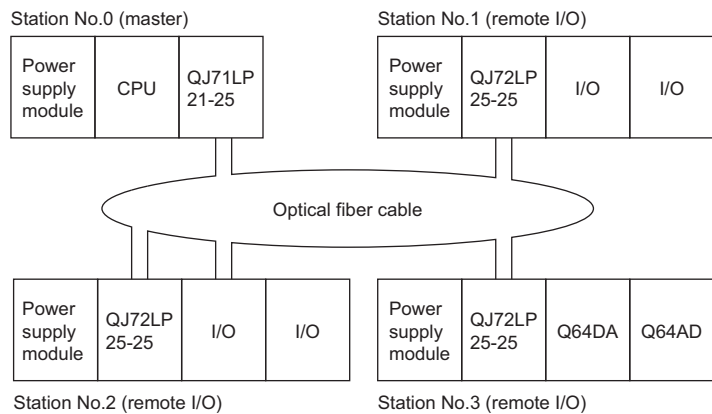
This section describes the system configuration example for replacing the MELSEC-Q series MELSECNET/H modules with the MELSEC iQ-R series MELSECNET/H modules. Also, for parameters to be set for operating the cyclic transmission function, precautions on replacement of the master stations and remote I/O stations are described.

## System configuration example

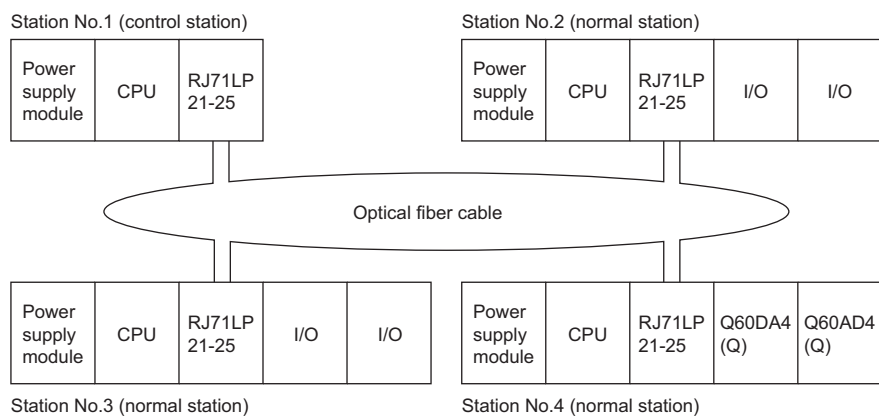
While the station number value starts from 0 in the remote I/O network (MELSEC-Q series MELSECNET/H modules), the value starts from 1 in the PLC to PLC network (MELSEC iQ-R series MELSECNET/H modules). Therefore, the corresponding station number value is different.

The intelligent function modules can arrange the buffer memory addresses equivalent to ones of the MELSEC-Q series modules by using the Q compatible mode function (R60AD4(Q), R60DA4(Q)). This compatibility makes it possible to reuse sequence programs that have exhibited high performance.

- MELSEC-Q series MELSECNET/H module



- MELSEC iQ-R series MELSECNET/H module

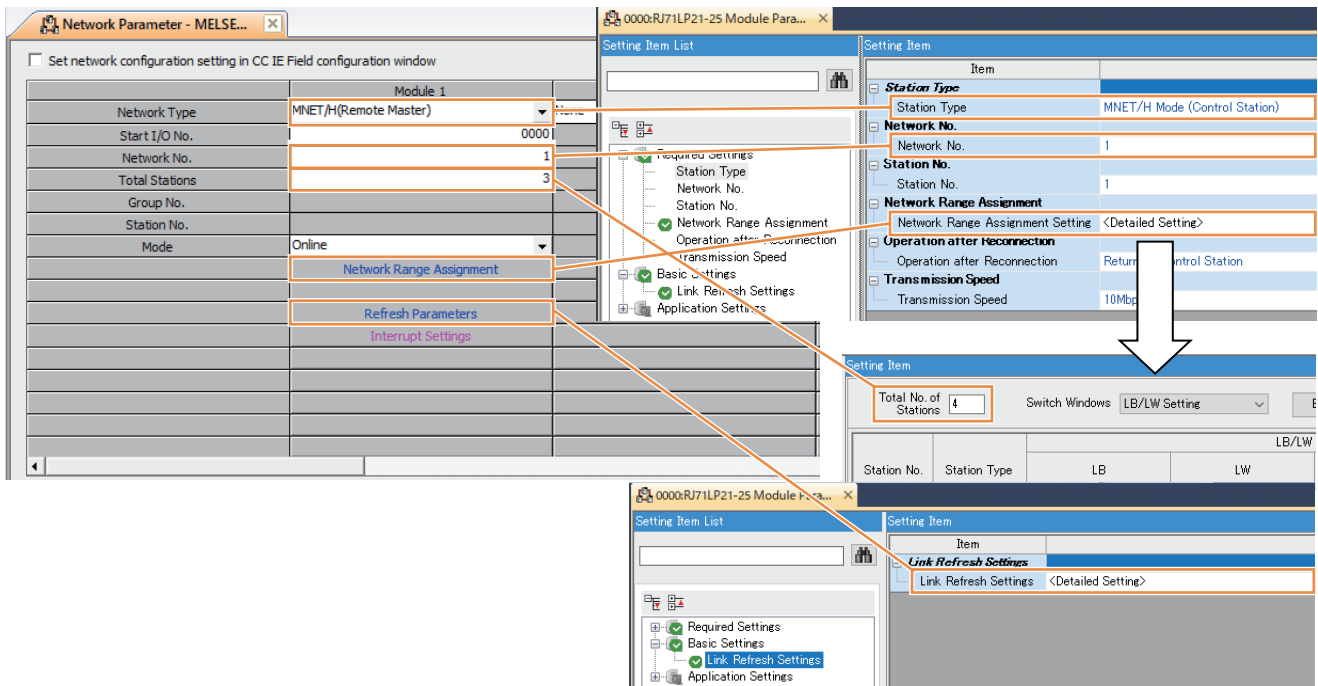


## Comparison of remote master station parameters

○: Compatible, △: Partly changed, ×: Incompatible

No.	Parameter name	Description		Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
1	Network Type	Set the network type.	-	△	Set the station type to the MNET/H mode (control station) using the GX Works3 module parameter.
2	Starting I/O No.	Set the starting I/O number.	-	△	Set the starting I/O number using [Add New Module] of GX Works3.
3	Network No.	Set the network number.	-	○	Set the network number using the GX Works3 module parameter.
4	Total Stations	Set the total number of (slave) stations.	-	△	Set the total number of stations from the network range assignment using the GX Works3 module parameter.
5	Mode	Set the operation mode of the network module.	-	△	Set the module operation mode using the GX Works3 module parameter.
6	Common parameters	Set the LB, LW, LX and LY cyclic transmission ranges that allow sending and receiving between a remote master station and remote I/O stations.	-	△	Set this item from the network range assignment settings using the GX Works3 module parameter.
7	Refresh Parameters	Used to transfer the link device data (LB, LW, LX, LY) of the network module to the devices (X, Y, M, L, T, B, C, ST, D, W, R, ZR) of the CPU module for operation of the sequence programs.	-	△	Set this item from the refresh settings using the GX Works3 module parameter.

For the remote master station parameters, the following image shows the correspondence between the GX Works2 parameter setting window and the GX Works3 window that will be used after replacement. Also, the network assignment example of the cyclic transmission function is indicated.



Setup common parameters and I/O assignments.

Assignment Method:  Points/Start  Start/End

Monitoring Time: 200 X 10ms

Parameter Name:

Total Slave Stations: 3

Switch Screens: XY Setting

Station No.	M St. -> R St.						M St. <- R St.					
	Y			X			Y			X		
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
1	256	1200	12FF	256	0200	02FF	256	1200	12FF	256	0200	02FF
2	256	1100	11FF	256	0100	01FF	256	1100	11FF	256	0100	01FF
3	256	1000	10FF	256	0000	00FF	256	1000	10FF	256	0000	00FF

Setting Item

Total No. of Stations: 4

Switch Windows: LX/LY Setting (I)

Batch Setting(G)

Station No.	Station Type	M Station->L Station						M Station-<L Station						I/O Master Station
		LY			LX			LY			LX			
		Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End	
7	Control Station	256	1200	12FF	256	0200	02FF	256	1200	12FF	256	0200	02FF	No Setting
2	Normal Station	256	1100	11FF	256	0100	01FF	256	1100	11FF	256	0100	01FF	No Setting
3	Normal Station	256	1000	10FF	256	0000	00FF	256	1000	10FF	256	0000	00FF	No Setting
4	Normal Station	256	1000	10FF	256	0000	00FF	256	1000	10FF	256	0000	00FF	No Setting

Setup common parameters and I/O assignments.

Assignment Method:  Points/Start  Start/End

Monitoring Time: 200 X 10ms

Parameter Name:

Total Slave Stations: 3

Switch Screens: BW Setting

Station No.	M St. -> R St.			M St. <- R St.			M St. -> R St.			M St. <- R St.		
	B			W			B			W		
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
1	32	1040	105F	32	0040	005F	32	1040	105F	32	0040	005F
2	32	1020	103F	32	0020	003F	32	1020	103F	32	0020	003F
3	32	1000	101F	32	0000	001F	32	1000	101F	32	0000	001F

Setting Item

Total No. of Stations: 4

Switch Windows: LB/LW Setting

Batch Setting(G)

Station No.	Station Type	LB			LW			Low Speed LB			Low Speed LW			Reserved Station
		Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End	
7	Control Station	32	0060	007F	32	0060	007F							No Setting
2	Normal Station	32	0040	005F	32	0040	005F							No Setting
3	Normal Station	32	0020	003F	32	0020	003F							No Setting
4	Normal Station	32	0000	001F	32	0000	001F							No Setting

## Comparison of remote I/O station parameters

○: Compatible, △: Partly changed, ×: Incompatible

No.	Parameter name	Description		Compatibility	Precaution on replacement
		MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
1	I/O Assignment*1	Set the I/O number to the I/O module or special function module on a remote I/O station.	-	△	Set this item from the I/O assignment setting using the GX Works3 system parameter. The start XY will change because the RJ71LP21-25 module will be added.

\*1 Even if the number of I/O points from/to the module is reduced, the I/O number misalignment can be prevented by using the I/O assignment.

For the remote I/O station parameters, the following image shows the correspondence between the GX Works2 parameter setting window and the GX Works3 window.

I/O Assignment

No.	Slot	Type	Model Name	Points	Start XY
0	Remote I/O Station	Intelligent	Q64AD	16Points	0000
1	0(*-0)	Intelligent	Q64DA	16Points	0020
2	1(*-1)	Intelligent	Q64DA	16Points	0020
3	2(*-2)				
4	3(*-3)				
5	4(*-4)				
6	5(*-5)				
7	6(*-6)				

System Parameter

I/O Assignment Multiple CPU Setting Inter-module Synchronization Setting

Slot	Module Name	Module Status Setting	Points	Start XY	Control P
0(0-0)	R32CPU(host Station)	No Setting	32 Points	0000	0000
1(1-1)	RJ71LP21-25	No Setting	16 Points	0020	0000
2(2-2)	R60DA4(C)	No Setting	16 Points	0020	0000
3(3-3)	R60DA4(C)	No Setting	16 Points	0030	0000
4(4-4)					
5(5-5)					
6(6-6)					

Explanation

Set the module name.  
Module configuration diagram is not shown if a module name other than host CPU is set although the base model name has not been set in 'Base/Power/Extension Cable Setting'.  
Unable to change this setting when using inter-module synchronization function to fix the I/O Assignment Setting. To change this, please change 'Use Inter-module Synchronization Function in System' setting to 'Not Use' in 'Inter-module Synchronization Setting'.

# Comparison of programs

This section shows examples of using the existing programs for interlock, cyclic, communications with intelligent function modules (auto refresh), and communications with intelligent function modules (dedicated instruction (REMFR/REMTO)) and program examples for replacement of each program.

## Application example of interlock use

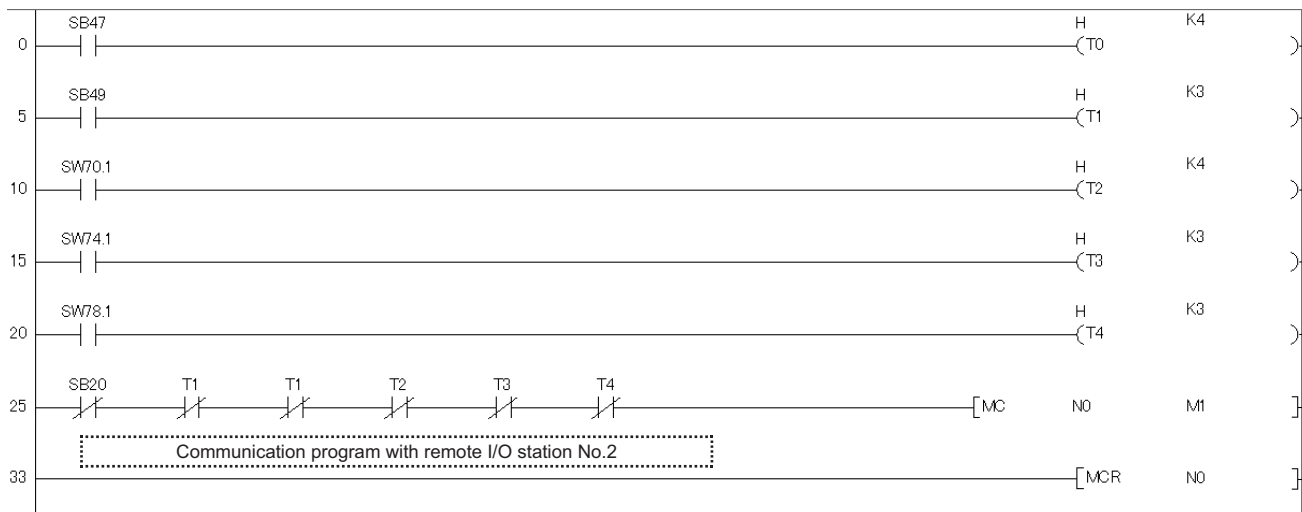
The following shows a program that performs the following processing. The following table lists the correspondence of interlock replacement used in the program example.

- Program of communications with remote I/O station 2 in which the own station and station number 2 link statuses are used for interlock

No.	MELSEC-Q series MELSECNET/H module		MELSEC iQ-R series MELSECNET/H module		
	No.	Name	Label name	Name	Device
1	SB0047	Baton pass status (host)	LP21_1.bDetect_BatonPassError	Baton pass error status of own station	SB0047
2	SB0049	Host data link status	LP21_1.bDetect_DataLinkError	Data link error status of own station	SB0049
3	SW70.1	Baton pass status of each station (station No.2)	LP21_1.bnSts_BatonPassError_Station[3]	Baton pass status of each station (station No.3)	SW0070.2
4	SW74.1	Cyclic transmission status of each station (station No.2)	LP21_1.bnSts_CyclicTransmissionError_Station[3]	Data link status of each station (station No.3)	SW0074.2
5	SW78.1	Parameter communication status of each station (station No.2)	-	-	-
6	SB0020	Module status	LP21_1.bSts_CPUError	Communication status with the CPU module	SB0020

### GX Works2

- Program example



- (0) Use Baton pass status (host) for interlock.
- (5) Use Host data link status for interlock.
- (10) Use Baton pass status of each station for interlock.
- (15) Use Cyclic transmission status of each station for interlock.
- (20) Use Parameter communication status of each station for interlock.
- (25) Use Module status for interlock.

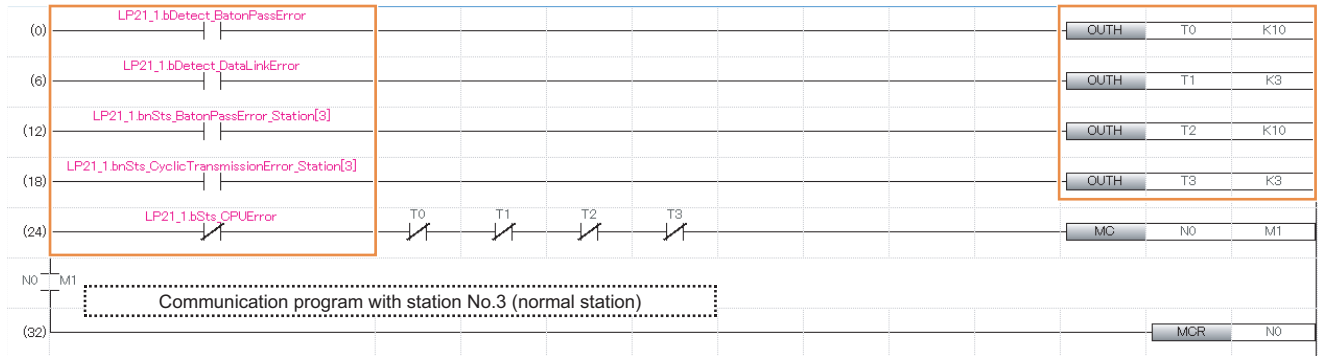


### GX Works3

- Program example

In the MELSEC iQ-R series MELSECNET/H modules, the link special relay (SB) and link special register (SW) to be used for interlock can be set by using module labels. Set the following values for the timer constant K□ so that the control does not stop even if the network detects a momentary error due to cable or noise conditions. (Six times, two times, and three times are provided just as a guide.)

- Baton pass status (T0, T2): (Link scan time × 6) + (Scan time of the CPU module of the target station × 2) or more
- Data link status (T1, T3): (Link scan time × 3) or more



- (0) Use Baton pass error status of own station for interlock.
- (6) Use Data link error status of own station for interlock.
- (12) Use Baton pass status of each station for interlock.
- (18) Use Data link status of each station for interlock.
- (24) Use Communication status with the CPU module for interlock.

## Application example of cyclic

The following shows a program that performs the following processing.

- An input from X0 of the remote I/O station (station number 2) turns on M1000.
- When M2000 is turned on, a signal is output to Y10 of the remote I/O station (station number 2).

GX Works2

- Parameter setting example

Setup common parameters and I/O assignments.

Assignment Method:  Points/Start  Start/End

Monitoring Time: 200 X 10ms

Parameter Name:

Total Slave Stations: 3

Switch Screens: BW Setting

Station No.	M St. -> R St.			M St. <- R St.			M St. -> R St.			M St. <- R St.		
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
1	32	1040	105F	32	0040	005F	32	1040	105F	32	0040	005F
2	32	1020	103F	32	0020	003F	32	1020	103F	32	0020	003F
3	32	1000	101F	32	0000	001F	32	1000	101F	32	0000	001F

Assignment Method:  Points/Start  Start/End

Transient Transmission Error History Status:  Overwrite  Hold

	Link Side					PLC Side			
	Dev. Name	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	8192	0000	1FFF	↔	B	8192	0000	1FFF
Transfer 2	LW	8192	0000	1FFF	↔	W	8192	000000	001FFF
Transfer 3	LX	512	1000	11FF	↔	X	512	1000	11FF
Transfer 4	LY	512	1000	11FF	↔	Y	512	1000	11FF
Transfer 5									
Transfer 6									

\* 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.

Default Check End Cancel

- Program example



- (0) Input from X0 of remote I/O station  
 (2) Output to Y10 of remote I/O station

GX Works3

- Parameter setting example

256 points are assigned to each of link devices LX and LY of the station No.3 (normal station) and LX and LY are refreshed and set to specified devices X1000 and Y1000 on the CPU side.

Setting Item: LX/LY Setting (1)

Station No.	Station Type	LX/LY Setting (1)												I/O Master Station		
		M Station->L Station				M Station<-L Station										
Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End		
7	Control Station															I/O Master Station
2	Normal Station	256	1200	12FF	256	0200	02FF	256	1200	12FF	256	0200	02FF		No Setting	
3	Normal Station	256	1100	11FF	256	0000	00FF	256	1100	11FF	256	0000	00FF		No Setting	
4	Normal Station	256	1000	10FF	256	0000	00FF	256	1000	10FF	256	0000	00FF		No Setting	

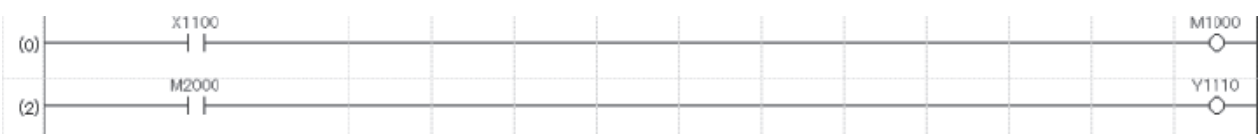
  

No.	Link Side					CPU Side				
	Device Name	Points	Start	End		Target	Device Name	Points	Start	End
-	SB	512	000000	001FFF	↔	Module Label				
-	SW	512	000000	001FFF	↔	Module Label				
1	LB	8192	000000	01FFFF	↔	Specify Device	B	8192	000000	01FFFF
2	LW	8192	000000	01FFFF	↔	Specify Device	W	8192	000000	01FFFF
3	LX	2048	010000	017FFF	↔	Specify Device	X	2048	010000	017FFF
4	LY	2048	010000	017FFF	↔	Specify Device	Y	2048	010000	017FFF

- Program example

<Station No.1 (control station)>

The program does not require any modification.



- (0) Input from X0 of remote head module  
 (2) Output to Y10 of remote head module

<Station No.3 (normal station)>

A program to be added transfers the module I/O signals to link devices.



- (0) Data transfer of 16 input signals from a module to link device LY  
 Data transfer of 16 points of link device LX to the output signals of a module

## Application example of communications (auto refresh)

The following shows a program that performs the following processing when communications with intelligent function modules (auto refresh) are performed.

- The digital output values of CH1 to 3 are read and stored in D11 to D13.
- Error codes are displayed (BCD output) and reset.

GX Works2

- Parameter setting example

<Master>

Setup common parameters and I/O assignments.

Assignment Method:  
 Points/Start  
 Start/End

Monitoring Time: 200 X 10ms  
 Total Slave Stations: 3  
 Parameter Name:   
 Switch Screens: XY Setting

Station No.	M St. -> R St.						M St. <- R St.					
	Y			X			Y			X		
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
1	256	1200	12FF	256	0200	02FF	256	1200	12FF	256	0200	02FF
2	256	1100	11FF	256	0100	01FF	256	1100	11FF	256	0100	01FF
3	256	1000	10FF	256	0000	00FF	256	1000	10FF	256	0000	00FF

Setup common parameters and I/O assignments.

Assignment Method:  
 Points/Start  
 Start/End

Monitoring Time: 200 X 10ms  
 Total Slave Stations: 3  
 Parameter Name:   
 Switch Screens: BW Setting

Station No.	M St. -> R St.			M St. <- R St.			M St. -> R St.			M St. <- R St.		
	B			B			W			W		
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End
1	32	1040	105F	32	0040	005F	32	1040	105F	32	0040	005F
2	32	1020	103F	32	0020	003F	32	1020	103F	32	0020	003F
3	32	1000	101F	32	0000	001F	32	1000	101F	32	0000	001F

Assignment Method:  
 Points/Start  
 Start/End

Transient Transmission Error History Status:  
 Overwrite  
 Hold

	Link Side					PLC Side			
	Dev. Name	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	8192	0000	1FFF	↔	B	8192	0000	1FFF
Transfer 2	LW	8192	0000	1FFF	↔	W	8192	000000	001FFF
Transfer 3	LX	512	1000	11FF	↔	X	512	1000	11FF
Transfer 4	LY	512	1000	11FF	↔	Y	512	1000	11FF
Transfer 5					↔				
Transfer 6					↔				

\* 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.

Default Check End Cancel

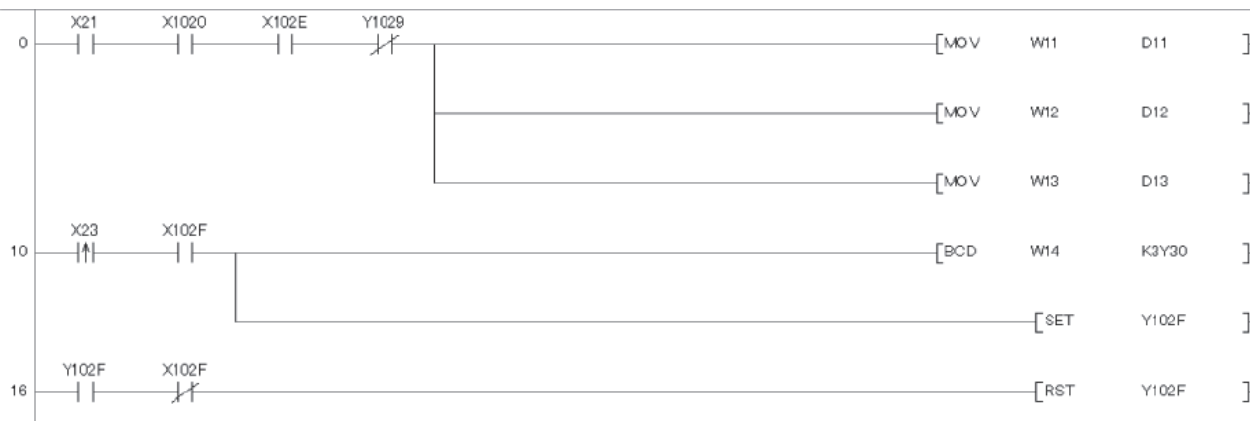
<Remote I/O>

0010:Q64AD[]-Auto\_Refresh

Display Filter: Display All

Item	CH1	CH2	CH3
<b>Transfer to CPU</b>	The data of the buffer memory is transmitted to the specified device.		
Digital output value	W11	W12	W13
Maximum value			
Minimum value			
Error code	W14		

- Program example



- (0) Read the CH1 to CH3 digital output values.
- (10) Output the error code in BCD and turn on the error clear request.
- (16) Turn off the error clear request.

# GX Works3

- Parameter setting example

## <Station No.1 (control station)>

256 points are assigned to each of link devices LX and LY of the station number 4 (normal station) and 32 points are assigned to link device LW.

LW, LX, and LY are refreshed and set to specified devices W0, X1000, and Y1000 on the CPU side.

Setting Item

Total No. of Stations: 4    Switch Windows: LX/LY Setting (1)    Batch Setting(G)

Station No.	Station Type	LX/LY Setting (1)												I/O Master Station	Reserved Station
		M Station->L Station						M Station<-L Station							
		LY		LX		LX		LY		LX		LY			
	Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End			
1	Control Station													I/O Master Station	No Setting
2	Normal Station	256	1200	10FF	256	0200	02FF	256	1200	10FF	256	0200	02FF	No Setting	No Setting
3	Normal Station	256	1100	11FF	256	0100	01FF	256	1100	11FF	256	0100	01FF	No Setting	No Setting
4	Normal Station	256	1000	10FF	256	0000	00FF	256	1000	10FF	256	0000	00FF	No Setting	No Setting

Setting Item

No.	Device Name	Link Side				Target	CPU Side			
		Points	Start	End	Device Name		Points	Start	End	
-	SB	512	00000	001FF	Module Label					
-	SW	512	00000	001FF	Module Label					
1	LB	8192	00000	01FFF	Specify Device	B		8192	00000	01FFF
2	LW	8192	00000	01FFF	Specify Device	W		8192	00000	01FFF
3	LX	2048	01000	017FF	Specify Device	X		2048	01000	017FF
4	LY	2048	01000	017FF	Specify Device	Y		2048	01000	017FF

Setting Item

Total No. of Stations: 4    Switch Windows: LB/LW Setting    Batch Setting(G)

Station No.	Station Type	LB/LW Setting												Reserved Station				
		LB				LW				Low Speed LB					Low Speed LW			
		Points	Start	End	Points	Start	End	Points	Start	End	Points	Start	End		Points	Start	End	
7	Control Station	32	0060	007F	32	0080	007F										No Setting	
2	Normal Station	32	0040	005F	32	0040	0005F										No Setting	
3	Normal Station	32	0020	003F	32	0020	0003F										No Setting	
4	Normal Station	32	0000	001F	32	00000	0001F										No Setting	

## <Station No.4 (normal station)>

Since data cannot be directly transferred to link device LW, it is transferred to W device of the station number 4 (normal station) CPU.

LW is refreshed and set to specified device W on the CPU side.

Setting Item

Target: Device    Number of transfers to intelligent function module: 0    Number of transfers to CPU: 4

Item	CH1	CH2	CH3	CH4
<b>Transfer to the CPU.</b>	<b>Transfer the buffer memory data to the specified device.</b>			
Latest error code	W14			
Latest address of error history				
Latest alarm code				
Latest address of alarm history				
Interrupt factor detection flag 1				
Interrupt factor detection flag 2				
Interrupt factor detection flag 3				
Interrupt factor detection flag 4				
Interrupt factor detection flag 5				
Interrupt factor detection flag 6				
Interrupt factor detection flag 7				
Interrupt factor detection flag 8				
Interrupt factor detection flag 9				
Interrupt factor detection flag 10				
Interrupt factor detection flag 11				
Interrupt factor detection flag 12				
Interrupt factor detection flag 13				
Interrupt factor detection flag 14				
Interrupt factor detection flag 15				
Interrupt factor detection flag 16				
Warning output flag (Process alarm)				
Warning output flag (Rate alarm)				
Input signal error detection flag				
A/D conversion completed flag				
Digital output value	W11	W12	W13	
Digital operation value				
Maximum value				

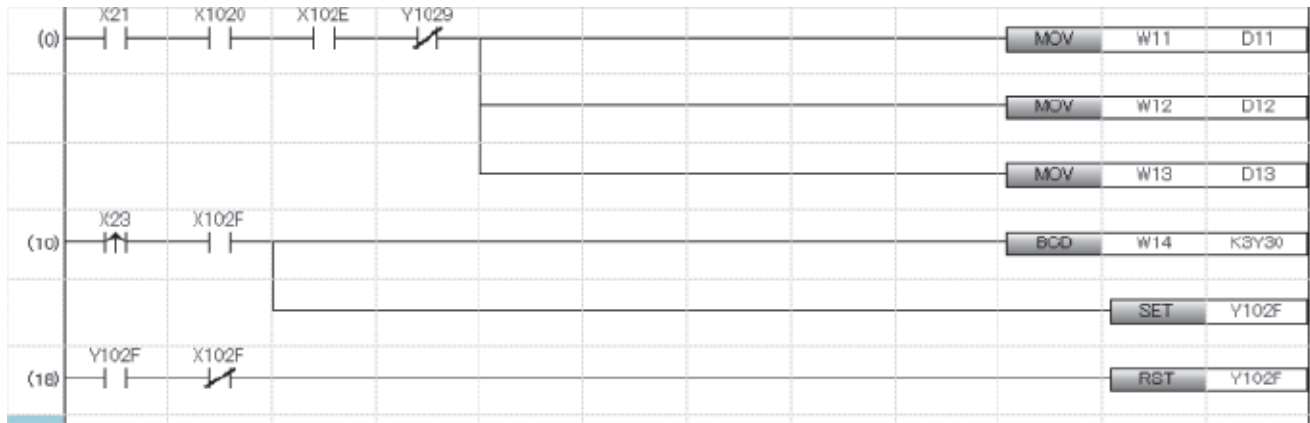
Setting Item

No.	Device Name	Link Side				Target	CPU Side			
		Points	Start	End	Device Name		Points	Start	End	
-	SB	512	00000	001FF	Module Label					
-	SW	512	00000	001FF	Module Label					
1	LW	32	00000	0001F	Specify Device	W		32	00000	0001F
2										

• Program example

<Station No.1 (control station)>

The program does not require any modification.



- (0) Read the CH1 to CH3 digital output values.
- (10) Output the error code in BCD and turn on the error clear request.
- (18) Turn off the error clear request.

<Station No.4 (normal station)>

A program to be added transfers the module I/O signals to link devices.



- (0) Data transfer of 16 input signals from a module to link device LY
- Data transfer of 16 points of link device LX to the output signals of a module

## Application example of communications (dedicated instruction (REMFR/REMTO))

REMFR instructions and REMTO instructions are not available for the RJ71LP21-25. Therefore, when communicating with an intelligent function module, refer to the following.

☞ Page 97 Application example of communications (auto refresh)

## Comparison of special relay M (SB) and special register

### ■Link special relay

○: Compatible, △: Partly changed, ×: Incompatible

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
1	SB0000	Link startup (host)	Restarts the host's cyclic transmission.	SB0000	Link startup of own station	Restarts cyclic transmission of the own station.	○	-
2	SB0001	Link stop (host)	Stops the host's cyclic transmission.	SB0001	Link stop of own station	Stops cyclic transmission of the own station.	○	-
3	SB0002	System link startup	Restarts the cyclic transmission according to the contents of SW0000 to SW0004.	SB0002	System link start	Restarts the cyclic transmission according to the contents of SW0000 to SW0004.	○	-
4	SB0003	System link stop	Stops the cyclic transmission according to the contents of SW0000 to SW0004.	SB0003	System link stop	Stops the cyclic transmission according to the contents of SW0000 to SW0004.	○	-
5	SB0005	Clear retry count	Clears the retry count (SW00C8 to SW00C9) to 0.	SB0005	Clear retry count	Clears the retry count (SW00C8 to SW00C9) to 0.	○	-
6	SB0006	Clear communication error count	Clears the communication error (SW00B8 to SW00C7) to 0.	SB0006	Clear communication error count	Clears the communication error (SW00B8 to SW00C7) to 0.	○	-
7	SB0007	Clear forward loop transmission errors	Clears the line abnormal detection (SW00CC) of the forward loop side to 0.	SB0007	Clear forward loop transmission errors	Clears the line abnormal detection (SW00CC) of the forward loop side to 0.	○	-
8	SB0008	Clear reverse loop transmission errors	Clears the line abnormal detection (SW00CD) of the reverse loop side to 0.	SB0008	Clear reverse loop transmission errors	Clears the line abnormal detection (SW00CD) of the reverse loop side to 0.	○	-
9	SB0009	Clear loop switch count	Clears the loop switch count (SW00CE to SW00E7) to 0.	SB0009	Clear loop switching count	Clears the loop switching count (SW00CE to SW00E7) to 0.	○	-
10	SB000A	Clear transient transmission errors	Clears the transient transmission errors (SW00EE, SW00EF) to 0.	SB000A	Clear transient transmission error count	Clears the transient transmission errors (SW00EE, SW00EF) to 0.	○	-
11	SB000B	Transient transmission error area setting	Designates whether to overwrite or retain the transient transmission errors (SW00F0 to SW00FF).	SB000B	Transient transmission error area setting	Designates whether to overwrite or retain the transient transmission errors (SW00F0 to SW00FF).	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
12	SB000F	Clear minor errors	Clears all of minor errors detected by remote I/O stations. This error clear is executed on all remote I/O stations. While SB000F is on, no minor error is detected on all remote I/O stations. In a multiplexed remote I/O network (including the one that supports redundant systems), this can be manipulated only from the station acting as a master.	-	-	-	×	Delete the sequence program for the corresponding part.
13	SB0011	Data link operation designation	Designates the data link operation.	SB0011	Data link operation designation	Requests data link operation.	○	-
14	SB0014	Remote sub-master station switching command	Forcibly directs the remote sub-master station that is performing master operation to shift to sub-master operation. (It is invalid for the redundant system.)	-	-	-	×	Delete the sequence program for the corresponding part.
15	SB0018	System switching monitoring time setting valid flag	Indicates whether the system switching monitoring time setting (SW0018) is valid or invalid in case of a data link error.	SB0018	System switching monitoring time setting valid flag	Indicates whether the system switching monitoring time setting (SW0018) is valid or invalid in case of a data link error.	○	-
16	SB0020	Module status	Indicates the communication status between the network module and the CPU module.	SB0020	Communication status with CPU module	Indicates the communication status between the network module and the CPU module.	○	-
17	SB0040	Network type (host)	Indicates the network type set with the parameters of the host's network module.	SB0040	Network type of own station	Indicates the network type set with the parameters of the own station's network module.	○	-
18	SB0041	Host station's redundant function support information	Indicates whether the station supports the redundant function or not.	SB0041	Redundant function information of own station	Indicates the redundant system support information of the own station.	○	-
19	SB0042	Power status of host	Indicates the external power supply status to the host's QJ71LP21S-25.	-	-	-	×	<ul style="list-style-type: none"> <li>Delete the sequence program for the corresponding part.</li> <li>The external power supply function is not supported.</li> </ul>
20	SB0043	Online switch (host)	Indicates the mode set by the switch of the host's network module.	SB0043	Mode of own station	Indicates the mode set by the switch of the own station's network module.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
21	SB0044	Station setting (host)	Indicates the station type set with the parameter of the host's network module. Off: Remote I/O station or multiplexed remote sub-master station On: Remote master station or multiplexed remote master station	SB0044	Station setting of own station	Stores the station type of the own station. Off: Normal station On: Control station	△	The specifications are different between the remote I/O network and the PLC to PLC network.
22	SB0045	Setting information (host)	Indicates the switch setting information (including parameter settings) of the host's network module.	-	-	-	×	Delete the sequence program for the corresponding part.
23	SB0046	Data link operation designation result (host)	Indicates the switch setting information (including parameter settings) of the host's network module.	SB0046	Data link operation designation result of own station	Indicates the switch setting information (including parameter settings) of the network module of the own station.	○	-
24	SB0047	Baton pass status (host)	Indicates the host's baton pass status (transient transmission enabled).	SB0047	Baton pass error status of own station	Indicates the baton pass status (transient transmission availability) of the own station.	○	-
25	SB0048	Remote master station status (host)	Indicates the host's status. Off: Remote I/O station On: SB0044=On Remote master station or multiplexed remote master station SB0044=Off Remote I/O station or multiplexed remote sub-master station	SB0048	Station status of own station	Stores the current station type status of the own station. Off: Normal station On: Control station (when SB0044 is turned on)/sub-control station (when SB0044 is turned off)	△	The specifications are different between the remote I/O network and the PLC to PLC network.
26	SB0049	Host data link status	Indicates the host's data link operation status.	SB0049	Data link error status of own station	Indicates the own station's data link operation status.	○	-
27	SB004A	Host CPU status (1)	Indicates the host's CPU status.	SB004A	CPU minor error status of own station	Indicates the own station's CPU status.	○	-
28	SB004B	Host CPU status (2)	Indicates the host's CPU status.	SB004B	CPU moderate to major error status of own station	Indicates the own station's CPU status.	○	-
29	SB004C	Cyclic transmission start acknowledgment status (host)	Indicates the startup acknowledgment status of the cyclic transmission.	SB004C	Link start request accept status of own station	Indicates the start request accept status of the cyclic transmission.	○	-
30	SB004D	Cyclic transmission start completion status (host)	Indicates the completion status of the cyclic transmission.	SB004D	Link start completion status of own station	Indicates the completion status of the cyclic transmission.	○	-
31	SB004E	Cyclic transmission stop acknowledgment status (host)	Indicates the stop acknowledgment status of the cyclic transmission.	SB004E	Link stop request accept status of own station	Indicates the stop request accept status of the cyclic transmission.	○	-



No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
32	SB004F	Cyclic transmission stop completion status (host)	Indicates the stop completion status of the cyclic transmission.	SB004F	Link stop completion status of own station	Indicates the stop completion status of the cyclic transmission.	○	-
33	SB0050	Cyclic transmission start acknowledgment status (system)	Indicates the startup acknowledgment status of the cyclic transmission.	SB0050	System link start request accept status	Indicates the start request accept status of the cyclic transmission.	○	-
34	SB0051	Cyclic transmission start completion status (system)	Indicates the completion status of the cyclic transmission.	SB0051	System link start completion status	Indicates the completion status of the cyclic transmission.	○	-
35	SB0052	Cyclic transmission stop acknowledgment status (system)	Indicates the stop acknowledgment status of the cyclic transmission.	SB0052	System link stop request accept status	Indicates the stop request accept status of the cyclic transmission.	○	-
36	SB0053	Cyclic transmission stop completion status (system)	Indicates the stop completion status of the cyclic transmission.	SB0053	System link stop completion status	Indicates the stop completion status of the cyclic transmission.	○	-
37	SB0054	Parameter receive status	Indicates the parameter receive status.	SB0054	Parameter reception incomplete status	Indicates the status of parameter reception.	○	-
38	SB0055	Received parameter error	Indicates the status of the received parameters.	SB0055	Receive parameter error	Indicates the status of the received parameters.	○	-
39	SB0056	Communication status	Indicates the status of the transient transmission.	SB0056	Communication status	Indicates the transient transmission status.	○	-
40	SB0058	Operation designation at fault of (multiplexed) remote master station	Indicates the status of designating cyclic transmission when the (multiplexed) remote master station fails. Off: Cyclic transmission made by multiplexed remote sub-master station when multiplexed remote master station fails (multiplexed remote I/O network) On: Cyclic transmission not made when remote master station fails (remote I/O network)	SB0058	Operation designation at fault of control or remote master station	Stores the operation specification when the control station fails. Off: Cyclic transmission performed by the sub-control station On: Cyclic transmission not performed by the sub-control station	△	The specifications are different between the remote I/O network and the PLC to PLC network.
41	SB005B	END asynchronous settings	Indicates the END asynchronous settings status of the remote I/O network.	-	-	-	×	Delete the sequence program for the corresponding part.
42	SB0064	Reserved station designation	Indicates whether or not the station is reserved.	SB0064	Reserved station setting status	Indicates whether or not the station is reserved.	○	-
43	SB0068	Communication mode	Indicates the link scan mode (status of supplementary settings of the common parameters).	SB0068	Constant link scan status	Indicates the link scan mode (status of supplementary settings of the common parameters).	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
44	SB0069	Multiplex transmission designation	Indicates the transmission designation status (status of supplementary settings of the common parameters). (Valid when the SB0049 is off.)	-	-	-	×	• Delete the sequence program for the corresponding part.*1
45	SB006A	Multiplex transmission status	Indicates the transmission status.	-	-	-	×	• Delete the sequence program for the corresponding part.*1
46	SB006B	Multiplex remote function designation	Indicates the status of designating the multiplex remote function.	-	-	-	×	Delete the sequence program for the corresponding part.
47	SB0070	Baton pass status of each station	Indicates the baton pass status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	SB0070	Baton pass status of each station	Indicates the baton pass status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	○	-
48	SB0071	Baton pass status of the remote master station	Indicates the baton pass status of the master station. (Including when there is an online loop test.)	-	-	-	×	Delete the sequence program for the corresponding part.
49	SB0072	Remote sub-master station transient transmission status	Indicates the transient transmission status of the remote sub-master station.	-	-	-	×	Delete the sequence program for the corresponding part.
50	SB0074	Cyclic transmission status of each station	Indicates the cyclic transmission status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	SB0074	Data link error status of each station	Indicates the cyclic transmission status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	○	-
51	SB0075	Cyclic transmission status of the remote master station	Indicates the master station cyclic transmission status. (Includes online loop test.)	-	-	-	×	Delete the sequence program for the corresponding part.
52	SB0076	Remote sub-master station cyclic transmission status	Indicates the cyclic transmission status of the remote sub-master station. (Including the status at an online loop test)	-	-	-	×	Delete the sequence program for the corresponding part.
53	SB0077	Remote master station cyclic transmission control status	Indicates the station type that is controlling cyclic transmission at the remote I/O stations.	-	-	-	×	Delete the sequence program for the corresponding part.

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
54	SB0078	Parameter communication status of each station	Indicates the parameter transmission status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	SB0078	Parameter communication status of each station	Indicates the parameter transmission status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	○	-
55	SB007C	Parameter status of each station	Indicates the parameter status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	SB007C	Parameter status of each station	Indicates the parameter status of each station. (Not applicable to reserved stations and the station with the maximum station number or higher)	○	-
56	SB0080	CPU operation status of each station (1)	Indicates the operation status of each remote I/O station on the remote I/O network (including the host station). Off: All stations normal On: Error station identified	SB0080	CPU moderate to major error occurrence status of each station	Indicates the operation status of each remote I/O station on the remote I/O network (including the own station). Off: All stations normal On: Error station identified	○	-
57	SB0085	CPU RUN status of the remote master station	Indicates the CPU run status of remote master station. Off: RUN or STEP RUN status On: STOP or PAUSE status	-	-	-	×	Delete the sequence program for the corresponding part.
58	SB0086	Remote sub-master station CPU RUN status	Indicates the CPU status of the multiplexed remote sub-master station. Off: RUN or STEP RUN status On: STOP or PAUSE status	-	-	-	×	Delete the sequence program for the corresponding part.
59	SB0088	CPU operation status of each station (2)	Indicates the operation status of each station's CPU or of each remote I/O station (including the host station).	SB0088	CPU operating status of each station (2)	Indicates the operation status of each station's CPU or of each remote I/O station (including the own station).	○	-
60	SB008C	External power supply information	Indicates the information of the external power supply (including the host).	SB008C	External power supply information of each station	Indicates the information of the external power supply (including the own station).	○	-
61	SB0090	Host loop status	Indicates the host's loop status.	SB0090	Loop status of own station	Indicates the loop status of the own station.	○	-
62	SB0091	Forward loop status	Indicates the status of stations connected to the forward loop.	SB0091	Forward loop (IN-side) status	Indicates the status of stations connected to the forward loop.	○	-
63	SB0092	Forward loop status of remote master station	Indicates the forward loop status of the remote master station.	-	-	-	×	Delete the sequence program for the corresponding part.

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
64	SB0095	Reverse loop status	Indicates the status of stations connected to the reverse loop.	SB0095	Reverse loop (OUT-side) status	Indicates the status of stations connected to the reverse loop.	○	-
65	SB0096	Reverse loop status of remote master station	Indicates the reverse loop status of the remote master station.	-	-	-	×	Delete the sequence program for the corresponding part.
66	SB0099	Forward loop loopback	Indicates the loopback status of the forward loop while the system is operating.	SB0099	Forward (IN-side) Loopback status	Indicates the loopback status of the forward loop while the system is operating.	○	-
67	SB009A	Reverse loop loopback	Indicates the loopback status of the reverse loop while the system is operating.	SB009A	Reverse (OUT-side) Loopback status	Indicates the loopback status of the reverse loop while the system is operating.	○	-
68	SB009C	Send transmission path mismatch status	Indicates the status of the transmission path used for sending by other stations.	SB009C	Send transmission path mismatch status	Indicates the status of the transmission path used for sending by other stations.	○	-
69	SB00A8	Online test instruction	Indicates the online test instruction status.	SB00A8	Online test instruction (acceptance at the own station)	Indicates the online test request status.	○	-
70	SB00A9	Online test completion	Indicates the online test completion status.	SB00A9	Online test completion (issuance at the own station)	Indicates the online test completion status.	○	-
71	SB00AA	Online test response instruction	Indicates the online test response status.	SB00AA	Online test response instruction (acceptance at another station)	Indicates the online test response status.	○	-
72	SB00AB	Online test response completion	Indicates the online test response completion status.	SB00AB	Online test response completion (issuance at another station)	Indicates the online test response completion status.	○	-
73	SB00AC	Offline test instruction	Indicates the offline test instruction status.	SB00AC	Offline test instruction (acceptance at the own station)	Indicates the offline test request status.	○	-
74	SB00AD	Offline test completion	Indicates the offline test completion status.	SB00AD	Offline test completion (issuance at the own station)	Indicates the offline test completion status.	○	-
75	SB00AE	Offline test response instruction	Indicates the response status for offline test.	SB00AE	Offline test response instruction (acceptance at another station)	Indicates the offline test instruction status.	○	-
76	SB00AF	Offline test response completion	Indicates the response status for offline test end.	SB00AF	Offline test response completion (issuance at another station)	Indicates the offline test response completion status.	○	-
77	SB00EE	Transient error	Indicates the transient transmission error status.	SB00EE	Transient error	Indicates the transient transmission error status.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
78	SB01C4	Remote sub-master station switching acceptance status	Indicates the status of accepting the directive to shift from master operation to sub-master operation.	-	-	-	×	Delete the sequence program for the corresponding part.
79	SB01C5	Remote sub-master station switching status	Indicates the operation status of a shift from master operation to sub-master operation.	-	-	-	×	Delete the sequence program for the corresponding part.
80	SB01C8	Send/receive device number valid/invalid status	Indicates whether the send/receive device numbers (SW01C8 to SW01CF) of the remote master station or remote sub-master station are valid or invalid.	-	-	-	×	Delete the sequence program for the corresponding part.

\*1 The RJ71LP21-25 cannot operate as a control station with multiplex transmission. However, in the environment where the QJ71LP21-25 with multiplex transmission operates as a control station, the RJ71LP21-25 is allowed to participate in the network as a sub-control station or normal station.

## ■Link special register

○: Compatible, △: Partly changed, ×: Incompatible

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
1	SW0000	Link stop/startup direction content	Sets the station that stops/restarts data linking.	SW0000	Link start/stop instruction details	Sets the station that stops/restarts data linking.	○	-
2	SW0001 to SW0004	Link stop/startup direction content	Sets whether the designated station should execute data linking.	SW0001 to SW0004	Link start/stop station	Sets whether the designated station should execute data linking.	○	-
3	SW0018	System switching monitoring time setting	Set the time from the occurrence of a data link error to the recognition of data link stop in the redundant system.	SW0018	System switching monitoring time setting	Sets the time from when a data link error occurs to when the data link stop is recognized in a redundant system.	○	-
4	SW001C	Number of retries	Indicates the change of the number of retries for the time of the issue of a request in send and receive instructions.	-	-	-	×	Delete the sequence program for the corresponding part.
5	SW001D	Retry interval	Indicates the change of the retry interval for the time of the issue of a request in send and receive instructions.	-	-	-	×	Delete the sequence program for the corresponding part.
6	SW001E	Number of gates	Indicates the change of the number of gates for the time of the issue of a request in send and receive instructions.	-	-	-	×	Delete the sequence program for the corresponding part.
7	SW0020	Module status	Stores the communication status between the network module and the CPU module.	SW0020	Communication status with CPU module	Stores the communication status between the network module and CPU module.	○	-
8	SW0031	Send/receive instruction (1) processing result	Indicates the processing results of the SEND/RCV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 1 is used).	SW0031	Link dedicated instructions processing result CH1	Indicates the processing results of the SEND/RCV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 1 is used).	○	-
9	SW0033	Send/receive instruction (2) processing result	Indicates the processing results of the SEND/RCV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 2 is used).	SW0033	Link dedicated instructions processing result CH2	Indicates the processing results of the SEND/RCV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 2 is used).	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
10	SW0035	Send/receive instruction (3) processing result	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 3 is used).	SW0035	Link dedicated instructions processing result CH3	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 3 is used).	○	-
11	SW0037	Send/receive instruction (4) processing result	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 4 is used).	SW0037	Link dedicated instructions processing result CH4	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 4 is used).	○	-
12	SW0039	Send/receive instruction (5) processing result	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 5 is used).	SW0039	Link dedicated instructions processing result CH5	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 5 is used).	○	-
13	SW003B	Send/receive instruction (6) processing result	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 6 is used).	SW003B	Link dedicated instructions processing result CH6	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 6 is used).	○	-
14	SW003D	Send/receive instruction (7) processing result	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 7 is used).	SW003D	Link dedicated instructions processing result CH7	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 7 is used).	○	-
15	SW003F	Send/receive instruction (8) processing result	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 8 is used).	SW003F	Link dedicated instructions processing result CH8	Indicates the processing results of the SEND/RECV/ READ/WRITE/REQ/ RECVS/RRUN/ RSTOP/RTMRD/ RTMWR/REMFR/ REMTO instructions (when physical channel 8 is used).	○	-
16	SW0040	Network No.	Stores the network number of the host.	SW0040	Network No.	Stores the network number of the own station.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
17	SW0042	Station No.	Stores the station No. of host station.	SW0042	Station No.	Stores the station number of the own station.	○	-
18	SW0043	Mode status	Stores the mode status of the host.	SW0043	Mode status of own station	Stores the mode status of the own station.	○	-
19	SW0044	Station setting	Stores the condition setting switch status of the host.	SW0044	Station setting	Stores the condition setting switch status of the own station.	○	-
20	SW0046	Module type	Stores the network module type of the host.	SW0046	Module type	Stores the network module type of the own station.	○	-
21	SW0047	Baton pass status (host)	Stores the baton pass status of the host.	SW0047	Baton pass status of own station	Stores the baton pass status of the own station.	○	-
22	SW0048	Cause of baton pass interruption	Stores the cause of baton pass interruption of the host.	SW0048	Cause of baton pass interruption	Stores the cause of baton pass interruption of the own station.	○	-
23	SW0049	Cause of data link stop	Stores the cause of data linking stop of the host.	SW0049	Cause of data link stop	Stores the cause of data linking stop of the own station.	○	-
24	SW004A	Data linking stop request station	Stores the station that stopped the host data linking.	SW004A	Data link stop request station	Stores the station that stopped the data linking of the own station.	○	-
25	SW004B	Host CPU status	Indicates the CPU status of the host.	SW004B	CPU status of own station	Indicates the CPU status of the own station.	○	-
26	SW004D	Data linking start status (host)	Stores the result of starting cyclic transmission with Link startup (host) (SB0000).	SW004D	Link start result of own station	Stores the results when cyclic transmission is started by Link startup of own station (SB0000).	○	-
27	SW004F	Data linking stop status (host)	Stores the result of stopping cyclic transmission with Link stop (host) (SB0001).	SW004F	Link stop result of own station	Stores the results when cyclic transmission is stopped by Link stop of own station (SB0001).	○	-
28	SW0051	Data linking start status (entire system)	Stores the result of starting cyclic transmission with System link startup (SB0002).	SW0051	System link start results	Stores the results when cyclic transmission is started by System link start (SB0002).	○	-
29	SW0053	Data linking stop status (entire system)	Stores the result of stopping cyclic transmission with System link stop (SB0003).	SW0053	System link stop results	Stores the results when cyclic transmission is stopped by System link stop (SB0003).	○	-
30	SW0054	Parameter information	Stores the parameter information.*1	SW0054	Parameter information	Stores parameter information.*2	△	The specifications are different between the remote I/O network and the PLC to PLC network.
31	SW0055	Parameter setting status	Stores the status of the parameters.	SW0055	Parameter setting status	Stores the parameter status.	○	-



No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
32	SW0056	Current remote master station	When remote I/O network Stores the station number controlling the current baton pass.	SW0056	Current control station	Stores the station number of the station which is actually operating as a control station. (Including sub-control station)	△	The specifications are different between the remote I/O network and the PLC to PLC network.
33	SW0057	Designated remote master station	When remote I/O network 7DH: Remote master station Other than 7DH: Remote master station error	SW0057	Designated control station	Stores the control station number that has been set using a parameter. 0: Control station or sub-control station does not exist in a network. 1 to 64: Station number of the control station	△	The specifications are different between the remote I/O network and the PLC to PLC network.
34	SW0059	Total number of link stations	Stores the total number of link stations that is set with the parameters.	SW0059	Total number of link stations	Stores the total number of stations which is set by a parameter.	○	-
35	SW005A	Maximum baton pass station	Stores the maximum station number among the stations executing the baton pass.	SW005A	Maximum baton pass station	Stores the maximum station number among the stations executing the baton pass.	○	-
36	SW005B	Maximum cyclic transmission station	Stores the maximum station number among the stations executing the cyclic transmission.	SW005B	Maximum data link station	Stores the maximum station number among the stations executing the cyclic transmission.	○	-
37	SW0064 to SW0067	Reserved station designation	Stores the stations that are set as reserved stations.	SW0064 to SW0067	Reserved station setting status	Stores a station that is set as a reserved station.	○	-
38	SW0068	Communication mode	Stores the status of the constant link scan settings.	SW0068	Constant link scan set value	Stores the status of the constant link scan settings.	○	-
39	SW006B	Maximum link scan time	Stores the maximum/minimum/current values of the link scan time (unit (ms)).	SW006B	Maximum link scan time	Stores the maximum/minimum/current values of the link scan time (unit (ms)).	○	-
40	SW006C	Minimum link scan time		SW006C	Minimum link scan time		○	-
41	SW006D	Current link scan time		SW006D	Current link scan time		○	-
42	SW0070 to SW0073	Baton pass status of each station	Stores the baton pass status of each station (including the host).	SW0070 to SW0073	Baton pass status	Stores the baton pass status of each station (including the own station).	○	-
43	SW0074 to SW0077	Cyclic transmission status of each station	Stores the cyclic transmission status of each station (including the host).	SW0074 to SW0077	Data link status of each station	Stores the cyclic transmission status of each station (including the own station).	○	-
44	SW0078 to SW007B	Parameter communication status of each station	Stores the parameter communication status of each station.	SW0078 to SW007B	Parameter communication status of each station	Stores the parameter communication status of each station.	○	-
45	SW007C to SW007F	Parameter error status of each station	Stores the parameter status of each station.	SW007C to SW007F	Parameter error status	Stores the parameter status of each station.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
46	SW0080 to SW0083	CPU operation status of each station (1)	Stores each station's CPU status (including the host).	SW0080 to SW0083	CPU moderate to major error occurrence status	Stores each station's CPU status (including the own station).	○	-
47	SW0084 to SW0087	CPU RUN status of each station	Stores the CPU RUN status of each station (including the host).	SW0084 to SW0087	CPU operating status	Stores the CPU RUN status of each station (including the own station).	○	-
48	SW0088 to SW008B	CPU operation status of each station (2)	Stores each station's CPU status (including the host).	SW0088 to SW008B	CPU minor error occurrence status	Stores each station's CPU status (including the own station).	○	-
49	SW008C to SW008F	Power supply status of each station	Indicates whether external power supply is available to each station.	SW008C to SW008F	Power supply status of each station	Indicates whether external power supply is available to each station.	○	-
50	SW0090	Loopback information	Stores the loop status of the host.	SW0090	Loopback information	Stores the loop status of the own station.	○	-
51	SW0091 to SW0094	Forward loop status of each station	Stores the forward loop status of each station (including the host).	SW0091 to SW0094	Forward loop (IN- side) status of each station	Stores the forward loop status of each station (including the own station).	○	-
52	SW0095 to SW0098	Reverse loop status of each station	Stores the reverse loop status of each station (including the host).	SW0095 to SW0098	Reverse loop status of each station	Stores the reverse loop status of each station (including the own station).	○	-
53	SW0099	Loopback station (forward loop side)	Stores the station number of which station is performing the loopback in the forward loop.	SW0099	Loopback station of forward loop side	Stores the station number of which station is performing the loopback in the forward loop.	○	-
54	SW009A	Loopback station (reverse loop side)	Stores the station number of which station is performing the loopback in the reverse loop.	SW009A	Loopback station of reverse loop side	Stores the station number of which station is performing the loopback in the reverse loop.	○	-
55	SW009C to SW009F	Loop usage status of each station	Stores the incorrect cable connection (IN- IN, OUT-OUT) status.	SW009C to SW009F	Loop usage status of each station	Stores the status of reverse insertion (IN- IN, OUT-OUT) of the optical fiber cable.	○	-
56	SW00A8	Online test execution item/ faulty station (requesting side)	Stores both the online test item requested by the requesting station and the faulty station.	SW00A8	Online test execution item/ faulty station of requesting side	Stores the items and faulty stations of the online test at the request side.	○	-
57	SW00A9	Online test result (requesting side)	Stores the online result on the requesting side.	SW00A9	Online test result of requesting side	Stores the online result on the requesting side.	○	-
58	SW00AA	Online test execution item (responding side)	Stores the online test items on the responding side.	SW00AA	Online test execution item of responding side	Stores the online test items on the responding side.	○	-
59	SW00AB	Online test result (responding side)	Stores the online test result of the responding side.	SW00AB	Online test result of responding side	Stores the online test result of the responding side.	○	-
60	SW00AC	Offline test execution item/ faulty station (requesting side)	Stores the offline test items and faulty station on the requesting side.	SW00AC	Offline test execution item/ faulty station of requesting side	Stores the offline test items and faulty station on the requesting side.	○	-
61	SW00AD	Offline test result (requesting side)	Stores the offline result of the requesting side.	SW00AD	Offline test result of requesting side	Stores the offline result of the requesting side.	○	-

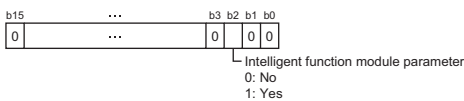
No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
62	SW00AE	Offline test execution item (responding side)	Stores the response-side offline test items and error stations.	SW00AE	Offline test execution item of responding side	Stores the response-side offline test items and error stations.	○	-
63	SW00AF	Offline test result (responding side)	Stores results of response-side offline test.	SW00AF	Offline test result of responding side	Stores results of response-side offline test.	○	-
64	SW00B0 to SW00B3	Multiplex transmission status (1)	Stores each station's forward loop usage status during multiplex transmission.	SW00B0 to SW00B3	Multiplex transmission status of forward loop side	Stores each station's forward loop usage status during multiplex transmission.	△	*3
65	SW00B4 to SW00B7	Multiplex transmission status (2)	Stores each station's reverse loop usage status during multiplex transmission.	SW00B4 to SW00B7	Multiplex transmission status of reverse loop side	Stores each station's reverse loop usage status during multiplex transmission.	△	*3
66	SW00B8	UNDER on the forward loop side	Accumulates and stores the number of "UNDER" errors on the forward loop side.	SW00B8	UNDER on the forward loop side	Accumulates and stores the number of "UNDER" errors on the forward loop side.	○	-
67	SW00B9	CRC on the forward loop side	Accumulates and stores the number of "CRC" errors on the forward loop side.	SW00B9	CRC on the forward loop side	Accumulates and stores the number of "CRC" errors on the forward loop side.	○	-
68	SW00BA	OVER on the forward loop side	Accumulates and stores the number of "OVER" errors on the forward loop side.	SW00BA	OVER on the forward loop side	Accumulates and stores the number of "OVER" errors on the forward loop side.	○	-
69	SW00BB	Short frame on the forward loop side	Accumulates and stores the number of "short frame" errors on the forward loop side.	SW00BB	Short frame on the forward loop side	Accumulates and stores the number of "short frame" errors on the forward loop side.	○	-
70	SW00BC	Abort on the forward loop side (AB, IF)	Accumulates and stores the number of "AB, IF" errors on the forward loop side.	SW00BC	Abort on the forward loop side (AB, IF)	Accumulates and stores the number of "AB, IF" errors on the forward loop side.	○	-
71	SW00BD	Timeout on the forward loop side (TIME)	Accumulates and stores the number of "TIME" errors on the forward loop side.	SW00BD	Timeout on the forward loop side (TIME)	Accumulates and stores the number of "TIME" errors on the forward loop side.	○	-
72	SW00BE	Receiving 2k bytes or more on forward loop side (DATA)	Accumulates and stores the number of "DATA" errors on the forward loop side.	SW00BE	Receiving 2k bytes or more on forward loop side (DATA)	Accumulates and stores the number of "DATA" errors on the forward loop side.	○	-
73	SW00BF	DPLL error on the forward loop side	Accumulates and stores the number of "DPLL" errors on the forward loop side.	SW00BF	DPLL error on the forward loop side	Accumulates and stores the number of "DPLL" errors on the forward loop side.	○	-
74	SW00C0	UNDER on the reverse loop side	Accumulates and stores the number of "UNDER" errors on the reverse loop side.	SW00C0	UNDER on the reverse loop side	Accumulates and stores the number of "UNDER" errors on the reverse loop side.	○	-
75	SW00C1	CRC on the reverse loop side	Accumulates and stores the number of "CRC" errors on the reverse loop side.	SW00C1	CRC on the reverse loop side	Accumulates and stores the number of "CRC" errors on the reverse loop side.	○	-
76	SW00C2	OVER on the reverse loop side	Accumulates and stores the number of "OVER" errors on the reverse loop side.	SW00C2	OVER on the reverse loop side	Accumulates and stores the number of "OVER" errors on the reverse loop side.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
77	SW00C3	Short frame on the reverse loop side	Accumulates and stores the number of "Short frame" errors on the reverse loop side.	SW00C3	Short frame on the reverse loop side	Accumulates and stores the number of "Short frame" errors on the reverse loop side.	○	-
78	SW00C4	Abort on the reverse loop side (AB, IF)	Accumulates and stores the number of "AB.IF" errors on the reverse loop side.	SW00C4	Abort on the reverse loop side (AB, IF)	Accumulates and stores the number of "AB.IF" errors on the reverse loop side.	○	-
79	SW00C5	Timeout on the reverse loop side (TIME)	Accumulates and stores the number of "TIME" errors on the reverse loop side.	SW00C5	Timeout on the reverse loop side (TIME)	Accumulates and stores the number of "TIME" errors on the reverse loop side.	○	-
80	SW00C6	Receiving 2k bytes or more on reverse loop side (DATA)	Accumulates and stores the number of "DATA" errors on the reverse loop side.	SW00C6	Receiving 2k bytes or more on reverse loop side (DATA)	Accumulates and stores the number of "DATA" errors on the reverse loop side.	○	-
81	SW00C7	DPLL error on reverse loop side	Accumulates and stores the number of "DPLL" errors on the reverse loop side.	SW00C7	DPLL error on the reverse loop side	Accumulates and stores the number of "DPLL" errors on the reverse loop side.	○	-
82	SW00C8	Number of retries on the forward loop side	Accumulates and stores the number of retries on the forward loop side.	SW00C8	Number of retries on the forward loop side	Accumulates and stores the number of retries on the forward loop side.	○	-
83	SW00C9	Number of retries on the reverse loop side	Accumulates and stores the number of retries on the reverse loop side.	SW00C9	Number of retries on the reverse loop side	Accumulates and stores the number of retries on the reverse loop side.	○	-
84	SW00CC	Line error on the forward loop side	Accumulates and stores the number of detected line errors on the forward loop side.	SW00CC	Line error on the forward loop side	Accumulates and stores the number of detected line errors on the forward loop side.	○	-
85	SW00CD	Line error on the reverse loop side	Accumulates and stores the number of detected line errors on the reverse loop side.	SW00CD	Line error on the reverse loop side	Accumulates and stores the number of detected line errors on the reverse loop side.	○	-
86	SW00CE	Number of loop switches	Accumulates and stores the number of loop checks conducted.	SW00CE	Number of loop switches	Accumulates and stores the number of loop checks conducted.	○	-
87	SW00CF	Loop switch data pointer	Stores the pointer that indicates the next loop switch data.	SW00CF	Loop switch data pointer	Stores the pointer that indicates the next loop switch data.	○	-
88	SW00D0 to SW00DF	Loop switch data	Stores the cause and status of the loop switch. Whether the data should be overwritten or retained is set in the common parameters.	SW00D0 to SW00DF	Loop switch data (1)	Stores the cause and status of the loop switch. Whether the data should be overwritten or retained is set in the common parameters.	○	-
89	SW00E0 to SW00E7	Switch request station	Stores the station number of the station that requested the loop switch.	SW00E0 to SW00E7	Switch request station (2)	Stores the station number of the station that requested the loop switch.	○	-

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
90	SW00EE	Transient transmission error	Accumulates and stores the number of transient transmission errors.	SW00EE	Transient transmission error	Accumulates and stores the number of transient transmission errors.	○	-
91	SW00EF	Transient transmission error pointer	Stores the pointer that sets the data for the next transient transmission error.	SW00EF	Transient transmission error pointer	Stores the pointer that sets the data for the next transient transmission error.	○	-
92	SW00F0 to SW00FF	Transient transmission error history	Stores the error codes of the transient transmission errors.	SW00F0 to SW00FF	Transient transmission error history	Stores the error codes of the transient transmission errors.	○	-
93	SW01C4	Remote sub-master station switching result	Stores the result of a shift from master operation to sub-master operation.	-	-	-	×	Delete the sequence program for the corresponding part.
94	SW01C8	Send LY device number	For remote master station: The send LY device number to the remote sub-master station is stored. In 1 point units. For remote sub-master station: The send LY device number to the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.
95	SW01C9	Receive LX device number	For remote master station: The receive LX device number from the remote sub-master station is stored. In 1 point units. For remote sub-master station: The receive LX device number from the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.
96	SW01CC	Send LB device number	For remote master station: The send LB device number to the remote sub-master station is stored. In 1 point units. For remote sub-master station: The send LB device number to the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.

No.	MELSEC-Q series MELSECNET/H module			MELSEC iQ-R series MELSECNET/H module			Compatibility	Precaution on replacement
	QJ71LP21-25 QJ72LP25-25			RJ71LP21-25				
	No.	Name	Description	No.	Name	Description		
97	SW01CD	Receive LB device number	For remote master station: The receive LB device number from the remote sub-master station is stored. In 1 point units. For remote sub-master station: The receive LB device number from the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.
98	SW01CE	Send LW device number	For remote master station: The send LW device number to the remote sub-master station is stored. In 1 point units. For remote sub-master station: The send LW device number to the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.
99	SW01CF	Receive LW device number	For remote master station: The receive LW device number from the remote sub-master station is stored. In 1 point units. For remote sub-master station: The receive LW device number from the remote master station is stored. In 1 point units.	-	-	-	×	Delete the sequence program for the corresponding part.

\*1 The QJ71LP21-25/QJ72LP25-25 stores the following parameter information.



\*2 The RJ71LP21-25 stores the following parameter information.



b1 to b0: Type  
 · 00: Only common parameters are used. (Fixed to 00)  
 b15: MELSECNET/H  
 · 0: Not specified  
 · 1: Specified  
 When 'Received parameter error' (SB0055) is on, the value is "000FH".  
 (Conditions)  
 · This register is enabled when 'Received parameter error' (SB0055) is off.

\*3 The RJ71LP21-25 cannot operate as a control station with multiplex transmission. However, in the environment where the QJ71LP21-25 with multiplex transmission operates as a control station, the RJ71LP21-25 is allowed to participate in the network as a sub-control station or normal station.

## Transient instruction

For the instruction format, setting range, precautions, and other items for link dedicated instructions, refer the following.

📖 MELSEC iQ-R Programming Manual (Module Dedicated Instructions)

### ■For remote I/O stations

○: Compatible, △: Partly changed, ×: Incompatible

No.	Instruction	Name	Description		Compatibility	Precaution on replacement
			MELSEC-Q series MELSECNET/H module	MELSEC iQ-R series MELSECNET/H module		
			QJ71LP21-25 QJ72LP25-25	RJ71LP21-25		
1	REMFR	Read remote I/O station intelligent function module buffer memory	Reads data from the target remote I/O station intelligent function module buffer memory.	×	REMFR cannot be used with the MELSEC iQ-R series MELSECNET/H module. 📖 Page 88 Comparison of module specifications	
2	REMTO	Write remote I/O station intelligent function module buffer memory	Writes data to the target remote I/O station intelligent function module buffer memory.	×	REMTO cannot be used with the MELSEC iQ-R series MELSECNET/H module. 📖 Page 88 Comparison of module specifications	
3	READ	Read other station word device	Reads device data from a remote I/O station of the target network No.	○	-	
4	WRITE	Write other station word device	Writes device data to a remote I/O station of the target network No.	○	-	

## Precautions on replacement

### Processing time

Processing time such as link scan time and link refresh time is different between the MELSEC-Q series and the MELSEC iQ-R series. For details on the processing time, refer to the manual for each module.

# REVISIONS

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

Revision date	*Manual number	Revision
February 2023	L(NA)08868ENG-A	First edition

Japanese manual number: L08867-A

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